CLOSURE CERTIFICATION ADDENDUM

Addendum to the June 1999 Closure Certification Report for the Former Wastewater Treatment Plant at the Coldwater Road Facility G-1245 East Coldwater Road Flint, Michigan (EPA I.D. No. MID 005 356 860)

Prepared for:
Remediation and Liability ManagementCompany, Inc.
Pontiac, Michigan

September 2008

O'BRIEN & GERE

Job No. 4966/32223

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Scott L. Cormier, PE
Vice President
O'Brien & Gere Engineers, Inc.

September 2008

O'BRIEN & GERE

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Closure Certification

This section presents the certification statement as required by 40 CFR 264.115 and Part 111, Hazardous Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), Mich. Admin. Code Rule 299.9613(2).

Professional Engineers Certification

I, Scott L. Cormier, a Professional Engineer in the State of Michigan, certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

O'BRIEN & GERE ENGINEERS, INC.

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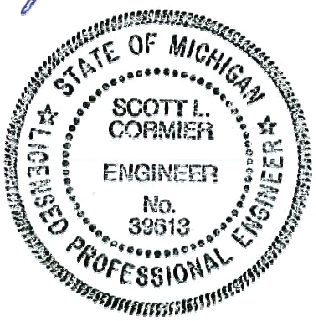
Scott L. Cormier, PE
Vice President



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Owner's Certification

I, William J. McFarland, representing Remediation and Liability Management Company, Inc., certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

REMEDIATION AND LIABILITY MANAGEMENT COMPANY, INC.

William J. McFarland

William J. McFarland
President

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1.0. Introduction

This Closure Certification Addendum Report (Addendum Report) documents final closure of the former Wastewater Treatment Plant (WWTP) at the REALM Coldwater Road Landfill facility in Flint, Michigan.

An initial basin investigation at the WWTP was performed to assess potential releases from the surrounding basins and WWTP prior to building and basin demolition. The Michigan Department of Environmental Quality (MDEQ) requested (March 24, 2005 letter) that all soil and ground water exceedances (detected during the initial basin investigation) of the applicable Part 201 criteria be addressed in compliance with R299.9269 of Part 111. This Closure Certification Addendum Report presents the results of additional investigation activities at the former WWTP to satisfy the March 24, 2005 MDEQ request and certify closure of the former WWTP.

1.1. Site History

1.1.1. Site Description

The REALM Coldwater Road Landfill facility is located north of the REALM former Peregrine U.S., Inc. (REALM former Peregrine property) property as shown on the Site Location Map, Figure 1. The REALM Coldwater Road Landfill facility consists of the wastewater treatment sludge monofill landfill, former wastewater treatment plant (decommissioned and demolished in 1999), restored wetlands and leachate accumulation facility. This facility is bordered on the south by the REALM former Peregrine property, which formerly contained several manufacturing buildings and support facilities. The buildings on the REALM former Peregrine property were decommissioned and demolished between 1999 and 2001. A figure depicting the division between the REALM Coldwater Road Landfill facility and the REALM former Peregrine property is included as Figure 2.

1.1.2. Site Ownership

On December 10, 1996, an asset Purchase Agreement for the manufacturing portion of the Coldwater Road site was signed by GM and Peregrine. GM retained ownership of the northern portion of the Coldwater Road Landfill site (which is now referred to as the "REALM Coldwater Road Landfill facility") and sold the manufacturing facility (referred to as the "REALM former Peregrine property, MID 000 020 743"). In August 1999, REALM took back ownership of the manufacturing facility from Peregrine.

On April 14, 2000 a MDEQ Notification of Regulated Waste Activity form (EQP5150) and U.S. E.P.A. Hazardous Waste Permit Application Part A (EPA form 8700-23) were submitted to document change of ownership of the landfill and the former WWTP property from GM to REALM. REALM, a wholly-owned subsidiary of GM, manages the RCRA closure program for the REALM Coldwater Road Landfill facility under the 1992 Corrective Action Consent Order (CACO) and also manages a voluntary RCRA Corrective Action program for the REALM former Peregrine property.

1.1.3. RCRA Closure

Several of the RCRA units and SWMUs were closed in accordance with the 1989 Closure Plan during construction of the on-site hazardous waste landfill between 1990 and 1994. Roy F. Weston, Inc. (Weston) provided quality assurance oversight and closure verification during this construction phase. As documented in the Draft Closure Certification Documentation Package, Weston, November 1994, there were several units not closed at the completion of landfill construction. Closure of these remaining units was completed between 1994 and 2003 with oversight provided by O'Brien & Gere. Closure documentation for all units covered under the CACO for the REALM Coldwater Road Landfill facility, except for the former WWTP, is provided in the following six final closure reports:

- Final Closure Certification Documentation Package -Decontamination Pits and Sump, Chromium Reduction Basins at the WWTP, September 1998, Roy F. Weston, Inc. (Weston).
- Subsurface Investigation of Decontamination Pits/Sump and Chromium Reduction Basins Report, June 1999, O'Brien & Gere Engineers, Inc. (O'Brien & Gere).
- Final Closure Certification, former Drum Storage Area and Waste Pile Pad, June 1999, Weston.
- Part I - Final Closure Certification Documentation, November 2000, O'Brien & Gere and subsequent data submittals.
- Part II - Final Closure Certification Documentation, November 2000, Weston and subsequent data submittals.
- Addendum to the June 1999 Closure Certification Report for the Former Drum Storage Area at the Former Peregrine, U.S., Inc. Property at the Coldwater Road Facility. January 2005, O'Brien and Gere.

1.2. Former Wastewater Treatment Plant Background

The former WWTP at the Coldwater Road site was located at the southwestern corner of the property as shown on Figure 2 (Site Plan). The WWTP was constructed in the early 1950s to treat plating waste streams as generated by the manufacturing facility. Plating operations ran from 1953 to 1987. Process wastewater from the former manufacturing plant discharged to the former WWTP in force mains. Chemical/physical treatment of the process wastewater was performed at the former WWTP on a batch basis. The chromium, nickel, and acid/alkali wastes were combined and treated for heavy metal removal, whereas the copper-cyanide waste was treated separately.

Use of the WWTP was terminated in December 1996 when the manufacturing plant was sold to Peregrine, Inc. The WWTP building and associated basins were subsequently decontaminated and demolished between December 1998 and May 1999.

Concurrent to WWTP demolition, REALM voluntarily implemented an investigation at the former WWTP to evaluate potential releases from the surrounding basins. The former WWTP basin investigation was performed in accordance with procedures outlined in O'Brien & Gere's January 1999 Quality Assurance Project Plan (QAPP) and Three Basement Basin Sampling and Analysis Plan (SAP) developed for the Coldwater Road facility. The basin investigation was performed between

September 1998 and May 1999. It should be noted that during this investigation three soil borings were proposed to be monitoring wells. However, wet subsurface soil conditions were not observed during soil boring installation, therefore no wells were installed.

The basin investigation included collection of subsurface soil samples underneath and around the former WWTP and surrounding basins, concrete samples from the basins and former WWTP basement floor, rinseate samples, and ground water samples from two monitoring wells located southwest of the former WWTP. The former WWTP layout and previous sample locations are shown on Figure 3. Results of the basin investigation were reported to the MDEQ in the Former Wastewater Treatment Plant Basin Investigation Report dated November 2000. The analytical results summary tables from the basin investigation are included in Appendix A. The results supported closure approval and no further action for the former WWTP basins and surrounding area. However, in a letter from the MDEQ Waste and Hazardous Material Division (WHMD) dated March 24, 2005, the MDEQ did not extend the "no further action" determination to the former WWTP. The MDEQ indicated that the no further action did not meet the requirements specified in Parts 111 and 201, specifically, the dissolved lead in ground water was not delineated. The dissolved lead ground water analytical results from the WWTP basin investigation area are included in Appendix A, on page 5 of Table 1.

Therefore, a Work Plan was prepared and submitted to the MDEQ in April 2006, which addressed investigating the concentrations of dissolved lead in ground water. The MDEQ reviewed the Work Plan and responded with a letter dated September 22, 2006, which indicated minor deficiencies that required addressing prior to implementing the Work Plan. The revised Work Plan submitted to the MDEQ in December 2006 addressed those deficiencies. In the September 22, 2006 letter, the MDEQ WHMD specifically reiterated that all ground water and soil exceedances of applicable criteria be addressed in compliance with Part 111. Based on the demolition of the former WWTP, which included using the upper concrete portions of the basins as backfill for the former WWTP basement and basins, it was not feasible to investigate the extent of impact to soil below the former WWTP basement or basins. Therefore, through communications with the MDEQ WHMD, a strategy was developed which included the installation of monitoring wells to assess potential leaching from impacted soil to ground water exposure pathway.

The MDEQ submitted a letter dated January 26, 2007 approving the Work Plan with minor modifications. Section 2 of this Closure Certification Report summarizes the investigation methods and results of implementing the Work Plan.

1.3. Contaminant Distribution

The chemicals of concern (COCs) at the former WWTP were identified through the previous Basin Investigation Report (November 24, 2000). The COCs were defined as those chemicals in which analytical results exceed the MDEQ Part 201 Generic Industrial Drinking Water Protection criteria for soil and the Part 201 Generic Industrial Drinking Water criteria for ground water. The following is a list of the COCs, identified through the previous basin investigation, for soil and ground water at the former WWTP:

Soil:

Benzene
Cyanide
Nickel
1,2,4- trimethylbenzene
Trichloroethene

Ground water:
Dissolved lead

Figure 4 (soil exceedances) and Figure 5 (ground water exceedances) depict the COCs as identified through the previous investigations at the former WWTP. The following sections describe the specific distribution of impact in soil and ground water at the former WWTP.

1.3.1. Soil

Subsurface soil sample analytical results from the initial basin investigation indicated SVOCs below the MDEQ Part 201 Generic Residential and Industrial Drinking Water Protection criteria. The analytical results for the subsurface soil samples indicate concentrations of benzene, trichloroethene, 1,2,4-trimethylbenzene, nickel and cyanide above MDEQ Part 201 Generic Residential and Industrial Drinking Water Protection criteria.

Benzene was detected at a concentration of 200 ppb in the soil sample from GB-18, located in the central deionized water basin. Trichloroethene was detected in two soil sample locations: GB-44 (west basement basin) and GB-47 (south of west basement basin), at concentrations of 570 ppb and 770 ppb respectively. Also, 1,2,4-trimethylbenzene was detected in two soil sample locations: GB-20 (east cyanide basin) at 3,120 ppb and GB-21 (west cyanide basin) at 2100 ppb.

Methylene chloride was detected in samples GB-42 through GB-47 above the MDEQ Generic Residential and Industrial Drinking Water Protection criteria, however, the results of these samples indicated methylene chloride was detected in the laboratory blanks and should be considered blank contamination. Also, the vinyl chloride detection limit achieved by the laboratory is above the MDEQ Part 201 Generic Residential and Industrial Drinking Water Protection criteria, however, these detections are half of the Target Detection Limit (TDL) for method 5035/8260 (methanol preservation) listed in the ERD former Operational Memorandum #6, revision 5, dated November 16, 1998, which was the current guidance at the time of investigation.

Nickel and cyanide concentrations were detected above the MDEQ Part 201 Generic Residential and Industrial Drinking Water Protection criteria in the following samples:

- Nickel - GB-39 (WWTP basement floor north)
- Cyanide - GB-25 (west alkali basin)

Tables summarizing the analytical results are included in Appendix A and a figure depicting the sample locations and MDEQ Part 201 criteria exceedances is included as Figure 4.

1.3.2. Ground Water

Ground water samples were analyzed for VOCs, SVOCs, dissolved metals (cadmium, chromium, copper, lead, nickel, and zinc), and cyanide during the initial basin investigation. The results of the VOCs, SVOCs and cyanide analyses were below detection limits.

The results of the dissolved metals analyses were below Part 201 Generic Residential Drinking Water criteria, except for dissolved lead which was present at concentrations of 8 ppb in OBG MW-1(duplicate value of 9 ppb), and in OBG MW-2 at 32 ppb.

Tables summarizing the ground water analytical results are included in Appendix A and a figure showing the locations of the monitoring wells and MDEQ Part 201 criteria exceedances is included as Figure 5.

1.4. Applicable Closure Criteria

Under the October 1992 CACO, the REALM Coldwater Road Landfill facility had interim status pursuant to RCRA and was subject to the regulations and environmental protection standards of the Michigan Hazardous Waste Management Act, 1979 PA 64, as amended. However, following removal of a substantial volume of delisted non-hazardous soils from the REALM Coldwater Road landfill facility, verification soil samples still exceeded the background cleanup criteria established in the 1989 Closure Plan. Therefore, GM requested modification to the 1989 Closure Plan in a letter dated April 23, 1997. The letter requested changing the 1989 Closure Plan cleanup criteria (site specific background concentrations) to the MDEQ Type B health-based cleanup criteria specified in the administrative rules promulgated pursuant to Part 201 of the NREPA, 1994, PA, as amended. This modification to the 1989 Closure Plan was approved by the MDEQ in a letter dated June 26, 1998. Therefore, on-going activities at the REALM Coldwater Road Landfill facility under the CACO follow MDEQ Part 201 cleanup criteria. Ground water analytical results are compared to MDEQ Generic Industrial criteria for this investigation. A discussion on the analytical results compared to the appropriate criteria is included in Section 2.

2.0. Summary of Former WWTP Investigation

This section describes the methods for investigation, sample collection, results of the ground water sampling, and analysis conducted in the vicinity of the former WWTP. Sampling and analysis was conducted in accordance with procedures outlined in the MDEQ-approved Post-Closure Care Plan (PC Plan) (O'Brien & Gere, 2006), MDEQ-approved December 2006 Work Plan for the former WWTP and February 2006 Quality Assurance Project Plan (QAPP) developed for the REALM Coldwater Road Landfill facility. The objective of the investigation was to assess the extent of COCs impact to ground water and assess the potential for previously detected soil impacts to leach to ground water.

O'Brien & Gere completed investigation of the former WWTP in a phased approach following MDEQ approval of the Work Plan. Initially the installation of monitoring wells was performed in May 2007 and subsequent ground water monitoring was performed quarterly for one year (June 19, 2007 through March 18, 2008).

2.1. Monitoring Well Installation

Six monitoring wells (OBG MW-3 through OBG MW-9) were installed in accordance with the PC Plan and MDEQ-approved Work Plan dated December 2006 at the locations depicted on Figure 6. Three wells (OBG MW-3, OBG MW-4 and OBG MW-7) were installed to assess the potential extent of dissolved lead and three wells (OBG MW-5, OBG MW-6 and OBG MW-8) were installed to assess potential leaching to ground water from impacted soil beneath the former WWTP building and surrounding basins.

The wells installed to assess the extent of dissolved lead were installed to an approximate depth of 20 ft below grade (fbg). This well depth was estimated based on the bottom of the former basins and basement of the former WWTP building (approximately 15 fbg) as being the most likely depth to detect a potential release.

The wells installed to assess potential impacted soil leaching were sampled to an approximate depth of 30 fbg. This depth was selected based on previous borings installed in this area in which ground water was not observed to a depth of 25 fbg. Ground water data collected from these wells is intended to demonstrate whether the migration to ground water exposure pathway is relevant.

Prior to well installation, the drill rig and drillers' tools were decontaminated using a portable steam cleaner. Drilling and sampling was completed utilizing the hollow stem auger (HSA) drilling method. Soil samples were collected using a 5-ft macrocore split barrel through the 4.25-inch HSAs. The soils were visually logged using the USCS soil classification system. Soil boring logs are included in Appendix B. Cuttings were spread on the ground surface around each well.

Monitoring wells were constructed using 2-inch diameter, flush-threaded PVC casing. The screen length for the wells was 10 ft with slot openings of 0.010 inches and a PVC plug on the bottom of the screen. The annular space around the screen was back-filled with silt free silica sand (WB 40 grade) to a height no more than 2 ft above the top of the screen. A minimum 2-ft thick seal of hydrated bentonite was placed above the sand pack. The remaining annular space was filled with a cement

bentonite grout placed with a tremie pipe. The PVC risers were covered with a lockable, watertight PVC cap. A 4-inch diameter steel, locking, protective casing was installed at the surface with a concrete anchor and runoff diversion apron. Monitoring well construction details are included in Appendix C.

Once installed, the grout was allowed a minimum of 24 hours to cure, after which time the well was developed. Well development was performed using the pump and surge method. A minimum of five casing volumes were removed from the well or until the well was pumped to dryness. Development fluids were discharged to the ground surface near each well.

Subsequent to installation of the newly installed monitoring wells, the well locations were surveyed to establish top-of-casing, grade elevations, and horizontal locations referenced to existing State Plane datum.

2.2. Ground Water Sample Collection and Analysis

Ground water samples were collected quarterly for four quarters using low-flow sampling methods per Attachment 5 of the MDEQ Remediation and Redevelopment Division (RRD) Operational Memorandum No. 2, in accordance with the MDEQ-approved PC Plan and December 2006 Work Plan.

Subsequent to new well installation, ground water samples were collected from the six newly installed wells and two existing wells (OBG MW-1 and OBG MW-2) for the four quarters of sampling.

Samples collected from the three newly installed wells for the dissolved lead assessment, and two existing wells (OBG MW-1 and OBG MW-2) were analyzed for total lead unless ground water turbidity stabilized above 10 NTU, in which case samples were field filtered for dissolved lead analysis. In that case, both dissolved and total lead analysis were performed using USEPA method 200.8. Ground water turbidity did not stabilize above 10 NTU for three of the four sampling events (second through fourth quarters). Therefore, total analysis only was performed for the metals analysis.

Samples collected from the wells intended to assess potential impacted soil leaching were analyzed for parameters in which previous detections in soil were above MDEQ Generic Residential/Industrial Drinking Water Protection criteria. The ground water samples were analyzed for volatile organic compounds (VOCs) by USEPA method 8260 and total cyanide by USEPA method 335.2. Also, ground water samples were analyzed for nickel and lead for total metals (non-filtered) unless ground water sample turbidity stabilized above 10 NTU, in which case samples were field filtered for dissolved analysis. In this instance, both dissolved and total nickel and lead analysis were performed. Analytical methods and detection limits were in accordance with Attachment 1 of the RRD Operation Memorandum No. 2 and the site QAPP.

Prior to sampling, water within the well was purged using a submersible pump with dedicated tubing and physical parameters were monitored. During purging, specific conductivity, pH and temperature measurements were recorded to document stable conditions.

Subsequent to purging and immediately upon physical parameter stabilization within 10%, a ground water sample was collected for chemical analyses. If dissolved metals analysis was required dissolved samples were filtered through a disposable 0.45-micron filter in the field. Pre-preserved (with HNO^3) sample containers were provided by the laboratory for dissolved lead and nickel analysis by method 200.8. Quality control/Quality assurance (QA/QC) samples were collected and analyzed in accordance with the QAPP for this site. QA/QC samples included an equipment blank, field blank, replicate sample, collected sample, matrix spike, and matrix spike duplicate. A Level III data package was requested from the laboratory.

2.3. Data Validation

Validation of the analytical data was performed by an independent consultant utilizing the "U.S. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", EPA 540-R 04 004, October 2004 (CLP National Functional Guidelines) and "U.S. EPA Contract Laboratory Program National Function Guidelines for Organic Data Review", EPA-540/R-94-012 as a basis for data review establishing the specific objectives, defining the evaluation process and identifying the actions while incorporating the specific quality control limits presented in the QAPP and the laboratory SOPs. The specific data qualifiers were used as presented and defined in the CLP National Functional Guidelines.

The following deliverables were evaluated in the data validation:

i) Technical holding times;
ii) GC/MS instrument performance check (for organics analysis);
iii) Initial calibration;
iv) Initial and continuing calibration;
v) Blanks;
vi) Interference check samples;
vii) Laboratory control samples;
viii) Matrix duplicate sample analysis;
ix) Matrix spike sample analysis;
x) ICP serial dilution;
xi) ICP/MS internal standard performance;
xii) Sample result verification; and
xiii) Field duplicates.

The Data Validator also evaluated the overall completeness of the data package. Completeness checks were administered on all data to determine whether deliverables specified in the QAPP were present. At a minimum, deliverables included sample chain of custody forms, analytical results, and QC summaries. Results of data validation are discussed in Section 2.4.

2.4. Investigation Results

Ground water samples were collected quarterly for four quarters using low-flow sampling methods per Attachment 5 of the MDEQ Remediation and Redevelopment Division (RRD) Operational Memorandum No. 2, in accordance with the MDEQ-approved PC Plan and December 2006 Work

Plan. In accordance with the December 2006 Work Plan, notifications to the MDEQ were made 2 weeks prior to each ground water sampling event via the Monthly Progress Reports submitted under the Post-Closure activities at the Site. The following discussions summarize the results of the quarterly ground water monitoring program.

2.4.1. Summary of Subsurface Conditions

This section describes the subsurface conditions observed based on the installation of the monitoring wells (shown on Figure 6) and previously installed hydraulic probe borings at the former WWTP.

Subsurface soil conditions at the former WWTP consist of a clay unit from the original ground surface to a depth of 30 ft below grade with sand lenses observed ranging in thickness from non-existent (OBG MW-8) to 5 ft (OBG MW-5). The elevations shown on Table 2.2 below indicate the sand lenses vary in elevation indicating a discontinuous perched zone condition at the former WWTP.

Table 2.2 *Sand Lense Elevations*

Well Location	Surface Elevation (NAVD 88)	Observed Sand Lense Elevation
OBG MW-1	809.46’	798.46-796.46'
OBG MW-2	812.45’	806.95-805.45' and 799.45-796.45'
OBG MW-3	807.47’	802.97-799.97'
OBG MW-4	810.10’	797.85-797.35'
OBG MW-5	813.05’	809.05-804.05'
OBG MW-6	813.02’	798.44-798.27'
OBG MW-7	810.23’	805.65-805.23' and 795.23-794.23'
OBG MW-8	814.72’	no sand lense observed

Sand lenses were observed in seven of the eight borings (OBG MW-1 – OBG MW-7) completed as monitoring wells under this investigation at the former WWTP. These locations are separated by previously installed borings in which a sand lense of the same elevation was not observed indicating the sand lenses are discontinuous in the vicinity of the former WWTP. A geologic cross section depicting the discontinuous sand lenses in the perched zone at the former WWTP area is included as Figure 7.

Following demolition of the former manufacturing building, approximately 3-4 ft of sand fill was placed over the former WWTP building and basins.

2.4.2. First Quarter Ground Water Sampling Results

Analytical results for the first quarter ground water sampling event (June 2007) indicated no detections of VOCs above MDEQ Part 201 Generic Industrial Drinking Water criteria. Analytical results for the inorganics indicated a detection of total lead at OBG MW-5 of 14 ug/l, which is above the MDEQ Part 201 Generic Industrial Drinking Water criterion (4ug/l). However, the analytical result for dissolved lead at this location was below the method detection limit (MDL). Also, there was a detection of cyanide at the OBG MW-5 location of 295 ug/l, which is above the MDEQ Part 201 Generic Industrial Drinking Water criterion (200ug/l). A figure depicting the Part 201 Generic Industrial Drinking Water criteria exceedances for the first quarter ground water sampling event is included as Figure 8.

A table summarizing the first quarter ground water analytical results is included as Table 1. The data validation report (including analytical data sheets) for this sampling event is included in Appendix D.

Ground water levels were collected from the wells sampled during the first quarter ground water sampling event. A table with the water levels and ground water elevations is included as Table 2. The ground water elevation data for the first quarter sampling event is shown on Figure 9.

2.4.3. Second Quarter Ground Water Sampling Results

Analytical results for the second quarter ground water sampling event (September 2007) indicate no concentrations of VOCs above the MDEQ Part 201 Generic Industrial Drinking Water Criteria, comparable to the first quarter sampling results. Analytical results for the inorganics indicate concentrations for total chromium, total nickel and total lead either below MDLs or MDEQ Part 201 Generic Industrial Drinking Water Criteria. No dissolved samples were collected for this sampling event in accordance with the Work Plan since ground water turbidity did not stabilize above 10 NTU. Analytical results for total cyanide indicate no concentrations above MDEQ Part 201 Generic Industrial Drinking Water Criteria.

A table summarizing the second quarter ground water analytical results is included as Table 3 and the data validation report (including analytical data sheets) for this sampling event are included in Appendix E.

Ground water levels were collected from all the wells sampled during the second quarter ground water sampling event. A table with the water levels and ground water elevations is included as Table 2. The ground water elevation data for the second quarter sampling event is shown on Figure 10.

During the second quarter sampling event, the MDEQ WHMD collected split ground water samples (at locations OBG MW-5, OBG MW-7 and OBG MW-8) for laboratory analysis. In addition to the parameters approved under the December 2006 Work Plan, the MDEQ also ran analysis for the following parameters (totals): antimony, arsenic, barium, beryllium, cadmium, cobalt, copper, manganese, molybdenum, mercury, selenium, silver, thallium, vanadium, zinc and iron. The results of the MDEQ analysis (included in Appendix F) indicated concentrations of total arsenic, iron and manganese above the MDEQ Part 201 Generic Industrial Drinking Water criteria. Therefore, a Work Plan Amendment was prepared and submitted to the MDEQ on January 8, 2008 which included adding these parameters to the analytical list for the remaining third and fourth quarter ground water sampling events.

2.4.4. Third Quarter Ground Water Sampling Results

Based on the results of the MDEQ split ground water sampling during the second quarterly sampling event, additional parameters (arsenic, iron and manganese) were added to the third quarter sampling parameter list in accordance with the MDEQ-approved January 8, 2008 Amendment to the Work Plan.

Analytical results for the third quarter ground water sampling event (December 2007) indicate no concentrations of VOCs above the MDEQ Part 201 Generic Industrial Drinking Water Criteria, comparable to the first and second quarterly sampling results. Analytical results for the inorganics indicate concentrations for total arsenic, total chromium, total nickel and total lead either below

MDLs or MDEQ Part 201 Generic Industrial Drinking Water Criteria. Analytical results are summarized on Table 4. Ground water analytical results also indicate concentrations above the MDEQ Part 201 Industrial Drinking Water criteria as follows:

- Total iron for the monitoring wells sampled during this event (OBG MW-1 through OBG MW-8)
- Total manganese for the ground water monitoring well ground water samples analyzed, except for OBG MW-7.

A dissolved ground water sample was collected from OBG MW-5 due to the ground water turbidity not stabilizing above 10 NTU. Analytical results for the dissolved metals analysis indicate concentrations of dissolved chromium, dissolved lead and dissolved nickel either below MDLs or MDEQ Part 201 Generic Industrial Drinking Water Criteria. Analytical results for dissolved arsenic, dissolved iron and dissolved manganese indicate concentrations above the MDEQ Part 201 Generic Industrial Drinking Water Criteria.

Analytical results for total cyanide indicate no concentrations above MDEQ Part 201 Generic Industrial Drinking Water Criteria. A figure depicting the Part 201 Generic Industrial Drinking Water criteria exceedances for the third quarter ground water sampling event is included as Figure 11.

A table summarizing the third quarter ground water analytical results is included as Table 4. The data validation report (including analytical data sheets) for this sampling event is included in Appendix G.

Ground water levels were collected from the wells sampled during the third quarter ground water sampling event. A table with the water levels and ground water elevations is included as Table 2. The ground water elevation data for the third quarter sampling event is shown on Figure 12.

2.4.5. Fourth Quarter Ground Water Sampling Results

Analytical results for the fourth quarter ground water sampling event (March 2008) indicate no concentrations of VOCs above the MDEQ Part 201 Generic Industrial Drinking Water Criteria, which is comparable to the previous three quarterly sampling results. Analytical results for the inorganics indicate concentrations for total arsenic, total chromium, total nickel, total lead and cyanide either below MDLs or MDEQ Part 201 Generic Industrial Drinking Water Criteria. Ground water analytical results also indicate concentrations above the MDEQ Part 201 Industrial Drinking Water criteria as follows:

- Total iron for monitoring well ground water samples from OBG MW-3, OBG MW-5, OBG MW-6, and OBG MW-7
- Total manganese for the monitoring wells sampled during this event.

A dissolved ground water sample was collected from OBG MW-5 due to the ground water turbidity not stabilizing above 10 NTU. Analytical results for the dissolved metals analysis indicate concentrations of dissolved arsenic, chromium, dissolved iron, dissolved lead and dissolved nickel either below MDLs or MDEQ Part 201 Generic Industrial Drinking Water Criteria. Analytical results for dissolved manganese indicate concentrations above the MDEQ Part 201 Generic Industrial Drinking Water Criteria.

Analytical results for total cyanide indicate no concentrations above MDEQ Part 201 Generic Industrial Drinking Water Criteria. A figure depicting the Part 201 Generic Industrial Drinking Water criteria exceedances for the fourth quarter ground water sampling event is included as Figure 13.

A table summarizing the fourth quarter ground water analytical results is included as Table 5. The data validation report (including analytical data sheets) for this sampling event is included in Appendix H.

Ground water levels were collected from the wells sampled during the fourth quarter ground water sampling event. A table with the water levels and ground water elevations is included as Table 2. The ground water elevation data for the fourth quarter sampling event is shown on Figure 14.

3.0. Migration Pathway Evaluation

Based on the previous soil analytical results indicating benzene, 1,2,4-trimethylbenzene, trichloroethene, nickel and cyanide exceeding the MDEQ Part 201 Generic Industrial Drinking Water Protection Criteria and the quarterly ground water sampling results indicating concentrations of arsenic, iron, lead, manganese and cyanide above Part 201 Generic Industrial Drinking Water criteria, a migration pathway analysis was performed.

In accordance with the NREPA, 1994 PA 451, as amended Part 201 (Environmental Remediation), Mich. Admin. Code Rule 299, compliance for Generic site closures are attained when chemical concentrations in soil and ground water are below applicable values for migration pathways pertinent to the site. The following sections summarize pertinent migration pathways at the former WWTP. The COCs (defined as those compounds above appropriate Part 201 Generic Residential criteria) at the former WWTP are:

Soil:
Benzene
Cyanide
Nickel
1,2,4- trimethylbenzene
Trichloroethene

Ground water:
Arsenic
Cyanide
Lead
Iron
Manganese

3.1. Migration Pathway Evaluation

Since the migration pathway applicable to soil impacts at the Former WWTP were addressed in the November 2000 Basin Investigation Report, the following evaluation addresses the pertinent ground water migration pathways.

The pertinent migration pathways associated with the former WWTP are:

Migration to ground water in an aquifer based on ingestion
Soil leaching of hazardous substances into ground water
Migration from ground water to surface water
Discharge to surface water from storm sewers
Dermal contact with ground water (utility worker exposure).

Each pertinent migration pathway evaluation for the former WWTP is discussed below:

Migration to ground water in an aquifer based on ingestion. In accordance with Mich. Admin. Code Rule 299.5710, exposure to ground water by ingestion may be considered a relevant pathway for ground water that satisfies either of the following conditions: 1). The ground water is in an aquifer. 2). The ground water is not in an aquifer, but can reasonably be expected to transport a hazardous substance into an aquifer in a concentration that exceeds the generic residential criteria.

Based on the investigation results, the water observed in the sand lenses at the former WWTP in the perched zone is not an aquifer. Permeability tests of wells installed at the Coldwater Road site have indicated permeabilities within the shallow perched zone 10^{-7} to 10^{-6} cm/sec. It is estimated that a well tapping the perched zone would have a yield ranging from 6 to 60 gallons per day. This range in well yield for the perched zone has been verified by the permeability tests conducted on the soil samples from the proposed landfill. Furthermore, vertical permeabilities for the perched zone ranged from 3.5 x 10^{-7} cm/sec to 2.1 x 10^{-8} cm/sec (The Chester Engineers, 1986). Based on this information it is evident that the perched zone is not capable of producing usable quantities of water, and therefore is not considered an aquifer.

Deep soil borings installed on site near the landfill indicate the subsurface geology includes a clay till aquitard approximately 47.5 ft thick (former MW-23D located south of the landfill). This aquitard which appears to be continuous across the Coldwater Road Site, was observed at the former WWTP area.

A study performed at the adjacent former Peregrine property indicated that shallow perched water beneath the entire former Peregrine site, is not in communication with ground water in an aquifer through the following results:

- The clay till aquitard above the usable drift aquifer is approximately 60 ft thick and has vertical conductivities ranging from 2.2 x 10^{-8} to 1.5 x 10^{-8} cm/sec
- Results from pump tests performed on the drift aquifer indicate no response in the perched wells on the former Peregrine property.

Also, the differences in the flow direction, gradients, and water levels between the perched zone and drift aquifer make it apparent that there is little, if any, connection between the perched zone and drift aquifer (Dames & Moore, June 1980).

These conclusions suggest that movement of water from the perched zone to the drift aquifer is highly unlikely and it is unlikely concentrations previously detected in the ground water could migrate vertically to the usable aquifer in concentrations which exceed the Part 201 Generic Residential Drinking Water criteria.

Also, REALM intends to impose ground water resource use restrictions for the entire REALM Coldwater Road Landfill property.

Therefore, the former WWTP is in compliance with Generic Industrial standards for the migration to ground water in an aquifer based on ingestion exposure pathway.

Soil leaching of hazardous substances into ground water. In accordance with Mich. Admin. Code Rule 299.5722, to assure that soils do not pose a threat of aquifer contamination, the concentration of

the hazardous substance in soil shall be below that which produces a concentration in leachate that is equal to the least restrictive of the applicable ground water criteria. The cleanup criteria protective of ground water may be determined by; soil leachate analysis, comparing the concentration in soil to the Part 201 Drinking Water Protection Criteria or by use of other methods that demonstrate impact to soil will not result in applicable ground water criteria being exceeded (actual ground water data being an acceptable method).

Since the former WWTP soil impacts could not be investigated through soil sample collection and analysis, the MDEQ allowed for monitoring wells to be installed in close proximity to soil impacts and collection and analysis of ground water for four quarters to assess the potential for soil impacts leaching to ground water as an acceptable method for assessing this exposure pathway (MDEQ letter dated January 26, 2007 Work Plan approval). The results of the quarterly ground water sampling indicated concentrations of VOCs below MDEQ Part 201 Generic Industrial Drinking Water criteria. Analytical results for one well (OBG MW-5) indicated concentrations of cyanide above the MDEQ Part 201 Generic Industrial Drinking Water criterion for the first quarterly sampling event, however, cyanide concentrations were below this criterion for the last three quarterly sampling events.

Analytical results for inorganics were as follows:

- Total and dissolved arsenic- detected in one well (OBG MW-5) for the third quarter sampling event was above the Part 201 Generic Industrial Drinking Water criterion, however was below this criterion for the last quarterly sampling event
- Total and dissolved chromium concentrations were below the Part 201 Generic Industrial Drinking Water criterion for the four quarterly sampling events
- Total and dissolved lead – results indicate a concentration of total lead above the Part 201 Generic Industrial Drinking Water criterion for 1 well for the first quarterly sampling event, however, total and dissolved concentrations for dissolved lead for the last three sampling events were below Part 201 Generic Industrial Drinking Water criterion
- Total and dissolved iron- results for the third quarter sampling event indicate concentrations of total iron above the Part 201 Generic Industrial Drinking Water criterion for all the wells sampled, with dissolved concentrations above criterion for the one well (OBG MW-5) analyzed for dissolved iron. The fourth quarter sample results also indicated concentrations above the MDEQ Part 201 Generic Industrial Drinking Water criterion (criterion is aesthetic drinking water value) for several wells. However, these concentrations are below the MDEQ Part 201 Industrial Health-based Drinking Water value of 5,600 ug/l
- Total and dissolved nickel- results for the quarterly sampling indicated concentrations below the MDEQ Part 201 Generic Industrial Drinking Water criterion for the four quarterly sampling events
- Total and dissolved manganese- results from the quarterly sampling indicated concentrations of total and dissolved manganese from a few wells which were above the MDEQ Part 201 Generic Industrial Drinking Water criterion. These concentrations, except from one well (OBG MW-3 concentration for last 2 sampling events 5,080 and 5,050 respectively) were above the MDEQ Part 201 Industrial Health-based Drinking Water value of 2,500 ug/l.

Ground water at the site is not used for drinking water and upon approval of this Closure Certification Addendum, REALM will be filing a Declaration of Restrictive Covenant form with the Genesee County Register of Deeds, restricting potential future ground water use for the entire Coldwater Road landfill site which includes the former WWTP area. Also, the soil impacts detected during the initial

basin investigation which were also analyzed in ground water, were not detected above the Part 201 Generic Industrial Drinking Water criteria, except for cyanide which was detected in ground water at OBG MW-5. The location of OBG MW-5 is approximately 180 ft from the detection of cyanide in soil (GB-25). It is unlikely the detection of cyanide in ground water at OBG MW-5 is from cyanide leaching from soil detected at GB-25.

Currently institutional controls (Declaration of Restrictive Covenant form recorded on June 24, 2005) at the site restrict the installation of wells at the site for drinking water purposes.

Therefore, potential exposure risks associated with the soil leaching to ground water pathway will be mitigated based on the filing of Declaration of Restrictive Covenant form restricting the use of ground water at the site for drinking water. The former WWTP is in compliance with Generic Industrial standards for the soil leaching of hazardous substances into ground water pathway.

Ground water to surface water. In accordance with Mich. Admin. Code Rule 299.5716, COCs in ground water at the surface water interface must be no greater than the Part 201 Generic Industrial Ground Water-Surface Water Interface (GSI) Criteria. The surface water receptor (wetlands) on landfill property (the nearest surface water body- depicted on Figure 2) is located approximately 2,000 ft north of the former WWTP. It should be noted that the on site wetlands are not used as a human drinking water source.

The following summarizes the concentrations of COCs relative to the GSI exposure pathway:

- VOCs- concentrations in ground water below the GSI criteria
- Arsenic- concentrations in ground water below the GSI criteria
- Chromium- concentrations in ground water below the facility specific calculated GSI for surface water (worksheet included in Appendix I) not protected for drinking water use
- Iron- no GSI criteria developed
- Lead- concentrations in ground water below GSI surface water Human Non-Drinking Water value
- Manganese- concentrations in ground water below GSI Surface Water Human Non-Drinking Water value
- Nickel- concentrations in ground water below GSI Surface Water Human Non-Drinking Water value
- Cyanide- concentrations in ground water above the GSI criteria.

Based on the chemical characteristics for inorganics (low mobility), the unlikely transport mechanism for ground water (non-continuous perched zone) and the potential for considerable dilution before ground water reaches the nearest surface water body, it is unlikely the detected compounds would reach the nearest surface body of water in concentrations above the GSI. Therefore, the site is in compliance with Generic Industrial standards for the migration to surface water pathway.

Discharge to surface water from storm sewers. In addition to the ground water migrating to surface water exposure pathway, MDEQ regulations require that storm sewers must be addressed as a potential preferential pathway when evaluating the GSI criteria. The nearest storm sewer underground utility line (shown on Figure 5) is located approximately 80 ft east of the former WWTP. Based on the subsurface geology in this area, the chemical characteristics for the inorganics

(low mobility) and the distance to the nearest storm sewer line, it is unlikely the discontinuous sand lenses containing water are connected to the sewer line.

Therefore, there does not appear to be a migration pathway from the sand lenses at the former WWTP to the nearest storm sewer line.

Therefore, the former WWTP is in compliance with Generic Industrial standards for the migration to surface water pathway via storm sewers.

Dermal contact with groundwater (utility worker exposure). In accordance with Mich. Admin. Code Rule 299.5712, exposure to dermal contact shall apply when contaminated ground water is, or will be as a result of migration of ground water contamination, encountered at a depth where construction or maintenance of utilities or other subsurface activities may reasonably be expected to result in persons coming into contact with the ground water.

The analytical results for the quarterly ground water samples collected at the former WWTP indicate concentrations of VOCs, inorganic compounds and cyanide are below the MDEQ Part 201 Generic Contact criteria. Therefore, the former WWTP is in compliance with the Generic Industrial standards for the dermal contact with ground water pathway.

Based on the above summary, and upon the recording of an MDEQ-approved Declaration of Restrictive Covenant restricting resource use at the site, Limited Industrial compliance is achieved for the former WWTP.

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4.0. Conclusions

This Addendum Report supplements the June 1999 Final Certification Closure Report for the former WWTP at the REALM Coldwater Road Landfill facility in Flint, Michigan. The former WWTP falls under the CACO for the REALM Coldwater Road Landfill facility.

At the request of MDEQ, additional investigation was performed at the former WWTP to evaluate potential releases to the soil and ground water subsequent to the initial basin investigation. Since it was not feasible to investigate soil beneath the former WWTP building or basins, the migration to drinking water pathway was investigated through sampling and analyzing ground water at the site. The results of this investigation identified inorganic constituents in ground water above Generic Industrial Drinking Water criteria at the former WWTP.

An evaluation of pertinent migration pathways for the former WWTP concluded that compliance with Generic Industrial cleanup criteria is achieved for this area with the implementation of ground water use restrictions through filing of a Declaration of Restrictive Covenant form. Based on the investigation and closure activities presented herein at the former WWTP, closure of the former WWTP pursuant to the NREPA Part 111 is achieved.

Post-closure activities associated with the landfill are continuing in accordance with the Post-Closure Plan. Following MDEQ approval of closure, REALM anticipates implementing deed restrictions and negotiation of a post-closure operating license for the REALM Coldwater Road Landfill facility. Once the post closure operating license is approved, REALM will request termination of the CACO.

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5.0. References

Conestoga-Rovers & Associates, November 30, 2000, RCRA Facility Investigation (RFI) Report Former Peregrine (US), Inc. Coldwater Road Facility Genessee Township, Michigan (USEPA ID# MIR000020743).

Conestoga-Rovers & Associates, April 24, 2003, Groundwater Not In An Aquifer (GWNIAA) Evaluation Report Former Peregrine (US), Inc. Coldwater Road Facility Genessee Township, Michigan (USEPA ID# MIR000020743).

Conestoga-Rovers & Associates, March 31, 2000, Description of Current Conditions Report Former Peregrine (US), Inc. Coldwater Road Facility Genessee Township, Michigan (USEPA ID# MIR000020743).

Dames & Moore, 1980. Hydrogeological Investigation-Coldwater Road Plant Waste Management Area., Flint, Michigan.

General Motors Corporation, March 1992, Corrective Measures Study.

Michigan Department of Environmental Quality, February 7, 1996, Redesignation Approval for General Motors Corporation, Delphi Interior & Lighting Systems.

Michigan Department of Environmental Quality, September 23, 1997, Closure Plan Modification Request, General Motors Corporation, Coldwater Road Facility, Flint, Michigan MID 005 356 860.

Michigan Department of Environmental Quality, March 26, 1998, Letter of Warning, Financial Capability and Closure of former Drum Storage Area, Peregrine U.S., Inc. Flint Plant; MIR 000 020 743.

Michigan Department of Environmental Quality, June 27, 2000, Closure Plan Amendment Approval, General Motors/REALM, Coldwater Road facility, Flint, Michigan.

Michigan Department of Environmental Quality, April 19, 2002, Sampling Plan for former Drum Storage Area and Waste Pile Pad, REALM Coldwater Road Landfill, MIR 000 020 743.

Michigan Department of Environmental Quality, March 24, 2005, Final Closure Certification Documentation REALM Coldwater Road Landfill; MID 005 356 860.

O'Brien & Gere Engineers, Inc., August 1989, Closure Plan and Post-Closure Plan, General Motors Corporation, Fisher Guide Division, Flint, Michigan.

O'Brien & Gere Engineers, Inc., October 1994, Delisting Petition Work Plan, Inland Fisher Guide Division of General Motors Corporation, Flint Coldwater Plant, Flint, Michigan.

O'Brien & Gere Engineers, Inc., January 1995, Delisting Petition, Inland Fisher Guide Division, General Motors Corporation, Flint Coldwater Road Plant, Flint, Michigan.

O'Brien & Gere Engineers, Inc., April 1997, Closure Plan Modification Request, Coldwater Road, Flint, Michigan.

O'Brien & Gere Engineers, Inc., June 1999, Subsurface Investigation of Decontamination Pits/Sump and Chromium Reduction Basins Coldwater Road, Flint, Michigan.

O'Brien & Gere Engineers, Inc., February 16, 2000, former Drum Storage Area Closure Plan and Closure Plan Amendment, GM/REALM Coldwater Road Facility, Flint, Michigan- EPA MIR 000 020 743.

O'Brien & Gere Engineers, Inc., November 2000, Part I Final Closure Certification Documentation, REALM Coldwater Road Facility, 6220 Horton Street Flint, Michigan (MID 005356860).
O'Brien & Gere Engineers, Inc., November 2000, Former Wastewater Treatment Plant Basin Investigation, Coldwater Road Facility, Flint, Michigan.

O'Brien & Gere Engineers, Inc., February 2004, Former Drum Storage Area Work Plan, Coldwater Road facility, Flint, Michigan- EPA I.D. No. MIR 000 020 743.

O'Brien & Gere Engineers, Inc., January 2005, Addendum to the June 1999 Closure Certification Report for the Former Drum Storage Area at the Former Peregrine, U.S., Inc. Property at the Coldwater Road Facility.

O'Brien & Gere Engineers, Inc., December 2006, Former Wastewater Treatment Plant Work Plan, Coldwater Road facility, Flint, Michigan- EPA I.D. No. MID 005 356 860.

O'Brien & Gere Engineers, Inc., Quality Assurance Project Plan, Former Wastewater Treatment Plant, May 2007, Coldwater Road Landfill, Flint, Michigan- EPA I.D. No. MID 005 356 860.

State of Michigan, Department of Natural Resources, September 7, 1989, GMC Fisher Guide, Coldwater Road Closure Plan, MID 005 356 860.

State of Michigan, Department of Natural Resources, Waste Management Division, October 29, 1992, Corrective Action Consent Order General Motors Corporation, Inland Fisher Guide Division, G1245 East Coldwater Road, City of Flint, County of Genessee, State of Michigan.

Roy F. Weston, Inc., November 1994, Draft Closure Certification Documentation Package, Inland Fisher Guide Division, General Motors Corporation Surface Remediation Project Coldwater Road Plant, Flint, Michigan (EPA ID No. MID 005356860).

Roy F. Weston, Inc., September 1998, Final Closure Certification Documentation Package, Decontamination Pits and Sump, Chromium Reduction Basins at the WWTP, Surface Remediation Project, Coldwater Road Plant, Flint, Michigan (EPA I.D. No. MID 005356860).

Roy F. Weston, Inc., June 1999, Closure Certification Documentation Package for the former Drum Storage Area and Waste Pile Pad, Former GMC Inland Fisher Guide Coldwater Road Plant, Flint, Michigan (EPA ID No. MID 005356860).

Roy F. Weston, Inc., November 2000, Part II Final Closure Certification Documentation, Surface Remediation Project, Coldwater Road Plant, Flint, Michigan (EPA I.D. No. MID 005356860).

TABLES

TABLE 1
REALM
Coldwater Road Facility
Ground Water Analytical Results - First Quarter (June 2007)
Volatile Organic Compounds Method 8260

Sample Location	OBG MW-5	OBG MW-6	OBG MW-8	MDEQ Part 201 Generic Cleanup Criteria
Date Collected	6/19/2007	6/19/2007	6/19/2007	Industrial Drinking Water Criteria
Parameter				
Benzene	1U	<1	<1	5.0 (A)
Bromodichloromethane	<1	<1	<1	100 (A, W)
Bromoform	<1	<1	<1	100 (A, W)
Bromomethane	<5	<5	<5	29
n-Butylbenzene	<1	<1	<1	230
sec-Butylbenzene	<1	<1	<1	230
tert-Butylbenzene	<1	<1	<1	230
Carbon tetrachloride	<1	<1	<1	5.0 (A)
Chlorobenzene	<1	<1	<1	100 (A)
Chloroethane	<5	<5	<5	1,700
Chloroform	<1	<1	<1	100 (A, W)
Chloromethane	0.5J	5U	5U	1,100
Dibromochloromethane	5UJ	<5	<5	100 (A, W)
1,2-Dichlorobenzene	<1	<1	<1	600 (A)
1,3-Dichlorobenzene	<1	<1	<1	19
1,4-Dichlorobenzene	<1	<1	<1	75 (A)
1,1-Dichloroethane	6	<1	0.3	2,500
1,2-Dichloroethane	<1	<1	<1	5.0 (A)
1,1-Dichloroethene	0.3	<1	<1	7.0 (A)
cis 1,2-Dichloroethene	12	<1	<1	70 (A)
trans 1,2-Dichloroethene	0.6	<1	<1	100 (A)
1,2-Dichloropropane	<1	<1	<1	5.0 (A)
cis 1,3-Dichloropropene	<1	<1	<1	-
Ethylbenzene	1U	<1	<1	74 (E)
Isopropylbenzene	0.1J	<5	<5	2,300
p-Isopropyltoluene	0.2J	<5	<5	-
Methylene chloride	1	<5	<5	5.0 (A)
Naphthalene	12	5U	5U	1,500
n-Propylbenzene	<1	<1	<1	-
Styrene	<1	<1	<1	100 (A)
1,1,2,2-Tetrachloroethane	<1	<1	<1	35
Tetrachloroethene	3	<1	<1	5.0 (A)
Toluene	7J	1U	<1	790 (E)
1,1,1-Trichloroethane	<1	<1	<1	200 (A)
1,1,2-Trichloroethane	<1	<1	<1	5.0 (A)
Trichloroethene	1	<1	<1	5.0 (A)
1,2,4-Trimethylbenzene	1U	<1	<1	63 (E)
1,3,5-Trimethylbenzene	1U	<1	<1	72 (E)
Vinyl chloride	2J	<1	<1	2.0 (A)
o-Xylene	2U	<1	<1	280 (E)
p,m-Xylene	2U	0.1	<2	280 (E)
Acetone*	50U	<50	<50	2,100
2-Butanone*	6J	<30	<30	38,000
Carbon Disulfide*	<5	<5	<5	2,300
2-Hexanone*	0.6J	<50	<50	2,900
4-Methyl-2-pentanone*	10J	<50	<50	5,200
tert-Methyl butyl ether	<5	<5	<5	40 (E)
1,1,1,2-Tetrachloroethane	<1	<1	<1	320
1,2,3-Trichlorobenzene	<5	<5	<5	-
1,2,3-Trichloropropane	<1	<1	<1	120
1,2,4-Trichlorobenzene	<5	<5	<5	70 (A)
1,2-Dibromo-3-chloropropane	<5	<5	<5	-
1,2-Dibromoethane	<1	<1	<1	0.05 (A)
2-Methylnaphthalene	5U	5U	5U	750
Acrylonitrile	<2	<2	<2	11
Bromobenzene	<1	<1	<1	50
Bromochloromethane	<1	<1	<1	-
Dibromomethane	<5	<5	<5	230
Dichlorodifluoromethane	5U	5U	5U	1,700
Diethyl ether	<10	<10	<10	10 (E)
Hexachloroethane	5U	<5	<5	21
Methyl iodide	<1	<1	<1	-
Tetrahydrofuran	3	<90	<90	270
Trichlorofluoromethane	<1	<1	<1	7,300
1,2,3-Trimethylbenzene	0.3	<1	<1	-
trans-1,4-Dichloro-2-butene	<1	<1	<1	-

Notes:

1) Results and criteria are shown in ug/l (ppb).
2) MDEQ Part 201 Generic Industrial Drinking Water criteria as listed in Operational Memorandum #1, dated January 23, 2006.
3) Samples analyzed by Merit Laboratories, Inc. of East Lansing, Michigan
4) "-" denotes no criteria established.
5) "A" denotes criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of the Safe Drinking Water Act, Act No. 399 of the Public Acts of 1976.
6) "E" denotes criterion is the asthetic drinking water value, as required by Section 20120 (1)(5).
7) "W" denotes Concentrations of trihalomethanes in groundwater must be added together to determine compliance with the State of Michigan Drinking Water Standard of 100 ug/l. Concentrations of trihalomethanes in soil must be added together to determine compliance with the drinking water protection criterion of 2,000 ug/kg.
8) "U" denotes the analyte was analyzed for, but was not detected.
9) "UJ" denotes that the sample-specific reporting limit for the analyte in this sample should be considered approximate.
10) "J" denotes concentration should be considered approximate based on analyte concentration being greater than the MDL.

TABLE 1
REALM
Coldwater Road Facility
Ground Water Analytical Results - First Quarter (June 2007)
Metals Method 200.8 and Cyanide Method 335.2

Sample Location	OBG MW-1	OBG MW-2	OBG MW-3	OBG MW-4	OBG MW-5	OBG MW-6	OBG MW-7	OBG MW-8	MDEQ Part 201 Generic Cleanup Criteria
Date Collected	**06/19/2007**	**06/19/2007**	**06/19/2007**	**06/19/2007**	**06/19/2007**	**06/19/2007**	**06/19/2007**	**06/19/2007**	**Industrial Drinking Water Criteria**
Parameter									
Total Inorganics									
Chromium	NS	NS	NS	NS	13	6	NS	10	100 (A)
Lead	<3	<3	<3	1	**14**	<3	<3	<3	4.0 (L)
Nickel	NS	NS	NS	NS	28	20	NS	41	100 (A)
Dissolved Inorganics									
Chromium	NS	NS	NS	NS	<5	NS	NS	NS	100 (A)
Lead	<3	<3	NS	NS	<3	NS	NS	NS	4.0 (L)
Nickel	NS	NS	NS	NS	17	NS	NS	NS	100 (A)
Total Cyanide									
Cyanide	NS	NS	NS	NS	**295**	<5	NS	<5	200 (A)

Notes:

1) Results and criteria are shown in ug/l (ppb).
2) Samples analyzed by Merit Laboratories, Inc. of East Lansing, Michigan.
3) Bold type denotes exceedance of Part 201 Generic Industrial Drinking Water criteria.
4) MDEQ Part 201 Generic Industrial Drinking Water Protection Criteria as listed in Operational Memorandum #1, dated January 23, 2006.
5) "A" denotes criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of the Safe Drinking Water Act, Act No. 399 of the Public Acts of 1976.
6) "L" denotes higher groundwater concentrations (up to 15 ug/L) may be acceptable if the soil concentration is less than 400 ppm and groundwater migrating off-site will not result in unacceptable exposures. Contact an ERD toxicologist if further explanation is needed.
7) "NS" denotes the well was not sampled for this constituent.

Table 2
REALM
Coldwater Road Facility
Quarterly Ground Water Elevation Data

			Depth to Water				Ground Water Elevation			
			1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Monitoring Well	**Top of Casing**	**Ground Surface Elevation**	19-Jun-07	25-Sep-07	11-Dec-07	18-Mar-08	19-Jun-07	25-Sep-07	11-Dec-07	18-Mar-08
OBG MW - 1	811.56	809.46	7.40	8.50	7.59	6.49	804.16	803.06	803.97	805.07
OBG MW - 2	813.77	812.45	8.33	10.71	7.66	6.61	805.44	803.06	806.11	807.16
OBG MW - 3	810.09	807.47	7.01	7.64	7.71	7.35	803.08	802.45	802.38	802.74
OBG MW - 4	812.66	810.10	15.28	13.54	13.02	11.99	797.38	799.12	799.64	800.67
OBG MW - 5	816.04	813.05	8.75	11.09	10.76	7.96	807.29	804.95	805.28	808.08
OBG MW - 6	815.75	813.02	18.67	13.55	13.64	11.99	797.08	802.20	802.11	803.76
OBG MW - 7	813.47	810.23	8.76	11.25	7.76	6.29	804.71	802.22	805.71	807.18
OBG MW - 8	817.50	814.72	9.65	11.95	9.61	8.24	807.85	805.55	807.89	809.26

Notes:
Measurements are in feet (ft).
Elevations referenced to NAVD 88 PID 0J0381=760.17 ft held record bearings.

TABLE 3
REALM
Coldwater Road Facility
Ground Water Analytical Results- Second Quarter (September 2007)
Volatile Organic Compounds Method 8260

Sample Location	OBG MW-5	OBG MW-6	OBG MW-8	MDEQ Part 201 Generic Cleanup Criteria
Date Collected	09/25/2007	09/25/2007	09/25/2007	Industrial Drinking Water
Parameter				Criteria
Benzene	0.2	<1	<1	5.0 (A)
Bromodichloromethane	<1	<1	<1	100 (A, W)
Bromoform	<1	<1	<1	100 (A, W)
Bromomethane	<5	<5	<5	29
n-Butylbenzene	<1	<1	<1	230
sec-Butylbenzene	<1	<1	<1	230
tert-Butylbenzene	<1	<1	<1	230
Carbon tetrachloride	<1	<1	<1	5.0 (A)
Chlorobenzene	<1	<1	<1	100 (A)
Chloroethane	<5	<5	<5	1,700
Chloroform	<1	<1	<1	100 (A, W)
Chloromethane	<5	<5	<5	1,100
Dibromochloromethane	<5	<5	<5	100 (A, W)
1,2-Dichlorobenzene	<1	<1	<1	600 (A)
1,3-Dichlorobenzene	<1	<1	<1	19
1,4-Dichlorobenzene	<1	<1	<1	75 (A)
1,1-Dichloroethane	7	<1	<1	2,500
1,2-Dichloroethane	<1	<1	<1	5.0 (A)
1,1-Dichloroethene	0.4	<1	<1	7.0 (A)
cis 1,2-Dichloroethene	21	<1	<1	70 (A)
trans 1,2-Dichloroethene	1	<1	<1	100 (A)
1,2-Dichloropropane	<1	<1	<1	5.0 (A)
cis 1,3-Dichloropropene	<1	<1	<1	-
trans-1,3-Dichloropropene	<1	<1	<1	
Ethylbenzene	0.2	<1	<1	74 (E)
Isopropylbenzene	<5	<5	<5	2,300
p-Isopropyltoluene	<5	<5	<5	-
Methylene chloride	<5	<5	<5	5.0 (A)
Naphthalene	5	5U	5U	1,500
n-Propylbenzene	<1	<1	<1	-
Styrene	0.1	<1	<1	100 (A)
1,1,2,2-Tetrachloroethane	<1	<1	<1	35
Tetrachloroethene	0.6	<1	<1	5.0 (A)
Toluene	2	1U	1U	790 (E)
1,1,1-Trichloroethane	<1	<1	<1	200 (A)
1,1,2-Trichloroethane	<1	<1	<1	5.0 (A)
Trichloroethene	1	<1	<1	5.0 (A)
1,2,4-Trimethylbenzene	0.2	<1	<1	63 (E)
1,3,5-Trimethylbenzene	<1	<1	<1	72 (E)
Vinyl chloride	2	<1	<1	2.0 (A)
o-Xylene	0.4	<1	<1	280 (E)
p,m-Xylene	0.6	0.1	0.1	280 (E)
Acetone*	<50R	<50R	<50R	2,100
2-Butanone*	<30	<30	<30	38,000
Carbon Disulfide*	<5	<5	<5	2,300
2-Hexanone*	<50	<50	<50	2,900
4-Methyl-2-pentanone*	3	<50	<50	5,200
tert-Methyl butyl ether	<5	<5	<5	40 (E)
1,1,1,2-Tetrachloroethane	<1	<1	<1	320
1,2,3-Trichlorobenzene	<5	<5	<5	-
1,2,3-Trichloropropane	<1	<1	<1	120
1,2,4-Trichlorobenzene	<5	<5	<5	70 (A)
1,2-Dibromo-3-chloropropane	<5	<5	<5	-
1,2-Dibromoethane	<1	<1	<1	0.05 (A)
2-Methylnaphthalene	<5	<1	5U	750
Acrylonitrile	<2	<2	<2	11
Bromobenzene	<1	<1	<1	50
Bromochloromethane	<1	<1	<1	-
Dibromomethane	<5	<5	<5	230
Dichlorodifluoromethane	<5	<5	<5	1,700
Diethyl ether	<10	<10	<10	10 (E)
Hexachloroethane	<5	<5	<5	21
Methyl iodide	<1	<1	<1	-
Tetrahydrofuran	2	<90	<90	270
Trichlorofluoromethane	<1	<1	<1	7,300
1,2,3-Trimethylbenzene	0.1	<1	<1	-
trans-1,4-Dichloro-2-butene	<1	<1	<1	-

Notes:

1) Results and criteria are shown in ug/l (ppb).
2) MDEQ Part 201 Generic Industrial Drinking Water criteria as listed in Operational Memorandum #1, dated January 23, 2006.
3) Samples analyzed by Merit Laboratories, Inc. of East Lansing, Michigan
4) "-" denotes no criteria established.
5) "A" denotes criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of the Safe Drinking Water Act, Act No. 399 of the Public Acts of 1976.
6) "E" denotes criterion is the asthetic drinking water value, as required by Section 20120 (1)(5).
7) "W" denotes Concentrations of trihalomethanes in groundwater must be added together to determine compliance with the State of Michigan Drinking Water Standard of 100 ug/l. Concentrations of trihalomethanes in soil must be added together to determine compliance with the drinking water protection criterion of 2,000 ug/kg.
8) "U" denotes the analyte was analyzed for, but was not detected.
9)"R" data rejected due to initial calibration failure

TABLE 3
REALM
Coldwater Road Facility
Ground Water Analytical Results- Second Quarter (September 2007)
Metals Method 200.8 and Cyanide Method 335.2

Sample Location	OBG MW-1	OBG MW-2	OBG MW-3	OBG MW-4	OBG MW-5	OBG MW-6	OBG MW-7	OBG MW-8	MDEQ Part 201 Generic Cleanup Criteria
Date Collected	09/25/2007	09/25/2007	09/25/2007	09/25/2007	09/25/2007	09/25/2007	09/25/2007	09/25/2007	Industrial Drinking Water Criteria
Parameter									
Total Inorganics									
Chromium	NS	NS	NS	NS	15	22	NS	16	100 (A)
Lead	<3	<3	<3	<3	4	<3	<3	<3	4.0 (L)
Nickel	NS	NS	NS	NS	9	23	NS	44	100 (A)
Total Cyanide									
Cyanide	NS	NS	NS	NS	108	<5	NS	14	200 (A)

Notes:

1) Results and criteria are shown in ug/l (ppb).
2) Samples analyzed by Merit Laboratories, Inc. of East Lansing, Michigan.
3) MDEQ Part 201 Generic Industrial Drinking Water Protection Criteria as listed in Operational Memorandum #1, dated January 23, 2006.
4) "A" denotes criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of the Safe Drinking Water Act, Act No. 399 of the Public Acts of 1976.
5) "L" denotes higher groundwater concentrations (up to 15 ug/L) may be acceptable if the soil concentration is less than 400 ppm and groundwater migrating off-site will not result in unacceptable exposures. Contact an ERD toxicologist if further explanation is needed.
6) "NS" denotes the well was not sampled for this constituent.

TABLE 4
REALM
Coldwater Road Facility
Ground Water Analytical Results- Third Quarter (December 2007)
Volatile Organic Compounds Method 8260

Sample Location	OBG MW-5	OBG MW-6	OBG MW-8	MDEQ Part 201 Generic Cleanup Criteria Industrial Drinking Water Criteria
Date Collected	12/11/02007	12/11/02007	12/11/02007	
Parameter				
Benzene	<1	<1	<1	5.0 (A)
Bromodichloromethane	<1	<1	<1	100 (A, W)
Bromoform	<1	<1	<1	100 (A, W)
Bromomethane	<5	<5	<5	29
n-Butylbenzene	<1	<1	<1	230
sec-Butylbenzene	<1	<1	<1	230
tert-Butylbenzene	<1	<1	<1	230
Carbon tetrachloride	<1	<1	<1	5.0 (A)
Chlorobenzene	<1	<1	<1	100 (A)
Chloroethane	<5	<5	<5	1,700
Chloroform	<1	<1	<1	100 (A, W)
Chloromethane	5UJ	5UJ	5UJ	1,100
Dibromochloromethane	<5	<5	<5	100 (A, W)
1,2-Dichlorobenzene	<1	<1	<1	600 (A)
1,3-Dichlorobenzene	<1	<1	<1	19
1,4-Dichlorobenzene	<1	<1	<1	75 (A)
1,1-Dichloroethane	5	<1	0.2	2,500
1,2-Dichloroethane	<1	<1	<1	5.0 (A)
1,1-Dichloroethene	0.1	<1	<1	7.0 (A)
cis 1,2-Dichloroethene	12	<1	<1	70 (A)
trans 1,2-Dichloroethene	0.5	<1	<1	100 (A)
1,2-Dichloropropane	<1	<1	<1	5.0 (A)
cis 1,3-Dichloropropene	<1	<1	<1	-
trans-1,3-Dichloropropene	<1	<1	<1	
Ethylbenzene	0.2	<1	<1	74 (E)
Isopropylbenzene	<5	<5	<5	2,300
p-Isopropyltoluene	<5	<5	<5	-
Methylene chloride	<5	<5	<5	5.0 (A)
Naphthalene	5U	5U	5U	1,500
n-Propylbenzene	<1	<1	<1	-
Styrene	0.1	<1	<1	100 (A)
1,1,2,2-Tetrachloroethane	<1	<1	<1	35
Tetrachloroethene	0.4	<1	<1	5.0 (A)
Toluene	1U	<1	<1	790 (E)
1,1,1-Trichloroethane	<1	<1	<1	200 (A)
1,1,2-Trichloroethane	<1	<1	<1	5.0 (A)
Trichloroethene	1	<1	<1	5.0 (A)
1,2,4-Trimethylbenzene	<1	<1	<1	63 (E)
1,3,5-Trimethylbenzene	<1	<1	<1	72 (E)
Vinyl chloride	0.9	<1	<1	2.0 (A)
o-Xylene	<1	<1	<1	280 (E)
p,m-Xylene	<2	<2	0.1	280 (E)
Acetone*	<50	<50	<50	2,100
2-Butanone*	<30	<30	<30	38,000
Carbon Disulfide*	<5	<5	<5	2,300
2-Hexanone*	<50	<50	<50	2,900
4-Methyl-2-pentanone*	50UJ	50UJ	50UJ	5,200
tert-Methyl butyl ether	<5	<5	<5	40 (E)
1,1,1,2-Tetrachloroethane	<1	<1	<1	320
1,2,3-Trichlorobenzene	<5	<5	<5	-
1,2,3-Trichloropropane	<1	<1	<1	120
1,2,4-Trichlorobenzene	<5	<5	<5	70 (A)
1,2-Dibromo-3-chloropropane	<5	<5	<5	-
1,2-Dibromoethane	<1	<1	<1	0.05 (A)
2-Methylnaphthalene	<5	<1	5U	750
Acrylonitrile	<2	<2	<2	11
Bromobenzene	<1	<1	<1	50
Bromochloromethane	<1	<1	<1	-
Dibromomethane	<5	<5	<5	230
Dichlorodifluoromethane	<5	<5	<5	1,700
Diethyl ether	<10	<10	<10	10 (E)
Hexachloroethane	<5	<5	<5	21
Methyl iodide	<1	<1	<1	-
Tetrahydrofuran	2J	90UJ	90UJ	270
Trichlorofluoromethane	<1	<1	<1	7,300
1,2,3-Trimethylbenzene	<1	<1	<1	-
trans-1,4-Dichloro-2-butene	1UJ	1UJ	1UJ	-

Notes:

1) Results and criteria are shown in ug/l (ppb).

2) MDEQ Part 201 Generic Industrial Drinking Water criteria as listed in Operational Memorandum #1, dated January 23, 2006.

3) Samples analyzed by Merit Laboratories, Inc. of East Lansing, Michigan

4) "-" denotes no criteria established.

5) "A" denotes criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of the Safe Drinking Water Act, Act No. 399 of the Public Acts of 1976.

6) "E" denotes criterion is the asthetic drinking water value, as required by Section 20120 (1)(5).

7) "W" denotes Concentrations of trihalomethanes in groundwater must be added together to determine compliance with the State of Michigan Drinking Water Standard of 100 ug/l. Concentrations of trihalomethanes in soil must be added together to determine compliance with the drinking water protection criterion of 2,000 ug/kg.

8) "U" denotes the analyte was analyzed for, but was not detected.

9) "J" denotes estimated concentration.

10) "UJ" denotes not detected, estimating reporting limit.

TABLE 4
REALM
Coldwater Road Facility
Ground Water Analytical Results- Third Quarter (December 2007)
Metals Method 200.8 and Cyanide Method 335.2

Sample Location	OBG MW-1	OBG MW-2	OBG MW-3	OBG MW-4	OBG MW-5	OBG MW-6	OBG MW-7	OBG MW-8	MDEQ Part 201 Generic Cleanup Criteria
Date Collected	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	12/11/2007	Industrial Drinking Water Criteria
Parameter									
Total inorganics									
Arsenic	<2	<2	<2	<2	19	<2	5	<2	100 (A)
Chromium	NS	NS	NS	NS	20J	29J	NS	40J	100 (A)
Iron	**440**	**630**	**1,780**	**420**	**1,490**	**990**	**970**	**520**	300 (E)
Lead	<3	<3	<3	<3	<3	<3	<3	<3	4.0 (L)
Manganese	**216**	**307**	**5,080**	**118**	**521**	**642**	46	**371**	50 (E)
Nickel	NS	NS	NS	NS	18	15J	NS	44	100 (A)
Dissolved inorganics									
Arsenic	NS	NS	NS	NS	**15**	NS	NS	NS	10 (A)
Chromium	NS	NS	NS	NS	17	NS	NS	NS	100 (A)
Iron	NS	NS	NS	NS	**790**	NS	NS	NS	300 (E)
Lead	NS	NS	NS	NS	<3	NS	NS	NS	4.0 (L)
Manganese	NS	NS	NS	NS	**502**	NS	NS	NS	50 (E)
Nickel	NS	NS	NS	NS	17	NS	NS	NS	100 (A)
Total Cyanide									
Cyanide	NS	NS	NS	NS	32	<5	NS	<5	200 (A)

Notes:

1) Results and criteria are shown in ug/l (ppb).

2) Samples analyzed by Merit Laboratories, Inc. of East Lansing, Michigan.

3) MDEQ Part 201 Generic Industrial Drinking Water Protection Criteria as listed in Operational Memorandum #1, dated January 23, 2006.

4) "A" denotes criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of the Safe Drinking Water Act, Act No. 399 of the Public Acts of 1976.

5) "L" denotes higher groundwater concentrations (up to 15 ug/L) may be acceptable if the soil concentration is less than 400 ppm and groundwater migrating off-site will not result in unacceptable exposures. Contact an ERD toxicologist if further explanation is needed.

6) "E" denotes criterion is aesthetic drinking water value.

7) "NS" denotes the well was not sampled for this constituient.

8) "J" denotes estimated concentration.

9) Bold type indicates concentration above MDEQ Part 201 Generic Industrial Drinking Water Criteria as listed in MDEQ RRD Operational Memorandum #1, dated January 23, 2006.

TABLE 5
REALM
Coldwater Road Facility
Ground Water Analytical Results- Fourth Quarter (March 2008)
Volatile Organic Compounds Method 8260

Sample Location	OBG MW-5	OBG MW-6	OBG MW-8	MDEQ Part 201 Generic Cleanup Criteria Industrial Drinking Water Criteria
Date Collected	03/18/2008	03/18/2008	03/18/2008	
Parameter				
Benzene	<1	<1	<1	5.0 (A)
Bromodichloromethane	<1	<1	<1	100 (A, W)
Bromoform	<1	<1	<1	100 (A, W)
Bromomethane	<5	<5	<5	29
n-Butylbenzene	<1	<1	<1	230
sec-Butylbenzene	<1	<1	<1	230
tert-Butylbenzene	<1	<1	<1	230
Carbon tetrachloride	<1	<1	<1	5.0 (A)
Chlorobenzene	<1	<1	<1	100 (A)
Chloroethane	<5	<5	<5	1,700
Chloroform	<1	<1	<1	100 (A, W)
Chloromethane	<5	<5	<5	1,100
Dibromochloromethane	<5	<5	<5	100 (A, W)
1,2-Dichlorobenzene	<1	<1	<1	600 (A)
1,3-Dichlorobenzene	<1	<1	<1	19
1,4-Dichlorobenzene	<1	<1	<1	75 (A)
1,1-Dichloroethane	2	<1	0.1	2,500
1,2-Dichloroethane	<1	<1	<1	5.0 (A)
1,1-Dichloroethene	<1	<1	<1	7.0 (A)
cis 1,2-Dichloroethene	4	<1	<1	70 (A)
trans 1,2-Dichloroethene	0.2	<1	<1	100 (A)
1,2-Dichloropropane	<1	<1	<1	5.0 (A)
cis 1,3-Dichloropropene	<1	<1	<1	-
trans-1,3-Dichloropropene	<1	<1	<1	
Ethylbenzene	<1	<1	<1	74 (E)
Isopropylbenzene	<5	<5	<5	2,300
p-Isopropyltoluene	<5	<5	<5	-
Methylene chloride	<5	<5	<5	5.0 (A)
Naphthalene	0.2	<5	<5	1,500
n-Propylbenzene	<1	<1	<1	-
Styrene	0.1	<1	<1	100 (A)
1,1,2,2-Tetrachloroethane	<1	<1	<1	35
Tetrachloroethene	0.2	<1	<1	5.0 (A)
Toluene	<1	<1	<1	790 (E)
1,1,1-Trichloroethane	<1	<1	<1	200 (A)
1,1,2-Trichloroethane	<1	<1	<1	5.0 (A)
Trichloroethene	0.5	<1	<1	5.0 (A)
1,2,4-Trimethylbenzene	<1	<1	<1	63 (E)
1,3,5-Trimethylbenzene	<1	<1	<1	72 (E)
Vinyl chloride	<1	<1	<1	2.0 (A)
o-Xylene	<1	<1	<1	280 (E)
p,m-Xylene	<2	<2	<2	280 (E)
Acetone*	50R	50R	50R	2,100
2-Butanone*	<30	<30	<30	38,000
Carbon Disulfide*	<5	<5	<5	2,300
2-Hexanone*	<50	<50	<50	2,900
4-Methyl-2-pentanone*	<50	<50	<50	5,200
tert-Methyl butyl ether	<5	<5	<5	40 (E)
1,1,1,2-Tetrachloroethane	<1	<1	<1	320
1,2,3-Trichlorobenzene	<5	<5	<5	-
1,2,3-Trichloropropane	<1	<1	<1	120
1,2,4-Trichlorobenzene	<5	<5	<5	70 (A)
1,2-Dibromo-3-chloropropane	<5	<5	<5	-
1,2-Dibromoethane	<1	<1	<1	0.05 (A)
2-Methylnaphthalene	<5	<5	<5	750
Acrylonitrile	<2	<2	<2	11
Bromobenzene	<1	<1	<1	50
Bromochloromethane	<1	<1	<1	-
Dibromomethane	<5	<5	<5	230
Dichlorodifluoromethane	<5	<5	<5	1,700
Diethyl ether	<10	<10	<10	10 (E)
Hexachloroethane	<5	<5	<5	21
Methyl iodide	<1	<1	<1	-
Tetrahydrofuran	<90	<90	<90	270
Trichlorofluoromethane	<1	<1	<1	7,300
1,2,3-Trimethylbenzene	<1	<1	<1	-
trans-1,4-Dichloro-2-butene	<1	<1	<1	-

Notes:

1) Results and criteria are shown in ug/l (ppb).

2) MDEQ Part 201 Generic Industrial Drinking Water criteria as listed in Operational Memorandum #1, dated January 23, 2006.

3) Samples analyzed by Merit Laboratories, Inc. of East Lansing, Michigan

4) "-" denotes no criteria established.

5) "A" denotes criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of the Safe Drinking Water Act, Act No. 399 of the Public Acts of 1976.

6) "E" denotes criterion is the asthetic drinking water value, as required by Section 20120 (1)(5).

7) "W" denotes Concentrations of trihalomethanes in groundwater must be added together to determine compliance with the State of Michigan Drinking Water Standard of 100 ug/l. Concentrations of trihalomethanes in soil must be added together to determine compliance with the drinking water protection criterion of 2,000 ug/kg.

8) "R" denotes sample result rejected due to relative response factor minimum not being met.

TABLE 5
REALM
Coldwater Road Facility
Ground Water Analytical Results- Fourth Quarter (March 2008)
Metals Method 200.8 and Cyanide Method 335.2

Sample Location	OBG MW-1	OBG MW-2	OBG MW-3	OBG MW-4	OBG MW-5	OBG MW-6	OBG MW-7	OBG MW-8	MDEQ Part 201 Generic Cleanup Criteria
Date Collected	**03/18/2008**	**03/18/2008**	**03/18/2008**	**03/18/2008**	**03/18/2008**	**03/18/2008**	**03/18/2008**	**03/18/2008**	**Industrial Drinking Water Criteria**
Parameter									
Total Inorganics									
Arsenic	<1	<1	<1	<1	10	<1	3	<1	100 (A)
Chromium	NS	NS	NS	NS	1	1	NS	1	100 (A)
Iron	160J	280J	**1,180J**	130J	**1,770J**	**350J**	**560J**	280J	300 (E)
Lead	<3	<3	<3	<3	<3	<3	<3	<3	4.0 (L)
Manganese	**405**	**97**	**5,050**	**54**	**532**	**322**	**212**	**337**	50 (E)
Nickel	NS	NS	NS	NS	24	15	NS	38	100 (A)
Dissolved inorganics									
Arsenic	NS	NS	NS	NS	4	NS	NS	NS	10 (A)
Chromium	NS	NS	NS	NS	1	NS	NS	NS	100 (A)
Iron	NS	NS	NS	NS	190	NS	NS	NS	300 (E)
Lead	NS	NS	NS	NS	<3	NS	NS	NS	4.0 (L)
Manganese	NS	NS	NS	NS	**520**	NS	NS	NS	50 (E)
Nickel	NS	NS	NS	NS	24	NS	NS	NS	100 (A)
Total Cyanide									
Cyanide	NS	NS	NS	NS	22	<5	NS	<5	200 (A)

Notes:

1) Results and criteria are shown in ug/l (ppb).

2) Samples analyzed by Merit Laboratories, Inc. of East Lansing, Michigan.

3) MDEQ Part 201 Generic Industrial Drinking Water Protection Criteria as listed in Operational Memorandum #1, dated January 23, 2006.

4) "A" denotes criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of the Safe Drinking Water Act, Act No. 399 of the Public Acts of 1976.

5) "L" denotes higher groundwater concentrations (up to 15 ug/L) may be acceptable if the soil concentration is less than 400 ppm and groundwater migrating off-site will not result in unacceptable exposures. Contact an ERD toxicologist if further explanation is needed.

6) "E" denotes criterion is aesthetic drinking water value.

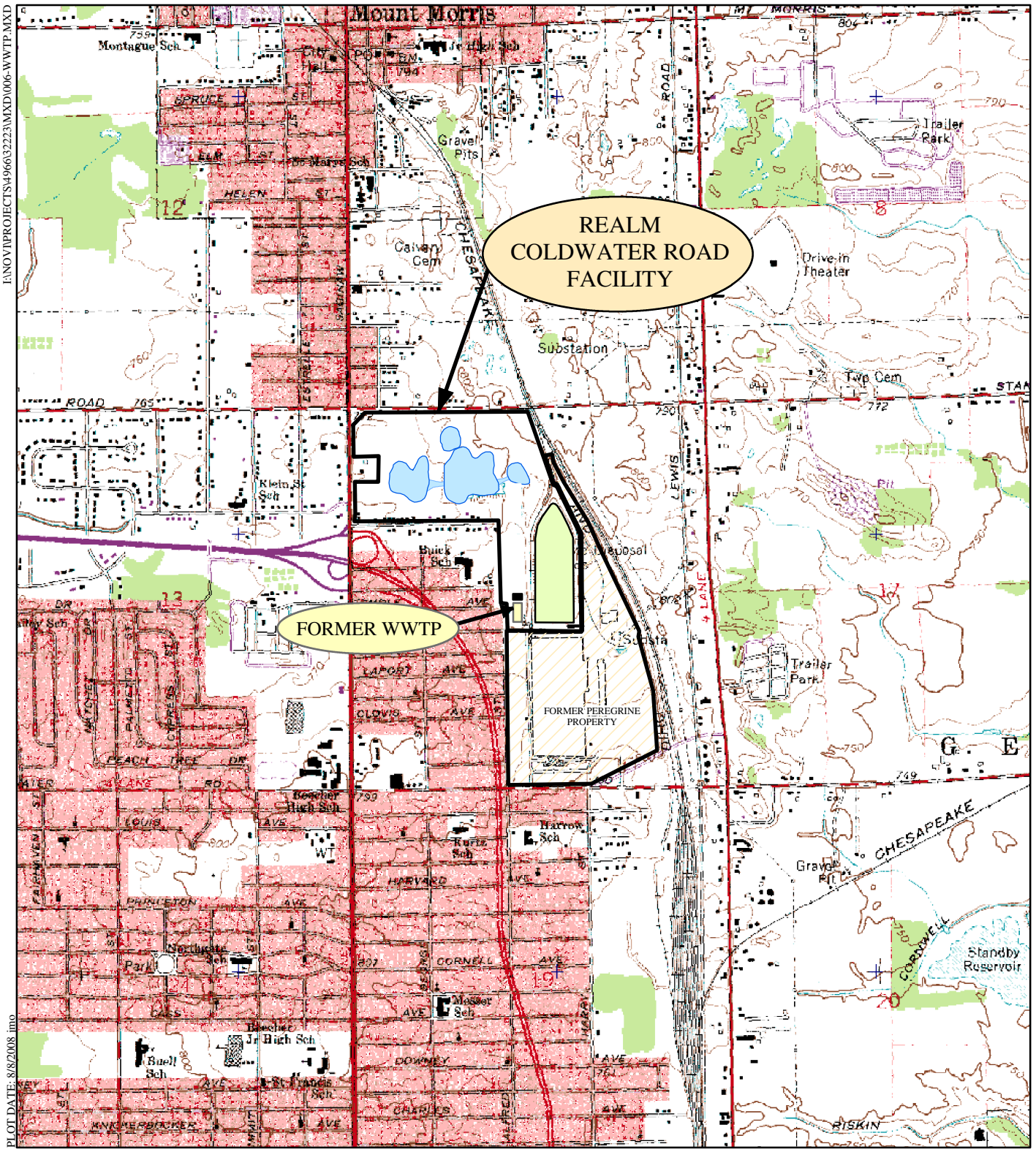
7) "NS" denotes the well was not sampled for this constituent.

8) "J" denotes estimated concentration.

9) Bold type indicates concentration above MDEQ Part 201 Generic Industrial Drinking Water Criteria as listed in MDEQ RRD Operational Memorandum #1, dated January 23, 2006.

FIGURES

FIGURE 1



REALM
COLDWATER ROAD FACILITY
FORMER WASTEWATER TREATMENT PLANT
FLINT, MICHIGAN

SITE LOCATION MAP

N

0 1
Mile

DATE: 9/9/08
FILE: 4966/32223/006.MXD

O'BRIEN & GERE ENGINEERS, INC.

FIGURE 2

N

LEGEND

- LANDFILL PROPERTY
- FORMER PEREGRINE PROPERTY
- LANDFILL
- EXISTING BUILDING
- FORMER WWTP BUILDING
- FORMER WWTP BASIN

STANLEY ROAD

SAGINAW ROAD

~ WETLANDS ~

KLEIN ST.

~ RESIDENTIAL ~

DUNKIRK RD.

GEORGE ST.

~ RESIDENTIAL ~

CHRYSLER ST.

~ RESIDENTIAL ~

HARTMAN ST.

TEMPLE ST.

~ RESIDENTIAL ~

TEMPLE ST.

MORRIS HILLS PKWY.

MORRIS HILLS PKWY.

HORTON ST.

475

CSX RAILROAD

~ LANDFILL ~

EXISTING LANDFILL OPERATIONS BUILDING

FORMER WASTEWATER TREATMENT AREA

~ FORMER PEREGRINE PROPERTY ~

MAP USES DATA FROM THE MICHIGAN CENTER FOR GEOGRAPHIC INFORMATION

PLOT DATE: 12/13/2006 jmo

I:\PROJECTS\4966-CW\32223\MXDS\007.MXD

REALM
COLDWATER ROAD
FORMER WWTP
FLINT, MICHIGAN

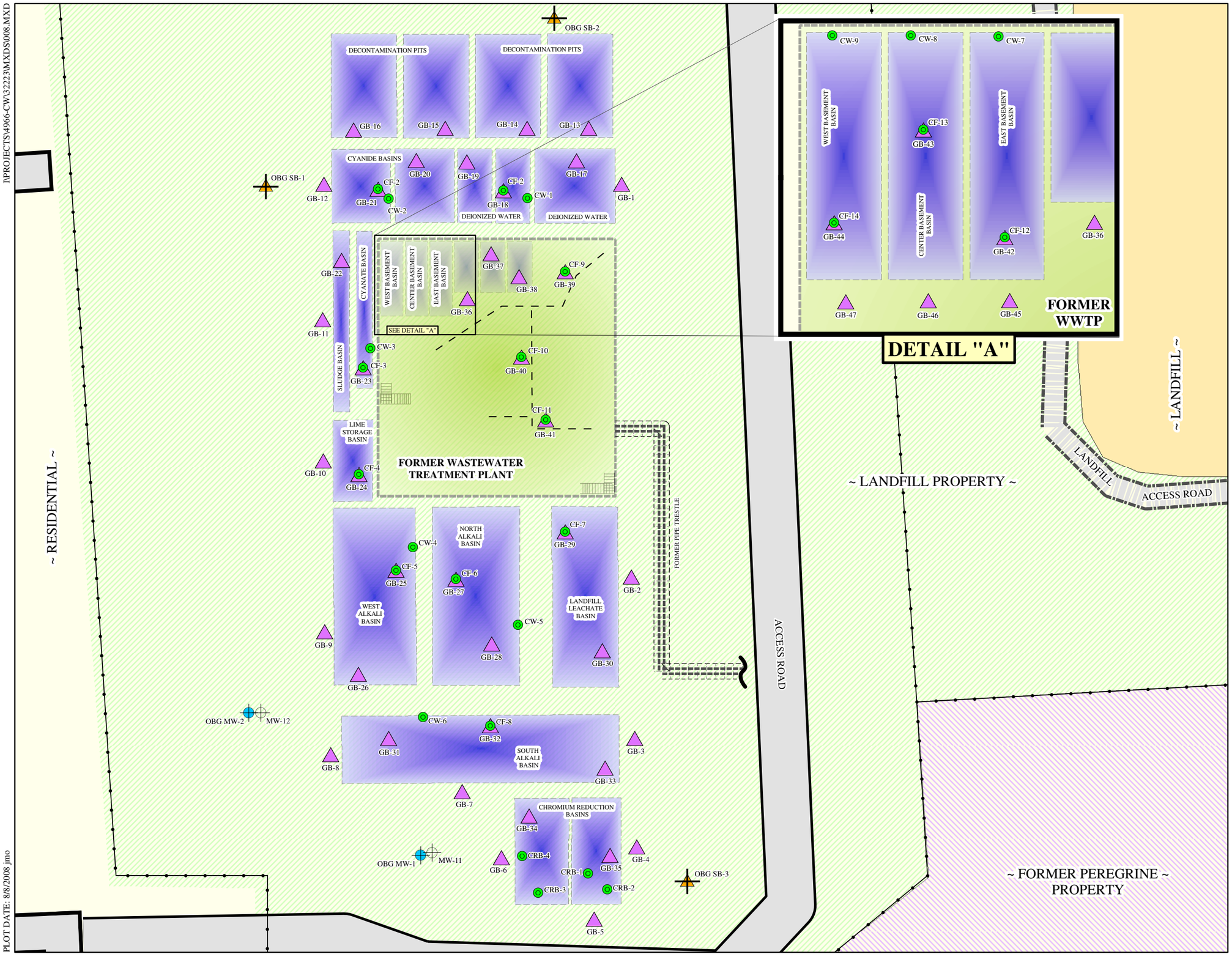
SITE PLAN

0 100 200 400 600 800
Feet

SEPTEMBER 2008
4966/32223-007

O'BRIEN & GERE ENGINEERS, INC.

FIGURE 3



LEGEND

- FORMER WWTP BUILDING
- FORMER WWTP BASIN
- FLOOR TRENCH

SAMPLE LOCATIONS

- CONCRETE
- GEOPROBE
- SOIL BORING
- FORMER MONITORING WELL
- MONITORING WELL

REALM
COLDWATER ROAD
FORMER WWTP
FLINT, MICHIGAN

FORMER WWTP WITH PREVIOUS SAMPLE LOCATIONS

0 12.5 25 50 75 100
Feet

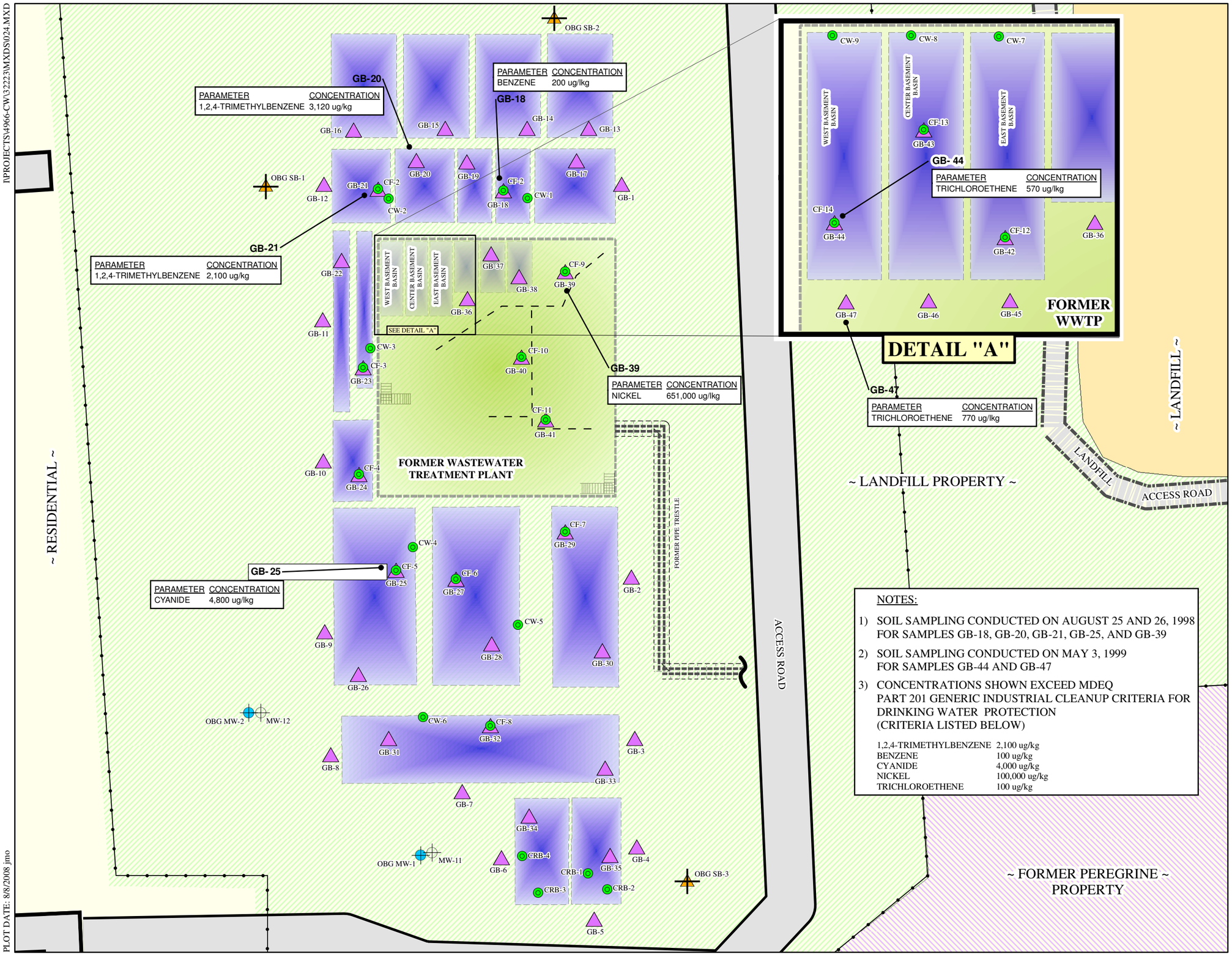
SEPTEMBER 2008
4966/32223-008

O'BRIEN & GERE ENGINEERS, INC.

PLOT DATE: 8/8/2008 jmo

I\PROJECTS\4966-CW\32223\MXDS\008.MXD

FIGURE 4



LEGEND

- FORMER WWTP BUILDING
- FORMER WWTP BASIN
- FLOOR TRENCH

SAMPLE LOCATIONS

- CONCRETE
- GEOPROBE
- SOIL BORING
- FORMER MONITORING WELL
- MONITORING WELL

NOTES:

1) SOIL SAMPLING CONDUCTED ON AUGUST 25 AND 26, 1998 FOR SAMPLES GB-18, GB-20, GB-21, GB-25, AND GB-39
2) SOIL SAMPLING CONDUCTED ON MAY 3, 1999 FOR SAMPLES GB-44 AND GB-47
3) CONCENTRATIONS SHOWN EXCEED MDEQ PART 201 GENERIC INDUSTRIAL CLEANUP CRITERIA FOR DRINKING WATER PROTECTION (CRITERIA LISTED BELOW)

1,2,4-TRIMETHYLBENZENE	2,100 ug/kg
BENZENE	100 ug/kg
CYANIDE	4,000 ug/kg
NICKEL	100,000 ug/kg
TRICHLOROETHENE	100 ug/kg

REALM
COLDWATER ROAD
FORMER WWTP
FLINT, MICHIGAN

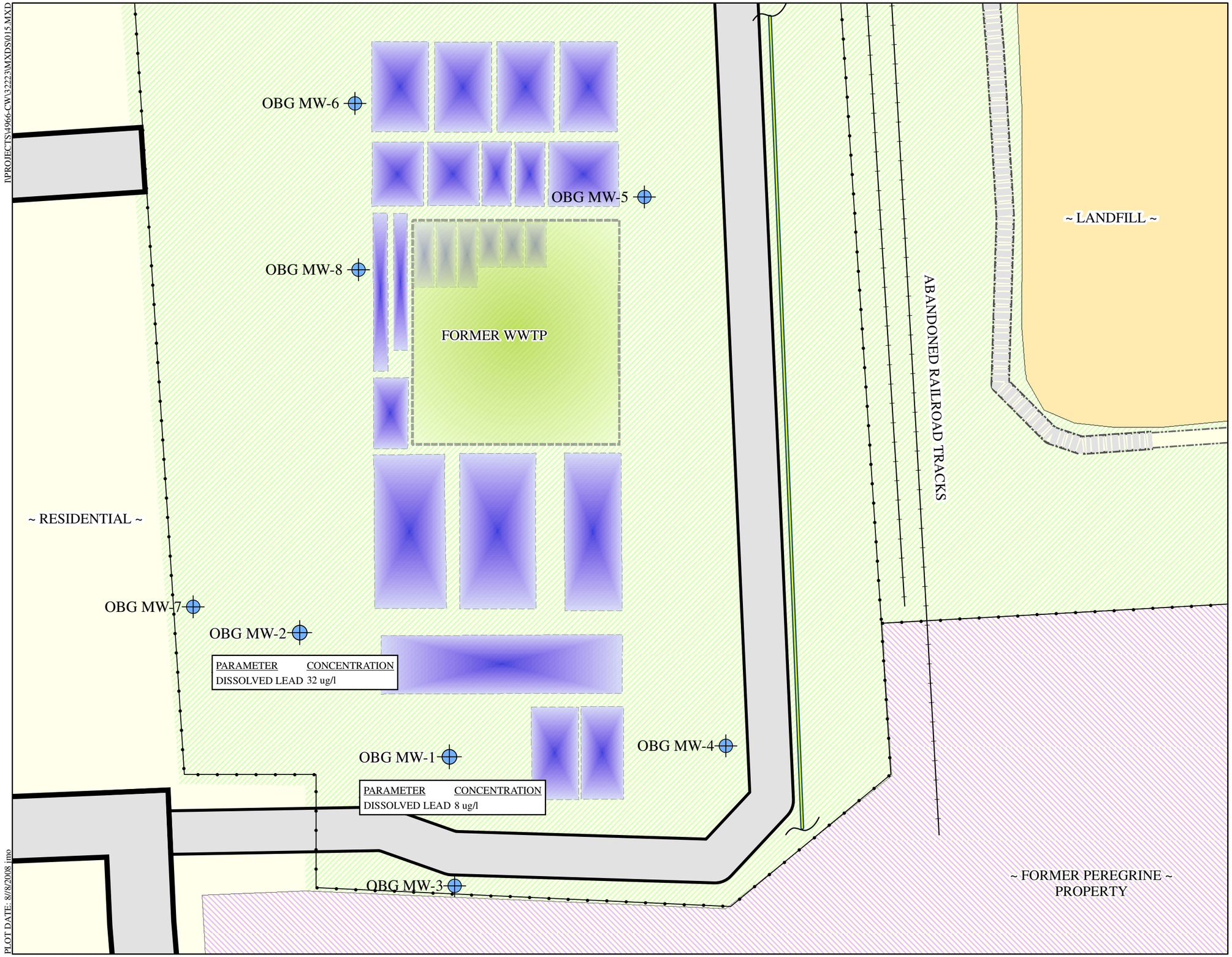
HISTORICAL SOIL CRITERIA EXCEEDANCES

0 12.5 25 50 75 100
Feet

SEPTEMBER 2008
4966/32223-024

O'BRIEN & GERE ENGINEERS, INC.

FIGURE 5



N

LEGEND

- FORMER WWTP BUILDING
- FORMER WWTP BASIN
- MONITORING WELL
- APPROXIMATE LOCATION OF UNDERGROUND STORM SEWER LINE

NOTES:

1 - ANALYTICAL RESULTS IN ug/l.

2 - MDEQ PART 201 GENERIC INDUSTRIAL DRINKING WATER CRITERION FOR LEAD IS 4 ug/l.

REALM
COLDWATER ROAD
FORMER WWTP
FLINT, MICHIGAN

HISTORICAL GROUND WATER CRITERIA EXCEEDANCES

0 15 30 60 90 120
Feet

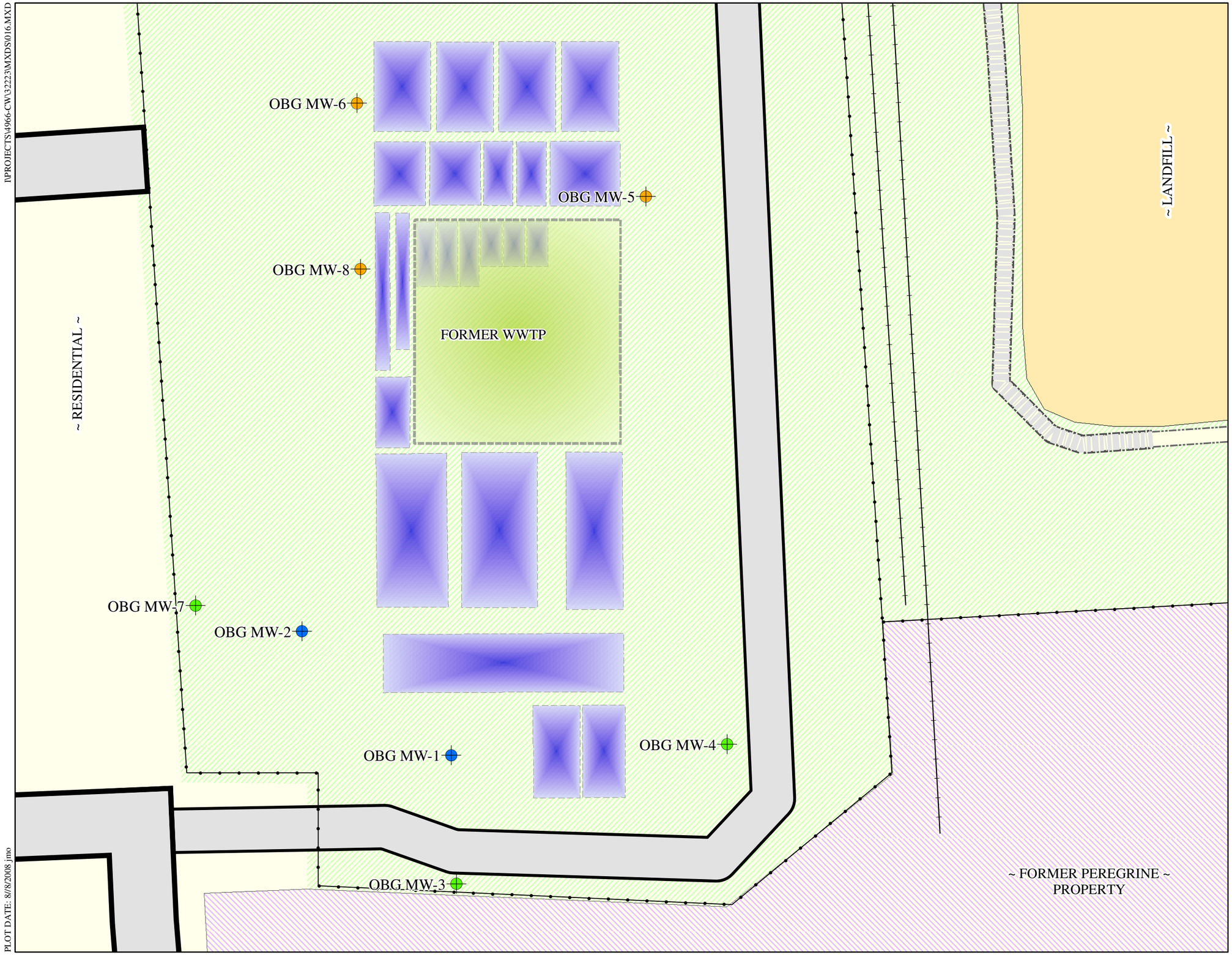
SEPTEMBER 2008
4966/32223-015

O'BRIEN & GERE ENGINEERS, INC.

I:\PROJECTS\4966-CW\32223\MXDS\015.MXD

PLOT DATE: 8/8/2008 imo

FIGURE 6



LEGEND

- FORMER WWTP BUILDING
- FORMER WWTP BASIN
- FORMER MONITORING WELL
- LEAD ASSESSMENT MONITORING WELL LOCATION
- SOIL IMPACTS ASSESSMENT MONITORING WELL LOCATION

REALM
COLDWATER ROAD
FORMER WWTP
FLINT, MICHIGAN

MONITORING WELL LOCATIONS

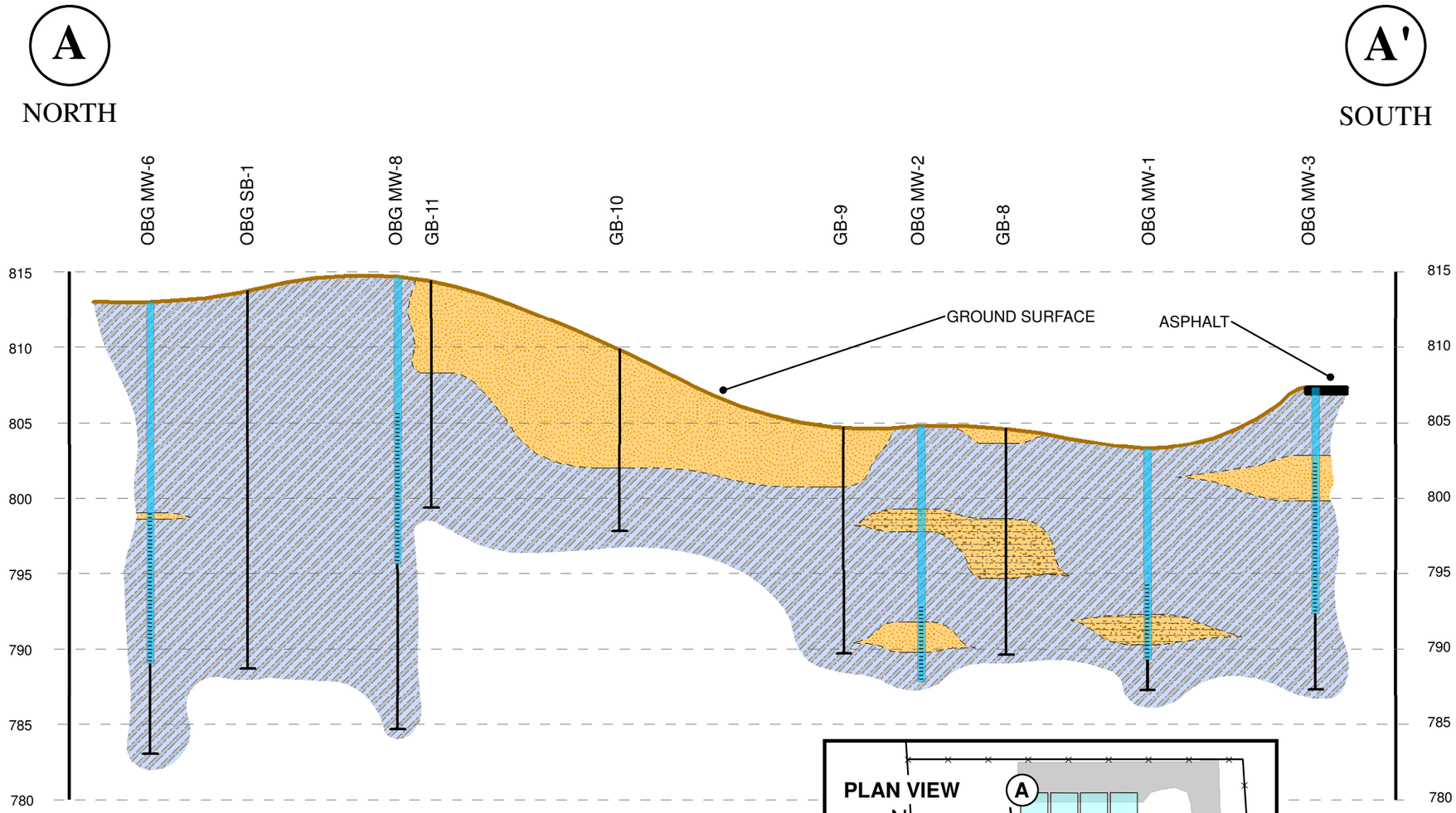
0 15 30 60 90 120
Feet

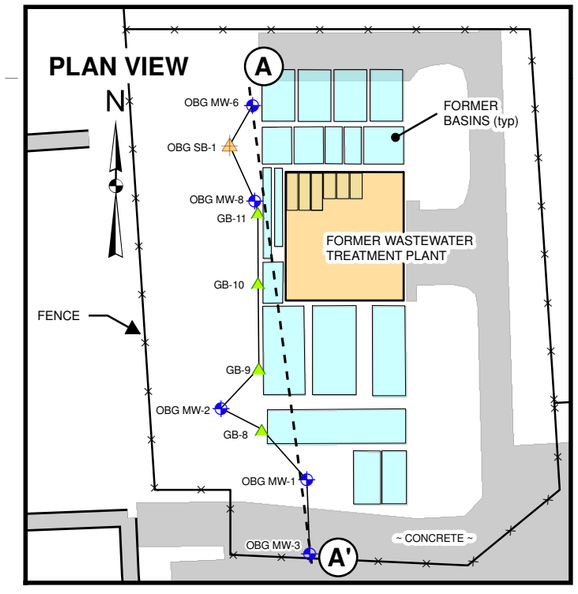
SEPTEMBER 2008
4966/32223-016

O'BRIEN & GERE ENGINEERS, INC.

I:\PROJECTS\4966-CW\32223\MXDS\026.MXD

FIGURE 7





LEGEND

- SAND
- SAND AND SILT
- CLAY
- MONITORING WELL
- SOIL BORING

REALM
COLDWATER ROAD
FORMER WWTP
FLINT, MICHIGAN

GEOLOGIC CROSS SECTION

0 25 50 75 100

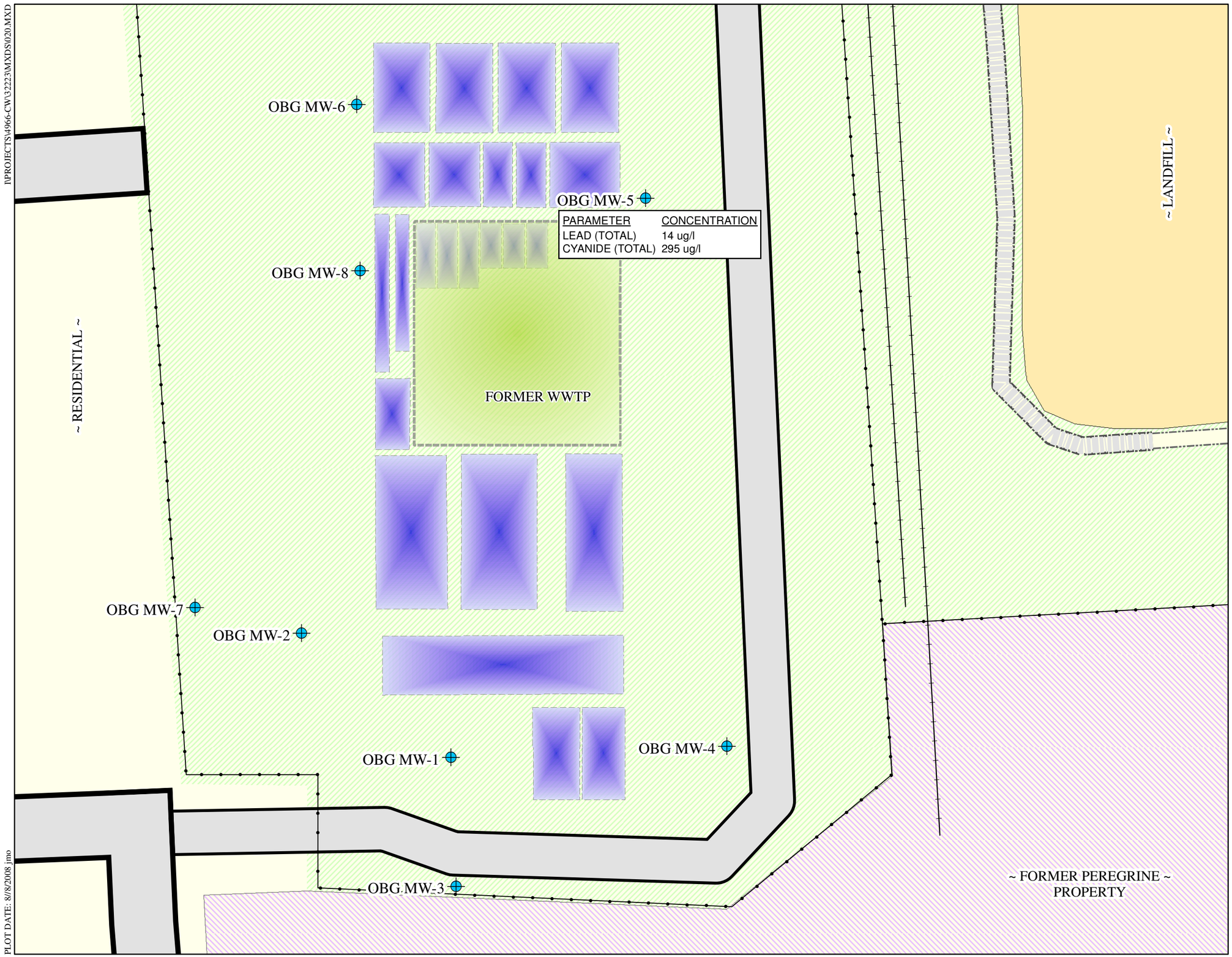
HORIZONTAL SCALE IN FEET
VERTICAL EXAGGERATION 5:1

AUGUST 2008
4966/32223-026

O'BRIEN & GERE ENGINEERS, INC.

PLOT DATE: 8/28/2008 jmo

FIGURE 8



N

LEGEND

- FORMER WWTP BUILDING
- FORMER WWTP BASIN
- MONITORING WELL LOCATION

NOTES:

1) GROUND WATER SAMPLING CONDUCTED ON JUNE 19, 2007
2) CONCENTRATIONS SHOWN EXCEED MDEQ PART 201 GENERIC INDUSTRIAL CLEANUP CRITERIA FOR DRINKING WATER (CRITERIA LISTED BELOW)

LEAD (TOTAL)	4.0 ug/l
CYANIDE	200 ug/l

REALM
COLDWATER ROAD
FORMER WWTP
FLINT, MICHIGAN

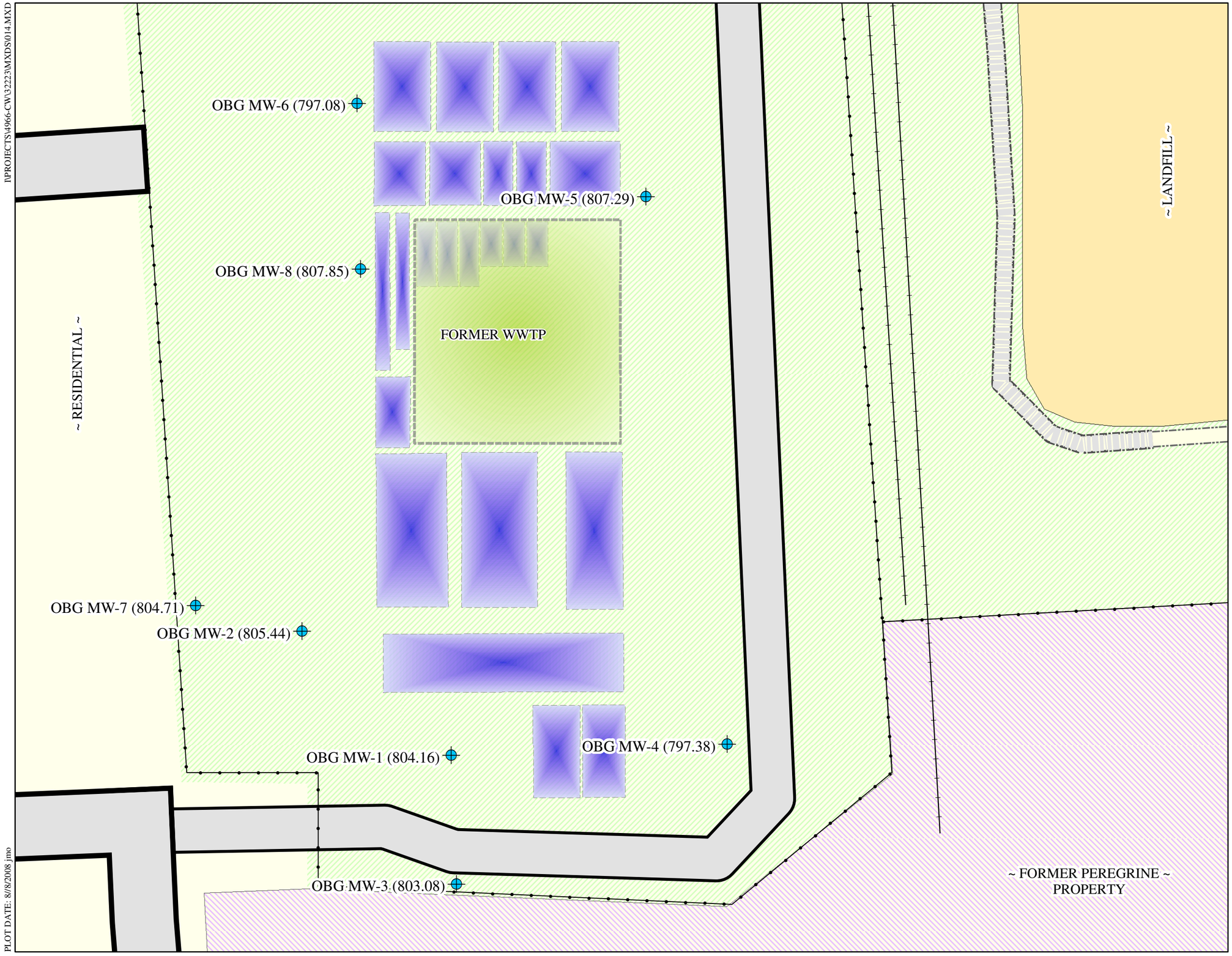
FIRST QUARTER GROUND WATER EXCEEDANCES

0 15 30 60 90 120
Feet

SEPTEMBER 2008
4966/32223-020

O'BRIEN & GERE ENGINEERS, INC.

FIGURE 9



N

LEGEND

- FORMER WWTP BUILDING
- FORMER WWTP BASIN
- MONITORING WELL LOCATION

NOTES:

1) DEPTH TO WATER MEASUREMENTS WERE COLLECTED ON JUNE 19, 2007
2) MEASUREMENTS ARE IN FEET
3) ELEVATIONS ARE REFERENCED TO NAVD 88

REALM
COLDWATER ROAD
FORMER WWTP
FLINT, MICHIGAN

FIRST QUARTER GROUND WATER ELEVATIONS

0 15 30 60 90 120
Feet

SEPTEMBER 2008
4966/32223-014

O'BRIEN & GERE ENGINEERS, INC.

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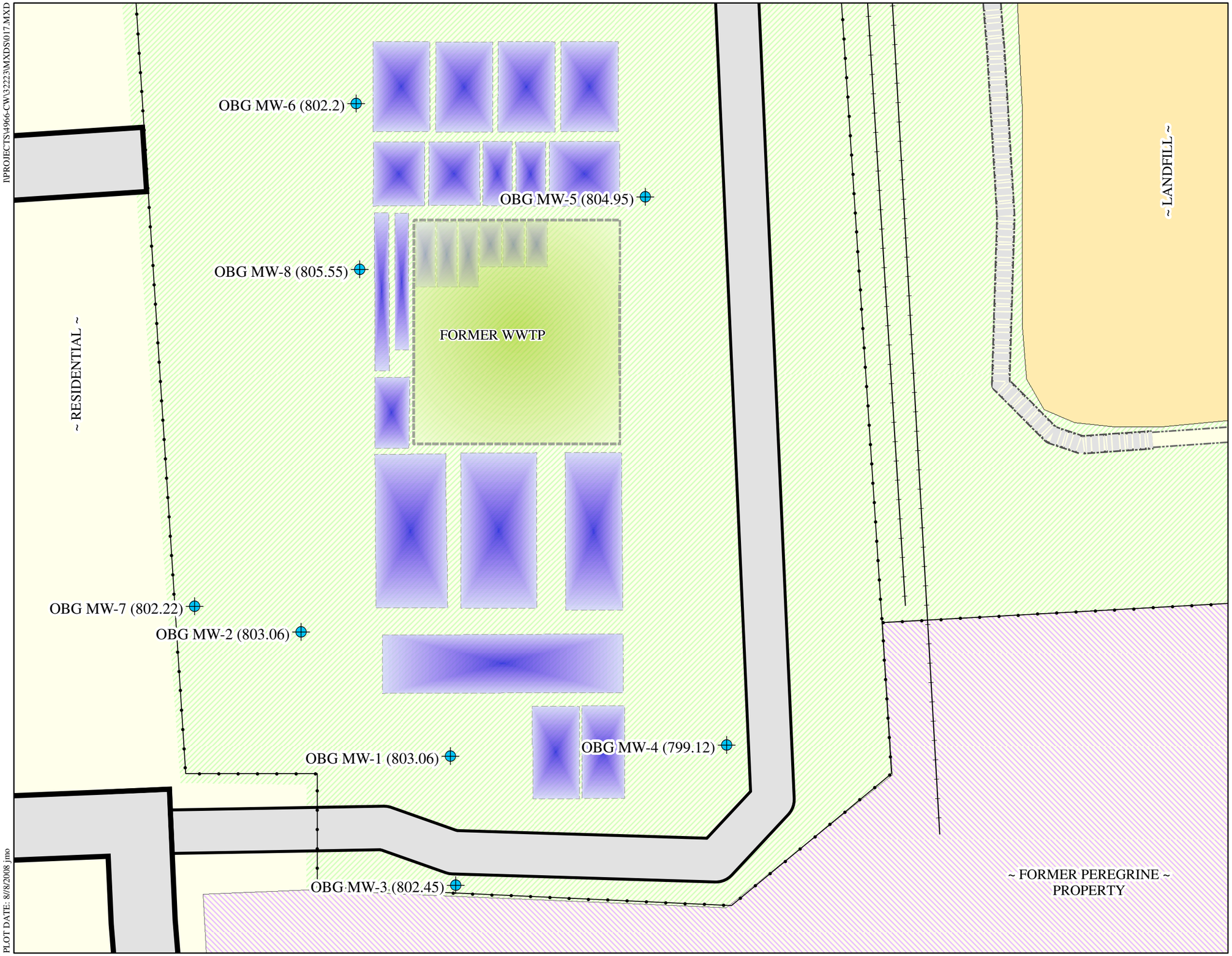
PLOT DATE: 8/8/2008 jmo

FIGURE 10



N

LEGEND

- FORMER WWTP BUILDING
- FORMER WWTP BASIN
- MONITORING WELL LOCATION

NOTES:

1) DEPTH TO WATER MEASUREMENTS WERE COLLECTED ON SEPTEMBER 25, 2007
2) MEASUREMENTS ARE IN FEET
3) ELEVATIONS ARE REFERENCED TO NAVD 88

REALM
COLDWATER ROAD
FORMER WWTP
FLINT, MICHIGAN

SECOND QUARTER GROUND WATER ELEVATIONS

0 15 30 60 90 120
Feet

SEPTEMBER 2008
4966/32223-017

O'BRIEN & GERE ENGINEERS, INC.

PLOT DATE: 8/8/2008 jmo

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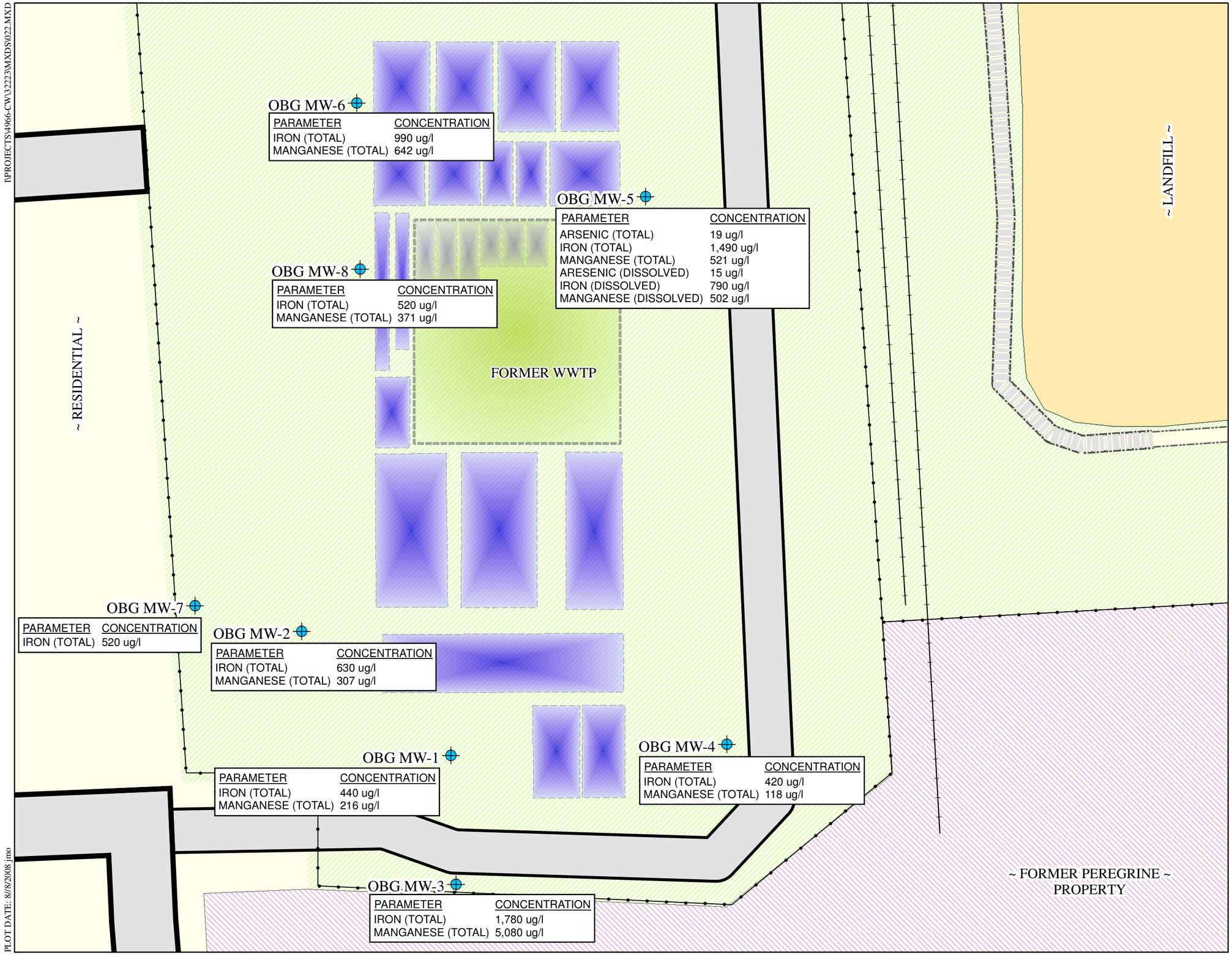
FIGURE 11



N

LEGEND

- FORMER WWTP BUILDING
- FORMER WWTP BASIN
- MONITORING WELL LOCATION

NOTES:

1) GROUND WATER SAMPLING CONDUCTED ON DECEMBER 11, 2007
2) CONCENTRATIONS SHOWN EXCEED MDEQ PART 201 GENERIC INDUSTRIAL CLEANUP CRITERIA FOR DRINKING WATER (CRITERIA LISTED BELOW)

ARSENIC (TOTAL)	10 ug/l
IRON (TOTAL)	300 ug/l
MANGANESE (TOTAL)	50 ug/l
ARSENIC (DISSOLVED)	10 ug/l
IRON (DISSOLVED)	300 ug/l
MANGANESE (DISSOLVED)	100 ug/l

REALM
COLDWATER ROAD
FORMER WWTP
FLINT, MICHIGAN

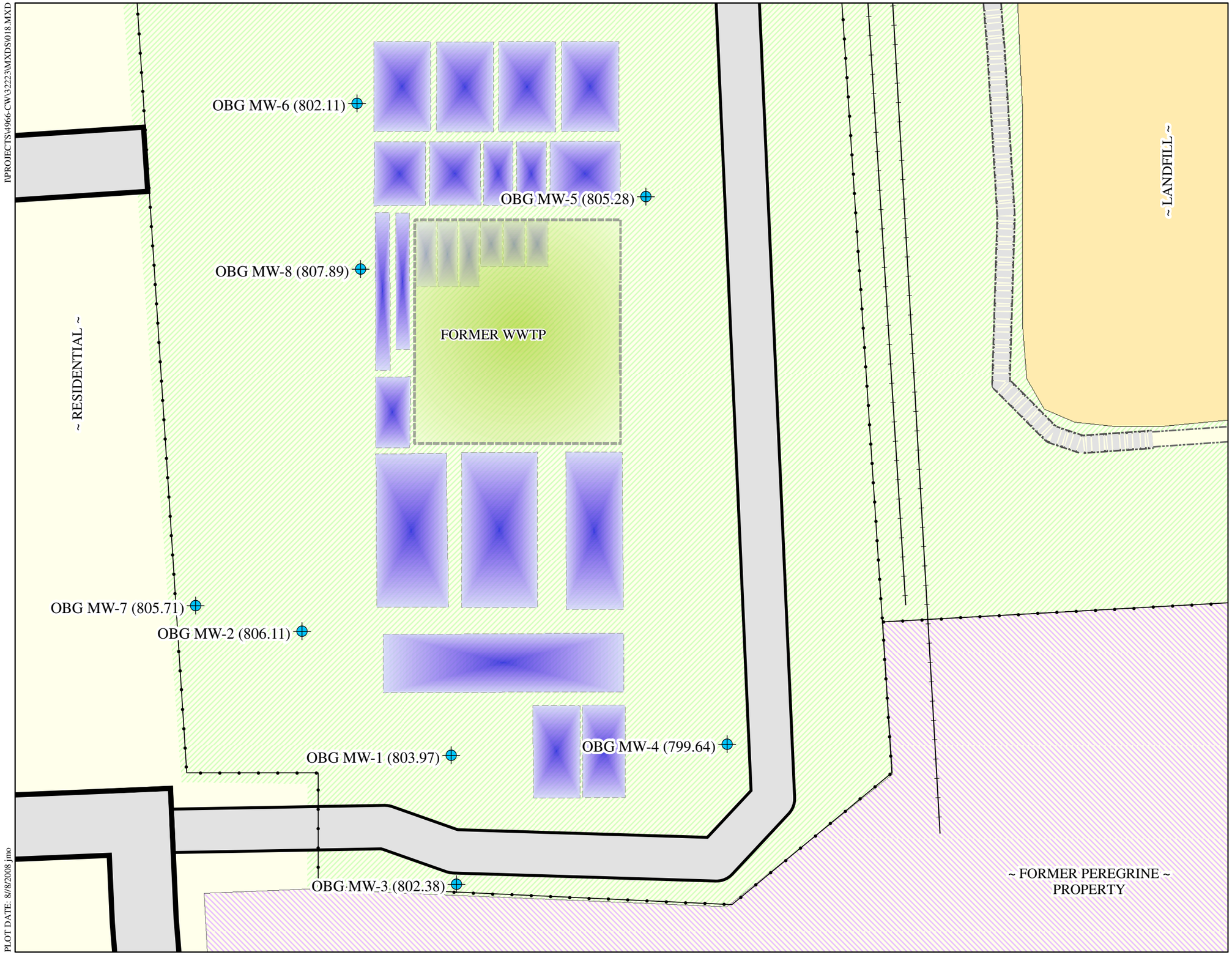
THIRD QUARTER GROUND WATER EXCEEDANCES

0 15 30 60 90 120
Feet

SEPTEMBER 2008
4966/32223-022

O'BRIEN & GERE ENGINEERS, INC.

FIGURE 12



N

LEGEND

- FORMER WWTP BUILDING
- FORMER WWTP BASIN
- MONITORING WELL LOCATION

NOTES:

1) DEPTH TO WATER MEASUREMENTS WERE COLLECTED ON DECEMBER 11, 2007
2) MEASUREMENTS ARE IN FEET
3) ELEVATIONS ARE REFERENCED TO NAVD 88

REALM
COLDWATER ROAD
FORMER WWTP
FLINT, MICHIGAN

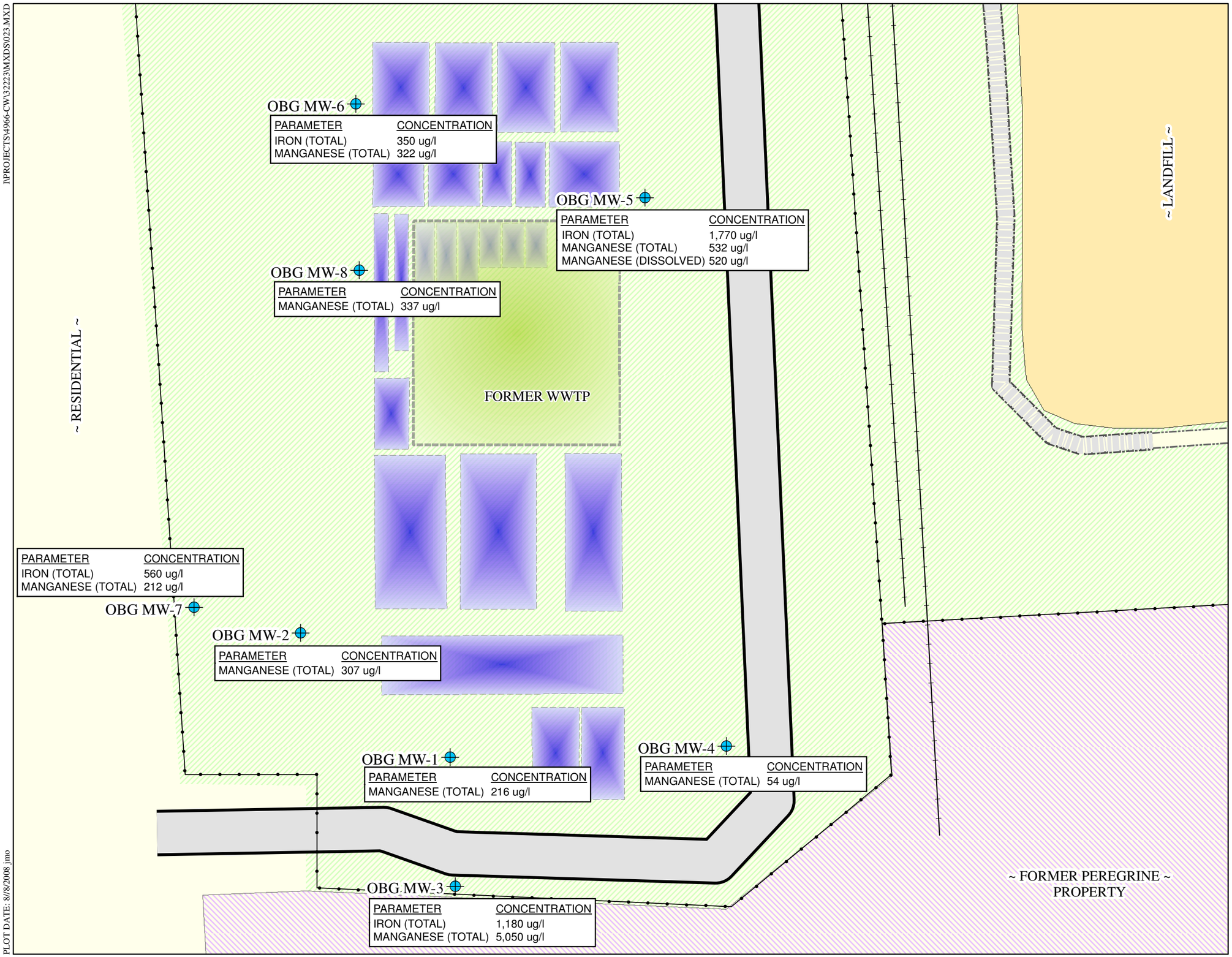
THIRD QUARTER GROUND WATER ELEVATIONS

0 15 30 60 90 120
Feet

SEPTEMBER 2008
4966/32223-018

O'BRIEN & GERE ENGINEERS, INC.

FIGURE 13



N

LEGEND

- FORMER WWTP BUILDING
- FORMER WWTP BASIN
- MONITORING WELL LOCATION

NOTES:

1) GROUND WATER SAMPLING CONDUCTED ON MARCH 18, 2008
2) CONCENTRATIONS SHOWN EXCEED MDEQ PART 201 GENERIC INDUSTRIAL CLEANUP CRITERIA FOR DRINKING WATER (CRITERIA LISTED BELOW)

IRON (TOTAL)	300 ug/l
MANGNESE (TOTAL)	50 ug/l
MANGANESE (DISSOLVED)	50 ug/l

REALM
COLDWATER ROAD
FORMER WWTP
FLINT, MICHIGAN

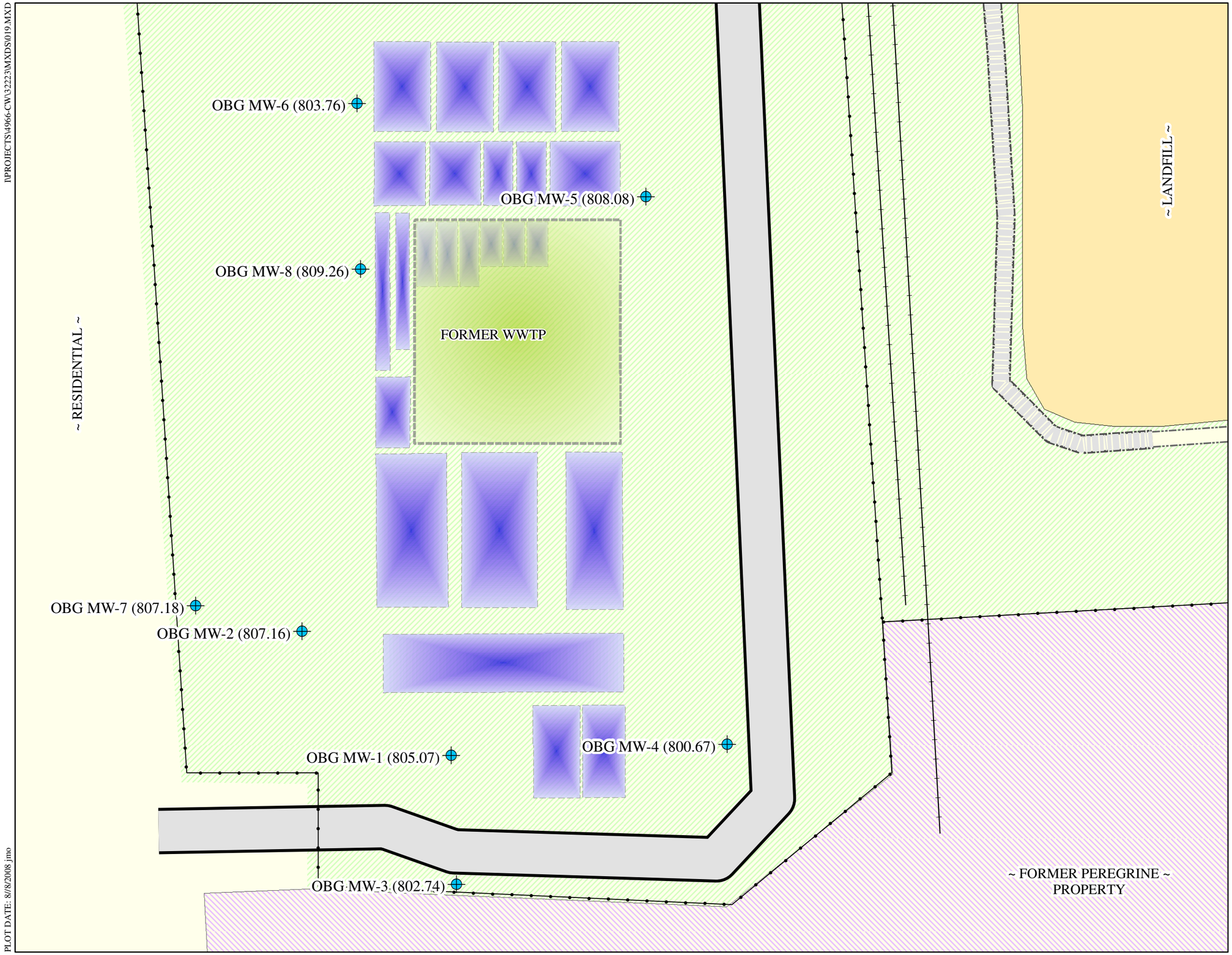
FOURTH QUARTER GROUND WATER EXCEEDANCES

0 15 30 60 90 120
Feet

SEPTEMBER 2008
4966/32223-023

O'BRIEN & GERE ENGINEERS, INC.

FIGURE 14



N

LEGEND

- FORMER WWTP BUILDING
- FORMER WWTP BASIN
- MONITORING WELL LOCATION

NOTES:

1) DEPTH TO WATER MEASUREMENTS WERE COLLECTED ON MARCH 18, 2008
2) MEASUREMENTS ARE IN FEET
3) ELEVATIONS ARE REFERENCED TO NAVD 88

REALM
COLDWATER ROAD
FORMER WWTP
FLINT, MICHIGAN

FOURTH QUARTER GROUND WATER ELEVATIONS

0 15 30 60 90 120
Feet

SEPTEMBER 2008
4966/32223-019

O'BRIEN & GERE ENGINEERS, INC.

APPENDICES

APPENDIX A

Former Wastewater Treatment Plant Basin Investigation Analytical Results

REALM
Coldwater Road facility
Soil Analytical Results
Volatile Organic Compounds method 8260

Table 1

Sample Location	GB-2	GB-3	GB-7	GB-8	GB-9	GB-10	GB-11	GB-17	GB-18	GB-19	GB-20	GB-21	GB-22	GB-23	GB-24	GB-25	GB-26	GB-27	GB-28	GB-29	MDEQ Part 201 Generic Cleanup Criteria Industrial Drinking Water Protection Criteria
Sample Depth	(12-14')	(13-15')	(13-15')	(12-14')	(13-15')	(10-12')	(7-9')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	
Date Collected	08/24/98	08/24/98	08/24/98	08/24/98	08/24/98	08/24/98	08/25/98	08/25/98	08/25/98	08/25/98	08/25/98	08/25/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/27/98	
Parameter																					
Benzene	50U	50U	50U	50U	50U	50U	50U	50U	200	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	100
Bromobenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	1,500
Bromochloromethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	-
Bromodichloromethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	2,000(W)
Bromoform	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	2,000(W)
Bromomethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	580
n-Butylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	1,220	550	50U	50U	50U	50U	330J	50U	100	50U	4,600
sec-Butylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	380	220	50U	50U	50U	50U	150J	50U	50U	50U	4,600
tert-Butylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	350	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	4,600
Carbon tetrachloride	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	100
Chlorobenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	2,000
Chloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	34,000
Chloroform	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	190	50U	50U	50U	50U	50UJ	50U	50U	50U	2,000(W)
Chloromethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	22,000
2-Chlorotoluene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	-
4-Chlorotoluene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	-
Dibromochloromethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	2,000(W)
1,2-Dibromo-3-chloropropane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	-
1,2-Dibromoethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	-
Dibromomethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	4,600
1,2-Dichlorobenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	320	50U	14,000
1,3-Dichlorobenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	480
1,4-Dichlorobenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	1,700
Dichlorodifluoromethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	270,000
1,1-Dichloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	50,000
1,2-Dichloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	100
1,1-Dichloroethene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	140
cis-1,2-Dichloroethene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	1,400
trans-1,2-Dichloroethene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	2,000
1,2-Dichloropropane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	100
1,3-Dichloropropane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	-
2,2-Dichloropropane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	-
1,1-Dichloropropene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	-
Ethylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	260	180	50U	50U	50U	50U	210J	50U	210	50U	1,500
Hexachlorobutadiene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	72,000
Isopropylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	150	140	50U	50U	50U	50U	60J	50U	50U	50U	260,000
p-Isopropyltoluene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	690	780	50U	50U	50U	50U	390J	50U	270	50U	-
Methylene chloride	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	100
Naphthalene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	3,430	1,140	50U	50U	50U	50U	650J	50U	230	50U	100,000
n-Propylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	340	390	50U	50U	50U	50U	130J	50U	50U	50U	4,600
Styrene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	2,700
1,1,1,2-Tetrachloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	6,400
1,1,2,2-Tetrachloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	700
Tetrachloroethene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	100
Toluene	50U	50U	50U	50U	50U	50U	50U	50U	480	80	80	100	50U	50U	50U	50U	140J	50U	50U	1,370	16,000
1,2,3-Trichlorobenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	-
1,2,4-Trichlorobenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	-
1,1,1-Trichloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	4,000
1,1,2-Trichloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	100
Trichloroethene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	100
Trichlorofluoromethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	150,000
1,2,3-Trichloropropane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	2,400
1,2,4-Trimethylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	3,120	2,100	50U	50U	50U	50U	960J	50U	320	50U	2,100
1,3,5-Trimethylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	1,600	1,620	50U	50U	50U	50U	620J	50U	250	50U	1,800
Vinyl chloride	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	40
o-Xylene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	340	170	50U	50U	50U	50U	180J	50U	170	50U	5,600
p,m-Xylene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	920	570	50U	50U	50U	50U	720J	50U	630	50U	5,600
cis-1,3-Dichloropropene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50UJ	50U	50U	50U	-

notes:
1) Results and criteria are shown in ug/kg (ppb).
2) MDEQ Part 201 Industrial Drinking Water Protection Criteria as listed in the Interim Environmental Response Division Operational Memorandum #18, dated June 7, 2000.
3) "W" denotes Concentrations of trihalomethanes in groundwater must be added together to determine compliance with the State of Michigan Drinking Water Standard of 100 ug/l. Concentrations of trihalomethanes in soil must be added together to determine compliance with the drinking water protection criterion of 2,000 ug/kg.
4) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan.
5) Bold type denotes exceedance of Part 201 Industrial Drinking Water Protection criteria.
6) "-" denotes no criteria established.
7) "U" denotes the analyte was analyzed for, but was not detected.
8) "UJ" denotes that the sample specific reporting limit for the analyte in this sample should be considered approximate.
9) "J" denotes that the concentration should be considered approximate.

Coldwater Road facility
Soil Analytical Results
Volatile Organic Compounds method 8260

Sample Location	GB-30	GB-31	GB-32	GB-33	GB-39	GB-40	GB-41	GB-42	GB-43	GB-44	GB-45	GB-46	GB-47	Soil Du	MDEQ Part 201 Generic Cleanup Criteria Industrial Drinking Water Protection Criteria
Sample Depth	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	
Date Collected	08/27/98	08/26/98	08/26/98	08/26/98	08/27/98	08/27/98	08/27/98	05/03/99	05/03/99	05/03/99	05/03/99	05/03/99	05/03/99	05/03/99	
Parameter															
Benzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	100
Bromobenzene**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	1,500
Bromochloromethane**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	-
Bromodichloromethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	2,000(W)
Bromoform	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	2,000(W)
Bromomethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	580
n-Butylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	4,600
sec-Butylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	4,600
tert-Butylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	4,600
Carbon tetrachloride	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	100
Chlorobenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	2,000
Chloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	34,000
Chloroform	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	2,000(W)
Chloromethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	22,000
2-Chlorotoluene**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	-
4-Chlorotoluene**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	-
Dibromochloromethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	2,000(W)
1,2-Dibromo-3-chloropropane**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	-
1,2-Dibromoethane**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	-
Dibromomethane**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	4,600
1,2-Dichlorobenzene	50U	50U	50U	50U	630	50U	50U	50U	50U	50U	50U	50U	50U	50U	14,000
1,3-Dichlorobenzene	50U	50U	50U	50U	110	50U	50U	50U	50U	50U	50U	50U	50U	50U	480
1,4-Dichlorobenzene	50U	50U	50U	50U	130	50U	50U	50U	50U	50U	50U	50U	50U	50U	1,700
Dichlorodifluoromethane**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	270,000
1,1-Dichloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50,000
1,2-Dichloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	100
1,1-Dichloroethene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	140
cis-1,2-Dichloroethene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	1,400
trans-1,2-Dichloroethene	50U	50U	50U	50U	50U	50U	50U	50U	50U	60	50U	50U	50U	50U	2,000
1,2-Dichloropropane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	100
1,3-Dichloropropane**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	-
2,2-Dichloropropane**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	-
1,1-Dichloropropene**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	-
Ethylbenzene	50U	50U	50U	50U	100	50U	50U	50U	50U	50U	50U	50U	50U	50U	1,500
Hexachlorobutadiene**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	72,000
Isopropylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	260,000
p-Isopropyltoluene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	-
Methylene chloride	50U	50U	50U	50U	50U	50U	50U	3,190 UJ	2,950UJ	2,460UJ	2,400UJ	2,360UJ	2,550UJ	2,440UJ	100
Naphthalene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	80	50	50U	50U	100,000
n-Propylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	4,800
Styrene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	2,700
1,1,1,2-Tetrachloroethane**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	6,400
1,1,2,2-Tetrachloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	700
Tetrachloroethene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	100
Toluene	50U	50U	50U	50U	50U	50U	50U	150U	50U	50U	50U	50U	50U	50U	16,000
1,2,3-Trichlorobenzene**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	-
1,2,4-Trichlorobenzene**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	-
1,1,1-Trichloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	4,000
1,1,2-Trichloroethane	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	100
Trichloroethene	50U	50U	50U	50U	50U	50U	50U	50U	50U	**570J**	50U	50U	**770**	50U	100
Trichlorofluoromethane**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	150,000
1,2,3-Trichloropropane**	50U	50U	50U	50U	50U	50U	50U	NA	NA	NA	NA	NA	NA	NA	2,400
1,2,4-Trimethylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	2,100
1,3,5-Trimethylbenzene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	1,800
Vinyl chloride	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	40
o-Xylene	50U	50U	50U	50U	50U	50U	50U	220	50U	50U	50U	50U	50U	50U	5,600
p,m-Xylene	50U	50U	50U	50U	50U	50U	50U	70	50U	50U	50U	50U	50U	50U	5,600
cis-1,3-Dichloropropene	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	-
Acetone*	NA	NA	NA	NA	NA	NA	NA	3,600J	3,000J	1,300J	800J	1,100J	1,200J	1,100J	42,000
2-Butanone*	NA	NA	NA	NA	NA	NA	NA	500U	500U	500U	500U	500U	500U	500U	760,000
Carbon Disulfide*	NA	NA	NA	NA	NA	NA	NA	500U	500U	500U	500U	500U	500U	500U	46,000
2-Hexanone*	NA	NA	NA	NA	NA	NA	NA	500U	500U	500U	500U	500U	500U	500U	58,000
4-Methyl-2-pentanone*	NA	NA	NA	NA	NA	NA	NA	500U	500U	500U	500U	500U	500U	500U	100,000

notes:
1) Results and criteria are shown in ug/kg (ppb).
2) MDEQ Part 201 Industrial Drinking Water Protection Criteria as listed in the Interim Environmental Response Division operational Memorandum#18 dated June 7, 2000.
3) "W" denotes Concentrations of trihalomethanes in groundwater must be added together to determine compliance with the State of Michigan Drinking Water Standard of 100 ug/l. Concentrations of trihalomethanes in soil must be added together to determine compliance with the drinking water protection criteria of 2,000 ug/l.
5) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan.
6) Bold type denotes exceedance of Part 201 Industrial Drinking Water Protection criteria.
7) "-" denotes no criteria established.
8) "U" denotes the analyte was analyzed for, but was not detected.
9) Soil duplicate sample collected at GB-44.
10) "UJ" denotes that the sample specific reporting limit for the analyte in this sample should be considered approximate.
11) "J" denotes that the concentration should be considered approximate.
12) "*" indicates these constituents were added after implementation of the QAPP.
13) "**" indicates these constituents were not part of the target compound list included in the QAPP.
14) NA denotes sample not analyzed or not part of target compound list in QAPP.

REALM
Coldwater Road Facility
Soil Analytical Results
Semivolatile Organic Compounds method 8270

Table 1 (cont.)

Sample Location	GB-2	GB-3	GB-7	GB-8	GB-9	GB-10	GB-11	GB-17	GB-18	GB-19	GB-20	GB-21	GB-22	GB-23	GB-24	GB-25	GB-26	GB-27	GB-28	GB-29	GB-30	GB-31	GB-32	GB-33	GB-39	GB-40	GB-41	GB-42	GB-43	GB-44	GB-45	GB-46	GB-47	Soil Dup	MDEQ Part 201 Generic Cleanup Criteria Industrial Drinking Water Protection Criteria
Sample Depth	(12-14')	(13-15')	(13-15')	(12-14')	(13-15')	(10-12')	(7-9')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	
Date Collected	08/24/98	08/24/98	08/24/98	08/24/98	08/24/98	08/24/98	08/25/98	08/25/98	08/25/98	08/25/98	08/25/98	08/25/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/27/98	08/27/98	08/26/98	08/26/98	08/26/98	08/27/98	08/27/98	08/27/98	05/03/99	05/03/99	05/03/99	05/03/99	05/03/99	05/03/99	05/03/99	
Parameter																																			
Acenaphthene	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	8.8+E5
Acenaphthylene	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	17,000
Acetophenone*	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000U	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	88,000
Aniline*	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000U	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	4,400
Anthracene	300U	300U	300U	300U	300U	1,400	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	41,000
4-Aminobiphenyl*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
Benzidine*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	1,000 (M)
Benzoic acid*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	1.8+E6
Benzo(a)anthracene	400	300U	300U	300U	300U	1,600	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	NLL
Benzo(b)fluoranthene	800	300U	300U	300U	300U	2,200J	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	NLL
Benzo(k)fluoranthene	800	300U	300U	300U	300U	2,900J	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	NLL
Benzo(ghi)perylene	300	300U	300U	300U	300U	600J	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	NLL
Benzo(a)pyrene	900	300U	300U	300U	300U	2,700J	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	NLL
Benzyl alcohol*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	580,000
Bis(2-chloroethoxy)methane	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
Bis(2-chloroethyl)ether	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	330 (M)
Bis(2-chlorisopropyl)ether	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300UJ	300UJ	300UJ	600UJ	300UJ	1200UJ	300U	-
Bis(2-ethylhexyl)phthalate	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	4,000	300U	300U	300U	600	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	NLL
4-Bromophenyl phenyl ether	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
Butyl benzyl phthalate	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	500U	600U	300U	1200U	300U	3.1+E5 (C)
4-Chloroaniline	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	300U	300U	300U	600U	300U	1200U	300U	-
1-Chloronaphthalene*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
2-Chloronaphthalene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
4-Chloro-3-methylphenol	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
2-Chlorophenol	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	2,600
4-Chlorophenyl phenyl ether	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
Chrysene	600	300U	300U	300U	300U	1,700	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	NLL
p,m-Cresol	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	300U	300U	300U	600U	300U	1200U	300U	-
o-Cresol	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	300U	300U	300U	600U	300U	1200U	300U	-
Dibenz(a,j)acridine*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
Dibenzo(ah)anthracene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	NLL
Dibenzofuran	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	300U	300U	300U	600U	300U	1200U	300U	ID
Di-n-butyl phthalate	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	400	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	7.6+E5 (C)
1,2-Dichlorobenzene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	14,000
1,3-Dichlorobenzene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	480
1,4-Dichlorobenzene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	1,700
3,3'-Dichlorobenzidine	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	300U	300U	300U	600U	300U	1200U	300U	2,000 (M)
2,4-Dichlorophenol	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	4,200
2,6-Dichlorophenol*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
Diethyl phthalate	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	3.2+E5
p-Dimethylaminoazobenzene*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
7,12-Dimethylbenz(a)anthacene*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
a-,a-Dimethylphenethylamine*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
2,4-Dimethylphenol	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
Dimethyl phthalate*	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	NA	NA	NA	NA	NA	NA	NA	7.9+E5 (C)

notes:
1) Results and criteria are shown in ug/kg (ppb).
2) MDEQ Part 201 Industrial Drinking Water Protection Criteria as listed in the Interim Environmental Response Division Operational Memorandum #18, dated June 7, 2000.
3) "C" denotes value presented is a screening level based on the chemical-specific generic soil saturation concentration (Csat) since the calculated risk-based criterion is greater than Csat.
4) "E" denotes exponential factor.
5) "M" denotes calculated criterion is below the analytical method detection limit, therefore, the criterion defaults to the method detection limit.
6) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan.
7) "-" denotes no criteria established.
8) NLL denotes chemical is not likely to leach under most soil conditions.
9) ID denotes inadequate data to develop criterion.
10) "UJ" denotes that the sample-specific reporting limit for the analyte in this sample should be considered approximate.
11) "U" denotes the analyte was analyzed for, but was not detected.
12) "NA" Denotes constituent not analyzed.
13) Soil duplicate sample collected at GB-44.
14) (*) denotes constituents were not part of TCL in QAPP.

i/novi/project/4144/21487/4_notes/satb.wb2

REALM
Coldwater Road Facility
Soil Analytical Results
Semivolatile Organic Compounds method 8270

Sample Location	GB-2	GB-3	GB-7	GB-8	GB-9	GB-10	GB-11	GB-17	GB-18	GB-19	GB-20	GB-21	GB-22	GB-23	GB-24	GB-25	GB-26	GB-27	GB-28	GB-29	GB-30	GB-31	GB-32	GB-33	GB-39	GB-40	GB-41	GB-42	GB-43	GB-44	GB-45	GB-46	GB-47	Soil Dup	MDEQ Part 201 Generic Cleanup Criteria
Sample Depth	(12-14')	(13-15')	(13-15')	(12-14')	(13-15')	(10-12')	(7-9')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	(0-2')	Industrial Drinking Water Protection Criteria
Date Collected	08/24/98	08/24/98	08/24/98	08/24/98	08/24/98	08/24/98	08/25/98	08/25/98	08/25/98	08/25/98	08/25/98	08/25/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/27/98	08/27/98	08/26/98	08/26/98	08/26/98	08/27/98	08/27/98	08/27/98	05/03/99	05/03/99	05/03/99	05/03/99	05/03/99	05/03/99	05/03/99	05/03/99	
Parameter																																			
4,6-Dinitro-2-methylphenol	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
2,4-Dinitrophenol	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
2,4-Dinitrotoluene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
2,6-Dinitrotoluene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
Diphenylamine*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
1,2-Diphenylhydrazine*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
Di-n-octyl phthalate	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	1.4+E8
Ethyl methanesulfonate*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
Fluoranthene	1,000	300U	300U	300U	300U	4,000	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	7.3
Fluorene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	890,000
Hexachlorobenzene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	1,800
Hexachlorobutadiene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	72,000
Hexachlorocyclopentadiene	300R	300R	300R	300R	300R	600R	300R	300R	300R	300R	300R	300R	300R	300R	300R	300R	3,000R	300R	300R	300R	300R	300R	300R	300R	5,000R	300R	300R	300U	300U	300U	600U	300U	1200U	300U	320,000
Hexachloroethane	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	1,200
Indeno(1,2,3-cd)pyrene	400	300U	300U	300U	300U	800	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	NLL
Isophorone	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	62,000
3-Methylcholanthrene*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
Methyl methanesulfonate*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
2-Methylnaphthalene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	170,000
Naphthalene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	100,000
1-Naphthylamine*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
2-Naphthylamine*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
2-Nitroaniline	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	300U	300U	300U	600U	300U	1200U	300U	-
3-Nitroaniline	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	300U	300U	300U	600U	300U	1200U	300U	-
4-Nitroaniline	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	300U	300U	300U	600U	300U	1200U	300U	-
Nitrobenzene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
2-Nitrophenol	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	1,200
4-Nitrophenol	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
N-Nitroso-di-n-butylamine*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
N-Nitrosodimethylamine*	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	NA	NA	NA	NA	NA	NA	NA	-
N-Nitrosodiphenylamine	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	-
N-Nitrosopiperidine*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
Pentachlorobenzene*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	81,000
Pentachloronitrobenzene*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	37,000
Pentachlorophenol	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	22
Phenacetin*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	34,000
Phenanthrene	700	300U	300U	300U	300U	2,800	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	160,000
Phenol	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	260,000
2-Picoline*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
Pronamide*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
Pyrene	1,100	300U	300U	300U	300U	4,600	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	480,000
1,2,4,5-Tetrachlorobenzene*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	1.5+E6
2,3,4,6-Tetrachlorophenol*	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	NA	NA	NA	NA	NA	NA	NA	-
1,2,4-Trichlorobenzene	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	4,200
2,4,5-Trichlorophenol	300UJ	300UJ	300UJ	300UJ	300UJ	600UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300UJ	300 UJ	300 UJ	300 UJ	300 UJ	3,000UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	300 UJ	5,000 UJ	300 UJ	300 UJ	300U	300U	300U	600U	300U	1200U	300U	110,000
2,4,6-Trichlorophenol	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300U	300U	300U	600U	300U	1200U	300U	9,400
N-Nitroso-di-n-propylamine	300U	300U	300U	300U	300U	600U	300U	300U	300U	300U	300U	300U	300U	300U	300U	300U	3,000U	300U	300U	300U	300U	300U	300U	300U	5,000U	300U	300U	300UJ	300UJ	300UJ	600UJ	300UJ	1200UJ	300U	330 (M)

notes:
1) Results and criteria are shown in ug/kg (ppb).
2) MDEQ Part 201 Industrial Drinking Water Protection Criteria as listed in the Interim Environmental Response Division Operational Memorandum #18, dated June 7, 2000.
3) "C" denotes value presented is a screening level based on the chemical-specific generic soil saturation concentration (Csat) since the calculated risk-based criterion is greater than Csat.
4) "E" denotes exponential factor.
5) "M" denotes calculated criterion is below the analytical method detection limit, therefore, the criterion defaults to the method detection limit.
6) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan.
7) "-" denotes no criteria established.
8) NLL denotes chemical is not likely to leach under most soil conditions.
9) ID denotes inadequate data to develop criterion.
10) "UJ" denotes that the sample-specific reporting limit for the analyte in this sample should be considered approximate.
11) "U" denotes the analyte was analyzed for, but was not detected.
12) "NA" Denotes constituent not analyzed.
13) Soil duplicate sample collected at GB-44.
14) "R" denotes that the reporting limit or sample results has been determined to be unusable due to deficiencies in the data generation process.
15) (*) denotes constituents were not part of TCL in QAPP.

REALM
Coldwater Road Facility
Soil Analytical Results
Metals method 6020, Cyanide method 9010, and pH method 9040

Sample Location	GB-2	GB-3	GB-7	GB-8	GB-9	GB-10	GB-11	GB-17	GB-18	GB-19	GB-20	GB-21	GB-22	GB-23	GB-24	GB-25	GB-26	GB-27	GB-28	MDEQ Part 201 Generic Cleanup Criteria Industrial Drinking Water Protection Criteria
Sample Depth	**(12-14')**	**(13-15')**	**(13-15')**	**(12-14')**	**(13-15')**	**(10-12')**	**(7-9')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	
Date Collected	**08/24/98**	**08/24/98**	**08/24/98**	**08/24/98**	**08/24/98**	**08/24/98**	**08/25/98**	**08/25/98**	**08/25/98**	**08/25/98**	**08/25/98**	**08/25/98**	**08/26/98**	**08/26/98**	**08/26/98**	**08/26/98**	**08/26/98**	**08/26/98**	**08/26/98**	
Parameter																				
Cadmium {B}	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	6,000
Chromium {B,H}	13,200	7,600	5,900	10,400	10,200	1,900	4,500	12,300	349,000	58,300	12,800	10,400	9,700	8,100	1,210,000	9,600	16,600	10,300	12,100	1.0+E9
Copper {B}	20,100	5,900	6,500	10,700	11,700	4,900	8,700	10,600	9,800	14,400	13,500	20,800	7,600	7,600	14,500	66,000	22,000	9,400	12,000	5.8+E6
Lead {B}	10,300	3,400	4,600	4,800	5,800	3,000	3,300	6,100	5,700	3,900	5,400	6,000	5,500	5,900	5,400	5,500	5,600	5,200	5,800	700,000
Nickel {B}	19,500	11,500	16,400	23,800	22,200	3,100	5,900	26,900	23,100	13,800	29,000	31,200	18,000	22,700	39,000	22,400	63,300	24,700	25,100	1.0+E5
Zinc {B}	45,500	28,100	24,600	33,200	33,300	15,200	15,300	36,700	37,500	29,800	39,400	34,800	32,200	28,900	85,300	32,300	59,900	31,800	48,200	5.0+E6
Cyanide	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	**4,800**	500U	500U	500U	4,000
pH (STD Units)	7.88	8.09	7.93	7.93	7.92	7.83	8.22	8.62	9.69	9.23	9.70	9.78	7.68	7.78	8.51	8.20	7.62	8.32	8.44	-

Sample Location	GB-29	GB-30	GB-31	GB-32	GB-33	GB-36	GB-37	GB-38	GB-39	GB-40	GB-41	GB-42	GB-43	GB-44	GB-45	GB-46	GB-47	Soil Dup		MDEQ Part 201 Generic Cleanup Criteria Industrial Drinking Water Protection Criteria
Sample Depth	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**	**(0-2')**		
Date Collected	**08/27/98**	**08/27/98**	**08/26/98**	**08/26/98**	**08/26/98**	**08/27/98**	**08/27/98**	**08/27/98**	**08/27/98**	**08/27/98**	**08/27/98**	**05/03/99**	**05/03/99**	**05/03/99**	**05/03/99**	**05/03/99**	**05/03/99**	**05/03/99**		
Parameter																				
Cadmium {B}	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	120J	260J	50UJ	50UJ	50UJ	50UJ		6,000
Chromium {B,H}	9,100	5,600	12,600	8,900	9,500	8,600	8,500	9,100	200,000	6,100	7,500	7,590	9,200	10,000	9,080	9,400	8,140	8,690		1.0+E9
Copper {B}	10,100	5,900	9,300	8,200	11,900	9,600	9,400	10,100	47,300	5,700	6,400	8,600	14,200	15,000	15,500	13,800	12,800	11,900		5.8+E6
Lead {B}	5,500	3,900	6,300	5,300	5,400	14,500	5,000	5,700	7,200	5,300	4,000	7,600J	8,500J	8,500J	7,900J	10,600J	8,900J	12,000J		700,000
Nickel {B}	20,900	15,200	28,200	20,700	23,100	20,400	20,900	23,700	**651,000**	16,300	17,100	16,900	18,000	18,900	18,400	19,600	16,400	17,600		1.0+E5
Zinc {B}	30,800	27,000	35,800	31,300	31,300	27,600	27,100	27,600	46,800	21,500	19,900	28,600J	35,500J	39,700J	29,100J	31,400J	28,500J	26,400J		5.0+E6
Cyanide	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	500U	600	600	600	600	600	600	600		4,000
pH (STD Units)	8.25	7.70	8.03	8.64	10.46	9.19	8.81	9.10	7.85	7.87	8.59	9.18	8.81	8.72	9.94	9.84	8.23	8.64		-

notes:
1) Results and criteria are shown in ug/kg (ppb).
2) MDEQ Part 201 Drinking Water Protection Criteria as listed in the Interim Environmental Response Division Operational Memorandum #18, dated June 7, 2000.
3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan.
4) Bold type denotes exceedance of Part 201 Industrial Drinking Water Protection criteria.
5) {B} denotes Background , as defined in Rule 299.5701(c), may be substituted if higher than the cleanup criterion.
6) {H} denotes CR III cleanup criterion for protection of drinking water can only be used at sites where groundwater is prevented from being used as a public water supply, currently and in the future.
7) "M" denotes Calculated criterion is below the analytical method detetction limit (mdl), therefore, the criterion defaults to the mdl.
8) "U" denotes the analyte was analyzed for, but was not detected.
9) "NA" Denotes constituent not analyzed.
10) "-" Denotes no criteria established.
11) Soil duplicate sample collected at GB-44.
12) "E" denotes exponential factor.
i/novi/project/4144/21487/4_notes/satb2.wb2

REALM
Coldwater Road Facility
Leachable Concrete Analytical Results
Volatile Organic Compounds method 624/1311

Sample Location	CF-1 Deionized Water Basin Floor	CW-1 Deionized Water Basin Wall	CF-2 Cyanide Basin Floor	CW-2 Cyanide Basin Wall	CF-3 Cyanate Basin Floor	CW-3 Cyanate Basin Wall	CF-4 Lime Basin Floor	CW-4 West Alkali Basin Wall	CF-5 West Alkali Basin Floor	CW-5 North Alkali Basin Wall	CF-6 North Alkali Basin Floor	CW-6 South Alkali Basin Wall	MDEQ Act 307 Type B Health-Based Drinking Water Criteria
Date Collected	**08/25/98**	**08/25/98**	**08/25/98**	**08/25/98**	**08/26/98**	**08/26/98**	**08/26/98**	**08/26/98**	**08/26/98**	**08/26/98**	**08/26/98**	**08/26/98**	
Parameter													
Benzene, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	1.2
Carbon tetrachloride, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	0.27
Chlorobenzene, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	130
Chloroform, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	5.6
1,4-Dichlorobenzene, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	1.5
1,2-Dichloroethane, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	0.38
1,1-Dichloroethene, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	7
2-Butanone, TCLP	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	320
Tetrachloroethene, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	0.7
Trichloroethene, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	2.2
Vinyl Chloride, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	0.016

Sample Location	CF-7 Leachate Basin Floor	CW-7 East Basement Basin Wall	CF-8 South Alkali Basin Floor	CW-8 Center Basement Basin Wall	CF-9 WWTP Basement Floor North	CW-9 West Basement Basin Wall	CF-10 WWTP Basement Floor Center	CF-11 WWTP Basement Floor South	CF-12 East Basement Basin Floor	CF-13 Center Basement Basin Floor	CF-14 West Basement Basin Floor	Concrete Duplicate	MDEQ Act 307 Type B Health-Based Drinking Water Criteria
Date Collected	**08/27/98**	**04/28/99**	**08/26/98**	**04/28/99**	**08/27/98**	**04/28/99**	**08/27/98**	**08/27/98**	**04/28/99**	**04/28/99**	**04/28/99**	**04/28/99**	
Parameter													
Benzene, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	1.2
Carbon tetrachloride, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	0.27
Chlorobenzene, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	130
Chloroform, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	5.6
1,4-Dichlorobenzene, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	1.5
1,2-Dichloroethane, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	0.38
1,1-Dichloroethene, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	7
2-Butanone, TCLP	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	320
Tetrachloroethene, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	0.7
Trichloroethene, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	2.2
Vinyl Chloride, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	0.016

Notes:
1) Results and criteria are shown in ug/l (ppb).
2) MDEQ Act 307 Type B Health-Based Drinking Water Criteria as listed in Operational Memorandum #8, Revision 3, June 1994.
3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan
4) "U" denotes the analyte was analyzed for, but was not detected.
5) Concrete duplicate sample collected at CF-12.

REALM
Coldwater Road Facility
Leachable Concrete Analytical Results
Semivolatile Organic Compounds method 625/1311

Sample Location	CF-1 Deionized Water Basin Floor	CW-1 Deionized Water Basin Wall	CF-2 Cyanide Basin Floor	CW-2 Cyanide Basin Wall	CF-3 Cyanate Basin Floor	CW-3 Cyanate Basin Wall	CF-4 Lime Basin Floor	CW-4 West Alkali Basin Wall	CF-5 West Alkali Basin Floor	CW-5 North Alkali Basin Wall	CF-6 North Alkali Basin Floor	CW-6 South Alkali Basin Wall	MDEQ Act 307 Type B Health-Based Drinking Water Criteria
Date Collected	08/25/98	08/25/98	08/25/98	08/25/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	
Parameter													
o-Cresol, TCLP	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	-
p,m-Cresol, TCLP	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	-
Pentachlorophenol, TCLP	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	0.29
2,4,5-Trichlorophenol, TCLP	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	700
2,4,6-Trichlorophenol, TCLP	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	3.2
2,4-Dinitrotoluene, TCLP	90U	90U	90U	90U	90U	90U	90U	90U	90U	90U	90U	90U	0.052
Hexachlorobenzene, TCLP	90U	90U	90U	90U	90U	90U	90U	90U	90U	90U	90U	90U	0.022
Hexachlorobutadiene, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	0.46
Hexachloroethane	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	2.5
Nitrobenzene, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	3.2
Pyridine, TCLP	100UJ	100UJ	100UJ	100UJ	100UJ	100UJ	100UJ	100UJ	100UJ	100UJ	100UJ	100UJ	7

Sample Location	CF-7 Leachate Basin Floor	CW-7 East Basement Basin Wall	CF-8 South Alkali Basin Floor	CW-8 Center Basement Basin Wall	CF-9 WWTP Basement Floor North	CW-9 West Basement Basin Wall	CF-10 WWTP Basement Floor Center	CF-11 WWTP Basement Floor South	CF-12 East Basement Basin Floor	CF-13 Center Basement Basin Floor	CF-14 West Basement Basin Floor	Concrete Duplicate	MDEQ Act 307 Type B Health-Based Drinking Water Criteria
Date Collected	08/27/98	04/28/99	08/26/98	04/28/99	08/27/98	04/28/99	08/27/98	08/27/98	04/28/99	04/28/99	04/28/99	04/28/99	
Parameter													
o-Cresol, TCLP	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	-
p,m-Cresol, TCLP	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	-
Pentachlorophenol, TCLP	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	0.29
2,4,5-Trichlorophenol, TCLP	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	700
2,4,6-Trichlorophenol, TCLP	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	1,000U	3.2
2,4-Dinitrotoluene, TCLP	90U	90U	90U	90U	90U	90U	90U	90U	90U	90U	90U	90U	0.052
Hexachlorobenzene, TCLP	90U	90U	90U	90U	90U	90U	90U	90U	90U	90U	90U	90U	0.022
Hexachlorobutadiene, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	0.46
Hexachloroethane	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	2.5
Nitrobenzene, TCLP	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	100U	3.2
Pyridine, TCLP	100UJ	100U	100UJ	100U	100UJ	100U	100UJ	100UJ	100U	100U	100U	100U	7

Notes:

1) Results and criteria are shown in ug/l (ppb).

2) MDEQ Act 307 Type B Health-Based Drinking Water Criteria as listed in Operational Memorandum #8, Revision 3, June 1994.

3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan.

4) "-" denotes no criteria established.

5) "UJ" denotes that the sample-specific reporting limit for the analyte in this sample should be considered approximate.

6) "U" denotes the analyte was analyzed for, but was not detected.

7) "NA" Denotes constituent not analyzed.

8) Concrete duplicate sample colleted at CF-12.

REALM
Coldwater Road Facility
Leachable Concrete Analytical Results
Metals method 200.8/245.1/1311

Sample Location	CF-1 Deionized Water Basin Floor	CW-1 Deionized Water Basin Wall	CF-2 Cyanide Basin Floor	CW-2 Cyanide Basin Wall	CF-3 Cyanate Basin Floor	CW-3 Cyanate Basin Wall	CF-4 Lime Basin Floor	CW-4 West Alkali Basin Wall	CF-5 West Alkali Basin Floor	CW-5 North Alkali Basin Wall	CF-6 North Alkali Basin Floor	CW-6 South Alkali Basin Wall	MDEQ Act 307 Type B Health-Based Drinking Water Criteria
Date Collected	08/25/98	08/25/98	08/25/98	08/25/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	08/26/98	
Parameter													
Arsenic, TCLP	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	0.02 (C)
Barium, TCLP	440	370	550	400	370	340	580	370	380	340	290	400	2,400 (C)
Cadmium, TCLP	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	3.5 (C)
Chromium, TCLP	340	10	40	20	20	20	10	20	810	10	50	20	37,000 (C)
Copper, TCLP	10U	10U	50	470	10U	10U	10U	10U	990	100	10U	10U	1,300 (C)
Lead, TCLP	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	4 (C, O)
Mercury, TCLP	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	5U	0.2U	0.2U	0.2U	0.2U	2.1 (C)
Selenium, TCLP	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	35 (C)
Silver, TCLP	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	33 (C)
Zinc, TCLP	120 J	110 J	150 J	110 J	30 J	40 J	130 J	30 J	70 J	30 J	30 J	130 J	2,300 (C)

Sample Location	CF-7 Leachate Basin Floor	CW-7 East Basement Basin Wall	CF-8 South Alkali Basin Floor	CW-8 Center Basement Basin Wall	CF-9 WWTP Basement Floor North	CW-9 West Basement Basin Wall	CF-10 WWTP Basement Floor Center	CF-11 WWTP Basement Floor South	CF-12 East Basement Basin Floor	CF-13 Center Basement Basin Floor	CF-14 West Basement Basin Floor	Concrete Duplicate	MDEQ Act 307 Type B Health-Based Drinking Water Criteria
Date Collected	08/27/98	04/28/99	08/26/98	04/28/99	08/27/98	04/28/99	08/27/98	08/27/98	04/28/99	04/28/99	04/28/99	04/28/99	
Parameter													
Arsenic, TCLP	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	0.02 (C)
Barium, TCLP	370	350	290	380	330	370	300	290	370	350	350	370	2,400 (C)
Cadmium, TCLP	5U	0.2U	5U	0.2U	5U	0.2U	5U	5U	0.2U	0.2U	0.2U	0.2U	3.5 (C)
Chromium, TCLP	10	10U	20	10U	30	10U	60	40	10U	10U	10U	10U	37,000 (C)
Copper, TCLP	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	1,300 (C)
Lead, TCLP	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	4 (C, O)
Mercury, TCLP	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	2.1 (C)
Selenium, TCLP	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	35 (C)
Silver, TCLP	1U	0.5U	1U	0.5U	1U	0.5U	1U	1U	0.5U	0.5U	0.5U	0.5U	33 (C)
Zinc, TCLP	30 J	10	50 J	30	150 J	30	230 J	130 J	30	30	10	40	2,300 (C)

Notes:

1) Results and criteria are shown in ug/l (ppb).

2) MDEQ Act 307 Type B Health-Based Drinking Water Criteria as listed in Operational Memorandum #8, Revision 3, June 1994.

3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan

4) "C" denotes background as defined in Rule 701 (c), may be substituted as the cleanup criteria if higher than the Type B cleanup criterion.

5) "O" denotes higher level may be acceptable if soil concentration is less than 400 ppm and groundwater migrating off-site will not impact adjacent properties. Contact an ERD toxicologist for further explanation.

6) "J" denotes that the concentration should be considered approximate.

7) "U" denotes the analyte was analyzed for, but was not detected.

8) Concrete duplicate sample collected at CF-12.

REALM
Coldwater Road Facility
Concrete Analytical Results
Volatile Organic Compounds method 8260

Sample Location	CW-7 East Basement Basin Wall	CW-8 Center Basement Basin Wall	CW-9 West Basement Basin Wall	CF-12 East Basement Basin Floor	CF-13 Center Basement Basin Floor	CF-14 West Basement Basin Floor	Concrete Duplicate	MDEQ Act 307 20 X Drinking Water Criteria
Date Collected	04/28/99	04/28/99	04/28/99	04/28/99	04/28/99	04/28/99	04/28/99	
Parameter								
Benzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	24
Bromodichloromethane	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	11
Bromoform	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	92
Bromomethane	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	200
n-Butylbenzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
sec-Butylbenzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
tert-Butylbenzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
Carbon tetrachloride	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	5.4
Chlorobenzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	2,600
Chloroethane	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	180
Chloroform	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	11
Chloromethane	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	54
Dibromochloromethane	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	8.4
1,2-Dichlorobenzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	12,000
1,3-Dichlorobenzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	12,000
1,4-Dichlorobenzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	30
1,1-Dichloroethane	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	17,000
1,2-Dichloroethane	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	7.6
1,1-Dichloroethene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
cis-1,2-Dichloroethene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
trans-1,2-Dichloroethene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
1,2-Dichloropropane	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	10
cis-1,3-Dichloropropene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
trans-1,3-Dichloropropene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
Ethylbenzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	1,500
Isopropylbenezene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
p-Isopropyltoluene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
Methylene Chloride	700UJ	700UJ	700UJ	7,000UJ	7,000UJ	6,000UJ	6,000UJ	-
Naphthalene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	5,000
n-Propylbenzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
Styrene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	24
1,1,2,2-Tetrachloroethane	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
Toluene	100U	200	100U	1,000U	1,000U	1,000U	1,000U	16,000
1,1,1-Trichloroethane	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	4,000
1,1,2-Trichloroethane	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	13
Trichloroethene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
1,2,4-Trimethylbenzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
1,3,5-Trimethylbenzene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	ID
Vinyl Chloride	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	-
o-Xylene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	5,600
p,m-Xylene	100U	100U	100U	1,000U	1,000U	1,000U	1,000U	5,600
Acetone	1,000U	1,000U	1,000U	10,000U	10,000U	10,000U	10,000U	14,000
2-Butanone	1,000U	1,000U	1,000U	10,000U	10,000U	10,000U	10,000U	6,400
Carbon Disulfide	1,000U	1,000U	1,000U	10,000U	10,000U	10,000U	10,000U	15,000
2-Hexanone	1,000U	1,000U	1,000U	10,000U	10,000U	10,000U	10,000U	20,000
4-Methyl-2-pentanone	400	400	200	2,000J	3,000	5,000	5,000	7,000

Notes:

1) Results and criteria are shown in ug/l (ppb).

2) MDEQ Act 307 Type B Health-Based Drinking Water Criteria as listed in Operational Memorandum #8, Revision 3, June 1994.

3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan

4) Bold type denotes exceedance of Act 307 Type B 20 times Drinking Water Criteria.

5) "ID" Inadequate data to develope criterion.

6) "-" denotes no criteria established.

7) Concrete duplicate sample collected at CF-12.

8) "U" denotes analyte was analyzed for, but was not detected.

9) "UJ" denotes sample specific reporting limit for the analyte in this sample should be considered approximate.

10) "J" denotes that the concentration should be considered approximate.

REALM
Coldwater Road Facility
Concrete Analytical Results
Semi-Volatile Organic Compounds method 8270

Sample Location	CW-7 East Basement Basin Wall	CW-8 Center Basement Basin Wall	CW-9 West Basement Basin Wall	CF-12 East Basement Basin Floor	CF-13 Center Basement Basin Floor	CF-14 West Basement Basin Floor	Concrete Duplicate	MDEQ Act 307 20 X Drinking Water Criteria
Date Collected	04/28/99	04/28/99	04/28/99	04/28/99	04/28/99	04/28/99	04/28/99	
Parameter								
Acenaphthene	300U	300U	300U	300U	300U	300U	500	24,000
Acenaphthylene	300U	300U	300U	300U	300U	300U	300U	500
Anthracene	300U	300U	300U	300UJ	300U	300U	1,100J	1.4+E5
Benzo(a)anthracene	300U	300U	300U	300UJ	300U	300U	1,500J	(G)
Benzo(b)fluoranthene	300U	300U	300U	300UJ	300U	300U	1,600J	(G)
Benzo(k)fluoranthene	300U	300U	300U	300U	300U	300U	800	(G)
Benzo(ghi)perylene	300U	300U	300U	300U	300U	300U	900	(G)
Benzo(a)pyrene	300U	300U	300U	300UJ	300U	300U	1,600J	(G)
Bis(2-chloroethoxy)methane	300U	300U	300U	300U	300U	300U	300U	-
Bis(2-chloroethyl)ether	300U	300U	300U	300U	300U	300U	300U	0.64
Bis(2-chloroisopropyl)ether	300U	300U	300U	300U	300U	300U	300U	-
Bis(2-ethylhexyl)phthalate	300U	300U	300U	300U	300U	300U	300U	(G)
4-Bromophenyl phenyl ether	300U	300U	300U	300U	300U	300U	300U	-
Butyl benzyl phthalate	300U	300U	300U	300U	300U	300U	300U	-
4-Chloroaniline	300U	300U	300U	300U	300U	300U	300U	-
2-Chloronaphthalene	300U	300U	300U	300U	300U	300U	300U	-
4-Chloro-3-methylphenol	300R	300R	300R	300R	300R	300R	300R	-
2-Chlorophenol	300R	300R	300R	300R	300R	300R	300R	860
4-Chlorophenyl phenyl ether	300U	300U	300U	300U	300U	300U	300U	-
Chrysene	300U	300U	300U	300UJ	300U	300U	1,300J	-
p,m-Cresol	300U	300U	300U	300U	300U	300U	300U	-
o-Cresol	300U	300U	300U	300U	300U	300U	300U	-
Dibenzeno(a,h)anthracene	300U	300U	300U	300U	300U	300U	300U	(G)
Dibenzofuran	300U	300U	300U	300U	300U	300U	400	ID
Di-n-butyl phthalate	300U	300U	300U	300U	300U	300U	300U	17,000
1,2-Dichlorobenzene	300U	300U	300U	300U	300U	300U	300U	12,000
1,3-Dichlorobenzene	300U	300U	300U	300U	300U	300U	300U	12,000
1,4-Dichlorobenzene	300U	300U	300U	300U	300U	300U	300U	30
3,3-Dichlorobenzidine	300U	300U	300U	300U	300U	300U	300U	1.5
2,4-Dichlorophenol	300R	300R	300R	300R	300R	300R	300R	420
Diethyl phthalate	300U	300U	300U	300U	300U	300U	300U	1.0+E5
2,4-Dimethylphenol	300R	300R	300R	300R	300R	300R	300R	7,000
Dimethyl phthalate	300U	300U	300U	300U	300U	300U	300U	1.4+E6
4,6-Dinitro-2-methylphenol	300R	300R	300R	300R	300R	300R	300R	-
2,4-Dinitrophenol	300R	300R	300R	300R	300R	300R	300R	-
2,4-Dinitrotoluene	300U	300U	300U	300U	300U	300U	300U	-
2,6-Dinitrotoluene	300U	300U	300U	300U	300U	300U	300U	-
Di-n-octyl phthalate	300U	300U	300U	300U	300U	300U	300U	
Fluoranthene	300U	300U	300U	400J	300U	300U	3,100J	17,000
Fluorene	300U	300U	300U	300U	300U	300U	600	17,000
Hexachlorobenzene	300U	300U	300U	300U	300U	300U	300U	0.44
Hexachlorobutadiene	300U	300U	300U	300U	300U	300U	300U	9.2
Hexachlorocyclopentadiene	300U	300U	300U	300U	300U	300U	300U	1,000
Hexachloroethane	300U	300U	300U	300U	300U	300U	300U	50
Indeo(1,2,3-cd)pyrene	300U	300U	300U	300U	300U	300U	800	(G)
Isophorone	300U	300U	300U	300U	300U	300U	300U	760
2-Methylnaphthalene	300U	300U	300U	300U	300U	300U	300U	-
Naphthalene	300U	300U	300U	300U	300U	300U	500	5,000
2-Nitroaniline	300U	300U	300U	300U	300U	300U	300U	-
3-Nitroaniline	300U	300U	300U	300U	300U	300U	300U	-
4-Nitroaniline	300U	300U	300U	300U	300U	300U	300U	-
Nitrobenzene	300U	300U	300U	300U	300U	300U	300U	64
2-Nitrophenol	300R	300R	300R	300U	300R	300R	300R	-
4-Nitrophenol	300R	300R	300R	300R	300R	300R	300R	-
N-Nitrosodiphenylamine	300U	300U	300U	300U	300U	300U	300U	140
N-Nitrosodi-n-propylamine	300U	300U	300U	300U	300U	300U	300U	0.098
Pentachlorophenol	300R	300R	300R	300R	300R	300R	300R	-
Phenanthrene	300U	300U	300U	400J	300U	300U	3,000J	500
Phenol	300U	300U	300U	300U	300U	300U	300U	84,000
Pyrene	300U	300U	300U	400J	300U	300U	2,800J	10,000
1,2,4-Trichlorobenzene	300U	300U	300U	300U	300U	300U	300U	2,200
2,4,6-Trichlorophenol	300R	300R	300R	300R	300R	300R	300R	64
2,4,5- Trichlorophenol	300R	300R	300R	300R	300R	300R	300R	14,000

Notes:

1) Results and criteria are shown in ug/l (ppb).
2) MDEQ Act 307 Type B 20 times Drinking Water value as listed in Operational Memorandum #8, Revision 3, June 1994.
3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan
4) Bold type denotes exceedance of Act 307 Type B 20 times Drinking Water Criteria.
5) {G} Chemical, due to its physicochemical properties, is not expected to leach through soils to groundwater under most conditions. Therefore, the direct contact soil criterion is considered to be protective of groundwater. However, the presence of organic solvents in the soil may increase the solubility of these chemicals, thereby increasing their potential to leach from soil to groundwater. Under these conditions site-specific leachate testing may be required.
6) "ID" Inadequate data to develope criterion
7) "-" denotes criteria not established.
8) Concrete duplicate sample collected at CF-12.
9) "U" denotes the analyte was analyzed for , but was not detected.
10) "J" denotes that the concentration should be considered approximate.
11) "R" denotes that the reporting limit or sample result has been determined to be unusable due to deficiencies in the data generation proces
12 "UJ" denotes sample specific reporting limit for the analyte in this sample should be considered approximate.
13) "E" denotes exponential factor

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REALM
Coldwater Road Facility
Concrete Analytical Results
Metals method 6020/7471

Sample Location	CW-7 East Basement Basin Wall	CW-8 Center Basement Basin Wall	CW-9 West Basement Basin Wall	CF-12 East Basement Basin Floor	CF-13 Center Basement Basin Floor	CF-14 West Basement Basin Floor	Concrete Duplicate	MDEQ Act 307 20 X Drinking Water Criteria
Date Collected	**04/28/99**	**04/28/99**	**04/28/99**	**04/28/99**	**04/28/99**	**04/28/99**	**04/28/99**	
Parameter								
Arsenic	**4,270**	**4,810**	**4,730**	**5,820**	**5,430**	**9,500**	**4,160**	.4{C}
Barium	36,200	38,100	43,200	42,500	36,300	43,100	43,700	48,000{C}
Cadmium	50U	50U	50U	50U	70	50U	50U	70{C}
Chromium	**12,200**	**19,100**	**9,940**	**14,500**	**13,100**	**11,400**	**13,300**	2,400{C}
Copper	13,100J	19,900J	13,300J	**48,400J**	16,300J	**21,700J**	**125,000J**	20,000{C}
Lead	**2,400**	**3,000**	**3,200**	**2,800**	**3,100**	**6,100**	**3,800**	80{C}
Mercury	100U	100U	100U	100U	100U	100U	100U	42{C}
Selenium	500U	500U	500U	500U	500U	**1,490**	520	700{C}
Silver	200U	200U	200U	200U	200U	200U	200U	660{C}
Zinc	14,200J	14,700J	15,000J	16,500J	38,600J	14,800J	37,900J	46,000{C}

Notes:

1) Results and criteria are shown in ug/kg (ppb).
2) MDEQ Act 307 Type B Health-Based Drinking Water criteria as listed in Operational Memorandum #8, Revision 3, June 1994.
3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan
4) Bold type denotes exceedance of Act 307 Type B 20 times Drinking Water criteria.
5) "{C}" denotes Background, as defined in Rule 701(c), may be substituted as the cleanup criteria if higher than the Type B cleanup criterion.
6) Concrete duplicate sample collected at CF-12.
7) "U" denotes the analyte was analyzed for, but was not detected.
8) "J" denotes that the concentration should be considered approximate.

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REALM Table 3

Coldwater Road Facility

Concrete Rinseate Analytical Results

Metals method 200.8/245.1/1311

Sample Location	Deionized Water Basin floor	West Alkali Basin floor	Tap Water	MDEQ Act 307 Type B Health-Based Drinking Water Criteria
Date Collected	**12/21/98**	**12/21/98**	**12/21/98**	
Parameter				
Arsenic	**1U**	**3**	**5**	0.02 (C)
Barium	30	70	180	2,400 (C)
Cadmium	0.2U	0.2U	0.2U	3.5 (C)
Chromium	10U	(30)	10U	37,000 (C)
Copper	(30)	(100)	10U	1,300 (C)
Lead	3	3U	3U	4 (C, O)
Mercury	0.2U	0.2U	0.2U	2.1 (C)
Selenium	5U	5U	5U	35 (C)
Silver	0.5U	0.5U	0.5U	33 (C)
Zinc	(80)	(60)	30	2,300 (C)

Notes:

1) Results and criteria are shown in ug/l (ppb).
2) MDEQ Act 307 Type B Health-Based Drinking Water Criteria as listed in Operational Memorandum #8, Revision 3, June 1994.
3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan.
4) Bold type denotes exceedance of Act 307 Type B Health-Based Drinking Water Criteria.
5) "()" denotes exceedance of Tap Water sample.
6) "C" denotes background as defined in Rule 701 (c), may be substituted as the cleanup criteria if higher than the Type B cleanup criterion.
7) "O" denotes higher level may be acceptable if soil concentration is less than 400 ppm and groundwater migrating off-site will not impact adjacent properties. Contact an ERD toxicologist for further explanation.
8) "U" denotes the analyte was analyzed for, but was not detected.

i/novi/project/4144/21487/4_notes/rinstbl.wb2

REALM
Coldwater Road Facility
Basement Basin Concrete Rinseate Analytical Results
Volatile Organics Method 8260

Sample Location	East Basement Basin	Center Basement Basin	West Basement Basin	Rinseate Duplicate	Tap Water	MDEQ Part 201 Generic Cleanup Criteria Industrial Drinking Water Criteria
Date Collected	04/20/99	04/21/99	04/21/99	04/20/99	04/21/99	
Parameter						
Benzene	1U	1U	1U	1U	1U	5.0 (A)
Bromodichloromethane	4U	5U	3U	4U	5U	100 (A, W)
Bromoform	1U	1U	1U	1U	1U	100 (A, W)
Bromomethane	1U	1U	1U	1U	1U	29
n-Butylbenzene	1U	1U	1U	1U	1U	230
sec-Butylbenzene	1U	1U	1U	1U	1U	230
tert-Butylbenzene	1U	1U	1U	1U	1U	230
Carbon tetrachloride	1U	1U	1U	1U	1U	5.0 (A)
Chlorobenzene	1U	1U	1U	1U	1U	100 (A)
Chloroethane	1U	1U	1U	1U	1U	1,700
Chloroform	5U	6U	4U	5U	6U	100 (A, W)
Chloromethane	1U	1U	1U	1U	1U	1,100
Dibromochloromethane	3U	3U	2U	3U	4U	100 (A, W)
1,2-Dichlorobenzene	1U	1U	3	1U	1U	600 (A)
1,3-Dichlorobenzene	1U	1U	1U	1U	1U	19
1,4-Dichlorbenzene	1U	1U	1U	1U	1U	75 (A)
1,1-Dichloroethane	1U	1U	1U	1U	1U	2,500
1,2-Dichloroethane	1U	1U	1U	1U	1U	5.0 (A)
1,1-Dichloroethene	1U	1U	1U	1U	1U	7.0 (A)
cis-1,2-Dichloroethane	1U	1U	1U	1U	1U	70 (A)
trans-1,2-Dichloroethene	1U	1U	1U	1U	1U	100 (A)
1,2-Dichloropropane	1U	1U	1U	1U	1U	5.0 (A)
cis-1,3-Dichloropropene	1U	1U	1U	1U	1U	-
trans-1,3-Dichloropropene	1U	1U	1U	1U	1U	-
Ethylbenzene	1U	1U	1U	1U	1U	74 (E)
Isopropylbenzene	1U	1U	1U	1U	1U	2,300
p-Isopropyltoluene	1U	1U	1U	1U	1U	-
Methylene chloride	9UJ	9UJ	8UJ	9UJ	9UJ	5.0 (A)
Naphthalene	3	1	3U	3	1U	1,500
n-Propylbenzene	1U	1U	1U	1U	1U	230
Styrene	1U	1U	1U	1U	1U	100 (A)
1,1,2,2-Tetrachloroethane	1U	1U	1U	1U	1U	35
Tetrachloroethene	1U	1U	1U	1U	1U	5.0 (A)
Toluene	1U	2U	4U	1U	1U	790 (E)
1,1,1-Trichloroethane	1U	1U	4U	1U	1U	200 (A)
1,1,2-Trichloroethane	1U	1U	1U	1U	1U	5.0 (A)
Trichloroethene	1U	1U	1U	1U	1U	5.0 (A)
1,2,4-Trimethylbenzene	1U	1U	2U	1U	1U	63 (E)
1,3,5-Trimethylbenzene	1U	1	3U	1U	1U	72 (E)
Vinyl chloride	1U	1U	1U	1U	1U	2.0 (A)
o-Xylene	1U	1U	5	1U	1U	280 (E)
p,m-Xylene	1U	1	3	1U	1U	280 (E)
Acetone	50U	50U	50U	50U	50U	2,100
2-Butanone	50U	50U	50U	50U	50U	38,000
Carbon Disulfide	50U	50U	50U	50U	50U	2,300
2-Hexanone	50U	50U	50U	50U	50U	2,900
4-Methyl-2-pentanone	50U	50U	50U	50U	50U	-

Notes:
1) Results and criteria are shown in ug/l (ppb).
2) MDEQ Part 201 Industrial Drinking Water Criteria as listed in Operational Memorandum #18, dated June 7, 2000.
3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan.
4) "A" denotes criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of the Safe Drinking Water Act, Act No. 399 of the Public Acts of 1976.
5) "E" denotes criterion is the asthetic drinking water value, as required by Section 20120 (1)(5).
6) "W" denotes Concentrations of trihalomethanes in groundwater must be added together to determine compliance with the State of Michigan Drinking Water Standard of 100 ug/l. Concentrations of trihalomethanes in soil must be added together to determine compliance with the drinking water protection criterion of 2,000 ug/kg.
7) "U" denotes the analyte was analyzed for, but was not detected.
8) "-" denotes no criteria established.
9) Rinseate duplicate sample collected at East Basement Basin location.
10) "UJ" denotes that the sample-specific reporting limit for the analyte in this sample should be considered approximate.

REALM
Coldwater Road Facility
Basement Basin Concrete Rinseate Analytical Results
Semi-Volatile Organics Method 8270

Sample Location	East Basement Basin	Center Basement Basin	West Basement Basin	Rinseate Duplicate	Tap Water	MDEQ Part 201 Generic Cleanup Criteria
Date Collected	04/20/99	04/21/99	04/21/99	04/20/99	04/21/99	Industrial Drinking Water Criteria
Parameter						
Acenaphthene	20U	20U	40U	20U	10U	3,800
Acenaphthylene	20U	20U	40U	20U	10U	150
Anthracene	20U	20U	40U	20U	10U	43 (S)
Benzo(a)anthracene	20U	20U	40U	20U	10U	8.5
Benzo(b)fluoranthene	20U	20U	40U	20U	10U	2.0 (M)
Benzo(k)fluoranthene	20U	20U	40U	20U	10U	5.0(M)
Benzo(ghi)perylene	20U	20U	40U	20U	10U	5.0(M)
Benzo(a)pryene	20U	20U	40U	20U	10U	5.0 (A,M)
Bis(2-chlorothoxy)methane	20U	20U	40U	20U	10U	-
Bis(2-chloroisopropyl)ether	20U	20U	40U	20U	10U	8.3
Bis(2-ethylhexyl)phthalate	20	40	70	30	10U	6.0 (A)
4-Bromophenyl phenyl ether	20U	20U	40U	20U	10U	-
Butyl benzyl phthalate	20U	20U	40U	20U	10U	2,700 (S)
4-Chloroaniline	20UJ	20UJ	40UJ	20UJ	10UJ	-
2-Chloronaphthalene	20U	20U	40U	20U	10U	-
4-Chloro-3-methylphenol	20U	20U	40U	20U	10U	420
2-Chlorophenol	20U	20U	40U	20U	10U	130
4-Chlorophenyl phenyl ether	20U	20U	40U	20U	10U	-
Chrysene	20U	20U	40U	20U	10U	5.0(M)
p,m-Cresol	20U	20U	40U	20U	10U	-
o-Cresol	20U	20U	40U	20U	10U	-
Dibenzo(a,h)anthracene	20U	20U	40U	20U	10U	5.0 (M)
Dibenzofuran	20U	20U	40U	20U	10U	ID
Di-n-butyl phthalate	20U	20U	40U	20U	10U	2,500
1,2-Dichlorobenzene	20U	20U	40U	20U	10U	600 (A)
1,3-Dichlorobenzene	20U	20U	40U	20U	10U	19
1,4-Dichlorobenzene	20U	20U	40U	20U	10U	75(A)
3,3'-Dichlorobenzidine	20U	20U	40U	20U	10U	4.3
2,4-Dichlorophenol	20U	20UJ	40U	20U	10U	210
Diethyl phthalate	20U	20U	70U	20U	10U	16,000
2,4-Dimethylphenol	20U	20U	40U	20U	10U	1,000
Dimethyl phthalate	20U	20U	40U	20U	10U	210000
4,6-Dintro-2-methylphenol	20UJ	20U	40U	20U	10U	-
2,4-Dinitrophenol	20UJ	20U	40UJ	20UJ	10UJ	-
2,4-Dinitrotoluene	20U	20U	40U	20U	10U	32
2,6-Dinitrotoluene	20U	20U	40U	20U	10U	-
Di-n-octyl phthalate	20U	20U	40U	20U	10U	380
Fluoranthene	20U	20U	40U	20U	10U	210 (S)
Fluorene	20U	20U	40U	20U	10U	2,000 (S)
Hexachlorobenzene	20U	20U	40U	20U	10U	1.0 (A)
Hexachlorobutadiene	20U	20U	40U	20U	10U	42
Hexachlorocyclopentadiene	20U	20U	40U	20U	10U	50 (A)
Hexachloroethane	20U	20U	40U	20U	10U	21
Indeno(1,2,3-cd)pyrene	20U	20U	40U	20U	10U	5.0 (M)
Isophorone	20U	20U	40U	20U	10U	3,100
2-Methylnaphthalene	20U	20U	40U	20U	10U	750
Naphthalene	20U	20U	40U	20U	10U	1,500
2-Nitroaniline	20U	20U	40U	20U	10U	-
3-Nitroaniline	20U	20U	40U	20U	10U	-
4-Nitroaniline	20U	20U	40U	20U	10U	-
Nitrobenzene	20U	20U	40U	20U	10U	9.6
2-Nitrophenol	20U	20U	40U	20U	10U	58
4-Nitrophenol	20UJ	20UJ	40UJ	20UJ	10UJ	-
N-Nitrosodiphenylamine	20U	20U	40U	20U	10U	1,000
N-Nitrosodi-n-proplyamine	20U	20U	40U	20U	10U	5.0 (M)
Pentachlorophenol	20UJ	20U	40U	20U	10U	1.0(A)
Phenanthrene	20U	20U	40U	20U	10U	150
Phenol	20U	20U	40U	20U	10U	13,000
Pyrene	20U	20U	40U	20U	10U	140(S)
1,2,4-Trichlorobenzene	20U	20U	40U	20U	10U	70(A)
2,4,5-Trichlorophenol	20UJ	20U	40U	20U	10U	2,100
2,4,6-Trichlorophenol	20U	20U	40U	20U	10U	470

Notes:
1) Results and criteria are shown in ug/l (ppb).
2) MDEQ Part 201 Industrial Drinking Water criteria as listed in Operational Memorandum #18, Revision June 7, 2000.
3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan
4) "ID" Inadequate data to develop criterion
5) "A" denotes criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of the Safe Drinking Water Act, Act No. 399 of the Public Acts of 1976.
6) "M" denotes calculated criterion is below the analytical method detection limit, therefore, the criterion defaults to the method detection limit.
7) "S" denotes criterion defaults to the chemical-specific water solubility limit.
8) "UJ" denotes that the sample-specific reporting limit for the analyte in this sample should be considered approximate
10) "U" denotes the analyte was analyzed for, but was not detected
11) Rinseate Duplicate sample collected at East basement Basin location
12) "-" denotes no criteria established.

i/inovi/project/4144/21487/4_notes/rinstbl.wb2

REALM
Coldwater Road Facility
Basement Basin Concrete Rinseate Analytical Results
Metals method 200.8/245.1/1311

Sample Location	East Basement Basin	Center Basement Basin	West Basement Basin	Tap Water	Rinseate Duplicate	MDEQ Part 201 Generic Cleanup Criteria Industrial Drinking Water Criteria
Date Collected	04/20/99	04/20/99	04/20/99	04/20/99	04/20/99	
Parameter						
Cadmium	.5U	.5U	1.2	.5U	.5U	5.0 (A)
Chromium	**260**	80	**2,180**	10U	**240**	100 (A)
Copper	**3,350**	430	**11,400**	10U	**3,060**	1,000 (E)
Lead	**96**	**20**	**169**	**52**	**93**	4.0 (L)
Nickel	**994**	**140**	**3,850**	5U	**913**	100 (A)
Zinc	1,080	240	4,190	20U	990	5,000 (E)

Notes:

1) Results and criteria are shown in ug/l (ppb).
2) MDEQ Part 201 Industrial Drinking Water criteria as listed in Operational Memorandum #18, dated June 7, 2000.
3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan
4) "A" denotes criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of the Safe Drinking Water Act, Act No. 399 of the Public Acts of 1976.
5) "E" denotes criterion is the aesthetic drinking water value, as required by Sec. 20120(1)(5).
6) "L" denotes higher level may be acceptable(up to 15ug/l) if soil concentration is less than 400 ppm and groundwater migrating off-site will not result in unacceptable exposures. Contact an ERD toxicologist for further explanation.
7) "U" denotes the analyte was analyzed for, but was not detected.
8) Rinseate Duplicate sample collected at East Basement Basin location.
9) Bold type denotes exceedance of Part 201 Industrial Drinking Water criteria.

REALM

Table 5

Coldwater Road Facility

Groundwater Analytical Results

Volatile Organic Compounds method 8260

Sample Location	OBG MW-1	GW Duplicate	OBG MW-2	MDEQ Part 201 Generic Cleanup Criteria
Date Collected	01/26/99	01/26/99	01/26/99	Industrial
Parameter				Drinking Water Criteria
Benzene	1U	1U	1U	5.0 (A)
Bromodichloromethane	1U	1U	1U	100 (A, W)
Bromoform	1U	1U	1U	100 (A, W)
Bromomethane	1U	1U	1U	29
n-Butylbenzene	1U	1U	1U	230
sec-Butylbenzene	1U	1U	1U	230
tert-Butylbenzene	1U	1U	1U	230
Carbon tetrachloride	1U	1U	1U	5.0 (A)
Chlorobenzene	1U	1U	1U	100 (A)
Chloroethane	1U	1U	1U	1,700
Chloroform	1U	1U	1U	100 (A, W)
Chloromethane	1U	1U	1U	1,100
Dibromochloromethane	1U	1U	1U	100 (A, W)
1,2-Dichlorobenzene	1U	1U	1U	600 (A)
1,3-Dichlorobenzene	1U	1U	1U	19
1,4-Dichlorobenzene	1U	1U	1U	75 (A)
1,1-Dichloroethane	1U	1U	1U	2,500
1,2-Dichloroethane	1U	1U	1U	5.0 (A)
1,1-Dichloroethene	1U	1U	1U	7.0 (A)
cis 1,2-Dichloroethene	1U	1U	1U	70 (A)
trans 1,2-Dichloroethene	1U	1U	1U	100 (A)
1,2-Dichloropropane	1U	1U	1U	5.0 (A)
cis 1,3-Dichloropropene	1U	1U	1U	-
Ethylbenzene	1U	1U	1U	74 (E)
Isopropylbenzene	1U	1U	1U	2,300
p-Isopropyltoluene	1U	1U	1U	-
Methylene chloride	3 U	2 U	3 U	5.0 (A)
Naphthalene	1U	1U	1U	1,500
n-Propylbenzene	1U	1U	1U	-
Styrene	1U	1U	1U	100 (A)
1,1,2,2-Tetrachloroethane	1U	1U	1U	35
Tetrachloroethene	1U	1U	1U	5.0 (A)
Toluene	1U	1U	1U	790 (E)
1,1,1-Trichloroethane	1U	1U	1U	200 (A)
1,1,2-Trichloroethane	1U	1U	1U	5.0 (A)
Trichloroethene	1U	1U	1U	5.0 (A)
1,2,4-Trimethylbenzene	2	1 U	1 U	63 (E)
1,3,5-Trimethylbenzene	1	1U	1U	72 (E)
Vinyl chloride	1U	1U	1U	2.0 (A)
o-Xylene	1U	1U	1U	280 (E)
p,m-Xylene	1U	1U	1U	280 (E)
Acetone*	50UJ	50UJ	50UJ	2,100
2-Butanone*	50UJ	50UJ	50UJ	38,000
Carbon Disulfide*	50U	50U	50U	2,300
2-Hexanone*	50U	50U	50U	2,900
4-Methyl-2-pentanone*	50U	50U	50U	5,200

Notes:

1) Results and criteria are shown in ug/l (ppb).

2) MDEQ Part 201 Industrial Drinking Water criteria as listed in Operational Memorandum #18, dated June 7, 2000.

3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan

4) "-" denotes no criteria established.

5) "A" denotes criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of the Safe Drinking Water Act, Act No. 399 of the Public Acts of 1976.

6) "E" denotes criterion is the asthetic drinking water value, as required by Section 20120 (1)(5).

7) "W" denotes Concentrations of trihalomethanes in groundwater must be added together to determine compliance with the State of Michigan Drinking Water Standard of 100 ug/l. Concentrations of trihalomethanes in soil must be added together to determine compliance with the drinking water protection criterion of 2,000 ug/kg.

8) "U" denotes the analyte was analyzed for, but was not detected.

9) "UJ" denotes that the sample-specific reporting limit for the analyte in this sample should be considered approximate.

10) Ground water duplicate sample collected at OBG MW-1.

11) "*" indicates these constituents were added after implementation of the QAPP.

REALM
Coldwater Road Facility
Groundwater Analytical Results
Semivolatile Organic Compounds method 8270

Sample Location	OBG MW-1	GW Duplicate	OBG MW-2	MDEQ Part 201 Generic Cleanup Criteria Industrial Drinking Water Criteria
Date Collected	01/26/99	01/26/99	01/26/99	
Parameter				
Acenaphthene	10UJ	10UJ	10UJ	3,800
Acenaphthylene	10UJ	10UJ	10UJ	150
Anthracene	10UJ	10UJ	10UJ	43 (S)
Benzo(a)anthracene	10U	10U	10U	8.5
Benzo(b)fluoranthene	10UJ	10UJ	10UJ	2(M)
Benzo(k)fluoranthene	10U	10U	10U	5.0(M)
Benzo(ghi)perylene	10U	10U	10U	5.0(M)
Benzo(a)pyrene	10U	10U	10U	5.0 (A,M)
Bis(2-chloroethoxy)methane	10U	10U	10U	-
Bis(2-chloroethyl)ether	10U	10U	10U	8.3
Bis(2-chloroisopropyl)ether	10UJ	10U	10U	-
Bis(2-ethylhexyl)phthalate	10UJ	10UJ	10UJ	6.0 (A)
4-Bromophenyl phenyl ether	10UJ	10UJ	10UJ	-
Butyl benzyl phthalate	10UJ	10UJ	10UJ	2,700 (S)
4-Chloroaniline	10UJ	10UJ	10UJ	-
2-Chloronaphthalene	10UJ	10UJ	10UJ	-
4-Chloro-3-methylphenol	10U	10U	10U	420
2-Chlorophenol	10UJ	10U	10U	130
4-Chlorophenyl phenyl ether	10U	10U	10U	-
Chrysene	10U	10U	10U	5.0(M)
p,m-Cresol	10U	10U	10U	-
o-Cresol	10U	10U	10U	-
Dibenzo(ah)anthracene	10U	10U	10U	5.0 (M)
Dibenzofuran	10UJ	10U	10U	ID
Di-n-butyl phthalate	10UJ	10UJ	10UJ	2,500
1,2-Dichlorobenzene	10U	10U	10U	600 (A)
1,3-Dichlorobenzene	10U	10U	10U	19
1,4-Dichlorobenzene	10U	10U	10U	75(A)
3,3'-Dichlorobenzidine	10UJ	10U	10U	4.3
2,4-Dichlorophenol	10U	10U	10U	210
Diethyl phthalate	10UJ	10UJ	10UJ	16,000
2,4-Dimethylphenol	10U	10U	10U	1,000
Dimethyl phthalate	10UJ	10U	10U	210000
4,6-Dinitro-2-methylphenol	10UJ	10UJ	10UJ	-
2,4-Dinitrophenol	10UJ	10U	10U	-
2,4-Dinitrotoluene	10UJ	10U	10U	32
2,6-Dinitrotoluene	10UJ	10U	10U	-
Di-n-octyl phthalate	10UJ	10UJ	10UJ	380
Fluoranthene	10UJ	10UJ	10UJ	210 (S)
Fluorene	10UJ	10UJ	10UJ	2,000 (S)
Hexachlorobenzene	10UJ	10U	10U	1.0 (A)
Hexachlorobutadiene	10U	10U	10U	42
Hexachlorocyclopentadiene	10UJ	10UJ	10UJ	50 (A)
Hexachloroethane	10U	10U	10U	21
Indeno(1,2,3-cd)pyrene	10U	10U	10U	5.0 (M)
Isophorone	10U	10U	10U	3,100
2-Methylnaphthalene	10U	10U	10U	750
Naphthalene	10UJ	10UJ	10U	1,500
2-Nitroaniline	10UJ	10UJ	10U	-
3-Nitroaniline	10UJ	10UJ	10U	-
4-Nitroaniline	10UJ	10UJ	10U	-
Nitrobenzene	10U	10U	10U	9.6
2-Nitrophenol	10U	10U	10U	58
4-Nitrophenol	10UJ	10UJ	10U	-
N-Nitrosodiphenylamine	10UJ	10UJ	10U	1,100
Phenanthrene	10UJ	10UJ	10U	150
Phenol	10UJ	10U	10U	13,000
Pyrene	10U	10U	10U	140 (S)
1,2,4-Trichlorobenzene	10U	10U	10U	70 (A)
2,4,5-Trichlorophenol	10U	10U	10U	2,100
2,4,6-Trichlorophenol	10U	10U	10U	470

Notes:

1) Results and criteria are shown in ug/l (ppb).

2) MDEQ Part 201 Industrial Drinking Water criteria as listed in Operational Memorandum #18, dated June 7,2000

3) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan

4) "-" denotes no criteria established.

5) "A" denotes criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of the Safe Drinking Water Act, Act No. 399 of the Public Acts of 1976.

6) "M" denotes calculated criterion is below the analytical method detection limit, therefore the criterion defaults to the method detection limit.

7) "S" denotes criterion defaults to the chemical-specific water solubility limit.

8) "UJ" denotes that the sample-specific reporting limit for the analyte in this sample should be considered approximate.

9) "ID" denotes inadequate data to develop criterion

10) "U" denotes the analyte was analyzed for, but was not detected.

11) Ground water duplicate sample collected at OBG MW-1

REALM Table 5 (cont.)

Coldwater Road Facility

Groundwater Analytical Results

Metals method 200.8 and Cyanide method 335.2

Sample Location	OBG MW-1	GW Duplicate	OBG MW-2	MDEQ Part 201 Generic Cleanup Criteria Industrial Drinking Water Criteria
Date Collected	**01/26/99**	**01/26/99**	**01/26/99**	
Parameter				
Cadmium, Dissolved	0.2U	0.2U	0.4	5.0 (A)
Chromium, Dissolved	10U	10U	10U	100 (A)
Copper, Dissolved	10	10	20	1,000 (E)
Lead , Dissolved	**8**	**9**	**32**	4 (L)
Nickel , Dissolved	15	15	13	100 (A)
Zinc, Dissolved	20	20	50	5,000 (E)
Cyanide	5U	5U	5U	200 (A)

Notes:

1) Results and criteria are shown in ug/l (ppb).

2) Samples analyzed by Fire & Environmental Consulting Laboratories, Inc. of East Lansing, Michigan.

3) Bold type denotes exceedance of Part 201 Industrial Drinking Water criteria.

4) MDEQ Part 201 Industrial Drinking Water Protection Criteria as listed in Operational Memorandum #18, dated June 7,2000.

5) "A" denotes criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of the Safe Drinking Water Act, Act No. 399 of the Public Acts of 1976.

6) "E" denotes criterion is the aesthetic drinking water value, as required by Section 20120 (1)(5).

7) "L" denotes higher groundwater concentrations (up to 15 ug/L) may be acceptable if the soil concentration is less than 400 ppm and groundwater migrating off-site will not result in unacceptable exposures. Contact an ERD toxicologist if further explanatio is needed.

8) "U" denotes the analyte was analyzed for, but was not detected.

9) Ground water duplicate sample collected at OBG MW-1.

APPENDIX B

Soil Boring Logs

O'BRIEN & GERE ENGINEERS, INC.

SOIL BORING LOG

REPORT OF BORING: OBG MW-3

PAGE 1 OF 1

CLIENT:	REALM
PROJECT NAME:	Former WWTP Investigation
PROJECT LOCATION:	Coldwater Road Landfill, Flint
FILE NO.:	4966/32223
BORING COMPANY:	Boart Longyear
FOREMAN:	Andrew Roberts
OBG GEOLOGIST:	Mike Robison
Boring Location:	Southern border of former WWTP site
Drilling equipment:	Diedrich D-50 truck mounted auger rig
Sampling equipment:	4.25" dia. Hollow stem augers / 5 ft macrocore samplers
Borehole Diameter:	
Total Depth:	
Start date:	5/1/2007
Completion date:	5/1/2007
Surface Elevation:	807.47'
Northing:	
Easting:	
Depth to ground water:	

LEGEND: Cement/grout; Sand Pack; Bentonite; Screen; Riser

DEPTH BELOW GRADE	No.	CORE INTERVAL (ft bg)	PENETR/ RECOVERY (ft bg)	Analytical Sample Interval (ft bg)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPT	Equipment Installed	Field Testing: PID Reading	Field Testing: USCS symbol
0	1	0 - 5	5 ft / 4 ft		Asphalt				
					Olive brown w/ orange mottling, damp CLAY, little silt, trace small gravel	4"			CL
1									
2								0	
3									
4					same as above, w/ little very fine sand			0	
					Pale brown, damp, very fine SAND, some silt	4.5'			SP-SM
5	2	5 - 10	5 ft / 4 ft		Olive brown, moist-wet, clayey SAND				SC
6								0	
7									
					Olive brown w/ orange mottling (oxidation), damp CLAY, little silt and small gravel, thin roots,	7.5'			CL
8					medium plasticity			0	
9									
10	3	10 - 15	5 ft / 4 ft					0	
11					changes to moderate yellow brown color, non-plastic				
12								0	
13									
14								0	
15	4	15 - 20	5 ft / 4 ft		grades to a stiff, medium grey, damp CLAY, little silt and small gravel, slightly plastic				
16								0	
17									
18								0	
19									
20					EOB @ 20' bg				
21									
22									
23									
24									

Notes:

PID (HNu) readings shown in parts per million. Background reading = 0.0 ppm.

Monitoring well OBG MW-3 constructed of 2" diameter schedule 40 PVC with 0.010" slot well screen extending from 5-15'.

O'BRIEN & GERE ENGINEERS, INC.

SOIL BORING LOG

REPORT OF BORING: OBG-MW-4

CLIENT:	REALM
PROJECT NAME:	Former WWTP Investigation
PROJECT LOCATION:	Coldwater Road Landfill, Flint
FILE NO.:	4966/32223
BORING COMPANY:	Boart Longyear
FOREMAN:	Andrew Roberts
OBG GEOLOGIST:	Mike Robison
Boring Location:	Southeast area of former WWTP site
Drilling equipment:	Diedrich D-50 truck mounted auger rig
Sampling equipment:	4.25" dia. Hollow stem augers / 5 ft macrocore samplers
Borehole Diameter:	
Total Depth:	
Start date:	5/1/2007
Completion date:	5/2/2007
Surface Elevation:	810.10'
Northing:	
Easting:	
Depth to ground water:	

LEGEND: Cement/grout; Sand Pack; Bentonite; Screen; Riser

DEPTH BELOW GRADE	No.	CORE INTERVAL (ft bg)	PENETR/ RECOVERY (ft bg)	Analytical Sample Interval (ft bg)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPT	Equipment Installed	Field Testing PID Reading	Field Testing USCS symbol
0	1	0 - 5	5 ft / 4 ft		Moderate yellow brown, damp silty CLAY, trace small gravel & sand, thin roots, non-plastic				CL
1									
2								0	
3									
4								0	
5	2	5 - 10	5 ft / 4 ft						
6								0	
7					Olive brown, moist CLAY, some fine sand, little silt, trace gravel, thin roots	7'			
					grades to moderate yellow brown w/ orange mottling (oxidation), damp, firm CLAY, trace gravel	7'4"			
8								0	
9									
10	3	10 - 15	5 ft / 4 ft					0	
11					Stiff, medium grey, damp CLAY, trace gravel				
12					Olive brown, wet very fine SAND & silt	12'3"		0	SP-SM
					Medium grey, moist CLAY, little silt, trace gravel & fine sand	12'9"			CL
13									
					same as above, no sand, medium plasticity, firm				
14								0	
15	4	15 - 20	5 ft / 4 ft						
16								0	
17									
18								0	
19									
20					EOB @ 20' fbg				
21									
22									
23									
24									

Notes:

PID (HNu) readings shown in parts per million. Background reading = 0.0 ppm.

Monitoring well OBG MW-4 constructed of 2" diameter schedule 40 PVC with 0.010" slot well screen extending from 10-20'.

O'BRIEN & GERE ENGINEERS, INC.

SOIL BORING LOG

REPORT OF BORING: OBG MW-5

CLIENT:	REALM
PROJECT NAME:	Former WWTP Investigation
PROJECT LOCATION:	Coldwater Road Landfill, Flint
FILE NO.:	4966/32223
BORING COMPANY:	Boart Longyear
FOREMAN:	Andrew Roberts
OBG GEOLOGIST:	Mike Robison
Boring Location:	Northeast area of former WWTP site
Drilling equipment:	Diedrich D-50 truck mounted auger rig
Sampling equipment:	4.25" dia. Hollow stem augers / 5 ft macrocore samplers
Borehole Diameter:	
Total Depth:	
Start date:	5/1/2007
Completion date:	5/2/2007
Surface Elevation:	813.05'
Northing:	
Easting:	
Depth to ground water:	

LEGEND: Cement/grout; Sand Pack; Bentonite; Screen; Riser

DEPTH BELOW GRADE	No.	CORE INTERVAL (ft bg)	PENETR/ RECOVERY (ft bg)	Analytical Sample Interval (ft bg)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPT	Equipment Installed	Field Testing PID Reading	Field Testing USCS symbol
0	1	0 - 5	5 ft / 5 ft		Brownish grey, damp, silty SAND, roots				SM
					Moderate yellow brown, damp, silty CLAY, little small gravel & sand, no plasticity	3"			CL
1									
2								0	
3									
4					Moderate yellow brown, moist, fine SAND, well sorted (fill)	4'		0	SP
5	2	5 - 10	5 ft / 4 ft						
6								0	
7					changes to olive brown color, wet				
8								0	
9					Soft, olive grey, moist (hydrated) CLAY, little silt and fine sand, trace gravel	9'			CL
10	3	10 - 15	5 ft / 4 ft					0	
11									
12					grades to medium grey, wet sandy CLAY, little gravel			0	
13									
14					Medium grey, damp CLAY, little silt, trace small gravel, low plasticity			0	
15	4	15 - 20	5 ft / 4 ft						
					same as above, medium plasticity				
16								0	
17									
18								0	
19									
20	5	20 - 25	5 ft / 5 ft					0	
21									
22								0	
23									
24								0	

Notes:

PID (HNu) readings shown in parts per million. Background reading = 0.0 ppm.

Monitoring well OBG MW-5 constructed of 2" diameter schedule 40 PVC with 0.010" slot well screen extending from 8-18'.

O'BRIEN & GERE ENGINEERS, INC.

SOIL BORING LOG

REPORT OF BORING: OBG MW-5

CLIENT:	REALM
PROJECT NAME:	Former WWTP Investigation
PROJECT LOCATION:	Coldwater Road Landfill, Flint
FILE NO.:	4966/32223
BORING COMPANY:	Boart Longyear
FOREMAN:	Andrew Roberts
OBG GEOLOGIST:	Mike Robison
Boring Location:	Northeast area of former WWTP site
Drilling equipment:	Diedrich D-50 truck mounted auger rig
Sampling equipment:	4.25" dia. Hollow stem augers / 5 ft macrocore samplers
Borehole Diameter:	
Total Depth:	
Start date:	5/1/2007
Completion date:	5/2/2007
Surface Elevation:	813.05'
Northing:	
Easting:	
Depth to ground water:	

LEGEND: Cement/grout; Sand Pack; Bentonite; Screen; Riser

DEPTH BELOW GRADE	No.	CORE INTERVAL (ft bg)	PENETR/ RECOVERY (ft bg)	Analytical Sample Interval (ft bg)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPT	Equipment Installed	Field Testing PID Reading	Field Testing USCS symbol
25	6	25 - 30	5 ft / 5 ft						
					same as above, with trace of fine sand for 1"				
26									
								0	
27									
28								0	
29									
30					EOB @ 30' fbg				
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									
46									
47									
48									
49									

Notes:

PID (HNu) readings shown in parts per million. Background reading = 0.0 ppm.

Monitoring well OBG MW-5 constructed of 2" diameter schedule 40 PVC with 0.010" slot well screen extending from 8-18'.

O'BRIEN & GERE ENGINEERS, INC.

SOIL BORING LOG

REPORT OF BORING: OBG MW-6

CLIENT:	REALM
PROJECT NAME:	Former WWTP Investigation
PROJECT LOCATION:	Coldwater Road Landfill, Flint
FILE NO.:	4966/32223
BORING COMPANY:	Boart Longyear
FOREMAN:	Andrew Roberts
OBG GEOLOGIST:	Mike Robison
Boring Location:	Northwest area of former WWTP site
Drilling equipment:	Diedrich D-50 truck mounted auger rig
Sampling equipment:	4.25" dia. Hollow stem augers / 5 ft macrocore samplers
Borehole Diameter:	
Total Depth:	
Start date:	5/2/2007
Completion date:	5/2/2007
Surface Elevation:	813.02'
Northing:	
Easting:	
Depth to ground water:	

LEGEND: Cement/grout; Sand Pack; Bentonite; Screen; Riser

DEPTH BELOW GRADE	No.	CORE INTERVAL (ft bg)	PENETR/ RECOVERY (ft bg)	Analytical Sample Interval (ft bg)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPT	Equipment Installed	Field Testing: PID Reading	Field Testing: USCS symbol
0	1	0 - 5	5 ft / 5 ft		Dark yellow brown, damp, silty CLAY, little small gravel, thin roots, no plasticity				CL
1									
2								0	
3									
4								0	
5	2	5 - 10	5 ft / 3 ft		grades to soft, olive brown, damp CLAY, little silt and small gravel, thin roots, slight plasticity				
6								0	
7									
8								0	
9					same as above, firm, no plasticity				
10	3	10 - 15	5 ft / 3 ft					0	
11									
12								0	
13					same as above, orange mottling (oxidation)				
					Firm, medium grey, damp CLAY, little silt, trace gravel, slight plasticity				
14					2-inch fine wet SAND seam, well sorted	14'7"		0	SP
					Firm, medium grey, damp CLAY, little silt, trace gravel, slight plasticity	14'9"			CL
15	4	15 - 20	5 ft / 3 ft						
16					same as above, medium plasticity			0	
17									
18								0	
19									
20	5	20 - 25	5 ft / 5 ft					0	
21									
22								0	
23									
24								0	

Notes:

PID (HNu) readings shown in parts per million. Background reading = 0.0 ppm.

Monitoring well OBG MW-6 constructed of 2" diameter schedule 40 PVC with 0.010" slot well screen extending from 14-24'.

O'BRIEN & GERE ENGINEERS, INC.

SOIL BORING LOG

REPORT OF BORING: OBG MW-6

CLIENT:	REALM
PROJECT NAME:	Former WWTP Investigation
PROJECT LOCATION:	Coldwater Road Landfill, Flint
FILE NO.:	4966/32223
BORING COMPANY:	Boart Longyear
FOREMAN:	Andrew Roberts
OBG GEOLOGIST:	Mike Robison
Boring Location:	Northwest area of former WWTP site
Drilling equipment:	Diedrich D-50 truck mounted auger rig
Sampling equipment:	4.25" dia. Hollow stem augers / 5 ft macrocore samplers
Borehole Diameter:	
Total Depth:	
Start date:	5/2/2007
Completion date:	5/2/2007

Surface Elevation: 813.02'
Northing:
Easting:
Depth to ground water:

LEGEND: / Cement/grout; Sand Pack; Bentonite; === Screen; Riser

DEPTH BELOW GRADE	No.	CORE INTERVAL (ft bg)	PENETR/ RECOVERY (ft bg)	Analytical Sample Interval (ft bg)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPT	Equipment Installed	Field Testing PID Reading	Field Testing USCS symbol
25	6	25 - 30	5 ft / 5 ft						
26					same as above, softer for a few inches			0	
27									
28								0	
29									
30					EOB @ 30' fbg				
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									
46									
47									
48									
49									

Notes:

PID (HNu) readings shown in parts per million. Background reading = 0.0 ppm.
Monitoring well OBG MW-6 constructed of 2" diameter schedule 40 PVC with 0.010" slot well screen extending from 14-24'.

O'BRIEN & GERE ENGINEERS, INC.

SOIL BORING LOG

REPORT OF BORING: OBG MW-7

CLIENT:	REALM
PROJECT NAME:	Former WWTP Investigation
PROJECT LOCATION:	Coldwater Road Landfill, Flint
FILE NO.:	4966/32223
BORING COMPANY:	Boart Longyear
FOREMAN:	Andrew Roberts
OBG GEOLOGIST:	Mike Robison
Boring Location:	Southwest area of former WWTP site, near fenceline
Drilling equipment:	Diedrich D-50 truck mounted auger rig
Sampling equipment:	4.25" dia. Hollow stem augers / 5 ft macrocore samplers
Borehole Diameter:	
Total Depth:	
Start date:	5/2/2007
Completion date:	5/2/2007
Surface Elevation:	810.23'
Northing:	
Easting:	
Depth to ground water:	

LEGEND: Cement/grout; Sand Pack; Bentonite; Screen; Riser

DEPTH BELOW GRADE	No.	CORE INTERVAL (ft bg)	PENETR/ RECOVERY (ft bg)	Analytical Sample Interval (ft bg)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPT	Equipment Installed	Field Testing PID Reading	Field Testing USCS symbol
0	1	0 - 5	5 ft / 4 ft		Dark brown, damp, silty CLAY, little sand & small gravel, thin roots, no plasticity				CL
1									
2								0	
3									
4								0	
					Moderate yellow brown, moist-wet, very fine SAND, some silt	4'7"			SP-SM
5	2	5 - 10	5 ft / 5 ft		Moderate yellow brown, damp, silty CLAY, little small gravel, no plasticity	5'			CL
6								0	
7					Olive brown w/ orange mottling (oxidation), damp CLAY, little silt and small gravel, thin roots,				
8					medium plasticity			0	
9									
10	3	10 - 15	5 ft / 3 ft					0	
11					same as above, medium grey				
12					Medium grey, wet SILT	12.5'			ML
					Medium grey, moist, silty CLAY, little gravel, slight plasticity	12'9"			CL
13					same as above, damp				
14					same as above, wet, little coarse sand				
15	4	15 - 20	5 ft / 5 ft		Medium grey, wet, fine to medium SAND, coarser with depth	15'			SW-SM
16					Medium grey, wet, well graded GRAVEL w/ silt	16'			GW-GM
17					Medium grey, wet, fine to coarse SAND, little small gravel & silt	17'			SW-SM
18									
19					grades to fine to very fine size	19'			SP-SM
					Medium grey, wet SILT, little very fine sand	19'10"			ML-SM
20					EOB @ 20' fbg				
21									
22									
23									
24									

Notes:

PID (HNu) readings shown in parts per million. Background reading = 0.0 ppm.

Monitoring well OBG MW-7 constructed of 2" diameter schedule 40 PVC with 0.010" slot well screen extending from 10-20'.

O'BRIEN & GERE ENGINEERS, INC.

SOIL BORING LOG

REPORT OF BORING: OBG MW-8

CLIENT:	REALM
PROJECT NAME:	Former WWTP Investigation
PROJECT LOCATION:	Coldwater Road Landfill, Flint
FILE NO.:	4966/32223
BORING COMPANY:	Boart Longyear
FOREMAN:	Andrew Roberts
OBG GEOLOGIST:	Mike Robison
Boring Location:	West of former WWTP plant
Drilling equipment:	Diedrich D-50 truck mounted auger rig
Sampling equipment:	4.25" dia. Hollow stem augers / 5 ft macrocore samplers
Borehole Diameter:	
Total Depth:	
Start date:	5/3/2007
Completion date:	5/3/2007
Surface Elevation:	814.72'
Northing:	
Easting:	
Depth to ground water:	

LEGEND: / Cement/grout; Sand Pack; Bentonite; === Screen; Riser

DEPTH BELOW GRADE	No.	CORE INTERVAL (ft bg)	PENETR/ RECOVERY (ft bg)	Analytical Sample Interval (ft bg)	SAMPLE DESCRIPTION	STRATUM CHANGE GENERAL DESCRIPT	Equipment Installed	Field Testing: PID Reading	Field Testing: USCS symbol
0	1	0 - 5	5 ft / 4 ft		Moderate yellow brown, damp, sandy CLAY, little small gravel, thin roots, no plasticity		/		CL
1							/		
2							/	0	
3					same as above, moist, soft		/		
4					changes to olive brown color		/	0	
5	2	5 - 10	5 ft / 4 ft				/		
6							/	0	
7							Bentonite		
8							Bentonite	0	
9					same as above, soft, moist		Sand Pack / Screen		
10	3	10 - 15	5 ft / 4 ft				Sand Pack / Screen	0	
11					Moderate yellow brown w/ orange mottling (oxidation), moist silty CLAY, little fine sand & small gravel		Sand Pack / Screen		
12							Sand Pack / Screen	0	
13							Sand Pack / Screen		
14					same as above, damp, firm, no sand, no mottling		Sand Pack / Screen	0	
15	4	15 - 20	5 ft / 4 ft		same as above, more silt Firm, medium grey damp CLAY, little silt and small gravel, medium plasticity		Sand Pack / Screen		
16							Sand Pack / Screen	0	
17							Sand Pack / Screen		
18							Sand Pack / Screen	0	
19									
20	5	20 - 25	5 ft / 5 ft					0	
21									
22								0	
23									
24								0	

Notes:

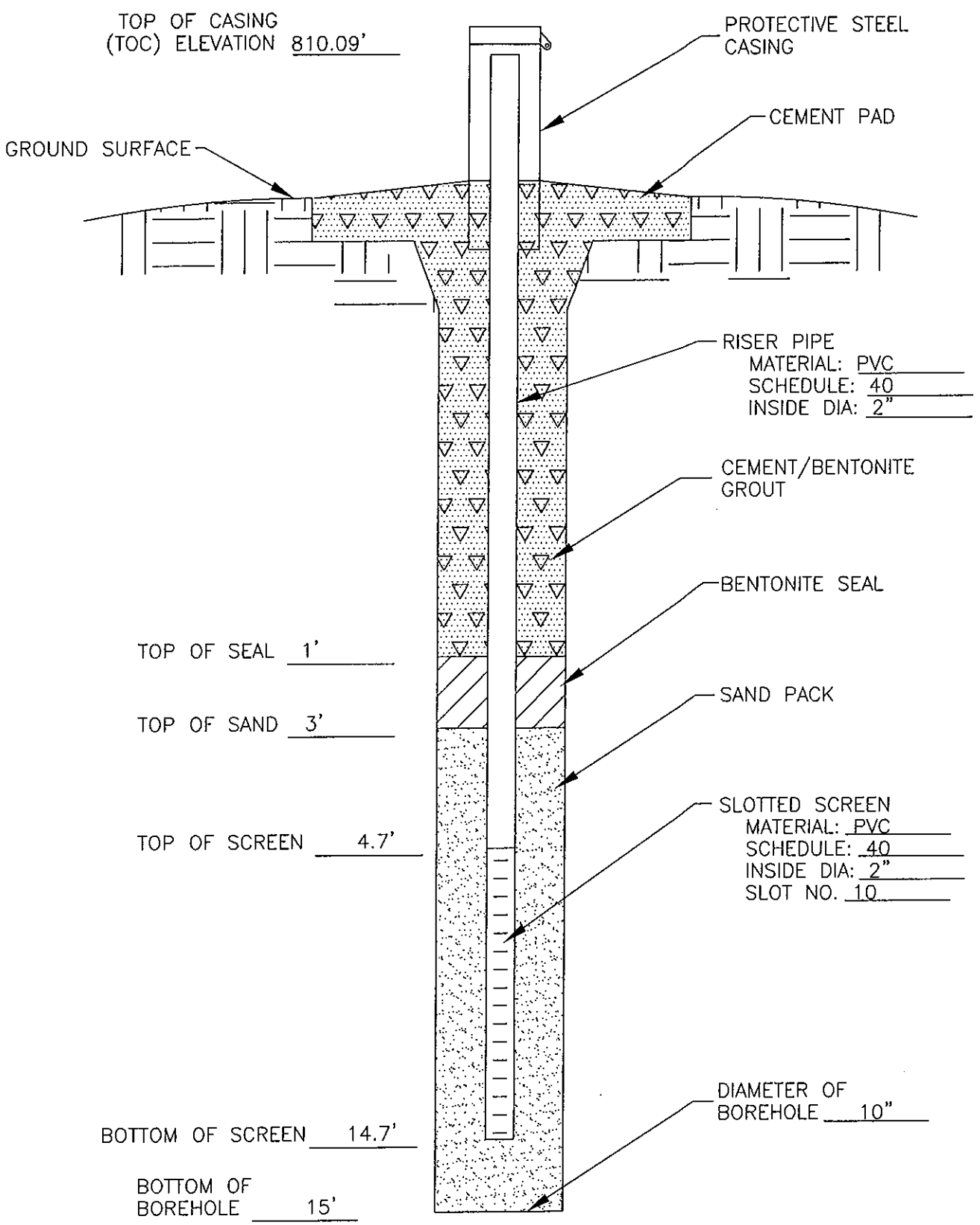
PID (HNu) readings shown in parts per million. Background reading = 0.0 ppm.

Monitoring well OBG MW-8 constructed of 2" diameter schedule 40 PVC with 0.010" slot well screen extending from 9-19'.

APPENDIX C

Monitoring Well Construction Details

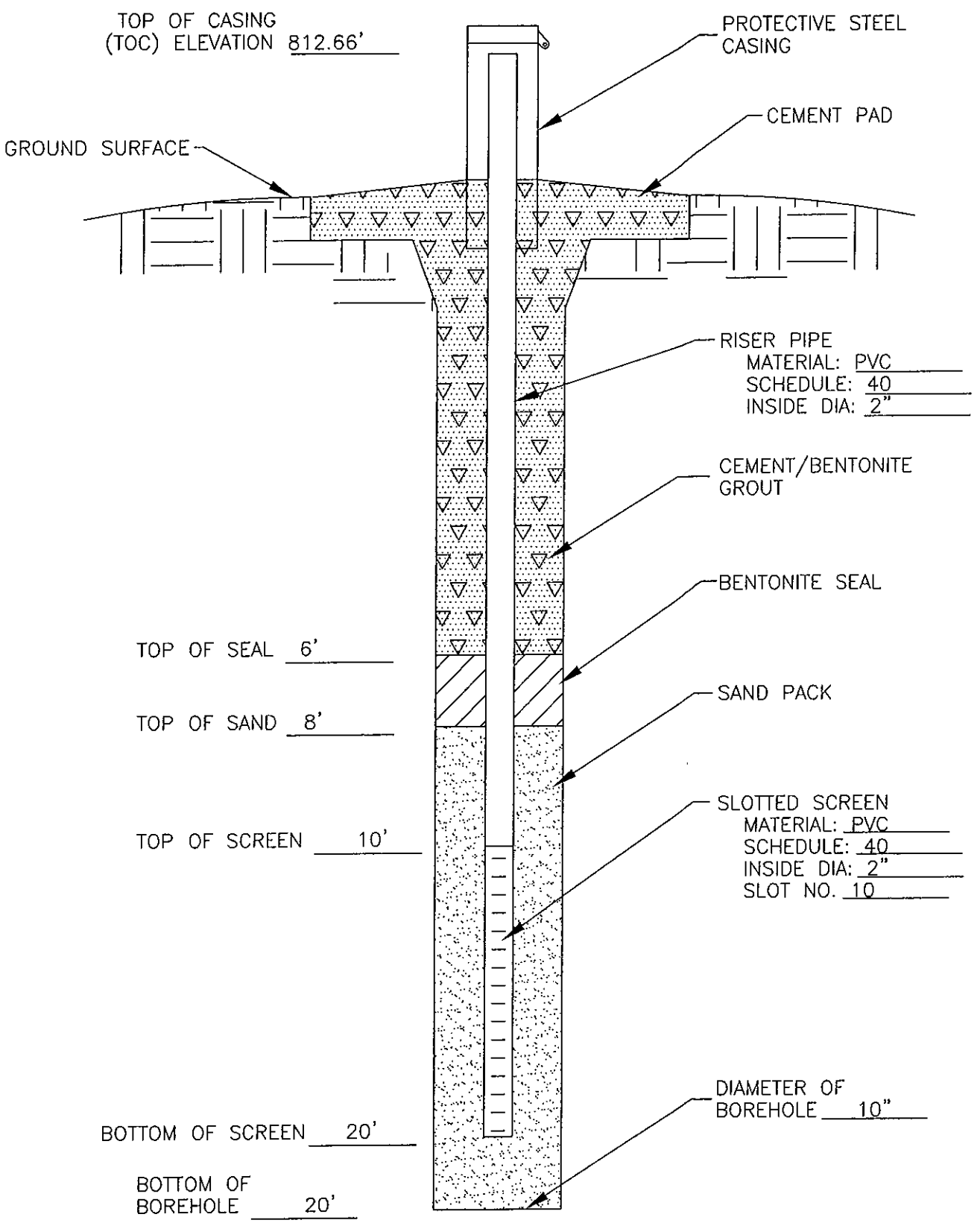
O'BRIEN & GERE
ENGINEERS INC.



REALM–Coldwater Road
Flint, Michigan
MONITORING WELL OBG MW–3

i/novi/proj/4966/32223/DWG/OBG MW3 DET.dwg

O'BRIEN & GERE
ENGINEERS INC.



REALM–Coldwater Road
Flint, Michigan
MONITORING WELL OBG MW–4

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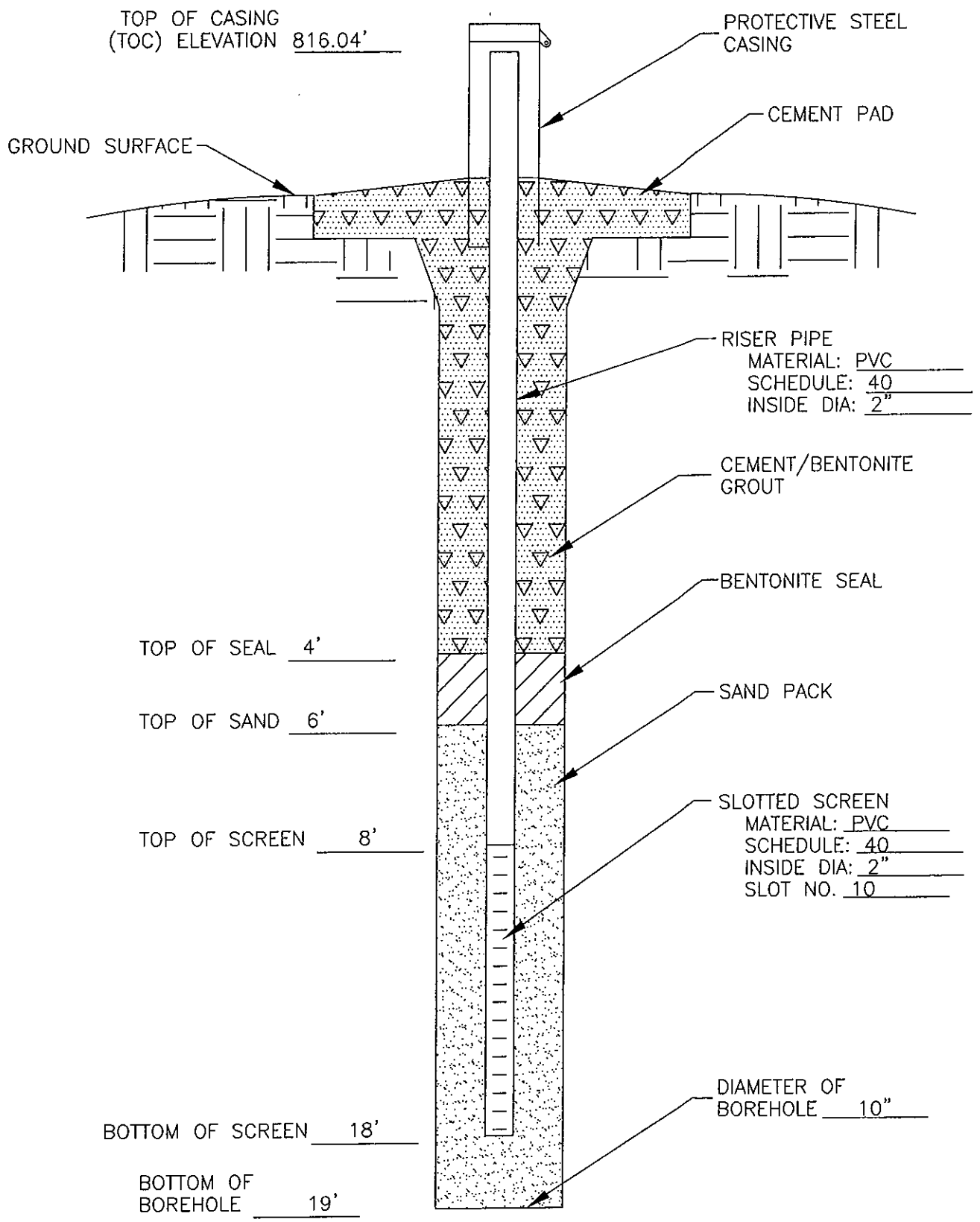
O'BRIEN & GERE
ENGINEERS INC.



REALM–Coldwater Road
Flint, Michigan
MONITORING WELL OBG MW–5

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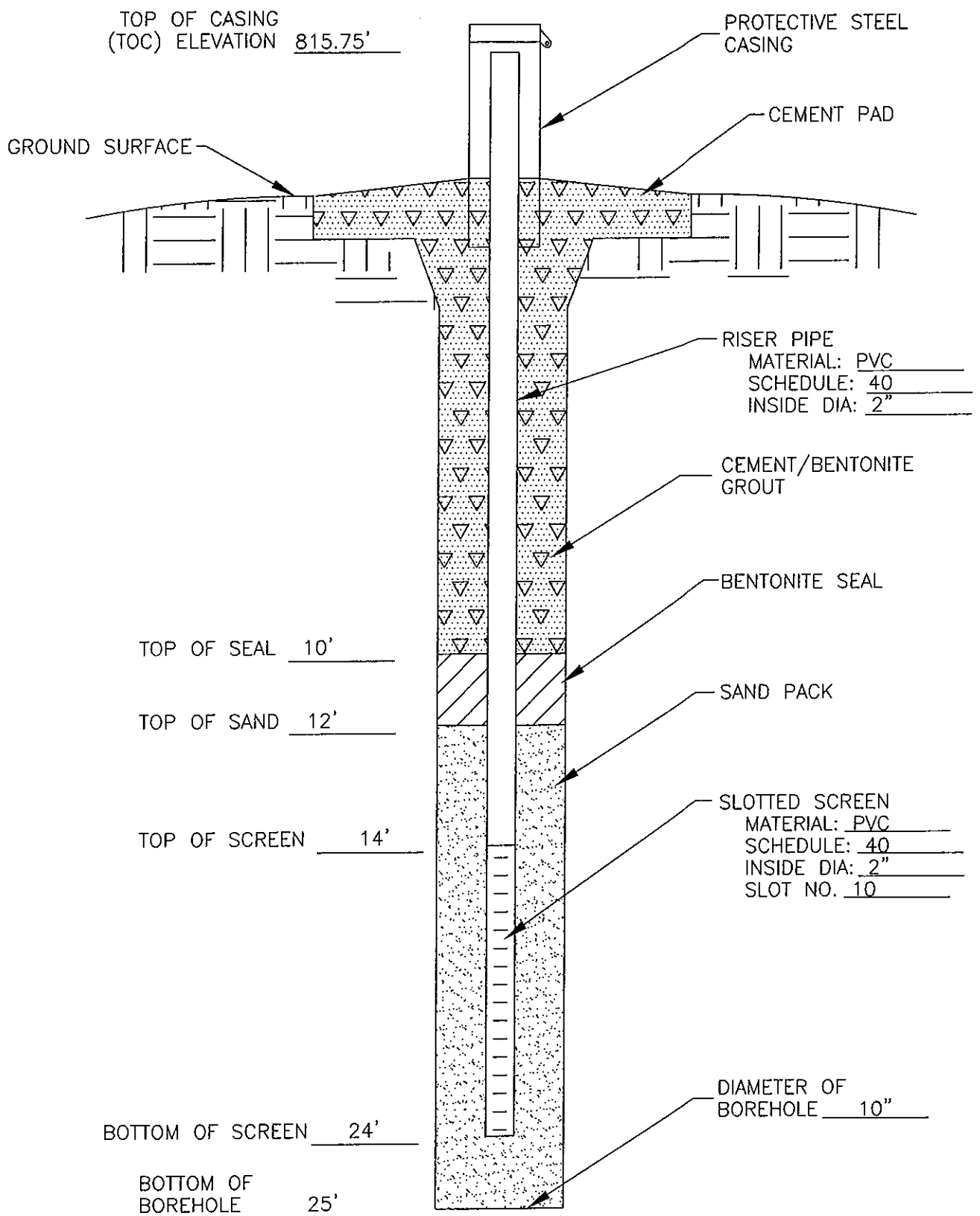
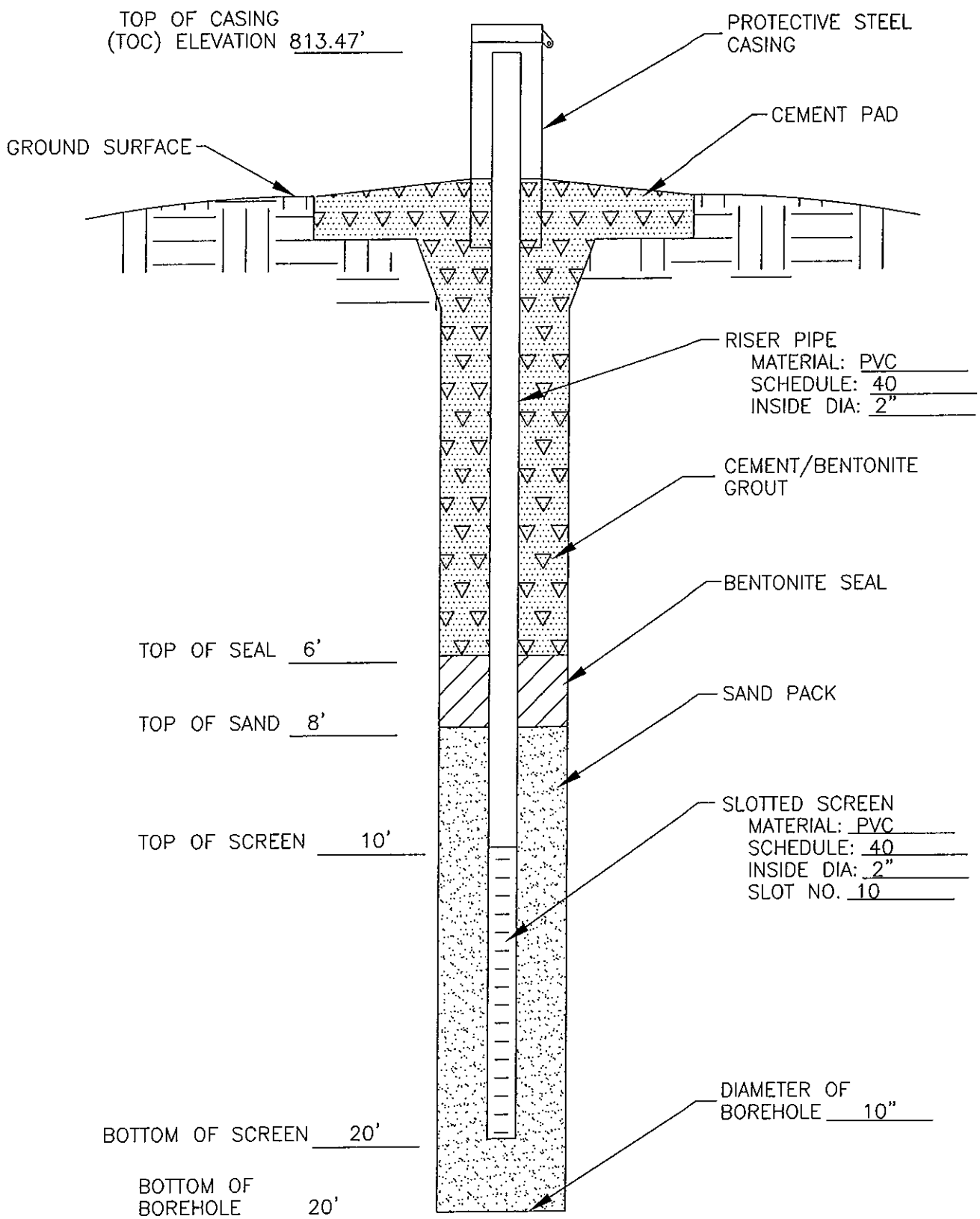
O'BRIEN & GERE
ENGINEERS INC.



REALM–Coldwater Road
Flint, Michigan
MONITORING WELL OBG MW–6

i/novi/proj/4966/32223/DWG/OBG MW6 DET.dwg

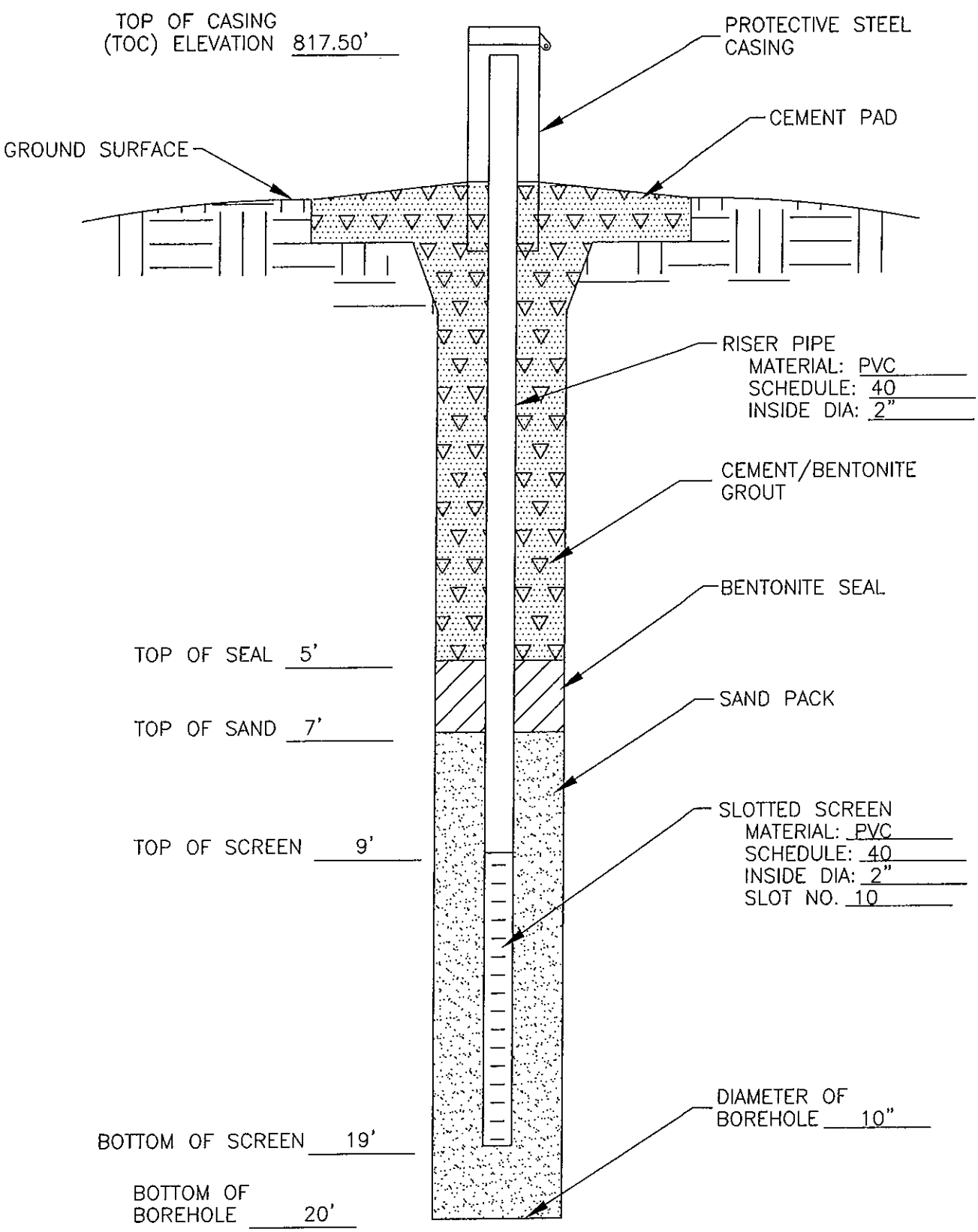
O'BRIEN & GERE
ENGINEERS INC.



REALM–Coldwater Road
Flint, Michigan
MONITORING WELL OBG MW–7

i/novi/proj/4966/32223/DWG/OBG MW7 DET.dwg

O'BRIEN & GERE
ENGINEERS INC.



REALM–Coldwater Road
Flint, Michigan
MONITORING WELL OBG MW–8

i/novi/proj/4966/32223/DWG/OBG MW8 DET.dwg

APPENDIX D

Data Validation Report- First Quarter Ground Water Sampling Event

CONESTOGA-ROVERS & ASSOCIATES

9033 Meridian Way, West Chester, Ohio 45069
Telephone: (513) 942-4750 Fax: (513) 942-8585
www.CRAworld.com

MEMORANDUM

TO: Clifford Yantz [YantzCS@obg.com]

REF. NO.: 012650-R006005

FROM: Angela Bown/jbh/7-NF

DATE: July 24, 2007

Send Via E-Mail and U.S. Mail

RE: **Data Quality Assessment and Validation – Full Validation**
General Motors Corporation - Coldwater Road Landfill
Former WWTP First Quarter Groundwater Sampling
Flint, Michigan
June 2007

The following details a quality assessment and validation of the analytical data resulting from the June 2007, collection of eight samples, and four quality control (QC) samples from the Coldwater Road Landfill Site in Flint, Michigan. The sample summary detailing sample identification, sample location, QC samples, and analytical parameters is presented in Table 1. Sample analysis was completed at Merit Laboratories, Inc. in East Lansing, Michigan, in accordance with the methodologies presented in Table 2.

The QC criteria used to assess the data were established by the methods and the Quality Assurance Project Plan (QAPP). Application of quality assurance criteria was consistent with following guidance 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) "USEPA Contact Laboratory Program National Functional Guidelines for Inorganic Review", USEPA 540/R-94/013, February 1994.

These guidelines are collectively referred to as the "Guidelines" in this memorandum.

Sample Quantitation

The laboratory reported detected concentrations of volatile organic compounds (VOCs) and inorganics below the laboratory's practical quantitation limit (PQL)/report limit (RL) but above the laboratory's method detection limit (MDL). The laboratory flagged these sample concentrations with a "J" or a "B" for organics and inorganics respectively. These concentrations should be qualified as estimated (J) values unless qualified otherwise in this memorandum. The laboratory "B" flags may be disregarded.

Sample Preservation and Holding Times

Sample holding time periods and preservation requirements are presented in the methods.

All samples were prepared and/or analyzed with the specified holding time periods.

All samples were shipped and maintained in accordance with the samples preservation requirements.

Gas Chromatography/Mass Spectrometer (GC/MS) – Tuning and Mass Calibration (Instrument Performance Check) – Organic Analyses

To ensure adequate mass resolution, identification, and to some degree, sensitivity; the performance of each GC/MS instrument used for VOC analyses was checked at the beginning of each 12-hour period using bromofluorobenzene (BFB). The resulting spectra must meet the criteria cited in the "Guidelines" before initiating an analysis sequence.

Instrument performance check data were reviewed. These tuning compounds were analyzed at the required frequency throughout the VOC analyses. The results of all instrument performance checks were within the acceptance criteria, indicating acceptable instrument performance.

Initial Calibration – Organic Analyses

Initial calibration data are used to demonstrate that each instrument is capable of generating acceptable quantitative data. A five point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each over a specific concentration range.

Initial calibration criteria for organic analyses are evaluated against the following criteria:

i) GC/MS (all compounds) - must meet a minimum mean relative response factor (RRF) of 0.05; and

ii) GM/MS (all compounds) - the percent relative standard deviation (%RSD) values must not exceed 30.0 percent or a minimum coefficient of determination of 0.99 if quadratic equation calibration curves are used.

Calibration standards were analyzed at the required frequency and the results met the above criteria for linearity and sensitivity.

Continuing Calibration – Organic Analyses

To ensure that each instrument was capable of producing acceptable quantitative data over the analysis period, continuing calibration standards must be analyzed every 12 hours for GC/MS analyses. The following criteria are employed to evaluate the continuing calibration data:

i) GC/MS (all compounds) – must meet a minimum mean RRF of 0.05;

ii) GC/MS (all compounds) – the percent difference between the mean initial calibration RRF and the continuing calibration RRF must not exceed 25 percent; and

iii) GC/MS (compounds determined by quadratic curve) – the percent drift between the true value and the continuing calibration value must not exceed 25 percent.

Calibration standards were analyzed at the required frequency and the results met the above criteria for instrument sensitivity and linearity of response and sensitivity.

Inductively Coupled Plasma/Mass Spectrometer (ICP/MS) –
Mass Calibration and Resolution Checks – Metal Analyses

To ensure adequate mass resolution, identification, and to some degree, sensitivity; the performance of each ICP/MS instrument used for metals analyses was checked prior to calibration before initiating an analysis sequence through the analysis of a tuning solution. The results of the tuning solution analysis were reviewed against the following criteria:

i) analyze tuning solution a minimum of four times with a %RSD of less than or equal to five for the analytes contained in the tuning solution; and

ii) the mass resolution must be within 0.1 atomic mass unit (amu) of the true value over the analytical range.

Instrument performance check data were reviewed. The tuning solution was analyzed at the required frequency throughout the analyses. The results of all instrument performance checks were within the acceptance criteria, indicating acceptable instrument performance.

Initial Calibration – Inorganic Analyses

The initial calibration includes a blank and at least one standard for ICP/MS to establish the analytical curve. Cyanide analysis by spectrophotometry requires the analysis of a calibration blank and a minimum of five standards to establish the calibration curve. The coefficient of variation for calibration curves must exceed 0.995.

Initial calibration is verified with an initial calibration verification (ICV) standard which must recover within 90 to 110 percent for metals by ICP/MS and 85 to 115 percent for cyanide by spectrophotometry.

A review of the laboratory data showed that the inorganic initial calibration curves and ICVs were analyzed at the appropriate frequency and were within the acceptance criteria.

Continuing Calibration – Inorganic Analyses

Continuing calibration verification (CCV) standards are analyzed at method specified frequency (one every 10 samples). The CCVs must meet the percent recovery control limits specified above for the ICVs. Criteria for inorganic analyses are the same criteria as used for assessing the initial calibration data.

A review of the laboratory data showed that CCVs were analyzed at the appropriate frequency and the data were within the acceptance criteria.

Method Blank Samples

Method blank samples are prepared from a purified sample matrix and are processed concurrently with investigative samples to assess the presence and the magnitude of sample contamination introduced during sample analysis. Method blank samples are analyzed at a minimum frequency of one per analytical batch and target analytes should be non-detect.

The samples presented in Table 3 should be qualified due to laboratory contamination. The laboratory flagged the organic concentrations with a "B" and the inorganics with a "J", both of which may be disregarded. The remaining method blank samples were reported to be free from detectable levels of target analytes, indicating no additional laboratory-attributable contamination occurred.

Laboratory Blank Samples – Inorganic Analyses

Metals analyses include the analysis of initial calibration blanks (ICB) and continuing calibration blanks (CCB) to assess the presence and the magnitude of sample contamination introduced during sample analysis. The CCBs are analyzed at a minimum frequency of one every 10 samples and target analytes should be non-detect.

Several ICB and CCBs were reported with detectable concentrations of target analytes. No qualification of the data was necessary because the associated sample results were greater than five times the blank value. The remaining ICB and CCBs were reported to be free from detectable levels of target analytes, indicating no additional laboratory-attributable contamination occurred.

Surrogate Compounds – Organic Analyses

Individual sample performance for organic analyses was monitored by assessing the results of surrogate compound percent recoveries. Surrogate percent recoveries are reviewed against the laboratory developed control limits provided in the analytical report.

The surrogate recovery acceptance criteria were met for all samples.

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

To assess the long-term accuracy and precision of the analytical methods on various matrices, MS/MSD percent recoveries and the relative percent difference (RPD) of the concentrations were determined. The organic MS/MSD percent recovery and RPD control limits are established by the laboratory. The inorganic control limits are defined by the methods and the "Guidelines", which require recoveries between 75 to 125 percent with RPDs less than 20 percent for water samples. The samples selected for MS/MSD analysis are identified in Table 1.

The samples that should be qualified due to violation of MS/MSD percent recovery criteria are outlined in Table 4. The MS/MSD percent recoveries and associated RPD acceptance criteria were met in the remaining sample analyses.

Laboratory Control Sample (LCS) Analysis

The LCS analysis serve as a monitor of the overall performance in all steps of the sample analysis and are analyzed with each sample batch. The LCS percent recoveries were evaluated against method and laboratory established control limits.

The LCS percent recoveries were within the laboratory control limits or did not warrant qualification, indicating that an acceptable level of overall performance was achieved with the exception of samples presented with qualifiers in Table 5.

Internal Standard (IS) Summaries – Organic Analyses

To correct for variability in the GC/MS response and sensitivity, IS compounds are added to all samples. All results are calculated as a ratio of the compound and associated IS response. Overall instrument stability and performance for VOC analyses were monitored using IS peak area and retention time (RT) data. The IS peak areas and RT of the samples are required to meet the following criteria:

i) IS area counts must not vary by more than a factor of two (-50 percent to +100 percent) from the associated continuing calibration standard IS area counts; and

ii) the RT of the IS must not vary by more than ±30 seconds from the associated continuing calibration standard.

A review of the VOC IS data showed that the IS area counts and RT data were within the acceptance criteria.

Internal Standard (IS) Summaries – Inorganic Analyses

To correct for variability in the ICP/MS response and sensitivity, IS are added to all samples. Overall instrument stability and performance for metals analyses was monitored using the IS intensity data which are evaluated against the following criteria:

i) the IS intensities in samples must recover between 30 and 120 percent of the true value; and

ii) the IS intensities in instrument calibration checks (CCVs and CCBs) must recover between 80 and 120 percent of the true value.

A review of the ICP/MS metals IS data showed that the IS intensities were within the acceptance criteria.

Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Analysis – Inorganic Analyses

To verify that proper inter-element and background correction factors had been established by the laboratory for metals analyses, the ICP ICS are analyzed. The ICSs are evaluated against recovery control limits of 80 to 120 percent.

The ICS analysis results were evaluated for all samples and were within the control limits.

Serial Dilution – Inorganic Analyses

The percent difference (%D) between a serial dilution of a sample for each matrix was monitored to determine physical or chemical interference. A minimum of one sample per 20 investigative samples is analyzed at a five-fold dilution. The serial dilution results must agree within 10 %D of the original results for samples with detected concentrations greater than 50 times the instrument detection limit.

The %D acceptance criteria were met for this event.

Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra (if applicable) were evaluated according to identification criteria established by the methods. The organic compounds reported adhered to the specified identification criteria.

Target Compound Quantitation

The reported quantitation results and detection limits were checked to ensure results reported were accurate. No discrepancies were found between the raw data and the sample results reported by the laboratory.

Field Quality Assurance/Quality Control (QA/QC)

The field QA/QC consisted of one field blank (rinsate) sample, one field duplicate sample set, one co-located sample set, and one trip blank sample.

Field Blanks

To assess the efficiency of field decontamination procedures and cleanliness of sample containers, the rinsate sample(s) identified in Table 1 was collected and analyzed.

The samples that should be qualified due to rinsate blank contamination are summarized in Table 6. No additional targeted analytes were reported as detected in the rinsate samples.

Field Duplicates and Co-Located Samples

Overall precision for the sampling event and laboratory procedures was monitored using the results of the field duplicate sample sets. The RPDs associated with these duplicate samples must be less than 50 percent for water samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the RL, the evaluation criteria is one times the RL value for water samples.

The data indicate that an adequate level of precision was achieved for the sampling event.

Trip Blanks

To monitor potential cross-contamination of VOC during aqueous sample transportation and storage, a trip blank was submitted to the laboratory for VOC analysis with each shipping cooler containing multiple samples.

No additional target analytes were reported as detected in the trip blank sample.

System Performance

System performance between various quality control checks was evaluated to monitor for changes that may have caused the degradation of data quality. No technical problems or chromatographic anomalies were observed which would require qualification of the data.

Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used with the qualifications noted with the exception of dichlorodifluoromethane which was rejected in sample OBG MW05 due to MS/MSD percent recovery violation.

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
COLDWATER ROAD LANDFILL-FORMER WWTP FIRST QUARTER GW SAMPLING
GENERAL MOTORS CORPORATION
FLINT, MICHIGAN
JUNE 2007

				Analysis/Parameters								
Sample ID	*Location ID*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*VOCs*	*Total Cyanide*	*Total Lead*	*Total Nickel*	*Total Chromium*	*Dissolved Lead*	*Dissolved Nickel*	*Dissolved Chromium*	*Comments*
OBG MW06	OBG MW06	06/19/07	8:00	X	X	X	X	X				
OBG MW06 Collocated	OBG MW06 Collacted	06/19/07	8:00	X	X	X	X	X				Collocated sample
OBG MW08	OBG MW08	06/19/07	9:15	X	X	X	X	X				
OBG DUP01	OBG MW08	06/19/07	9:15	X	X	X	X	X				Field Duplicate of OBG MW08
OBG MW05	OBG MW05	06/19/07	10:10	X	X	X	X	X	X	X	X	
OBG MW05 MS/MSD	OBG MW05 MS/MSD	06/19/07	10:10	X	X	X	X	X	X	X	X	MS/MSD
OBG FB01	FIELD BLANK	06/19/07	11:00	X	X	X	X	X				Field Blank
OBG MW04	OBG MW04	06/19/07	13:30			X						
OBG MW03	OBG MW03	06/19/07	14:30			X						
OBG MW07	OBG MW07	06/19/07	15:30			X						
OBG MW02	OBG MW02	06/19/07	16:15			X			X			
OBG MW01	OBG MW01	06/19/07	17:30			X			X			
OBG TB01	TRIP BLANK	06/19/07	17:45	X								Trip Blank

Notes:
MS Matrix Spike.
MSD Matrix Spike Duplicate.
VOCs Volatile Organic Compounds.

TABLE 2

SUMMARY OF ANALYTICAL METHODOLOGIES
COLDWATER ROAD LANDFILL-FORMER WWTP FIRST QUARTER GW SAMPLING
GENERAL MOTORS CORPORATION
FLINT, MICHIGAN
JUNE 2007

Parameter	*Method*
VOCs	SW-846 8260B[1]
Select Metals (Total & Dissolved)	USEPA 200.8[2]
Total Cyanide	USEPA 335.4[2]

Notes:

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

2 "Methods for Chemical Analysis of Water and Wastes," USEPA-600/4-79-020, March 1983 (with all subsequent revisions).

USEPA United States Environmental Protection Agency.
VOCs Volatile Organic Compounds.

TABLE 3

QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE METHOD BLANKS
COLDWATER ROAD LANDFILL-FORMER WWTP FIRST QUARTER GW SAMPLING
GENERAL MOTORS CORPORATION
FLINT, MICHIGAN
JUNE 2007

Parameter	*Analysis Date*	*Analyte*	*Blank Result*	*Sample ID*	*Sample Result*	*Qualified Sample Result*	*Units*
Volatiles	06/21/07	Naphthalene	0.2	OBG MW06	0.1 J	5 U	µg/L
				OBG MW06 Collocated	0.1 J	5 U	µg/L
				OBG MW08	0.1 J	5 U	µg/L

Notes:
J Estimated.
U Not Detected.

TABLE 4

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERIES
COLDWATER ROAD LANDFILL-FORMER WWTP FIRST QUARTER GW SAMPLING
GENERAL MOTORS CORPORATION
FLINT, MICHIGAN
JUNE 2007

Parameter	*Associated Sample ID*	*Analyte*	*MS Recovery (percent)*	*MSD Recovery (percent)*	*RPD*	*Control Limits*		*Sample Result*	*Units*	*Qualifier*
						Recovery (percent)	*RPD (percent)*			
Volatiles	OBG MW05	2-Butanone (Methyl Ethyl Ketone)	111.2	132.8	16.1	59.4-120	25	6 J	µg/L	J
		2-Hexanone	107.3	133.5	21.6	55.8-120	25	0.6 J	µg/L	J
		4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	109.9	133.4	16.2	80-120	25	10 J	µg/L	J
		Acetone	125.7	144.2	9.7	28.1-121.9	25	30 J	µg/L	J
		Cymene (p-Isopropyltoluene)	96.3	120.8	22.4	80-120	25	0.2 J	µg/L	J
		Dibromomethane	99.7	121.4	19.6	80-120	25	5 U	µg/L	UJ
		Dichlorodifluoromethane (CFC-12)	14.7	17	14.6	24.8-130.2	25	5 U	µg/L	R
		Hexachloroethane	76.6	100.8	27.3	80-120	25	5 U	µg/L	UJ
		Isopropylbenzene	100.3	122.7	20.1	77.9-120.5	25	0.1 J	µg/L	J
		Toluene	98.8	119.4	16.8	71-127.6	25	7	µg/L	J
		Vinyl chloride	53.1	61.4	13.5	54.3-120.7	25	2	µg/L	J

Notes:

J Estimated.
MS Matrix Spike.
MSD Matrix Spike Duplicate.
R Rejected.
RPD Relative Percent Difference.
U Not detecgted.
UJ Not detected, estimated reporting limit.

TABLE 5

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING LABORATORY CONTROL SAMPLE RESULTS
COLDWATER ROAD LANDFILL-FORMER WWTP FIRST QUARTER GW SAMPLING
GENERAL MOTORS CORPORATION
FLINT, MICHIGAN
JUNE 2007

Parameter	*Compound*	*Percent Recovery*	*Control Limits (percent)*	*Associated Sample ID*	*Sample Results*	*Units*	*Qualifier*
Volatiles	2-Hexanone	120.8	55.8-120	OBG MW05	0.6 J	µg/L	J
Volatiles	2-Methylnaphthalene	78.4	80-120	OBG DUP01	5 U	µg/L	UJ
				OBG MW05	5 U	µg/L	UJ
				OBG MW06	5 U	µg/L	UJ
				OBG MW06 Collocated	5 U	µg/L	UJ
				OBG MW08	5 U	µg/L	UJ
Volatiles	Acetone	130.6	28.1-121.9	OBG MW05	30 J	µg/L	J
Volatiles	Chloromethane (Methyl Chloride)	53.3	54.4-147	OBG DUP01	5 U	µg/L	UJ
				OBG MW05	0.5 J	µg/L	J
				OBG MW06	5 U	µg/L	UJ
				OBG MW06 Collocated	5 U	µg/L	UJ
				OBG MW08	5 U	µg/L	UJ
Volatiles	Dichlorodifluoromethane (CFC-12)	17.7	24.8-130.2	OBG DUP01	5 U	µg/L	UJ
				OBG MW05	5 U	µg/L	UJ
				OBG MW06	5 U	µg/L	UJ
				OBG MW06 Collocated	5 U	µg/L	UJ
				OBG MW08	5 U	µg/L	UJ

Notes:

J Estimated.

U Not detected.

UJ Not detected, estimated reporting limit.

TABLE 6

QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE RINSE BLANKS
COLDWATER ROAD LANDFILL-FORMER WWTP FIRST QUARTER GW SAMPLING
GENERAL MOTORS CORPORATION
FLINT, MICHIGAN
JUNE 2007

Parameter	*Rinse Blank Date*	*Analyte*	*Blank Result*	*Sample ID*	*Sample Result*	*Qualified Sample Result*	*Units*
Volatiles	06/19/07	1,2,3-Trimethylbenzene	0.1	OBG MW05	0.3 J	1 U	µg/L
Volatiles	06/19/07	1,2,4-Trimethylbenzene	0.3	OBG MW05	0.3 J	1 U	µg/L
Volatiles	06/19/07	Acetone	20	OBG MW05	30 J	50 U	µg/L
Volatiles	06/19/07	Benzene	1	OBG MW05	0.3 J	1 U	µg/L
Volatiles	06/19/07	Ethylbenzene	0.3	OBG MW05	0.5 J	1 U	µg/L
Volatiles	06/19/07	m&p-Xylene	1	OBG MW05	1 J	2 U	µg/L
				OBG MW06	0.1 J	2 U	µg/L
Volatiles	06/19/07	o-Xylene	0.7	OBG MW05	1	1 U	µg/L
Volatiles	06/19/07	Toluene	3	OBG MW05	7	7 U	µg/L
				OBG MW06	0.1 J	1 U	µg/L

Notes:
J Estimated.
U Not detected.

Analytical Laboratory Report

Report ID: S32498.01(01)
Generated on 06/28/2007

Report to

Attention: Tony Finch/ Mike Robison
O'Brien & Gere Engineers, Inc.
33469 West 14 Mile Road Suite 150
Farmington Hills. MI 48331

Phone: 248-477-5701 FAX: 248-661-4057
Email: YantzCS@obg.com/vandonw@obg.com

Report produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S32498.01-S32498.14
Project: Coldwater Road Landfill SSOW# R006005
Collected Date: 06/19/2007
Submitted Date/Time: 06/20/2007 14:45
Sampled by: Mike Robison
P.O. #: 4002702

Report Notes

Results relate only to items tested as received by the laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
"Not detected" indicates that parameter was not found at a level equal to or greater than the RDL.

Violetta F. Murshak

Violetta F. Murshak
Laboratory Director

Analytical Laboratory Report

Sample Summary (14 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S32498.01	OBG MW06	Groundwater	06/19/2007 08:00
S32498.02	OBG MW06 Collocated	Groundwater	06/19/2007 08:00
S32498.03	OBG MW08	Groundwater	06/19/2007 09:15
S32498.04	OBG DUP01	Groundwater	06/19/2007
S32498.05	OBG MW05	Groundwater	06/19/2007 10:10
S32498.06	OBG MW05 MS	Groundwater	06/19/2007 10:10
S32498.07	OBG MW05 MSD	Groundwater	06/19/2007 10:10
S32498.08	OBG FB01	Water Quality	06/19/2007 11:00
S32498.09	OBG MW04	Groundwater	06/19/2007 13:30
S32498.10	OBG MW03	Groundwater	06/19/2007 14:30
S32498.11	OBG MW07	Groundwater	06/19/2007 15:30
S32498.12	OBG MW02	Groundwater	06/19/2007 16:15
S32498.13	OBG MW01	Groundwater	06/19/2007 17:30
S32498.14	OBG TB01	Water Quality	06/19/2007 17:45

Analytical Laboratory Report

Lab Sample ID: S32498.01
Sample Tag: OBG MW06
Collected Date/Time: 06/19/2007 08:00
Matrix: Groundwater
COC Reference: 04181

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40 ml Glass	HCL	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR
1	125ml Plastic	NaOH	Yes	4.6	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/27/07 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/L	0.005	335.4	06/25/07 08:23	JDP	57-12-5	
Metals								
Chromium	0.006	mg/L	0.005	200.8	06/27/07 16:49	SLS	7440-47-3	
Lead	Not detected	mg/L	0.003	200.8	06/27/07 16:49	SLS	7439-92-1	
Nickel	0.020	mg/L	0.005	200.8	06/27/07 16:49	SLS	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	06/21/07 15:51	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	06/21/07 15:51	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	06/21/07 15:51	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	06/21/07 15:51	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	100-41-4	
Isopropylbenzene	Not detected	ug/L	5	8260B	06/21/07 15:51	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	06/21/07 15:51	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	06/21/07 15:51	JGH	75-09-2	
Naphthalene	0.1	ug/L	5	8260B	06/21/07 15:51	JGH	91-20-3	JB

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank

Lab Sample ID: S32498.01 (continued)
Sample Tag: OBG MW06

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
n-Propylbenzene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	127-18-4	
Toluene	0.1	ug/L	1	8260B	06/21/07 15:51	JGH	108-88-3	J
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	79-01-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	95-47-6	
p,m-Xylene	0.1	ug/L	2	8260B	06/21/07 15:51	JGH		J
Acetone	Not detected	ug/L	50	8260B	06/21/07 15:51	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	06/21/07 15:51	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	06/21/07 15:51	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	06/21/07 15:51	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	06/21/07 15:51	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	06/21/07 15:51	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	06/21/07 15:51	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	06/21/07 15:51	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	06/21/07 15:51	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	06/21/07 15:51	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	06/21/07 15:51	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	06/21/07 15:51	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	06/21/07 15:51	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	06/21/07 15:51	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	06/21/07 15:51	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	74-88-4	
Tetrahydrofuran	Not detected	ug/L	90	8260B	06/21/07 15:51	JGH	109-99-9	
Trichlorofluoromethane	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	526-73-8	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	06/21/07 15:51	JGH	110-57-6	

J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S32498.02
Sample Tag: OBG MW06 Collocated
Collected Date/Time: 06/19/2007 08:00
Matrix: Groundwater
COC Reference: 04181

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40 ml Glass	HCL	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR
1	125ml Plastic	NaOH	Yes	4.6	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/27/07 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/L	0.005	335.4	06/25/07 08:25	JDP	57-12-5	
Metals								
Chromium	0.006	mg/L	0.005	200.8	06/27/07 16:51	SLS	7440-47-3	
Lead	Not detected	mg/L	0.003	200.8	06/27/07 16:51	SLS	7439-92-1	
Nickel	0.021	mg/L	0.005	200.8	06/27/07 16:51	SLS	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	06/21/07 16:09	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	06/21/07 16:09	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	06/21/07 16:09	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	06/21/07 16:09	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	100-41-4	
Isopropylbenzene	Not detected	ug/L	5	8260B	06/21/07 16:09	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	06/21/07 16:09	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	06/21/07 16:09	JGH	75-09-2	
Naphthalene	0.1	ug/L	5	8260B	06/21/07 16:09	JGH	91-20-3	JB

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank

Lab Sample ID: S32498.02 (continued)
Sample Tag: OBG MW06 Collocated

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
n-Propylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	79-01-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	06/21/07 16:09	JGH		
Acetone	Not detected	ug/L	50	8260B	06/21/07 16:09	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	06/21/07 16:09	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	06/21/07 16:09	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	06/21/07 16:09	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	06/21/07 16:09	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	06/21/07 16:09	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	06/21/07 16:09	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	06/21/07 16:09	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	06/21/07 16:09	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	06/21/07 16:09	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	06/21/07 16:09	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	06/21/07 16:09	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	06/21/07 16:09	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	06/21/07 16:09	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	06/21/07 16:09	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	74-88-4	
Tetrahydrofuran	Not detected	ug/L	90	8260B	06/21/07 16:09	JGH	109-99-9	
Trichlorofluoromethane	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	526-73-8	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	06/21/07 16:09	JGH	110-57-6	

Analytical Laboratory Report

Lab Sample ID: S32498.03
Sample Tag: OBG MW08
Collected Date/Time: 06/19/2007 09:15
Matrix: Groundwater
COC Reference: 04181

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40 ml Glass	HCL	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR
1	125ml Plastic	NaOH	Yes	4.6	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/27/07 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/L	0.005	335.4	06/25/07 08:27	JDP	57-12-5	
Metals								
Chromium	0.010	mg/L	0.005	200.8	06/27/07 16:53	SLS	7440-47-3	
Lead	Not detected	mg/L	0.003	200.8	06/27/07 16:53	SLS	7439-92-1	
Nickel	0.041	mg/L	0.005	200.8	06/27/07 16:53	SLS	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	06/21/07 16:27	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	06/21/07 16:27	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	06/21/07 16:27	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	06/21/07 16:27	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	106-46-7	
1,1-Dichloroethane	0.3	ug/L	1	8260B	06/21/07 16:27	JGH	75-34-3	J
1,2-Dichloroethane	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	100-41-4	
Isopropylbenzene	Not detected	ug/L	5	8260B	06/21/07 16:27	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	06/21/07 16:27	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	06/21/07 16:27	JGH	75-09-2	

J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S32498.03 (continued)
Sample Tag: OBG MW08

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Naphthalene	0.1	ug/L	5	8260B	06/21/07 16:27	JGH	91-20-3	JB
n-Propylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	79-01-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	06/21/07 16:27	JGH		
Acetone	Not detected	ug/L	50	8260B	06/21/07 16:27	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	06/21/07 16:27	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	06/21/07 16:27	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	06/21/07 16:27	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	06/21/07 16:27	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	06/21/07 16:27	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	06/21/07 16:27	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	06/21/07 16:27	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	06/21/07 16:27	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	06/21/07 16:27	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	06/21/07 16:27	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	06/21/07 16:27	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	06/21/07 16:27	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	06/21/07 16:27	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	06/21/07 16:27	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	74-88-4	
Tetrahydrofuran	Not detected	ug/L	90	8260B	06/21/07 16:27	JGH	109-99-9	
Trichlorofluoromethane	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	526-73-8	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	06/21/07 16:27	JGH	110-57-6	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank

Analytical Laboratory Report

Lab Sample ID: S32498.04
Sample Tag: OBG DUP01
Collected Date/Time: 06/19/2007 :
Matrix: Groundwater
COC Reference: 04181

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40 ml Glass	HCL	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR
1	125ml Plastic	NaOH	Yes	4.6	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/27/07 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/L	0.005	335.4	06/25/07 08:29	JDP	57-12-5	
Metals								
Chromium	0.010	mg/L	0.005	200.8	06/27/07 16:55	SLS	7440-47-3	
Lead	Not detected	mg/L	0.003	200.8	06/27/07 16:55	SLS	7439-92-1	
Nickel	0.042	mg/L	0.005	200.8	06/27/07 16:55	SLS	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	06/21/07 16:45	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	06/21/07 16:45	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	06/21/07 16:45	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	06/21/07 16:45	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	106-46-7	
1,1-Dichloroethane	0.3	ug/L	1	8260B	06/21/07 16:45	JGH	75-34-3	J
1,2-Dichloroethane	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	100-41-4	
Isopropylbenzene	Not detected	ug/L	5	8260B	06/21/07 16:45	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	06/21/07 16:45	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	06/21/07 16:45	JGH	75-09-2	

J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S32498.04 (continued)
Sample Tag: OBG DUP01

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Naphthalene	Not detected	ug/L	5	8260B	06/21/07 16:45	JGH	91-20-3	
n-Propylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	79-01-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	06/21/07 16:45	JGH		
Acetone	Not detected	ug/L	50	8260B	06/21/07 16:45	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	06/21/07 16:45	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	06/21/07 16:45	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	06/21/07 16:45	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	06/21/07 16:45	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	06/21/07 16:45	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	06/21/07 16:45	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	06/21/07 16:45	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	06/21/07 16:45	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	06/21/07 16:45	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	06/21/07 16:45	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	06/21/07 16:45	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	06/21/07 16:45	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	06/21/07 16:45	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	06/21/07 16:45	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	74-88-4	
Tetrahydrofuran	Not detected	ug/L	90	8260B	06/21/07 16:45	JGH	109-99-9	
Trichlorofluoromethane	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	526-73-8	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	06/21/07 16:45	JGH	110-57-6	

Analytical Laboratory Report

Lab Sample ID: S32498.05
Sample Tag: OBG MW05
Collected Date/Time: 06/19/2007 10:10
Matrix: Groundwater
COC Reference: 04181

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40 ml Glass	HCL	Yes	4.6	IR
2	125ml Plastic	HNO3	Yes	4.6	IR
1	125ml Plastic	NaOH	Yes	4.6	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/27/07 12:00	SLS		
Metal Digestion	Completed			3015A	06/27/07 12:00	SLS		
Inorganics								
Cyanide	0.295	mg/L	0.005	335.4	06/25/07 08:33	JDP	57-12-5	
Metals								
Chromium, Dissolved	Not detected	mg/L	0.005	200.8	06/27/07 17:12	SLS	7440-47-3	
Chromium	0.013	mg/L	0.005	200.8	06/27/07 17:00	SLS	7440-47-3	
Lead, Dissolved	Not detected	mg/L	0.003	200.8	06/27/07 17:12	SLS	7439-92-1	
Lead	0.014	mg/L	0.003	200.8	06/27/07 17:00	SLS	7439-92-1	
Nickel, Dissolved	0.017	mg/L	0.005	200.8	06/27/07 17:12	SLS	7440-02-0	
Nickel	0.028	mg/L	0.005	200.8	06/27/07 17:00	SLS	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	0.3	ug/L	1	8260B	06/21/07 17:03	JGH	71-43-2	J
Bromodichloromethane	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	06/21/07 17:03	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	06/21/07 17:03	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	67-66-3	
Chloromethane	0.5	ug/L	5	8260B	06/21/07 17:03	JGH	74-87-3	J
Dibromochloromethane	Not detected	ug/L	5	8260B	06/21/07 17:03	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	106-46-7	
1,1-Dichloroethane	6	ug/L	1	8260B	06/21/07 17:03	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	107-06-2	
1,1-Dichloroethene	0.3	ug/L	1	8260B	06/21/07 17:03	JGH	75-35-4	J
cis-1,2-Dichloroethene	12	ug/L	1	8260B	06/21/07 17:03	JGH	156-59-2	
trans-1,2-Dichloroethene	0.6	ug/L	1	8260B	06/21/07 17:03	JGH	156-60-5	J
1,2-Dichloropropane	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	10061-02-6	

J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S32498.05 (continued)
Sample Tag: OBG MW05

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Ethylbenzene	0.5	ug/L	1	8260B	06/21/07 17:03	JGH	100-41-4	J
Isopropylbenzene	0.1	ug/L	5	8260B	06/21/07 17:03	JGH	98-82-8	J
p-Isopropyltoluene	0.2	ug/L	5	8260B	06/21/07 17:03	JGH	99-87-6	J
Methylene chloride	1	ug/L	5	8260B	06/21/07 17:03	JGH	75-09-2	J
Naphthalene	12	ug/L	5	8260B	06/21/07 17:03	JGH	91-20-3	B
n-Propylbenzene	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	79-34-5	
Tetrachloroethene	3	ug/L	1	8260B	06/21/07 17:03	JGH	127-18-4	
Toluene	7	ug/L	1	8260B	06/21/07 17:03	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	79-00-5	
Trichloroethene	1	ug/L	1	8260B	06/21/07 17:03	JGH	79-01-6	
1,2,4-Trimethylbenzene	0.3	ug/L	1	8260B	06/21/07 17:03	JGH	95-63-6	J
1,3,5-Trimethylbenzene	0.1	ug/L	1	8260B	06/21/07 17:03	JGH	108-67-8	J
Vinyl chloride	2	ug/L	1	8260B	06/21/07 17:03	JGH	75-01-4	
o-Xylene	1	ug/L	1	8260B	06/21/07 17:03	JGH	95-47-6	
p,m-Xylene	1	ug/L	2	8260B	06/21/07 17:03	JGH		J
Acetone	30	ug/L	50	8260B	06/21/07 17:03	JGH	67-64-1	J
2-Butanone (MEK)	6	ug/L	30	8260B	06/21/07 17:03	JGH	78-93-3	J
Carbon disulfide	Not detected	ug/L	5	8260B	06/21/07 17:03	JGH	75-15-0	
2-Hexanone	0.6	ug/L	50	8260B	06/21/07 17:03	JGH	591-78-6	J
4-Methyl-2-pentanone (MIBK)	10	ug/L	50	8260B	06/21/07 17:03	JGH	108-10-1	J
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	06/21/07 17:03	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	06/21/07 17:03	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	06/21/07 17:03	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	06/21/07 17:03	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	06/21/07 17:03	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	06/21/07 17:03	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	06/21/07 17:03	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	06/21/07 17:03	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	06/21/07 17:03	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	06/21/07 17:03	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	74-88-4	
Tetrahydrofuran	3	ug/L	90	8260B	06/21/07 17:03	JGH	109-99-9	J
Trichlorofluoromethane	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	75-69-4	
1,2,3-Trimethylbenzene	0.3	ug/L	1	8260B	06/21/07 17:03	JGH	526-73-8	J
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	06/21/07 17:03	JGH	110-57-6	

J-Estimated value less than reporting limit, but greater than MDL
B-Compound also found in associated method blank

Analytical Laboratory Report

Lab Sample ID: S32498.06
Sample Tag: OBG MW05 MS
Collected Date/Time: 06/19/2007 10:10
Matrix: Groundwater
COC Reference: 04181

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40 ml Glass	HCL	Yes	4.6	IR
2	125ml Plastic	HNO3	Yes	4.6	IR
1	125ml Plastic	NaOH	Yes	4.6	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/27/07 12:00	SLS		
Metal Digestion	Completed			3015A	06/27/07 12:00	SLS		
Inorganics								
Cyanide	0.765	mg/L	0.005	335.4	06/25/07 08:35	JDP	57-12-5	
Metals								
Chromium, Dissolved	0.256	mg/L	0.005	200.8	06/27/07 17:14	SLS	7440-47-3	
Chromium	0.272	mg/L	0.005	200.8	06/27/07 17:02	SLS	7440-47-3	
Lead, Dissolved	0.257	mg/L	0.003	200.8	06/27/07 17:14	SLS	7439-92-1	
Lead	0.268	mg/L	0.003	200.8	06/27/07 17:02	SLS	7439-92-1	
Nickel, Dissolved	0.273	mg/L	0.005	200.8	06/27/07 17:14	SLS	7440-02-0	
Nickel	0.282	mg/L	0.005	200.8	06/27/07 17:02	SLS	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	49	ug/L	1	8260B	06/21/07 21:16	JGH	71-43-2	1
Bromodichloromethane	52	ug/L	1	8260B	06/21/07 21:16	JGH	75-27-4	1
Bromoform	44	ug/L	1	8260B	06/21/07 21:16	JGH	75-25-2	1
Bromomethane	40	ug/L	5	8260B	06/21/07 21:16	JGH	74-83-9	1
n-Butylbenzene	45	ug/L	1	8260B	06/21/07 21:16	JGH	104-51-8	1
sec-Butylbenzene	42	ug/L	1	8260B	06/21/07 21:16	JGH	135-98-8	1
tert-Butylbenzene	48	ug/L	1	8260B	06/21/07 21:16	JGH	98-06-6	1
Carbon tetrachloride	45	ug/L	1	8260B	06/21/07 21:16	JGH	56-23-5	1
Chlorobenzene	48	ug/L	1	8260B	06/21/07 21:16	JGH	108-90-7	1
Chloroethane	38	ug/L	5	8260B	06/21/07 21:16	JGH	75-00-3	1
Chloroform	53	ug/L	1	8260B	06/21/07 21:16	JGH	67-66-3	1
Chloromethane	23	ug/L	5	8260B	06/21/07 21:16	JGH	74-87-3	1
Dibromochloromethane	50	ug/L	5	8260B	06/21/07 21:16	JGH	124-48-1	1
1,2-Dichlorobenzene	46	ug/L	1	8260B	06/21/07 21:16	JGH	95-50-1	1
1,3-Dichlorobenzene	46	ug/L	1	8260B	06/21/07 21:16	JGH	541-73-1	1
1,4-Dichlorobenzene	44	ug/L	1	8260B	06/21/07 21:16	JGH	106-46-7	1
1,1-Dichloroethane	57	ug/L	1	8260B	06/21/07 21:16	JGH	75-34-3	1
1,2-Dichloroethane	52	ug/L	1	8260B	06/21/07 21:16	JGH	107-06-2	1
1,1-Dichloroethene	40	ug/L	1	8260B	06/21/07 21:16	JGH	75-35-4	1
cis-1,2-Dichloroethene	62	ug/L	1	8260B	06/21/07 21:16	JGH	156-59-2	1
trans-1,2-Dichloroethene	48	ug/L	1	8260B	06/21/07 21:16	JGH	156-60-5	1
1,2-Dichloropropane	50	ug/L	1	8260B	06/21/07 21:16	JGH	78-87-5	1
cis-1,3-Dichloropropene	50	ug/L	1	8260B	06/21/07 21:16	JGH	10061-01-5	1
trans-1,3-Dichloropropene	53	ug/L	1	8260B	06/21/07 21:16	JGH	10061-02-6	1

1-Spiked at 50 ug/L

Lab Sample ID: S32498.06 (continued)
Sample Tag: OBG MW05 MS

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Ethylbenzene	48	ug/L	1	8260B	06/21/07 21:16	JGH	100-41-4	1
Isopropylbenzene	50	ug/L	5	8260B	06/21/07 21:16	JGH	98-82-8	1
p-Isopropyltoluene	48	ug/L	5	8260B	06/21/07 21:16	JGH	99-87-6	1
Methylene chloride	49	ug/L	5	8260B	06/21/07 21:16	JGH	75-09-2	1
Naphthalene	60	ug/L	5	8260B	06/21/07 21:16	JGH	91-20-3	1
n-Propylbenzene	47	ug/L	1	8260B	06/21/07 21:16	JGH	103-65-1	1
Styrene	50	ug/L	1	8260B	06/21/07 21:16	JGH	100-42-5	1
1,1,2,2-Tetrachloroethane	49	ug/L	1	8260B	06/21/07 21:16	JGH	79-34-5	1
Tetrachloroethene	49	ug/L	1	8260B	06/21/07 21:16	JGH	127-18-4	1
Toluene	56	ug/L	1	8260B	06/21/07 21:16	JGH	108-88-3	1
1,1,1-Trichloroethane	48	ug/L	1	8260B	06/21/07 21:16	JGH	71-55-6	1
1,1,2-Trichloroethane	51	ug/L	1	8260B	06/21/07 21:16	JGH	79-00-5	1
Trichloroethene	47	ug/L	1	8260B	06/21/07 21:16	JGH	79-01-6	1
1,2,4-Trimethylbenzene	48	ug/L	1	8260B	06/21/07 21:16	JGH	95-63-6	1
1,3,5-Trimethylbenzene	47	ug/L	1	8260B	06/21/07 21:16	JGH	108-67-8	1
Vinyl chloride	28	ug/L	1	8260B	06/21/07 21:16	JGH	75-01-4	1
o-Xylene	52	ug/L	1	8260B	06/21/07 21:16	JGH	95-47-6	1
p,m-Xylene	100	ug/L	2	8260B	06/21/07 21:16	JGH		1
Acetone	90	ug/L	50	8260B	06/21/07 21:16	JGH	67-64-1	1
2-Butanone (MEK)	60	ug/L	30	8260B	06/21/07 21:16	JGH	78-93-3	1
Carbon disulfide	37	ug/L	5	8260B	06/21/07 21:16	JGH	75-15-0	1
2-Hexanone	50	ug/L	50	8260B	06/21/07 21:16	JGH	591-78-6	1
4-Methyl-2-pentanone (MIBK)	70	ug/L	50	8260B	06/21/07 21:16	JGH	108-10-1	1
tert-Methyl butyl ether (MTBE)	49	ug/L	5	8260B	06/21/07 21:16	JGH	1634-04-4	1
1,1,1,2-Tetrachloroethane	49	ug/L	1	8260B	06/21/07 21:16	JGH	630-20-6	1
1,2,3-Trichlorobenzene	43	ug/L	5	8260B	06/21/07 21:16	JGH	87-61-6	1
1,2,3-Trichloropropane	54	ug/L	1	8260B	06/21/07 21:16	JGH	96-18-4	1
1,2,4-Trichlorobenzene	41	ug/L	5	8260B	06/21/07 21:16	JGH	120-82-1	1
1,2-Dibromo-3-chloropropane	47	ug/L	5	8260B	06/21/07 21:16	JGH	96-12-8	1
1,2-Dibromoethane	48	ug/L	1	8260B	06/21/07 21:16	JGH	106-93-4	1
2-Methylnaphthalene	51	ug/L	5	8260B	06/21/07 21:16	JGH	91-57-6	1
Acrylonitrile	50	ug/L	2	8260B	06/21/07 21:16	JGH	107-13-1	1
Bromobenzene	48	ug/L	1	8260B	06/21/07 21:16	JGH	108-86-1	1
Bromochloromethane	51	ug/L	1	8260B	06/21/07 21:16	JGH	74-97-5	1
Dibromomethane	50	ug/L	5	8260B	06/21/07 21:16	JGH	74-95-3	1
Dichlorodifluoromethane	7	ug/L	5	8260B	06/21/07 21:16	JGH	75-71-8	1
Diethyl ether	50	ug/L	10	8260B	06/21/07 21:16	JGH	60-29-7	1
Hexachloroethane	38	ug/L	5	8260B	06/21/07 21:16	JGH	67-72-1	1
Methyl iodide	40	ug/L	1	8260B	06/21/07 21:16	JGH	74-88-4	1
Tetrahydrofuran	50	ug/L	90	8260B	06/21/07 21:16	JGH	109-99-9	J1
Trichlorofluoromethane	40	ug/L	1	8260B	06/21/07 21:16	JGH	75-69-4	1
1,2,3-Trimethylbenzene	44	ug/L	1	8260B	06/21/07 21:16	JGH	526-73-8	1
trans-1,4-Dichloro-2-butene	44	ug/L	1	8260B	06/21/07 21:16	JGH	110-57-6	1

1-Spiked at 50 ug/L
J-Estimated value less than reporting limit, but greater than MDL

Merit Laboratories, Inc.

Analytical Laboratory Report

Lab Sample ID: S32498.07
Sample Tag: OBG MW05 MSD
Collected Date/Time: 06/19/2007 10:10
Matrix: Groundwater
COC Reference: 04181

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40 ml Glass	HCL	Yes	4.6	IR
2	125ml Plastic	HNO3	Yes	4.6	IR
1	125ml Plastic	NaOH	Yes	4.6	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/27/07 12:00	SLS		
Metal Digestion	Completed			3015A	06/27/07 12:00	SLS		
Inorganics								
Cyanide	0.755	mg/L	0.005	335.4	06/25/07 08:37	JDP	57-12-5	
Metals								
Chromium, Dissolved	0.255	mg/L	0.005	200.8	06/27/07 17:16	SLS	7440-47-3	
Chromium	0.270	mg/L	0.005	200.8	06/27/07 17:05	SLS	7440-47-3	
Lead, Dissolved	0.254	mg/L	0.003	200.8	06/27/07 17:16	SLS	7439-92-1	
Lead	0.269	mg/L	0.003	200.8	06/27/07 17:05	SLS	7439-92-1	
Nickel, Dissolved	0.269	mg/L	0.005	200.8	06/27/07 17:16	SLS	7440-02-0	
Nickel	0.280	mg/L	0.005	200.8	06/27/07 17:05	SLS	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	59	ug/L	1	8260B	06/21/07 21:35	JGH	71-43-2	1
Bromodichloromethane	64	ug/L	1	8260B	06/21/07 21:35	JGH	75-27-4	1
Bromoform	54	ug/L	1	8260B	06/21/07 21:35	JGH	75-25-2	1
Bromomethane	48	ug/L	5	8260B	06/21/07 21:35	JGH	74-83-9	1
n-Butylbenzene	57	ug/L	1	8260B	06/21/07 21:35	JGH	104-51-8	1
sec-Butylbenzene	54	ug/L	1	8260B	06/21/07 21:35	JGH	135-98-8	1
tert-Butylbenzene	59	ug/L	1	8260B	06/21/07 21:35	JGH	98-06-6	1
Carbon tetrachloride	55	ug/L	1	8260B	06/21/07 21:35	JGH	56-23-5	1
Chlorobenzene	56	ug/L	1	8260B	06/21/07 21:35	JGH	108-90-7	1
Chloroethane	47	ug/L	5	8260B	06/21/07 21:35	JGH	75-00-3	1
Chloroform	63	ug/L	1	8260B	06/21/07 21:35	JGH	67-66-3	1
Chloromethane	25	ug/L	5	8260B	06/21/07 21:35	JGH	74-87-3	1
Dibromochloromethane	60	ug/L	5	8260B	06/21/07 21:35	JGH	124-48-1	1
1,2-Dichlorobenzene	57	ug/L	1	8260B	06/21/07 21:35	JGH	95-50-1	1
1,3-Dichlorobenzene	57	ug/L	1	8260B	06/21/07 21:35	JGH	541-73-1	1
1,4-Dichlorobenzene	55	ug/L	1	8260B	06/21/07 21:35	JGH	106-46-7	1
1,1-Dichloroethane	67	ug/L	1	8260B	06/21/07 21:35	JGH	75-34-3	1
1,2-Dichloroethane	63	ug/L	1	8260B	06/21/07 21:35	JGH	107-06-2	1
1,1-Dichloroethene	48	ug/L	1	8260B	06/21/07 21:35	JGH	75-35-4	1
cis-1,2-Dichloroethene	72	ug/L	1	8260B	06/21/07 21:35	JGH	156-59-2	1
trans-1,2-Dichloroethene	57	ug/L	1	8260B	06/21/07 21:35	JGH	156-60-5	1
1,2-Dichloropropane	62	ug/L	1	8260B	06/21/07 21:35	JGH	78-87-5	1
cis-1,3-Dichloropropene	62	ug/L	1	8260B	06/21/07 21:35	JGH	10061-01-5	1
trans-1,3-Dichloropropene	65	ug/L	1	8260B	06/21/07 21:35	JGH	10061-02-6	1

1-Spiked at 50 ug/L

Lab Sample ID: S32498.07 (continued)
Sample Tag: OBG MW05 MSD

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Ethylbenzene	58	ug/L	1	8260B	06/21/07 21:35	JGH	100-41-4	1
Isopropylbenzene	61	ug/L	5	8260B	06/21/07 21:35	JGH	98-82-8	1
p-Isopropyltoluene	61	ug/L	5	8260B	06/21/07 21:35	JGH	99-87-6	1
Methylene chloride	59	ug/L	5	8260B	06/21/07 21:35	JGH	75-09-2	1
Naphthalene	67	ug/L	5	8260B	06/21/07 21:35	JGH	91-20-3	1
n-Propylbenzene	58	ug/L	1	8260B	06/21/07 21:35	JGH	103-65-1	1
Styrene	59	ug/L	1	8260B	06/21/07 21:35	JGH	100-42-5	1
1,1,2,2-Tetrachloroethane	58	ug/L	1	8260B	06/21/07 21:35	JGH	79-34-5	1
Tetrachloroethene	61	ug/L	1	8260B	06/21/07 21:35	JGH	127-18-4	1
Toluene	66	ug/L	1	8260B	06/21/07 21:35	JGH	108-88-3	1
1,1,1-Trichloroethane	58	ug/L	1	8260B	06/21/07 21:35	JGH	71-55-6	1
1,1,2-Trichloroethane	62	ug/L	1	8260B	06/21/07 21:35	JGH	79-00-5	1
Trichloroethene	57	ug/L	1	8260B	06/21/07 21:35	JGH	79-01-6	1
1,2,4-Trimethylbenzene	60	ug/L	1	8260B	06/21/07 21:35	JGH	95-63-6	1
1,3,5-Trimethylbenzene	58	ug/L	1	8260B	06/21/07 21:35	JGH	108-67-8	1
Vinyl chloride	32	ug/L	1	8260B	06/21/07 21:35	JGH	75-01-4	1
o-Xylene	61	ug/L	1	8260B	06/21/07 21:35	JGH	95-47-6	1
p,m-Xylene	120	ug/L	2	8260B	06/21/07 21:35	JGH		1
Acetone	100	ug/L	50	8260B	06/21/07 21:35	JGH	67-64-1	1
2-Butanone (MEK)	70	ug/L	30	8260B	06/21/07 21:35	JGH	78-93-3	1
Carbon disulfide	44	ug/L	5	8260B	06/21/07 21:35	JGH	75-15-0	1
2-Hexanone	70	ug/L	50	8260B	06/21/07 21:35	JGH	591-78-6	1
4-Methyl-2-pentanone (MIBK)	80	ug/L	50	8260B	06/21/07 21:35	JGH	108-10-1	1
tert-Methyl butyl ether (MTBE)	60	ug/L	5	8260B	06/21/07 21:35	JGH	1634-04-4	1
1,1,1,2-Tetrachloroethane	59	ug/L	1	8260B	06/21/07 21:35	JGH	630-20-6	1
1,2,3-Trichlorobenzene	52	ug/L	5	8260B	06/21/07 21:35	JGH	87-61-6	1
1,2,3-Trichloropropane	64	ug/L	1	8260B	06/21/07 21:35	JGH	96-18-4	1
1,2,4-Trichlorobenzene	51	ug/L	5	8260B	06/21/07 21:35	JGH	120-82-1	1
1,2-Dibromo-3-chloropropane	56	ug/L	5	8260B	06/21/07 21:35	JGH	96-12-8	1
1,2-Dibromoethane	57	ug/L	1	8260B	06/21/07 21:35	JGH	106-93-4	1
2-Methylnaphthalene	57	ug/L	5	8260B	06/21/07 21:35	JGH	91-57-6	1
Acrylonitrile	61	ug/L	2	8260B	06/21/07 21:35	JGH	107-13-1	1
Bromobenzene	58	ug/L	1	8260B	06/21/07 21:35	JGH	108-86-1	1
Bromochloromethane	61	ug/L	1	8260B	06/21/07 21:35	JGH	74-97-5	1
Dibromomethane	61	ug/L	5	8260B	06/21/07 21:35	JGH	74-95-3	1
Dichlorodifluoromethane	9	ug/L	5	8260B	06/21/07 21:35	JGH	75-71-8	1
Diethyl ether	60	ug/L	10	8260B	06/21/07 21:35	JGH	60-29-7	1
Hexachloroethane	50	ug/L	5	8260B	06/21/07 21:35	JGH	67-72-1	1
Methyl iodide	48	ug/L	1	8260B	06/21/07 21:35	JGH	74-88-4	1
Tetrahydrofuran	60	ug/L	90	8260B	06/21/07 21:35	JGH	109-99-9	J1
Trichlorofluoromethane	48	ug/L	1	8260B	06/21/07 21:35	JGH	75-69-4	1
1,2,3-Trimethylbenzene	56	ug/L	1	8260B	06/21/07 21:35	JGH	526-73-8	1
trans-1,4-Dichloro-2-butene	53	ug/L	1	8260B	06/21/07 21:35	JGH	110-57-6	1

1-Spiked at 50 ug/L
J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S32498.08
Sample Tag: OBG FB01
Collected Date/Time: 06/19/2007 11:00
Matrix: Water Quality
COC Reference: 04181

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40 ml Glass	HCL	Yes	4.6	IR
1	125ml Plastic	HNO3	Yes	4.6	IR
1	125ml Plastic	NaOH	Yes	4.6	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/27/07 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/L	0.005	335.4	06/25/07 08:39	JDP	57-12-5	
Metals								
Chromium	Not detected	mg/L	0.005	200.8	06/27/07 16:58	SLS	7440-47-3	
Lead	Not detected	mg/L	0.003	200.8	06/27/07 16:58	SLS	7439-92-1	
Nickel	Not detected	mg/L	0.005	200.8	06/27/07 16:58	SLS	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	1	ug/L	1	8260B	06/22/07 14:31	JGH	71-43-2	
Bromodichloromethane	2	ug/L	1	8260B	06/22/07 14:31	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	06/22/07 14:31	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	06/22/07 14:31	JGH	75-00-3	
Chloroform	10	ug/L	1	8260B	06/22/07 14:31	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	06/22/07 14:31	JGH	74-87-3	
Dibromochloromethane	0.6	ug/L	5	8260B	06/22/07 14:31	JGH	124-48-1	J
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	541-73-1	
1,4-Dichlorobenzene	0.4	ug/L	1	8260B	06/22/07 14:31	JGH	106-46-7	JB
1,1-Dichloroethane	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	10061-02-6	
Ethylbenzene	0.3	ug/L	1	8260B	06/22/07 14:31	JGH	100-41-4	J
Isopropylbenzene	Not detected	ug/L	5	8260B	06/22/07 14:31	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	06/22/07 14:31	JGH	99-87-6	

J-Estimated value less than reporting limit, but greater than MDL
B-Compound also found in associated method blank

Lab Sample ID: S32498.08 (continued)
Sample Tag: OBG FB01

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Methylene chloride	Not detected	ug/L	5	8260B	06/22/07 14:31	JGH	75-09-2	
Naphthalene	0.3	ug/L	5	8260B	06/22/07 14:31	JGH	91-20-3	JB
n-Propylbenzene	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	127-18-4	
Toluene	3	ug/L	1	8260B	06/22/07 14:31	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	79-01-6	
1,2,4-Trimethylbenzene	0.3	ug/L	1	8260B	06/22/07 14:31	JGH	95-63-6	J
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	75-01-4	
o-Xylene	0.7	ug/L	1	8260B	06/22/07 14:31	JGH	95-47-6	J
p,m-Xylene	1	ug/L	2	8260B	06/22/07 14:31	JGH		JB
Acetone	20	ug/L	50	8260B	06/22/07 14:31	JGH	67-64-1	J
2-Butanone (MEK)	Not detected	ug/L	30	8260B	06/22/07 14:31	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	06/22/07 14:31	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	06/22/07 14:31	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	06/22/07 14:31	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	06/22/07 14:31	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	06/22/07 14:31	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	06/22/07 14:31	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	06/22/07 14:31	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	106-93-4	
2-Methylnaphthalene	0.4	ug/L	5	8260B	06/22/07 14:31	JGH	91-57-6	J
Acrylonitrile	Not detected	ug/L	2	8260B	06/22/07 14:31	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	06/22/07 14:31	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	06/22/07 14:31	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	06/22/07 14:31	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	06/22/07 14:31	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	74-88-4	
Tetrahydrofuran	Not detected	ug/L	90	8260B	06/22/07 14:31	JGH	109-99-9	
Trichlorofluoromethane	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	75-69-4	
1,2,3-Trimethylbenzene	0.1	ug/L	1	8260B	06/22/07 14:31	JGH	526-73-8	J
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	06/22/07 14:31	JGH	110-57-6	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank

Analytical Laboratory Report

Lab Sample ID: S32498.09
Sample Tag: OBG MW04
Collected Date/Time: 06/19/2007 13:30
Matrix: Groundwater
COC Reference: 04181

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.6	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/26/07 12:00	SLS		
Metals								
Lead	0.001	mg/L	0.003	200.8	06/26/07 14:16	SLS	7439-92-1	b

b-Value detected less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S32498.10
Sample Tag: OBG MW03
Collected Date/Time: 06/19/2007 14:30
Matrix: Groundwater
COC Reference: 04181

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.6	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/26/07 12:00	SLS		
Metals								
Lead	Not detected	mg/L	0.003	200.8	06/26/07 14:02	SLS	7439-92-1	

Analytical Laboratory Report

Lab Sample ID: S32498.11
Sample Tag: OBG MW07
Collected Date/Time: 06/19/2007 15:30
Matrix: Groundwater
COC Reference: 04181

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.6	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/26/07 12:00	SLS		
Metals								
Lead	Not detected	mg/L	0.003	200.8	06/26/07 14:04	SLS	7439-92-1	

Analytical Laboratory Report

Lab Sample ID: S32498.12
Sample Tag: OBG MW02
Collected Date/Time: 06/19/2007 16:15
Matrix: Groundwater
COC Reference: 04181

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.6	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/26/07 12:00	SLS		
Metal Digestion	Completed			3015A	06/26/07 12:00	SLS		
Metals								
Lead, Dissolved	Not detected	mg/L	0.003	200.8	06/26/07 14:08	SLS	7439-92-1	
Lead	Not detected	mg/L	0.003	200.8	06/26/07 14:06	SLS	7439-92-1	

Analytical Laboratory Report

Lab Sample ID: S32498.13
Sample Tag: OBG MW01
Collected Date/Time: 06/19/2007 17:30
Matrix: Groundwater
COC Reference: 04181

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.6	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	06/26/07 12:00	SLS		
Metal Digestion	Completed			3015A	06/26/07 12:00	SLS		
Metals								
Lead, Dissolved	Not detected	mg/L	0.003	200.8	06/26/07 14:12	SLS	7439-92-1	
Lead	Not detected	mg/L	0.003	200.8	06/26/07 14:10	SLS	7439-92-1	

Analytical Laboratory Report

Lab Sample ID: S32498.14
Sample Tag: OBG TB01
Collected Date/Time: 06/19/2007 17:45
Matrix: Water Quality
COC Reference: 04181

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40 ml Glass	HCL	Yes	4.6	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	06/21/07 15:33	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	06/21/07 15:33	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	06/21/07 15:33	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	06/21/07 15:33	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	100-41-4	
Isopropylbenzene	Not detected	ug/L	5	8260B	06/21/07 15:33	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	06/21/07 15:33	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	06/21/07 15:33	JGH	75-09-2	
Naphthalene	Not detected	ug/L	5	8260B	06/21/07 15:33	JGH	91-20-3	
n-Propylbenzene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	79-01-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	06/21/07 15:33	JGH		

Lab Sample ID: S32498.14 (continued)
Sample Tag: OBG TB01

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Acetone	2	ug/L	50	8260B	06/21/07 15:33	JGH	67-64-1	J
2-Butanone (MEK)	Not detected	ug/L	30	8260B	06/21/07 15:33	JGH	78-93-3	
Carbon disulfide	2	ug/L	5	8260B	06/21/07 15:33	JGH	75-15-0	J
2-Hexanone	Not detected	ug/L	50	8260B	06/21/07 15:33	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	06/21/07 15:33	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	06/21/07 15:33	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	06/21/07 15:33	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	06/21/07 15:33	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	06/21/07 15:33	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	06/21/07 15:33	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	06/21/07 15:33	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	06/21/07 15:33	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	06/21/07 15:33	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	06/21/07 15:33	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	06/21/07 15:33	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	74-88-4	
Tetrahydrofuran	Not detected	ug/L	90	8260B	06/21/07 15:33	JGH	109-99-9	
Trichlorofluoromethane	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	526-73-8	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	06/21/07 15:33	JGH	110-57-6	

J-Estimated value less than reporting limit, but greater than MDL

GM REALM

ENCORE

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

PAGE | OF

ID # Nº 04181

SSOW Ref. Code: R006005

Required Client Information:

Company: OBRIEN & GERE	Report To: TONY FINCH
Address: 37000 GRAND RIVER SUITE 260 FARMINGTON HILLS MI	Copy To: MIKE ROBISON
	Invoice To: TONY FINCH
	P.O.:
Phone: 248 477 5701	Project Name: FMR WWTP COLDWATER
Fax: 248 477 5962	Project Number: 4966/72223
E-mail: FINCHAJ@OBG.COM	

Laboratory: MERIT	
Laboratory Location: EAST LANSING, MI	
Laboratory Contact: MAYA MURSHAK	
Requested Due Date: 7/12/07 (15BD)	TAT: ROUTINE
QA/QC Requirements: LEVEL III DATA	

Valid Matrix Codes: WG Groundwater, WB Borehole Water, WS Surface Water, SO Soil, SE Sediment, See Back for Additional Codes

Analysis and Method

Sample Identification:	Matrix Code	Date Collected	Time Collected	# Containers	Preservative: Unpreserved	HCl	H2SO4	HNO3	NaOH	Other:	VOCs	TOTAL CHLORIDE	TOTAL LEAD	TOTAL NICKEL + CHROMIUM	DISSOLVED LEAD	DISSOLVED NICKEL + CHROMIUM	Remarks/Lab ID
01. OBG MW06	WG	6/19/07	0800	4		2		1	1		X	X	X	X			
02. OBG MW06 COLLOCATED	WG		0820	4		2		1	1		X	X	X	X			
03. OBG MW08	WG		0915	4		2		1	1		X	X	X	X			
04. OBG DUP01	WG		—	4		2		1	1		X	X	X	X			
05. OBG MW05	WG		1010	5		2		2	1		X	X	X	X	X	X	
06/07. OBG MW05 MS/MSD	WG		1010	8		4		4	2		X	X	X	X	X	X	
08. OBG FB01	WQ		1100	2		2		1	1		X	X	X	X			
09. OBG MW04	WG		1330	1				1					X				
10. OBG MW03	WG		1430	1				1					X				
11. OBG MW07	WG		1530	1				1					X				
12. OBG MW02	WG		1615	2				2					X		X		
~~13. OBG MW01~~	~~WG~~		~~1650~~														
13. OBG MW01	WG		1730	2				2					X		X		
14. OBG TB01	WQ		1745	1		1					X						
15.																	
TOTAL NUMBER OF CONTAINERS																	

SHIPMENT METHOD	NO. OF COOLERS	RELINQUISHED BY / AFFILIATION	DATE	TIME	RECEIVED BY / AFFILIATION	DATE	TIME
LAB PICKUP	1	/OBG	6/20/07	0920	/Merit	6-20-07	0920
AIRBILL NO.		/Merit	6-20-07	1445	Barbara Richard/Merit	6-20-07	14:45

Sample Condition

Temp in °C	4.6
Received on Ice	Y / N
Sealed Cooler	Y / N
Samples Intact	Y / N

Additional Comments: SAMPLES PACKED ON ICE

BATCH COMPLETE

Sampler Name: MIKE ROBISON

Sampler Signature: Date: 6/20/07

Distribution: WHITE - Fully Executed Copy YELLOW - Receiving Laboratory Copy PINK - Sampler Copy

BES_@0698

APPENDIX E

Data Validation Report- Second Quarter Ground Water Sampling Event

CONESTOGA-ROVERS & ASSOCIATES

9033 Meridian Way, West Chester, Ohio 45069
Telephone: (513) 942-4750 Fax: (513) 942-8585
www.CRAworld.com

MEMORANDUM

TO: Clifford Yantz [YantzCS@obg.com]

REF. NO.: 012650-R006005

FROM: Angela Bown/jbh/10-NF

DATE: October 24, 2007

Send Via E-Mail and U.S. Mail

RE: **Data Quality Assessment and Validation – Full Validation**
General Motors Corporation - Coldwater Road Landfill
Former WWTP First Quarter Groundwater Sampling
Flint, Michigan
September 2007

The following details a quality assessment and validation of the analytical data resulting from the September 2007, collection of eight samples, and four quality control (QC) samples from the Coldwater Road Landfill Site in Flint, Michigan. The sample summary detailing sample identification, sample location, QC samples, and analytical parameters is presented in Table 1. Sample analysis was completed at Merit Laboratories, Inc. in East Lansing, Michigan, in accordance with the methodologies presented in Table 2.

The QC criteria used to assess the data were established by the methods and the Quality Assurance Project Plan (QAPP). Application of quality assurance criteria was consistent with following guidance 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) "USEPA Contact Laboratory Program National Functional Guidelines for Inorganic Review", USEPA 540/R-94/013, February 1994.

These guidelines are collectively referred to as the "Guidelines" in this memorandum.

Sample Quantitation

The laboratory reported detected concentrations of volatile organic compounds (VOCs) and inorganics below the laboratory's practical quantitation limit (PQL)/report limit (RL) but above the laboratory's method detection limit (MDL). The laboratory flagged these sample concentrations with a "J" or a "B" for organics and inorganics respectively. These concentrations should be qualified as estimated (J) values unless qualified otherwise in this memorandum. The laboratory "B" flags may be disregarded.

Sample Preservation and Holding Times

Sample holding time periods and preservation requirements are presented in the methods.

All samples were prepared and/or analyzed with the specified holding time periods.

All samples were shipped and maintained in accordance with the samples preservation requirements.

Gas Chromatography/Mass Spectrometer (GC/MS) – Tuning and Mass Calibration (Instrument Performance Check) – Organic Analyses

To ensure adequate mass resolution, identification, and to some degree, sensitivity; the performance of each GC/MS instrument used for VOC analyses was checked at the beginning of each 12-hour period using bromofluorobenzene (BFB). The resulting spectra must meet the criteria cited in the "Guidelines" before initiating an analysis sequence.

Instrument performance check data were reviewed. These tuning compounds were analyzed at the required frequency throughout the VOC analyses. The results of all instrument performance checks were within the acceptance criteria, indicating acceptable instrument performance.

Initial Calibration – Organic Analyses

Initial calibration data are used to demonstrate that each instrument is capable of generating acceptable quantitative data. A five point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each over a specific concentration range.

Initial calibration criteria for organic analyses are evaluated against the following criteria:

i) GC/MS (all compounds) - must meet a minimum mean relative response factor (RRF) of 0.05; and

ii) GM/MS (all compounds) - the percent relative standard deviation (%RSD) values must not exceed 30.0 percent or a minimum coefficient of determination of 0.99 if quadratic equation calibration curves are used.

Calibration standards were analyzed at the required frequency and the results met the above criteria for linearity and sensitivity with the exception of acetone. Table 3 presents the data that should be rejected due to initial calibration failure.

Continuing Calibration – Organic Analyses

To ensure that each instrument was capable of producing acceptable quantitative data over the analysis period, continuing calibration standards must be analyzed every 12 hours for GC/MS analyses. The following criteria are employed to evaluate the continuing calibration data:

i) GC/MS (all compounds) – must meet a minimum mean RRF of 0.05;

ii) GC/MS (all compounds) – the percent difference between the mean initial calibration RRF and the continuing calibration RRF must not exceed 25 percent; and

iii) GC/MS (compounds determined by quadratic curve) – the percent drift between the true value and the continuing calibration value must not exceed 25 percent.

Calibration standards were analyzed at the required frequency and the results met the above criteria for instrument sensitivity and linearity of response and sensitivity.

Inductively Coupled Plasma/Mass Spectrometer (ICP/MS) –
Mass Calibration and Resolution Checks – Metal Analyses

To ensure adequate mass resolution, identification, and to some degree, sensitivity; the performance of each ICP/MS instrument used for metals analyses was checked prior to calibration before initiating an analysis sequence through the analysis of a tuning solution. The results of the tuning solution analysis were reviewed against the following criteria:

i) analyze tuning solution a minimum of four times with a %RSD of less than or equal to five for the analytes contained in the tuning solution; and

ii) the mass resolution must be within 0.1 atomic mass unit (amu) of the true value over the analytical range.

Instrument performance check data were reviewed. The tuning solution was analyzed at the required frequency throughout the analyses. The results of all instrument performance checks were within the acceptance criteria, indicating acceptable instrument performance.

Initial Calibration – Inorganic Analyses

The initial calibration includes a blank and at least one standard for ICP/MS to establish the analytical curve. Cyanide analysis by spectrophotometry requires the analysis of a calibration blank and a minimum of five standards to establish the calibration curve. The coefficient of variation for calibration curves must exceed 0.995.

Initial calibration is verified with an initial calibration verification (ICV) standard which must recover within 90 to 110 percent for metals by ICP/MS and 85 to 115 percent for cyanide by spectrophotometry.

A review of the laboratory data showed that the inorganic initial calibration curves and ICVs were analyzed at the appropriate frequency and were within the acceptance criteria.

Continuing Calibration – Inorganic Analyses

Continuing calibration verification (CCV) standards are analyzed at method specified frequency (one every 10 samples). The CCVs must meet the percent recovery control limits specified above for the ICVs. Criteria for inorganic analyses are the same criteria as used for assessing the initial calibration data.

A review of the laboratory data showed that CCVs were analyzed at the appropriate frequency and the data were within the acceptance criteria.

Method Blank Samples

Method blank samples are prepared from a purified sample matrix and are processed concurrently with investigative samples to assess the presence and the magnitude of sample contamination introduced during sample analysis. Method blank samples are analyzed at a minimum frequency of one per analytical batch and target analytes should be non-detect.

The samples presented in Table 4 should be qualified due to laboratory contamination. The laboratory flagged the organic concentrations with a "B" and the inorganics with a "J", both of which may be disregarded. The remaining method blank samples were reported to be free from detectable levels of target analytes, indicating no additional laboratory-attributable contamination occurred.

Laboratory Blank Samples – Inorganic Analyses

Metals analyses include the analysis of initial calibration blanks (ICB) and continuing calibration blanks (CCB) to assess the presence and the magnitude of sample contamination introduced during sample analysis. The CCBs are analyzed at a minimum frequency of one every 10 samples and target analytes should be non-detect.

Several ICB and CCBs were reported with detectable concentrations of target analytes. No qualification of the data was necessary because the associated sample results were greater than five times the blank value. The remaining ICB and CCBs were reported to be free from detectable levels of target analytes, indicating no additional laboratory-attributable contamination occurred.

Surrogate Compounds – Organic Analyses

Individual sample performance for organic analyses was monitored by assessing the results of surrogate compound percent recoveries. Surrogate percent recoveries are reviewed against the laboratory developed control limits provided in the analytical report.

The surrogate recovery acceptance criteria were met for all samples.

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

To assess the long-term accuracy and precision of the analytical methods on various matrices, MS/MSD percent recoveries and the relative percent difference (RPD) of the concentrations were determined. The organic MS/MSD percent recovery and RPD control limits are established by the laboratory. The inorganic control limits are defined by the methods and the "Guidelines", which require recoveries between 75 to 125 percent with RPDs less than 20 percent for water samples. The samples selected for MS/MSD analysis are identified in Table 1.

The MS/MSD percent recoveries and associated RPDs were biased high for some volatile compounds. No qualification was necessary because the samples were non-detect for the compounds in violation. Acceptance criteria were met in the remaining sample analyses.

Laboratory Control Sample (LCS) Analysis

The LCS analysis serve as a monitor of the overall performance in all steps of the sample analysis and are analyzed with each sample batch. The LCS percent recoveries were evaluated against method and laboratory established control limits.

The LCS percent recoveries were within the laboratory control limits, indicating that an acceptable level of overall performance was achieved.

Internal Standard (IS) Summaries – Organic Analyses

To correct for variability in the GC/MS response and sensitivity, IS compounds are added to all samples. All results are calculated as a ratio of the compound and associated IS response. Overall instrument stability and performance for VOC analyses were monitored using IS peak area and retention time (RT) data. The IS peak areas and RT of the samples are required to meet the following criteria:

i) IS area counts must not vary by more than a factor of two (-50 percent to +100 percent) from the associated continuing calibration standard IS area counts; and

ii) the RT of the IS must not vary by more than ±30 seconds from the associated continuing calibration standard.

A review of the VOC IS data showed that the IS area counts and RT data were within the acceptance criteria.

Internal Standard (IS) Summaries – Inorganic Analyses

To correct for variability in the ICP/MS response and sensitivity, IS are added to all samples. Overall instrument stability and performance for metals analyses was monitored using the IS intensity data which are evaluated against the following criteria:

i) the IS intensities in samples must recover between 30 and 120 percent of the true value; and

ii) the IS intensities in instrument calibration checks (CCVs and CCBs) must recover between 80 and 120 percent of the true value.

A review of the ICP/MS metals IS data showed that the IS intensities were within the acceptance criteria.

Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Analysis – Inorganic Analyses

To verify that proper inter-element and background correction factors had been established by the laboratory for metals analyses, the ICP ICS are analyzed. The ICSs are evaluated against recovery control limits of 80 to 120 percent.

The ICS analysis results were evaluated for all samples and were within the control limits.

Serial Dilution – Inorganic Analyses

The percent difference (%D) between a serial dilution of a sample for each matrix was monitored to determine physical or chemical interference. A minimum of one sample per 20 investigative samples is analyzed at a five-fold dilution. The serial dilution results must agree within 10 %D of the original results for samples with detected concentrations greater than 50 times the instrument detection limit.

The %D acceptance criteria were met for this event.

Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra (if applicable) were evaluated according to identification criteria established by the methods. The organic compounds reported adhered to the specified identification criteria.

Target Compound Quantitation

The reported quantitation results and detection limits were checked to ensure results reported were accurate. No discrepancies were found between the raw data and the sample results reported by the laboratory.

Field Quality Assurance/Quality Control (QA/QC)

The field QA/QC consisted of one field blank (rinsate) sample, one field duplicate sample set, one co-located sample set, and one trip blank sample.

Field Blanks

To assess the efficiency of field decontamination procedures and cleanliness of sample containers, the rinsate sample identified in Table 1 was collected and analyzed.

Methylene chloride and toluene were detected in the field blank. No qualification was necessary because the associated investigative samples were non-detect for methylene chloride and toluene. No additional targeted analytes were reported as detected in the rinsate samples.

Field Duplicates and Co-Located Samples

Overall precision for the sampling event and laboratory procedures was monitored using the results of the field duplicate sample sets. The RPDs associated with these duplicate samples must be less than 50 percent for water samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the RL, the evaluation criteria is one times the RL value for water samples.

The data indicate that an adequate level of precision was achieved for the sampling event.

Trip Blanks

To monitor potential cross-contamination of VOC during aqueous sample transportation and storage, a trip blank was submitted to the laboratory for VOC analysis with each shipping cooler containing multiple samples.

Methylene chloride was detected in the trip blank. No qualification was necessary because the associated investigative samples were non-detect for methylene chloride. No additional target analytes were reported as detected in the trip blank sample.

System Performance

System performance between various quality control checks was evaluated to monitor for changes that may have caused the degradation of data quality. No technical problems or chromatographic anomalies were observed which would require qualification of the data.

Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used with the qualifications noted with the exception of the acetone results which were rejected in all samples due to initial calibration criteria violations.

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
COLDWATER ROAD LANDFILL-FORMER WWTP GW SAMPLING
GENERAL MOTORS CORPORATION
FLINT, MICHIGAN
SEPTEMBER 2007

				Analysis/Parameters					
Sample ID	*Location ID*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*VOCs*	*Total Cyanide*	*Total Lead*	*Total Nickel*	*Total Chromium*	*Comments*
OBG MW03	OBG MW03	09/25/07	9:00			X			
OBG MW07	OBG MW07	09/25/07	10:15			X			
OBG MW08	OBG MW08	09/25/07	11:20	X	X	X	X	X	
OBG MW05	OBG MW05	09/25/07	12:40	X	X	X	X	X	
OBG DUP01	OBG MW05	09/25/07	12:40	X	X	X	X	X	Field Duplicate of OBG MW05
OBG MW06	OBG MW06	09/25/07	14:50	X	X	X	X	X	
OBG MW06 Co-Located	OBG MW06	09/25/07	14:50	X	X	X	X	X	Field Co-Located of OBG MW06
OBG MW04	OBG MW04	09/25/07	15:40			X			
OBG MW04 MS/MSD	OBG MW04	09/25/07	15:40			X			MS/MSD
OBG MW02	OBG MW02	09/25/07	16:30			X			
OBG FB01	Field Blank	09/25/07	16:40	X	X	X	X	X	Field Blank
OBG MW01	OBG MW01	09/25/07	17:30			X			
OBG TB01	Trip Blank	09/25/07	N/A	X					Trip Blank

Notes:
MS Matrix Spike.
MSD Matrix Spike Duplicate.
VOCs Volatile Organic Compounds.

TABLE 2

SUMMARY OF ANALYTICAL METHODOLOGIES
COLDWATER ROAD LANDFILL-FORMER WWTP GW SAMPLING
GENERAL MOTORS CORPORATION
FLINT, MICHIGAN
SEPTEMBER 2007

Parameter	*Method*
VOCs	SW-846 8260B[1]
Select Metals	USEPA 200.8[2]
Total Cyanide	USEPA 335.4[2]

Notes:

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

2 "Methods for Chemical Analysis of Water and Wastes," USEPA-600/4-79-020, March 1983 (with all subsequent revisions).

USEPA United States Environmental Protection Agency.
VOCs Volatile Organic Compounds.

TABLE 3

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING INITIAL CALIBRATION RESULTS
COLDWATER ROAD LANDFILL-FORMER WWTP GW SAMPLING
GENERAL MOTORS CORPORATION
FLINT, MICHIGAN
SEPTEMBER 2007

Parameter	*Compound*	*Calibration Date*	*RF*	*Associated Sample ID*	*Sample Results*	*Units*	*Qualifier*
Volatiles	Acetone	10/08/07	0.042	OBG DUP01	50 U	µg/L	R
				OBG MW05	50 U	µg/L	R
				OBG MW06	50 U	µg/L	R
				OBG MW06 Co-Located	50 U	µg/L	R
				OBG MW08	50 U	µg/L	R

Notes:
R Rejected.
RF Response Factor.
U Not Detected.

TABLE 4

QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE METHOD BLANKS
COLDWATER ROAD LANDFILL-FORMER WWTP GW SAMPLING
GENERAL MOTORS CORPORATION
FLINT, MICHIGAN
SEPTEMBER 2007

Parameter	*Analysis Date*	*Analyte*	*Blank Result*	*Sample ID*	*Sample Result*	*Qualified Sample Result*	*Units*
Volatiles	10/08/07	Toluene	0.2	OBG MW06	0.2 J	1 U	µg/L
				OBG MW06 Co-Located	0.2 J	1 U	µg/L
				OBG MW08	0.2 J	1 U	µg/L
Volatiles	10/08/07	Naphthalene	0.2	OBG MW06	0.2 J	5 U	µg/L
				OBG MW06 Co-Located	0.2 J	5 U	µg/L
				OBG MW08	0.2 J	5 U	µg/L
Volatiles	10/08/07	2-Methylnaphthalene	0.4	OBG MW08	0.4 J	5 U	µg/L

Notes:
J Estimated.
U Not Detected.

Analytical Laboratory Report

Report ID: S33722.01(01)
Generated on 10/09/2007

Report to
Attention: Tony Finch/ Mike Robison
O'Brien & Gere Engineers, Inc.
33469 West 14 Mile RoadSuite 150
Farmington Hills. MI48331

Phone: 248-477-5701 FAX: 248-661-4057
Email: YantzCS@obg.com/vandonw@obg.com

Report produced by
Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary
Lab Sample ID(s): S33722.01-S33722.14
Project: Coldwater Road LandfillSSOW# R006005
Collected Date: 09/25/2007
Submitted Date/Time: 09/26/2007 11:30
Sampled by: Mike Robison
P.O. #: 4002702

Report Notes
Results relate only to items tested as received by the laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
""Not detected"" indicates that parameter was not found at a level equal to or greater than the RDL.
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Violetta F. Murshak

Violetta F. Murshak
Laboratory Director

Merit Laboratories, Inc.

Analytical Laboratory Report

Sample Summary (14 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S33722.01	OBG MW03	Groundwater	09/25/2007 09:00
S33722.02	OBG MW07	Groundwater	09/25/2007 10:15
S33722.03	OBG MW08	Groundwater	09/25/2007 11:20
S33722.04	OBG MW05	Groundwater	09/25/2007 12:40
S33722.05	OBG DUP01	Groundwater	09/25/2007
S33722.06	OBG MW06	Groundwater	09/25/2007 14:50
S33722.07	OBG MW06 Co-Located	Groundwater	09/25/2007 14:50
S33722.08	OBG MW04	Groundwater	09/25/2007 15:40
S33722.09	OBG MW04 MS	Groundwater	09/25/2007 15:40
S33722.10	OBG MW04 MSD	Groundwater	09/25/2007 15:40
S33722.11	OBG MW02	Groundwater	09/25/2007 16:30
S33722.12	OBG FB01	Water Quality	09/25/2007 16:40
S33722.13	OBG MW01	Groundwater	09/25/2007 17:30
S33722.14	OBG TB01	Water Quality	09/25/2007

Analytical Laboratory Report

Lab Sample ID: S33722.01
Sample Tag: OBG MW03
Collected Date/Time: 09/25/2007 09:00
Matrix: Groundwater
COC Reference: 04183

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.5	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	10/04/07 12:00	PER		
Metals								
Lead	Not detected	mg/L	0.003	200.8	10/04/07 14:00	PER	7439-92-1	

Analytical Laboratory Report

Lab Sample ID: S33722.02
Sample Tag: OBG MW07
Collected Date/Time: 09/25/2007 10:15
Matrix: Groundwater
COC Reference: 04183

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.5	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	10/04/07 12:00	PER		
Metals								
Lead	Not detected	mg/L	0.003	200.8	10/04/07 14:03	PER	7439-92-1	

Analytical Laboratory Report

Lab Sample ID: S33722.03
Sample Tag: OBG MW08
Collected Date/Time: 09/25/2007 11:20
Matrix: Groundwater
COC Reference: 04183

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.5	IR
2	40ml Glass	HCL	Yes	4.5	IR
1	125ml Plastic	NaOH	Yes	4.5	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	10/04/07 12:00	PER		
Inorganics								
Cyanide	0.014	mg/L	0.005	335.4	09/28/07 08:38	JDP	57-12-5	
Metals								
Chromium	0.016	mg/L	0.005	200.8	10/04/07 14:04	PER	7440-47-3	
Lead	Not detected	mg/L	0.003	200.8	10/04/07 14:04	PER	7439-92-1	
Nickel	0.044	mg/L	0.005	200.8	10/04/07 14:04	PER	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	10/08/07 18:37	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	10/08/07 18:37	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	10/08/07 18:37	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	10/08/07 18:37	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	100-41-4	
Isopropylbenzene	Not detected	ug/L	5	8260B	10/08/07 18:37	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	10/08/07 18:37	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	10/08/07 18:37	JGH	75-09-2	
Naphthalene	0.2	ug/L	5	8260B	10/08/07 18:37	JGH	91-20-3	BJ

B-Compound also found in associated method blank J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S33722.03 (continued)
Sample Tag: OBG MW08

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
n-Propylbenzene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	127-18-4	
Toluene	0.2	ug/L	1	8260B	10/08/07 18:37	JGH	108-88-3	BJ
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	79-01-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	95-47-6	
p,m-Xylene	0.1	ug/L	2	8260B	10/08/07 18:37	JGH		J
Acetone	Not detected	ug/L	50	8260B	10/08/07 18:37	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	10/08/07 18:37	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	10/08/07 18:37	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	10/08/07 18:37	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	10/08/07 18:37	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	10/08/07 18:37	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	10/08/07 18:37	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	10/08/07 18:37	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	10/08/07 18:37	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	106-93-4	
2-Methylnaphthalene	0.4	ug/L	5	8260B	10/08/07 18:37	JGH	91-57-6	BJ
Acrylonitrile	Not detected	ug/L	2	8260B	10/08/07 18:37	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	10/08/07 18:37	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	10/08/07 18:37	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	10/08/07 18:37	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	10/08/07 18:37	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	74-88-4	
Tetrahydrofuran	Not detected	ug/L	90	8260B	10/08/07 18:37	JGH	109-99-9	
Trichlorofluoromethane	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	526-73-8	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	10/08/07 18:37	JGH	110-57-6	

B-Compound also found in associated method blank J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S33722.04
Sample Tag: OBG MW05
Collected Date/Time: 09/25/2007 12:40
Matrix: Groundwater
COC Reference: 04183

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.5	IR
2	40ml Glass	HCL	Yes	4.5	IR
1	125ml Plastic	NaOH	Yes	4.5	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	10/04/07 12:00	PER		
Inorganics								
Cyanide	0.108	mg/L	0.005	335.4	09/28/07 08:40	JDP	57-12-5	
Metals								
Chromium	0.015	mg/L	0.005	200.8	10/04/07 14:05	PER	7440-47-3	
Lead	0.004	mg/L	0.003	200.8	10/04/07 14:05	PER	7439-92-1	
Nickel	0.009	mg/L	0.005	200.8	10/04/07 14:05	PER	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	0.2	ug/L	1	8260B	10/08/07 20:07	JGH	71-43-2	J
Bromodichloromethane	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	10/08/07 20:07	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	10/08/07 20:07	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	10/08/07 20:07	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	10/08/07 20:07	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	106-46-7	
1,1-Dichloroethane	7	ug/L	1	8260B	10/08/07 20:07	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	107-06-2	
1,1-Dichloroethene	0.4	ug/L	1	8260B	10/08/07 20:07	JGH	75-35-4	J
cis-1,2-Dichloroethene	21	ug/L	1	8260B	10/08/07 20:07	JGH	156-59-2	
trans-1,2-Dichloroethene	1	ug/L	1	8260B	10/08/07 20:07	JGH	156-60-5	J
1,2-Dichloropropane	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	10061-02-6	
Ethylbenzene	0.2	ug/L	1	8260B	10/08/07 20:07	JGH	100-41-4	J
Isopropylbenzene	Not detected	ug/L	5	8260B	10/08/07 20:07	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	10/08/07 20:07	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	10/08/07 20:07	JGH	75-09-2	

J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S33722.04 (continued)
Sample Tag: OBG MW05

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Naphthalene	5	ug/L	5	8260B	10/08/07 20:07	JGH	91-20-3	BJ
n-Propylbenzene	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	103-65-1	
Styrene	0.1	ug/L	1	8260B	10/08/07 20:07	JGH	100-42-5	J
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	79-34-5	
Tetrachloroethene	0.6	ug/L	1	8260B	10/08/07 20:07	JGH	127-18-4	J
Toluene	2	ug/L	1	8260B	10/08/07 20:07	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	79-00-5	
Trichloroethene	1	ug/L	1	8260B	10/08/07 20:07	JGH	79-01-6	
1,2,4-Trimethylbenzene	0.2	ug/L	1	8260B	10/08/07 20:07	JGH	95-63-6	J
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	108-67-8	
Vinyl chloride	2	ug/L	1	8260B	10/08/07 20:07	JGH	75-01-4	
o-Xylene	0.4	ug/L	1	8260B	10/08/07 20:07	JGH	95-47-6	J
p,m-Xylene	0.6	ug/L	2	8260B	10/08/07 20:07	JGH		J
Acetone	Not detected	ug/L	50	8260B	10/08/07 20:07	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	10/08/07 20:07	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	10/08/07 20:07	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	10/08/07 20:07	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	3	ug/L	50	8260B	10/08/07 20:07	JGH	108-10-1	J
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	10/08/07 20:07	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	10/08/07 20:07	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	10/08/07 20:07	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	10/08/07 20:07	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	10/08/07 20:07	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	10/08/07 20:07	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	10/08/07 20:07	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	10/08/07 20:07	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	10/08/07 20:07	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	10/08/07 20:07	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	74-88-4	
Tetrahydrofuran	2	ug/L	90	8260B	10/08/07 20:07	JGH	109-99-9	J
Trichlorofluoromethane	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	75-69-4	
1,2,3-Trimethylbenzene	0.1	ug/L	1	8260B	10/08/07 20:07	JGH	526-73-8	J
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	10/08/07 20:07	JGH	110-57-6	

B-Compound also found in associated method blank J-Estimated value less than reporting limit, but greater than MDL

Merit Laboratories, Inc.

Analytical Laboratory Report

Lab Sample ID: S33722.05
Sample Tag: OBG DUP01
Collected Date/Time: 09/25/2007 :
Matrix: Groundwater
COC Reference: 04183

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.5	IR
2	40ml Glass	HCL	Yes	4.5	IR
1	125ml Plastic	NaOH	Yes	4.5	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	10/04/07 12:00	PER		
Inorganics								
Cyanide	0.112	mg/L	0.005	335.4	09/28/07 08:42	JDP	57-12-5	
Metals								
Chromium	0.013	mg/L	0.005	200.8	10/04/07 14:07	PER	7440-47-3	
Lead	0.004	mg/L	0.003	200.8	10/04/07 14:07	PER	7439-92-1	
Nickel	0.008	mg/L	0.005	200.8	10/04/07 14:07	PER	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	0.2	ug/L	1	8260B	10/08/07 20:25	JGH	71-43-2	J
Bromodichloromethane	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	10/08/07 20:25	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	10/08/07 20:25	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	10/08/07 20:25	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	10/08/07 20:25	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	106-46-7	
1,1-Dichloroethane	8	ug/L	1	8260B	10/08/07 20:25	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	107-06-2	
1,1-Dichloroethene	0.5	ug/L	1	8260B	10/08/07 20:25	JGH	75-35-4	J
cis-1,2-Dichloroethene	23	ug/L	1	8260B	10/08/07 20:25	JGH	156-59-2	
trans-1,2-Dichloroethene	1	ug/L	1	8260B	10/08/07 20:25	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	10061-02-6	
Ethylbenzene	0.2	ug/L	1	8260B	10/08/07 20:25	JGH	100-41-4	J
Isopropylbenzene	Not detected	ug/L	5	8260B	10/08/07 20:25	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	10/08/07 20:25	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	10/08/07 20:25	JGH	75-09-2	

J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S33722.05 (continued)
Sample Tag: OBG DUP01

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Naphthalene	5	ug/L	5	8260B	10/08/07 20:25	JGH	91-20-3	
n-Propylbenzene	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	103-65-1	
Styrene	0.1	ug/L	1	8260B	10/08/07 20:25	JGH	100-42-5	J
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	79-34-5	
Tetrachloroethene	0.7	ug/L	1	8260B	10/08/07 20:25	JGH	127-18-4	J
Toluene	2	ug/L	1	8260B	10/08/07 20:25	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	79-00-5	
Trichloroethene	2	ug/L	1	8260B	10/08/07 20:25	JGH	79-01-6	
1,2,4-Trimethylbenzene	0.1	ug/L	1	8260B	10/08/07 20:25	JGH	95-63-6	J
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	108-67-8	
Vinyl chloride	3	ug/L	1	8260B	10/08/07 20:25	JGH	75-01-4	
o-Xylene	0.5	ug/L	1	8260B	10/08/07 20:25	JGH	95-47-6	J
p,m-Xylene	0.6	ug/L	2	8260B	10/08/07 20:25	JGH		J
Acetone	Not detected	ug/L	50	8260B	10/08/07 20:25	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	10/08/07 20:25	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	10/08/07 20:25	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	10/08/07 20:25	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	3	ug/L	50	8260B	10/08/07 20:25	JGH	108-10-1	J
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	10/08/07 20:25	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	10/08/07 20:25	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	10/08/07 20:25	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	10/08/07 20:25	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	10/08/07 20:25	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	10/08/07 20:25	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	10/08/07 20:25	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	10/08/07 20:25	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	10/08/07 20:25	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	10/08/07 20:25	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	74-88-4	
Tetrahydrofuran	3	ug/L	90	8260B	10/08/07 20:25	JGH	109-99-9	J
Trichlorofluoromethane	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	75-69-4	
1,2,3-Trimethylbenzene	0.1	ug/L	1	8260B	10/08/07 20:25	JGH	526-73-8	J
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	10/08/07 20:25	JGH	110-57-6	

J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S33722.06
Sample Tag: OBG MW06
Collected Date/Time: 09/25/2007 14:50
Matrix: Groundwater
COC Reference: 04183

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.5	IR
2	40ml Glass	HCL	Yes	4.5	IR
1	125ml Plastic	NaOH	Yes	4.5	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	10/04/07 12:00	PER		
Inorganics								
Cyanide	Not detected	mg/L	0.005	335.4	09/28/07 08:48	JDP	57-12-5	
Metals								
Chromium	0.022	mg/L	0.005	200.8	10/04/07 14:08	PER	7440-47-3	
Lead	Not detected	mg/L	0.003	200.8	10/04/07 14:08	PER	7439-92-1	
Nickel	0.023	mg/L	0.005	200.8	10/04/07 14:08	PER	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	10/08/07 18:55	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	10/08/07 18:55	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	10/08/07 18:55	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	10/08/07 18:55	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	100-41-4	
Isopropylbenzene	Not detected	ug/L	5	8260B	10/08/07 18:55	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	10/08/07 18:55	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	10/08/07 18:55	JGH	75-09-2	
Naphthalene	0.2	ug/L	5	8260B	10/08/07 18:55	JGH	91-20-3	BJ

B-Compound also found in associated method blank J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S33722.06 (continued)
Sample Tag: OBG MW06

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
n-Propylbenzene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	127-18-4	
Toluene	0.2	ug/L	1	8260B	10/08/07 18:55	JGH	108-88-3	BJ
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	79-01-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	95-47-6	
p,m-Xylene	0.1	ug/L	2	8260B	10/08/07 18:55	JGH		J
Acetone	Not detected	ug/L	50	8260B	10/08/07 18:55	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	10/08/07 18:55	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	10/08/07 18:55	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	10/08/07 18:55	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	10/08/07 18:55	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	10/08/07 18:55	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	10/08/07 18:55	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	10/08/07 18:55	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	10/08/07 18:55	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	10/08/07 18:55	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	10/08/07 18:55	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	10/08/07 18:55	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	10/08/07 18:55	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	10/08/07 18:55	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	10/08/07 18:55	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	74-88-4	
Tetrahydrofuran	Not detected	ug/L	90	8260B	10/08/07 18:55	JGH	109-99-9	
Trichlorofluoromethane	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	526-73-8	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	10/08/07 18:55	JGH	110-57-6	

B-Compound also found in associated method blank J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S33722.07
Sample Tag: OBG MW06 Co-Located
Collected Date/Time: 09/25/2007 14:50
Matrix: Groundwater
COC Reference: 04183

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.5	IR
2	40ml Glass	HCL	Yes	4.5	IR
1	125ml Plastic	NaOH	Yes	4.5	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	10/04/07 12:00	PER		
Inorganics								
Cyanide	Not detected	mg/L	0.005	335.4	09/28/07 08:50	JDP	57-12-5	
Metals								
Chromium	0.019	mg/L	0.005	200.8	10/04/07 14:25	PER	7440-47-3	
Lead	Not detected	mg/L	0.003	200.8	10/04/07 14:25	PER	7439-92-1	
Nickel	0.023	mg/L	0.005	200.8	10/04/07 14:25	PER	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	10/08/07 19:13	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	10/08/07 19:13	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	10/08/07 19:13	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	10/08/07 19:13	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	100-41-4	
Isopropylbenzene	Not detected	ug/L	5	8260B	10/08/07 19:13	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	10/08/07 19:13	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	10/08/07 19:13	JGH	75-09-2	
Naphthalene	0.2	ug/L	5	8260B	10/08/07 19:13	JGH	91-20-3	BJ

B-Compound also found in associated method blank J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S33722.07 (continued)
Sample Tag: OBG MW06 Co-Located

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
n-Propylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	127-18-4	
Toluene	0.2	ug/L	1	8260B	10/08/07 19:13	JGH	108-88-3	BJ
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	79-01-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	95-47-6	
p,m-Xylene	0.1	ug/L	2	8260B	10/08/07 19:13	JGH		J
Acetone	Not detected	ug/L	50	8260B	10/08/07 19:13	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	10/08/07 19:13	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	10/08/07 19:13	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	10/08/07 19:13	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	10/08/07 19:13	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	10/08/07 19:13	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	10/08/07 19:13	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	10/08/07 19:13	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	10/08/07 19:13	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	10/08/07 19:13	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	10/08/07 19:13	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	10/08/07 19:13	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	10/08/07 19:13	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	10/08/07 19:13	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	10/08/07 19:13	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	74-88-4	
Tetrahydrofuran	Not detected	ug/L	90	8260B	10/08/07 19:13	JGH	109-99-9	
Trichlorofluoromethane	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	526-73-8	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	10/08/07 19:13	JGH	110-57-6	

B-Compound also found in associated method blank J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S33722.08
Sample Tag: OBG MW04
Collected Date/Time: 09/25/2007 15:40
Matrix: Groundwater
COC Reference: 04183

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.5	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	10/04/07 12:00	PER		
Metals								
Lead	Not detected	mg/L	0.003	200.8	10/04/07 14:29	PER	7439-92-1	

Analytical Laboratory Report

Lab Sample ID: S33722.09
Sample Tag: OBG MW04 MS
Collected Date/Time: 09/25/2007 15:40
Matrix: Groundwater
COC Reference: 04183

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.5	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	10/04/07 12:00	PER		
Metals								
Lead	0.234	mg/L	0.003	200.8	10/04/07 14:31	PER	7439-92-1	

Analytical Laboratory Report

Lab Sample ID: S33722.10
Sample Tag: OBG MW04 MSD
Collected Date/Time: 09/25/2007 15:40
Matrix: Groundwater
COC Reference: 04183

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.5	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	10/04/07 12:00	PER		
Metals								
Lead	0.233	mg/L	0.003	200.8	10/04/07 14:33	PER	7439-92-1	

Analytical Laboratory Report

Lab Sample ID: S33722.11
Sample Tag: OBG MW02
Collected Date/Time: 09/25/2007 16:30
Matrix: Groundwater
COC Reference: 04183

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.5	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	10/04/07 12:00	PER		
Metals								
Lead	Not detected	mg/L	0.003	200.8	10/04/07 14:26	PER	7439-92-1	

Analytical Laboratory Report

Lab Sample ID: S33722.12
Sample Tag: OBG FB01
Collected Date/Time: 09/25/2007 16:40
Matrix: Water Quality
COC Reference: 04183

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.5	IR
2	40ml Glass	HCL	Yes	4.5	IR
1	125ml Plastic	NaOH	Yes	4.5	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	10/04/07 12:00	PER		
Inorganics								
Cyanide	Not detected	mg/L	0.005	335.4	09/28/07 08:52	JDP	57-12-5	
Metals								
Chromium	Not detected	mg/L	0.005	200.8	10/04/07 14:23	PER	7440-47-3	
Lead	Not detected	mg/L	0.003	200.8	10/04/07 14:23	PER	7439-92-1	
Nickel	Not detected	mg/L	0.005	200.8	10/04/07 14:23	PER	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	10/08/07 19:31	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	10/08/07 19:31	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	10/08/07 19:31	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	10/08/07 19:31	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	100-41-4	
Isopropylbenzene	Not detected	ug/L	5	8260B	10/08/07 19:31	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	10/08/07 19:31	JGH	99-87-6	
Methylene chloride	0.3	ug/L	5	8260B	10/08/07 19:31	JGH	75-09-2	J

J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S33722.12 (continued)
Sample Tag: OBG FB01

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Naphthalene	Not detected	ug/L	5	8260B	10/08/07 19:31	JGH	91-20-3	
n-Propylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	127-18-4	
Toluene	0.1	ug/L	1	8260B	10/08/07 19:31	JGH	108-88-3	BJ
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	79-01-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	10/08/07 19:31	JGH		
Acetone	Not detected	ug/L	50	8260B	10/08/07 19:31	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	10/08/07 19:31	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	10/08/07 19:31	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	10/08/07 19:31	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	10/08/07 19:31	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	10/08/07 19:31	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	10/08/07 19:31	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	10/08/07 19:31	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	10/08/07 19:31	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	10/08/07 19:31	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	10/08/07 19:31	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	10/08/07 19:31	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	10/08/07 19:31	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	10/08/07 19:31	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	10/08/07 19:31	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	74-88-4	
Tetrahydrofuran	Not detected	ug/L	90	8260B	10/08/07 19:31	JGH	109-99-9	
Trichlorofluoromethane	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	526-73-8	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	10/08/07 19:31	JGH	110-57-6	

B-Compound also found in associated method blank J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S33722.13
Sample Tag: OBG MW01
Collected Date/Time: 09/25/2007 17:30
Matrix: Groundwater
COC Reference: 04183

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.5	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	10/04/07 12:00	PER		
Metals								
Lead	Not detected	mg/L	0.003	200.8	10/04/07 14:28	PER	7439-92-1	

Analytical Laboratory Report

Lab Sample ID: S33722.14
Sample Tag: OBG TB01
Collected Date/Time: 09/25/2007 :
Matrix: Water Quality
COC Reference: 04183

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	HCL	Yes	4.5	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	10/08/07 19:49	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	10/08/07 19:49	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	10/08/07 19:49	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	10/08/07 19:49	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	100-41-4	
Isopropylbenzene	Not detected	ug/L	5	8260B	10/08/07 19:49	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	10/08/07 19:49	JGH	99-87-6	
Methylene chloride	0.2	ug/L	5	8260B	10/08/07 19:49	JGH	75-09-2	J
Naphthalene	Not detected	ug/L	5	8260B	10/08/07 19:49	JGH	91-20-3	
n-Propylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	79-01-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	95-47-6	

J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S33722.14 (continued)
Sample Tag: OBG TB01

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
p,m-Xylene	Not detected	ug/L	2	8260B	10/08/07 19:49	JGH		
Acetone	Not detected	ug/L	50	8260B	10/08/07 19:49	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	10/08/07 19:49	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	10/08/07 19:49	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	10/08/07 19:49	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	10/08/07 19:49	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	10/08/07 19:49	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	10/08/07 19:49	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	10/08/07 19:49	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	10/08/07 19:49	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	10/08/07 19:49	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	10/08/07 19:49	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	10/08/07 19:49	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	10/08/07 19:49	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	10/08/07 19:49	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	10/08/07 19:49	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	74-88-4	
Tetrahydrofuran	Not detected	ug/L	90	8260B	10/08/07 19:49	JGH	109-99-9	
Trichlorofluoromethane	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	526-73-8	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	10/08/07 19:49	JGH	110-57-6	

ENCORE

CHAIN-OF-CUSTODY / Analytical Request Document

PAGE 1 OF 1

COC No 04183

R006005

Required Client Information:

Company:	OBRIEN & GERE
Address:	37000 GRAND RIVER SUITE 200 FARMINGTON HILLS, MI
Phone:	248 477 5701
Fax:	248 477 5962
Email:	FINCH4AJ@OBG.COM
Report To:	TONY FINCH
Copy To:	MIKE ROBISON
Invoice To:	TONY FINCH
P.O.:	
Project Name:	FMIL WWTP CORRWATER
Project Number:	4966/37773
Laboratory:	MERIT
Laboratory Location:	EAST LANSING, MI
Laboratory Contact:	MAYA MURSHAK
Requested Due Date:	10/16/07
TAT:	ROUTINE
Level Requirement:	LEVEL III DATA

Valid Matrix Codes: WG Groundwater, WR Remediation Water, WS Surface Water, SO Soil, SE Sediment, see back for Additional Codes

Sample Identification:

#	Sample Identification	Matrix Code	Date Collected	Time Collected	# Containers	Unpreserved	HCl	H2SO4	HNO3	NaOH	Other	TOTAL Pb	TOTAL CYANIDE	TOTAL NICKEL & CHROMIUM	VOCs	Remarks/Lab ID
01	OBG MW03	WG	9/25/07	0900	1				1			X				
02	OBG MW07	WG		1015	1				1			X				
03	OBG MW08	WG		1120	4		2		1	1		X	X	X	X	
04	OBG MW05	WG		1240	4		2		1	1		X	X	X	X	
05	OBG DUP01	WG		—	4		2		1	1		X	X	X	X	
06	OBG MW06	WG		1450	4		2		1	1		X	X	X	X	
07	OBG MW06 Co-Located	WG		1450	4		2		1	1		X	X	X	X	
08	OBG MW04	WG		1540	1				1			X				
09, 10	OBG MW04 MS/MSD	WG		1540	2				2			X				
10	OBG MW02	WG		1630	1				1			X				
11	OBG FB01	WG		1640	4		2		1	1		X	X	X	X	
12	OBG MW01	WG		1730	1				1			X				
13	OBG TB01	WG		—	2		2					X			X	
14																
15																

TOTAL NUMBER OF CONTAINERS

SHIPMENT METHOD	NO. OF COOLERS	RELINQUISHED BY / AFFILIATION	DATE	TIME	RECEIVED BY / AFFILIATION	DATE	TIME
LAB PICKUP	1	S / O'BRIEN & GERE	9/26/07	10:30	[signature] / MERIT	9/26/07	10:30
AIRBILL NO.					[signature]	9/26/07	11:30

Sample Condition

Temp in °C	0.8
Received on Ice	Y / N
Sealed Cooler	Y / N
Samples Intact	Y / N

Additional Comments: SAMPLES PACKED ON ICE
VOCs = DEQ LIST
*BATCH COMPLETE

Sampler Name: MIKE ROBISON

Sampler Signature: [signature] Date: 9/25/07

Distribution: WHITE - Lab Executed Copy YELLOW - Receiving Laboratory Copy PINK - Sampler Copy

APPENDIX F

MDEQ Split Sample Analytical Results from the Second Quarter Sampling Event

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Division: WHMD
Report to: JOE ROGERS
MDEQ-WHMD-LANSING
CONSTITUTION HALL
525 W. ALLEGAN, LANSING, MI 48909

Total: $1,190.00

Lab Work Order # : 70900234
Work Site ID : 393431
Site Name : REALM COLDWATER ROAD L.
Received: 09/28/2007
Reported: 10/19/2007
Collected By: JOE ROGERS

Samples Received :

No:	Sample ID	Sample Description	Matrix:	Collection Date
01	AB05634	MW-5	WATER	09/25/2007
02	AB05635	MW-7	WATER	09/25/2007
03	AB05636	MW-7 DUP	WATER	09/25/2007
04	AB05637	MW-8	WATER	09/25/2007
05	AB05638	TB	WATER	09/24/2007

I certify that the analysis performed by the MDEQ Environmental Laboratory are accurate and that the laboratory tests were conducted by methods approved by the U.S. Environmental Protection Agency and other appropriate regulatory agencies.

Bob Avery, Laboratory Director

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB05634 MW-5

Volatile Compounds

Analytical Method: 8260 **Date Tested:** 10/02/2007 **Analyst:** KCL

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	96.9			
SURROGATE	#Dibromofluoromethane#	102			
SURROGATE	#Toluene-d8#	99.7			
630-20-6	1,1,1,2-Tetrachloroethane	Not Detected	1.0		1.0
71-55-6	1,1,1-Trichloroethane	Not Detected	1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	Not Detected	1.0		1.0
79-00-5	1,1,2-Trichloroethane	Not Detected	1.0		1.0
75-34-3	1,1-Dichloroethane	9.7	1.0		1.0
75-35-4	1,1-Dichloroethylene	Not Detected	1.0		1.0
87-61-6	1,2,3-Trichlorobenzene	Not Detected	5.0		1.0
96-18-4	1,2,3-Trichloropropane	Not Detected	1.0		1.0
526-73-8	1,2,3-Trimethylbenzene	Not Detected	1.0		1.0
120-82-1	1,2,4-Trichlorobenzene	Not Detected	5.0		1.0
95-63-6	1,2,4-Trimethylbenzene	Not Detected	1.0		1.0
96-12-8	1,2-Dibromo-3-chloropropane	Not Detected	5.0		1.0
106-93-4	1,2-Dibromoethane	Not Detected	1.0		1.0
95-50-1	1,2-Dichlorobenzene	Not Detected	1.0		1.0
107-06-2	1,2-Dichloroethane	Not Detected	1.0		1.0
78-87-5	1,2-Dichloropropane	Not Detected	1.0		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.0		1.0
541-73-1	1,3-Dichlorobenzene	Not Detected	1.0		1.0
106-46-7	1,4-Dichlorobenzene	Not Detected	1.0		1.0
78-93-3	2-Butanone (MEK)	Not Detected	5.0		1.0
591-78-6	2-Hexanone	Not Detected	5.0		1.0
91-57-6	2-Methylnaphthalene	Not Detected	5.0	X	1.0
67-64-1	2-Propanone (acetone)	Not Detected	20		1.0
108-10-1	4-Methyl-2-pentanone (MIBK)	Not Detected	5.0		1.0
107-13-1	Acrylonitrile	Not Detected	5.0	Z	1.0
71-43-2	Benzene	Not Detected	1.0		1.0
108-86-1	Bromobenzene	Not Detected	1.0		1.0
74-97-5	Bromochloromethane	Not Detected	1.0		1.0
75-27-4	Bromodichloromethane	Not Detected	1.0		1.0
75-25-2	Bromoform	Not Detected	1.0		1.0
74-83-9	Bromomethane	Not Detected	5.0	5	1.0
75-15-0	Carbon disulfide	Not Detected	1.0		1.0
56-23-5	Carbon tetrachloride	Not Detected	1.0	5	1.0
108-90-7	Chlorobenzene	Not Detected	1.0		1.0
75-00-3	Chloroethane	Not Detected	5.0		1.0
67-66-3	Chloroform	Not Detected	1.0		1.0
74-87-3	Chloromethane	Not Detected	5.0		1.0
156-59-2	cis-1,2-Dichloroethylene	26	1.0		1.0

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
Inorganic Unit Mgr: Sandy Gregg
Organic Unit Mgr: Carol Smith
Systems Mgmt Unit: George Krisztian

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB05634 MW-5

Volatile Compounds

Analytical Method: 8260 **Date Tested:** 10/02/2007 **Analyst:** KCL

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
10061-01-5	cis-1,3-Dichloropropylene	Not Detected	1.0		1.0
110-82-7	Cyclohexane	Not Detected	5.0		1.0
124-48-1	Dibromochloromethane	Not Detected	1.0		1.0
74-95-3	Dibromomethane	Not Detected	1.0		1.0
75-71-8	Dichlorodifluoromethane	Not Detected	5.0		1.0
60-29-7	Diethyl ether	Not Detected	5.0		1.0
108-20-3	Diisopropyl Ether	Not Detected	5.0		1.0
100-41-4	Ethylbenzene	Not Detected	1.0		1.0
637-92-3	Ethyltertiarybutylether	Not Detected	5.0		1.0
67-72-1	Hexachloroethane	Not Detected	5.0		1.0
98-82-8	Isopropylbenzene	Not Detected	1.0		1.0
108383,106423	m & p - Xylene	Not Detected	2.0		1.0
74-88-4	Methyl iodide	Not Detected	1.0		1.0
75-09-2	Methylene chloride	Not Detected	5.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
91-20-3	Naphthalene	5.2	5.0	X	1.0
104-51-8	n-Butylbenzene	Not Detected	1.0		1.0
103-65-1	n-Propylbenzene	Not Detected	1.0		1.0
95-47-6	o-Xylene	Not Detected	1.0		1.0
99-87-6	p-Isopropyl toluene	Not Detected	1.0		1.0
135-98-8	sec-Butylbenzene	Not Detected	1.0		1.0
100-42-5	Styrene	Not Detected	1.0		1.0
98-06-6	tert-Butylbenzene	Not Detected	1.0		1.0
75-65-0	tertiary Butyl Alcohol	Not Detected	50		1.0
994-05-8	tertiaryAmylmethylether	Not Detected	5.0		1.0
127-18-4	Tetrachloroethylene	Not Detected	1.0		1.0
109-99-9	Tetrahydrofuran	Not Detected	5.0		1.0
108-88-3	Toluene	2.0	1.0		1.0
156-60-5	trans-1,2-Dichloroethylene	1.3	1.0		1.0
10061-02-6	trans-1,3-Dichloropropylene	Not Detected	1.0		1.0
110-57-6	trans-1,4-Dichloro-2-butene	Not Detected	5.0	Z	1.0
79-01-6	Trichloroethylene	1.8	1.0		1.0
75-69-4	Trichlorofluoromethane	Not Detected	1.0		1.0
75-01-4	Vinyl chloride	3.3	1.0		1.0

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample AB05634 MW-5

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digestion Metals Water	Completed				10/08/2007	3010/200	TK2
	Digestion Mercury Water	Completed				10/09/2007	7470/245.1	TK2
7439-97-6	Mercury - Total	ND	µg/L	0.2		10/10/2007	7470/245.1	TS
7440-36-0	Antimony - Total	1.0	µg/L	1		10/08/2007	6020/200.8	KS
7440-38-2	Arsenic - Total	13	µg/L	1		10/08/2007	6020/200.8	KS
7440-39-3	Barium - Total	33	µg/L	5		10/08/2007	6020/200.8	KS
7440-41-7	Beryllium - Total	ND	µg/L	1		10/08/2007	6020/200.8	KS
7440-43-9	Cadmium - Total	ND	µg/L	0.2		10/08/2007	6020/200.8	KS
7440-47-3	Chromium - Total	3.5	µg/L	1		10/08/2007	6020/200.8	KS
7440-48-4	Cobalt - Total	ND	µg/L	15		10/08/2007	6020/200.8	KS
7440-50-8	Copper - Total	11	µg/L	1		10/08/2007	6020/200.8	KS
7439-92-1	Lead - Total	3.8	µg/L	1		10/08/2007	6020/200.8	KS
7439-96-5	Manganese - Total	120	µg/L	5		10/09/2007	6020/200.8	KS
7439-98-7	Molybdenum - Total	33	µg/L	25		10/08/2007	6020/200.8	KS
7440-02-0	Nickel - Total	7.4	µg/L	2.0		10/08/2007	6020/200.8	KS
7782-49-2	Selenium - Total	ND	µg/L	1		10/08/2007	6020/200.8	KS
7440-22-4	Silver -Total	ND	µg/L	0.2		10/08/2007	6020/200.8	KS
7440-28-0	Thallium - Total	ND	µg/L	2		10/08/2007	6020/200.8	KS
7440-62-2	Vanadium - Total	3.9	µg/L	2		10/08/2007	6020/200.8	KS
7440-66-6	Zinc - Total	ND	µg/L	10		10/08/2007	6020/200.8	KS
7439-89-6	Iron - Total	330	µg/L	20		10/09/2007	6010/200.7	EG

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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ENVIRONMENTAL LABORATORY
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB05635 MW-7

Volatile Compounds

Analytical Method: 8260 **Date Tested:** 10/01/2007 **Analyst:** KL

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	95.8			
SURROGATE	#Dibromofluoromethane#	103			
SURROGATE	#Toluene-d8#	98.8			
630-20-6	1,1,1,2-Tetrachloroethane	Not Detected	1.0		1.0
71-55-6	1,1,1-Trichloroethane	Not Detected	1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	Not Detected	1.0		1.0
79-00-5	1,1,2-Trichloroethane	Not Detected	1.0		1.0
75-34-3	1,1-Dichloroethane	Not Detected	1.0		1.0
75-35-4	1,1-Dichloroethylene	Not Detected	1.0		1.0
87-61-6	1,2,3-Trichlorobenzene	Not Detected	5.0		1.0
96-18-4	1,2,3-Trichloropropane	Not Detected	1.0		1.0
526-73-8	1,2,3-Trimethylbenzene	Not Detected	1.0		1.0
120-82-1	1,2,4-Trichlorobenzene	Not Detected	5.0		1.0
95-63-6	1,2,4-Trimethylbenzene	Not Detected	1.0		1.0
96-12-8	1,2-Dibromo-3-chloropropane	Not Detected	5.0		1.0
106-93-4	1,2-Dibromoethane	Not Detected	1.0		1.0
95-50-1	1,2-Dichlorobenzene	Not Detected	1.0		1.0
107-06-2	1,2-Dichloroethane	Not Detected	1.0		1.0
78-87-5	1,2-Dichloropropane	Not Detected	1.0		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.0		1.0
541-73-1	1,3-Dichlorobenzene	Not Detected	1.0		1.0
106-46-7	1,4-Dichlorobenzene	Not Detected	1.0		1.0
78-93-3	2-Butanone (MEK)	Not Detected	5.0		1.0
591-78-6	2-Hexanone	Not Detected	5.0		1.0
91-57-6	2-Methylnaphthalene	Not Detected	5.0	X	1.0
67-64-1	2-Propanone (acetone)	Not Detected	20		1.0
108-10-1	4-Methyl-2-pentanone (MIBK)	Not Detected	5.0		1.0
107-13-1	Acrylonitrile	Not Detected	5.0	Z	1.0
71-43-2	Benzene	Not Detected	1.0		1.0
108-86-1	Bromobenzene	Not Detected	1.0		1.0
74-97-5	Bromochloromethane	Not Detected	1.0		1.0
75-27-4	Bromodichloromethane	Not Detected	1.0		1.0
75-25-2	Bromoform	Not Detected	1.0		1.0
74-83-9	Bromomethane	Not Detected	5.0	5	1.0
75-15-0	Carbon disulfide	Not Detected	1.0		1.0
56-23-5	Carbon tetrachloride	Not Detected	1.0	5	1.0
108-90-7	Chlorobenzene	Not Detected	1.0		1.0
75-00-3	Chloroethane	Not Detected	5.0		1.0
67-66-3	Chloroform	Not Detected	1.0		1.0
74-87-3	Chloromethane	Not Detected	5.0		1.0
156-59-2	cis-1,2-Dichloroethylene	Not Detected	1.0		1.0

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

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Organic Unit Mgr: Carol Smith
Systems Mgmt Unit: George Krisztian

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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Sample Number: AB05635 MW-7

Volatile Compounds

Analytical Method: 8260 **Date Tested:** 10/01/2007 **Analyst:** KL

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
10061-01-5	cis-1,3-Dichloropropylene	Not Detected	1.0		1.0
110-82-7	Cyclohexane	Not Detected	5.0		1.0
124-48-1	Dibromochloromethane	Not Detected	1.0		1.0
74-95-3	Dibromomethane	Not Detected	1.0		1.0
75-71-8	Dichlorodifluoromethane	Not Detected	5.0		1.0
60-29-7	Diethyl ether	Not Detected	5.0		1.0
108-20-3	Diisopropyl Ether	Not Detected	5.0		1.0
100-41-4	Ethylbenzene	Not Detected	1.0		1.0
637-92-3	Ethyltertiarybutylether	Not Detected	5.0		1.0
67-72-1	Hexachloroethane	Not Detected	5.0		1.0
98-82-8	Isopropylbenzene	Not Detected	1.0		1.0
108383,106423	m & p - Xylene	Not Detected	2.0		1.0
74-88-4	Methyl Iodide	Not Detected	1.0		1.0
75-09-2	Methylene chloride	Not Detected	5.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
91-20-3	Naphthalene	Not Detected	5.0	X	1.0
104-51-8	n-Butylbenzene	Not Detected	1.0		1.0
103-65-1	n-Propylbenzene	Not Detected	1.0		1.0
95-47-6	o-Xylene	Not Detected	1.0		1.0
99-87-6	p-Isopropyl toluene	Not Detected	1.0		1.0
135-98-8	sec-Butylbenzene	Not Detected	1.0		1.0
100-42-5	Styrene	Not Detected	1.0		1.0
98-06-6	tert-Butylbenzene	Not Detected	1.0		1.0
75-65-0	tertiary Butyl Alcohol	Not Detected	50		1.0
994-05-8	tertiaryAmylmethylether	Not Detected	5.0		1.0
127-18-4	Tetrachloroethylene	Not Detected	1.0		1.0
109-99-9	Tetrahydrofuran	Not Detected	5.0		1.0
108-88-3	Toluene	Not Detected	1.0		1.0
156-60-5	trans-1,2-Dichloroethylene	Not Detected	1.0		1.0
10061-02-6	trans-1,3-Dichloropropylene	Not Detected	1.0		1.0
110-57-6	trans-1,4-Dichloro-2-butene	Not Detected	5.0	Z	1.0
79-01-6	Trichloroethylene	Not Detected	1.0		1.0
75-69-4	Trichlorofluoromethane	Not Detected	1.0		1.0
75-01-4	Vinyl chloride	Not Detected	1.0		1.0

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Sample AB05635 MW-7

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digestion Metals Water	Completed				10/08/2007	3010/200	TK2
	Digestion Mercury Water	Completed				10/09/2007	7470/245.1	TK2
7439-97-6	Mercury - Total	ND	µg/L	0.2		10/10/2007	7470/245.1	TS
7440-36-0	Antimony - Total	ND	µg/L	1		10/08/2007	6020/200.8	KS
7440-38-2	Arsenic - Total	6.5	µg/L	1		10/08/2007	6020/200.8	KS
7440-39-3	Barium - Total	80	µg/L	5		10/08/2007	6020/200.8	KS
7440-41-7	Beryllium - Total	ND	µg/L	1		10/08/2007	6020/200.8	KS
7440-43-9	Cadmium - Total	ND	µg/L	0.2		10/08/2007	6020/200.8	KS
7440-47-3	Chromium - Total	ND	µg/L	1		10/08/2007	6020/200.8	KS
7440-48-4	Cobalt - Total	ND	µg/L	15		10/08/2007	6020/200.8	KS
7440-50-8	Copper - Total	ND	µg/L	1		10/08/2007	6020/200.8	KS
7439-92-1	Lead - Total	ND	µg/L	1		10/08/2007	6020/200.8	KS
7439-96-5	Manganese - Total	120	µg/L	5		10/09/2007	6020/200.8	KS
7439-98-7	Molybdenum - Total	ND	µg/L	25		10/08/2007	6020/200.8	KS
7440-02-0	Nickel - Total	4.8	µg/L	2.0		10/08/2007	6020/200.8	KS
7782-49-2	Selenium - Total	ND	µg/L	1		10/08/2007	6020/200.8	KS
7440-22-4	Silver -Total	ND	µg/L	0.2		10/08/2007	6020/200.8	KS
7440-28-0	Thallium - Total	ND	µg/L	2		10/08/2007	6020/200.8	KS
7440-62-2	Vanadium - Total	ND	µg/L	2		10/08/2007	6020/200.8	KS
7440-66-6	Zinc - Total	ND	µg/L	10		10/08/2007	6020/200.8	KS
7439-89-6	Iron - Total	1200	µg/L	20		10/09/2007	6010/200.7	EG

CAS# : Chemical Abstract Service Registry Number
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Sample Number: AB05636 MW-7 DUP

Volatile Compounds

Analytical Method: 8260 **Date Tested:** 10/02/2007 **Analyst:** KCL

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	97.4			
SURROGATE	#Dibromofluoromethane#	103			
SURROGATE	#Toluene-d8#	99.8			
630-20-6	1,1,1,2-Tetrachloroethane	Not Detected	1.0		1.0
71-55-6	1,1,1-Trichloroethane	Not Detected	1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	Not Detected	1.0		1.0
79-00-5	1,1,2-Trichloroethane	Not Detected	1.0		1.0
75-34-3	1,1-Dichloroethane	Not Detected	1.0		1.0
75-35-4	1,1-Dichloroethylene	Not Detected	1.0		1.0
87-61-6	1,2,3-Trichlorobenzene	Not Detected	5.0		1.0
96-18-4	1,2,3-Trichloropropane	Not Detected	1.0		1.0
526-73-8	1,2,3-Trimethylbenzene	Not Detected	1.0		1.0
120-82-1	1,2,4-Trichlorobenzene	Not Detected	5.0		1.0
95-63-6	1,2,4-Trimethylbenzene	Not Detected	1.0		1.0
96-12-8	1,2-Dibromo-3-chloropropane	Not Detected	5.0		1.0
106-93-4	1,2-Dibromoethane	Not Detected	1.0		1.0
95-50-1	1,2-Dichlorobenzene	Not Detected	1.0		1.0
107-06-2	1,2-Dichloroethane	Not Detected	1.0		1.0
78-87-5	1,2-Dichloropropane	Not Detected	1.0		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.0		1.0
541-73-1	1,3-Dichlorobenzene	Not Detected	1.0		1.0
106-46-7	1,4-Dichlorobenzene	Not Detected	1.0		1.0
78-93-3	2-Butanone (MEK)	Not Detected	5.0		1.0
591-78-6	2-Hexanone	Not Detected	5.0		1.0
91-57-6	2-Methylnaphthalene	Not Detected	5.0	X	1.0
67-64-1	2-Propanone (acetone)	Not Detected	20		1.0
108-10-1	4-Methyl-2-pentanone (MIBK)	Not Detected	5.0		1.0
107-13-1	Acrylonitrile	Not Detected	5.0	Z	1.0
71-43-2	Benzene	Not Detected	1.0		1.0
108-86-1	Bromobenzene	Not Detected	1.0		1.0
74-97-5	Bromochloromethane	Not Detected	1.0		1.0
75-27-4	Bromodichloromethane	Not Detected	1.0		1.0
75-25-2	Bromoform	Not Detected	1.0		1.0
74-83-9	Bromomethane	Not Detected	5.0	5	1.0
75-15-0	Carbon disulfide	Not Detected	1.0		1.0
56-23-5	Carbon tetrachloride	Not Detected	1.0	5	1.0
108-90-7	Chlorobenzene	Not Detected	1.0		1.0
75-00-3	Chloroethane	Not Detected	5.0		1.0
67-66-3	Chloroform	Not Detected	1.0		1.0
74-87-3	Chloromethane	Not Detected	5.0		1.0
156-59-2	cis-1,2-Dichloroethylene	Not Detected	1.0		1.0

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
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ug / L : microgram / liter (ppb)
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Sample Number: AB05636 MW-7 DUP

Volatile Compounds

Analytical Method: 8260 **Date Tested:** 10/02/2007 **Analyst:** KCL

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
10061-01-5	cis-1,3-Dichloropropylene	Not Detected	1.0		1.0
110-82-7	Cyclohexane	Not Detected	5.0		1.0
124-48-1	Dibromochloromethane	Not Detected	1.0		1.0
74-95-3	Dibromomethane	Not Detected	1.0		1.0
75-71-8	Dichlorodifluoromethane	Not Detected	5.0		1.0
60-29-7	Diethyl ether	Not Detected	5.0		1.0
108-20-3	Diisopropyl Ether	Not Detected	5.0		1.0
100-41-4	Ethylbenzene	Not Detected	1.0		1.0
637-92-3	Ethyltertiarybutylether	Not Detected	5.0		1.0
67-72-1	Hexachloroethane	Not Detected	5.0		1.0
98-82-8	Isopropylbenzene	Not Detected	1.0		1.0
108383,106423	m & p - Xylene	Not Detected	2.0		1.0
74-88-4	Methyl iodide	Not Detected	1.0		1.0
75-09-2	Methylene chloride	Not Detected	5.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
91-20-3	Naphthalene	Not Detected	5.0	X	1.0
104-51-8	n-Butylbenzene	Not Detected	1.0		1.0
103-65-1	n-Propylbenzene	Not Detected	1.0		1.0
95-47-6	o-Xylene	Not Detected	1.0		1.0
99-87-6	p-Isopropyl toluene	Not Detected	1.0		1.0
135-98-8	sec-Butylbenzene	Not Detected	1.0		1.0
100-42-5	Styrene	Not Detected	1.0		1.0
98-06-6	tert-Butylbenzene	Not Detected	1.0		1.0
75-65-0	tertiary Butyl Alcohol	Not Detected	50		1.0
994-05-8	tertiaryAmylmethylether	Not Detected	5.0		1.0
127-18-4	Tetrachloroethylene	Not Detected	1.0		1.0
109-99-9	Tetrahydrofuran	Not Detected	5.0		1.0
108-88-3	Toluene	Not Detected	1.0		1.0
156-60-5	trans-1,2-Dichloroethylene	Not Detected	1.0		1.0
10061-02-6	trans-1,3-Dichloropropylene	Not Detected	1.0		1.0
110-57-6	trans-1,4-Dichloro-2-butene	Not Detected	5.0	Z	1.0
79-01-6	Trichloroethylene	Not Detected	1.0		1.0
75-69-4	Trichlorofluoromethane	Not Detected	1.0		1.0
75-01-4	Vinyl chloride	Not Detected	1.0		1.0

CAS# : Chemical Abstract Service Registry Number
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Sample AB05636 MW-7 DUP

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digestion Metals Water	Completed				10/08/2007	3010/200	TK2
	Digestion Mercury Water	Completed				10/09/2007	7470/245.1	TK2
7439-97-6	Mercury - Total	ND	µg/L	0.2		10/10/2007	7470/245.1	TS
7440-36-0	Antimony - Total	ND	µg/L	1		10/08/2007	6020/200.8	KS
7440-38-2	Arsenic - Total	6.2	µg/L	1		10/08/2007	6020/200.8	KS
7440-39-3	Barium - Total	78	µg/L	5		10/08/2007	6020/200.8	KS
7440-41-7	Beryllium - Total	ND	µg/L	1		10/08/2007	6020/200.8	KS
7440-43-9	Cadmium - Total	ND	µg/L	0.2		10/08/2007	6020/200.8	KS
7440-47-3	Chromium - Total	ND	µg/L	1		10/08/2007	6020/200.8	KS
7440-48-4	Cobalt - Total	ND	µg/L	15		10/08/2007	6020/200.8	KS
7440-50-8	Copper - Total	ND	µg/L	1		10/08/2007	6020/200.8	KS
7439-92-1	Lead - Total	ND	µg/L	1		10/08/2007	6020/200.8	KS
7439-96-5	Manganese - Total	120	µg/L	5		10/09/2007	6020/200.8	KS
7439-98-7	Molybdenum - Total	ND	µg/L	25		10/08/2007	6020/200.8	KS
7440-02-0	Nickel - Total	4.8	µg/L	2.0		10/08/2007	6020/200.8	KS
7782-49-2	Selenium - Total	ND	µg/L	1		10/08/2007	6020/200.8	KS
7440-22-4	Silver -Total	ND	µg/L	0.2		10/08/2007	6020/200.8	KS
7440-28-0	Thallium - Total	ND	µg/L	2		10/08/2007	6020/200.8	KS
7440-62-2	Vanadium - Total	ND	µg/L	2		10/08/2007	6020/200.8	KS
7440-66-6	Zinc - Total	ND	µg/L	10		10/08/2007	6020/200.8	KS
7439-89-6	Iron - Total	1300	µg/L	20		10/09/2007	6010/200.7	EG

CAS# : Chemical Abstract Service Registry Number
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Sample Number: AB05637 MW-8

Volatile Compounds

Analytical Method: 8260 **Date Tested:** 10/02/2007 **Analyst:** KCL

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	98.2			
SURROGATE	#Dibromofluoromethane#	101			
SURROGATE	#Toluene-d8#	99.9			
630-20-6	1,1,1,2-Tetrachloroethane	Not Detected	1.0		1.0
71-55-6	1,1,1-Trichloroethane	Not Detected	1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	Not Detected	1.0		1.0
79-00-5	1,1,2-Trichloroethane	Not Detected	1.0		1.0
75-34-3	1,1-Dichloroethane	Not Detected	1.0		1.0
75-35-4	1,1-Dichloroethylene	Not Detected	1.0		1.0
87-61-6	1,2,3-Trichlorobenzene	Not Detected	5.0		1.0
96-18-4	1,2,3-Trichloropropane	Not Detected	1.0		1.0
526-73-8	1,2,3-Trimethylbenzene	Not Detected	1.0		1.0
120-82-1	1,2,4-Trichlorobenzene	Not Detected	5.0		1.0
95-63-6	1,2,4-Trimethylbenzene	Not Detected	1.0		1.0
96-12-8	1,2-Dibromo-3-chloropropane	Not Detected	5.0		1.0
106-93-4	1,2-Dibromoethane	Not Detected	1.0		1.0
95-50-1	1,2-Dichlorobenzene	Not Detected	1.0		1.0
107-06-2	1,2-Dichloroethane	Not Detected	1.0		1.0
78-87-5	1,2-Dichloropropane	Not Detected	1.0		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.0		1.0
541-73-1	1,3-Dichlorobenzene	Not Detected	1.0		1.0
106-46-7	1,4-Dichlorobenzene	Not Detected	1.0		1.0
78-93-3	2-Butanone (MEK)	Not Detected	5.0		1.0
591-78-6	2-Hexanone	Not Detected	5.0		1.0
91-57-6	2-Methylnaphthalene	Not Detected	5.0	X	1.0
67-64-1	2-Propanone (acetone)	Not Detected	20		1.0
108-10-1	4-Methyl-2-pentanone (MIBK)	Not Detected	5.0		1.0
107-13-1	Acrylonitrile	Not Detected	5.0	Z	1.0
71-43-2	Benzene	Not Detected	1.0		1.0
108-86-1	Bromobenzene	Not Detected	1.0		1.0
74-97-5	Bromochloromethane	Not Detected	1.0		1.0
75-27-4	Bromodichloromethane	Not Detected	1.0		1.0
75-25-2	Bromoform	Not Detected	1.0		1.0
74-83-9	Bromomethane	Not Detected	5.0	5	1.0
75-15-0	Carbon disulfide	Not Detected	1.0		1.0
56-23-5	Carbon tetrachloride	Not Detected	1.0	5	1.0
108-90-7	Chlorobenzene	Not Detected	1.0		1.0
75-00-3	Chloroethane	Not Detected	5.0		1.0
67-66-3	Chloroform	Not Detected	1.0		1.0
74-87-3	Chloromethane	Not Detected	5.0		1.0
156-59-2	cis-1,2-Dichloroethylene	Not Detected	1.0		1.0

CAS# : Chemical Abstract Service Registry Number
RL : Reporting Limit
ND : Not Detected

ug / L : microgram / liter (ppb)
mg / L : milligram / liter (ppm)
ug / Kg : microgram / kilogram (ppb)
mg / Kg : milligram / kilogram (ppm)

Laboratory Contacts
Inorganic Unit Mgr: Sandy Gregg
Organic Unit Mgr: Carol Smith
Systems Mgmt Unit: George Krisztian

Lab Work Order #: 70900234

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Sample Number: AB05637 MW-8

Volatile Compounds

Analytical Method: 8260 **Date Tested:** 10/02/2007 **Analyst:** KCL

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
10061-01-5	cis-1,3-Dichloropropylene	Not Detected	1.0		1.0
110-82-7	Cyclohexane	Not Detected	5.0		1.0
124-48-1	Dibromochloromethane	Not Detected	1.0		1.0
74-95-3	Dibromomethane	Not Detected	1.0		1.0
75-71-8	Dichlorodifluoromethane	Not Detected	5.0		1.0
60-29-7	Diethyl ether	Not Detected	5.0		1.0
108-20-3	Diisopropyl Ether	Not Detected	5.0		1.0
100-41-4	Ethylbenzene	Not Detected	1.0		1.0
637-92-3	Ethyltertiarybutylether	Not Detected	5.0		1.0
67-72-1	Hexachloroethane	Not Detected	5.0		1.0
98-82-8	Isopropylbenzene	Not Detected	1.0		1.0
108383,106423	m & p - Xylene	Not Detected	2.0		1.0
74-88-4	Methyl iodide	Not Detected	1.0		1.0
75-09-2	Methylene chloride	Not Detected	5.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
91-20-3	Naphthalene	Not Detected	5.0	X	1.0
104-51-8	n-Butylbenzene	Not Detected	1.0		1.0
103-65-1	n-Propylbenzene	Not Detected	1.0		1.0
95-47-6	o-Xylene	Not Detected	1.0		1.0
99-87-6	p-Isopropyl toluene	Not Detected	1.0		1.0
135-98-8	sec-Butylbenzene	Not Detected	1.0		1.0
100-42-5	Styrene	Not Detected	1.0		1.0
98-06-6	tert-Butylbenzene	Not Detected	1.0		1.0
75-65-0	tertiary Butyl Alcohol	Not Detected	50		1.0
994-05-8	tertiaryAmylmethylether	Not Detected	5.0		1.0
127-18-4	Tetrachloroethylene	Not Detected	1.0		1.0
109-99-9	Tetrahydrofuran	Not Detected	5.0		1.0
108-88-3	Toluene	Not Detected	1.0		1.0
156-60-5	trans-1,2-Dichloroethylene	Not Detected	1.0		1.0
10061-02-6	trans-1,3-Dichloropropylene	Not Detected	1.0		1.0
110-57-6	trans-1,4-Dichloro-2-butene	Not Detected	5.0	Z	1.0
79-01-6	Trichloroethylene	Not Detected	1.0		1.0
75-69-4	Trichlorofluoromethane	Not Detected	1.0		1.0
75-01-4	Vinyl chloride	Not Detected	1.0		1.0

CAS# : Chemical Abstract Service Registry Number
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Sample AB05637 MW-8

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	Digestion Metals Water	Completed				10/08/2007	3010/200	TK2
	Digestion Mercury Water	Completed				10/09/2007	7470/245.1	TK2
7439-97-6	Mercury - Total	ND	µg/L	0.2		10/10/2007	7470/245.1	TS
7440-36-0	Antimony - Total	ND	µg/L	1		10/08/2007	6020/200.8	KS
7440-38-2	Arsenic - Total	1.1	µg/L	1		10/08/2007	6020/200.8	KS
7440-39-3	Barium - Total	44	µg/L	5		10/08/2007	6020/200.8	KS
7440-41-7	Beryllium - Total	ND	µg/L	1		10/08/2007	6020/200.8	KS
7440-43-9	Cadmium - Total	ND	µg/L	0.2		10/08/2007	6020/200.8	KS
7440-47-3	Chromium - Total	1.4	µg/L	1		10/09/2007	6020/200.8	KS
7440-48-4	Cobalt - Total	ND	µg/L	15		10/08/2007	6020/200.8	KS
7440-50-8	Copper - Total	1.4	µg/L	1		10/08/2007	6020/200.8	KS
7439-92-1	Lead - Total	ND	µg/L	1		10/08/2007	6020/200.8	KS
7439-96-5	Manganese - Total	380	µg/L	5		10/09/2007	6020/200.8	KS
7439-98-7	Molybdenum - Total	ND	µg/L	25		10/08/2007	6020/200.8	KS
7440-02-0	Nickel - Total	35	µg/L	2.0		10/08/2007	6020/200.8	KS
7782-49-2	Selenium - Total	ND	µg/L	1		10/08/2007	6020/200.8	KS
7440-22-4	Silver -Total	ND	µg/L	0.2		10/08/2007	6020/200.8	KS
7440-28-0	Thallium - Total	ND	µg/L	2		10/08/2007	6020/200.8	KS
7440-62-2	Vanadium - Total	ND	µg/L	2		10/08/2007	6020/200.8	KS
7440-66-6	Zinc - Total	ND	µg/L	10		10/08/2007	6020/200.8	KS
7439-89-6	Iron - Total	440	µg/L	20		10/09/2007	6010/200.7	EG

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Sample Number: AB05638 TB

Volatile Compounds

Analytical Method: 8260 **Date Tested:** 10/02/2007 **Analyst:** KCL

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
SURROGATE	#Bromofluorobenzene#	97.1			
SURROGATE	#Dibromofluoromethane#	103			
SURROGATE	#Toluene-d8#	98.4			
630-20-6	1,1,1,2-Tetrachloroethane	Not Detected	1.0		1.0
71-55-6	1,1,1-Trichloroethane	Not Detected	1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	Not Detected	1.0		1.0
79-00-5	1,1,2-Trichloroethane	Not Detected	1.0		1.0
75-34-3	1,1-Dichloroethane	Not Detected	1.0		1.0
75-35-4	1,1-Dichloroethylene	Not Detected	1.0		1.0
87-61-6	1,2,3-Trichlorobenzene	Not Detected	5.0		1.0
96-18-4	1,2,3-Trichloropropane	Not Detected	1.0		1.0
526-73-8	1,2,3-Trimethylbenzene	Not Detected	1.0		1.0
120-82-1	1,2,4-Trichlorobenzene	Not Detected	5.0		1.0
95-63-6	1,2,4-Trimethylbenzene	Not Detected	1.0		1.0
96-12-8	1,2-Dibromo-3-chloropropane	Not Detected	5.0		1.0
106-93-4	1,2-Dibromoethane	Not Detected	1.0		1.0
95-50-1	1,2-Dichlorobenzene	Not Detected	1.0		1.0
107-06-2	1,2-Dichloroethane	Not Detected	1.0		1.0
78-87-5	1,2-Dichloropropane	Not Detected	1.0		1.0
108-67-8	1,3,5-Trimethylbenzene	Not Detected	1.0		1.0
541-73-1	1,3-Dichlorobenzene	Not Detected	1.0		1.0
106-46-7	1,4-Dichlorobenzene	Not Detected	1.0		1.0
78-93-3	2-Butanone (MEK)	Not Detected	5.0		1.0
591-78-6	2-Hexanone	Not Detected	5.0		1.0
91-57-6	2-Methylnaphthalene	Not Detected	5.0	X	1.0
67-64-1	2-Propanone (acetone)	Not Detected	20		1.0
108-10-1	4-Methyl-2-pentanone (MIBK)	Not Detected	5.0		1.0
107-13-1	Acrylonitrile	Not Detected	5.0	Z	1.0
71-43-2	Benzene	Not Detected	1.0		1.0
108-86-1	Bromobenzene	Not Detected	1.0		1.0
74-97-5	Bromochloromethane	Not Detected	1.0		1.0
75-27-4	Bromodichloromethane	Not Detected	1.0		1.0
75-25-2	Bromoform	Not Detected	1.0		1.0
74-83-9	Bromomethane	Not Detected	5.0	5	1.0
75-15-0	Carbon disulfide	Not Detected	1.0		1.0
56-23-5	Carbon tetrachloride	Not Detected	1.0	5	1.0
108-90-7	Chlorobenzene	Not Detected	1.0		1.0
75-00-3	Chloroethane	Not Detected	5.0		1.0
67-66-3	Chloroform	Not Detected	1.0		1.0
74-87-3	Chloromethane	Not Detected	5.0		1.0
156-59-2	cis-1,2-Dichloroethylene	Not Detected	1.0		1.0

CAS# : Chemical Abstract Service Registry Number
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Sample Number: AB05638 TB

Volatile Compounds

Analytical Method: 8260 **Date Tested:** 10/02/2007 **Analyst:** KCL

CAS #	Compound	Result ug/L	RL	Qualifier	Dilution Factor
10061-01-5	cis-1,3-Dichloropropylene	Not Detected	1.0		1.0
110-82-7	Cyclohexane	Not Detected	5.0		1.0
124-48-1	Dibromochloromethane	Not Detected	1.0		1.0
74-95-3	Dibromomethane	Not Detected	1.0		1.0
75-71-8	Dichlorodifluoromethane	Not Detected	5.0		1.0
60-29-7	Diethyl ether	Not Detected	5.0		1.0
108-20-3	Diisopropyl Ether	Not Detected	5.0		1.0
100-41-4	Ethylbenzene	Not Detected	1.0		1.0
637-92-3	Ethyltertiarybutylether	Not Detected	5.0		1.0
67-72-1	Hexachloroethane	Not Detected	5.0		1.0
98-82-8	Isopropylbenzene	Not Detected	1.0		1.0
108383,106423	m & p - Xylene	Not Detected	2.0		1.0
74-88-4	Methyl iodide	Not Detected	1.0		1.0
75-09-2	Methylene chloride	Not Detected	5.0		1.0
1634-04-4	Methyltertiarybutylether	Not Detected	1.0		1.0
91-20-3	Naphthalene	Not Detected	5.0	X	1.0
104-51-8	n-Butylbenzene	Not Detected	1.0		1.0
103-65-1	n-Propylbenzene	Not Detected	1.0		1.0
95-47-6	o-Xylene	Not Detected	1.0		1.0
99-87-6	p-Isopropyl toluene	Not Detected	1.0		1.0
135-98-8	sec-Butylbenzene	Not Detected	1.0		1.0
100-42-5	Styrene	Not Detected	1.0		1.0
98-06-6	tert-Butylbenzene	Not Detected	1.0		1.0
75-65-0	tertiary Butyl Alcohol	Not Detected	50		1.0
994-05-8	tertiaryAmylmethylether	Not Detected	5.0		1.0
127-18-4	Tetrachloroethylene	Not Detected	1.0		1.0
109-99-9	Tetrahydrofuran	Not Detected	5.0		1.0
108-88-3	Toluene	Not Detected	1.0		1.0
156-60-5	trans-1,2-Dichloroethylene	Not Detected	1.0		1.0
10061-02-6	trans-1,3-Dichloropropylene	Not Detected	1.0		1.0
110-57-6	trans-1,4-Dichloro-2-butene	Not Detected	5.0	Z	1.0
79-01-6	Trichloroethylene	Not Detected	1.0		1.0
75-69-4	Trichlorofluoromethane	Not Detected	1.0		1.0
75-01-4	Vinyl chloride	Not Detected	1.0		1.0

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Qualifier Code	Qualifier Description
1	Result(s) and RL(s) are estimated due to low surrogate recovery.
2	Result is estimated due to high surrogate recovery.
3	Result(s) and RL(s) are estimated due to low matrix spike recovery.
4	Result is estimated due to high matrix spike recovery.
5	Result and RL are estimated due to low continuing calibration standard criteria failure.
6	Result is estimated due to high continuing calibration standard criteria failure.
7	Result(s) and RL(s) are estimated due to poor precision.
8	Result(s) and RL(s) are estimated due to low recovery of batch QC.
9	Result outside QC acceptance criteria.
A	Value reported is the mean of two or more determinations.
C	Value calculated from other independent parameters.
D	Analyte value quantified from a dilution(s); reporting limit (RL) raised.
E	Result is estimated due to high recovery of batch QC.
F	Amenable cyanide was not analyzed due to low level of total cyanide.
G	Result and RL are estimated due to initial calibration standard criteria failure.
H	Recommended laboratory holding time was exceeded.
I	Dilution required due to matrix interference; reporting limit (RL) raised.
J	Analyte was positively identified. Value is an estimate.
JA	Result is estimated due to multiple Aroclors present.
JC	Result is estimated since confirmation analysis did not meet acceptance criteria
JD	Due to severe degradation, specific Aroclor identification is difficult and quantitation is estimated.
K	RL(s) raised due to matrix interferences.
KR	RL(s) raised due to low sample volume submitted.
KS	RL(s) raised due to low total solids.
KW	RL(s) raised due to light sample weight.
LB	Reported library search compounds are tentative identifications with estimated concentrations.
M	The level of the method preparation blank (MPB) is reported in the qualifier column.
N	Non-homogeneous sample made analysis of sample questionable.
O	Result and RL estimated due to analysis from an open vial.
P	Recommended sample collection/preservation technique not used; reported result(s) is an estimate.
Q	Quantity of sample insufficient to perform analyses requested.
R	Result confirmed by re-extraction and analysis.
S	Supernatant analyzed.
T	Reported value is less than the reporting limit (RL). Result is estimated.
V	Value not available due to dilution.
W	Reported value is less than the method detection limit (MDL).
X	Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200°C. 2-Methylnaphthalene & naphthalene have boiling points above 200°C and are better suited to analysis by methods 8270 or 625 as semivolatile organics.
PI	Possible interference may have affected the accuracy of the laboratory result
Z	Result reported below the RL to meet the TDL in RRD Op Memo 2 (10/22/04) multiplied by applicable dilution factor.

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APPENDIX G

Data Validation Report- Third Quarter Ground Water Sampling Event

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MEMORANDUM

TO: Tony Finch [finchaj@obg.com]

REF. NO.: 012650-006005

FROM: Angela Bown/jbh/4-NF

DATE: January 29, 2008

Send Via E-Mail and U.S. Mail

RE: **Data Quality Assessment and Validation**
General Motors Corporation - Coldwater Road Landfill
Former WWTP Quarterly Groundwater Sampling
Flint, Michigan
December 2007

The following details a quality assessment and validation of the analytical data resulting from the December 2007, collection of eight samples and five quality control (QC) samples from the Coldwater Road Landfill Site in Flint, Michigan. The sample summary detailing sample identification, sample location, QC samples, and analytical parameters is presented in Table 1. Sample analysis was completed at Merit Laboratories, Inc. in East Lansing, Michigan, in accordance with the methodologies presented in Table 2.

The QC criteria used to assess the data were established by the methods and the Quality Assurance Project Plan (QAPP). Application of quality assurance criteria was consistent with following guidance 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) "USEPA Contact Laboratory Program National Functional Guidelines for Inorganic Review", USEPA 540/R-94/013, February 1994.

These guidelines are collectively referred to as the "Guidelines" in this memorandum.

Sample Quantitation

The laboratory reported detected concentrations of volatile organic compounds (VOCs) and inorganics below the laboratory's practical quantitation limit (PQL)/report limit (RL) but above the laboratory's method detection limit (MDL). The laboratory flagged these sample concentrations with a "J" or a "B" for organics and inorganics respectively. These concentrations should be qualified as estimated (J) values unless qualified otherwise in this memorandum. The laboratory "B" flags may be disregarded.

Sample Preservation and Holding Times

Sample holding time periods and preservation requirements are presented in the methods.

All samples were prepared and/or analyzed with the specified holding time periods.

All samples were shipped and maintained in accordance with the samples preservation requirements.

Gas Chromatography/Mass Spectrometer (GC/MS) – Tuning and Mass Calibration (Instrument Performance Check) – Organic Analyses

To ensure adequate mass resolution, identification, and to some degree, sensitivity; the performance of each GC/MS instrument used for VOC analyses was checked at the beginning of each 12-hour period using bromofluorobenzene (BFB). The resulting spectra must meet the criteria cited in the "Guidelines" before initiating an analysis sequence.

Instrument performance check data were reviewed. These tuning compounds were analyzed at the required frequency throughout the VOC analyses. The results of all instrument performance checks were within the acceptance criteria, indicating acceptable instrument performance.

Initial Calibration – Organic Analyses

Initial calibration data are used to demonstrate that each instrument is capable of generating acceptable quantitative data. A five point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each over a specific concentration range.

Initial calibration criteria for organic analyses are evaluated against the following criteria:

i) GC/MS (all compounds) - must meet a minimum mean relative response factor (RRF) of 0.05; and

ii) GM/MS (all compounds) - the percent relative standard deviation (%RSD) values must not exceed 30.0 percent or a minimum coefficient of determination of 0.99 if quadratic equation calibration curves are used.

Calibration standards were analyzed at the required frequency and the results met the above criteria for linearity and sensitivity.

Continuing Calibration – Organic Analyses

To ensure that each instrument was capable of producing acceptable quantitative data over the analysis period, continuing calibration standards must be analyzed every 12 hours for GC/MS analyses. The following criteria are employed to evaluate the continuing calibration data:

i) GC/MS (all compounds) – must meet a minimum mean RRF of 0.05;

ii) GC/MS (all compounds) – the percent difference between the mean initial calibration RRF and the continuing calibration RRF must not exceed 25 percent; and

iii) GC/MS (compounds determined by quadratic curve) – the percent drift between the true value and the continuing calibration value must not exceed 25 percent.

Calibration standards were analyzed at the required frequency and the results met the above criteria for instrument sensitivity and linearity of response and sensitivity.

Inductively Coupled Plasma/Mass Spectrometer (ICP/MS) –
Mass Calibration and Resolution Checks – Metal Analyses

To ensure adequate mass resolution, identification, and to some degree, sensitivity; the performance of each ICP/MS instrument used for metals analyses was checked prior to calibration before initiating an analysis sequence through the analysis of a tuning solution. The results of the tuning solution analysis were reviewed against the following criteria:

i) analyze tuning solution a minimum of four times with a %RSD of less than or equal to five for the analytes contained in the tuning solution; and

ii) the mass resolution must be within 0.1 atomic mass unit (amu) of the true value over the analytical range.

Instrument performance check data were reviewed. The tuning solution was analyzed at the required frequency throughout the analyses. The results of all instrument performance checks were within the acceptance criteria, indicating acceptable instrument performance.

Initial Calibration – Inorganic Analyses

The initial calibration includes a blank and at least one standard for ICP/MS to establish the analytical curve. Cyanide analysis by spectrophotometry requires the analysis of a calibration blank and a minimum of five standards to establish the calibration curve. The coefficient of variation for calibration curves must exceed 0.995.

Initial calibration is verified with an initial calibration verification (ICV) standard which must recover within 90 to 110 percent for metals by ICP/MS and 85 to 115 percent for cyanide by spectrophotometry.

A review of the laboratory data showed that the inorganic initial calibration curves and ICVs were analyzed at the appropriate frequency and were within the acceptance criteria.

Continuing Calibration – Inorganic Analyses

Continuing calibration verification (CCV) standards are analyzed at method specified frequency (one every 10 samples). The CCVs must meet the percent recovery control limits specified above for the ICVs. Criteria for inorganic analyses are the same criteria as used for assessing the initial calibration data.

A review of the laboratory data showed that CCVs were analyzed at the appropriate frequency and the data were within the acceptance criteria.

Method Blank Samples

Method blank samples are prepared from a purified sample matrix and are processed concurrently with investigative samples to assess the presence and the magnitude of sample contamination introduced during sample analysis. Method blank samples are analyzed at a minimum frequency of one per analytical batch and target analytes should be non-detect.

The samples presented in Table 3 were qualified due to method blank contamination. The laboratory flagged the organic concentrations with a "B" and the inorganics with a "J", both of which may be disregarded. The remaining method blank samples were reported to be free from detectable levels of target analytes, indicating no additional laboratory-attributable contamination occurred.

Laboratory Blank Samples – Inorganic Analyses

Metals analyses include the analysis of initial calibration blanks (ICB) and continuing calibration blanks (CCB) to assess the presence and the magnitude of sample contamination introduced during sample analysis. The CCBs are analyzed at a minimum frequency of one every 10 samples and target analytes should be non-detect.

The ICB and CCBs were reported to be free from detectable levels of target analytes, indicating no laboratory-attributable contamination occurred.

Surrogate Compounds – Organic Analyses

Individual sample performance for organic analyses was monitored by assessing the results of surrogate compound percent recoveries. Surrogate percent recoveries are reviewed against the laboratory developed control limits provided in the analytical report.

The surrogate recovery acceptance criteria were met for all samples.

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

To assess the long-term accuracy and precision of the analytical methods on various matrices, MS/MSD percent recoveries and the relative percent difference (RPD) of the concentrations were determined. The organic MS/MSD percent recovery and RPD control limits are established by the laboratory. The inorganic control limits are defined by the methods and the "Guidelines", which require recoveries between 75 to 125 percent with RPDs less than 20 percent for water samples. The samples selected for MS/MSD analysis are identified in Table 1.

Acceptance criteria were met in the MS/MSD sample analyses.

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

The LCS/LCSD analyses serve as a monitor of the overall performance in all steps of the sample analysis and are analyzed with each sample batch. The LCS/LCSD percent recoveries were evaluated against method and laboratory established control limits.

The LCS/LCSD percent recoveries were within the laboratory control limits or did not warrant qualification, indicating that an acceptable level of overall performance was achieved with the exception of samples presented with qualifiers in Table 4.

Laboratory precision was verified by the RPD of the LCS/LCSD when a MS/MSD was not analyzed.

The RPDs were within the laboratory control limits, indicating that an acceptable level of overall laboratory precision was achieved.

Internal Standard (IS) Summaries – Organic Analyses

To correct for variability in the GC/MS response and sensitivity, IS compounds are added to all samples. All results are calculated as a ratio of the compound and associated IS response. Overall instrument stability and performance for VOC analyses were monitored using IS peak area and retention time (RT) data. The IS peak areas and RT of the samples are required to meet the following criteria:

i) IS area counts must not vary by more than a factor of two (-50 percent to +100 percent) from the associated continuing calibration standard IS area counts; and

ii) the RT of the IS must not vary by more than ±30 seconds from the associated continuing calibration standard.

A review of the VOC IS data showed that the IS area counts and RT data were within the acceptance criteria.

Internal Standard (IS) Summaries – Inorganic Analyses

To correct for variability in the ICP/MS response and sensitivity, IS are added to all samples. Overall instrument stability and performance for metals analyses was monitored using the IS intensity data which are evaluated against the following criteria:

i) the IS intensities in samples must recover between 30 and 120 percent of the true value; and

ii) the IS intensities in instrument calibration checks (CCVs and CCBs) must recover between 80 and 120 percent of the true value.

A review of the ICP/MS metals IS data showed that the IS intensities were within the acceptance criteria.

Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Analysis – Inorganic Analyses

To verify that proper inter-element and background correction factors had been established by the laboratory for metals analyses, the ICP ICS are analyzed. The ICSs are evaluated against recovery control limits of 80 to 120 percent.

The ICS analysis results were evaluated for all samples and were within the control limits.

Serial Dilution – Inorganic Analyses

The percent difference (%D) between a serial dilution of a sample for each matrix was monitored to determine physical or chemical interference. A minimum of one sample per 20 investigative samples is analyzed at a five-fold dilution. The serial dilution results must agree within 10 %D of the original results for samples with detected concentrations greater than 50 times the instrument detection limit.

The %D acceptance criteria were met for most analytes. The chromium serial dilution result did not agree to within 10 %D of the original result. All samples associated with this serial dilution are qualified as estimated (see Table 5).

Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra (if applicable) were evaluated according to identification criteria established by the methods. The organic compounds reported adhered to the specified identification criteria.

Target Compound Quantitation

The reported quantitation results and detection limits were checked to ensure results reported were accurate. No discrepancies were found between the raw data and the sample results reported by the laboratory.

Field Quality Assurance/Quality Control (QA/QC)

The field QA/QC consisted of one trip blank sample, one field blank (rinsate) sample, one field duplicate sample set, and one co-located sample set.

Trip Blank

To monitor potential cross-contamination of VOC during aqueous sample transportation and storage, a trip blank was submitted to the laboratory for VOC analysis with each shipping cooler containing multiple samples.

Toluene and tetrahydrofuran were detected in the trip blank. Samples associated with these results were qualified as non detects (See Table 6). No additional target analytes were detected in the trip blank sample.

Field Blank

To assess the efficiency of field decontamination procedures and cleanliness of sample containers, the rinsate sample identified in Table 1 was collected and analyzed.

1,4-dichlorobenzene and toluene were detected in the field blank. No qualification was necessary because the associated investigative samples were non-detect for 1,4-dichlorobenzene, and the investigative samples were previously qualified as non detect for toluene in the trip blank. No additional targeted analytes were detected in the rinsate samples.

Field Duplicates and Co-Located Samples

Overall precision for the sampling event and laboratory procedures was monitored using the results of the field duplicate sample sets. The RPDs associated with these duplicate samples must be less than 50 percent for water samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the RL, the evaluation criteria is one times the RL value for water samples.

The data indicate that an adequate level of precision was achieved for most analytes. Variability between the nickel results on the field duplicate was greater than 50% RPD. Nickel results for the original and field duplicate samples were qualified as estimated (see Table 7).

System Performance

System performance between various quality control checks was evaluated to monitor for changes that may have caused the degradation of data quality. No technical problems or chromatographic anomalies were observed which would require qualification of the data.

Overall Assessment

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

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
COLDWATER ROAD LANDFILL-FORMER WWTP GW SAMPLING
GENERAL MOTORS CORPORATION
FLINT, MICHIGAN
DECEMBER 2007

				Analysis/Parameters														
Sample ID	*Location ID*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*VOCs*	*Total Cyanide*	*Total Lead*	*Total Arsenic*	*Total Iron*	*Total Manganese*	*Total Nickel*	*Total Chromium*	*Dissolved Lead*	*Dissolved Arsenic*	*Dissolved Iron*	*Dissolved Manganese*	*Dissolved Nickel*	*Dissolved Chromium*	*Comments*
OBG MW03	OBG MW03	12/11/2007	8:45			X	X	X	X									
OBG MW04	OBG MW04	12/11/2007	10:05			X	X	X	X									
OBG MW05	OBG MW05	12/11/2007	11:40	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
OBG MW06	OBG MW06	12/11/2007	12:45	X	X	X	X	X	X	X	X							
OBG DUP01	OBG MW06	12/11/2007	12:45	X	X	X	X	X	X	X	X							Field Duplicate of OBG MW06
OBG MW08	OBG MW08	12/11/2007	13:50	X	X	X	X	X	X	X	X							
OBG MW08 Co-Located	OBG MW08	12/11/2007	13:50	X	X	X	X	X	X	X	X							Field Co-Located
OBG MW07	OBG MW07	12/11/2007	15:05			X	X	X	X									
OBG FB01	Field Blank	12/11/2007	15:15	X	X	X	X	X	X	X	X							Field Blank
OBG MW02	OBG MW02	12/11/2007	16:05			X	X	X	X									
OBG MW02 MS/MSD	OBG MW02	12/11/2007	16:05			X	X	X	X									MS/MSD
OBG MW01	OBG MW01	12/11/2007	16:55			X	X	X	X									
OBG TB01	Trip Blank	12/11/2007	N/A	X														Trip Blank

Notes:
MS Matrix Spike.
MSD Matrix Spike Duplicate.
N/A Not Applicable.
VOCs Volatile Organic Compounds.

TABLE 2

SUMMARY OF ANALYTICAL METHODOLOGIES
COLDWATER ROAD LANDFILL-FORMER WWTP GW SAMPLING
GENERAL MOTORS CORPORATION
FLINT, MICHIGAN
DECEMBER 2007

Parameter	*Method*
VOCs	SW-846 8260B[1]
Select Metals, Total & Dissolved	USEPA 200.8[2]
Total Cyanide	USEPA 335.4[2]

Notes:

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

2 "Methods for Chemical Analysis of Water and Wastes," USEPA-600/4-79-020, March 1983 (with all subsequent revisions).

USEPA United States Environmental Protection Agency.
VOCs Volatile Organic Compounds.

TABLE 3

QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE METHOD BLANKS
COLDWATER ROAD LANDFILL-FORMER WWTP GW SAMPLING
GENERAL MOTORS CORPORATION
FLINT, MICHIGAN
DECEMBER 2007

Parameter	*Analysis Date*	*Analyte*	*Blank Result*	*Sample ID*	*Sample Result*	*Qualified Sample Result*	*Units*
Volatiles	12/20/07	Naphthalene	0.2	OBG DUP01	0.2 J	5 U	µg/L
				OBG MW05	0.7 J	5 U	µg/L
				OBG MW06	0.2 J	5 U	µg/L
				OBG MW08	0.1 J	5 U	µg/L

Notes:
J Estimated.
U Not Detected.

TABLE 4

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RESULTS
COLDWATER ROAD LANDFILL-FORMER WWTP GW SAMPLING
GENERAL MOTORS CORPORATION
FLINT, MICHIGAN
DECEMBER 2007

Parameter	*Compound*	*LCS Date*	*Associated Sample ID*	*LCS %Rec*	*LCSD %Rec*	*RPD (percent)*	*Control Limits*		*Sample Results*	*Units*	*Qualifier*
							%Rec	*%RPD*			
Volatiles	4-Methyl-2-Pentanone	12/20/07	OBG DUP01	79.2	90.5	13.3	80-120	20	50 U	µg/L	UJ
			OBG MW05						50 U	µg/L	UJ
			OBG MW06						50 U	µg/L	UJ
			OBG MW08 Co-Located						50 U	µg/L	UJ
			OBG MW08						50 U	µg/L	UJ
Volatiles	Tetrahydrofuran	12/20/07	OBG DUP01	73.9	81.5	9.8	80-120	20	90 U	µg/L	UJ
			OBG MW05						2 J	µg/L	J
			OBG MW06						90 U	µg/L	UJ
			OBG MW08 Co-Located						90 U	µg/L	UJ
			OBG MW08						90 U	µg/L	UJ
Volatiles	trans-1,4-Dichloro-2-butene	12/20/07	OBG DUP01	77.4	91.8	17	80-120	20	1 U	µg/L	UJ
			OBG MW05						1 U	µg/L	UJ
			OBG MW06						1 U	µg/L	UJ
			OBG MW08 Co-Located						1 U	µg/L	UJ
			OBG MW08						1 U	µg/L	UJ
Volatiles	Chloromethane (Methyl Chloride)	12/20/07	OBG DUP01	56.7	52.9	7	54.4-147	20	5 U	µg/L	UJ
			OBG MW05						5 U	µg/L	UJ
			OBG MW06						5 U	µg/L	UJ
			OBG MW08 Co-Located						5 U	µg/L	UJ
			OBG MW08						5 U	µg/L	UJ

Notes:

%Rec Percent Recovery.
J Estimated.
LCS Laboratory Control Sample.
LCSD Laboratory Control Sample Duplicate.
RPD Relative Percent Difference.
U Not Detected.
UJ Not detected, estimated reporting limit.

TABLE 5

QUALIFIED SAMPLES RESULTS DUE TO OUTLYING SERIAL DILUTIONS
COLDWATER ROAD LANDFILL-FORMER WWTP GW SAMPLING
GENERAL MOTORS CORPORATION
FLINT, MICHIGAN
DECEMBER 2007

Sample ID	*Analyte*	*%D*	*Control Limits*	*Associated Samples*	*Sample Results*	*Units*	*Qualifier*
OBG MW03	Chromium	58	0-10%	OBG DUP01	0.032	mg/L	J
				OBG MW05	0.020	mg/L	J
				OBG MW06	0.029	mg/L	J
				OBG MW08 Co-Located	0.036	mg/L	J
				OBG MW08	0.040	mg/L	J

Notes:
%D Percent Difference.
J Estimated.

TABLE 6

QUALIFIED SAMPLE DATA DUE TO ANALYTE CONCENTRATIONS IN THE TRIP BLANK
COLDWATER ROAD LANDFILL-FORMER WWTP GW SAMPLING
GENERAL MOTORS CORPORATION
FLINT, MICHIGAN
DECEMBER 2007

Parameter	*Blank Date*	*Analyte*	*Blank Result*	*Associated Sample ID*	*Sample Result*	*Qualified Sample Result*	*Units*
Volatiles	12/11/07	Toluene	0.1	OBG MW05	0.1 J	1 U	µg/L
		Tetrahydrofuran	3	OBG MW05	2 J	90 U	µg/L

Notes:

J Estimated.

U Not Detected.

TABLE 7

QUALIFIED SAMPLE RESULTS DUE TO VARIABILITY IN FIELD DUPLICATE RESULTS
COLDWATER ROAD LANDFILL-FORMER WWTP GW SAMPLING
GENERAL MOTORS CORPORATION
FLINT, MICHIGAN
DECEMBER 2007

Parameter	*Analyte*	*Original Sample ID*	*Original Result*	*Duplicate Sample ID*	*Duplicate Result*	*RPD*	*Units*	*Qualifier* [1]
Metals	Nickel	OBG MW06	0.015	OBG DUP01	0.026	53.7	mg/L	J

Notes:

[1] The qualifier applies to both the original and duplicate results.

J Estimated.

RPD Relative Percent Difference.

Analytical Laboratory Report

Report ID: S34788.01(01)
Generated on 12/21/2007

Report to

Attention: Tony Finch
O'Brien & Gere Engineers, Inc.
33469 West 14 Mile Road Suite 150
Farmington Hills. MI 48331

Phone: 248-477-5701 FAX: 248-661-4057
Email: YantzCS@obg.com

Report produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S34788.01-S34788.14
Project: Fmr WWTP Coldwater SSOW# R006005
Collected Date: 12/11/2007
Submitted Date/Time: 12/12/2007 15:30
Sampled by: Kevin Schneider
P.O. #: 4002702

Report Notes

Results relate only to items tested as received by the laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
"Not detected" indicates that parameter was not found at a level equal to or greater than the RDL.

Violetta F. Murshak

Violetta F. Murshak
Laboratory Director

Sample Summary (14 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S34788.01	OBG MW03	Groundwater	12/11/2007 08:45
S34788.02	OBG MW04	Groundwater	12/11/2007 10:05
S34788.03	OBG MW05	Groundwater	12/11/2007 11:40
S34788.04	OBG MW06	Groundwater	12/11/2007 12:45
S34788.05	OBG DUP01	Groundwater	12/11/2007
S34788.06	OBG MW08	Groundwater	12/11/2007 13:50
S34788.07	OBG MW08 Co-Located	Groundwater	12/11/2007 13:50
S34788.08	OBG MW07	Groundwater	12/11/2007 15:05
S34788.09	OBG FB01	Water Quality	12/11/2007 15:15
S34788.10	OBG MW02	Groundwater	12/11/2007 16:05
S34788.11	OBG MW02 MS	Groundwater	12/11/2007 16:05
S34788.12	OBG MW02 MSD	Groundwater	12/11/2007 16:05
S34788.13	OBG MW01	Groundwater	12/11/2007 16:55
S34788.14	OBG TB01	Water Quality	12/11/2007

Analytical Laboratory Report

Lab Sample ID: S34788.01
Sample Tag: OBG MW03
Collected Date/Time: 12/11/2007 08:45
Matrix: Groundwater
COC Reference: 03374

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.4	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	12/20/07 12:00	PER		
Metals								
Arsenic	Not detected	mg/L	0.002	200.8	12/20/07 15:37	PER	7440-38-2	
Iron	1.78	mg/L	0.02	200.8	12/20/07 15:37	PER	7439-89-6	
Lead	Not detected	mg/L	0.003	200.8	12/20/07 15:37	PER	7439-92-1	
Manganese	5.08	mg/L	0.005	200.8	12/20/07 15:37	PER	7439-96-5	

Analytical Laboratory Report

Lab Sample ID: S34788.02
Sample Tag: OBG MW04
Collected Date/Time: 12/11/2007 10:05
Matrix: Groundwater
COC Reference: 03374

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.4	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	12/20/07 12:00	PER		
Metals								
Arsenic	Not detected	mg/L	0.002	200.8	12/20/07 15:38	PER	7440-38-2	
Iron	0.42	mg/L	0.02	200.8	12/20/07 15:38	PER	7439-89-6	
Lead	Not detected	mg/L	0.003	200.8	12/20/07 15:38	PER	7439-92-1	
Manganese	0.118	mg/L	0.005	200.8	12/20/07 15:38	PER	7439-96-5	

Analytical Laboratory Report

Lab Sample ID: S34788.03
Sample Tag: OBG MW05
Collected Date/Time: 12/11/2007 11:40
Matrix: Groundwater
COC Reference: 03374

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.4	IR
2	40ml Glass	HCL	Yes	4.4	IR
1	125ml Plastic	NaOH	Yes	4.4	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	12/20/07 12:00	PER		
Metal Digestion	Completed			3015A	12/20/07 12:00	PER		
Inorganics								
Cyanide	0.032	mg/L	0.005	335.4	12/18/07 09:38	JDP	57-12-5	
Metals								
Arsenic, Dissolved	0.015	mg/L	0.002	200.8	12/20/07 15:41	PER	7440-38-2	
Arsenic	0.019	mg/L	0.002	200.8	12/20/07 15:40	PER	7440-38-2	
Chromium, Dissolved	0.017	mg/L	0.005	200.8	12/20/07 15:41	PER	7440-47-3	
Chromium	0.020	mg/L	0.005	200.8	12/20/07 15:40	PER	7440-47-3	
Iron, Dissolved	0.79	mg/L	0.02	200.8	12/20/07 15:41	PER	7439-89-6	
Iron	1.49	mg/L	0.02	200.8	12/20/07 15:40	PER	7439-89-6	
Lead, Dissolved	Not detected	mg/L	0.003	200.8	12/20/07 15:41	PER	7439-92-1	
Lead	Not detected	mg/L	0.003	200.8	12/20/07 15:40	PER	7439-92-1	
Manganese, Dissolved	0.502	mg/L	0.005	200.8	12/20/07 15:41	PER	7439-96-5	
Manganese	0.521	mg/L	0.005	200.8	12/20/07 15:40	PER	7439-96-5	
Nickel, Dissolved	0.017	mg/L	0.005	200.8	12/20/07 15:41	PER	7440-02-0	
Nickel	0.018	mg/L	0.005	200.8	12/20/07 15:40	PER	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	12/20/07 03:05	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	12/20/07 03:05	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	12/20/07 03:05	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	12/20/07 03:05	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	106-46-7	
1,1-Dichloroethane	5	ug/L	1	8260B	12/20/07 03:05	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	107-06-2	
1,1-Dichloroethene	0.1	ug/L	1	8260B	12/20/07 03:05	JGH	75-35-4	J

J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S34788.03 (continued)
Sample Tag: OBG MW05

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
cis-1,2-Dichloroethene	12	ug/L	1	8260B	12/20/07 03:05	JGH	156-59-2	
trans-1,2-Dichloroethene	0.5	ug/L	1	8260B	12/20/07 03:05	JGH	156-60-5	J
1,2-Dichloropropane	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	100-41-4	
Isopropylbenzene	Not detected	ug/L	5	8260B	12/20/07 03:05	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	12/20/07 03:05	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	12/20/07 03:05	JGH	75-09-2	
Naphthalene	0.7	ug/L	5	8260B	12/20/07 03:05	JGH	91-20-3	BJ
n-Propylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	79-34-5	
Tetrachloroethene	0.4	ug/L	1	8260B	12/20/07 03:05	JGH	127-18-4	J
Toluene	0.1	ug/L	1	8260B	12/20/07 03:05	JGH	108-88-3	J
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	79-00-5	
Trichloroethene	1	ug/L	1	8260B	12/20/07 03:05	JGH	79-01-6	J
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	108-67-8	
Vinyl chloride	0.9	ug/L	1	8260B	12/20/07 03:05	JGH	75-01-4	J
o-Xylene	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	12/20/07 03:05	JGH		
Acetone	Not detected	ug/L	50	8260B	12/20/07 03:05	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	12/20/07 03:05	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	12/20/07 03:05	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	12/20/07 03:05	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	12/20/07 03:05	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	12/20/07 03:05	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	12/20/07 03:05	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	12/20/07 03:05	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	12/20/07 03:05	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	12/20/07 03:05	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	12/20/07 03:05	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	12/20/07 03:05	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	12/20/07 03:05	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	12/20/07 03:05	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	12/20/07 03:05	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	74-88-4	
Tetrahydrofuran	2	ug/L	90	8260B	12/20/07 03:05	JGH	109-99-9	J
Trichlorofluoromethane	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	526-73-8	

J-Estimated value less than reporting limit, but greater than MDL
B-Compound also found in associated method blank

Lab Sample ID: S34788.03 (continued)
Sample Tag: OBG MW05

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	12/20/07 03:05	JGH	110-57-6	

Analytical Laboratory Report

Lab Sample ID: S34788.04
Sample Tag: OBG MW06
Collected Date/Time: 12/11/2007 12:45
Matrix: Groundwater
COC Reference: 03374

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.4	IR
2	40ml Glass	HCL	Yes	4.4	IR
1	125ml Plastic	NaOH	Yes	4.4	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	12/20/07 12:00	PER		
Inorganics								
Cyanide	Not detected	mg/L	0.005	335.4	12/18/07 09:46	JDP	57-12-5	
Metals								
Arsenic	Not detected	mg/L	0.002	200.8	12/20/07 15:43	PER	7440-38-2	
Chromium	0.029	mg/L	0.005	200.8	12/20/07 15:43	PER	7440-47-3	
Iron	0.99	mg/L	0.02	200.8	12/20/07 15:43	PER	7439-89-6	
Lead	Not detected	mg/L	0.003	200.8	12/20/07 15:43	PER	7439-92-1	
Manganese	0.642	mg/L	0.005	200.8	12/20/07 15:43	PER	7439-96-5	
Nickel	0.015	mg/L	0.005	200.8	12/20/07 15:43	PER	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	12/20/07 03:24	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	12/20/07 03:24	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	12/20/07 03:24	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	12/20/07 03:24	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	100-41-4	
Isopropylbenzene	Not detected	ug/L	5	8260B	12/20/07 03:24	JGH	98-82-8	

Lab Sample ID: S34788.04 (continued)
Sample Tag: OBG MW06

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
p-Isopropyltoluene	Not detected	ug/L	5	8260B	12/20/07 03:24	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	12/20/07 03:24	JGH	75-09-2	
Naphthalene	0.2	ug/L	5	8260B	12/20/07 03:24	JGH	91-20-3	BJ
n-Propylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	79-01-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	12/20/07 03:24	JGH		
Acetone	Not detected	ug/L	50	8260B	12/20/07 03:24	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	12/20/07 03:24	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	12/20/07 03:24	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	12/20/07 03:24	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	12/20/07 03:24	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	12/20/07 03:24	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	12/20/07 03:24	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	12/20/07 03:24	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	12/20/07 03:24	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	12/20/07 03:24	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	12/20/07 03:24	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	12/20/07 03:24	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	12/20/07 03:24	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	12/20/07 03:24	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	12/20/07 03:24	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	74-88-4	
Tetrahydrofuran	Not detected	ug/L	90	8260B	12/20/07 03:24	JGH	109-99-9	
Trichlorofluoromethane	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	526-73-8	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	12/20/07 03:24	JGH	110-57-6	

B-Compound also found in associated method blank J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S34788.05
Sample Tag: OBG DUP01
Collected Date/Time: 12/11/2007 :
Matrix: Groundwater
COC Reference: 03374

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.4	IR
2	40ml Glass	HCL	Yes	4.4	IR
1	125ml Plastic	NaOH	Yes	4.4	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	12/20/07 12:00	PER		
Inorganics								
Cyanide	Not detected	mg/L	0.005	335.4	12/18/07 09:48	JDP	57-12-5	
Metals								
Arsenic	Not detected	mg/L	0.002	200.8	12/20/07 15:44	PER	7440-38-2	
Chromium	0.032	mg/L	0.005	200.8	12/20/07 15:44	PER	7440-47-3	
Iron	1.02	mg/L	0.02	200.8	12/20/07 15:44	PER	7439-89-6	
Lead	Not detected	mg/L	0.003	200.8	12/20/07 15:44	PER	7439-92-1	
Manganese	0.645	mg/L	0.005	200.8	12/20/07 15:44	PER	7439-96-5	
Nickel	0.026	mg/L	0.005	200.8	12/20/07 15:44	PER	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	12/20/07 03:42	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	12/20/07 03:42	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	12/20/07 03:42	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	12/20/07 03:42	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	100-41-4	
Isopropylbenzene	Not detected	ug/L	5	8260B	12/20/07 03:42	JGH	98-82-8	

Lab Sample ID: S34788.05 (continued)
Sample Tag: OBG DUP01

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
p-Isopropyltoluene	Not detected	ug/L	5	8260B	12/20/07 03:42	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	12/20/07 03:42	JGH	75-09-2	
Naphthalene	0.2	ug/L	5	8260B	12/20/07 03:42	JGH	91-20-3	BJ
n-Propylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	79-01-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	12/20/07 03:42	JGH		
Acetone	Not detected	ug/L	50	8260B	12/20/07 03:42	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	12/20/07 03:42	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	12/20/07 03:42	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	12/20/07 03:42	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	12/20/07 03:42	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	12/20/07 03:42	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	12/20/07 03:42	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	12/20/07 03:42	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	12/20/07 03:42	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	12/20/07 03:42	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	12/20/07 03:42	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	12/20/07 03:42	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	12/20/07 03:42	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	12/20/07 03:42	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	12/20/07 03:42	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	74-88-4	
Tetrahydrofuran	Not detected	ug/L	90	8260B	12/20/07 03:42	JGH	109-99-9	
Trichlorofluoromethane	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	526-73-8	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	12/20/07 03:42	JGH	110-57-6	

B-Compound also found in associated method blank J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S34788.06
Sample Tag: OBG MW08
Collected Date/Time: 12/11/2007 13:50
Matrix: Groundwater
COC Reference: 03374

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.4	IR
2	40ml Glass	HCL	Yes	4.4	IR
1	125ml Plastic	NaOH	Yes	4.4	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	12/20/07 12:00	PER		
Inorganics								
Cyanide	Not detected	mg/L	0.005	335.4	12/18/07 09:50	JDP	57-12-5	
Metals								
Arsenic	Not detected	mg/L	0.002	200.8	12/20/07 15:56	PER	7440-38-2	
Chromium	0.040	mg/L	0.005	200.8	12/20/07 15:56	PER	7440-47-3	
Iron	0.52	mg/L	0.02	200.8	12/20/07 15:56	PER	7439-89-6	
Lead	Not detected	mg/L	0.003	200.8	12/20/07 15:56	PER	7439-92-1	
Manganese	0.371	mg/L	0.005	200.8	12/20/07 15:56	PER	7439-96-5	
Nickel	0.044	mg/L	0.005	200.8	12/20/07 15:56	PER	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	12/20/07 04:00	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	12/20/07 04:00	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	12/20/07 04:00	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	12/20/07 04:00	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	106-46-7	
1,1-Dichloroethane	0.2	ug/L	1	8260B	12/20/07 04:00	JGH	75-34-3	J
1,2-Dichloroethane	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	100-41-4	

J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S34788.06 (continued)
Sample Tag: OBG MW08

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Isopropylbenzene	Not detected	ug/L	5	8260B	12/20/07 04:00	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	12/20/07 04:00	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	12/20/07 04:00	JGH	75-09-2	
Naphthalene	0.1	ug/L	5	8260B	12/20/07 04:00	JGH	91-20-3	BJ
n-Propylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	79-01-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	12/20/07 04:00	JGH		
Acetone	Not detected	ug/L	50	8260B	12/20/07 04:00	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	12/20/07 04:00	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	12/20/07 04:00	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	12/20/07 04:00	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	12/20/07 04:00	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	12/20/07 04:00	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	12/20/07 04:00	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	12/20/07 04:00	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	12/20/07 04:00	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	12/20/07 04:00	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	12/20/07 04:00	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	12/20/07 04:00	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	12/20/07 04:00	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	12/20/07 04:00	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	12/20/07 04:00	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	74-88-4	
Tetrahydrofuran	Not detected	ug/L	90	8260B	12/20/07 04:00	JGH	109-99-9	
Trichlorofluoromethane	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	526-73-8	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	12/20/07 04:00	JGH	110-57-6	

B-Compound also found in associated method blank J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S34788.07
Sample Tag: OBG MW08 Co-Located
Collected Date/Time: 12/11/2007 13:50
Matrix: Groundwater
COC Reference: 03374

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.4	IR
2	40ml Glass	HCL	Yes	4.4	IR
1	125ml Plastic	NaOH	Yes	4.4	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	12/20/07 12:00	PER		
Inorganics								
Cyanide	Not detected	mg/L	0.005	335.4	12/18/07 09:52	JDP	57-12-5	
Metals								
Arsenic	Not detected	mg/L	0.002	200.8	12/20/07 15:57	PER	7440-38-2	
Chromium	0.036	mg/L	0.005	200.8	12/20/07 15:57	PER	7440-47-3	
Iron	0.51	mg/L	0.02	200.8	12/20/07 15:57	PER	7439-89-6	
Lead	Not detected	mg/L	0.003	200.8	12/20/07 15:57	PER	7439-92-1	
Manganese	0.371	mg/L	0.005	200.8	12/20/07 15:57	PER	7439-96-5	
Nickel	0.045	mg/L	0.005	200.8	12/20/07 15:57	PER	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	12/20/07 04:18	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	12/20/07 04:18	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	12/20/07 04:18	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	12/20/07 04:18	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	106-46-7	
1,1-Dichloroethane	0.2	ug/L	1	8260B	12/20/07 04:18	JGH	75-34-3	J
1,2-Dichloroethane	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	100-41-4	

J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S34788.07 (continued)
Sample Tag: OBG MW08 Co-Located

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Isopropylbenzene	Not detected	ug/L	5	8260B	12/20/07 04:18	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	12/20/07 04:18	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	12/20/07 04:18	JGH	75-09-2	
Naphthalene	Not detected	ug/L	5	8260B	12/20/07 04:18	JGH	91-20-3	
n-Propylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	79-01-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	12/20/07 04:18	JGH		
Acetone	Not detected	ug/L	50	8260B	12/20/07 04:18	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	12/20/07 04:18	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	12/20/07 04:18	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	12/20/07 04:18	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	12/20/07 04:18	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	12/20/07 04:18	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	12/20/07 04:18	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	12/20/07 04:18	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	12/20/07 04:18	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	12/20/07 04:18	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	12/20/07 04:18	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	12/20/07 04:18	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	12/20/07 04:18	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	12/20/07 04:18	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	12/20/07 04:18	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	74-88-4	
Tetrahydrofuran	Not detected	ug/L	90	8260B	12/20/07 04:18	JGH	109-99-9	
Trichlorofluoromethane	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	526-73-8	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	12/20/07 04:18	JGH	110-57-6	

Analytical Laboratory Report

Lab Sample ID: S34788.08
Sample Tag: OBG MW07
Collected Date/Time: 12/11/2007 15:05
Matrix: Groundwater
COC Reference: 03374

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.4	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	12/20/07 12:00	PER		
Metals								
Arsenic	0.005	mg/L	0.002	200.8	12/20/07 15:59	PER	7440-38-2	
Iron	0.97	mg/L	0.02	200.8	12/20/07 15:59	PER	7439-89-6	
Lead	Not detected	mg/L	0.003	200.8	12/20/07 15:59	PER	7439-92-1	
Manganese	0.046	mg/L	0.005	200.8	12/20/07 15:59	PER	7439-96-5	

Analytical Laboratory Report

Lab Sample ID: S34788.09
Sample Tag: OBG FB01
Collected Date/Time: 12/11/2007 15:15
Matrix: Water Quality
COC Reference: 03374

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.4	IR
1	125ml Plastic	NaOH	Yes	4.4	IR
2	40ml Glass	HCL	Yes	4.4	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	12/20/07 12:00	PER		
Inorganics								
Cyanide	Not detected	mg/L	0.005	335.4	12/18/07 09:54	JDP	57-12-5	
Metals								
Arsenic	Not detected	mg/L	0.002	200.8	12/20/07 15:34	PER	7440-38-2	
Chromium	Not detected	mg/L	0.005	200.8	12/20/07 15:34	PER	7440-47-3	
Iron	Not detected	mg/L	0.02	200.8	12/20/07 15:34	PER	7439-89-6	
Lead	Not detected	mg/L	0.003	200.8	12/20/07 15:34	PER	7439-92-1	
Manganese	Not detected	mg/L	0.005	200.8	12/20/07 15:34	PER	7439-96-5	
Nickel	Not detected	mg/L	0.005	200.8	12/20/07 15:34	PER	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	12/20/07 04:36	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	12/20/07 04:36	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	12/20/07 04:36	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	12/20/07 04:36	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	541-73-1	
1,4-Dichlorobenzene	0.2	ug/L	1	8260B	12/20/07 04:36	JGH	106-46-7	J
1,1-Dichloroethane	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	100-41-4	

J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S34788.09 (continued)
Sample Tag: OBG FB01

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Isopropylbenzene	Not detected	ug/L	5	8260B	12/20/07 04:36	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	12/20/07 04:36	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	12/20/07 04:36	JGH	75-09-2	
Naphthalene	Not detected	ug/L	5	8260B	12/20/07 04:36	JGH	91-20-3	
n-Propylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	127-18-4	
Toluene	0.3	ug/L	1	8260B	12/20/07 04:36	JGH	108-88-3	J
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	79-01-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	12/20/07 04:36	JGH		
Acetone	Not detected	ug/L	50	8260B	12/20/07 04:36	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	12/20/07 04:36	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	12/20/07 04:36	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	12/20/07 04:36	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	12/20/07 04:36	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	12/20/07 04:36	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	12/20/07 04:36	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	12/20/07 04:36	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	12/20/07 04:36	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	12/20/07 04:36	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	12/20/07 04:36	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	12/20/07 04:36	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	12/20/07 04:36	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	12/20/07 04:36	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	12/20/07 04:36	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	74-88-4	
Tetrahydrofuran	Not detected	ug/L	90	8260B	12/20/07 04:36	JGH	109-99-9	
Trichlorofluoromethane	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	526-73-8	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	12/20/07 04:36	JGH	110-57-6	

J-Estimated value less than reporting limit, but greater than MDL

Analytical Laboratory Report

Lab Sample ID: S34788.10
Sample Tag: OBG MW02
Collected Date/Time: 12/11/2007 16:05
Matrix: Groundwater
COC Reference: 03374

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.4	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	12/20/07 12:00	PER		
Metals								
Arsenic	Not detected	mg/L	0.002	200.8	12/20/07 16:02	PER	7440-38-2	
Iron	0.63	mg/L	0.02	200.8	12/20/07 16:02	PER	7439-89-6	
Lead	Not detected	mg/L	0.003	200.8	12/20/07 16:02	PER	7439-92-1	
Manganese	0.307	mg/L	0.005	200.8	12/20/07 16:02	PER	7439-96-5	

Analytical Laboratory Report

Lab Sample ID: S34788.11
Sample Tag: OBG MW02 MS
Collected Date/Time: 12/11/2007 16:05
Matrix: Groundwater
COC Reference: 03374

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.4	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	12/20/07 12:00	PER		
Metals								
Arsenic	0.275	mg/L	0.002	200.8	12/20/07 16:03	PER	7440-38-2	
Iron	0.88	mg/L	0.02	200.8	12/20/07 16:03	PER	7439-89-6	
Lead	0.247	mg/L	0.003	200.8	12/20/07 16:03	PER	7439-92-1	
Manganese	0.542	mg/L	0.005	200.8	12/20/07 16:03	PER	7439-96-5	

Analytical Laboratory Report

Lab Sample ID: S34788.12
Sample Tag: OBG MW02 MSD
Collected Date/Time: 12/11/2007 16:05
Matrix: Groundwater
COC Reference: 03374

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.4	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	12/20/07 12:00	PER		
Metals								
Arsenic	0.272	mg/L	0.002	200.8	12/20/07 16:07	PER	7440-38-2	
Iron	0.88	mg/L	0.02	200.8	12/20/07 16:07	PER	7439-89-6	
Lead	0.245	mg/L	0.003	200.8	12/20/07 16:07	PER	7439-92-1	
Manganese	0.545	mg/L	0.005	200.8	12/20/07 16:07	PER	7439-96-5	

Analytical Laboratory Report

Lab Sample ID: S34788.13
Sample Tag: OBG MW01
Collected Date/Time: 12/11/2007 16:55
Matrix: Groundwater
COC Reference: 03374

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.4	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	12/20/07 12:00	PER		
Metals								
Arsenic	Not detected	mg/L	0.002	200.8	12/20/07 16:00	PER	7440-38-2	
Iron	0.44	mg/L	0.02	200.8	12/20/07 16:00	PER	7439-89-6	
Lead	Not detected	mg/L	0.003	200.8	12/20/07 16:00	PER	7439-92-1	
Manganese	0.216	mg/L	0.005	200.8	12/20/07 16:00	PER	7439-96-5	

Analytical Laboratory Report

Lab Sample ID: S34788.14
Sample Tag: OBG TB01
Collected Date/Time: 12/11/2007 :
Matrix: Water Quality
COC Reference: 03374

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.4	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	12/20/07 04:54	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	12/20/07 04:54	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	12/20/07 04:54	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	12/20/07 04:54	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	100-41-4	
Isopropylbenzene	Not detected	ug/L	5	8260B	12/20/07 04:54	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	12/20/07 04:54	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	12/20/07 04:54	JGH	75-09-2	
Naphthalene	Not detected	ug/L	5	8260B	12/20/07 04:54	JGH	91-20-3	
n-Propylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	127-18-4	
Toluene	0.1	ug/L	1	8260B	12/20/07 04:54	JGH	108-88-3	J
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	79-01-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	95-47-6	

J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S34788.14 (continued)
Sample Tag: OBG TB01

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
p,m-Xylene	Not detected	ug/L	2	8260B	12/20/07 04:54	JGH		
Acetone	Not detected	ug/L	50	8260B	12/20/07 04:54	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	12/20/07 04:54	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	12/20/07 04:54	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	12/20/07 04:54	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	12/20/07 04:54	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	12/20/07 04:54	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	12/20/07 04:54	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	12/20/07 04:54	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	12/20/07 04:54	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	12/20/07 04:54	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	12/20/07 04:54	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	12/20/07 04:54	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	12/20/07 04:54	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	12/20/07 04:54	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	12/20/07 04:54	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	74-88-4	
Tetrahydrofuran	3	ug/L	90	8260B	12/20/07 04:54	JGH	109-99-9	J
Trichlorofluoromethane	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	526-73-8	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	12/20/07 04:54	JGH	110-57-6	

J-Estimated value less than reporting limit, but greater than MDL

ENCORE

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

PAGE 1 OF 1

ID # № 03374

SSOW Ref. Code: R006005

Required Client Information:

Company: O'Brien & Gere	Report To: Tony Frach
Address: 37000 Grand River	Copy To:
Farmington Hills, MI	Invoice To: Tony Frach
	P.O.:
Phone: 248-477-5701	Project Name: FMT WWTP collection
Fax:	Project Number: 49661 32223
E-mail:	

Laboratory: Merit	
Laboratory Location: East Lansing, MI	
Laboratory Contact: Maya Murshak	
Requested Due Date:	TAT: Routine
QA/QC Requirements: Level III Data	

Valid Matrix Codes: WG Groundwater; WB Borehole Water; WS Surface Water; SO Soil; SE Sediment; See Back for Additional Codes

Analysis and Method

Sample Identification:	Matrix Code	Date Collected	Time Collected	# Containers	Preservative: Unpreserved	HCl	H2SO4	HNO3	NaOH	Other:	Total Lead	Total Arsenic	Total Iron	Total Manganese	Total Nickel	Total Cadmium	Total Cyanide	VOCs	Dissolved Pb, Fe, Mn, Cr, As		Remarks/Lab ID
1. OBG MW03	WG	12/11/07	8:45	1				1			X	X	X	X							
2. OBG MW04	WG	12/11/07	1005	1				1			X	X	X	X							
3. OBG MW05	WG		1140	5		2		2	1		X	X	X	X	X	X	X	X	X		
4. OBG MW06	WG		1245	4		2		1	1		X	X	X	X	X	X	X	X			
5. OBG DUP01	WG		—	4		2		1	1		X	X	X	X	X	X	X	X			
6. OBG MW08	WG		1350	4		2		1	1		X	X	X	X	X	X	X	X			
7. OBG MW08_CO-Counted	WG		1350	4		2		1	1		X	X	X	X	X	X	X	X			
8. OBG MW07	WG		1505	1				1			X	X	X								
9. OBG FB01	WQ		1515	4		2		1	1		X	X	X	X	X	X	X	X	FB 12/13/07		
10. OBG MW02	WG		1605	1				1			X	X	X	X							
11,12. OBG MW02 MS/MSD	WG		1605	2				2			X	X	X	X							
13. OBG MW01	WG		1655	1				1			X	X	X	X							
14. OBG TB01	WQ	↓	—	1		1												X			
15.																					

Remarks/Lab ID: Dissolved metals are: lead, Arsenic, Iron, Manganese, Nickel, chromium,

TOTAL NUMBER OF CONTAINERS

SHIPMENT METHOD	NO. OF COOLERS	RELINQUISHED BY / AFFILIATION	DATE	TIME	RECEIVED BY / AFFILIATION	DATE	TIME
Lab Pickup	1	O'Brien & Gere	12/12/07	1140		12-12-07	1140
AIRBILL NO.			12-12-07	1530	Barbara Richardson	12-12-07	15:30

Sample Condition

Temp in °C	4.7
Received on Ice	Y/N
Sealed Cooler	Y/N
Samples Intact	Y/N

Additional Comments: VOCs = DEQ List

BATCH COMPLETE

Sampler Name: Kevin Schneider

Sampler Signature: K Schl Date: 12/12/07

Distribution: WHITE - Fully Executed Copy YELLOW - Receiving Laboratory Copy PINK - Sampler Copy

REV. 11/2006

APPENDIX H

Data Validation Report- Fourth Quarter Ground Water Sampling Event

CONESTOGA-ROVERS & ASSOCIATES

9033 Meridian Way, West Chester, Ohio 45069
Telephone: (513) 942-4750 Fax: (513) 942-8585
www.CRAworld.com

MEMORANDUM

TO: Tony Finch [finchaj@obg.com]

REF. NO.: 012650-006005

FROM: Angela Bown/pga/6-NF

DATE: April 18, 2008
E-mail and Hard Copy if Requested

RE: **Data Quality Assessment and Validation**
General Motors Corporation - Coldwater Road Landfill
Former WWTP Quarterly Groundwater Sampling
Flint, Michigan
March 2008

The following details a quality assessment and validation of the analytical data resulting from the March 2008, collection of eight samples and five quality control (QC) samples from the Coldwater Road Landfill Site in Flint, Michigan. The sample summary detailing sample identification, sample location, QC samples, and analytical parameters is presented in Table 1. Sample analysis was completed at Merit Laboratories, Inc. in East Lansing, Michigan, in accordance with the methodologies presented in Table 2.

The QC criteria used to assess the data were established by the methods and the Quality Assurance Project Plan (QAPP). Application of quality assurance criteria was consistent with following guidance 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) "USEPA Contact Laboratory Program National Functional Guidelines for Inorganic Review", USEPA 540/R-94/013, February 1994.

These guidelines are collectively referred to as the "Guidelines" in this memorandum.

Sample Quantitation

The laboratory reported detected concentrations of volatile organic compounds (VOCs) and inorganics below the laboratory's practical quantitation limit (PQL)/report limit (RL) but above the laboratory's method detection limit (MDL). The laboratory flagged these sample concentrations with a "J" or a "B" for organics and inorganics respectively. These concentrations should be qualified as estimated (J) values unless qualified otherwise in this memorandum. The laboratory "B" flags may be disregarded.

Sample Preservation and Holding Times

Sample holding time periods and preservation requirements are presented in the methods.

All samples were prepared and/or analyzed with the specified holding time periods.

All samples were shipped and maintained in accordance with the samples preservation requirements.

Gas Chromatography/Mass Spectrometer (GC/MS) - Tuning and Mass Calibration (Instrument Performance Check) - Organic Analyses

To ensure adequate mass resolution, identification, and to some degree, sensitivity, the performance of each GC/MS instrument used for VOC analyses was checked at the beginning of each 12-hour period using bromofluorobenzene (BFB). The resulting spectra must meet the criteria cited in the "Guidelines" before initiating an analysis sequence.

Instrument performance check data were reviewed. These tuning compounds were analyzed at the required frequency throughout the VOC analyses. The results of all instrument performance checks were within the acceptance criteria, indicating acceptable instrument performance.

Initial Calibration - Organic Analyses

Initial calibration data are used to demonstrate that each instrument is capable of generating acceptable quantitative data. A five point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each over a specific concentration range.

Initial calibration criteria for organic analyses are evaluated against the following criteria:

i) GC/MS (all compounds) - must meet a minimum mean relative response factor (RRF) of 0.05; and

ii) GM/MS (all compounds) - the percent relative standard deviation (%RSD) values must not exceed 30.0 percent or a minimum coefficient of determination of 0.995 or 0.990 if linear or quadratic equation calibration curves are used.

Calibration standards were analyzed at the required frequency and the results met the above criteria for linearity and sensitivity with the exception of acetone which failed the criteria for minimum RRF. Table 3 presents the data that was rejected due to minimum RRF criteria failure.

Continuing Calibration - Organic Analyses

To ensure that each instrument was capable of producing acceptable quantitative data over the analysis period, continuing calibration standards must be analyzed every 12 hours for GC/MS analyses. The following criteria are employed to evaluate the continuing calibration data:

i) GC/MS (all compounds) - must meet a minimum mean RRF of 0.05;

ii) GC/MS (all compounds) - the percent difference between the mean initial calibration RRF and the continuing calibration RRF must not exceed 25 percent; and

iii) GC/MS (compounds determined by linear or quadratic curves) - the percent drift between the true value and the continuing calibration value must not exceed 25 percent.

Calibration standards were analyzed at the required frequency and the results met the above criteria for instrument sensitivity and linearity of response and sensitivity.

Inductively Coupled Plasma/Mass Spectrometer (ICP/MS) -
Mass Calibration and Resolution Checks - Metal Analyses

To ensure adequate mass resolution, identification, and to some degree, sensitivity, the performance of each ICP/MS instrument used for metals analyses was checked prior to calibration before initiating an analysis sequence through the analysis of a tuning solution. The results of the tuning solution analysis were reviewed against the following criteria:

i) analyze tuning solution a minimum of four times with a %RSD of less than or equal to five for the analytes contained in the tuning solution; and

ii) the mass resolution must be within 0.1 atomic mass unit (amu) of the true value over the analytical range.

Instrument performance check data were reviewed. The tuning solution was analyzed at the required frequency throughout the analyses. The results of all instrument performance checks were within the acceptance criteria, indicating acceptable instrument performance.

Initial Calibration - Inorganic Analyses

The initial calibration includes a blank and at least one standard for ICP/MS to establish the analytical curve. Cyanide analysis by spectrophotometry requires the analysis of a calibration blank and a minimum of five standards to establish the calibration curve. The coefficient of variation for calibration curves must exceed 0.995.

Initial calibration is verified with an initial calibration verification (ICV) standard which must recover within 90 to 110 percent for metals by ICP/MS and 85 to 115 percent for cyanide by spectrophotometry.

A review of the laboratory data showed that the inorganic initial calibration curves and ICVs were analyzed at the appropriate frequency and were within the acceptance criteria.

Continuing Calibration - Inorganic Analyses

Continuing calibration verification (CCV) standards are analyzed at method specified frequency (one every ten samples). The CCVs must meet the percent recovery control limits specified above for the ICVs. Criteria for inorganic analyses are the same criteria as used for assessing the initial calibration data.

A review of the laboratory data showed that CCVs were analyzed at the appropriate frequency and the data were within the acceptance criteria.

Method Blank Samples

Method blank samples are prepared from a purified sample matrix and are processed concurrently with investigative samples to assess the presence and the magnitude of sample contamination introduced during sample analysis. Method blank samples are analyzed at a minimum frequency of one per analytical batch and target analytes should be non-detect.

The laboratory flagged the organic concentrations with a "B" and the inorganics with a "J", both of which may be disregarded. The method blank samples were reported to be free from detectable levels of target analytes, indicating no laboratory-attributable contamination occurred.

Laboratory Blank Samples - Inorganic Analyses

Metals analyses include the analysis of initial calibration blanks (ICBs) and continuing calibration blanks (CCBs) to assess the presence and the magnitude of sample contamination introduced during sample analysis. The CCBs are analyzed at a minimum frequency of one every ten samples and target analytes should be non-detect.

The ICBs and CCBs were reported to be free from detectable levels of target analytes, indicating no laboratory-attributable contamination occurred.

Surrogate Compounds - Organic Analyses

Individual sample performance for organic analyses was monitored by assessing the results of surrogate compound percent recoveries. Surrogate percent recoveries are reviewed against the laboratory developed control limits provided in the analytical report.

The surrogate recovery acceptance criteria were met for all samples.

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

To assess the long-term accuracy and precision of the analytical methods on various matrices, MS/MSD percent recoveries and the relative percent difference (RPD) of the concentrations were determined. The organic MS/MSD percent recovery and RPD control limits are established by the laboratory. The inorganic control limits are defined by the methods and the "Guidelines", which require recoveries between 75 to 125 percent with RPDs less than 20 percent for water samples. The samples selected for MS/MSD analysis are identified in Table 1.

Acceptance criteria were met in the MS/MSD sample analyses.

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

The LCS/LCSD analyses serve as a monitor of the overall performance in all steps of the sample analysis and are analyzed with each sample batch. The LCS/LCSD percent recoveries were evaluated against method and laboratory established control limits.

The LCS/LCSD percent recoveries were within the laboratory control limits or did not warrant qualification, indicating that an acceptable level of overall performance was achieved.

Laboratory precision was verified by the RPD of the LCS/LCSD when a MS/MSD was not analyzed.

The RPDs were within the laboratory control limits, indicating that an acceptable level of overall laboratory precision was achieved.

Internal Standard (IS) Summaries - Organic Analyses

To correct for variability in the GC/MS response and sensitivity, IS compounds are added to all samples. All results are calculated as a ratio of the compound and associated IS response. Overall instrument stability and performance for VOC analyses were monitored using IS peak area and retention time (RT) data. The IS peak areas and RT of the samples are required to meet the following criteria:

i) IS area counts must not vary by more than a factor of two (-50 percent to +100 percent) from the associated continuing calibration standard IS area counts; and

ii) the RT of the IS must not vary by more than ?30 seconds from the associated continuing calibration standard.

A review of the VOC IS data showed that the IS area counts and RT data were within the acceptance criteria.

Internal Standard (IS) Summaries - Inorganic Analyses

To correct for variability in the ICP/MS response and sensitivity, IS are added to all samples. Overall instrument stability and performance for metals analyses was monitored using the IS intensity data which are evaluated against the following criteria:

i) the IS intensities in samples must recover between 30 and 120 percent of the true value; and

ii) the IS intensities in instrument calibration checks (CCVs and CCBs) must recover between 80 and 120 percent of the true value.

A review of the ICP/MS metals IS data showed that the IS intensities were within the acceptance criteria.

Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Analysis - Inorganic Analyses

To verify that proper inter-element and background correction factors had been established by the laboratory for metals analyses, the ICP ICS are analyzed. The ICSs are evaluated against recovery control limits of 80 to 120 percent.

The ICS analysis results were evaluated for all samples and were within the control limits.

Serial Dilution - Inorganic Analyses

The percent difference (%D) between a serial dilution of a sample for each matrix was monitored to determine physical or chemical interference. A minimum of one sample per 20 investigative samples is analyzed at a five-fold dilution. The serial dilution results must agree within 10%D of the original results for samples with detected concentrations greater than 100 times the instrument detection limit.

The %D acceptance criteria were met for most analytes. The iron serial dilution result did not agree to within 10 %D of the original result. All sample results associated with this serial dilution are qualified as estimated (see Table 4).

Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra (if applicable) were evaluated according to identification criteria established by the methods. The organic compounds reported adhered to the specified identification criteria.

Target Compound Quantitation

The reported quantitation results and detection limits were checked to ensure results reported were accurate. No discrepancies were found between the raw data and the sample results reported by the laboratory.

Field Quality Assurance/Quality Control (QA/QC)

The field QA/QC consisted of one trip blank sample, one field blank (rinsate) sample, one field duplicate sample set, and one co-located sample set.

Trip Blank

To monitor potential cross-contamination of VOC during aqueous sample transportation and storage, a trip blank was submitted to the laboratory for VOC analysis with each shipping cooler containing multiple samples.

Toluene was detected in the trip blank. No qualification was necessary because the associated investigative samples were non-detect for toluene. No additional target analytes were detected in the trip blank sample.

Field Blank

To assess the efficiency of field decontamination procedures and cleanliness of sample containers, the rinsate sample identified in Table 1 was collected and analyzed.

Toluene was detected in the field blank. No qualification was necessary because the associated investigative samples were non-detect for toluene. No additional targeted analytes were detected in the rinsate sample.

Field Duplicates and Co-Located Samples

Overall precision for the sampling event and laboratory procedures was monitored using the results of the field duplicate sample sets. The RPDs associated with these duplicate samples must be less than 50 percent for water samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the RL, the evaluation criteria is one times the RL value for water samples.

The data indicate that an adequate level of precision was achieved for all analytes.

System Performance

System performance between various quality control checks was evaluated to monitor for changes that may have caused the degradation of data quality. No technical problems or chromatographic anomalies were observed which would require qualification of the data.

Overall Assessment

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

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
COLDWATER ROAD LANDFILL-FORMER WWTP GW SAMPLING
GENERAL MOTORS CORPORATION
FLINT, MICHIGAN
MARCH 2008

				Analysis/Parameters														
Sample ID	*Location ID*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*VOCs*	*Total Cyanide*	*Total Lead*	*Total Arsenic*	*Total Iron*	*Total Manganese*	*Total Nickel*	*Total Chromium*	*Dissolved Lead*	*Dissolved Arsenic*	*Dissolved Iron*	*Dissolved Manganese*	*Dissolved Nickel*	*Dissolved Chromium*	*Comments*
OBG MW03	OBG MW03	03/18/08	9:25			X	X	X	X									
OBG MW04	OBG MW04	03/18/08	10:45			X	X	X	X									
OBG MW04 MS/MSD	OBG MW04	03/18/08	10:45			X	X	X	X									MS/MSD
OBG MW05	OBG MW05	03/18/08	12:10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
OBG FB01	Field Blank	03/18/08	13:15	X	X	X	X	X	X	X	X							Field Blank
OBG MW06	OBG MW06	03/18/08	13:25	X	X	X	X	X	X	X	X							
OBG MW08	OBG MW08	03/18/08	14:25	X	X	X	X	X	X	X	X							
OBG DUP01	OBG MW08	03/18/08	14:25	X	X	X	X	X	X	X	X							Field Duplicate
OBG MW07	OBG MW07	03/18/08	15:30			X	X	X	X									
OBG MW07 Co-Located	OBG MW07	03/18/08	15:30			X	X	X	X									Field Co-Located
OBG MW02	OBG MW02	03/18/08	16:20			X	X	X	X									
OBG MW01	OBG MW01	03/18/08	17:15			X	X	X	X									MS/MSD
OBG TB01	Trip Blank	03/18/08	-	X														Trip Blank

Notes:

-	Not Applicable.
MS	Matrix Spike.
MSD	Matrix Spike Duplicate.
VOCs	Volatile Organic Compounds.

TABLE 2

SUMMARY OF ANALYTICAL METHODOLOGIES
COLDWATER ROAD LANDFILL-FORMER WWTP GW SAMPLING
GENERAL MOTORS CORPORATION
FLINT, MICHIGAN
MARCH 2008

Parameter	*Method*
VOCs	SW-846 8260B[1]
Select Metals, Total & Dissolved	USEPA 200.8[2]
Total Cyanide	USEPA 335.4[2]

Notes:

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

2 "Methods for Chemical Analysis of Water and Wastes," USEPA-600/4-79-020, March 1983 (with all subsequent revisions).

USEPA United States Environmental Protection Agency.
VOCs Volatile Organic Compounds.

TABLE 3

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING INITIAL CALIBRATION RESULTS
COLDWATER ROAD LANDFILL-FORMER WWTP GW SAMPLING
GENERAL MOTORS CORPORATION
FLINT, MICHIGAN
MARCH 2008

Parameter	*Compound*	*Calibration Date*	*RRF*	*Associated Sample ID*	*Sample Results*	*Units*	*Qualifier*
Volatiles	Acetone	03/22/08	0.03	OBG DUP01	50 U	µg/L	R
				OBG MW05	50 U	µg/L	R
				OBG MW06	50 U	µg/L	R
				OBG MW08	50 U	µg/L	R

Notes:
R Rejected.
RRF Relative Response Factor.
U Not Detected.

TABLE 4

QUALIFIED SAMPLES RESULTS DUE TO OUTLYING SERIAL DILUTIONS
COLDWATER ROAD LANDFILL-FORMER WWTP GW SAMPLING
GENERAL MOTORS CORPORATION
FLINT, MICHIGAN
MARCH 2008

Sample ID	*Analyte*	*%D*	*Control Limits*	*Associated Samples*	*Sample Results*	*Units*	*Qualifier*
OBG MW03	Iron	12	0-10	OBG DUP01	0.26	mg/L	J
				OBG MW01	0.16	mg/L	J
				OBG MW02	0.28	mg/L	J
				OBG MW03	1.18	mg/L	J
				OBG MW04	0.13	mg/L	J
				OBG MW05	1.77	mg/L	J
				OBG MW06	0.35	mg/L	J
				OBG MW07 Co-Located	0.54	mg/L	J
				OBG MW07	0.56	mg/L	J
				OBG MW08	0.28	mg/L	J

Notes:
%D Percent Difference.
J Estimated.

Analytical Laboratory Report

Report ID: S35858.01(01)
Generated on 04/02/2008

Report to

Attention: Tony Finch
O'Brien & Gere Engineers, Inc.
33469 West 14 Mile Road Suite 150
Farmington Hills. MI 48331

Phone: 248-477-5701 FAX: 248-661-4057
Email: YantzCS@obg.com

Report produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S35858.01-S35858.14
Project: Fmr WWTP Coldwater SSOW# R006005
Collected Date: 03/18/2008
Submitted Date/Time: 03/19/2008 15:15
Sampled by: Kevin Schneider
P.O. #: 4002702

Report Notes

Results relate only to items tested as received by the laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
"Not detected" indicates that parameter was not found at a level equal to or greater than the RDL.

Violetta F. Murshak

Violetta F. Murshak
Laboratory Director

Sample Summary (14 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S35858.01	OBG MW03	Groundwater	03/18/2008 09:25
S35858.02	OBG MW04	Groundwater	03/18/2008 10:45
S35858.03	OBG MW04 MS	Groundwater	03/18/2008 10:45
S35858.04	OBG MW04 MSD	Groundwater	03/18/2008 10:45
S35858.05	OBG MW05	Groundwater	03/18/2008 12:10
S35858.06	OBG FB01	Water Quality	03/18/2008 13:15
S35858.07	OBG MW06	Groundwater	03/18/2008 13:25
S35858.08	OBG MW08	Groundwater	03/18/2008 14:25
S35858.09	OBG DUP01	Groundwater	03/18/2008
S35858.10	OBG MW07	Groundwater	03/18/2008 15:30
S35858.11	OBG MW07 Co-Located	Groundwater	03/18/2008 15:30
S35858.12	OBG MW02	Groundwater	03/18/2008 16:20
S35858.13	OBG MW01	Groundwater	03/18/2008 17:15
S35858.14	OBG TB01	Water Quality	03/18/2008

Merit Laboratories, Inc.

Analytical Laboratory Report

Lab Sample ID: S35858.01
Sample Tag: OBG MW03
Collected Date/Time: 03/18/2008 09:25
Matrix: Groundwater
COC Reference: 04147

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.9	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	03/21/08 12:00	SLS		
Metals								
Arsenic	Not detected	mg/L	0.001	200.8	03/21/08 15:10	SLS	7440-38-2	
Iron	1.18	mg/L	0.02	200.8	03/21/08 15:10	SLS	7439-89-6	
Lead	Not detected	mg/L	0.003	200.8	03/21/08 15:10	SLS	7439-92-1	
Manganese	5.05	mg/L	0.005	200.8	03/21/08 15:10	SLS	7439-96-5	

Analytical Laboratory Report

Lab Sample ID: S35858.02
Sample Tag: OBG MW04
Collected Date/Time: 03/18/2008 10:45
Matrix: Groundwater
COC Reference: 04147

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.9	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	03/21/08 12:00	SLS		
Metals								
Arsenic	Not detected	mg/L	0.001	200.8	03/21/08 15:20	SLS	7440-38-2	
Iron	0.13	mg/L	0.02	200.8	03/21/08 15:20	SLS	7439-89-6	
Lead	Not detected	mg/L	0.003	200.8	03/21/08 15:20	SLS	7439-92-1	
Manganese	0.054	mg/L	0.005	200.8	03/21/08 15:20	SLS	7439-96-5	

Analytical Laboratory Report

Lab Sample ID: S35858.03
Sample Tag: OBG MW04 MS
Collected Date/Time: 03/18/2008 10:45
Matrix: Groundwater
COC Reference: 04147

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.9	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	03/21/08 12:00	SLS		
Metals								
Arsenic	0.263	mg/L	0.001	200.8	03/21/08 15:23	SLS	7440-38-2	
Iron	0.37	mg/L	0.02	200.8	03/21/08 15:23	SLS	7439-89-6	
Lead	0.240	mg/L	0.003	200.8	03/21/08 15:23	SLS	7439-92-1	
Manganese	0.313	mg/L	0.005	200.8	03/21/08 15:23	SLS	7439-96-5	

Analytical Laboratory Report

Lab Sample ID: S35858.04
Sample Tag: OBG MW04 MSD
Collected Date/Time: 03/18/2008 10:45
Matrix: Groundwater
COC Reference: 04147

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.9	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	03/21/08 12:00	SLS		
Metals								
Arsenic	0.266	mg/L	0.001	200.8	03/21/08 15:25	SLS	7440-38-2	
Iron	0.35	mg/L	0.02	200.8	03/21/08 15:25	SLS	7439-89-6	
Lead	0.238	mg/L	0.003	200.8	03/21/08 15:25	SLS	7439-92-1	
Manganese	0.294	mg/L	0.005	200.8	03/21/08 15:25	SLS	7439-96-5	

Analytical Laboratory Report

Lab Sample ID: S35858.05
Sample Tag: OBG MW05
Collected Date/Time: 03/18/2008 12:10
Matrix: Groundwater
COC Reference: 04147

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.9	IR
2	40ml Glass	HCL	Yes	4.9	IR
1	125ml Plastic	NaOH	Yes	4.9	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	03/21/08 12:00	SLS		
Metal Digestion	Completed			3015A	03/21/08 12:00	SLS		
Inorganics								
Cyanide	0.022	mg/L	0.005	335.4	03/24/08 16:08	JDP	57-12-5	
Metals								
Arsenic, Dissolved	0.004	mg/L	0.001	200.8	03/21/08 15:15	SLS	7440-38-2	
Arsenic	0.010	mg/L	0.001	200.8	03/21/08 15:12	SLS	7440-38-2	
Chromium, Dissolved	0.001	mg/L	0.005	200.8	03/21/08 15:15	SLS	7440-47-3	b
Chromium	0.001	mg/L	0.005	200.8	03/21/08 15:12	SLS	7440-47-3	b
Iron, Dissolved	0.19	mg/L	0.02	200.8	03/21/08 15:15	SLS	7439-89-6	
Iron	1.77	mg/L	0.02	200.8	03/21/08 15:12	SLS	7439-89-6	
Lead, Dissolved	Not detected	mg/L	0.003	200.8	03/21/08 15:15	SLS	7439-92-1	
Lead	Not detected	mg/L	0.003	200.8	03/21/08 15:12	SLS	7439-92-1	
Manganese, Dissolved	0.520	mg/L	0.005	200.8	03/21/08 15:15	SLS	7439-96-5	
Manganese	0.532	mg/L	0.005	200.8	03/21/08 15:12	SLS	7439-96-5	
Nickel, Dissolved	0.024	mg/L	0.005	200.8	03/21/08 15:15	SLS	7440-02-0	
Nickel	0.024	mg/L	0.005	200.8	03/21/08 15:12	SLS	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	03/31/08 15:59	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	03/31/08 15:59	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	03/31/08 15:59	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	03/31/08 15:59	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	106-46-7	
1,1-Dichloroethane	2	ug/L	1	8260B	03/31/08 15:59	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	107-06-2	

b-Value detected less than reporting limit, but greater than MDL

Lab Sample ID: S35858.05 (continued)
Sample Tag: OBG MW05

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
1,1-Dichloroethene	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	75-35-4	
cis-1,2-Dichloroethene	4	ug/L	1	8260B	03/31/08 15:59	JGH	156-59-2	
trans-1,2-Dichloroethene	0.2	ug/L	1	8260B	03/31/08 15:59	JGH	156-60-5	J
1,2-Dichloropropane	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	100-41-4	
Isopropylbenzene	Not detected	ug/L	5	8260B	03/31/08 15:59	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	03/31/08 15:59	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	03/31/08 15:59	JGH	75-09-2	
Naphthalene	0.2	ug/L	5	8260B	03/31/08 15:59	JGH	91-20-3	J
n-Propylbenzene	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	79-34-5	
Tetrachloroethene	0.2	ug/L	1	8260B	03/31/08 15:59	JGH	127-18-4	J
Toluene	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	79-00-5	
Trichloroethene	0.5	ug/L	1	8260B	03/31/08 15:59	JGH	79-01-6	J
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	03/31/08 15:59	JGH		
Acetone	Not detected	ug/L	50	8260B	03/31/08 15:59	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	03/31/08 15:59	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	03/31/08 15:59	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	03/31/08 15:59	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	03/31/08 15:59	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	03/31/08 15:59	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	03/31/08 15:59	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	03/31/08 15:59	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	03/31/08 15:59	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	03/31/08 15:59	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	03/31/08 15:59	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	03/31/08 15:59	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	03/31/08 15:59	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	03/31/08 15:59	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	03/31/08 15:59	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	74-88-4	
Tetrahydrofuran	Not detected	ug/L	90	8260B	03/31/08 15:59	JGH	109-99-9	
Trichlorofluoromethane	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	526-73-8	

J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S35858.05 (continued)
Sample Tag: OBG MW05

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	03/31/08 15:59	JGH	110-57-6	

Analytical Laboratory Report

Lab Sample ID: S35858.06
Sample Tag: OBG FB01
Collected Date/Time: 03/18/2008 13:15
Matrix: Water Quality
COC Reference: 04147

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.9	IR
2	40ml Glass	HCL	Yes	4.9	IR
1	125ml Plastic	NaOH	Yes	4.9	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	03/21/08 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/L	0.005	335.4	03/24/08 16:16	JDP	57-12-5	
Metals								
Arsenic	Not detected	mg/L	0.001	200.8	03/21/08 15:18	SLS	7440-38-2	
Chromium	Not detected	mg/L	0.005	200.8	03/21/08 15:18	SLS	7440-47-3	
Iron	Not detected	mg/L	0.02	200.8	03/21/08 15:18	SLS	7439-89-6	
Lead	Not detected	mg/L	0.003	200.8	03/21/08 15:18	SLS	7439-92-1	
Manganese	0.003	mg/L	0.005	200.8	03/21/08 15:18	SLS	7439-96-5	b
Nickel	Not detected	mg/L	0.005	200.8	03/21/08 15:18	SLS	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	03/31/08 16:17	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	03/31/08 16:17	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	03/31/08 16:17	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	03/31/08 16:17	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	100-41-4	

b-Value detected less than reporting limit, but greater than MDL

Lab Sample ID: S35858.06 (continued)
Sample Tag: OBG FB01

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Isopropylbenzene	Not detected	ug/L	5	8260B	03/31/08 16:17	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	03/31/08 16:17	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	03/31/08 16:17	JGH	75-09-2	
Naphthalene	Not detected	ug/L	5	8260B	03/31/08 16:17	JGH	91-20-3	
n-Propylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	127-18-4	
Toluene	0.1	ug/L	1	8260B	03/31/08 16:17	JGH	108-88-3	J
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	79-01-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	03/31/08 16:17	JGH		
Acetone	Not detected	ug/L	50	8260B	03/31/08 16:17	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	03/31/08 16:17	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	03/31/08 16:17	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	03/31/08 16:17	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	03/31/08 16:17	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	03/31/08 16:17	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	03/31/08 16:17	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	03/31/08 16:17	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	03/31/08 16:17	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	03/31/08 16:17	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	03/31/08 16:17	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	03/31/08 16:17	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	03/31/08 16:17	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	03/31/08 16:17	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	03/31/08 16:17	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	74-88-4	
Tetrahydrofuran	Not detected	ug/L	90	8260B	03/31/08 16:17	JGH	109-99-9	
Trichlorofluoromethane	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	526-73-8	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	03/31/08 16:17	JGH	110-57-6	

J-Estimated value less than reporting limit, but greater than MDL

Merit Laboratories, Inc.

Analytical Laboratory Report

Lab Sample ID: S35858.07
Sample Tag: OBG MW06
Collected Date/Time: 03/18/2008 13:25
Matrix: Groundwater
COC Reference: 04147

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.9	IR
2	40ml Glass	HCL	Yes	4.9	IR
1	125ml Plastic	NaOH	Yes	4.9	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	03/21/08 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/L	0.005	335.4	03/24/08 16:18	JDP	57-12-5	
Metals								
Arsenic	Not detected	mg/L	0.001	200.8	03/21/08 15:33	SLS	7440-38-2	
Chromium	0.001	mg/L	0.005	200.8	03/21/08 15:33	SLS	7440-47-3	b
Iron	0.35	mg/L	0.02	200.8	03/21/08 15:33	SLS	7439-89-6	
Lead	Not detected	mg/L	0.003	200.8	03/21/08 15:33	SLS	7439-92-1	
Manganese	0.322	mg/L	0.005	200.8	03/21/08 15:33	SLS	7439-96-5	
Nickel	0.015	mg/L	0.005	200.8	03/21/08 15:33	SLS	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	03/31/08 16:35	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	03/31/08 16:35	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	03/31/08 16:35	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	03/31/08 16:35	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	100-41-4	

b-Value detected less than reporting limit, but greater than MDL

Lab Sample ID: S35858.07 (continued)
Sample Tag: OBG MW06

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Isopropylbenzene	Not detected	ug/L	5	8260B	03/31/08 16:35	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	03/31/08 16:35	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	03/31/08 16:35	JGH	75-09-2	
Naphthalene	Not detected	ug/L	5	8260B	03/31/08 16:35	JGH	91-20-3	
n-Propylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	79-01-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	03/31/08 16:35	JGH		
Acetone	Not detected	ug/L	50	8260B	03/31/08 16:35	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	03/31/08 16:35	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	03/31/08 16:35	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	03/31/08 16:35	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	03/31/08 16:35	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	03/31/08 16:35	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	03/31/08 16:35	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	03/31/08 16:35	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	03/31/08 16:35	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	03/31/08 16:35	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	03/31/08 16:35	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	03/31/08 16:35	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	03/31/08 16:35	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	03/31/08 16:35	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	03/31/08 16:35	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	74-88-4	
Tetrahydrofuran	Not detected	ug/L	90	8260B	03/31/08 16:35	JGH	109-99-9	
Trichlorofluoromethane	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	526-73-8	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	03/31/08 16:35	JGH	110-57-6	

Merit Laboratories, Inc.

Analytical Laboratory Report

Lab Sample ID: S35858.08
Sample Tag: OBG MW08
Collected Date/Time: 03/18/2008 14:25
Matrix: Groundwater
COC Reference: 04147

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.9	IR
2	40ml Glass	HCL	Yes	4.9	IR
1	125ml Plastic	NaOH	Yes	4.9	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	03/21/08 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/L	0.005	335.4	03/24/08 16:20	JDP	57-12-5	
Metals								
Arsenic	Not detected	mg/L	0.001	200.8	03/21/08 15:36	SLS	7440-38-2	
Chromium	0.001	mg/L	0.005	200.8	03/21/08 15:36	SLS	7440-47-3	b
Iron	0.28	mg/L	0.02	200.8	03/21/08 15:36	SLS	7439-89-6	
Lead	Not detected	mg/L	0.003	200.8	03/21/08 15:36	SLS	7439-92-1	
Manganese	0.337	mg/L	0.005	200.8	03/21/08 15:36	SLS	7439-96-5	
Nickel	0.038	mg/L	0.005	200.8	03/21/08 15:36	SLS	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	03/31/08 16:53	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	03/31/08 16:53	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	03/31/08 16:53	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	03/31/08 16:53	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	106-46-7	
1,1-Dichloroethane	0.1	ug/L	1	8260B	03/31/08 16:53	JGH	75-34-3	J
1,2-Dichloroethane	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	10061-02-6	

b-Value detected less than reporting limit, but greater than MDL
J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S35858.08 (continued)
Sample Tag: OBG MW08

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Ethylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	100-41-4	
Isopropylbenzene	Not detected	ug/L	5	8260B	03/31/08 16:53	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	03/31/08 16:53	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	03/31/08 16:53	JGH	75-09-2	
Naphthalene	Not detected	ug/L	5	8260B	03/31/08 16:53	JGH	91-20-3	
n-Propylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	79-01-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	03/31/08 16:53	JGH		
Acetone	Not detected	ug/L	50	8260B	03/31/08 16:53	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	03/31/08 16:53	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	03/31/08 16:53	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	03/31/08 16:53	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	03/31/08 16:53	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	03/31/08 16:53	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	03/31/08 16:53	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	03/31/08 16:53	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	03/31/08 16:53	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	03/31/08 16:53	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	03/31/08 16:53	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	03/31/08 16:53	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	03/31/08 16:53	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	03/31/08 16:53	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	03/31/08 16:53	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	74-88-4	
Tetrahydrofuran	Not detected	ug/L	90	8260B	03/31/08 16:53	JGH	109-99-9	
Trichlorofluoromethane	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	526-73-8	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	03/31/08 16:53	JGH	110-57-6	

Analytical Laboratory Report

Lab Sample ID: S35858.09
Sample Tag: OBG DUP01
Collected Date/Time: 03/18/2008 :
Matrix: Groundwater
COC Reference: 04147

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.9	IR
2	40ml Glass	HCL	Yes	4.9	IR
1	125ml Plastic	NaOH	Yes	4.9	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	03/21/08 12:00	SLS		
Inorganics								
Cyanide	Not detected	mg/L	0.005	335.4	03/24/08 16:22	JDP	57-12-5	
Metals								
Arsenic	Not detected	mg/L	0.001	200.8	03/21/08 15:38	SLS	7440-38-2	
Chromium	0.001	mg/L	0.005	200.8	03/21/08 15:38	SLS	7440-47-3	b
Iron	0.26	mg/L	0.02	200.8	03/21/08 15:38	SLS	7439-89-6	
Lead	Not detected	mg/L	0.003	200.8	03/21/08 15:38	SLS	7439-92-1	
Manganese	0.338	mg/L	0.005	200.8	03/21/08 15:38	SLS	7439-96-5	
Nickel	0.038	mg/L	0.005	200.8	03/21/08 15:38	SLS	7440-02-0	
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	03/31/08 17:11	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	03/31/08 17:11	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	03/31/08 17:11	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	03/31/08 17:11	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	106-46-7	
1,1-Dichloroethane	0.2	ug/L	1	8260B	03/31/08 17:11	JGH	75-34-3	J
1,2-Dichloroethane	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	10061-02-6	

b-Value detected less than reporting limit, but greater than MDL
J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S35858.09 (continued)
Sample Tag: OBG DUP01

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
Ethylbenzene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	100-41-4	
Isopropylbenzene	Not detected	ug/L	5	8260B	03/31/08 17:11	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	03/31/08 17:11	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	03/31/08 17:11	JGH	75-09-2	
Naphthalene	Not detected	ug/L	5	8260B	03/31/08 17:11	JGH	91-20-3	
n-Propylbenzene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	127-18-4	
Toluene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	108-88-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	79-01-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	95-47-6	
p,m-Xylene	Not detected	ug/L	2	8260B	03/31/08 17:11	JGH		
Acetone	Not detected	ug/L	50	8260B	03/31/08 17:11	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	03/31/08 17:11	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	03/31/08 17:11	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	03/31/08 17:11	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	03/31/08 17:11	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	03/31/08 17:11	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	03/31/08 17:11	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	03/31/08 17:11	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	03/31/08 17:11	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	03/31/08 17:11	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	03/31/08 17:11	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	03/31/08 17:11	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	03/31/08 17:11	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	03/31/08 17:11	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	03/31/08 17:11	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	74-88-4	
Tetrahydrofuran	Not detected	ug/L	90	8260B	03/31/08 17:11	JGH	109-99-9	
Trichlorofluoromethane	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	526-73-8	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	03/31/08 17:11	JGH	110-57-6	

Analytical Laboratory Report

Lab Sample ID: S35858.10
Sample Tag: OBG MW07
Collected Date/Time: 03/18/2008 15:30
Matrix: Groundwater
COC Reference: 04147

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.9	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	03/21/08 12:00	SLS		
Metals								
Arsenic	0.003	mg/L	0.001	200.8	03/21/08 15:41	SLS	7440-38-2	
Iron	0.56	mg/L	0.02	200.8	03/21/08 15:41	SLS	7439-89-6	
Lead	Not detected	mg/L	0.003	200.8	03/21/08 15:41	SLS	7439-92-1	
Manganese	0.212	mg/L	0.005	200.8	03/21/08 15:41	SLS	7439-96-5	

Analytical Laboratory Report

Lab Sample ID: S35858.11
Sample Tag: OBG MW07 Co-Located
Collected Date/Time: 03/18/2008 15:30
Matrix: Groundwater
COC Reference: 04147

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.9	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	03/21/08 12:00	SLS		
Metals								
Arsenic	0.002	mg/L	0.001	200.8	03/21/08 15:44	SLS	7440-38-2	
Iron	0.54	mg/L	0.02	200.8	03/21/08 15:44	SLS	7439-89-6	
Lead	Not detected	mg/L	0.003	200.8	03/21/08 15:44	SLS	7439-92-1	
Manganese	0.208	mg/L	0.005	200.8	03/21/08 15:44	SLS	7439-96-5	

Analytical Laboratory Report

Lab Sample ID: S35858.12
Sample Tag: OBG MW02
Collected Date/Time: 03/18/2008 16:20
Matrix: Groundwater
COC Reference: 04147

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.9	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	03/21/08 12:00	SLS		
Metals								
Arsenic	Not detected	mg/L	0.001	200.8	03/21/08 15:46	SLS	7440-38-2	
Iron	0.28	mg/L	0.02	200.8	03/21/08 15:46	SLS	7439-89-6	
Lead	Not detected	mg/L	0.003	200.8	03/21/08 15:46	SLS	7439-92-1	
Manganese	0.097	mg/L	0.005	200.8	03/21/08 15:46	SLS	7439-96-5	

Analytical Laboratory Report

Lab Sample ID: S35858.13
Sample Tag: OBG MW01
Collected Date/Time: 03/18/2008 17:15
Matrix: Groundwater
COC Reference: 04147

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.9	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			3015A	03/21/08 12:00	SLS		
Metals								
Arsenic	Not detected	mg/L	0.001	200.8	03/21/08 15:49	SLS	7440-38-2	
Iron	0.16	mg/L	0.02	200.8	03/21/08 15:49	SLS	7439-89-6	
Lead	Not detected	mg/L	0.003	200.8	03/21/08 15:49	SLS	7439-92-1	
Manganese	0.405	mg/L	0.005	200.8	03/21/08 15:49	SLS	7439-96-5	

Merit Laboratories, Inc.

Analytical Laboratory Report

Lab Sample ID: S35858.14
Sample Tag: OBG TB01
Collected Date/Time: 03/18/2008 :
Matrix: Water Quality
COC Reference: 04147

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	4.9	IR

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles								
Volatile Organics - DEQ List								
Benzene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	71-43-2	
Bromodichloromethane	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	75-27-4	
Bromoform	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	75-25-2	
Bromomethane	Not detected	ug/L	5	8260B	03/31/08 17:29	JGH	74-83-9	
n-Butylbenzene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	104-51-8	
sec-Butylbenzene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	135-98-8	
tert-Butylbenzene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	98-06-6	
Carbon tetrachloride	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	56-23-5	
Chlorobenzene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	108-90-7	
Chloroethane	Not detected	ug/L	5	8260B	03/31/08 17:29	JGH	75-00-3	
Chloroform	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	67-66-3	
Chloromethane	Not detected	ug/L	5	8260B	03/31/08 17:29	JGH	74-87-3	
Dibromochloromethane	Not detected	ug/L	5	8260B	03/31/08 17:29	JGH	124-48-1	
1,2-Dichlorobenzene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	106-46-7	
1,1-Dichloroethane	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	75-34-3	
1,2-Dichloroethane	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	107-06-2	
1,1-Dichloroethene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	75-35-4	
cis-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	156-59-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	156-60-5	
1,2-Dichloropropane	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	78-87-5	
cis-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	10061-01-5	
trans-1,3-Dichloropropene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	10061-02-6	
Ethylbenzene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	100-41-4	
Isopropylbenzene	Not detected	ug/L	5	8260B	03/31/08 17:29	JGH	98-82-8	
p-Isopropyltoluene	Not detected	ug/L	5	8260B	03/31/08 17:29	JGH	99-87-6	
Methylene chloride	Not detected	ug/L	5	8260B	03/31/08 17:29	JGH	75-09-2	
Naphthalene	Not detected	ug/L	5	8260B	03/31/08 17:29	JGH	91-20-3	
n-Propylbenzene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	103-65-1	
Styrene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	100-42-5	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	79-34-5	
Tetrachloroethene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	127-18-4	
Toluene	0.1	ug/L	1	8260B	03/31/08 17:29	JGH	108-88-3	J
1,1,1-Trichloroethane	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	71-55-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	79-00-5	
Trichloroethene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	79-01-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	95-63-6	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	108-67-8	
Vinyl chloride	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	75-01-4	
o-Xylene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	95-47-6	

J-Estimated value less than reporting limit, but greater than MDL

Lab Sample ID: S35858.14 (continued)
Sample Tag: OBG TB01

Analysis	Results	Units	RDL	Method	Run Date/Time	Analyst	CAS #	Flags
Organics - Volatiles (continued)								
Volatile Organics - DEQ List (continued)								
p,m-Xylene	Not detected	ug/L	2	8260B	03/31/08 17:29	JGH		
Acetone	Not detected	ug/L	50	8260B	03/31/08 17:29	JGH	67-64-1	
2-Butanone (MEK)	Not detected	ug/L	30	8260B	03/31/08 17:29	JGH	78-93-3	
Carbon disulfide	Not detected	ug/L	5	8260B	03/31/08 17:29	JGH	75-15-0	
2-Hexanone	Not detected	ug/L	50	8260B	03/31/08 17:29	JGH	591-78-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	8260B	03/31/08 17:29	JGH	108-10-1	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	8260B	03/31/08 17:29	JGH	1634-04-4	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	630-20-6	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	8260B	03/31/08 17:29	JGH	87-61-6	
1,2,3-Trichloropropane	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	96-18-4	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	8260B	03/31/08 17:29	JGH	120-82-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	8260B	03/31/08 17:29	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	106-93-4	
2-Methylnaphthalene	Not detected	ug/L	5	8260B	03/31/08 17:29	JGH	91-57-6	
Acrylonitrile	Not detected	ug/L	2	8260B	03/31/08 17:29	JGH	107-13-1	
Bromobenzene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	108-86-1	
Bromochloromethane	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	74-97-5	
Dibromomethane	Not detected	ug/L	5	8260B	03/31/08 17:29	JGH	74-95-3	
Dichlorodifluoromethane	Not detected	ug/L	5	8260B	03/31/08 17:29	JGH	75-71-8	
Diethyl ether	Not detected	ug/L	10	8260B	03/31/08 17:29	JGH	60-29-7	
Hexachloroethane	Not detected	ug/L	5	8260B	03/31/08 17:29	JGH	67-72-1	
Methyl iodide	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	74-88-4	
Tetrahydrofuran	Not detected	ug/L	90	8260B	03/31/08 17:29	JGH	109-99-9	
Trichlorofluoromethane	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	75-69-4	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	526-73-8	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	8260B	03/31/08 17:29	JGH	110-57-6	

ENCORE

CHAIN-OF-CUSTODY / Analytical Request Document

Page: [illegible] of [illegible]

№ 04147

Required Client Information:

Company: [illegible]	Report To: [illegible]
Address: [illegible]	Copy To:
[illegible]	Invoice To: [illegible]
	P.O.
Phone: [illegible]	Project Name: [illegible]
Fax:	Project Number: [illegible]
E-mail:	

Laboratory: [illegible]	
Laboratory Location: [illegible]	
Encore Contact: [illegible]	
Report Due Date: [illegible]	
Quote Reference: [illegible]	

Valid Matrix Codes

Preservatives

Analysis Requested

Sample Identification:

	Sample ID	Matrix	Date	Time	# Containers	Analyses Requested
[illegible]	CBC MW03	WG	[illegible]	1225	1	X X X X
[illegible]	CBC MW04	WG		1045	1	X X X X
[illegible]	CBC MW04 MS/MSD	WG		1045	3	X X X X
[illegible]	CBC MW01	WG		1210	[illegible]	X X X X X X X X X
[illegible]	CBC [illegible]	WG		1315	4	X X X X X X X X
[illegible]	CBC MW06	WG		1320	4	X X X X X X X X
[illegible]	CBC MW05	WG		1440	4	X X X X X X X X
[illegible]	CBC Dup 01	WG		—	4	X X X X X X X X
[illegible]	CBC MW07	WG		1230	1	X X X X
[illegible]	CBC MW02 [illegible]	WG		[illegible]	1	X X X X
[illegible]	CBC MW02	WG		[illegible]	1	X X X X
[illegible]	CBC MW01	WG		[illegible]	1	X X X X
[illegible]	CBC TB01	WG		—	1	X

Remarks / Lab ID: Dissolved Metals [illegible], Arsenic, [illegible], Manganese, Nickel, Strontium

SHIPMENT METHOD	NO. OF COOLERS	RELINQUISHED BY / AFFILIATION	DATE	TIME	RECEIVED BY / AFFILIATION	DATE	TIME
	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Airbill No.					[illegible]	[illegible]	[illegible]

Sample Condition

Temp °C	[illegible]
Received on Ice	Y N
Sealed Cooler	Y N
Samples Intact	Y N

Additional Comments: VOCs = [illegible] BATCH Complete

Sampler Name: [illegible]

Sampler Signature: [illegible] Date: [illegible]

Distribution: WHITE - [illegible] YELLOW - [illegible] PINK - [illegible]

APPENDIX I

MDEQ GSI Site Specific Calculation Worksheet

Calculation of Generic Facility-Specific Part 201 Groundwater Surface Water Interface (GSI) Criteria for {G} Footnoted Hazardous Substances

Directions for calculating generic facility-specific GSI criteria:

1. Enter "hardness" (Column C) or "pH" (Column D). Click the green check mark to the left of the Excel formula bar or press the "Enter" key.
2. The GSI criteria for surface water not protected as a source of drinking water are the lower of the final chronic value (FCV), wildlife value (WV), and the surface water human non-drinking water value (HNDV). These criteria are presented in Column L.
3. The GSI criteria for surface water protected as a source of drinking water are the lower of the FCV, WV, and surface water human drinking water value (HDV). Surface water protected as a source of drinking water includes the Great Lakes and their connecting waters, and inland surface water in close proximity to a water supply intake. These criteria are presented in Column M. Refer to Part 201 Criteria Application Guidesheet #3 for further guidance on selecting the applicable GSI criterion.
4. The final acute values (FAV) protective of aquatic life are presented in column E. The calculation of the FAV is provided to allow the identification of any exceedance of an acute GSI criterion. Where an exceedance of an acute GSI criterion exists, an evaluation must be done to determine appropriate action in accordance with provisions of R 299.5716, R 299.5526(4) and RRD Operational Memorandum No. 5.

Calculate GSI in ug/L (ppb)

Hazardous Substance	Chemical Abstract Service Number (CAS #)	* ENTER Hardness in mg CaCO3/L	* ENTER pH	Final Acute Value (FAV)	FAV Conversion Factor	Final Chronic Value (FCV)	FCV Conversion Factor	Wildlife Value (WV)	Surface Water Human Non-Drinking Water Value (HNDV)	Surface Water Human Drinking Water Value (HDV)	GSI Criteria for Surface Water Not Protected for Drinking Water Use	GSI Criteria for Surface Water Protected for Drinking Water Use
Acetate	71501	NA	pH	Calculated	NA	Calculated	NA	NA	1.3E+6	16,000	Calculated	Calculated
Barium	7440393	hardness	NA	Calculated	NA	Calculated	NA	NA	1.6E+5	1,900	Calculated	Calculated
Beryllium	7440417	hardness	NA	Calculated	NA	Calculated	NA	NA	1,200	160	Calculated	Calculated
Cadmium	7440439	hardness	NA	Calculated	Calculated	Calculated	Calculated	NA	130	3	Calculated	Calculated
Chromium (III)	16065831	160	NA	1588.339518	NA	1.0E+2	0.86	NA	9,400	120	1.0E+2	1.0E+2
Copper	7440508	hardness	NA	Calculated	NA	Calculated	0.96	NA	64,000	790	Calculated	Calculated
Lead	7439921	hardness	NA	Calculated	Calculated	Calculated	Calculated	NA	190	14	Calculated	Calculated
Manganese	7439965	hardness	NA	Calculated	NA	Calculated	NA	NA	59,000	3,600	Calculated	Calculated
Nickel	7440020	hardness	NA	Calculated	NA	Calculated	0.997	NA	2.1E+5	2,600	Calculated	Calculated
Zinc	7440666	hardness	NA	Calculated	NA	Calculated	0.986	NA	22,000	4,500	Calculated	Calculated
Pentachlorophenol	87865	NA	pH	Calculated	NA	Calculated	NA	NA	2.8	1.8	Calculated	Calculated

NA = Criterion or value is not available or not applicable.

* The formulas in this spreadsheet depend upon appropriate entries in these cells. Do not leave these cells blank. If numeric hardness or pH values are not available, enter the word "hardness" or "pH" in the appropriate cell.

Calculation of Generic Facility-Specific Part 201 Soil GSI Protection Criteria (GSI PC)

Directions for calculating a generic facility-specific soil GSI PC:

1. Enter the "GSI" criterion calculated on the previous page, rounded to 2 significant figures. Click the green check mark to the left of the Excel formula bar or press the "Enter" key.
2. The GSI PC will calculate and appear in Column W. The GSI PC are the higher of the Soil-Water Partition Value for GSI (Column U) and the 20 X GSI value (Column V).

Calculate Soil GSI PC in ug/Kg (ppb)

Hazardous Substance	Chemical Abstract Service Number (CAS #)	* ENTER GSI	Soil-Water Distribution Coefficients (Kd) L/Kg	Henry's Law Constant (HLC) atm-m3/mol	Soil Organic Carbon-Water Partition Coefficient (Koc) L/Kg	Soil-Water Partition Value for GSI ug/Kg	20 X GSI ug/Kg	Soil GSI PC ug/Kg
Acetate	71501	GSI	NA	NA	NA	Calculated	Calculated	Calculated
Barium	7440393	GSI	41	NA	NA	Calculated	Calculated	Calculated
Beryllium	7440417	GSI	790	NA	NA	Calculated	Calculated	Calculated
Cadmium	7440439	GSI	75	NA	NA	Calculated	Calculated	Calculated
Chromium (III)	16065831	GSI	1.8E+6	NA	NA	Calculated	Calculated	Calculated
Copper	7440508	GSI	360	NA	NA	Calculated	Calculated	Calculated
Lead	7439921	GSI	11,000	NA	NA	Calculated	Calculated	Calculated
Manganese	7439965	GSI	NA	NA	NA	Calculated	Calculated	Calculated
Nickel	7440020	GSI	65	NA	NA	Calculated	Calculated	Calculated
Zinc	7440666	GSI	62	NA	NA	Calculated	Calculated	Calculated
Pentachlorophenol	87865	GSI	NA	2.44E-8	592	Calculated	Calculated	Calculated

NA = Criterion or value is not available or not applicable.

* The formulas in this spreadsheet depend upon appropriate entries in these cells. Do not leave these cells blank. If numeric GSI values are not available, enter "GSI" in the appropriate cell.