

FINAL REPORT

**CORRECTIVE MEASURES STUDY REPORT  
DORT HIGHWAY LAND  
GRAND BLANC, MICHIGAN**

Revitalizing Auto Communities Environmental Response Trust (RACER)  
Ypsilanti, Michigan

JUNE 2013



# Corrective Measures Study Report Dort Highway Land

Affronting Dort Highway  
Grand Blanc, Michigan

Prepared for: RACER Trust  
Ypsilanti, Michigan



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## 1. INTRODUCTION

This document has been prepared as the Resource Conservation and Recovery Act (RCRA) Corrective Measures Study (CMS) Report to fulfill the requirements under Section V.3, as modified in accordance with Section VII, of the Performance-based Voluntary Agreement (VA) dated September 29, 2011 for the Revitalizing Auto Communities Environmental Response (RACER) Trust Dort Highway Land Site (Site) located in Grand Blanc, Michigan (Figures 1 and 2, herein referred to as “the Site”). The Site's United States Environmental Protection Agency (U.S. EPA) Identification Number is MID 005 356 944. This CMS report documents the Corrective Measures completed at the Site to protect human health and the environment from current and future unacceptable risks due to releases of hazardous constituents at or from the Site, and provides a proposal for the closure of (final Corrective Measures for) the Site.

The U.S. EPA will select final Corrective Measures for the Site after the public comment period. This CMS references more detailed information that can be found in various reports and in other documents submitted to the U.S. EPA during the RCRA Corrective Action process (see Section 8) as cited within this report.

The remainder of this CMS is organized into the following sections:

- | Section 2 – **Site Background and Setting**, describes the physical characteristics of the Site and summarizes the previous investigations and remediation activities conducted at the Site
- | Section 3 – **Corrective Measures Alternatives**, presents and describes the potential corrective measures alternatives for the Site
- | Section 4 – **Evaluation of Corrective Measures Alternatives**, presents the evaluation of the corrective measures alternatives, including a description of the evaluation criteria
- | Section 5 - **Proposed Corrective Measures Alternatives**, identifies the proposed corrective measures alternatives for the Site
- | Section 6 – **Schedule**, presents the proposed schedule for implementation of the final Corrective Measures for the Site
- | Section 7 – **Conclusion, final discussion and conclusion**
- | Section 8 – **References**, list documents used in preparation of this CMS report.

## 2. SITE BACKGROUND AND SETTING

The following provides a general description of the Site, Site background and land use, Site topography and drainage, and the Site and regional geology and hydrogeology of the Site. It also provides a brief summary of previous investigations and remediation activities conducted at the Site. Citations are provided for existing reports that provide more specific details concerning previously completed Site investigation and remediation activities, including the methods/procedures utilized and results of those activities.

### 2.1 SITE LOCATION AND DESCRIPTION

The Site is located in Grand Blanc Township, Genesee County, Michigan (Figure 1) in an industrial and commercial area of Grand Blanc, Michigan and fronts on Dort Highway (Figure 2). The current address for the Site (10800 S. Saginaw Street) is also associated with the adjacent General Motors LLC (GM) plant, and at some point a unique address for the Site may be established.

The Site is presently owned by RACER Properties, LLC, a wholly-owned subsidiary of RACER Trust, which received ownership of the Site following the bankruptcy of General Motors Corporation (former GM Corporation)/Motors Liquidation Company (MLC) and finalization of a Settlement Agreement through the bankruptcy court. The Dort Highway Land Site is comprised of a 20.44 acre portion of what was formerly part of an area of the former GM Corporation Site known as Area 2. The GM operational portion of the former GM Corporation plant is now known as the Weld Tool Center (WTC) – Grand Blanc (Figure 1). Per the bankruptcy settlement process, activities are in progress to transfer ownership of the GM operational portion of the former plant to GM.

The Site is currently unused vacant land and a fence encloses the property, separating it from the adjacent GM facility. The primary access gate for the Site is located in the northeast portion of the Site; however, there is a second access gate for entering the Site property located in the southwest corner of the Site (Figure 2), which can only be accessed by going through GM's security. A line of pine trees is present just inside of the perimeter fence along the western, northern and northeastern boundary of the Site.

### 2.2 SITE BACKGROUND AND LAND USE

The Site and the original portion of the adjacent plant were constructed in 1942 as a tank arsenal by the United States Department of Defense. The Site was initially used as a test track for the tanks manufactured at the adjacent plant, and also included a pump house and water tank utilized for water storage for firefighting. After World War II, the Site and plant were leased from the government by the Buick Motor Division and were purchased by the former General Motors Corporation in 1951. The Site was then used for die and other equipment storage during the manufacturing of automobile parts at the adjacent plant, and for water storage. During the Korean Emergency, Fisher Body produced Patton M-48 Medium Tanks at the plant, and the Site was again used as a tank test track. In 1955, the Site was converted to automotive body metal fabricating and the Press Room was added to the plant. The former GM Corporation stopped manufacturing automotive body parts in 2008 and began the demolition of the former Press Room, which concluded in 2010. The pump house and tank formerly at the Site were also decommissioned and demolished during this time. GM currently fabricates, assembles and repairs robotic systems for automotive plants at the adjacent plant (O'Brien & Gere, 2011a).

Approximately 4 feet of soils and fill materials, including concrete and asphalt pavement on average were stripped/removed from the Site during the demolition of the former Press Room to fill in its basement. The soil removal activities were completed in 2009 on the Site, and no seeding or stabilization of the Site was undertaken. Generally the perimeter and some areas of the Site were not stripped to the 4 foot depth due to encountering concrete or debris in the former water test for tank trough and former floor block areas (Figure 2). The drawings provided in Appendix A represent the proposed cut and fill maps that guided the removal of the soils from the Site, and Figure 3 provides the topography of the Site following completion of the soil removal activities (see Section 2.7.2).

## 2.3 SITE TOPOGRAPHY AND SURFACE WATER FEATURES

The topography of the Site is generally characterized by a gentle northeast to southwest slope along the southern and north central portions of the Site, a gentle northwest slope along the eastern portion of the Site, and a gentle north to south slope along the very western portion of the Site. Figure 3 represents the current, approximate surface topography of the Site (survey completed in November/December 2010) after the soil removal activities were completed in 2009. In 2011 GM installed an approximate 1 to 4 foot high berm along the southern boundary of the Site to separate the GM and Site properties, and installed a new perimeter fence along the southern and eastern boundaries of the Site. Along the western edge of the Site the topography rises to generally contain the surface drainage on Site; therefore, two drainage structures (Figure 3) were installed in 2011 to allow discharge of Site storm water to the drainage ditch west of the Site. Water ponds during/after precipitation near the two discharge structures. This ditch west of the Site discharges to a drainage ditch that drains to the west below Dort Highway and eventually discharges to Gibson Drain located approximately 1,300 ft southwest of the Site. The topographic relief at the Site is about 15 ft. It varies from a high of about 836 ft above mean sea level (aMSL) at the very north corner of the Site and along the southeast corner of the Site to 821 ft aMSL in the southwestern corner of the Site.

## 2.4 GEOLOGY AND HYDROGEOLOGY

### 2.4.1 Regional Geology

The Site is underlain by unconsolidated glacial drift soils to depths of about 120 to 160 ft beneath the Site according to the Groundwater Resources Map Series for Grand Blanc Township (U of M – Flint, Nov. 1994). The soils at the Site consist of loam and clay loam from the Conover series with low infiltration rates (O'Brien & Gere, 2005). The native clay soils, with discontinuous sand seams, underlying surficial topsoil or fill soils at the Site likely extend to the top of bedrock. The Groundwater Resources Maps indicate between 80 and 90 percent of the drift soils to a depth of 100 ft consist of clay in the area of the Site.

Bedrock in the area of the Site is a stratified sequence from the Paleozoic Era. The Bedrock Geology of Michigan (MDNR, 1987) map indicates the Site is underlain by the Pennsylvanian age Saginaw Formation consisting of a fine-grained sandstone and siltstone interbedded with shale, limestone, coal and gypsum. The bedrock surface is reported to vary in elevation from about 680 to 720 ft aMSL beneath the Site and generally slopes toward the southwest.

### 2.4.2 Regional Hydrogeology

The depth to groundwater at the Site is generally less than 12 ft (see Table C1 in Appendix C); however, this may be indicative of perched groundwater conditions. The Groundwater Resources Map Series for Grand Blanc Township (U of M – Flint, 1994) indicates the regional groundwater table exists at elevations of about 770 to 780 ft aMSL in the area of the Site, which corresponds to depths of about 50 to 70 ft below grade (fbg). The Site area is gently sloped and based on local topography, the shallow perched groundwater flow direction appears to be generally towards the east, east of the Site toward Thread Creek located about two thirds of a mile northeast of the Site, and towards the west on the Site toward Gibson Drain located about a quarter mile west of the Site (Figure 1). However, deeper regional groundwater flow is reported to flow towards the northwest (U of M – Flint, 1994).

## 2.4.3 SITE GEOLOGY AND HYDROGEOLOGY

### 2.4.3.1 Site Geology

The Site geology based on the twenty-eight soil borings installed during the Phase II Environmental Site Assessment (ESA) (O'Brien & Gere, 2007a) and Delineation Investigation (O'Brien & Gere, 2007b, also see O'Brien & Gere, 2011a), and the nine monitoring wells installed during the Groundwater Investigation (O'Brien & Gere, 2012b) generally consisted of a layer of damp, brown silty SAND fill material to depths of up to 6 fbg in

the south central to southeastern portion of the Site where remediation efforts including backfilling of excavations took place, and along the northeastern and northwestern perimeters of the Site where less soil was removed, but is absent elsewhere due to the aforementioned soil removal activities conducted at the Site. In addition, the former asphalt, concrete, gravel or topsoil that once capped the Site, depending on the location on Site, were generally removed during the soil removal activities.

Underlying the fill materials, where present, or from the current ground surface to around 4 to 16.5 fbg a layer of medium stiff to hard, moist, brown with gray mottling, silty CLAY, little to some sand, trace to little gravel with a Unified Soil Classification System (USCS) symbol of CL was consistent throughout almost the entire Site. Underlying the brown mottled clay to depths of up to 24 fbg, the deepest depth investigated, the soil became less mottled or was not mottled and generally consisted of a moist to wet, medium plasticity to stiff, gray, silty CLAY, little to some sand, trace to little gravel with a USCS symbol of CL, which, with discontinuous sand seams, extends to depths of over 100 fbg in the Site area (U of M – Flint, 1994).

Thin and apparently discontinuous sand seams ranging from less than an inch thick to 3.6 feet thick were observed in the monitoring well borings, except in the borings for MW-5 and MW2-1; however, MW2-1 had two approximately 6 inch thick seams of wet, sandy CLAY from 17.5 to 18 fbg and 19.5 to 20 fbg. The sand seams generally consisted of moist to wet, brown, coarse to fine (often predominantly medium to fine) SAND, little silt to silty SAND with a USCS symbol of SM. Figure 4 presents three cross-sections (A-A', B-B'-B", and C-C') to help illustrate the Site geology, and the relationship between the historical surface topography and the post-soil removal (2010)/post-remediation (2012) topography of the Site.

#### 2.4.3.2 Site Hydrogeology

Depths to groundwater were measured within the monitoring wells at the Site in June, September and December 2012 and March 2013 during the quarterly groundwater sampling events and are presented in Table C1. However, these water levels may not correspond to the depth to the true unconfined groundwater table or phreatic surface, as the saturated sand seams observed at the Site may constitute semi-confined saturated zones. This is supported by field observations of unsaturated soils during drilling and sampling, and the depth to which groundwater was observed in several of the monitoring wells, but in particular within monitoring well MW-3 on March 14, 2013, which was approximately 0.12 ft above the ground surface.

The June 27, 2012 results indicate that the groundwater level in MW-5, which had no sand seams, had not completely stabilized prior to measuring the water level as the depth to groundwater in MW-5 was 21.00 ft below top of casing (fbTOC), well below water levels in other wells in the area at that time, and water levels obtained from MW-5 during subsequent sampling events, which were around 6 to 8 fbTOC. The groundwater levels collected on September 27, 2012 ranged from 4.32 ft fbTOC or 2.14 fbg at MW-3 to 11.04 fbTOC or 8.70 fbg at MW-7 (Table C1), and appear to represent typical groundwater levels (piezometric heads) during drier periods, and provide an indication of the groundwater flow direction at the Site. The resulting groundwater elevations ranged from 827.32 ft aMSL at MW-9 to 818.60 ft aMSL at MW-4 (Table C1 and Figure 5). Figures 5 through 8 provide groundwater contour maps for each of the quarterly sampling events. The groundwater levels collected on March 14, 2013 may represent the typical groundwater levels during wetter periods, which indicates that ponded water within the topographic low area located near MW-3 and MW-4 affects the water level in these wells during wetter periods causing a slightly more westward flow direction during these periods.

The groundwater contours indicate a flow pattern originating from the southeastern and northern portions of the Site with a general overall westerly/south westerly flow direction. The inclusion of the groundwater level for the shallow sand seam at MW-1 in the contour map provides a more southerly flow component near the northern portion of the Site. The groundwater flow pattern in many shallow perched/primarily clayey near surface hydrogeologic settings can be complex, locally variable, and in some cases contours of groundwater elevations may even indicate that the groundwater elevations should not be contoured. However, the groundwater flow direction indicated by the contours of the groundwater elevations in the monitoring wells at the Site agrees with the predicted flow direction based on topographic and surface water information for the

Site area. Local shallow groundwater in the Site area appears to ultimately flow toward Gibson Drain located west of the Site.

## 2.5 WATER SUPPLY

Local municipally supplied drinking water in the Site area is supplied by the Grand Blanc Township Water Supply System (through a series of organizations). The source of the water is Lake Huron. However, the City of Grand Blanc, which is located just east of the Site, operates four municipal groundwater wells. The closest of these is approximately 1 mile east (sidegradient) of the Site (Grand Blanc Well #3, see Appendix B). Each of the municipal wells is over 300 ft deep, is cased through the glacial drift soils and produces water from the regional bedrock aquifer (sandstone units of the Saginaw Formation). The Site is not in a designated wellhead protection area and the only designated wellhead protection area located within 1-mile of the Site is located east or sidegradient of the Site and is associated with Well #3.

Groundwater on the Site is not used for potable or non-potable purposes. The expected future use of groundwater at the property is consistent with the current use (*i.e.*, no use), and will be maintained via a deed restriction that will be placed on the property as part of the Corrective Measures for the Site (see Section 5). The most recent Phase I ESA report (O'Brien & Gere, 2010) identified fifty-five wells within 1 mile of the Site. Therefore, groundwater in the area near the Site is used for potable or non-potable purposes, although generally not from the glacial soils, but from the regional bedrock aquifer. Based on the Michigan Department of Environmental Quality (MDEQ) Water Well Viewer database, the nearest private well is approximately a tenth of a mile northwest of the Site (at 2524 Gibson) and is cased through the glacial drift soils (to 150 fbg) and produces water from the regional bedrock aquifer (Appendix B). Similarly, the next closest well is a former production well (#5) located on the GM property about a tenth of a mile south of the Site, which also obtained water from the regional bedrock aquifer. Well #5 was formerly used to provide fire protection water for the adjacent GM plant, but has not been used in over a decade and is no longer operational (a boring log for this well is not available). The next closest potable well is located approximately a quarter of a mile northwest of the Site (at 2435 Gibson) and is also cased through the glacial drift soils (to 171 fbg) and also produces water from the regional bedrock aquifer (Appendix B).

There is a state-wide regulation prohibiting the installation of a well for potable use within the uppermost 25 feet below the ground surface.

## 2.6 PREVIOUS SITE INVESTIGATIONS

O'Brien & Gere conducted two Phase I Environmental Site Assessment (ESA) Investigations (O'Brien & Gere, 2005 and 2010), a Phase II ESA Investigation (O'Brien & Gere, 2007a), and a Delineation Investigation of the Site (O'Brien & Gere, 2007b). More recent investigations conducted by RACER in August and September 2011 (Current Conditions and Floor Block Area Investigations), and 2012/2013 (Groundwater Investigation) are discussed in Sections 2.6.4 and 2.6.5, respectively.

The following sections summarize each of the previous Site investigations.

### 2.6.1 Phase I Environmental Site Assessment

Two Phase I ESAs were conducted of the Site; one was conducted in 2005 for the former GM Corporation, and another was conducted in 2010, both for the former GM Corporation, which changed its name to Motors Liquidation Company (MLC) after the former GM Corporation filed for bankruptcy. Both Phase I ESAs were conducted to evaluate the existence of recognized environmental conditions (RECs) as defined by the ASTM E 1527-00 associated with the Site due to past or present Site activities.

The RECs identified in the 2005 Phase I ESA were used to guide the Phase II ESA for Site (see Section 2.6.2), and included:

- ┆ Potential impacts from the AST associated with the (now former) pump house (Figure 2)
- ┆ Potential impacts from the crock sump (Figure 2) pump discharge to the drainage ditch near the Dort Highway entrance to GM plant
- ┆ Potential impacts to soil and groundwater in the former die storage area(s)
- ┆ Historic production operations at the adjacent GM plant may have impacted the Site
- ┆ Potential impacts to soil and groundwater from former fire-training exercises (location unknown).

The 2010 Phase I ESA only identified a couple potential RECs on the Site: 1) impacted soils that may not have been removed during the 2009 soil removal activities, especially in the former miscellaneous equipment and material storage area, and 2) wood floor blocks identified in the now former floor block area along the southern boundary of the Site (Figure 2).

## 2.6.2 Phase II Environmental Site Assessment

O'Brien & Gere performed the Phase II ESA to evaluate the five RECs identified in the 2005 Phase I ESA report performed on the Site. The purpose of the Phase II ESA was to provide sufficient information regarding the presence and approximate extent of impacts, if any, within the Site to assist in making informed business decisions regarding the property. O'Brien & Gere first evaluated whether the RECs identified in the Phase I ESA report were confirmed by initially investigating the nature of the RECs and secondly by investigating the approximate extent of the impacts, if any, for each REC within the Site. This approach involved initially investigating and collecting environmental samples to identify the nature of the REC. This included analyzing for a more complete list of the potential parameters of concern, followed by identifying a focused list of potential constituents of concern (COCs) for each REC based on the initial sampling efforts. During the second round of investigation activities, the approximate extent of the REC was evaluated, if confirmed during the initial investigation, utilizing the initial sampling results and the focused list of COCs to guide the sample collection and analysis. The Phase II ESA included:

- ┆ Completion of 16 Geoprobe® boring samples to depths of up to 10 ft below grade (fbg, typically 5 to 10 fbg) and collection of 20 surface soil samples (Figure 9)
- ┆ Installation of 2 monitoring wells (MW2-1 and MW2-2) to approximate 20 fbg to assess groundwater flow conditions (additional wells were installed on portions of the GM property not owned by RACER), and assess water quality through sample collection
- ┆ Elevation survey of soil boring and monitoring well locations and top of casing elevations to use to accurately locate sample locations and to evaluate groundwater elevations and flow direction
- ┆ Laboratory analysis of soil and groundwater samples
- ┆ Phase II ESA report preparation.

The results of the Phase II ESA investigation are summarized below (see O'Brien & Gere, 2007a for more details)<sup>1</sup>:

- ┆ **AST Area:** The AST was located in a concrete vault that protected the tank from inclement weather and based on visual inspection of the AST, it did not appear to be leaking. The sample collected at soil boring SB2-10

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<sup>1</sup> Most of the soil samples represented by the Phase II ESA and Delineation Investigation (see Section 2.6.3) results were removed during the 2009 soil removal activities discussed in Section 2.2. Therefore, although the results are discussed in the text, the results for soil removed from the Site are not provided in the tables of this report so that the tabular data presented in this report represent current Site conditions (see Tables C2 through C6 in Appendix C). The results for soil removed from the Site in one of the three remedial actions or corrective measures already completed at the Site (see Sections 2.7.1 through 2.7.3) can be found in the reports referenced throughout this CMS report.

(Figures 9) immediately adjacent to the pump house AST was below the MDEQ criteria and did not indicate a release from the AST (see Table C2 in Appendix C)

- j Crock sump discharge area: The crock sump discharge area had limited surficial polynuclear aromatic hydrocarbon (PAH) detections, but were below the nonresidential criteria and appeared to have been roughly delineated during the Phase II ESA (Figures 9)
- j Die storage area: Two large areas within the die storage area of the Site had surficial PAH and metal impacts above the nonresidential direct contact and groundwater surface water interface (GSI) criteria for PAHs and above the GSI and drinking water protection criteria for some metals in soils (Figures 9 and 10). The first area was along the former drainage ditch near MW2-1, which is also known as Area C, that primarily contained PAH impacts (Figure 10) and the second, larger, area primarily had metals impacts in the area near MW2-2 and extending southward, which is known as Areas B-2, B-3 and B-4 (Figure 10). These impacts were delineated during the Phase II ESA
- j Historic production operations: The actual production operations do not appear to be impacting the Site; however, activities associated with the miscellaneous equipment and materials storage area, which somewhat coincides with the area now identified as the former (wood) floor block area had surficial PAH and/or metal impacts above the GSI and nonresidential direct contact criteria, and the nonresidential drinking water protection criteria for arsenic, cadmium, lead, mercury (Areas B-2, B-3 and B-4, Figure 10)
- j Former fire-training exercises: None of the Phase II ESA investigation results indicated impacts from former fire-training exercises.

Based on the Phase II ESA findings, soil leaching to groundwater is not occurring above the nonresidential groundwater criteria. Monitoring wells MW2-1 and MW2-2 were installed within two large areas of impacts within the die storage area; however, the water within these wells was below the nonresidential drinking water criteria (Table C4 in Appendix C), indicating that the surficial impacts did not impact the groundwater above the drinking water criteria. Selenium and silver, which are not considered Site COCs, were detected above their respective GSI criterion; however, monitoring wells MW2-1 and MW2-2 would not be considered GSI monitoring wells due to their distance from nearest surface water body. Groundwater compliance with GSI criteria would require GSI monitoring wells installed at the receiving surface water body. However, because these exceedances are just above their criteria, it is unlikely that the groundwater from the Site would impact surface water off-Site.

### 2.6.3 Delineation Investigation

The Delineation Investigation (O'Brien & Gere, 2007b) was conducted to further delineate the documented surface soil impacted locations identified at the Site, which were above the MDEQ nonresidential criteria.

The Delineation Investigation included:

- j Completion of 12 Geoprobe® boring samples to depths of up to 10 fbg (typically to 5 fbg) and collection of 47 surface soil samples (Figure 9)
- j Laboratory analysis of soil samples
- j Delineation Investigation report preparation.

The results of the Delineation Investigation provide the approximate extent and volume of impacts within the Site (see Figure 10). The Delineation Investigation indicated a total of approximately 2,599 cubic yards (CY) of impacted soils existed prior to the 2009 soil removal activities conducted to fill the former Press Room basement (see Section 2.2). However, following the soil removal activities only approximately 187 CY of PAH impacted soil still remained in the B-3 area (Figures 9 and 10) associated with soil samples SS2-24D-3' and SS2-24D-5', not counting the potential volume of floor blocks or soil in contact with the floor blocks (see Section 2.6.4).

## 2.6.4 Site Conditions and Floor Block Area Investigation

A Site Conditions investigation (O'Brien & Gere, 2011a) and a Floor Block Area Investigation (O'Brien & Gere, 2011e) were conducted on behalf of RACER in August and September 2011 to assess the Site conditions following the 2009 soil removal activities discussed in Section 2.2, and to evaluate the extent and potential impacts associated with the wood floor blocks identified on the southern end of the Site during the Phase I ESA conducted in 2010 for MLC.

The Site Conditions investigation included:

- | Collection of twenty surface soil samples (SS-1 through SS-20), five wood block samples (FB-01 through FB-05), and five samples of soil in contact with the floor blocks (FBS-01 through FBS-05) to confirm that impacted soils were removed from the Site area during the 2009 soil removal activities and to evaluate the floor blocks and soil in contact with the floor blocks (Figure 11)
- | Laboratory analysis of soil and floor block samples
- | Site History and Current Conditions report (O'Brien & Gere, 2011a through 2011d) preparation.

The sample locations and analytical parameters were selected based on the analytical results from the Phase II ESA and Delineation Investigation, and were analyzed for one or more of the following analytical parameters: volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), PAHs, RCRA metals, and PCBs.

The Floor Block Area Investigation included:

- | Excavation of twenty-eight test pits to depths of approximately 2 to 5 fbg to help delineate the vertical and horizontal extent of floor blocks at the Site
- | Collection of ten soil samples (FBS-06 through FBS-15) to further characterize the soil in the floor block area, in particular soil surrounding the floor blocks, but not in direct contact with the floor block (Figure 11)
- | Collection of two additional soil samples (SS-21 and SS-22) at a depth of approximately 4 fbg from two test pits where a slight odor and darker colored soils, which appeared like a buried topsoil layer, were observed below the floor block (Figure 11)
- | Laboratory analysis of soil samples
- | Floor Block Area Investigation & Corrective Measures Alternatives Analysis report (O'Brien & Gere, 2011e) preparation.

The sample locations and analytical parameters were selected based on the Site Conditions investigation results, and were analyzed for PAHs, which is the only remaining COC for the Site soil.

No VOCs were detected in the surface soil samples analyzed for VOCs, which included SS-13 through SS-16, which confirmed previous Phase II ESA sample results for the Site. None of the surface soil, soil in contact with floor block, or floor block samples analyzed for RCRA metals contained metals above the MDEQ nonresidential soil cleanup criteria, which indicates that metals impacts at the Site were remediated during the 2009 soil removal activities, which confirmed the Phase II ESA and Delineation Investigation results that indicated that metals impacts were restricted to surface soil or near surface impacts. Furthermore, no PCBs were detected in the surface soil, soil in contact with floor block, or floor block samples analyzed for PCBs, which confirmed the previous Phase II ESA sample results for the Site. PAHs were the only SVOC constituents detected at the Site, which confirmed the previous Phase II ESA and Delineation Investigation results.

The analytical results for the soil samples collected during the August and September 2011 sampling events indicated that the 2009 soil removal activities effectively remediated the Site for the impacts identified during the Phase II ESA and Delineation Investigation with the exception of PAH impacted soil associated with the floor blocks observed in the former Floor Block Area (see Figure 11 for an outline of the former floor block area, and Section 2.7.2 for a discussion of the soil removal activities and analytical results).

Several PAH constituents were detected at concentrations above the MDEQ nonresidential direct contact and/or drinking water protection criteria in floor block samples FB-01 through FB-05 within the former floor block area. The soil in contact with the floor blocks samples FBS-01, FBS-02 and FBS-03 exceeded the nonresidential direct contact criteria for one or more of the following PAHs: benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene, but at much lower concentrations (up to several orders of magnitude) than the floor blocks. In addition, bulk soil samples FBS-09, FBS-10, FBS-13 and FBS-14 exceeded the nonresidential direct contact criteria for benzo(a)pyrene. These bulk soil samples were associated with caches of floor blocks in two subareas of the former floor block area known as Subareas A and B (Figure 11). A third subarea, Subarea C (Figure 11), was associated with the PAH impacts that were not fully removed during the previous soil removal activities as discussed in Section 2.6.3. However, the bulk soil not associated with caches of floor blocks were below the nonresidential criteria.

Therefore, the floor blocks, soil in contact with the floor blocks, and the bulk soils in Subareas A through C were recommended for removal to eliminate potential future leaching to groundwater or direct contact exposure risks. However, it was recommended to leave the remaining soil in the floor block area, once the floor blocks were removed from the soils, because the bulk soil poses little risk through direct contact and no apparent risk to groundwater. 1,962 CY of soil (957 CY) and floor blocks (1,005 CY) were estimated to need removal and disposal to remediate the former floor block area (see Table 1 from O'Brien & Gere, 2011e). Section 2.7.3 provides a summary of the soil and floor block removal activities.

### 2.6.5 Groundwater Investigation

The Groundwater Investigation (O'Brien & Gere, 2012b) was performed to assess groundwater quality and flow conditions at the Site. Activities were performed in accordance with the methods outlined in the Revised Groundwater Investigation Work Plan (O'Brien & Gere, 2012a), the Health and Safety Plan (HASP) (O'Brien & Gere, 2011b), the Sampling and Analysis Plan (SAP) (O'Brien & Gere, 2011c) and the Quality Control Document (QCD) (O'Brien & Gere, 2011d).

Nine monitoring wells, MW-1 through MW-9 (Figure 2), were installed, developed and subsequently sampled to assess Site-specific groundwater flow conditions and potential impacts to groundwater from previously discussed historical Site activities/impacts. Monitoring well MW2-1, originally installed in 2006, was also redeveloped in conjunction with the development of monitoring wells MW-1 through MW-9. Monitoring well MW2-2 was apparently destroyed during the 2009 soil removal activities and could not be located for redevelopment and sampling.

Static water levels and groundwater samples were collected from monitoring wells MW-1 through MW-9 and existing well MW2-1 (Figure 2) during the initial groundwater sampling event that took place between June 27 and July 2, 2012, approximately two weeks following well development. Subsequently, static water levels were collected on a quarterly basis along with groundwater samples from selected monitoring wells, including MW-2, MW-4, MW-7, MW-9 and MW2-1. These wells were selected for sampling based on the results from the initial groundwater sampling event, as discussed below. Static water level and groundwater elevation data are summarized in Table C1. Using these data, a groundwater elevation contour map was prepared for each of the four quarterly events (Figures 5 through 8).

The groundwater samples were collected using low flow sampling methods as described in the O'Brien & Gere protocol in the SAP. While the well was being purged, indicator field parameters consisting of pH, conductivity, temperature, oxidation-reduction potential (ORP), turbidity, and dissolved oxygen (DO) were monitored continuously using an in-line meter. The field indicator parameters were recorded on sampling logs at five minute intervals and are provided in Appendix D.

Chain-of-custody forms were maintained and accompanied the samples to Merit Laboratories, Inc. in East Lansing, Michigan. Copies of the chain-of-custody forms are included in Appendix E along with the laboratory analytical reports. The initial groundwater samples were analyzed for the presence of VOCs, SVOCs, RCRA dissolved metals, if the turbidity did not stabilize below 20 NTUs, in accordance with the Section 4.8 of the SAP,

and RCRA total metals. Subsequently, groundwater samples were analyzed for the presence of dissolved and total selected RCRA metals, including arsenic, lead, selenium and silver, based on the initial groundwater sampling event results for arsenic and lead (see Table C4 in Appendix C), as discussed below, and the historical detection of selenium and silver above the GSI criteria in MW2-2 (Table C3 in Appendix C).

The Groundwater Investigation Report (O'Brien & Gere, 2012b) provides a more detailed description of the monitoring well installation and sampling activities, as well as the geologic and hydrogeologic data gathered during drilling and the initial groundwater sampling event. However, the geologic and hydrogeologic data gathered during drilling and the subsequent quarterly sampling events are incorporated into the Site Geology and Hydrogeology information provided in Sections 2.4.3.1 and 2.4.3.2.

Table C4 presents a summary of groundwater analytical results for detected constituents, and Appendix E provides the laboratory analytical reports for the groundwater sampling events. In the first round of sampling, three VOC constituents were detected during the sampling, but all detections were below the MDEQ criteria. 1,1-Dichloroethane was detected in MW-3 at 6 micrograms per liter ( $\mu\text{g/L}$ ), which is much less than its associated cleanup criteria. Bromodichloromethane was detected in the equipment blank at 2  $\mu\text{g/L}$ , and chloroform was detected in the equipment blank at 9  $\mu\text{g/L}$  and the trip blank (TB-3) at 5  $\mu\text{g/L}$ , and their detections are considered laboratory artifacts (*i.e.*, contamination). Similarly, dimethyl phthalate was the only SVOC detected, and was detected at MW-1, MW-2 MW2-1, MW-5, MW-8, and the field blank (FB-1) at concentrations ranging from 5 to 10  $\mu\text{g/L}$ , but was also detected in the associated laboratory method blank. Therefore, dimethyl phthalate is considered a laboratory contaminant. The VOC and SVOC results confirm the results from historical groundwater sampling and indicate that SVOCs, in particular PAHs, do not appear to have leached from historical soil impacts at the Site, and that VOCs and SVOCs are not COCs for Site groundwater. Therefore, VOCs and SVOCs were dropped from further analysis during the subsequent sampling events.

Arsenic, barium, and lead were the only metals detected during the Groundwater Investigation. Arsenic was detected above the MDEQ nonresidential drinking water and GSI criteria of 0.01 mg/L at MW-2, MW2-1 and MW-7 during each of the four quarterly events, except in MW-7 during the third (December 2012) sampling event. Arsenic was retained for analysis during the subsequent sampling events based on the initial groundwater sampling event results. The arsenic results were generally highest during the second (September 2012) sampling event and lowest during the fourth (March 2013) sampling event. Arsenic remains undetected in downgradient monitoring well MW-4. The dissolved and total results were within acceptable relative percent differences (RPD), except during the March 2013 when the dissolved arsenic results in MW-2 and MW-7 were about a third to half the total arsenic results. Generally it appears that the turbidity of the samples did not affect the overall results. Elevated arsenic in groundwater is common in southeast Michigan due to glacial till (clayey) soils that naturally contain arsenic. According to the MDEQ Water Well Viewer database, arsenic concentrations in the regional aquifer range from less than 10  $\mu\text{g/L}$  to greater than 50  $\mu\text{g/L}$  in the Site area. Furthermore, monitoring wells MW-2, MW2-1, MW-7 are upgradient and away from the former Floor Block and former miscellaneous equipment and material storage areas where elevated arsenic in soils was historically detected, and those impacted soils were removed during the 2009 soil removal activities (see Section 2.7.2).

Barium was detected in monitoring wells MW-1 through MW-9 and MW2-1, but was below the MDEQ criteria during the initial groundwater sampling event. Therefore, barium was not analyzed during the subsequent sampling events.

Lead was only detected at monitoring well MW-9 during the initial sampling event, and was detected at a concentration of 0.006 mg/L, which is above the MDEQ nonresidential drinking water criterion of 0.004 mg/L, but was below the GSI criterion of 0.014 mg/L. Lead was retained for analysis during the subsequent sampling events based on the initial groundwater sampling event results. Lead was either not detected or detected at the detection limit of 0.003 mg/L, which is below the drinking water criterion during the second and third sampling events. However, lead was detected above the MDEQ nonresidential drinking water criterion at MW-2, MW2-1, MW-7 and MW-9 and the GSI criterion at MW-7 and MW-9 during the fourth groundwater sampling event at

concentrations ranging from 0.005 mg/L to 0.021 mg/L. Monitoring wells MW-2 and MW-9 had the highest turbidity readings during the fourth sampling event, and MW-7 had its second highest turbidity during this sampling event. The dissolved and total results were within acceptable RPD, except during the March 2013 when the dissolved lead results in MW-7 and MW-9 were about a half to two thirds the total lead results. The Phase II ESA (O'Brien & Gere, 2007a) analytical results did not indicate that lead was a COC in the area surrounding monitoring wells MW-2, MW-1, MW-7 and MW-9, and was only detected above the MDEQ nonresidential drinking water protection criterion at one soil sampling location (SS2-14) during the Phase II Investigation. SS2-14 was located near MW-5, and was excavated during the soil removal activities conducted by the former GM Corporation to fill in the former Press Room basement.

During the March 2013 sampling event, silver was detected above the MDEQ GSI criterion of 0.0002 mg/L at MW-9 at a concentration of 0.0003 mg/L. This is the first time that silver was detected in the monitoring wells during the Groundwater Investigation.

The results of the Groundwater Investigation at the Site demonstrates that groundwater at the Site does not present a significant risk under current or future uses of the Site nor do the detected exceedances in the groundwater pose a significant risk due to potential off-site migration, including potential venting to surface water.

## 2.7 REMEDIAL ACTIONS

### 2.7.1 Subarea B-2 Remediation

O'Brien & Gere remediated an area approximately 40 foot by 40 foot, to a depth of about 1.5 ft for mercury impacts in the former Subarea B-2 (Figures 9 and 10) (see O'Brien & Gere, 2009 for more details). The area was located in the former miscellaneous equipment storage area, and was an area centered on surface soil sampling location SS2-20 (Figures 9 and 10).

A meeting was held on March 3, 2009 with James Innes of the MDEQ at the Site to discuss using soil from the Site to fill the basement of the former Press Room, which was being decommissioned. Although there were a number of impacts at the Site (primarily arsenic and PAHs, and exceedances of the GSI criteria), relocation of the soils from the Site to the basement of the former Press Room was considered moving soils from one area of the Site to another area with similar impacts, and an acceptable practice according to MDEQ regulations. However, the area impacted with mercury was considered dissimilar to the other impacts in the area, and Mr. Innes suggested the area be remediated to below drinking water quality criteria. O'Brien & Gere provided oversight and collected samples while MCM Management Corporation remediated the surficial mercury impacts on March 17, 2009.

Approximately 90 cubic yards of soil were removed from the area, transported and disposed as non-hazardous soil at the Cove Landfill of Bad Axe/Richfield Management LLC.

O'Brien & Gere collected nine confirmatory samples after the soil was removed following the MDEQ *Sampling Strategies and Statistics Training Materials (S<sup>3</sup>TM) for Part 201 Cleanup Criteria* (MDEQ, 2002) guidance document. The analytical results for the nine confirmatory samples were below the MDEQ nonresidential drinking water protection criteria (1.7 mg/kg). Four of the nine confirmatory samples were either non-detect or below the Michigan Statewide Default Background (default background) level (0.130 mg/kg). The remaining five confirmatory samples were above the default background level and the GSI criterion of 0.0012 mg/kg, and ranged from 0.216 mg/kg to 1.146 mg/kg. The sample with the highest concentration of mercury, which presented the greatest potential for mercury to leach to groundwater was analyzed using the synthetic precipitation leaching procedure (SPLP) by U.S. EPA Method 1312. The SPLP analytical result for the sample was 0.6 µg/L, which also exceeds the GSI criterion for groundwater of 0.0013 µg/L. However, mercury was not detected in the monitoring wells during the Groundwater Investigation, including monitoring well MW-5 that was installed approximately 60 ft downgradient of the former Subarea B-2, and mercury is no longer considered a COC for the Site following the former Subarea B-2 remediation efforts. Furthermore, an additional 2.5 to 3.0 ft

of soil was removed from the former Subarea B-2 area during the soil removal activities, which further remediated this area.

### 2.7.2 2009 Soil Removal Activities

MCM management Corporation, on behalf of the former GM Corporation, removed an average of about 4 feet of soil from the majority of the Site, as mentioned earlier. The drawings provided in Appendix A represent the proposed cut and fill maps that guided the removal of the soils from the Site, and Figure 3 provides the topography of the Site following completion of the soil removal activities.

Most of the impacts identified during the Phase II ESA and Delineation Investigation were shallow (less than 3 ft), except in the SS2-24 area (*i.e.*, subarea B-3, Figure 9) where impacts above the nonresidential criteria were encountered to depths of up to 6 ft (about 3 to 3.5 ft below the existing Site grade). Therefore, the impacts delineated during the Phase II ESA and Delineation Investigation were largely removed during the soil removal activities at the Site (see Table C2 for historical soil results still relevant after the soil removal and other remediation activities completed at the Site).

Originally, no confirmatory samples were collected to verify the completion of the soil removal remediation activities; however, confirmatory samples were collected in August 2011 in areas with pre-soil removal exceedances of the nonresidential criteria. Table C5 in Appendix C provides a summary of the 2011 soil results (both the August 2011 current conditions (*i.e.*, confirmatory) sample results and the September 2011 bulk soil within the floor block area sample results) that represent soil remaining on the Site.

### 2.7.3 IRM Activities

The former floor block area was remediated as an Interim Remedial Measure (IRM) for the Site based on the recommendations made in the Floor Block Area Investigation & Corrective Measures Alternatives Analysis report (O'Brien & Gere, 2011b), as summarized in Section 2.6.4. The objective of the IRM activities was to remove wood floor blocks and soil containing PAHs in excess of the MDEQ nonresidential direct contact criteria along the southern portion of the property (Figure 2). The IRM activities were completed in accordance with the methods outlined in the Floor Block Area Investigation & Corrective Measures Alternatives Analysis report (O'Brien & Gere, 2011b), the Health and Safety Plan (HASP) (O'Brien & Gere, 2011b), the Sampling and Analysis Plan (SAP) (O'Brien & Gere, 2011c) and the Quality Control Document (QCD) (O'Brien & Gere, 2011d).

The IRM activities were completed at the Site between December 2011 and January 2012, which included soil excavation and removal, where appropriate, removal of floor blocks, confirmation sampling and analysis, backfilling, and off-Site disposal of approximately 3,105 tons of material containing PAHs. IRM activities also included Site restoration activities that took place between January and March 2012, which included grading, topsoil placement, seeding, fertilizing and mulching. Seeding, fertilizing and mulching activities were delayed approximately eight weeks due to wet Site conditions following final grading.

Appendix F provides a technical memorandum summarizing the IRM activities, results and findings.

Based on field observations during the IRM activities and confirmation sampling presented in the attached technical memorandum, removal of the floor blocks and impacted soil was achieved and the remediation of the former floor block area is considered complete. Table C6 in Appendix C provides a summary of the relevant confirmatory sample analytical results and does not contain sample results for the three samples that exceed the criteria that resulted in removal of the soil these samples represented. Figure 12 provides the locations for the remaining relevant historical and 2011/2012 samples that represent soil still remaining on the Site.

## 2.8 CURRENT (JUNE 2013) SITE CONDITIONS

### 2.8.1 Current (June 2013) Groundwater Conditions

Tables C3 and C4 present summaries of the groundwater analytical results for detected constituents at the Site. The groundwater sampling results indicate MDEQ GSI criteria exceedances for arsenic, lead, selenium and silver, and slight drinking water exceedances for arsenic and lead. In addition, selenium and silver are not considered

COCs for the Site because selenium was not detected during the Groundwater Investigation as discussed in Section 2.6.5, and silver was only detected historically in MW2-2 and once in MW-9 above the GSI criterion, and has not been detected in the downgradient monitoring wells, and is not migrating off Site.

In addition, although appropriate for screening purposes, on-Site exceedances of the GSI criteria do not constitute applicable criteria in accordance with R 299.5716(1) because GSI criteria apply at the point where groundwater is reasonably expected to vent to surface water in concentrations that exceed the generic GSI criteria, which is at Gibson Drain. Given the Site geology and hydrogeology, generally low concentrations of arsenic and lead detected at the Site, the fact that downgradient monitoring well MW-4 is clean, the sources of groundwater impacts at the Site, including impacted soil and wood floor blocks, have been removed, and Gibson Drain is located about a quarter of a mile west of the Site, it is very unlikely that the impacts in groundwater at the Site discharge into Gibson Drain.

Furthermore, the concentrations of arsenic detected in groundwater at the Site are within the range of what has been demonstrated to be local and regional background levels (see Section 2.6.5). Furthermore, arsenic and lead have not been detected in downgradient monitoring well MW-4 and lead was only detected in MW-2 slightly above the drinking water criteria during the fourth sampling event, which appears to be attributed to elevated turbidity during sampling.

Given that the groundwater observed in the Site monitoring wells exists within thin, apparently discontinuous silty sand seams within an overall clayey glacial drift matrix to depths of over 100 ft, it is likely that groundwater does not readily flow off-Site or migrate vertically and that contaminant concentrations are naturally attenuating. Furthermore, the sources of groundwater impacts at the Site, including impacted soil and wood floor blocks, have been removed. Based on this information the horizontal and vertical extent of the three dimensional area of groundwater contamination appears to be stable or decreasing in size.

Therefore, the results of the Groundwater Investigation at the Site demonstrates that groundwater at the Site does not present a significant risk under current or future uses of the Site nor do the detected exceedances in the groundwater pose a significant risk due to potential off-site migration, including potential venting to surface water.

### 2.8.2 Current (June 2013) Soil Conditions

Tables C2, C5 and C6 present summaries of the soil analytical results for detected constituents at the Site. The soil sampling results indicate no exceedances of the MDEQ drinking water protection or direct contact criteria in Site soil, and a few exceedances of the GSI protection criteria. A few of the historical soil results indicate exceedances of GSI protection criteria for either mercury or selenium; however, mercury and selenium were not detected during the Groundwater Investigation as discussed in Section 2.6.5, and are not considered COCs for the Site. Similarly, PAH constituents were detected above their GSI protection criteria in a few of the 2011 soil or confirmatory samples; however, PAH constituents were not detected during the Groundwater Investigation as discussed in Section 2.6.5, and are no longer considered COCs for the Site from a GSI or groundwater standpoint.

Therefore, the soil sampling results demonstrate that the remediation of the Site is considered complete, and Site soils are below the applicable criteria, including the drinking water protection or direct contact criteria.

### 3. CORRECTIVE MEASURES ALTERNATIVES

The presence of impacted groundwater at the Site is identified based on a comparison of the Site data for groundwater with applicable Part 201 criteria. However, Site soil is considered below applicable Part 201 criteria based on the relevant available soil data. As described in the EI CA750 Report (O'Brien & Gere, 2013) and in Section 2.8.1, current exposure to on-Site contaminated groundwater is limited to potential exposure to groundwater used as drinking water. However, groundwater is currently not used for drinking water at the Site. Therefore, the concentrations of constituents in the on-Site groundwater do not present a significant exposure risk.

Although groundwater does not present a significant exposure risk, the alternatives evaluated for addressing contaminated groundwater are designed to meet the corrective measures objective of demonstrating no migration of groundwater at concentrations above the drinking water levels to potential groundwater users (see Sections 2.6.5 and 2.8.1). An evaluation of the remedial technologies detailing the corrective measures alternatives considered for evaluation are presented in Tables 1 through 6. Table 1 provides a listing of the areas of interest for the Site. Table 2 provides the various references and documents used in the evaluation of corrective measures alternatives for the Site. Table 3 provides the evaluation of the corrective measures alternatives. Table 4 provides an overview of the corrective measures alternatives. Table 5 provides a summary of the corrective measures end-points or how the corrective measure will be deemed acceptable or complete. Table 6 provides a cost estimate for each of the corrective measures alternatives.

The corrective measures alternatives evaluated as soil and groundwater corrective measures alternatives for use at the Site as well as Site-wide management controls are presented in Table 3. Alternative/Option 1: No Further Action is only appropriate for Site media that already meet criteria or for a pathway that is not relevant due to Site Conditions. Alternatives/Options 2: Institutional Controls (ICs) and 3: Pump and Treat would both include recording a restrictive covenant (RC) on the Site in the form of deed restrictions; however, Alternative/Option 3 also includes active treatment for groundwater to remove arsenic and lead. Figure 2 provides a Site layout that illustrates the property boundary for the Site, which will be included in the area proposed for deed restrictions. Appendix G contains a Site survey and legal description for the Site, which will be utilized for the deed restriction.

**Alternative/Option 1: No Further Action** – No Further Action is the appropriate alternative for Site soil for all pathways based on the Site data presented herein following the removal of impacted soil during the Subarea B-2 remediation, 2009 soil removal, and IRM activities. Furthermore, a corrective measures alternatives evaluation for soil was completed in 2011 (O'Brien & Gere, 2011e), which proposed the now completed IRM as the appropriate corrective measures for soil at the Site. U.S. EPA approved the implementation of the IRM.

No Further Action is the appropriate alternative for Site groundwater for the following pathways based on the data presented herein and the following:

- Off-Site Drinking Water:** Although there are slight exceedances of the MDEQ drinking water criteria for arsenic and lead in on-Site groundwater, as pointed out in Sections 2.5 the often discontinuous sand seams within the shallow glacial drift are not utilized for drinking water within the Site area and given Site conditions it is very unlikely that groundwater impacts in the shallow glacial drift unit would migrate off-Site or vertically to the regional bedrock aquifer that occurs at depths of greater than 100 fbg. Furthermore, MDEQ regulations prohibit screening potable wells within the uppermost 25 feet below the ground surface.
- Venting to Surface Water (GSI):** Although there are slight exceedances of the MDEQ GSI criteria for arsenic and lead in Site groundwater, as pointed out in Section 2.8.1 given Site conditions it is very unlikely that groundwater impacts would migrate and vent to surface water.
- Groundwater Volatilization to Indoor Air Inhalation:** The Site groundwater meets the MDEQ groundwater volatilization to indoor air inhalation criteria.

| **Direct Contact:** The Site groundwater meets the MDEQ direct contact criteria.

**Alternative/Option 2: Institutional Controls (Deed Restrictions)** – It is assumed institutional controls in the form of a declaration of RC for the Site will place deed restrictions on the Site. These deed restrictions could take a couple forms including one or both of the following:

- | **Site-Wide Land Use Restriction:** Land use at the entire Site would be limited to industrial and/or commercial uses.
- | **Site-Wide Contaminated Soil Management:** All Site soils, media and/or debris will be managed in accordance with the applicable requirements of RCRA and all other relevant local, state and federal laws.
- | **Groundwater Use:** Contaminants, including arsenic and lead, in on-Site groundwater at concentrations exceeding the drinking water standards exist on-Site. If the use of contaminated groundwater for drinking water is prevented, the groundwater will not pose a risk to human health. Therefore, a groundwater deed restriction could be placed on the property. This institutional control provides notification to potential future owners that groundwater contamination is present, groundwater cannot be used for potable purposes, and installation of a water supply well is prohibited.
- | Wells and other devices constructed as part of a response activity for the purpose of evaluating groundwater quality or to remediate subsurface contamination associated with a release of hazardous substances into the environment are permitted provided the construction of the wells or devices complies with all applicable local, state, and federal laws and regulations and does not cause or result in a new release, exacerbation of existing contamination, or any other violation of local, state, or federal laws or regulations.
- | Short-term dewatering for construction purposes is permitted provided the dewatering, including management and disposal of the groundwater, is conducted in accordance with all applicable local, state, and federal laws and regulations and does not cause or result in a new release, exacerbation of existing contamination, or any other violation of local, state, and federal environmental laws and regulations.

**Alternative/Option 3: Groundwater Pump and Treat** – This alternative involves pumping groundwater from impacted areas of the Site into a centralized treatment system and discharging the treated groundwater either to a publicly owned treatment works (POTW) sanitary sewer, or through a permitted National Pollutant Discharge Elimination System (NPDES) outfall to surface water, which would likely be to the storm water ditch located adjacent to the Site that eventually discharges to Gibson Drain. The groundwater pump and treat system would include a series of wells outfitted with pumps to extract the groundwater, conveyance piping to transport the groundwater to the on-Site treatment system and from the system to the discharge point, a treatment system designed to remove arsenic and lead and various electrical control systems needed to operate the entire system.

The treatment system could utilize one of the following treatment schemes to remove the arsenic and lead from the groundwater: aeration, conventional filtration, ion exchange, membrane filtration and separation through reverse osmosis filtration, or chemical precipitation and clarification. It is likely that filtration would be the most cost effective means to remove the arsenic and lead from the groundwater. Due to the thin nature of the sand seams at the Site and the low permeability of the surrounding clay matrix, the groundwater extraction system would likely be relatively small involving the extraction of a few gallons per minute (gpm) to capture the impacted groundwater at the Site.

The groundwater pump and treatment system operations and maintenance (O&M) would include the disposal of the treated groundwater from the system, the filtration media, and other wastes generated during the operation of the pump and treat system, which would require proper disposal.

Groundwater sampling would need to be conducted to monitor the arsenic and lead levels to demonstrate that the levels are decreasing and at some point meet the corrective measures endpoint criteria, which in this case are the drinking water standards, so that the system could eventually be shut down.

Section 4 discusses the evaluation of each of these corrective measures alternatives.

## 4. EVALUATION OF CORRECTIVE MEASURES ALTERNATIVES

The evaluation of corrective measures alternatives identified in Section 3 considered the degree to which each potential corrective measure alternative satisfies the threshold and balancing criteria outlined in the U.S. EPA document entitled "Risk Management Strategy for Corrective Action Projects" (U.S. EPA, 2005).

Two additional criteria have been added to evaluate the corrective measures alternatives (compliance with applicable standards for waste management and sustainability). The RCRA Corrective Action evaluation criteria and the results of the evaluation for each of the potential corrective measures alternatives are presented in Table 4.

### 4.1 CRITERIA FOR EVALUATION OF CORRECTIVE MEASURES ALTERNATIVES

The RCRA Corrective Action evaluation criteria and the results of the evaluation for each of the potential corrective measures alternatives are summarized below:

- Overall Protection:*** This criterion considers the ability of the remedial alternatives to protect both human health and the environment.
- Attainment of Media Cleanup Standards:*** This criterion considers the ability of the remedial alternatives to attain the cleanup standards for that specific media.
- Controlling the Sources of Releases:*** To the extent practicable, the remedial alternative must control the source of the release. This criterion considers the ability of the remedial alternatives to reduce or eliminate any further releases of hazardous substances that would pose a risk to human health and the environment.
- Compliance with Applicable Standards for Waste Management:*** This criterion considers the ability of the remedial alternatives to comply with applicable standards for waste management (*i.e.*, hazardous waste storage and transportation regulations, emissions limitations, etc.).
- Long Term Reliability and Effectiveness:*** This criterion considers both the level of threat posed by hazardous constituents remaining in place and the adequacy of the remedial alternative and the risk associated with any treatment residuals compared to untreated waste.
- Reduction of Toxicity, Mobility or Volumes of Wastes:*** This criterion considers the ability of the remedial alternatives to reduce the toxicity, mobility, or volume of waste significantly and permanently.
- Short-Term Effectiveness:*** This criterion evaluates the effects of the remedial alternatives on human health and the environment during their implementation period. It considers factors such as impacts from remedy construction, transportation, and air quality.
- Implementation:*** This criterion considers the technical and administrative feasibility of implementing the selected remedial alternative.
- Cost:*** This criterion considers the cost effectiveness of each alternative. Cost effectiveness is evaluated by comparing the costs proportional to the effectiveness achieved by the remedial alternative.
- Community Acceptance:*** This criterion evaluates the issues and concerns the local community may have regarding the alternatives. U.S. EPA encourages community involvement in remedial alternatives and community acceptance will be considered in the remedial alternative selection.
- State Acceptance:*** This criterion evaluates the technical and administrative issues and concerns the state may have regarding the alternatives. U.S. EPA encourages coordination with state agencies and state acceptance will be considered in the remedial alternative selection.
- Sustainability:*** This criterion considers the sustainability of each alternative with regard to energy requirements; air emissions; water requirements including impacts on water resources; land and ecosystem impacts; and material consumption and waste generation. The sustainability evaluation was used in

conjunction with the core elements of the RCRA corrective action alternatives evaluation to identify corrective measures alternatives that would balance effectiveness and sustainability.

#### 4.2 SUMMARY OF EVALUATION OF CORRECTIVE MEASURES ALTERNATIVES

Placing a RC on the property will effectively eliminate the risks associated with exposure to residual impacts, if any, by restricting the property to industrial and/or commercial uses, requiring proper management of residual impacts and prohibiting the use of groundwater at the Site.

The need for an active pump and treat system for the Site is not appropriate given the Site conditions, including the fact that on-Site groundwater impacts are only slightly above the drinking water criteria, do not pose a significant risk, do not pose a threat the environment, nor are they likely to migrate off-Site (horizontally) or vertically to the regional aquifer (as identified herein and in the EI CA725 and EI CA750 reports). Therefore, on-Site groundwater pump and treatment and off-Site groundwater use restriction ICs will be unnecessary to mitigate any off-Site concerns. On-Site groundwater restrictions are sufficient to address any potential risks from groundwater impacts.

## 5. PROPOSED CORRECTIVE MEASURES ALTERNATIVES

Table 4 presents the corrective measures alternatives evaluated as part of RCRA Corrective Action process for the Site. Table 5 provides a summary of the corrective measures end-points or how the corrective measure will be deemed acceptable or complete. Table 6 provides a cost estimate for each of the corrective measures alternatives. The proposed final corrective measures alternatives for the Site are summarized below.

**Site-Wide Land Use Restriction:** Land use at the entire Site will be limited to industrial and/or commercial uses.

**Site-Wide Contaminated Soil Management:** All Site soils, media and/or debris will be managed in accordance with the applicable requirements of RCRA and all other relevant local, state and federal laws.

**Groundwater Use:** A groundwater deed restriction will be placed on the property notifying potential future owners that groundwater contamination is present, groundwater cannot be used for potable purposes, and installation of a water supply well is prohibited.

Wells and other devices constructed as part of a response activity for the purpose of evaluating groundwater quality or to remediate subsurface contamination associated with a release of hazardous substances into the environment are permitted provided the construction of the wells or devices complies with all applicable local, state, and federal laws and regulations and does not cause or result in a new release, exacerbation of existing contamination, or any other violation of local, state, or federal laws or regulations.

Short-term dewatering for construction purposes is permitted provided the dewatering, including management and disposal of the groundwater, is conducted in accordance with all applicable local, state, and federal laws and regulations and does not cause or result in a new release, exacerbation of existing contamination, or any other violation of local, state, and federal environmental laws and regulations.

## 6. SCHEDULE

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A draft RC will be submitted within 90-days of selection of the final remedy by U.S. EPA. Furthermore, the temporary monitoring wells and monitoring well MW2-1 will be abandoned within 90-days of selection of the final remedy by the U.S. EPA in accordance with the methods provided in the Revised Groundwater Investigation Work Plan (O'Brien & Gere, 2012a). The Final Completion with Controls Report, in the form of a brief letter, will be submitted to the U.S. EPA within 60-days of receiving U.S. EPA's approval of the RC language, which will document the filing of the RC and abandonment of the monitoring wells. A request to terminate the VA will be submitted within 90-days after receiving U.S. EPA's approval of the Final Completion with Controls Report.

RACER will provide annual progress reports to U.S. EPA by the fifteenth day of October of each year as established by the VA, until U.S. EPA agrees the reports are no longer required or the VA is terminated, whichever occurs first. Each progress report will list work performed to date, data collected, problems encountered, project schedule, and percent project completed, unless otherwise agreed.

## 7. CONCLUSION

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Based on information currently available, these proposed final corrective measures alternatives provide the best balance with respect to the evaluation criteria. The proposed final corrective measures alternatives are presented in Section 5. As discussed in Section 6, the draft RC language and the Final Completion with Controls Report will be prepared and submitted to U.S. EPA to document the final corrective measures implementation (filing the RC and well abandonment).

## 8. REFERENCES

- Michigan Department of Natural Resources, 1987. Bedrock Geology of Michigan.
- MDEQ, 2002. Sampling Strategies and Statistics Training Materials (S<sup>3</sup>TM) for Part 201 Cleanup Criteria.
- O'Brien & Gere Engineers, Inc., 2005. Phase I Environmental Site Assessment, MFD – Grand Blanc (Site #029), Grand Blanc, Michigan. October.
- O'Brien & Gere Engineers, Inc., 2007a. Phase II Environmental Site Assessment, MFD Area 2 – Grand Blanc (Site #029), Grand Blanc, Michigan. May.
- O'Brien & Gere Engineers, Inc., 2007b. Delineation Investigation, MFD Area 2 – Grand Blanc (Site #029), Grand Blanc, Michigan. December.
- O'Brien & Gere Engineers, Inc., 2009. Additional Services – Area 2 Remediation Activities. April 20.
- O'Brien & Gere Engineers, Inc., 2010. Phase I Environmental Site Assessment, MLC Site #1296 – Dort Highway Land, Grand Blanc, Michigan. May.
- O'Brien & Gere. 2011a. Site History and Current Conditions Report, Dort Highway Land, Grand Blanc, Michigan. Farmington Hills, Michigan. August.
- O'Brien & Gere. 2011b. Health and Safety Plan, Dort Highway Land, Grand Blanc, Michigan. Farmington Hills, Michigan. August.
- O'Brien & Gere. 2011c. Sampling and Analysis Plan, Dort Highway Land, Grand Blanc, Michigan. Farmington Hills, Michigan. August.
- O'Brien & Gere. 2011d. Quality Control Document, Dort Highway Land, Grand Blanc, Michigan. Farmington Hills, Michigan. August.
- O'Brien & Gere. 2011e. Floor Block Area Investigation & Corrective Measures Alternative Analysis, Dort Highway Land, Grand Blanc, Michigan. Farmington Hills, Michigan. October 28.
- O'Brien & Gere. 2012a. Revised Groundwater Investigation Work Plan, Dort Highway Land, Grand Blanc, Michigan. Farmington Hills, Michigan. May 24.
- O'Brien & Gere. 2012b. Groundwater Investigation Report, Dort Highway Land, Grand Blanc, Michigan. Farmington Hills, Michigan. August 13.
- O'Brien & Gere. 2013. Migration of Contaminated Groundwater Under Control (RCRA Corrective Action EI Determination – CA750), Dort Highway Land, Affronting Dort Highway, Grand Blanc, Michigan 48439. MID 005 356 944. June.
- USEPA. 2005. Risk Management Strategy for Corrective Action Projects. EPA Region 5 RCRA Program. May.
- U.S. EPA. 2012. Current Human Exposures Under Control (RCRA Corrective Action EI Determination – CA725), Dort Highway Land, Affronting Dort Highway, Grand Blanc, Michigan 48439. MID 005 356 944. Region V, Chicago, Illinois. October 25.
- University of Michigan – Flint, 1994. Groundwater Resources Map Series, Grand Blanc Township, Genesee County, Michigan. Regional Groundwater Center. November.

***TABLES***

**Table 1**  
**Areas of Interest**  
**Corrective Measures Proposal**  
**RACER Trust - Dort Highway Land**  
**Grand Blanc, Michigan**

Name	Location	Description
Site-Wide Soil	Entire Site	No Further Action is the appropriate alternative for Site soil for all pathways based on the Site data presented within the CMS Report following the removal of impacted soil during the Subarea B-2 remediation, 2009 soil removal, and IRM activities. Furthermore, a corrective measures alternatives evaluation for soil was completed in 2011 (O'Brien & Gere, 2011e), which proposed the now completed IRM as the appropriate corrective measures for soil at the Site. U.S. EPA approved the implementation of the IRM.
Site-Wide Land Use Restriction	Entire Site	Land use at the entire Site (an approximate 20.4 acre area) will be limited to industrial and/or commercial uses.
Site-Wide Contaminated Soil Management	Entire Site	All Site soils, media and/or debris will be managed in accordance with the applicable requirements of RCRA and all other relevant local, state and federal laws.
Site-Wide Groundwater	Entire Site	Contaminants, including arsenic and lead, exist within an 8.8 acre area in shallow (< 25 ft) groundwater on-Site at concentrations slightly exceeding the drinking water standards. The entire Site encompasses approximately 20.4 acres.

**Table 2**  
**Summary of Documents Available for the Site**  
**Corrective Measures Proposal**  
**RACER Trust - Dort Highway Land**  
**Grand Blanc, Michigan**

Date	Author	Report Title
10/1/2005	O'Brien & Gere	Phase I Environmental Site Assessment, MFD - Grand Blanc (Site #029)
5/1/2007	O'Brien & Gere	Phase II Environmental Site Assessment, MFD Area 2 - Grand Blanc (Site #029)
12/1/2007	O'Brien & Gere	Delineation Investigation, MFD Area 2 - Grand Blanc (Site #029)
4/1/2009	O'Brien & Gere	Additional Services - Area 2 Remediation MFD - Grand Blanc - Area 2
5/13/2010	O'Brien & Gere	Phase I Environmental Site Assessment, MLC Site #1296 - Dort Highway Land
8/29/2011	O'Brien & Gere	Site History and Current Conditions Report
8/29/2011	O'Brien & Gere	Health and Safety Plan
8/29/2011	O'Brien & Gere	Sampling and Analysis Plan
8/29/2011	O'Brien & Gere	Quality Control Document
9/28/2011	U.S. EPA	Letter: Dort Highway Facility, RACER Trust - Quality Control Document (QCD), August 2011
9/30/2011	RACER Trust	Letter: RACER Properties, LLC - Dort Highway Grand Blanc
10/27/2011	O'Brien & Gere	Letter: Responses to USEPA Comments on Quality Control Document (QCD), August 2011 - Dort Highway Grand Blanc, Michigan
10/25/2012	U.S. EPA	Current Human Exposures Under Control (RCRA Corrective Action EI Determination - CA725), Dort Highway Land, Grand Blanc, Michigan 48439. MID 005 356 944.
10/28/2011	O'Brien & Gere	Floor Block Area Investigation & Corrective Measures Alternatives Analysis, Dort Highway Grand Blanc, Michigan
5/24/2012	O'Brien & Gere	Revised Groundwater Investigation Work Plan, Dort Highway Land, Grand Blanc, Michigan
8/13/2012	O'Brien & Gere	Groundwater Investigation Report, Dort Highway Land, Grand Blanc, Michigan
6/13/2013	O'Brien & Gere	Draft: Migration of Contaminated Groundwater Under Control (RCRA Corrective Action EI Determination - CA750), Dort Highway Land, Grand Blanc, Michigan 48439. MID 005 356 944.

**Table 3**  
**Overview of Corrective Measures Alternatives**  
**Corrective Measures Proposal**  
**RACER Trust - Dort Highway Land**  
**Grand Blanc, Michigan**

Name & Description	Physical Location	Potentially Significant Exposures	Constituent(s) Considered for Corrective Measures	Description of Interim Measures	Potential Corrective Measures (Remedial Options #)	Proposed Corrective Measure
Site-Wide Soil	Entire Site	1. None	Soil - None	Not Applicable	1. No further action (Option 1) 2. Institutional Controls (Option 2)	2. Institutional Controls (Option 2)
Site-Wide Land Use Restriction	Entire Site	1. Drinking Water Ingestion	Groundwater - Arsenic and Lead	Not Applicable	1. No further action (Option 1) 2. Institutional Controls (Option 2)	2. Institutional Controls (Option 2)
Site-Wide Contaminated Soil Management	Entire Site	1. None	Soil - None	Not Applicable	1. No further action (Option 1) 2. Institutional Controls (Option 2)	2. Institutional Controls (Option 2)
Site-Wide Groundwater	Entire Site	1. Drinking Water Ingestion	Groundwater - Arsenic and Lead	Not Applicable	1. No further action (Option 1) 2. Institutional Controls (Option 2) 3. Pump and treat (Option 3)	2. Institutional Controls (Option 2)

**Table 4**  
**Evaluation of Corrective Measure Alternatives**  
**Corrective Measures Proposal**  
**RACER Trust - Dort Highway Land**  
**Grand Blanc, Michigan**

Corrective Measures Alternatives			
Evaluation Criteria	Option 1 No Further Action	Option 2 Institutional Controls	Option 3 Pump and Treat
<i>Protect Human Health and the Environment</i>	Not effective in protecting human health and the environment unless groundwater already meets criteria, or pathway is not relevant due to site conditions.	Effective in protecting human health and the environment by prohibiting groundwater use/ingestion.	Effective in protecting human health and the environment by removing impacts.
<i>Attain Media Cleanup Standards (Corrective Measures End Points) Set by the Implementing Agency</i>	Will not meet corrective measures end points unless groundwater already meets criteria, or pathway is not relevant due to site conditions.	Will not reduce arsenic or lead concentrations, but will attain corrective measures end points associated with limiting exposure.	Will reduce arsenic and lead concentrations, and will attain corrective measures end points.
<i>Control the Sources of Releases</i>	Does not control the sources of releases.	Controls the sources of impacts via prohibiting groundwater use/ingestion.	Controls the sources of releases via hydraulic control and removal/treatment.
<i>Comply with Any Applicable Standards for Management of Waste</i>	No waste would be generated from this corrective measure.	Does not produce waste requiring management in accordance with applicable standards.	Produces waste requiring appropriate management in accordance with applicable standards.
<i>Long-Term Reliability and Effectiveness</i>	Not reliable or effective in the long term unless groundwater already meets criteria, or pathway is not relevant due to site conditions..	Reliable and effective in the long term by limiting exposure to groundwater.	Reliable and effective in the long term by eliminating exposure.
<i>Reduction in the Toxicity, Mobility and Volume of Wastes</i>	Does not reduce toxicity, mobility, or volume of arsenic or lead.	Does not reduce toxicity, volume, or mobility of arsenic or lead.	Will reduce toxicity, mobility, and volume of arsenic or lead.
<i>Short-Term Effectiveness</i>	Not effective in the short term unless groundwater already meets criteria, or pathway is not relevant due to site conditions..	Effectiveness achieved in a short-term time frame.	Not effective in a short-term time frame. May take years of pump and treatment.
<i>Implementability</i>	No action is easily implemented.	A deed restriction is easily implemented in the short term.	Pump and treatment is moderately easy to implement, but will require design, permitting, construction, and O&M of system.
<i>Cost</i>	Low costs for implementation.	Low costs for implementation.	High costs for implementation.

**Table 4**  
**Evaluation of Corrective Measure Alternatives**  
**Corrective Measures Proposal**  
**RACER Trust - Dort Highway Land**  
**Grand Blanc, Michigan**

Corrective Measures Alternatives			
Evaluation Criteria	Option 1 No Further Action	Option 2 Institutional Controls	Option 3 Pump and Treat
<i>Community Acceptance</i>	There are no technical issues associated with this alternative; however, the local community may have concerns about doing no further action if the risks associated with impacted media are not eliminated or controlled.	Genesee County rules for filing a deed restriction will need to be followed; however, the local community likely would accept this alternative as it controls exposure/risks associated with impacted media.	Genesee County rules for filing a deed restriction will need to be followed, and local rules associated with construction permits, soil erosion and sedimentation control (SESC) permits, and discharge permits will need to be followed; however, the local community likely would accept this alternative as it eliminates exposure/risks associated with impacted media.
<i>State Acceptance</i>	There are no technical issues associated with this alternative; however, the MDEQ and State of Michigan may have concerns about doing no further action if the risks associated with impacted media are not eliminated or controlled.	The MDEQ format and rules for filing a deed restriction will need to be followed; however, the State of Michigan likely would accept this alternative as it controls exposure/risks associated with impacted media.	The MDEQ format and rules for filing a deed restriction will need to be followed, and MDEQ rules associated with SESC permits and NPDES discharge permits will need to be followed; however, the State of Michigan likely would accept this alternative as it eliminates exposure/risks associated with impacted media.
<i>Sustainability</i>	No energy and water requirements, air emissions, additional impacts to land, material consumption and waste generation.	No energy and water requirements, air emissions, additional impacts to land, material consumption and waste generation.	Moderate energy requirements for system installation and O&M activities. Limited water usage for equipment decontamination. Limited short term air emissions from heavy equipment usage and no additional impacts to land. Limited material consumption, but moderate waste generation in the form of discharge to POTW or via NPDES permit, and filter media.
<b>Conclusion</b>	<b>This technology was not included in the final corrective measures, except for unimpacted areas of the Site, because more appropriate options are available.</b>	<b>Included in proposed corrective measures because if the use of contaminated groundwater for drinking water is prevented, the groundwater will not pose a risk to human health.</b>	<b>Not included in proposed corrective measures because it is only slightly more protective than groundwater use restriction at a significant additional cost.</b>

**Table 5**  
**Proposed Corrective Measures Endpoints Summary**  
**Corrective Measures Proposal**  
**RACER Trust - Dort Highway Land**  
**Grand Blanc, Michigan**

Area	Media Requiring Corrective Measures	Proposed Corrective Measures	Corrective Measures End Point	Confirmation of Corrective Measures End Point
<b>Site Wide Corrective Measures</b>				
Site-Wide Land Use Restriction	Land Use	Option 2 Land use at the entire Site will be limited to industrial and/or commercial uses.	Deed restriction recorded with Genesee County	Copy of recorded deed restriction received by USEPA
Site-Wide Contaminated Soil Management	Site-Wide Soil	Option 2 Site soils, media and/or debris will be managed in accordance with the applicable requirements of RCRA and all other relevant local, state and federal laws.	Deed restriction recorded with Genesee County	Copy of recorded deed restriction received by USEPA
<b>Groundwater Corrective Measures</b>				
Site-Wide Groundwater	Site-Wide Groundwater	Option 2 A groundwater deed restriction will be placed on the property. This institutional control provides notification to potential future owners that groundwater contamination is present, groundwater cannot be used for potable purposes, and installation of a water supply well is prohibited.	Deed restriction recorded with Genesee County	Copy of recorded deed restriction received by USEPA
Site-Wide and Near-Site Groundwater	Site-Wide and Near-Site Groundwater	Perform a well record review.	Demonstrate near site properties within 1/4 mile of site are not utilizing drift aquifer groundwater for potable or non-potable purposes.	See Appendix B of CMS report for copies of well construction records within 1/4 mile of Site. The glacial drift is not used for potable or non-potable purposes within 1/4 mile of the Site. Furthermore, MDEQ regulations prohibit screening potable wells within the uppermost 25 feet below the ground surface.

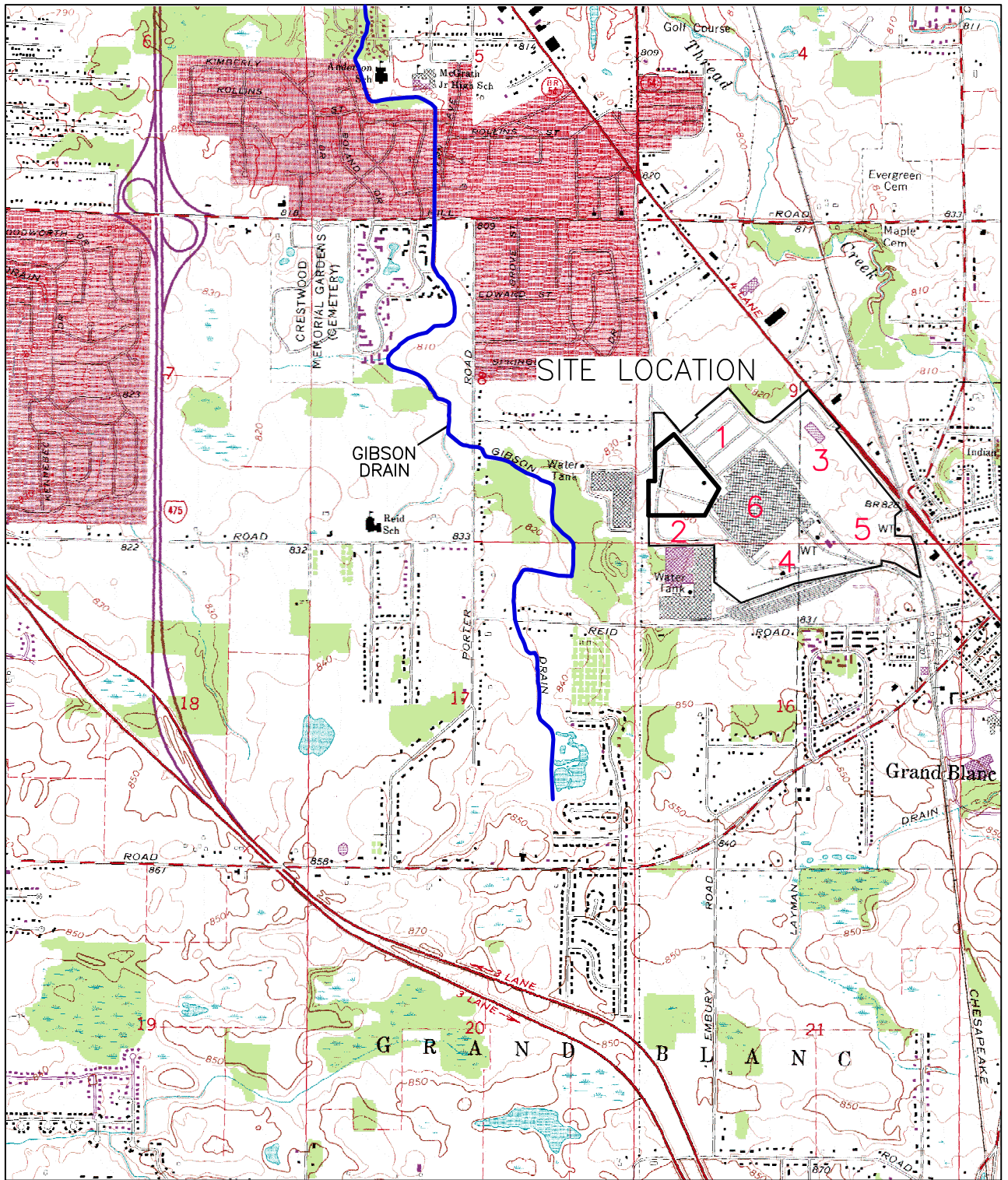
**Table 6**  
**Summary of Costs**  
**Corrective Measures Proposal**  
**RACER Trust - Dort Highway Land**  
**Grand Blanc, Michigan**

Remedial Alternative	Placement of Deed Restriction on Site	System Design and Permitting	System Installation	Operation and Maintenance - Annual	Duration of Operation and Maintenance (years)	Design and Construction (i.e., no O&M Cost)	Operation and Maintenance	Order of Magnitude Total Cost
<b>Option 1</b> No Further Action	\$0	\$0	\$0	\$0	0	\$0	\$0	\$0
<b>Option 2</b> Institutional Controls (via Deed Restriction)	\$3,500	\$0	\$0	\$0	0	\$3,500	\$0	\$3,500
<b>Option 3</b> Pump and Treat	\$3,500	\$41,050	\$164,200	\$49,260	5	\$208,750	\$246,300	\$455,050

Notes:

Duration of operation and maintenance period has been assumed for 5 years for estimating purposes, and assumes that the property would be divested within this period. Additional operation and maintenance beyond the assumed period may be required.

***FIGURES***



  
 MICHIGAN  
 QUADRANGLE LOCATION  
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RACER TRUST  
 DORT HIGHWAY LAND  
 GRAND BLANC, MICHIGAN  
 SITE LOCATION



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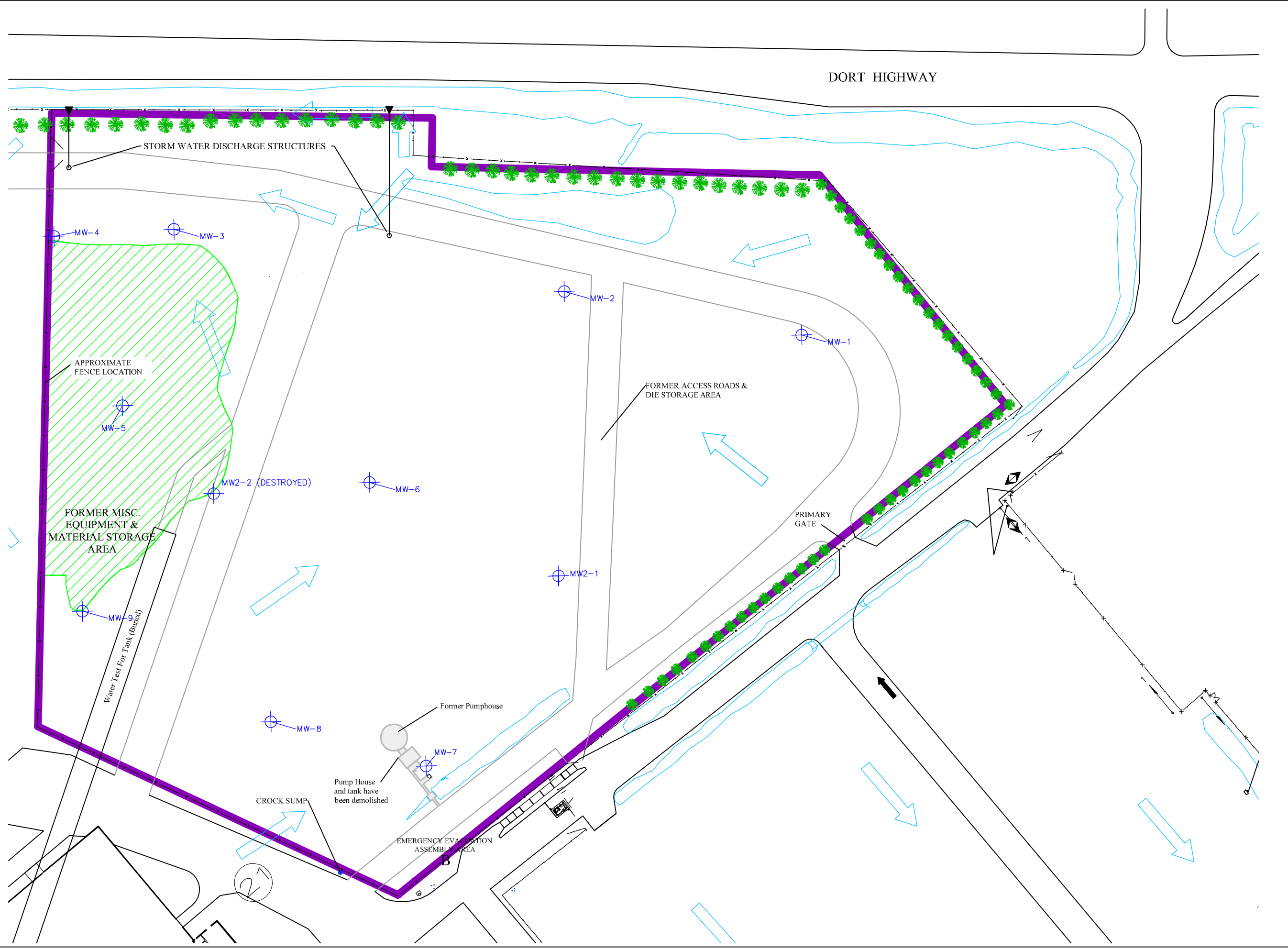
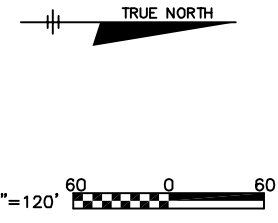


FIGURE 2



- LEGEND**
- ⊕ MONITORING WELL LOCATION
  - FORMER FLOOR BLOCK AREA
  - APPROXIMATE RACER TRUST PROPERTY LINE
  - FORMER TANK TEST TRACK AND DIE STORAGE ACCESS ROADS
  - x APPROXIMATE FENCE LOCATION
  - ← SURFACE RUNOFF FLOW DIRECTION
  - ▲ STORM WATER DISCHARGE STRUCTURE

SITE LAYOUT

RACER TRUST  
DORT HIGHWAY LAND  
GRAND BLANC, MICHIGAN

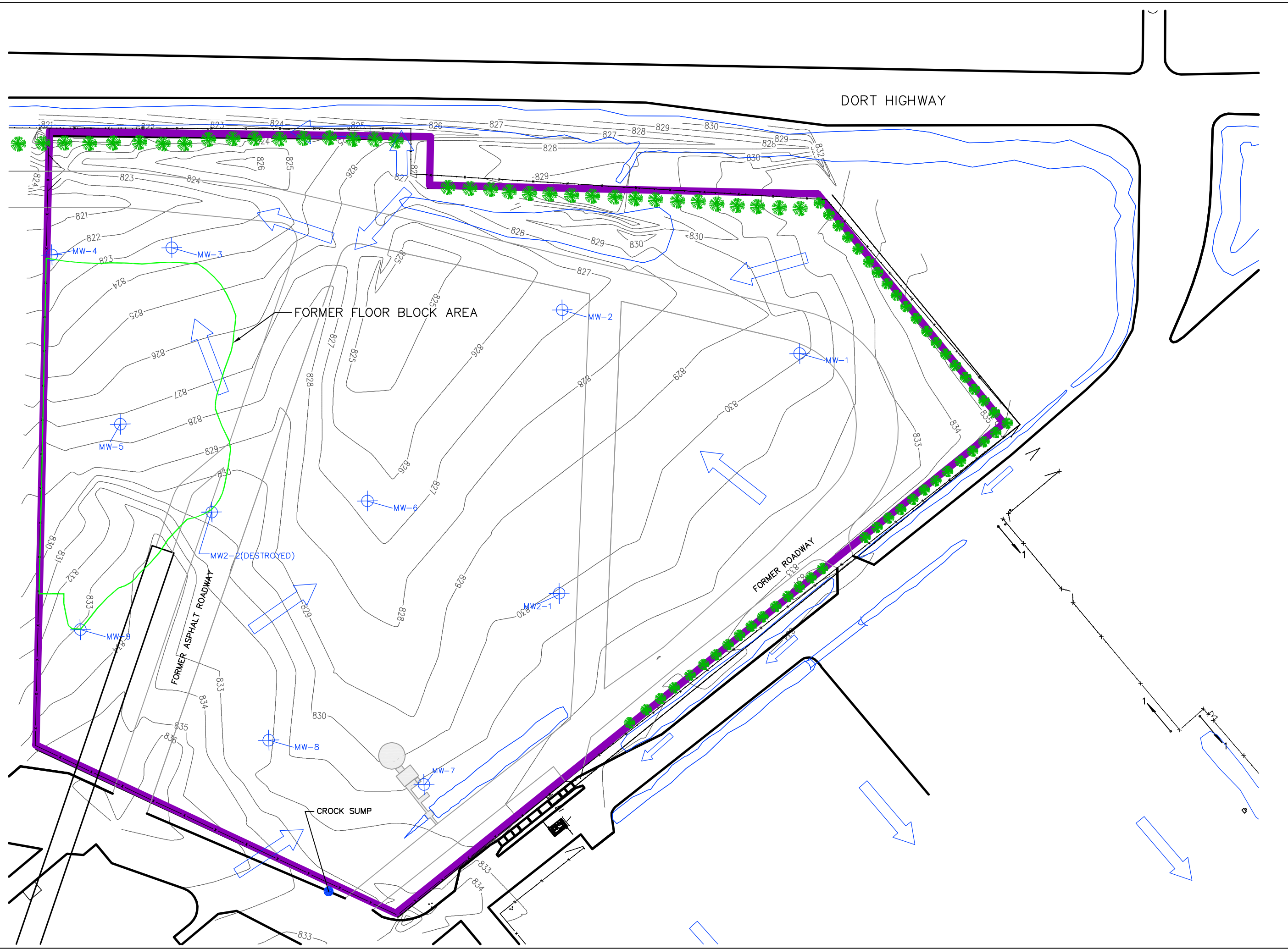
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FIGURE 3

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- LEGEND**
- TOPOGRAPHIC CONTOURS
  - ↘ RUNOFF DRAINAGE FLOW DIRECTION
  - ⊕ MONITORING WELL LOCATION
  - APPROXIMATE RACER TRUST PROPERTY LINE
  - FORMER TANK TEST TRACK AND DIE STORAGE ACCESS ROADS
  - ✱ APPROXIMATE FENCE LOCATION

SITE TOPOGRAPHY  
 RACER TRUST  
 DORT HIGHWAY LAND  
 GRAND BLANC, MICHIGAN

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 JUNE 2013



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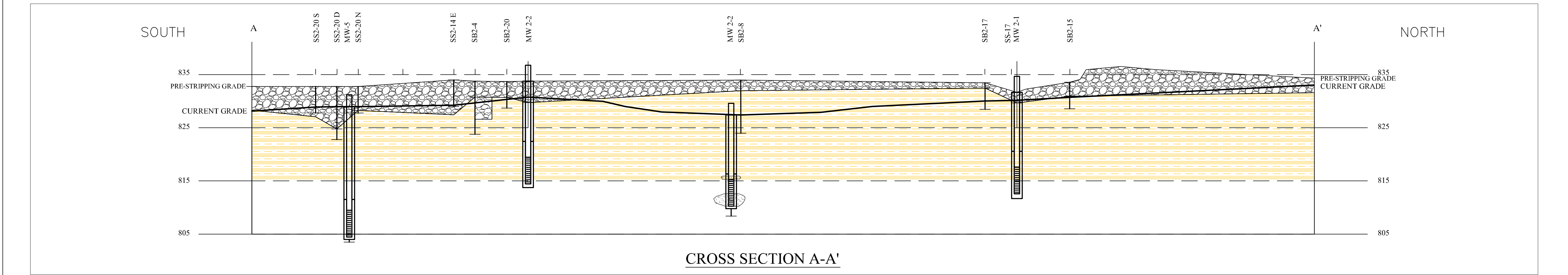
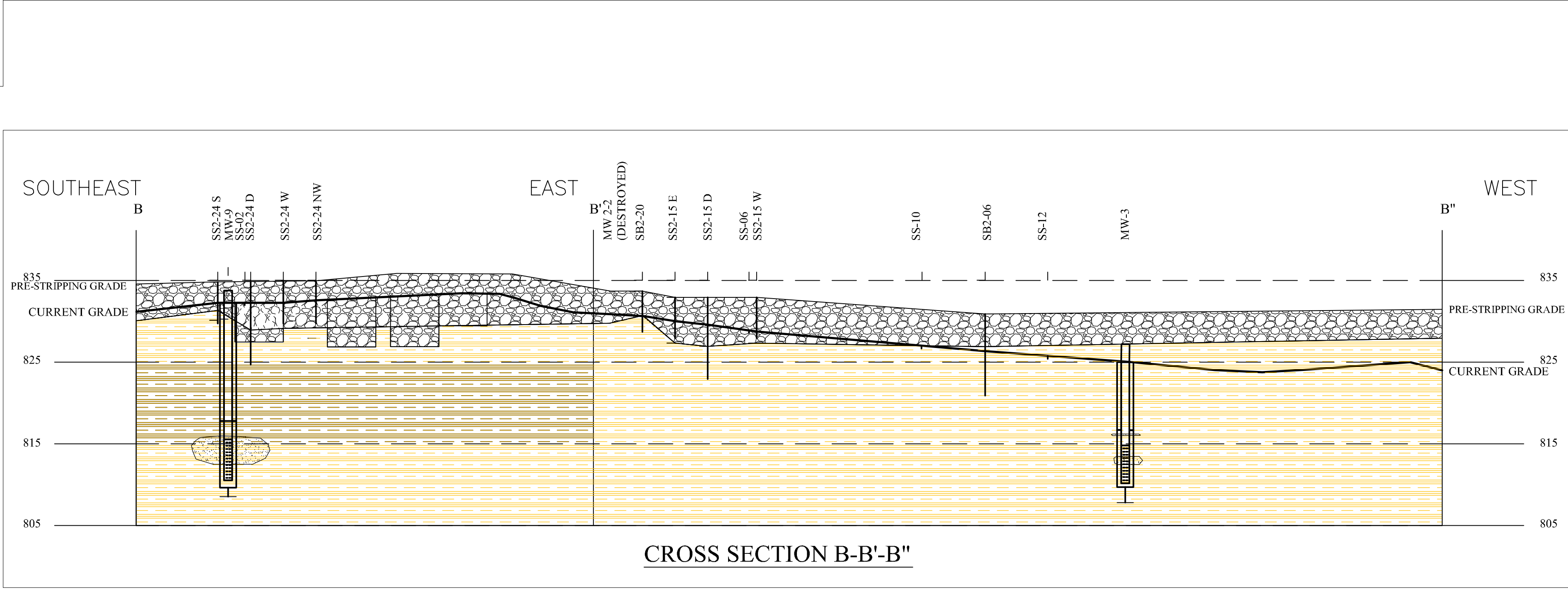
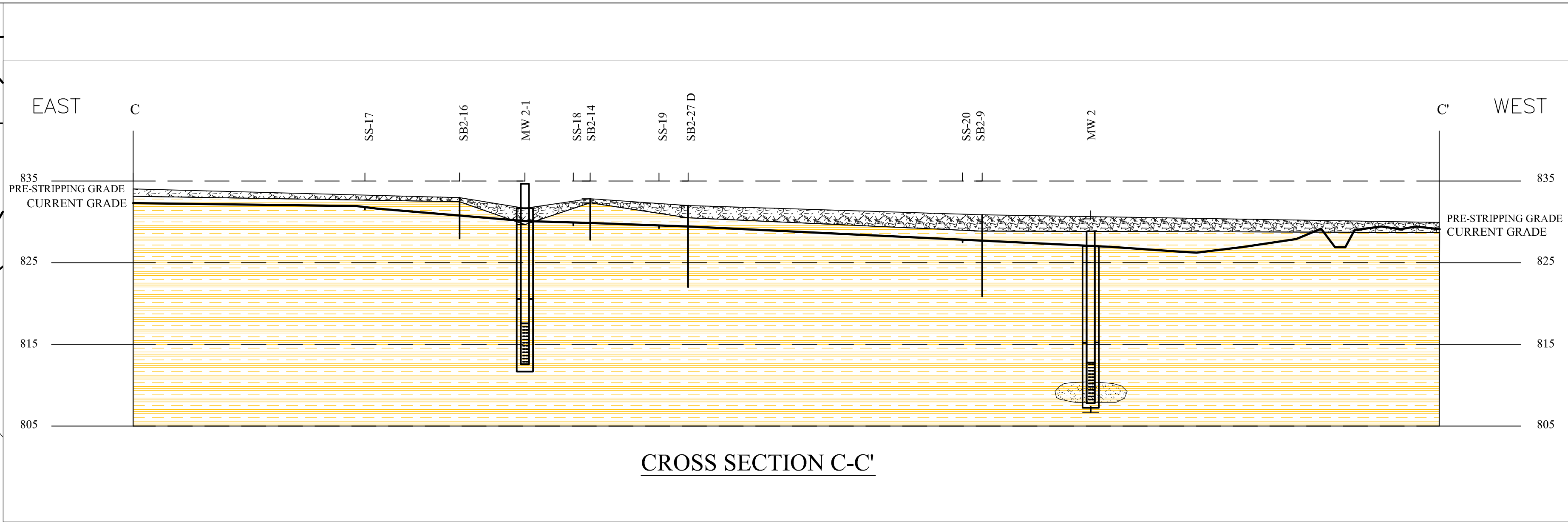
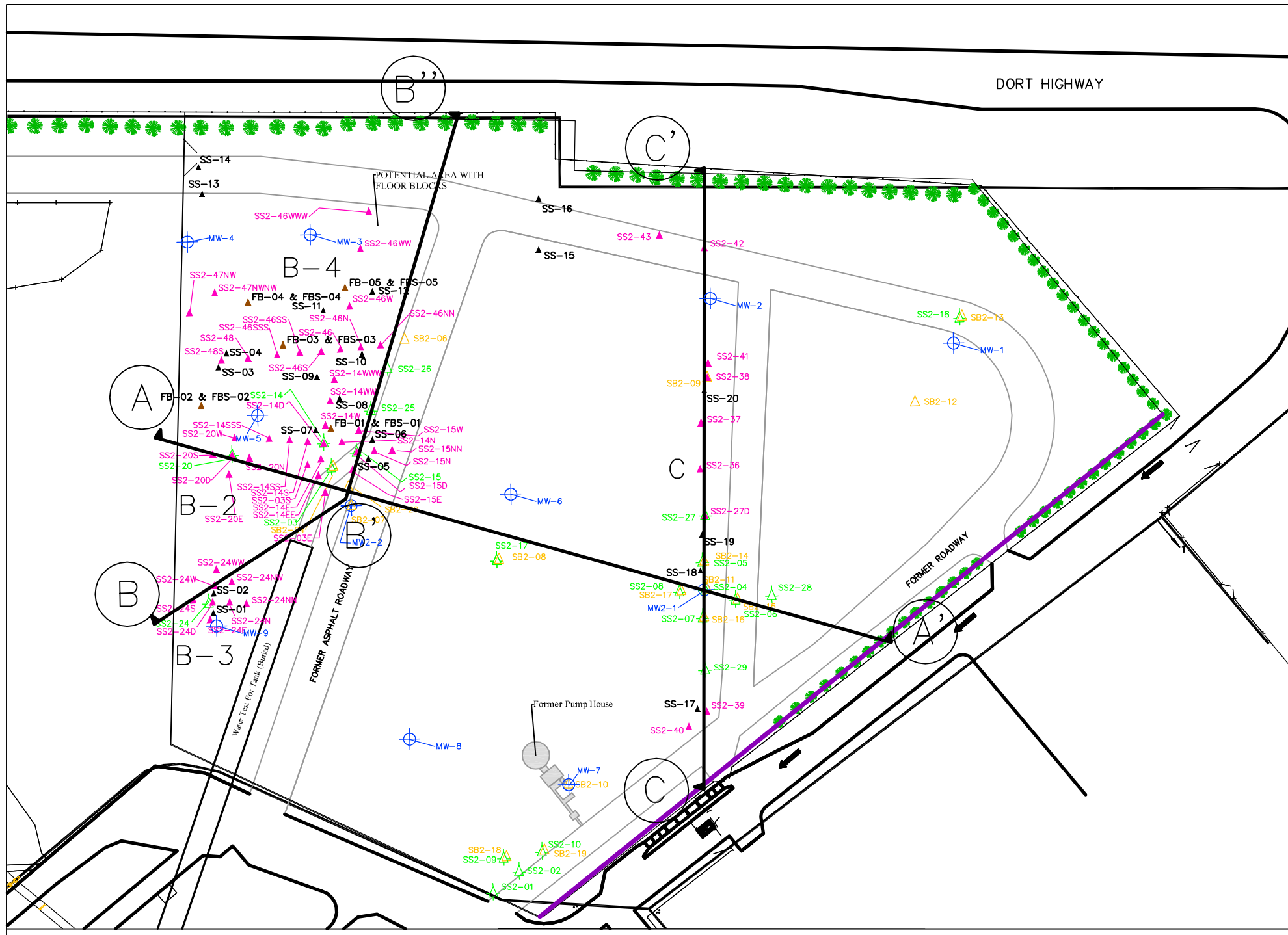
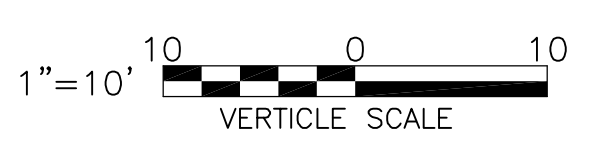


FIGURE 4

- LEGEND**
- FILL SOIL
  - CLAY
  - CROSS SECTION
  - SAND SEAM

RACER TRUST  
DORT HIGHWAY LAND  
GRAND BLANC, MICHIGAN

**GEOLOGIC CROSS SECTIONS**



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JUNE 2013

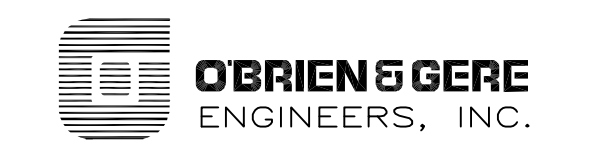
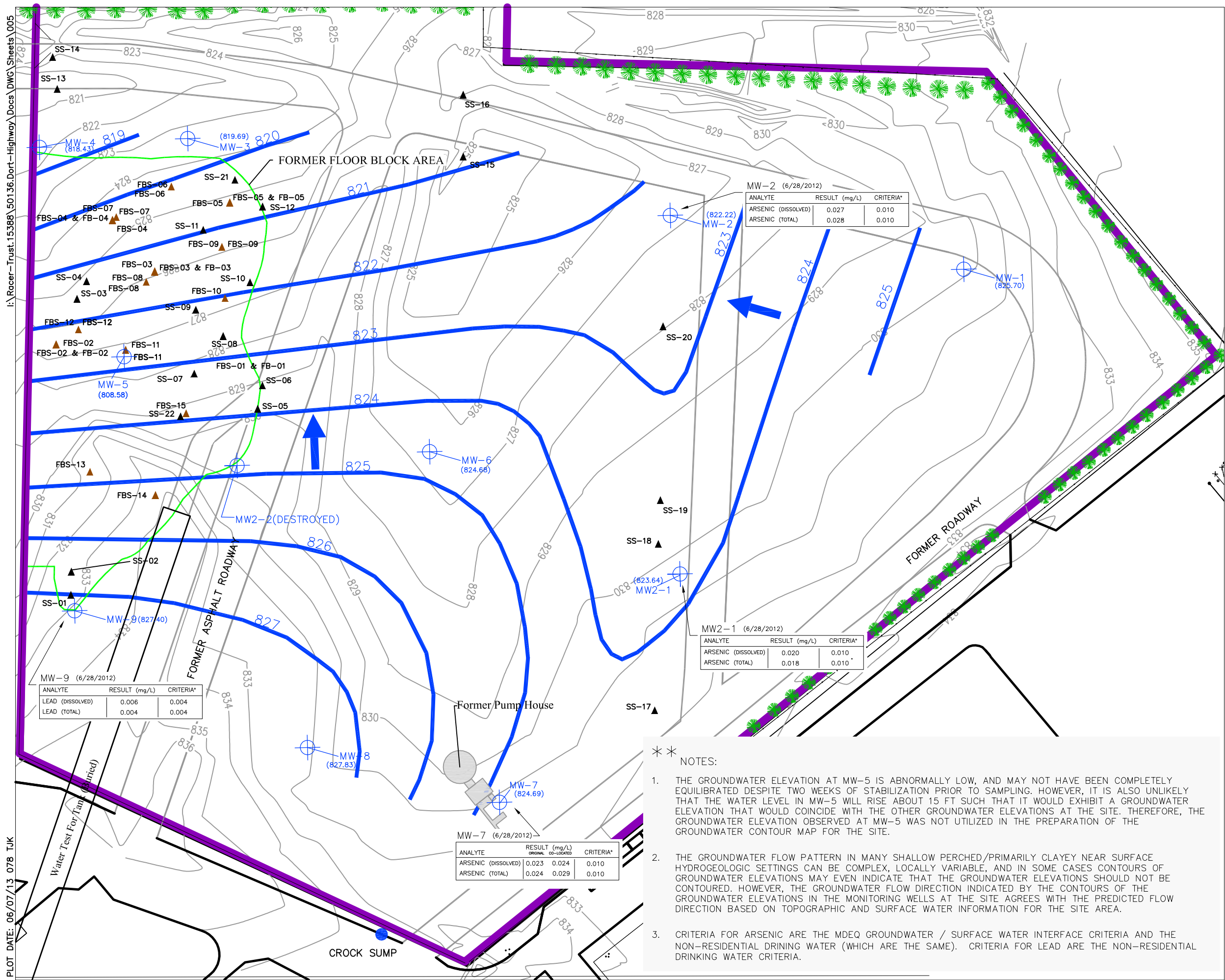


FIGURE 5



MW-2 (6/28/2012)

ANALYTE	RESULT (mg/L)	CRITERIA*
ARSENIC (DISSOLVED)	0.027	0.010
ARSENIC (TOTAL)	0.028	0.010

MW2-1 (6/28/2012)

ANALYTE	RESULT (mg/L)	CRITERIA*
ARSENIC (DISSOLVED)	0.020	0.010
ARSENIC (TOTAL)	0.018	0.010

MW-9 (6/28/2012)

ANALYTE	RESULT (mg/L)	CRITERIA*
LEAD (DISSOLVED)	0.006	0.004
LEAD (TOTAL)	0.004	0.004

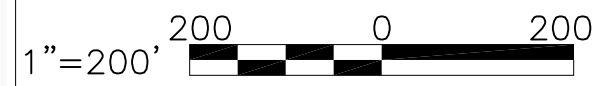
MW-7 (6/28/2012)

ANALYTE	RESULT (mg/L)	CRITERIA*
ARSENIC (DISSOLVED)	0.023	0.024
ARSENIC (TOTAL)	0.024	0.029

- LEGEND**
- ⊕ TEMPORARY MONITORING WELL LOCATION
  - ⊕ MONITORING WELL LOCATION
  - APPROXIMATE RACER TRUST PROPERTY LINE
  - FORMER TANK TEST TRACK AND DIE STORAGE ACCESS ROADS
  - × APPROXIMATE FENCE LOCATION
  - ▲ DELINEATION/CONFIRMATION SOIL SAMPLE LOCATION
  - ▲ FLOOR BLOCK AREA SOIL SAMPLE LOCATION
  - GROUND WATER CONTOUR
  - GROUND WATER FLOW
  - TOPOGRAPHIC CONTOURS

RACER TRUST  
DORT HIGHWAY LAND  
GRAND BLANC, MICHIGAN

GROUNDWATER CONTOUR  
MAP (JUNE 27, 2012)  
WITH EXCEEDANCES



- \*\* NOTES:
1. THE GROUNDWATER ELEVATION AT MW-5 IS ABNORMALLY LOW, AND MAY NOT HAVE BEEN COMPLETELY EQUILIBRATED DESPITE TWO WEEKS OF STABILIZATION PRIOR TO SAMPLING. HOWEVER, IT IS ALSO UNLIKELY THAT THE WATER LEVEL IN MW-5 WILL RISE ABOUT 15 FT SUCH THAT IT WOULD EXHIBIT A GROUNDWATER ELEVATION THAT WOULD COINCIDE WITH THE OTHER GROUNDWATER ELEVATIONS AT THE SITE. THEREFORE, THE GROUNDWATER ELEVATION OBSERVED AT MW-5 WAS NOT UTILIZED IN THE PREPARATION OF THE GROUNDWATER CONTOUR MAP FOR THE SITE.
  2. THE GROUNDWATER FLOW PATTERN IN MANY SHALLOW PERCHED/PRIMARILY CLAYEY NEAR SURFACE HYDROGEOLOGIC SETTINGS CAN BE COMPLEX, LOCALLY VARIABLE, AND IN SOME CASES CONTOURS OF GROUNDWATER ELEVATIONS MAY EVEN INDICATE THAT THE GROUNDWATER ELEVATIONS SHOULD NOT BE CONTOURED. HOWEVER, THE GROUNDWATER FLOW DIRECTION INDICATED BY THE CONTOURS OF THE GROUNDWATER ELEVATIONS IN THE MONITORING WELLS AT THE SITE AGREES WITH THE PREDICTED FLOW DIRECTION BASED ON TOPOGRAPHIC AND SURFACE WATER INFORMATION FOR THE SITE AREA.
  3. CRITERIA FOR ARSENIC ARE THE MDEQ GROUNDWATER / SURFACE WATER INTERFACE CRITERIA AND THE NON-RESIDENTIAL DRINKING WATER (WHICH ARE THE SAME). CRITERIA FOR LEAD ARE THE NON-RESIDENTIAL DRINKING WATER CRITERIA.

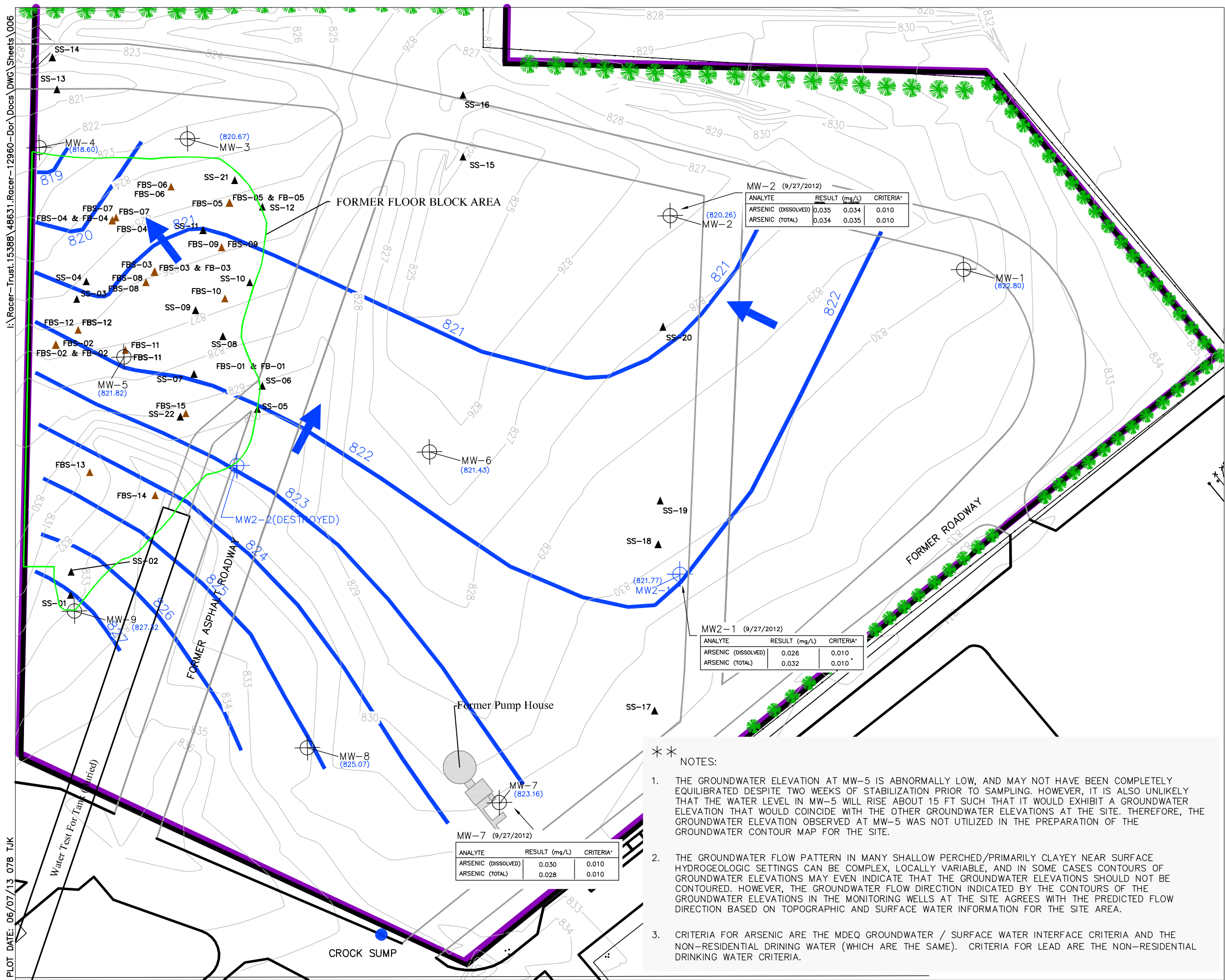
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FIGURE 6



- LEGEND**
- ⊕ TEMPORARY MONITORING WELL LOCATION
  - ⊕ MONITORING WELL LOCATION
  - APPROXIMATE RACER TRUST PROPERTY LINE
  - FORMER TANK TEST TRACK AND DIE STORAGE ACCESS ROADS
  - ✖ APPROXIMATE FENCE LOCATION
  - ▲ DELINEATION/ CONFIRMATION SOIL SAMPLE LOCATION
  - ▲ FLOOR BLOCK AREA SOIL SAMPLE LOCATION
  - GROUND WATER CONTOUR
  - GROUND WATER FLOW
  - TOPOGRAPHIC CONTOURS

RACER TRUST  
DORT HIGHWAY LAND  
GRAND BLANC, MICHIGAN

GROUNDWATER CONTOUR  
MAP (SEPT. 27, 2012)  
WITH EXCEEDANCES



- \*\* NOTES:
1. THE GROUNDWATER ELEVATION AT MW-5 IS ABNORMALLY LOW, AND MAY NOT HAVE BEEN COMPLETELY EQUILIBRATED DESPITE TWO WEEKS OF STABILIZATION PRIOR TO SAMPLING. HOWEVER, IT IS ALSO UNLIKELY THAT THE WATER LEVEL IN MW-5 WILL RISE ABOUT 15 FT SUCH THAT IT WOULD EXHIBIT A GROUNDWATER ELEVATION THAT WOULD COINCIDE WITH THE OTHER GROUNDWATER ELEVATIONS AT THE SITE. THEREFORE, THE GROUNDWATER ELEVATION OBSERVED AT MW-5 WAS NOT UTILIZED IN THE PREPARATION OF THE GROUNDWATER CONTOUR MAP FOR THE SITE.
  2. THE GROUNDWATER FLOW PATTERN IN MANY SHALLOW PERCHED/PRIMARILY CLAYEY NEAR SURFACE HYDROGEOLOGIC SETTINGS CAN BE COMPLEX, LOCALLY VARIABLE, AND IN SOME CASES CONTOURS OF GROUNDWATER ELEVATIONS MAY EVEN INDICATE THAT THE GROUNDWATER ELEVATIONS SHOULD NOT BE CONTOURED. HOWEVER, THE GROUNDWATER FLOW DIRECTION INDICATED BY THE CONTOURS OF THE GROUNDWATER ELEVATIONS IN THE MONITORING WELLS AT THE SITE AGREES WITH THE PREDICTED FLOW DIRECTION BASED ON TOPOGRAPHIC AND SURFACE WATER INFORMATION FOR THE SITE AREA.
  3. CRITERIA FOR ARSENIC ARE THE MDEQ GROUNDWATER / SURFACE WATER INTERFACE CRITERIA AND THE NON-RESIDENTIAL DRINKING WATER (WHICH ARE THE SAME). CRITERIA FOR LEAD ARE THE NON-RESIDENTIAL DRINKING WATER CRITERIA.

MW-2 (9/27/2012)

ANALYTE	RESULT (mg/L)	CRITERIA*
ARSENIC (DISSOLVED)	0.035	0.034 0.010
ARSENIC (TOTAL)	0.034	0.035 0.010

MW2-1 (9/27/2012)

ANALYTE	RESULT (mg/L)	CRITERIA*
ARSENIC (DISSOLVED)	0.026	0.010
ARSENIC (TOTAL)	0.032	0.010

MW-7 (9/27/2012)

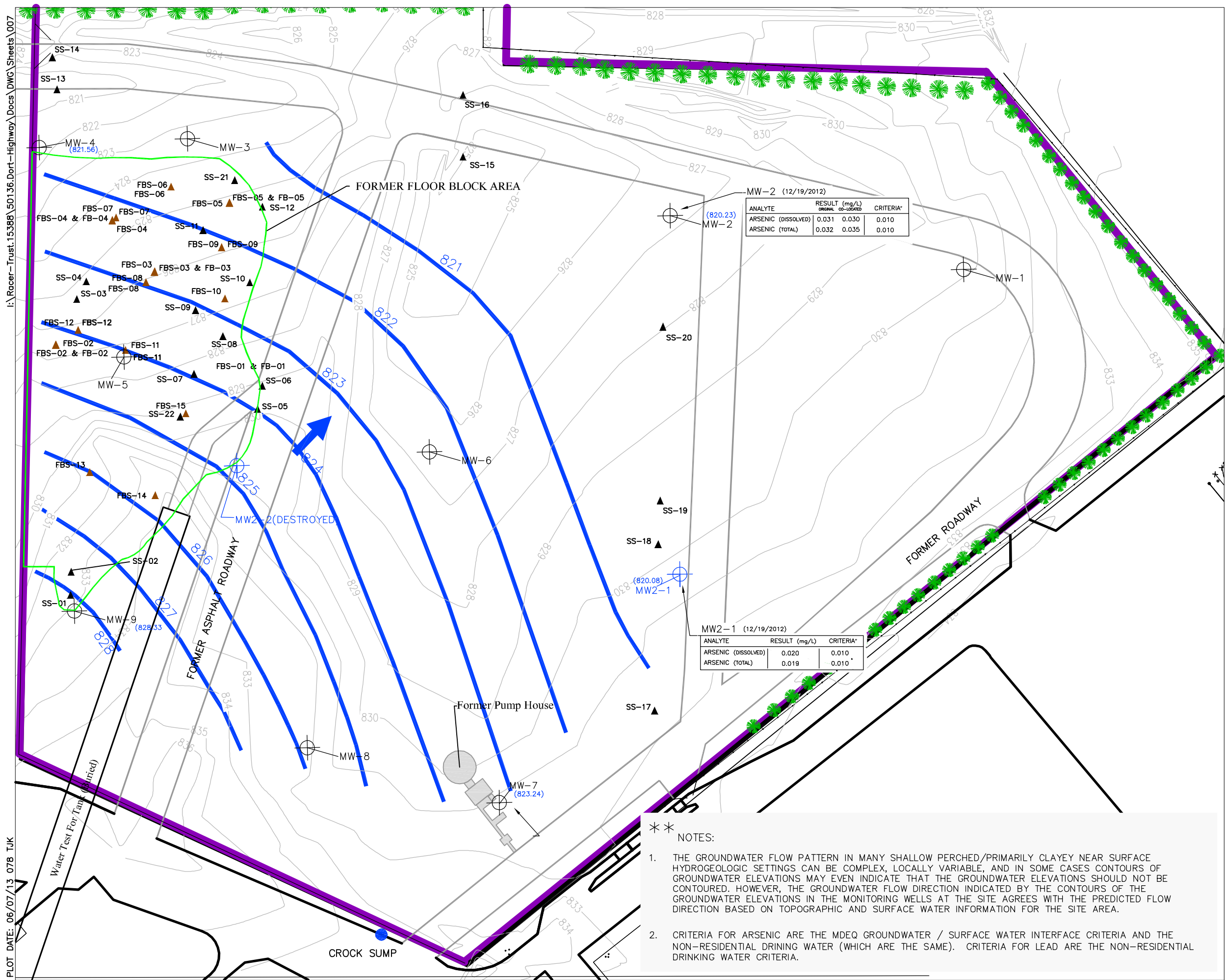
ANALYTE	RESULT (mg/L)	CRITERIA*
ARSENIC (DISSOLVED)	0.030	0.010
ARSENIC (TOTAL)	0.028	0.010

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JUNE 2013



FIGURE 7



MW-2 (12/19/2012)

ANALYTE	RESULT (mg/L)	CRITERIA*
ARSENIC (DISSOLVED)	0.031	0.030
ARSENIC (TOTAL)	0.032	0.035

MW2-1 (12/19/2012)

ANALYTE	RESULT (mg/L)	CRITERIA*
ARSENIC (DISSOLVED)	0.020	0.010
ARSENIC (TOTAL)	0.019	0.010

- LEGEND**
- ⊕ MONITORING WELL LOCATION
  - ⊕ PHASE II ESA MONITORING WELL LOCATION
  - APPROXIMATE RACER TRUST PROPERTY LINE
  - FORMER TANK TEST TRACK AND DIE STORAGE ACCESS ROADS
  - × APPROXIMATE FENCE LOCATION
  - ▲ DELINEATION/ CONFIRMATION SOIL SAMPLE LOCATION
  - ▲ FLOOR BLOCK AREA SOIL SAMPLE LOCATION
  - GROUND WATER CONTOUR
  - GROUND WATER FLOW
  - TOPOGRAPHIC CONTOURS

RACER TRUST  
DORT HIGHWAY LAND  
GRAND BLANC, MICHIGAN

GROUNDWATER CONTOUR  
MAP (DEC. 19, 2012)  
WITH EXCEEDANCES



- \*\* NOTES:
1. THE GROUNDWATER FLOW PATTERN IN MANY SHALLOW PERCHED/PRIMARILY CLAYEY NEAR SURFACE HYDROGEOLOGIC SETTINGS CAN BE COMPLEX, LOCALLY VARIABLE, AND IN SOME CASES CONTOURS OF GROUNDWATER ELEVATIONS MAY EVEN INDICATE THAT THE GROUNDWATER ELEVATIONS SHOULD NOT BE CONTOURED. HOWEVER, THE GROUNDWATER FLOW DIRECTION INDICATED BY THE CONTOURS OF THE GROUNDWATER ELEVATIONS IN THE MONITORING WELLS AT THE SITE AGREES WITH THE PREDICTED FLOW DIRECTION BASED ON TOPOGRAPHIC AND SURFACE WATER INFORMATION FOR THE SITE AREA.
  2. CRITERIA FOR ARSENIC ARE THE MDEQ GROUNDWATER / SURFACE WATER INTERFACE CRITERIA AND THE NON-RESIDENTIAL DRINKING WATER (WHICH ARE THE SAME). CRITERIA FOR LEAD ARE THE NON-RESIDENTIAL DRINKING WATER CRITERIA.

15388/50136.007  
JUNE 2013



PLOT DATE: 06/07/13 07B TJK

I:\Racer-Trust.15388\50136.Dort-Highway\Docs\DWG\Sheets\007

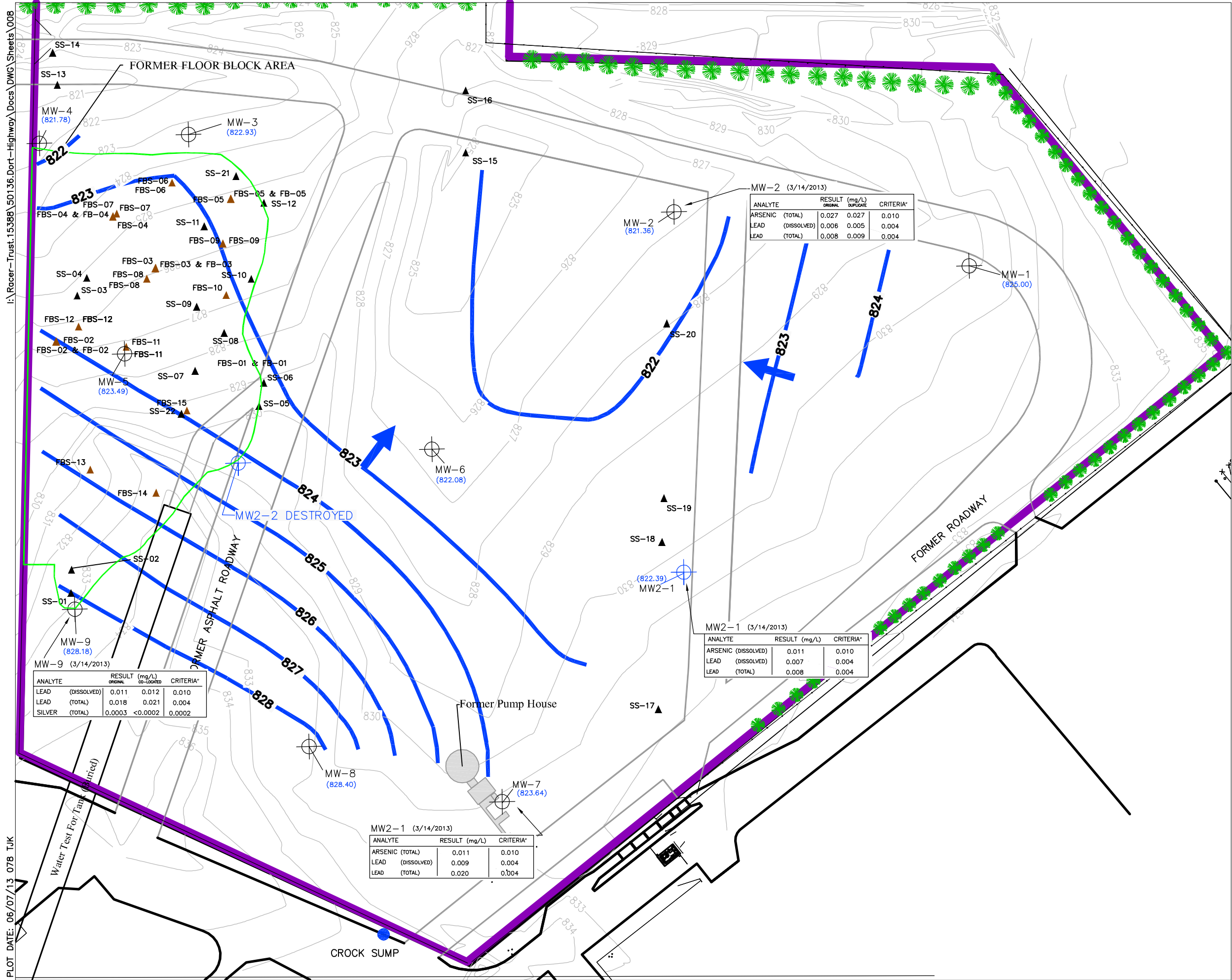
FIGURE 8



- LEGEND**
- MONITORING WELL LOCATION
  - PHASE II ESA MONITORING WELL LOCATION
  - APPROXIMATE RACER TRUST PROPERTY LINE
  - FORMER TANK TEST TRACK AND DIE STORAGE ACCESS ROADS
  - APPROXIMATE FENCE LOCATION
  - DELINEATION/ CONFIRMATION SOIL SAMPLE LOCATION
  - FLOOR BLOCK AREA SOIL SAMPLE LOCATION
  - GROUND WATER CONTOUR
  - GROUND WATER FLOW
  - TOPOGRAPHIC CONTOURS

RACER TRUST  
DORT HIGHWAY LAND  
GRAND BLANC, MICHIGAN

GROUNDWATER CONTOUR  
MAP (MARCH 14, 2013)  
WITH EXCEEDANCES



MW-2 (3/14/2013)

ANALYTE	RESULT ORIGINAL	RESULT DUPLICATE	CRITERIA*
ARSENIC (TOTAL)	0.027	0.027	0.010
LEAD (DISSOLVED)	0.006	0.005	0.004
LEAD (TOTAL)	0.008	0.009	0.004

MW2-1 (3/14/2013)

ANALYTE	RESULT (mg/L)	CRITERIA*
ARSENIC (DISSOLVED)	0.011	0.010
LEAD (DISSOLVED)	0.007	0.004
LEAD (TOTAL)	0.008	0.004

MW2-1 (3/14/2013)

ANALYTE	RESULT (mg/L)	CRITERIA*
ARSENIC (TOTAL)	0.011	0.010
LEAD (DISSOLVED)	0.009	0.004
LEAD (TOTAL)	0.020	0.004

MW-9 (3/14/2013)

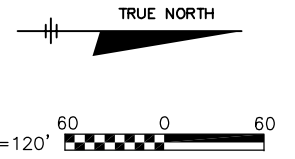
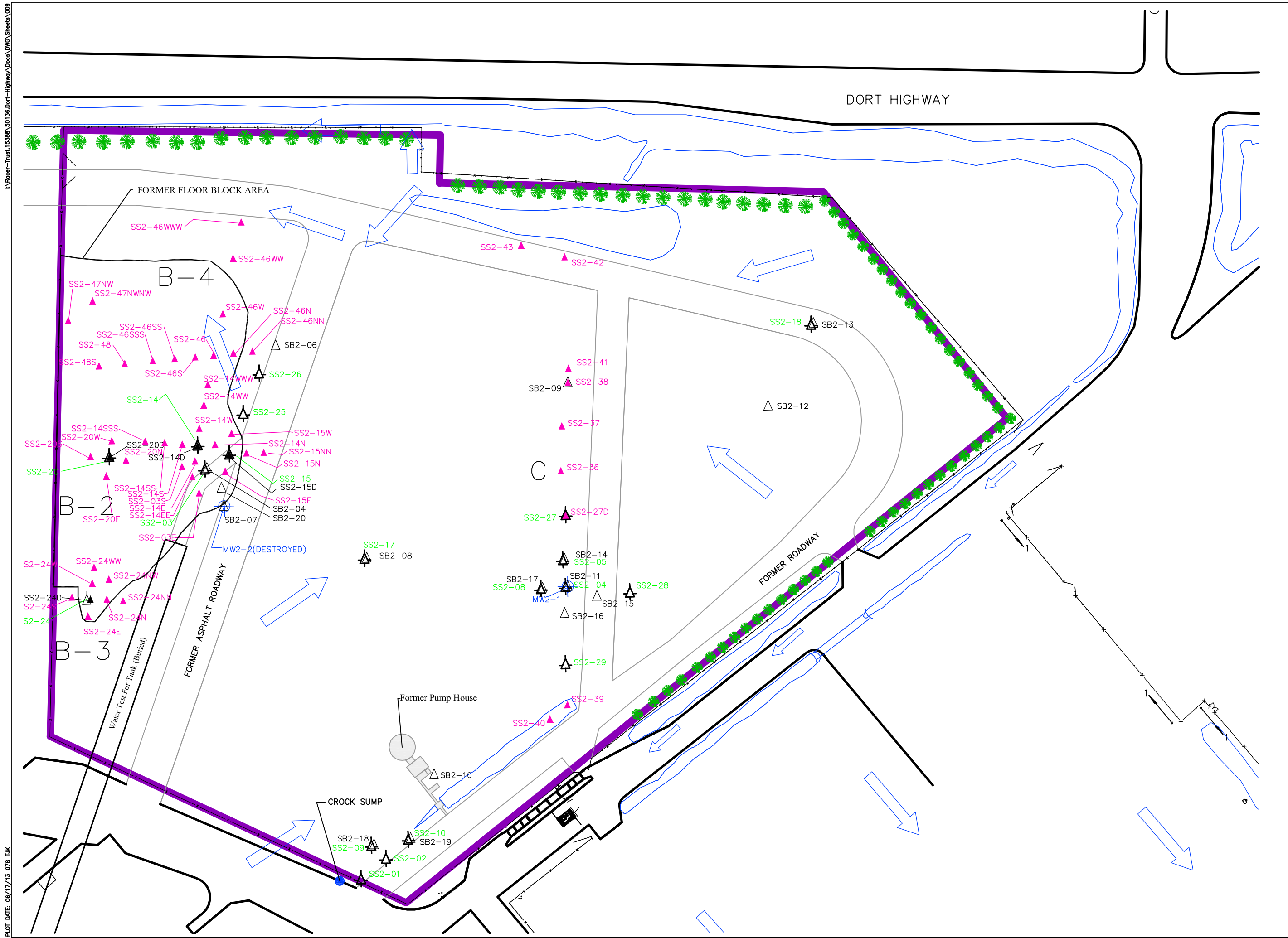
ANALYTE	RESULT ORIGINAL	RESULT CO-LOCATED	CRITERIA*
LEAD (DISSOLVED)	0.011	0.012	0.010
LEAD (TOTAL)	0.018	0.021	0.004
SILVER (TOTAL)	0.0003	<0.0002	0.0002

PLOT DATE: 06/07/13 07B TJK

15388/50136.008  
JUNE 2013



FIGURE 9



- LEGEND**
- △ SOIL BORING LOCATION
  - ▲ SURFACE SOIL SAMPLE LOCATION
  - ▲ DELINEATION SOIL SAMPLE LOCATION
  - ⊕ MONITORING WELL LOCATION
  - APPROXIMATE RACER TRUST PROPERTY LINE
  - FORMER TANK TEST TRACK AND DIE STORAGE ACCESS ROADS
  - ✕ APPROXIMATE FENCE LOCATION

HISTORICAL SAMPLE LOCATIONS

RACER TRUST  
DORT HIGHWAY LAND  
GRAND BLANC, MICHIGAN

E:\Pacer-Trust\15388\50136.Dort-Highway\Docs\DWG\Sheets\009  
 PLOT DATE: 06/17/13 078 TJK

I:\Racer-Trust\15388\50136.Dort-Highway\Docs\DWG\Sheets\010

PLOT DATE: 6/17/13 078 TJK

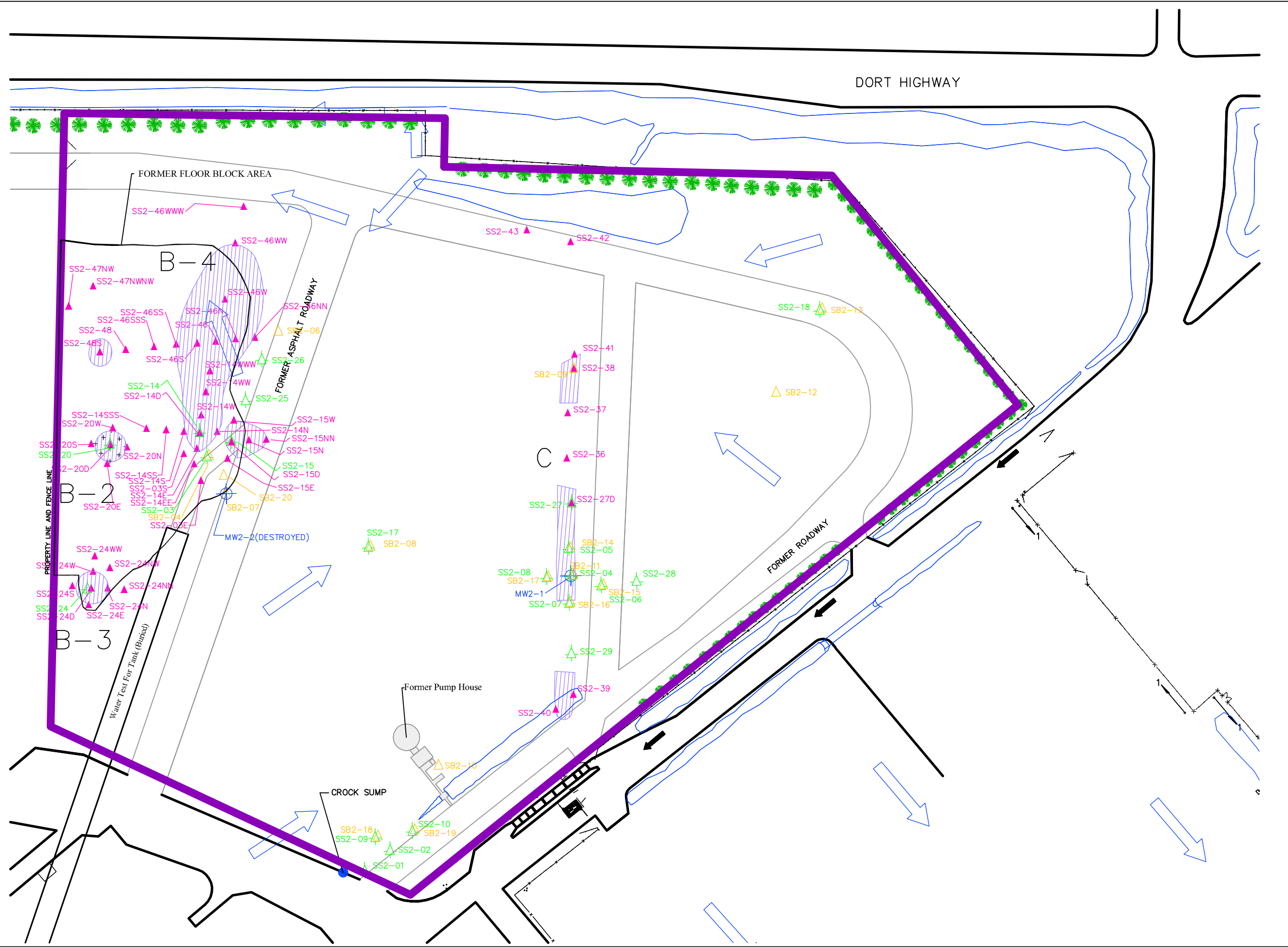
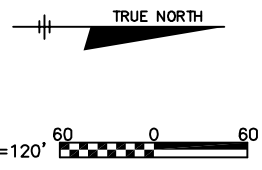


FIGURE 10



- LEGEND**
- △ SOIL BORING LOCATION
  - △ SURFACE SOIL SAMPLE LOCATION
  - ▲ DELINEATION SOIL SAMPLE LOCATION
  - ⊕ MONITORING WELL LOCATION
  - AREA EXCEEDING NON-RESIDENTIAL CRITERIA
  - APPROXIMATE RACER TRUST PROPERTY LINE
  - FORMER TANK TEST TRACK AND DIE STORAGE ACCESS ROADS
  - APPROXIMATE FENCE LOCATION

HISTORICAL IMPACTED AREA MAP

RACER TRUST  
DORT HIGHWAY LAND  
GRAND BLANC, MICHIGAN

15388/50136.010  
JUNE 2013



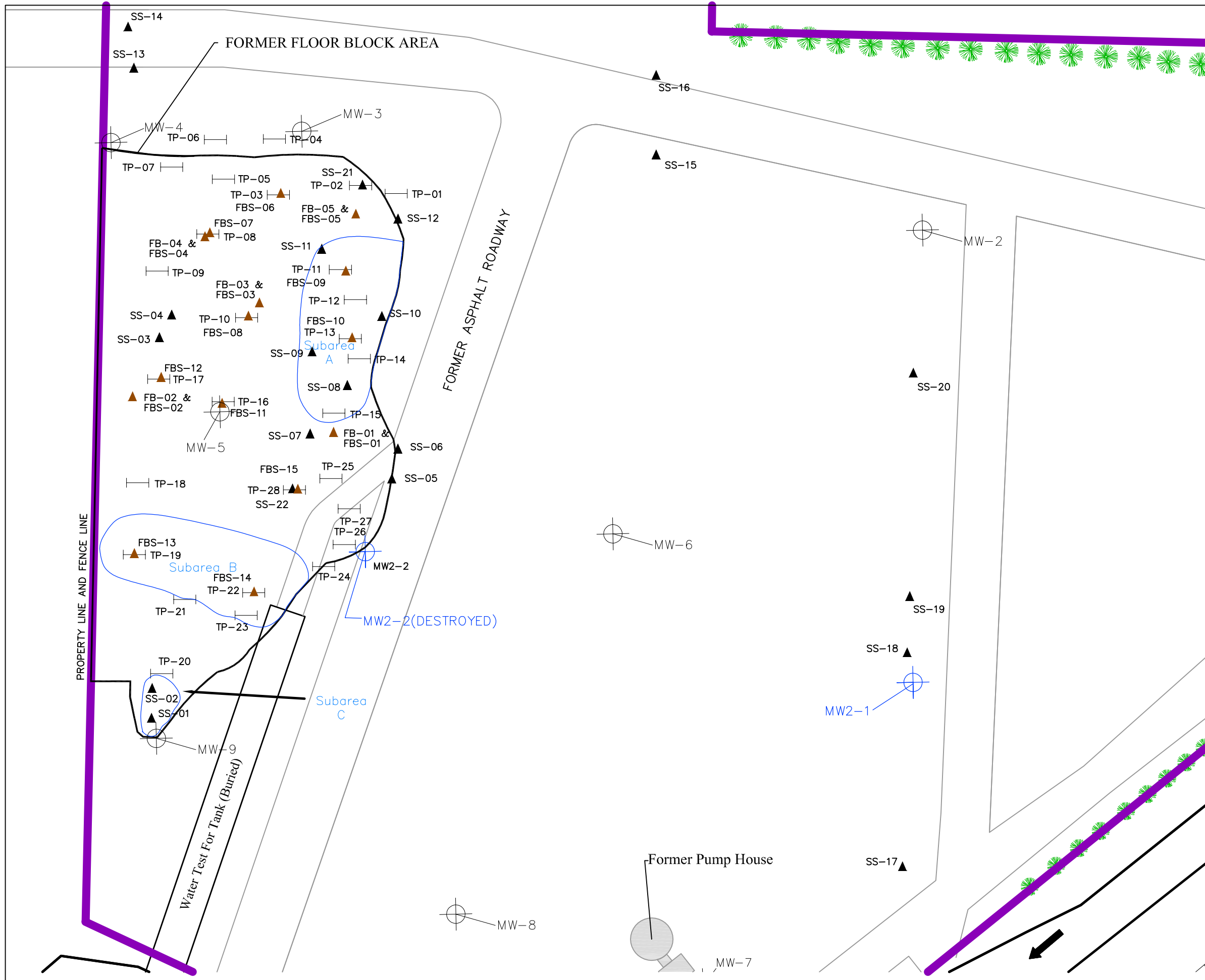







FIGURE 11

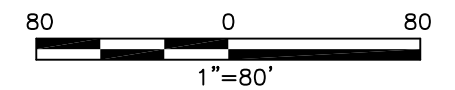


LEGEND

-  MONITORING WELL LOCATION
-  TEMPORARY MONITORING WELL LOCATION
-  SURFACE SOIL/SOIL SAMPLE LOCATION
-  FLOOR BLOCK & ASSOCIATED SOIL SAMPLE LOCATION
-  TEST PIT LOCATION

RACER TRUST  
DORT HIGHWAY LAND  
GRAND BLANC, MICHIGAN

2011 SITE CONDITIONS  
& FLOOR BLOCK  
INVESTIGATION SAMPLING  
LOCATIONS



15388/50136  
JUNE 2013



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PLOT DATE: 06/17/13 078 TJK

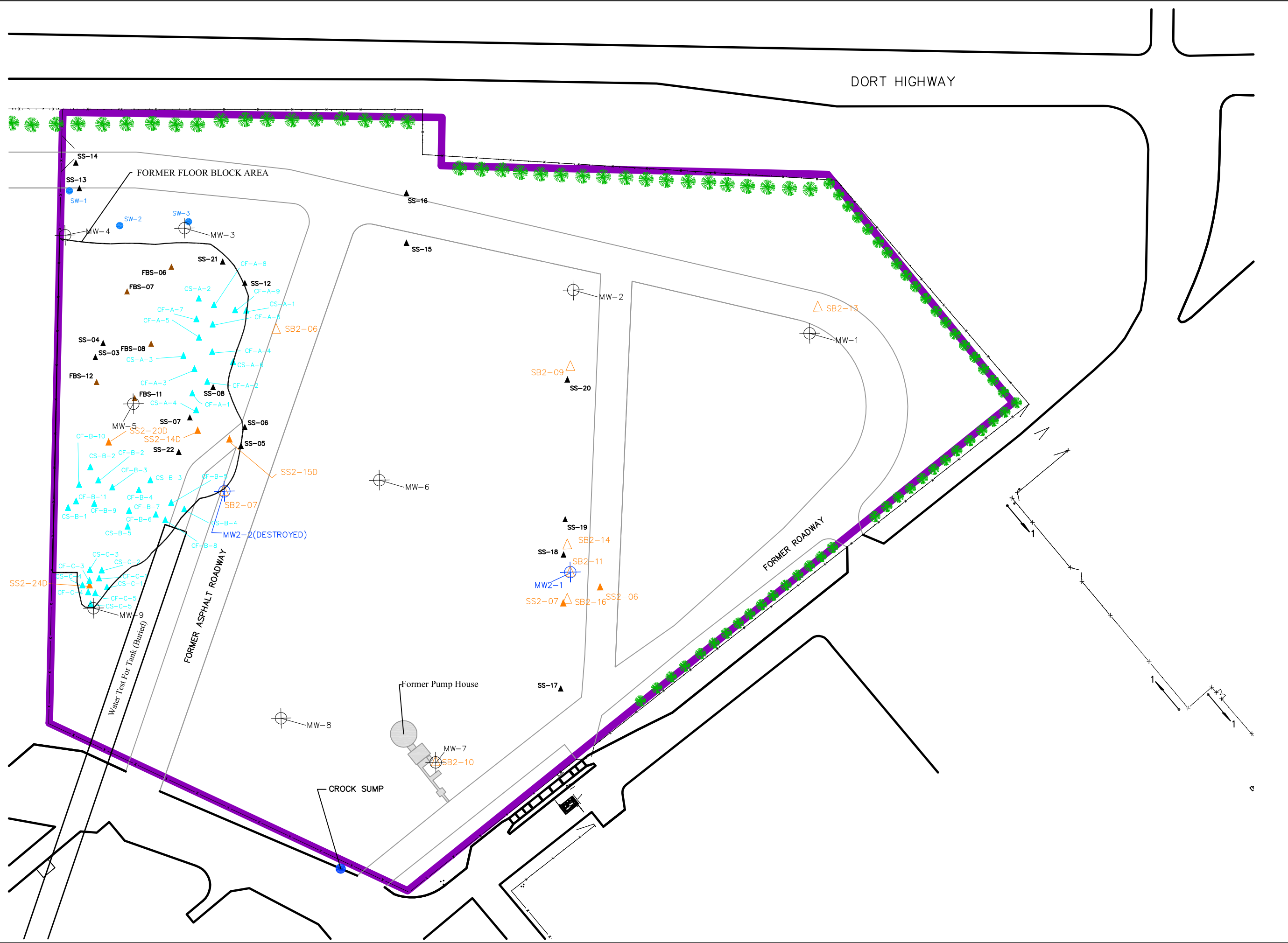


FIGURE 12



1"=120'

LEGEND

- SOIL BORING LOCATION
- SURFACE SOIL SAMPLE LOCATION
- SURFACE WATER SAMPLES
- DELINEATION/ CONFIRMATION SOIL SAMPLE LOCATION
- FLOOR BLOCK AREA SOIL SAMPLE LOCATION
- MONITORING WELL LOCATION
- TEMPORARY MONITORING WELL LOCATION
- APPROXIMATE RACER TRUST PROPERTY LINE
- FORMER TANK TEST TRACK AND DIE STORAGE ACCESS ROADS
- APPROXIMATE FENCE LOCATION
- CONFIRMATION SOIL SAMPLE LOCATION

HISTORICAL AND RELEVANT 2011\2012 SAMPLING LOCATIONS

RACER TRUST DORT HIGHWAY LAND GRAND BLANC, MICHIGAN

15388/50136.012  
JUNE 2013



***APPENDICES***

***APPENDIX A***  
***Historical Cut & Fill Maps***

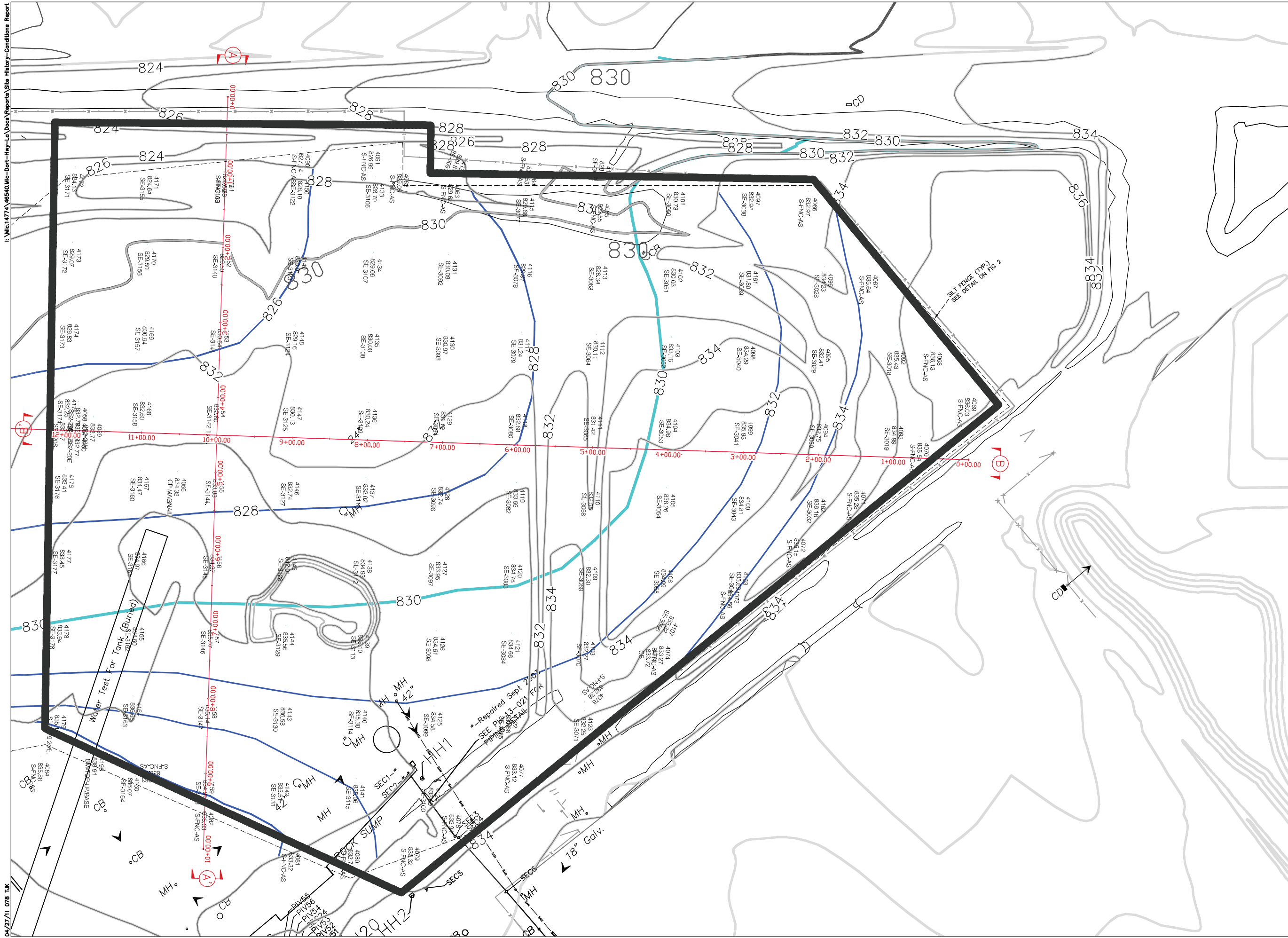
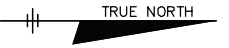


FIGURE 1



- NOTES:
1. DRAWING FOR PRELIMINARY TAKE-OFFS ONLY. PROPOSED CONTOURS TO MATCH EXISTING AT BOUNDARY OF BORROW AREA. BOUNDARY OF BORROW AREA DELINEATED BY SILT FENCE LOCATION.
  2. CONTRACTOR TO FOLLOW SOIL EROSION AND SEDIMENTATION REQUIREMENTS PER EXISTING PROJECT REQUIREMENTS.

RACER TRUST  
DORT HIGHWAY LAND  
GRAND BLANC, MICHIGAN

BORROW PIT

CUT & FILL MAP



FILE NO. 14774.46540  
APRIL 2011



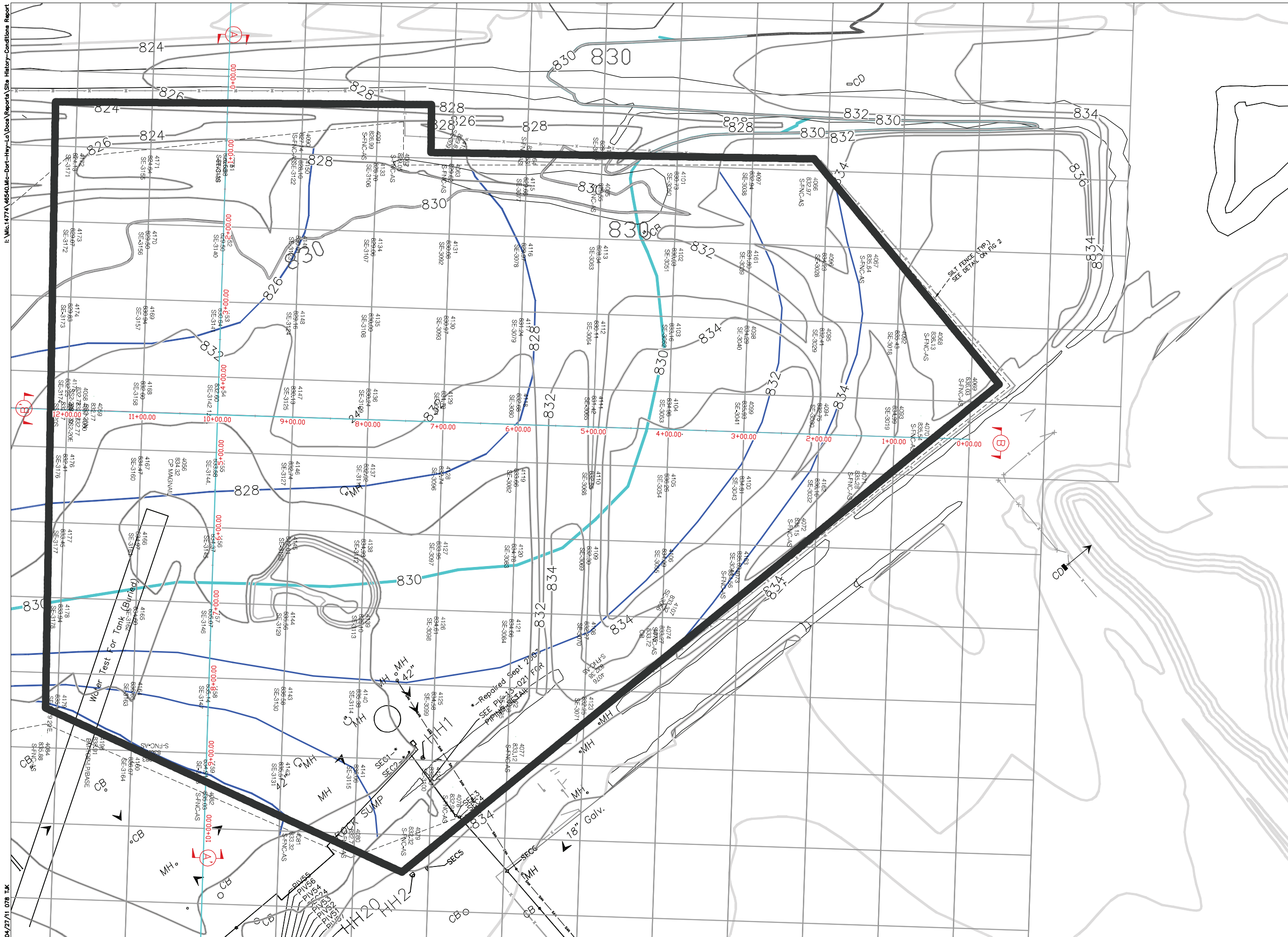


FIGURE 2



- NOTES:
1. DRAWING FOR PRELIMINARY TAKE-OFFS ONLY. PROPOSED CONTOURS TO MATCH EXISTING AT BOUNDARY OF BORROW AREA. BOUNDARY OF BORROW AREA DELINEATED BY SILT FENCE LOCATION.
  2. CONTRACTOR TO FOLLOW SOIL EROSION AND SEDIMENTATION REQUIREMENTS PER EXISTING PROJECT REQUIREMENTS.

RACER TRUST  
DORT HIGHWAY LAND  
GRAND BLANC, MICHIGAN

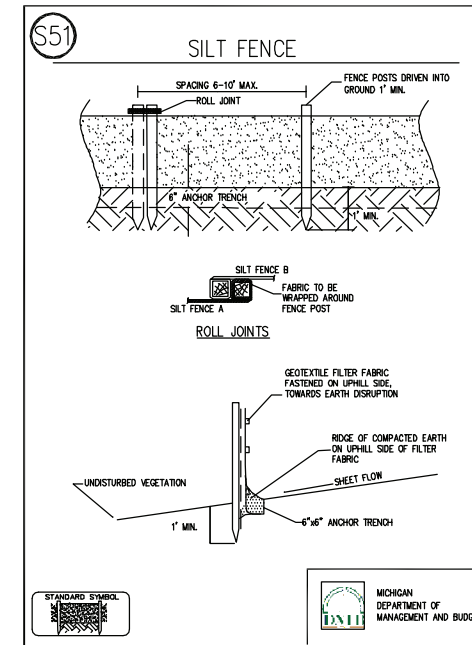
BORROW PIT

CUT & FILL MAP  
WITH GRID



FILE NO. 14774.46540  
APRIL 2011

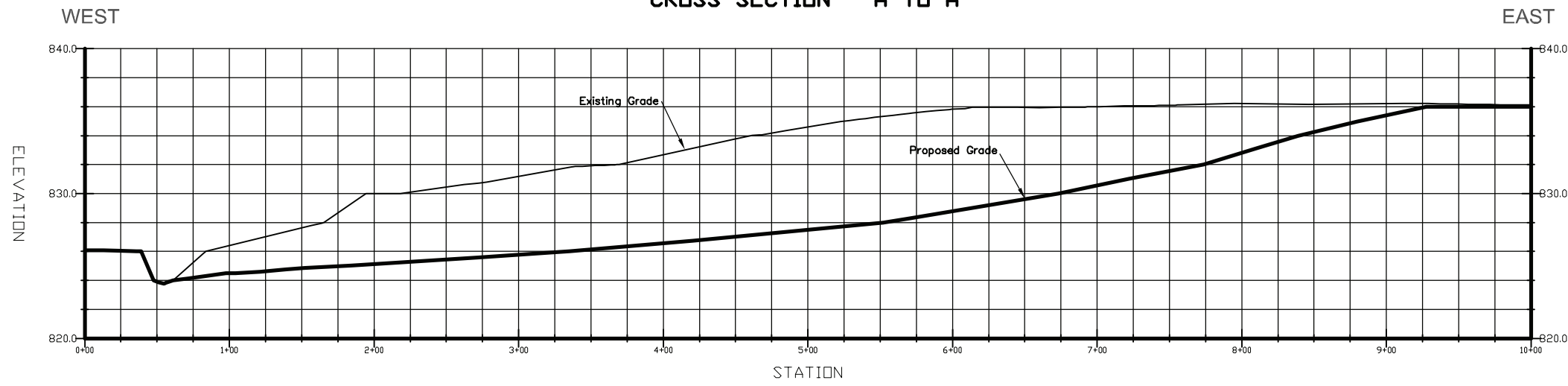




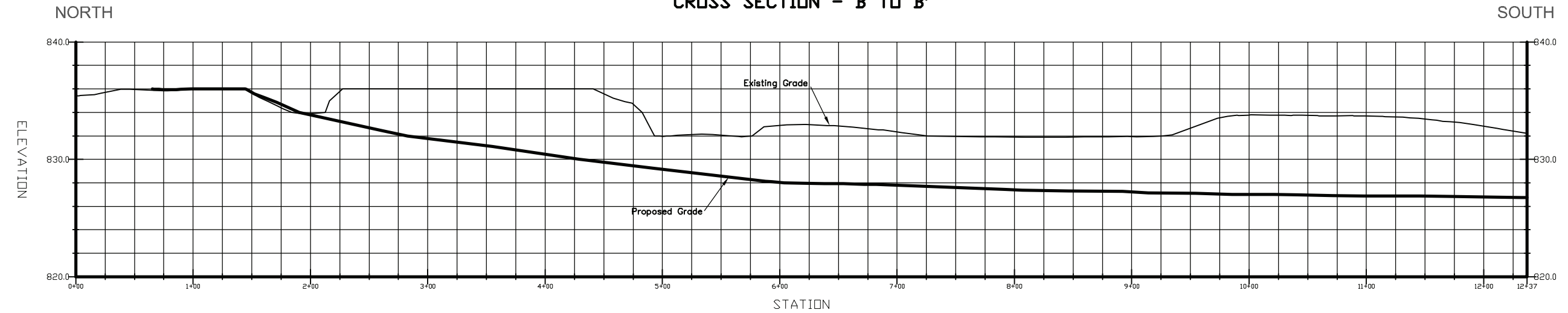
SOURCE: MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET, 2003. SOIL EROSION AND SEDIMENTATION CONTROL GUIDEBOOK, DRAWING S31\_SiltFence.dwg, FEBRUARY 2003.

**DETAIL - SILT FENCE (TYP.)**  
NOT TO SCALE

**CROSS SECTION - A TO A'**



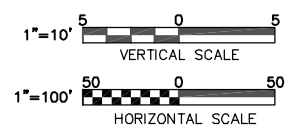
**CROSS SECTION - B TO B'**



RACER TRUST  
DORT HIGHWAY LAND  
GRAND BLANC, MICHIGAN

BORROW PIT

CUT & FILL  
PROFILE VIEWS



FILE NO. 14774.46540  
APRIL 2011



***APPENDIX B***  
***Well Logs***



# Water Well And Pump Record



Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Import ID:

<b>Tax No:</b>	<b>Permit No:</b>	<b>County:</b> Genesee			<b>Township:</b> Grand Blanc	
<b>Well ID: 25000010333</b>		<b>Town/Range:</b> 06N 07E	<b>Section:</b> 10	<b>Well Status:</b> Active	<b>WSSN:</b> 2740	<b>Source ID/Well No:</b> 3
		<b>Distance and Direction from Road Intersection:</b> Approximately 500' East of Thread Creek & approximately 200' North Rust Park Road Extension. In city park.				
<b>Elevation:</b> 823 ft.		<b>Well Owner:</b> City of Grand Blanc				
<b>Latitude:</b> 42.935923		<b>Well Address:</b>			<b>Owner Address:</b>	
<b>Longitude:</b> -83.628271		Grand Blanc, MI			Grand Blanc, MI	
<b>Method of Collection:</b> Interpolation-Map						

<b>Drilling Method:</b> Rotary	<b>Well Use:</b> Type I public	<b>Pump Installed:</b> No
<b>Well Depth:</b> 136.33 ft.	<b>Date Completed:</b> 9/30/1961	<b>Pressure Tank Installed:</b> No
<b>Well Type:</b> New	<b>Height:</b> 5.00 ft. above grade	<b>Pressure Relief Valve Installed:</b> No
<b>Casing Type:</b> Steel - black		
<b>Casing Joint:</b> Welded		
<b>Casing Fitting:</b> Drive shoe		
<b>Diameter:</b> 12.00 in. to 136.33 ft. depth		
<b>Borehole:</b> 12.00 in. to 304.00 ft. depth		

<b>Static Water Level:</b> 27.00 ft. Below Grade	<b>Well Yield Test:</b> Pumping level 128.00 ft. after 4.00 hrs. at 400 GPM Pumping level 128.00 ft. after 22.00 hrs. at 400 GPM	<b>Yield Test Method:</b> Unknown	<b>Formation Description</b>	<b>Thickness</b>	<b>Depth to Bottom</b>
			Yellow Clay Hard	15.00	15.00
<b>Screen Installed:</b> No <b>Intake:</b> Bedrock Well			Blue Clay Hard	15.00	30.00
			Blue Clay Sticky	60.00	90.00
			Clay Hard W/Boulders	42.00	132.00
			Shale	10.00	142.00
			Shale Sandy Wet/Moist	14.00	156.00
			Shale W/Sand	22.00	178.00
			Sandstone	49.00	227.00
			Sandstone W/Shale	31.00	258.00
			Sandstone W/Shale	46.00	304.00

<b>Well Grouted:</b> No	<b>Geology Remarks:</b> Stratum 9: takes water
-------------------------	---

<b>Wellhead Completion:</b> Unknown
-------------------------------------

<b>Nearest Source of Possible Contamination:</b>	<b>Drilling Machine Operator Name:</b> Wiley Wight
<b>Type</b>	<b>Employment:</b> Unknown
Unknown	
Unknown	
	<b>Contractor Type:</b> Water Well Drilling Contractor <b>Reg No:</b>
	<b>Business Name:</b> Layne Northern Co., Inc.
	<b>Business Address:</b> Mishawaka, IN
	<b>Water Well Contractor's Certification</b>
	This well was drilled under my supervision and this report is true to the best of my knowledge and belief.
	<b>Signature of Registered Contractor</b> <b>Date</b>

<b>General Remarks:</b>
<b>Other Remarks:</b>



# Water Well And Pump Record



Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Import ID: 25067708006

<b>Tax No:</b>	<b>Permit No:</b>	<b>County:</b> Genesee	<b>Township:</b> Grand Blanc			
<b>Well ID: 25000000022</b>  Elevation: 831 ft. Latitude: 42.9352071476 Longitude: -83.652554462 Method of Collection: Interpolation-Map		<b>Town/Range:</b> 06N 07E	<b>Section:</b> 8	<b>Well Status:</b>	<b>WSSN:</b>	<b>Source ID/Well No:</b>
		<b>Distance and Direction from Road Intersection:</b> Aquifer: SAGINAW Well #: 250120806				
		<b>Well Owner:</b> GIBBS, CLIFFORD E.			<b>Well Address:</b> 2524 GIBSON GRAND BLANC, MI 48439	

<b>Drilling Method:</b> Rotary	<b>Well Use:</b> Other	<b>Pump Installed:</b> No
<b>Well Depth:</b> 200.00 ft.	<b>Well Type:</b> Replacement	<b>Pressure Tank Installed:</b> No
<b>Well Type:</b> Replacement	<b>Date Completed:</b> 7/7/1972	<b>Pressure Relief Valve Installed:</b> No
<b>Casing Type:</b> Unknown	<b>Height:</b> 2.00 ft. above grade	
<b>Casing Joint:</b> Threaded & coupled		
<b>Casing Fitting:</b> Drive shoe		
<b>Diameter:</b> 2.00 in. to 150.00 ft. depth		
<b>Borehole:</b>		

<b>Static Water Level:</b> 38.00 ft. Below Grade <b>Well Yield Test:</b> Pumping level 100.00 ft. after 2.00 hrs. at 8 GPM <b>Yield Test Method:</b> Unknown	<b>Formation Description</b>	<b>Thickness</b>	<b>Depth to Bottom</b>
	Clay	48.00	48.00
<b>Screen Installed:</b> No <b>Intake:</b> Unknown	Sand	22.00	70.00
	Clay	12.00	82.00
	Sand & Gravel	16.00	98.00
	Clay	50.00	148.00
	Sandstone	52.00	200.00

<b>Well Grouted:</b> Yes	<b>Grouting Method:</b> Unknown	<b>Geology Remarks:</b>
<b>Grouting Material:</b> Other	<b>Bags:</b> 0.00 <b>Additives:</b> None <b>Depth:</b> 0.00 ft. to 25.00 ft.	

<b>Wellhead Completion:</b> Other, 12 inches above grade
--

<b>Nearest Source of Possible Contamination:</b>	<b>Drilling Machine Operator Name:</b>
<b>Type:</b> None	<b>Employment:</b> Unknown
<b>Distance:</b>	<b>Contractor Type:</b> Unknown
<b>Direction:</b>	<b>Reg No:</b>

<b>Abandoned Well Plugged:</b> No	<b>Business Name:</b>
<b>Reason Not Plugged:</b>	<b>Business Address:</b>

<b>Water Well Contractor's Certification</b>	
This well was drilled under my supervision and this report is true to the best of my knowledge and belief.	
<b>Signature of Registered Contractor</b>	<b>Date</b>

<b>General Remarks:</b>
<b>Other Remarks:</b> Well Use:Commercial, Grouting Material 1:Listed as other in Wellkey, Wellhead Completion:12 inch Above Grade



# Water Well And Pump Record



Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

Import ID: 25067708005

<b>Tax No:</b>	<b>Permit No:</b>	<b>County:</b> Genesee	<b>Township:</b> Grand Blanc			
<b>Well ID: 25000001254</b>  <b>Elevation:</b> 835 ft. <b>Latitude:</b> 42.935758698 <b>Longitude:</b> -83.6557972664 <b>Method of Collection:</b> Interpolation-Map		<b>Town/Range:</b> 06N 07E	<b>Section:</b> 8	<b>Well Status:</b>	<b>WSSN:</b>	<b>Source ID/Well No:</b>
		<b>Distance and Direction from Road Intersection:</b> Aquifer: SAGINAW Well #: 250120805				
		<b>Well Owner:</b> ?			<b>Owner Address:</b> 2435 GIBSON GRAND BLANC, MI 48439	
<b>Well Address:</b> 2435 GIBSON GRAND BLANC, MI 48439		<b>Owner Address:</b> 2435 GIBSON GRAND BLANC, MI 48439				

<b>Drilling Method:</b> Rotary <b>Well Depth:</b> 220.00 ft. <b>Well Type:</b> Replacement <b>Casing Type:</b> PVC plastic <b>Casing Joint:</b> Unknown <b>Casing Fitting:</b> None  <b>Diameter:</b> 5.00 in. to 171.00 ft. depth  <b>Borehole:</b> 7.87 in. to 171.00 ft. depth	<b>Well Use:</b> Household <b>Date Completed:</b> 9/19/1987  <b>Height:</b>  <b>Static Water Level:</b> 78.00 ft. Below Grade <b>Well Yield Test:</b> Pumping level 220.00 ft. after 1.00 hrs. at 40 GPM <b>Yield Test Method:</b> Unknown	<b>Pump Installed:</b> Yes <b>Pump Installation Date:</b> <b>Manufacturer:</b> Flint & Walling <b>Model Number:</b> <b>Drop Pipe Length:</b> 100.00 ft. <b>Drop Pipe Diameter:</b> <b>Draw Down Seal Used:</b> No <b>Pressure Tank Installed:</b> No <b>Pressure Relief Valve Installed:</b> No	<b>Pump Installation Only:</b> No <b>HP:</b> <b>Pump Type:</b> Submersible <b>Pump Capacity:</b> 0 GPM <b>Pump Voltage:</b> <b>Drilling Record ID:</b>																																																												
<b>Screen Installed:</b> Yes <b>Screen Diameter:</b> 0.00 in. <b>Screen Material Type:</b> <b>Slot Length Set Between</b> 0.00 0.00 ft. 0.00 ft. and 78.00 ft.  <b>Fittings:</b> None	<b>Filter Packed:</b> No <b>Blank:</b> 0.00 ft. Above  <b>Well Grouted:</b> No	<table border="1"> <thead> <tr> <th>Formation Description</th> <th>Thickness</th> <th>Depth to Bottom</th> </tr> </thead> <tbody> <tr> <td>Clay</td> <td>68.00</td> <td>68.00</td> </tr> <tr> <td>Sand &amp; Clay</td> <td>30.00</td> <td>98.00</td> </tr> <tr> <td>Clay</td> <td>62.00</td> <td>160.00</td> </tr> <tr> <td>Sandstone</td> <td>60.00</td> <td>220.00</td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		Formation Description	Thickness	Depth to Bottom	Clay	68.00	68.00	Sand & Clay	30.00	98.00	Clay	62.00	160.00	Sandstone	60.00	220.00																																													
Formation Description	Thickness	Depth to Bottom																																																													
Clay	68.00	68.00																																																													
Sand & Clay	30.00	98.00																																																													
Clay	62.00	160.00																																																													
Sandstone	60.00	220.00																																																													
<b>Wellhead Completion:</b> Pitless adapter		<b>Geology Remarks:</b>																																																													
<b>Nearest Source of Possible Contamination:</b> <b>Type Distance Direction</b> None West		<b>Drilling Machine Operator Name:</b> <b>Employment:</b> Unknown  <b>Contractor Type:</b> Unknown <b>Reg No:</b> 25-1893 <b>Business Name:</b> <b>Business Address:</b>																																																													
<b>Abandoned Well Plugged:</b> No <b>Reason Not Plugged:</b>		<b>Water Well Contractor's Certification</b> This well was drilled under my supervision and this report is true to the best of my knowledge and belief.  <b>Signature of Registered Contractor</b> <b>Date</b>																																																													
<b>General Remarks:</b>		<b>Other Remarks:</b>																																																													

***APPENDIX C***  
***Soil and Groundwater***  
***Analytical Summary Tables***

**Table C1**  
**Depth to Groundwater Levels in Monitoring Wells**  
**RACER Trust- Dort Highway Land**  
**Grand Blanc, Michigan**

Well	Top Of Casing Elev. (ft) *	Top of Sand Pack Elev. (ft)	Bottom of Sand Pack Elev. (ft)	Date	Depth To Water (ft)	Static Water Elev. (ft)
MW-1	831.76	825.69	819.69	27-Jun-12	6.06	825.70
				27-Sep-12	8.96	822.80
				14-Mar-13	6.76	825.00
MW-2	829.31	814.64	806.84	27-Jun-12	7.09	822.22
				27-Sep-12	9.05	820.26
				19-Dec-12	9.08	820.23
				14-Mar-13	7.95	821.36
MW2-1	832.33	821.05	812.35	27-Jun-12	8.69	823.64
				27-Sep-12	10.56	821.77
				19-Dec-12	12.25	820.08
				14-Mar-13	9.94	822.39
MW-3	824.99	816.81	807.81	27-Jun-12	5.30	819.69
				27-Sep-12	4.32	820.67
				14-Mar-13	2.06	822.93
MW-4	824.03	818.12	812.12	27-Jun-12	5.60	818.43
				27-Sep-12	5.43	818.60
				19-Dec-12	2.47	821.56
				10-Apr-13	2.25	821.78
MW-5	829.58	811.43	803.43	27-Jun-12	21.00	808.58
				27-Sep-12	7.76	821.82
				14-Mar-13	6.09	823.49
MW-6	828.63	816.25	808.25	27-Jun-12	3.95	824.68
				27-Sep-12	7.20	821.43
				14-Mar-13	6.55	822.08
MW-7	834.20	818.26	811.86	27-Jun-12	9.51	824.69
				27-Sep-12	11.04	823.16
				19-Dec-12	10.96	823.24
				14-Mar-13	10.56	823.64
MW-8	833.22	820.20	811.20	27-Jun-12	5.39	827.83
				27-Sep-12	8.15	825.07
				14-Mar-13	4.82	828.40
MW-9	835.45	817.48	809.98	27-Jun-12	8.05	827.40
				27-Sep-12	8.13	827.32
				19-Dec-12	7.12	828.33
				14-Mar-13	7.27	828.18

**Notes**

\* Casing elevations were provided by CTI Engineers and are in feet relative to National Geodetic Vertical Datum

Static water levels were inadvertently not collected from monitoring wells MW-1, MW-3, MW-5, MW-6 and MW-8 during the December groundwater sampling event.

The shallow groundwater in MW-4 was frozen on March 14, 2013, so the water level was taken on April 10, 2013 and reflected a similar water level as on the 14th.

**Table C2**  
**Summary of Historical Soil Analytical Results**  
**RACER Trust - Dort Highway Land**  
**Grand Blanc, Michigan**

Parameter	Unit	MDEQ Criteria					Historical Sample Depth: Depth of Soil Stripping: Current Depth of Sample:	SB2-06 (8'-10') 5' 3'-5'	SB2-07 (8'-10') 3.1' 4.9'-6.9'	SB2-09 (2'-4') 4' 0'	SB2-10 (1'-3') 3' 0'	SB2-11 (2'-4') 2' 0'-2'	SB2-11/Dup-02 (2'-4') 2' 0'-2'	SB2-13 (2'-4') 3.4' 0'-0.6'	SB2-14 (4'-5') 4.1' 0'-0.9'	SB2-16 (4'-5') 3.3' 0'-1.7'	SS2-14D-8' 8' 5'	SS2-15D-7' 7' 4.4'	SS2-20D-8' 8' 5'	SS2-24D-8.5' 8.5' 6.8' 1.7'
		Statewide Default Background Levels	Non-Residential Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Non-Residential Soil Volatilization to Indoor Air Inhalation Criteria	Non-Residential Direct Contact Criteria														
Arsenic	mg/kg	5.8	4.6	4.6	NLV	37	0.56	2.18	1.69	1.73	1.04	1.09	1.59	--	--	1.08	--	--	--	
Barium	mg/kg	75	1300	440 (G,X)	NLV	1.3E+05	60.3	54.3	38.9	43	47.5	51.2	36.5	--	--	--	--	--	--	
Cadmium	mg/kg	1.2	6	3 (G,X)	NLV	2100	<0.20	<0.20	0.24	0.28	<0.20	<0.20	<0.20	--	--	--	--	--	--	
Chromium	mg/kg	18	1.0E+6 (D)	1.0E+6 (G,X,D)	NLV	1.0E+6(D)	3.6	5.5	2.6	4	3.4	3.7	4.8	--	--	--	--	--	--	
Copper	mg/kg	32	5800	73 (G)	NLV	73000	7.4	6.3	4.2	9.9	3.1	3.1	4.3	--	--	--	--	--	--	
Lead (Total)	mg/kg	21	700	2500 (G,X)	NLV	900 (DD)	10.6	7.79	7.31	20.4	5.77	7.4	5.99	--	--	9.2	--	--	--	
Mercury	mg/kg	0.13	1.7	0.050 (M); 0.0012	89	580	<0.050	<0.050	<0.050	0.096	<0.050	<0.050	<0.050	--	--	--	--	<0.050	--	
Selenium	mg/kg	0.41	4	0.4	NLV	9600	<0.20	<b>1.31</b>	<b>0.47</b>	<0.50	<b>0.59</b>	<b>0.55</b>	<b>0.5</b>	--	--	--	--	--	--	
Silver	mg/kg	1	13	100 (M); 27	NLV	9000	<0.10	<0.10	<0.10	<0.20	<0.10	<0.10	<0.10	--	--	--	--	--	--	
Zinc	mg/kg	47	5000	170 (G)	NLV	6.3E+05	6.7	11.8	17.9	29.8	8.4	9.3	10	--	--	--	--	--	--	
Acenaphthene	µg/kg	NC	8.8E+05	8700	3.5E+08	1.3E+08	<330	<330	<300	<330	<300	<300	<330	<300	<300	<300	<300	<300	<300	
Acenaphthylene	µg/kg	NC	17000	ID	3.00E+06	5.2E+06	<330	<330	<300	<330	<300	<300	<330	<300	<300	<300	<300	<300	<300	
Anthracene	µg/kg	NC	41000	ID	1.0E+9(D)	7.3E+08	<330	<330	<300	<330	<300	<300	<330	<300	<300	<300	<300	<300	<300	
Benzo(a)anthracene	µg/kg	NC	NLL	NLL	NLV	80000	<330	<330	<300	<330	<300	<300	<330	<300	<300	<300	<300	<300	<300	
Benzo(a)pyrene	µg/kg	NC	NLL	NLL	NLV	8000	<330	<330	<300	440	<300	<300	<330	<300	<300	<300	<300	<300	<300	
Benzo(b)fluoranthene	µg/kg	NC	NLL	NLL	ID	80000	<330	<330	<300	400	<300	<300	<330	<300	<300	<300	<300	<300	<300	
Benzo(ghi)perylene	µg/kg	NC	NLL	NLL	NLV	7.0E+06	<330	<330	<300	370	<300	<300	<330	<300	<300	<300	<300	<300	<300	
Benzo(k)fluoranthene	µg/kg	NC	NLL	NLL	NLV	8.0E+05	<330	<330	<300	380	<300	<300	<330	<300	<300	<300	<300	<300	<300	
Carbazole	µg/kg	NC	39000	1100	NLV	2.4E+06	<330	<330	<300	<330	<300	<300	<330	--	--	--	--	--	--	
Chrysene	µg/kg	NC	NLL	NLL	ID	8.0E+06	<330	<330	<300	<330	<300	<300	<330	<300	<300	<300	<300	<300	<300	
Dibenzo(ah)anthracene	µg/kg	NC	NLL	NLL	NLV	8000	<330	<330	<330	<330	<330	<330	<330	<300	<300	<300	<300	<300	<300	
Dibenzofuran	µg/kg	NC	ID	1700	3.60E+06	ID	<330	<330	<330	<330	<330	<330	<330	--	--	--	--	--	--	
Fluoranthene	µg/kg	NC	7.30E+05	5500	1.0E+9 (D)	1.3E+08	<330	<330	<300	<330	<300	<300	<330	<300	<300	<300	<300	<300	<300	
Fluorene	µg/kg	NC	8.9E+05	5300	1.0E+9(D)	8.7E+7(DD)	<330	<330	<330	<330	<330	<330	<330	<300	<300	<300	<300	<300	<300	
Indeno(1,2,3-cd)pyrene	µg/kg	NC	NLL	NLL	NLV	80000	<330	<330	<300	330	<300	<300	<330	<300	<300	<300	<300	<300	<300	
2-Methylnaphthalene	µg/kg	NC	1.70E+05	4200	4.90E+06	2.6E+07	<330	<330	<300	<330	<300	<300	<330	<300	<300	<300	<300	<300	<300	
1-Methylnaphthalene	µg/kg	NC	NC	NC	NC	NC	--	--	--	--	--	--	--	--	--	<300	<300	--	<300	
Naphthalene	µg/kg	NC	1.00E+05	730	4.7E+05	5.2E+07	<330	<330	<300	<330	<300	<300	<330	<300	<300	<300	<300	<300	<300	
Phenanthrene	µg/kg	NC	1.60E+05	2100	5.1E+06	5.2E+06	<330	<330	<300	<330	<300	<300	<330	<300	<300	<300	<300	<300	<300	
Pyrene	µg/kg	NC	4.8E+05	ID	1.0E+9(D)	8.4E+07	<330	<330	<300	<330	<300	<300	<330	<300	<300	<300	<300	<300	<300	

Bold lettering indicates samples with metals concentrations exceeding the Michigan Statewide Default Background  
 Exceeds GSI protection criteria only  
 Exceeds nonresidential drinking water protection criteria or both GSI and drinking water protection criteria  
 Exceeds nonresidential direct contact criteria  
(D) Calculated criterion exceeds 100 percent  
(G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water  
(M) Calculated criterion is below the analytical target detection limit  
(X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source  
(DD) Hazardous substances causes developmental effects  
(NLL) Means hazardous substances is not likely to leach under most soil conditions  
(NLV) Means hazardous substance is not likely to volatilize under most conditions  
(ID) Means insufficient data to develop criterion  
(NC) Means no criterion or value is available  
-- Not analyzed

**Table C3**  
**Summary of Historical Groundwater Analytical Results**  
**RACER Trust - Dort Highway Land**  
**Grand Blanc, Michigan**

Parameter		MDEQ Criteria				MW2-01 (Dissolved) 12/07/2006	MW2-01 (Total) 12/22/2006	MW2-02 (Dissolved) 12/08/2006	MW2-02 (Total) 12/22/2006
		Non-Residential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria	Non-Residential Direct Contact Criteria				
Arsenic	mg/L	0.01 (A)	0.01 (X)	NLV	4.3	0.002	0.004	0.002	0.001
Barium	mg/L	2 (A)	0.67 (G,X)	NLV	14000	0.05	0.06	0.09	0.08
Cadmium	mg/L	0.005 (A)	0.0025 (G,X)	NLV	190	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	mg/L	0.1 (A)	0.1 (G,X)	NLV	2.90E+05	<0.005	<0.005	<0.005	0.005
Copper	mg/L	1 (E)	0.013 (G)	NLV	7400	<0.004	<0.004	0.007	0.006
Lead (Total)	mg/L	0.004 (L)	0.014 (G,X)	NLV	ID	<0.003	<0.003	<0.003	<0.003
Mercury	mg/L	0.002 (A)	0.0000013	0.056 (S)	0.056 (S)	<0.0002	<0.0002	<0.0002	<0.0002
Selenium	mg/L	0.05 (A)	0.005	NLV	970	<0.005	<0.005	0.006	<0.005
Silver	mg/L	0.098	0.0002(M);0.00006	NLV	1500	<0.0002	<0.0002	0.0008	0.0004
Zinc	mg/L	5 (E)	0.17 (G)	NLV	110000	0.015	0.012	0.013	0.016
Acenaphthene	µg/L	3800	38	4200 (S)	4200 (S)	<5	--	<5	--
Acenaphthylene	µg/L	150	ID	3900 (S)	3900 (S)	<5	--	<5	--
Anthracene	µg/L	43 (S)	ID	43 (S)	43 (S)	<5	--	<5	--
di-n-Butyl phthalate	µg/L	2,500	9.7	NLV	11,000 (S)	--	--	--	--
Benzo(a)anthracene	µg/L	8.5	ID	NLV	9.4 (S,AA)	<5	--	<5	--
Benzo(a)pyrene	µg/L	5.0 (A)	ID	NLV	1.0(M,AA);0.64	<5	--	<5	--
Benzo(b)fluoranthene	µg/L	1.5 (S,AA)	ID	ID	1.5 (S,AA)	<5	--	<5	--
Benzo(ghi)perylene	µg/L	1.0(M);0.26(S)	ID	NLV	1.0(M,AA);0.26(S)	<5	--	<5	--
Benzo(k)fluoranthene	µg/L	1.0(M);0.8(S)	NA	NLV	1.0(M,AA);0.8(S)	<5	--	<5	--
Carbazole	µg/L	350	10(M);4.0	NLV	7400	--	--	--	--
Chrysene	µg/L	1.6(S)	ID	ID	1.6(S,AA)	<5	--	<5	--
Dibenzo(ah)anthracene	µg/L	2.0(M);0.85	ID	NLV	2.0(M,AA);0.31	<5	--	<5	--
bis(2-Ethylhexyl)phthalate	µg/L	6.0 (A)	25	2.10E+05	5,700	--	--	--	--
Fluoranthene	µg/L	210 (S)	1.6	210 (S)	210 (S)	<5	--	<5	--
Fluorene	µg/L	2000 (S)	12	2000(S)	2000(S)	<5	--	<5	--
Indeno(1,2,3-cd)pyrene	µg/L	2.0(M);0.022(S)	ID	NLV	2.0(M,AA);0.022(S)	<5	--	<5	--
2-Methylnaphthalene	µg/L	750	19	25000 (S)	25000(S)	<5	--	<5	--
Naphthalene	µg/L	1500	11	31000(S)	31000(S)	<5	--	<5	--
Phenanthrene	µg/L	150	2.0 (M);1.4	1000 (S)	1000 (S)	<5	--	<5	--
Pyrene	µg/L	140 (S)	ID	140 (S)	140 (S)	<5	--	<5	--

Notes:

- Exceeds GSI Criteria only
- (A) Criterion is the state of Michigan drinking water standard.
- (G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water
- (M) Calculated criterion is below the analytical target detection limit
- (S) Criterion defaults to the hazardous substance-specific water solubility limit
- (X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source
- (AA) Comparison to these criteria may take into account an evaluation of whether the hazardous substances are adsorbed to particulates rather than dissolved in water and whether filtered groundwater samples were used to evaluate groundwater
- (NLL) Means hazardous substances is not likely to leach under most soil conditions
- (NLV) Means hazardous substance is not likely to volatilize under most conditions
- (ID) Means insufficient data to develop criterion
- (NC) Means no criterion or value is available
- (NA) not analyzed

**Table C4  
Summary of Detected Groundwater Analytical Results  
RACER Trust - Dort Highway Land  
Grand Blanc, Michigan**

Parameter		MDEQ Criteria				MW-1		MW-2													
		Residential Drinking Water Criteria & RBSLs	Groundwater Surface Water Interface Criteria & RBSLs	Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs	Groundwater Contact Criteria & RBSLs	28-Jun-12		28-Jun-12		27-Sep-12		(CO-LOCATED) 27-Sep-12		(CO-LOCATED) 19-Dec-12		(CO-LOCATED) 19-Dec-12		14-Mar-13		(Dup 1) 14-Mar-13	
						Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
<b>Metals</b>																					
Arsenic	mg/L	0.01 (A)	0.01	NLV	4.3	<0.002	<0.002	0.027	0.028	0.035	0.034	0.034	0.035	0.031	0.032	0.030	0.035	0.009	0.027	0.010	0.027
Barium	mg/L	2 (A)	0.67 (G,X)	NLV	14000	0.084	0.098	0.042	0.045	--	--	--	--	--	--	--	--	--	--	--	--
Lead (Total)	mg/L	0.004 (L)	0.014 (G,X)	NLV	ID	<0.003	<0.003	<0.003	<0.003	<0.003	0.004	<0.003	0.004	<0.003	<0.003	<0.003	<0.003	0.006	0.005	0.008	0.009
Silver	mg/L	0.034	0.0002 (M); 0.00006	NLV	1.50E+06	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
<b>SVOCs</b>																					
Dimethyl phthalate	µg/L	210,000	NA	NLV	4.2E+06 (S)	--	10*	--	5*	--	--	--	--	--	--	--	--	--	--	--	--
<b>VOCs</b>																					
Bromodichloromethane	µg/L	80 (A,W)	ID	37,000	14,000	--	<1	--	<1	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	µg/L	80 (A,W)	350	1.80E+05	1.50E+05	--	<1	--	<1	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	µg/L	2,500	740	2.30E+06	2.40E+06	--	<1	--	<1	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

     Exceeds residential drinking water criteria or both GSI and drinking water criteria

     Exceeds GSI protection criteria only

\* Compound also found in associated method blank.

(A) Criterion is the state of Michigan drinking water standard.

(G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water

(S) Criterion defaults to the hazardous substance-specific water solubility limit.

(L) Criteria for lead are derived using a biologically based model, as allowed for under Section 20120a(10) of the NREPA, and are not calculated using the algorithms and assumptions specified in pathway-specific rules.

(W) Concentrations of trihalomethanes in groundwater shall be added together to determine compliance with the Michigan drinking water standard of 80 µg/L

(X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.

(NLV) Means hazardous substance is not likely to volatilize under most conditions.

(ID) Means insufficient data to develop criterion.

(-) Not analyzed.

**Table C4  
Summary of Detected Groundwater Analytical Results  
RACER Trust - Dort Highway Land  
Grand Blanc, Michigan**

Parameter	MDEQ Criteria	MDEQ Criteria				MW2-1								MW-3	MW-4							
		Residential Drinking Water Criteria & RBSLs	Groundwater Surface Water Interface Criteria & RBSLs	Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs	Groundwater Contact Criteria & RBSLs	28-Jun-12		27-Sep-12		19-Dec-12		14-Mar-13		29-Jun-12	29-Jun-12	27-Sep-12		19-Dec-12		10-Apr-13		
						Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Total	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	
<b>Metals</b>																						
Arsenic	mg/L	0.01 (A)	0.01	NLV	4.3	0.020	0.018	0.026	0.032	0.020	0.019	0.011	0.010	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Barium	mg/L	2 (A)	0.67 (G,X)	NLV	14000	0.081	0.083	--	--	--	--	--	--	0.094	0.135	--	--	--	--	--	--	
Lead (Total)	mg/L	0.004 (L)	0.014 (G,X)	NLV	ID	<0.003	<0.003	<0.003	0.004	<0.003	<0.003	0.007	0.008	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	
Silver	mg/L	0.034	0.0002 (M); 0.00006	NLV	1.50E+06	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	
<b>SVOCs</b>																						
Dimethyl phthalate	µg/L	210,000	NA	NLV	4.2E+06 (S)	--	8*	--	--	--	--	--	--	<5	<5	--	--	--	--	--	--	
<b>VOCs</b>																						
Bromodichloromethane	µg/L	80 (A,W)	ID	37,000	14,000	--	<1	--	--	--	--	--	--	<1	<1	--	--	--	--	--	--	
Chloroform	µg/L	80 (A,W)	350	1.80E+05	1.50E+05	--	<1	--	--	--	--	--	--	<1	<1	--	--	--	--	--	--	
1,1-Dichloroethane	µg/L	2,500	740	2.30E+06	2.40E+06	--	<1	--	--	--	--	--	--	6	<1	--	--	--	--	--	--	

Notes:  
     Exceeds residential drinking water criteria or both GSI and drinking water criteria  
     Exceeds GSI protection criteria only  
\* Compound also found in associated method blank.  
(A) Criterion is the state of Michigan drinking water standard.  
(G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water  
(S) Criterion defaults to the hazardous substance-specific water solubility limit.  
(L) Criteria for lead are derived using a biologically based model, as allowed for under Section 20120a(10) of the NREPA, and are not calculated using the algorithms and assumptions specified in pathway-specific rules.  
(W) Concentrations of trihalomethanes in groundwater shall be added together to determine compliance with the Michigan drinking water standard of 80 µg/L.  
(X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.  
(NLV) Means hazardous substance is not likely to volatilize under most conditions.  
(ID) Means insufficient data to develop criterion.  
(--) Not analyzed.

**Table C4  
Summary of Detected Groundwater Analytical Results  
RACER Trust - Dort Highway Land  
Grand Blanc, Michigan**

Parameter		MDEQ Criteria				MW-5	MW-6	MW-7								MW-8			
		Residential Drinking Water Criteria & RBSLs	Groundwater Surface Water Interface Criteria & RBSLs	Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs	Groundwater Contact Criteria & RBSLs			(CO-LOCATED)								(DUP-1)			
								28-Jun-12		28-Jun-12		27-Sep-12		19-Dec-12		14-Mar-13		2-Jul-12	
								Total	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Total	Total
<b>Metals</b>																			
Arsenic	mg/L	0.01 (A)	0.01	NLV	4.3	<0.002	<0.002	0.023	0.024	0.024	0.029	0.030	0.028	0.010	0.010	0.005	0.011	<0.002	<0.002
Barium	mg/L	2 (A)	0.67 (G,X)	NLV	14000	0.054	0.046	0.090	0.092	0.090	0.112	--	--	--	--	--	--	0.105	0.111
Lead (Total)	mg/L	0.004 (L)	0.014 (G,X)	NLV	ID	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.009	0.020	<0.003	<0.003
Silver	mg/L	0.034	0.0002 (M); 0.00006	NLV	1.50E+06	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0005
<b>SVOCs</b>																			
Dimethyl phthalate	µg/L	210,000	NA	NLV	4.2E+06 (S)	8*	<5	--	<5	--	<5	--	--	--	--	--	--	8*	10*
<b>VOCs</b>																			
Bromodichloromethane	µg/L	80 (A,W)	ID	37,000	14,000	<1	<1	--	<1	--	<1	--	--	--	--	--	--	<1	<1
Chloroform	µg/L	80 (A,W)	350	1.80E+05	1.50E+05	<1	<1	--	<1	--	<1	--	--	--	--	--	--	<1	<1
1,1-Dichloroethane	µg/L	2,500	740	2.30E+06	2.40E+06	<1	<1	--	<1	--	<1	--	--	--	--	--	--	<1	<1

Notes:

Exceeds residential drinking water criteria or both GSI and drinking water criteria

Exceeds GSI protection criteria only

\* Compound also found in associated method blank.

(A) Criterion is the state of Michigan drinking water standard.

(G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water

(S) Criterion defaults to the hazardous substance-specific water solubility limit.

(L) Criteria for lead are derived using a biologically based model, as allowed for under Section 20120a(10) of the NREPA, and are not calculated using the algorithms and assumptions specified in pathway-specific rules.

(W) Concentrations of trihalomethanes in groundwater shall be added together to determine compliance with the Michigan drinking water standard of 80 µg/L.

(X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.

(NLV) Means hazardous substance is not likely to volatilize under most conditions.

(ID) Means insufficient data to develop criterion.

(-) Not analyzed.

**Table C4  
Summary of Detected Groundwater Analytical Results  
RACER Trust - Dort Highway Land  
Grand Blanc, Michigan**

Parameter		MDEQ Criteria				MW-9															
		Residential Drinking Water Criteria & RBSLs	Groundwater Surface Water Interface Criteria & RBSLs	Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs	Groundwater Contact Criteria & RBSLs	27-Jun-12		27-Sep-12		27-Sep-12		19-Dec-12		19-Dec-12		14-Mar-13		14-Mar-13			
						(DUP-1)		(DUP-1)		(DUP-1)		(DUP-1)		(CO-LOCATED)		(CO-LOCATED)					
						Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total				
<b>Metals</b>																					
Arsenic	mg/L	0.01 (A)	0.01	NLV	4.3	<0.002	0.002	0.003	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	<0.002	0.006	<0.002	0.007
Barium	mg/L	2 (A)	0.67 (G,X)	NLV	14000	0.076	0.086	--	--	--	--	--	--	--	--	--	--	--	--	--	
Lead (Total)	mg/L	0.004 (L)	0.014 (G,X)	NLV	ID	0.004	0.006	<0.003	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.011	0.018	0.012	0.021
Silver	mg/L	0.034	0.0002 (M); 0.00006	NLV	1.50E+06	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	0.0003	<0.0002	<0.0002
<b>SVOCs</b>																					
Dimethyl phthalate	µg/L	210,000	NA	NLV	4.2E+06 (S)	--	<5	--	--	--	--	--	--	--	--	--	--	--	--	--	
<b>VOCs</b>																					
Bromodichloromethane	µg/L	80 (A,W)	ID	37,000	14,000	--	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	
Chloroform	µg/L	80 (A,W)	350	1.80E+05	1.50E+05	--	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,1-Dichloroethane	µg/L	2,500	740	2.30E+06	2.40E+06	--	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	

Notes:

Exceeds residential drinking water criteria or both GSI and drinking water criteria  
Exceeds GSI protection criteria only

\* Compound also found in associated method blank.

(A) Criterion is the state of Michigan drinking water standard.

(G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water

(S) Criterion defaults to the hazardous substance-specific water solubility limit.

(L) Criteria for lead are derived using a biologically based model, as allowed for under Section 20120a(10) of the NREPA, and are not calculated using the algorithms and assumptions specified in pathway-specific rules.

(W) Concentrations of trihalomethanes in groundwater shall be added together to determine compliance with the Michigan drinking water standard of 80 µg/L.

(X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.

(NLV) Means hazardous substance is not likely to volatilize under most conditions.

(ID) Means insufficient data to develop criterion.

(-) Not analyzed.

**Table C4  
Summary of Detected Groundwater Analytical Results  
RACER Trust - Dort Highway Land  
Grand Blanc, Michigan**

Parameter	MDEQ Criteria					EB-1	EB-1	EB-1	EB-1	FB-1	FB-1	FB-1	FB-1	TB-1	TB-2	TB-3
	Residential Drinking Water Criteria & RBSLs	Groundwater Surface Water Interface Criteria & RBSLs	Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs	Groundwater Contact Criteria & RBSLs	(Equip Blank)	(Equip Blank)	(Equip Blank)	(Equip Blank)	(Field Blank)	(Field Blank)	(Field Blank)	(Field Blank)	(Field Blank)	(Trip Blank)	(Trip Blank)	(Trip Blank)
					2-Jul-12	27-Sep-12	19-Dec-12	14-Mar-13	2-Jul-12	27-Sep-12	19-Dec-12	14-Mar-13	28-Jun-12	29-Jun-12	2-Jul-12	
					Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	
<b>Metals</b>																
Arsenic	mg/L	0.01 (A)	0.01	NLV	4.3	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	--	--	--
Barium	mg/L	2 (A)	0.67 (G,X)	NLV	14000	<0.005	--	--	--	<0.005	--	--	--	--	--	--
Lead (Total)	mg/L	0.004 (L)	0.014 (G,X)	NLV	ID	<0.003	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	--	--	--
Silver	mg/L	0.034	0.0002 (M); 0.00006	NLV	1.50E+06	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	--	--	--
<b>SVOCs</b>																
Dimethyl phthalate	µg/L	210,000	NA	NLV	4.2E+06 (S)	<5	--	--	--	9*	--	--	--	--	--	--
<b>VOCs</b>																
Bromodichloromethane	µg/L	80 (A,W)	ID	37,000	14,000	2	--	--	--	<1	--	--	--	<1	<1	<1
Chloroform	µg/L	80 (A,W)	350	1.80E+05	1.50E+05	9	--	--	--	<1	--	--	--	<1	<1	5
1,1-Dichloroethane	µg/L	2,500	740	2.30E+06	2.40E+06	<1	--	--	--	<1	--	--	--	<1	<1	<1

Notes:

Exceeds residential drinking water criteria or both GSI and drinking water criteria  
Exceeds GSI protection criteria only

\* Compound also found in associated method blank.

(A) Criterion is the state of Michigan drinking water standard.

(G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water

(S) Criterion defaults to the hazardous substance-specific water solubility limit.

(L) Criteria for lead are derived using a biologically based model, as allowed for under Section 20120a(10) of the NREPA, and are not calculated using the algorithms and assumptions specified in pathway-specific rules.

(W) Concentrations of trihalomethanes in groundwater shall be added together to determine compliance with the Michigan drinking water standard of 80 µg/L.

(X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.

(NLV) Means hazardous substance is not likely to volatilize under most conditions.

(ID) Means insufficient data to develop criterion.

(-) Not analyzed.

**Table C5**  
**Summary of 2011 Soil Analytical Results**  
**RACER Trust - Dort Highway Land**  
**Grand Blanc, Michigan**

Parameter		MDEQ Criteria			SS-03	SS-04	SS-05	SS-06	SS-07	SS-07 CO- LOCATED	SS-12	SS-13	SS-14	SS-14 CO- LOCATED
		Non-Residential Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Non- Residential Direct Contact Criteria										
Arsenic	mg/kg	4.6	4.6	37	2.07	2.56	--	--	2.5	2.19	1.41	1.78	0.65	0.74
Barium	mg/kg	1300	440 (G,X)	1.3E+05	41.5	55	--	--	37	30.2	57.8	44.1	93.5	66
Cadmium	mg/kg	6	3 (G,X)	2100	<0.20	<0.20	--	--	<0.20	0.2	<0.20	0.24	0.2	<0.20
Chromium	mg/kg	1.0E+6 (D)	1.0E+6 (G,X,D)	1.0E+6 (D)	3.82	2.96	--	--	7.45	3.27	3.57	2.97	3.94	3.53
Lead (Total)	mg/kg	700	2500 (G,X)	900 (DD)	9.79	6	--	--	35	12.6	4.82	8.44	6.94	8.68
Acenaphthene	µg/kg	8.8E+05	8700	1.3E+08	--	--	<300	<300	<300	<300	--	<330	<330	<330
Acenaphthylene	µg/kg	17000	ID	5.2E+06	--	--	<300	<300	<300	<300	--	<330	<330	<330
Anthracene	µg/kg	41000	ID	7.3E+08	--	--	<300	<300	600	<300	--	<330	<330	<330
Benzo(a)anthracene	µg/kg	NLL	NLL	80000	--	--	<300	<300	2,000	1,000	--	<330	<330	<330
Benzo(a)pyrene	µg/kg	NLL	NLL	8000	--	--	<300	<300	3,200	1,400	--	<330	<330	<330
Benzo(b)fluoranthene	µg/kg	NLL	NLL	80000	--	--	300	400	5,100	2,300	--	<330	<330	<330
Benzo(k)fluoranthene	µg/kg	NLL	NLL	8.0E+05	--	--	<300	300	5,200	2,300	--	<330	<330	<330
Benzo(ghi)perylene	µg/kg	NLL	NLL	7.0E+06	--	--	<300	<300	1,600	900	--	<330	<330	<330
Chrysene	µg/kg	NLL	NLL	8.0E+06	--	--	<300	<300	2,500	1,300	--	<330	<330	<330
Dibenzo(ah)anthracene	µg/kg	NLL	NLL	8000	--	--	<300	<300	<300	<300	--	<330	<330	<330
Fluoranthene	µg/kg	7.30E+05	5500	1.3E+08	--	--	<300	<300	4,600	2,200	--	<330	<330	<330
Fluorene	µg/kg	8.9E+05	5300	8.7E+07	--	--	<300	<300	300	<300	--	<330	<330	<330
Indeno(1,2,3-cd)pyrene	µg/kg	NLL	NLL	80000	--	--	<300	<300	1,600	900	--	<330	<330	<330
Naphthalene	µg/kg	1.00E+05	730	5.2E+07	--	--	<300	<300	<300	<300	--	<330	<330	<330
Phenanthrene	µg/kg	1.60E+05	2100	5.2E+06	--	--	<300	<300	2,600	1,100	--	<330	<330	<330
Pyrene	µg/kg	4.8E+05	ID	8.4E+07	--	--	<300	<300	3,800	1,700	--	<330	<330	<330
2-Methylnaphthalene	µg/kg	1.70E+05	4200	2.6E+07	--	--	<300	<300	<300	<300	--	<330	<330	<330
1-Methylnaphthalene	µg/kg	NC	NC	NC	--	--	<300	<300	<300	<300	--	<330	<330	<330

Exceeds GSI protection criteria only  
 Exceeds nonresidential drinking water protection criteria or both GSI and drinking water protection criteria  
 Exceeds nonresidential direct contact criteria

(D) Calculated criterion exceeds 100 percent  
(G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness,  
or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall  
be calculated based on the pH or hardness of the receiving surface water  
(X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used  
as a drinking water source  
(DD) Hazardous substances causes developmental effects  
(NLL) Means hazardous substances is not likely to leach under most soil conditions  
(ID) Means insufficient data to develop criterion  
(NC) Means no criterion or value is available  
-- Not analyzed  
\* Elevated reporting limit for PAHs due to high target concentration  
Equipment blanks, field blanks, trip blank, methanol blank were non-detect;  
except field blank (FBK-01) which had a detection of 0.006 mg/L for barium

**Table C5**  
**Summary of 2011 Soil Analytical Results**  
**RACER Trust - Dort Highway Land**  
**Grand Blanc, Michigan**

Parameter		MDEQ Criteria			SS-15	SS-16	SS-16 DUP-01	SS-17	SS-18	SS-19	SS-20	SS-21 (2'-4')	SS-22 (0'-1.5')	SS-22 (0'-1.5') CO- LOCATED
		Non-Residential Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Non- Residential Direct Contact Criteria										
Arsenic	mg/kg	4.6	4.6	37	1.35	1.8	1.92	--	--	--	--	--	--	--
Barium	mg/kg	1300	440 (G,X)	1.3E+05	63.6	53.2	44.4	--	--	--	--	--	--	--
Cadmium	mg/kg	6	3 (G,X)	2100	<0.20	0.21	0.22	--	--	--	--	--	--	--
Chromium	mg/kg	1.0E+6 (D)	1.0E+6 (G,X,D)	1.0E+6 (D)	3.87	6.31	6.06	--	--	--	--	--	--	--
Lead (Total)	mg/kg	700	2500 (G,X)	900 (DD)	7.36	12.6	13	--	--	--	--	--	--	--
Acenaphthene	µg/kg	8.8E+05	8700	1.3E+08	<330	<330	<330	400	<300	<300	<300	<300	<300	<300
Acenaphthylene	µg/kg	17000	ID	5.2E+06	<330	<330	<330	<300	<300	<300	<300	<300	<300	<300
Anthracene	µg/kg	41000	ID	7.3E+08	<330	<330	<330	2,400	<300	<300	<300	<300	<300	<300
Benzo(a)anthracene	µg/kg	NLL	NLL	80000	<330	<330	<330	3,000	<300	<300	<300	<300	<300	<300
Benzo(a)pyrene	µg/kg	NLL	NLL	8000	<330	<330	<330	2,700	<300	<300	<300	<300	<300	<300
Benzo(b)fluoranthene	µg/kg	NLL	NLL	80000	<330	<330	<330	5,500	<300	<300	<300	<300	<300	<300
Benzo(k)fluoranthene	µg/kg	NLL	NLL	8.0E+05	<330	<330	<330	5,500	<300	<300	<300	<300	<300	<300
Benzo(ghi)perylene	µg/kg	NLL	NLL	7.0E+06	<330	<330	<330	900	<300	<300	<300	<300	<300	<300
Chrysene	µg/kg	NLL	NLL	8.0E+06	<330	<330	<330	3,100	<300	<300	<300	<300	<300	<300
Dibenzo(ah)anthracene	µg/kg	NLL	NLL	8000	<330	<330	<330	<300	<300	<300	<300	<300	<300	<300
Fluoranthene	µg/kg	7.30E+05	5500	1.3E+08	<330	<330	<330	6,800	<300	<300	<300	<300	400	<300
Fluorene	µg/kg	8.9E+05	5300	8.7E+07	<330	<330	<330	500	<300	<300	<300	<300	<300	<300
Indeno(1,2,3-cd)pyrene	µg/kg	NLL	NLL	80000	<330	<330	<330	900	<300	<300	<300	<300	<300	<300
Naphthalene	µg/kg	1.00E+05	730	5.2E+07	<330	<330	<330	<300	<300	<300	<300	<300	<300	<300
Phenanthrene	µg/kg	1.60E+05	2100	5.2E+06	<330	<330	<330	5,700	<300	<300	<300	<300	<300	<300
Pyrene	µg/kg	4.8E+05	ID	8.4E+07	<330	<330	<330	6,200	<300	<300	<300	<300	<300	<300
2-Methylnaphthalene	µg/kg	1.70E+05	4200	2.6E+07	<330	<330	<330	<300	<300	<300	<300	<300	<300	<300
1-Methylnaphthalene	µg/kg	NC	NC	NC	<330	<330	<330	<300	<300	<300	<300	<300	<300	<300

Exceeds GSI protection criteria only  
Exceeds nonresidential drinking water protection criteria or both GSI and drinking water protection criteria  
Exceeds nonresidential direct contact criteria

(D) Calculated criterion exceeds 100 percent

(G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness,  
or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall  
be calculated based on the pH or hardness of the receiving surface water

(X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used  
as a drinking water source

(DD) Hazardous substances causes developmental effects

(NLL) Means hazardous substances is not likely to leach under most soil conditions

(ID) Means insufficient data to develop criterion

(NC) Means no criterion or value is available

-- Not analyzed

\* Elevated reporting limit for PAHs due to high target concentration

Equipment blanks, field blanks, trip blank, methanol blank were non-detect;

except field blank (FBK-01) which had a detection of 0.006 mg/L for barium

**Table C5**  
**Summary of 2011 Soil Analytical Results**  
**RACER Trust - Dort Highway Land**  
**Grand Blanc, Michigan**

Parameter		MDEQ Criteria			FBS-06	FBS-07	FBS-08	FBS-11	FBS-12
		Non-Residential Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Non-Residential Direct Contact Criteria					
Arsenic	mg/kg	4.6	4.6	37	--	--	--	--	--
Barium	mg/kg	1300	440 (G,X)	1.3E+05	--	--	--	--	--
Cadmium	mg/kg	6	3 (G,X)	2100	--	--	--	--	--
Chromium	mg/kg	1.0E+6 (D)	1.0E+6 (G,X,D)	1.0E+6 (D)	--	--	--	--	--
Lead (Total)	mg/kg	700	2500 (G,X)	900 (DD)	--	--	--	--	--
Acenaphthene	µg/kg	8.8E+05	8700	1.3E+08	<300	300	500	600	2,100
Acenaphthylene	µg/kg	17000	ID	5.2E+06	<300	<300	<300	<300	<300
Anthracene	µg/kg	41000	ID	7.3E+08	<300	500	900	900	2,400
Benzo(a)anthracene	µg/kg	NLL	NLL	80000	<300	1,200	2,100	2,100	5,100
Benzo(a)pyrene	µg/kg	NLL	NLL	8000	<300	1,400	2,300	2,400	5,700
Benzo(b)fluoranthene	µg/kg	NLL	NLL	80000	<300	2,300	3,700	4,000	9,400
Benzo(k)fluoranthene	µg/kg	NLL	NLL	8.0E+05	<300	2,300	3,700	4,000	9,900
Benzo(ghi)perylene	µg/kg	NLL	NLL	7.0E+06	<300	800	1,300	1,300	2,800
Chrysene	µg/kg	NLL	NLL	8.0E+06	<300	1,300	2,200	2,500	5,900
Dibenzo(ah)anthracene	µg/kg	NLL	NLL	8000	<300	<300	<300	<300	<300
Fluoranthene	µg/kg	7.30E+05	5500	1.3E+08	<300	3,300	5,900	6,000	14,700
Fluorene	µg/kg	8.9E+05	5300	8.7E+07	<300	400	700	700	2,100
Indeno(1,2,3-cd)pyrene	µg/kg	NLL	NLL	80000	<300	800	1,200	1,300	2,800
Naphthalene	µg/kg	1.00E+05	730	5.2E+07	<300	<300	<300	<300	700
Phenanthrene	µg/kg	1.60E+05	2100	5.2E+06	<300	2,500	4,400	4,500	12,800
Pyrene	µg/kg	4.8E+05	ID	8.4E+07	<300	2,400	4,200	4,200	10,500
2-Methylnaphthalene	µg/kg	1.70E+05	4200	2.6E+07	<300	<300	<300	<300	400
1-Methylnaphthalene	µg/kg	NC	NC	NC	<300	<300	<300	<300	<300

Exceeds GSI protection criteria only  
 Exceeds nonresidential drinking water protection criteria or both GSI and drinking water protection criteria  
 Exceeds nonresidential direct contact criteria

(D) Calculated criterion exceeds 100 percent

(G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water

(X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source

(DD) Hazardous substances causes developmental effects

(NLL) Means hazardous substances is not likely to leach under most soil conditions

(ID) Means insufficient data to develop criterion

(NC) Means no criterion or value is available

-- Not analyzed

\* Elevated reporting limit for PAHs due to high target concentration

Equipment blanks, field blanks, trip blank, methanol blank were non-detect; except field blank (FBK-01) which had a detection of 0.006 mg/L for barium

**Table C6  
Summary of Sidewall and Floor Confirmatory Sample Analytical Results  
RACER Trust - Dort Highway Land  
Grand Blanc, Michigan**

Parameter		MDEQ Criteria			CS-A-1	CS-A-2	CS-A-3	CS-A-4	CS-A-6 (Reconfirmation Sample for CS-A-5)	CF-A-1	CF-A-2	CF-A-3	CF-A-4	CF-A-5	CF-A-6	CF-A-7	CF-A-8	CF-A-9
		Nonresidential Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Nonresidential Direct Contact Criteria														
Acenaphthene	µg/kg	8.8E+05	8700	1.3E+08	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Acenaphthylene	µg/kg	17000	ID	5.2E+06	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Anthracene	µg/kg	41000	ID	7.3E+08	<300	300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Benzo(a)anthracene	µg/kg	NLL	NLL	80000	<300	800	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Benzo(a)pyrene	µg/kg	NLL	NLL	8000	<300	800	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Benzo(b)fluoranthene	µg/kg	NLL	NLL	80000	<300	1,400	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Benzo(k)fluoranthene	µg/kg	NLL	NLL	8.0E+05	<300	1,400	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Benzo(ghi)perylene	µg/kg	NLL	NLL	7.0E+06	<300	500	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Chrysene	µg/kg	NLL	NLL	8.0E+06	<300	800	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Dibenzo(ah)anthracene	µg/kg	NLL	NLL	8000	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Fluoranthene	µg/kg	7.30E+05	5500	1.3E+08	<300	2,100	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Fluorene	µg/kg	8.9E+05	5300	8.7E+07	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Indeno(1,2,3-cd)pyrene	µg/kg	NLL	NLL	80000	<300	400	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Naphthalene	µg/kg	1.00E+05	730	5.2E+07	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Phenanthrene	µg/kg	1.60E+05	2100	5.2E+06	<300	1,500	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Pyrene	µg/kg	4.8E+05	ID	8.4E+07	<300	1,600	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
2-Methylnaphthalene	µg/kg	1.70E+05	4200	2.6E+07	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
1-Methylnaphthalene	µg/kg	NC	NC	NC	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300

Exceeds GSI protection criteria only  
 Exceeds nonresidential drinking water protection criteria or both GSI and drinking water protection criteria  
 Exceeds nonresidential direct contact criteria

CS-A-4 - Indicates sidewall confirmatory sample number 4 from Subarea A

CF-B-3 - Indicates floor confirmatory sample number 3 from Subarea B

(D) Calculated criterion exceeds 100 percent

(G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water

(X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source

(DD) Hazardous substances causes developmental effects

(NLL) Means hazardous substances is not likely to leach under most soil conditions

(ID) Means insufficient data to develop criterion

(NC) Means no criterion or value is available

-- Not analyzed

**Table C6  
Summary of Sidewall and Floor Confirmatory Sample Analytical Results  
RACER Trust - Dort Highway Land  
Grand Blanc, Michigan**

Parameter		MDEQ Criteria			CS-B-1	CS-B-2	CS-B-3	CS-B-4	CS-B-5	CF-B-2	CF-B-3	CF-B-4	CF-B-5	CF-B-6	CF-B-7	CF-B-8	CF-B-9	CF-B-10 (Reconfirmation Sample for CF-B-1)	CF-B-11 (Reconfirmation Sample for CF-B-1)
		Nonresidential Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Nonresidential Direct Contact Criteria															
Acenaphthene	µg/kg	8.8E+05	8700	1.3E+08	800	<300	<300	<300	400	<300	<300	<300	300	700	<300	700	1,400	<300	<300
Acenaphthylene	µg/kg	17000	ID	5.2E+06	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Anthracene	µg/kg	41000	ID	7.3E+08	1,500	<300	300	500	1,000	<300	<300	<300	1,400	1,100	<300	<300	2,300	<300	<300
Benzo(a)anthracene	µg/kg	NLL	NLL	80000	3,000	600	800	1,700	1,900	1,000	1,000	800	3,200	2,300	300	500	4,500	<300	<300
Benzo(a)pyrene	µg/kg	NLL	NLL	8000	3,300	600	800	2,200	2,100	1,300	1,100	1,000	3,600	2,600	400	600	5,200	<300	<300
Benzo(b)fluoranthene	µg/kg	NLL	NLL	80000	5,300	1,000	1,400	3,600	3,400	2,100	1,700	1,700	6,100	4,400	600	900	8,600	<300	<300
Benzo(k)fluoranthene	µg/kg	NLL	NLL	8.0E+05	5,300	1,000	1,300	3,500	3,400	2,100	1,600	1,600	6,100	4,400	600	900	8,700	<300	<300
Benzo(ghi)perylene	µg/kg	NLL	NLL	7.0E+06	1,500	400	500	1,300	1,100	900	600	700	1,800	1,400	<300	300	2,300	<300	<300
Chrysene	µg/kg	NLL	NLL	8.0E+06	3,100	700	800	2,000	2,100	1,100	1,100	1,000	3,600	2,600	400	600	5,000	<300	<300
Dibenzo(ah)anthracene	µg/kg	NLL	NLL	8000	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Fluoranthene	µg/kg	7.30E+05	5500	1.3E+08	8,100	1,300	1,800	3,500	5,100	1,900	1,900	2,000	8,100	5,800	800	1,000	13,000	<300	<300
Fluorene	µg/kg	8.9E+05	5300	8.7E+07	700	<300	<300	<300	400	<300	<300	<300	400	700	<300	600	1,300	<300	<300
Indeno(1,2,3-cd)pyrene	µg/kg	NLL	NLL	80000	1,500	300	500	1,200	1,000	800	600	600	1,800	1,300	<300	<300	2,400	<300	<300
Naphthalene	µg/kg	1.00E+05	730	5.2E+07	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	4,000	<300	<300	<300
Phenanthrene	µg/kg	1.60E+05	2100	5.2E+06	5,700	600	1,100	1,500	3,300	900	800	1,100	4,700	3,600	400	900	9,500	<300	<300
Pyrene	µg/kg	4.8E+05	ID	8.4E+07	5,900	1,000	1,400	2,900	3,700	1,700	1,500	1,600	6,000	4,600	600	800	9,200	<300	<300
2-Methylnaphthalene	µg/kg	1.70E+05	4200	2.6E+07	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	700	<300	<300	<300
1-Methylnaphthalene	µg/kg	NC	NC	NC	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	500	<300	<300	<300

     Exceeds GSI protection criteria only  
     Exceeds nonresidential drinking water protection criteria or both GSI and drinking water protection criteria  
     Exceeds nonresidential direct contact criteria  
 CS-A-4 - Indicates sidewall confirmatory sample number 4 from Subarea A  
 CF-B-3 - Indicates floor confirmatory sample number 3 from Subarea B  
 (D) Calculated criterion exceeds 100 percent  
 (G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness,  
 or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall  
 be calculated based on the pH or hardness of the receiving surface water  
 (X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used  
 as a drinking water source  
 (DD) Hazardous substances causes developmental effects  
 (NLL) Means hazardous substances is not likely to leach under most soil conditions  
 (ID) Means insufficient data to develop criterion  
 (NC) Means no criterion or value is available  
 -- Not analyzed

**Table C6  
Summary of Sidewall and Floor Confirmatory Sample Analytical Results  
RACER Trust - Dort Highway Land  
Grand Blanc, Michigan**

Parameter		MDEQ Criteria			CS-C-1	CS-C-2	CS-C-3	CS-C-4	CS-C-5	CF-C-1	CF-C-3	CF-C-4	CF-C-5 (Reconfirmation Sample for CF-C-2)
		Nonresidential Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Nonresidential Direct Contact Criteria									
Acenaphthene	µg/kg	8.8E+05	8700	1.3E+08	<300	<300	<300	<300	<300	<300	1,900	<300	<300
Acenaphthylene	µg/kg	17000	ID	5.2E+06	<300	<300	<300	<300	<300	<300	<300	<300	<300
Anthracene	µg/kg	41000	ID	7.3E+08	<300	<300	<300	300	<300	400	4,000	<300	<300
Benzo(a)anthracene	µg/kg	NLL	NLL	80000	<300	<300	500	900	<300	900	6,200	<300	<300
Benzo(a)pyrene	µg/kg	NLL	NLL	8000	300	<300	600	1,100	<300	1,000	6,400	<300	<300
Benzo(b)fluoranthene	µg/kg	NLL	NLL	80000	500	<300	1,000	1,800	400	1,600	10,300	<300	<300
Benzo(k)fluoranthene	µg/kg	NLL	NLL	8.0E+05	500	<300	1,000	1,800	400	1,600	10,600	<300	<300
Benzo(ghi)perylene	µg/kg	NLL	NLL	7.0E+06	<300	<300	400	700	<300	600	2,800	<300	<300
Chrysene	µg/kg	NLL	NLL	8.0E+06	300	<300	600	100	<300	1,100	6,300	<300	<300
Dibenzo(ah)anthracene	µg/kg	NLL	NLL	8000	<300	<300	<300	<300	<300	<300	<300	<300	<300
Fluoranthene	µg/kg	7.30E+05	5500	1.3E+08	600	<300	1,300	2,000	600	2,200	18,500	<300	<300
Fluorene	µg/kg	8.9E+05	5300	8.7E+07	<300	<300	<300	<300	<300	<300	1,400	<300	<300
Indeno(1,2,3-cd)pyrene	µg/kg	NLL	NLL	80000	<300	<300	400	700	<300	500	2,900	<300	<300
Naphthalene	µg/kg	1.00E+05	730	5.2E+07	<300	<300	<300	<300	<300	<300	<300	<300	<300
Phenanthrene	µg/kg	1.60E+05	2100	5.2E+06	400	<300	600	1,100	<300	1,400	14,600	<300	<300
Pyrene	µg/kg	4.8E+05	ID	8.4E+07	500	<300	1,000	1,600	400	1,700	21,800	<300	<300
2-Methylnaphthalene	µg/kg	1.70E+05	4200	2.6E+07	<300	<300	<300	<300	<300	<300	<300	<300	<300
1-Methylnaphthalene	µg/kg	NC	NC	NC	<300	<300	<300	<300	<300	<300	<300	<300	<300

Exceeds GSI protection criteria only  
 Exceeds nonresidential drinking water protection criteria or both GSI and drinking water protection criteria  
 Exceeds nonresidential direct contact criteria  
 CS-A-4 - Indicates sidewall confirmatory sample number 4 from Subarea A  
 CF-B-3 - Indicates floor confirmatory sample number 3 from Subarea B  
 (D) Calculated criterion exceeds 100 percent  
 (G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water  
 (X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source  
 (DD) Hazardous substances causes developmental effects  
 (NLL) Means hazardous substances is not likely to leach under most soil conditions  
 (ID) Means insufficient data to develop criterion  
 (NC) Means no criterion or value is available  
 -- Not analyzed

***APPENDIX D***  
***Groundwater Sampling Logs***

O'Brien & Gere Engineers, Inc.

Ground Water Sampling Log

Date 6/28/12  
 Site Name Dort Highway Land  
 Location Grand Blanc, MI  
 Project No. 48631  
 Personnel KBS

Weather Sunny 95°F  
 Well # MW-1  
 Evacuation Method Bladder Pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 12.05 ft.  
 Depth to Water \* 6.09 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:	
X	2" Diameter Well = 0.163 X LWC
	4" Diameter Well = 0.653 X LWC
	6" Diameter Well = 1.469 X LWC

Volume removed before sampling 2 gal.(s)  
 Did well go dry? NO

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify)

Instrument Calibration:

Calibrated within Range

pH yes  
 ORP yes  
 Conductivity yes  
 DO yes

Water parameters:

Time	Pumping Rate (ml/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±10 percent	Conductivity (mS/cm) ±10 percent	Dissolved Oxygen (mg/L) ±10 percent	pH ±10 percent	ORP (mV) ±10 percent	Turbidity (NTUs) ±10 percent
1305	initial 4100	initial 6.50	initial 23.55	initial 0.975	initial 2.72	initial 5.87	initial -44.1	initial 1100
1310	1	6.68	22.74	0.946	1.23	6.13	-53.8	1100
1315		6.80	22.98	0.935	1.31	6.46	-59.1	1100
1320		6.85	23.03	0.929	1.34	6.50	-68.3	1100
1325		6.90	23.13	0.921	1.44	6.75	-78.2	1100
1330		6.91	23.23	0.916	1.48	6.820	-82.2	672
1335		6.93	23.24	0.913	1.57	6.94	-79.5	487
1340		6.93	23.19	0.913	1.36	6.96	-82.5	320
1345		6.93	22.93	0.920	1.27	6.98	-87.2	241
1350		6.99	22.36	0.930	1.01	6.96	-94.4	163
1355	√	6.99	22.54	0.932	0.82	6.96	-99.5	119

Water Sample: 1435  
 Time Collected

OVER =>

Physical Appearance at Start

Physical Appearance at Sampling

Color Brown  
 Odor NONE  
 Turbidity (> 100 NTU) Light  
 Sheen/Free Product NONE

Color Clear  
 Odor NONE  
 Turbidity (> 100 NTU) LOW  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
VOCs	2	40 ml Glass	HCL	
Dissolved RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	yes
Total RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	
SVOCs	2	1 l Amber	None	

Notes:

Turbidity increased during sampling - Collected Dissolved Metals

# MW-1

Time	Pump	DO	Temp	Con	DO	pH	ORP	Turb
1400	<100	6.99	23.00	0.941	0.64	6.98	-106.4	85
1405		6.99	23.00	0.943	0.59	6.98	-108.6	54
1410		6.99	22.99	0.947	0.51	6.98	-113.5	43
1415		6.99	22.98	0.949	0.49	6.98	-116.6	35
1420		6.99	23.01	0.950	0.45	6.98	-117.6	31
1425		6.99	22.66	0.950	0.46	6.98	-120.4	25
1430		6.99	22.77	0.947	0.42	6.97	-121.0	22
1435		6.99	22.97	0.947	0.45	6.97	-119.7	20

O'Brien & Gere Engineers, Inc.

Ground Water Sampling Log

Date 6/28/12  
 Site Name Dort Highway Land  
 Location Grand Blanc, MI  
 Project No. 48631  
 Personnel KAS

Weather SUNNY 95°F  
 Well # MW-2  
 Evacuation Method Bladder Pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 21.55 ft.  
 Depth to Water \* 7.00 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:	
X	2" Diameter Well = 0.163 X LWC
	4" Diameter Well = 0.653 X LWC
	6" Diameter Well = 1.469 X LWC

Volume removed before sampling 2 1/2 gal.(s)  
 Did well go dry? NO

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

Instrument Calibration:

Calibrated within Range  
 pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

Water parameters:

Time	Pumping Rate (ml/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±10 percent	Conductivity (mS/cm) ±10 percent	Dissolved Oxygen (mg/L) ±10 percent	pH ±10 percent	ORP (mV) ±10 percent	Turbidity (NTUs) ±10 percent
<u>1535</u>	initial <u>100</u>	initial <u>7.05</u>	initial <u>21.28</u>	initial <u>1.817</u>	initial <u>0.75</u>	initial <u>5.96</u>	initial <u>-65.2</u>	initial <u>1102</u>
<u>1540</u>			<u>21.19</u>	<u>1.807</u>	<u>0.54</u>	<u>6.11</u>	<u>-78.7</u>	<u>1074</u>
<u>1545</u>			<u>21.27</u>	<u>1.810</u>	<u>0.51</u>	<u>6.35</u>	<u>-94.9</u>	<u>881</u>
<u>1550</u>			<u>21.14</u>	<u>1.813</u>	<u>0.49</u>	<u>6.53</u>	<u>-108.1</u>	<u>613</u>
<u>1555</u>			<u>21.18</u>	<u>1.806</u>	<u>0.39</u>	<u>6.62</u>	<u>-115.6</u>	<u>524</u>
<u>1600</u>			<u>21.33</u>	<u>1.803</u>	<u>0.38</u>	<u>6.71</u>	<u>-120.9</u>	<u>337</u>
<u>1605</u>			<u>21.25</u>	<u>1.804</u>	<u>0.35</u>	<u>6.76</u>	<u>-123.2</u>	<u>215</u>
<u>1610</u>			<u>21.30</u>	<u>1.805</u>	<u>0.33</u>	<u>6.79</u>	<u>-126.7</u>	<u>189</u>
<u>1615</u>			<u>20.20</u>	<u>1.800</u>	<u>0.30</u>	<u>6.72</u>	<u>-118.9</u>	<u>161</u>
<u>1620</u>			<u>20.31</u>	<u>1.795</u>	<u>0.28</u>	<u>6.74</u>	<u>-118.7</u>	<u>124</u>
<u>1625</u>			<u>19.48</u>	<u>1.807</u>	<u>0.28</u>	<u>6.81</u>	<u>-129.1</u>	<u>115</u>

Water Sample: 1700  
 Time Collected \_\_\_\_\_

OVER =>

Physical Appearance at Start \_\_\_\_\_

Physical Appearance at Sampling \_\_\_\_\_

Color Brown  
 Odor NONE  
 Turbidity (> 100 NTU) HIGH  
 Sheen/Free Product NONE

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) LOW  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
VOCs	2	40 ml Glass	HCL	
Dissolved RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	yes
Total RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	
SVOCs	2	1 l Amber	None	

Notes: \_\_\_\_\_

# MW-2

Time	Pump	DD	Temp	Con	Do	pH	ORP	Turb.
1630	100	7.05	18.63	1.791	0.29	6.74	-124.5	84
1635	↓	↓	17.22	1.782	0.27	6.58	-110.8	60
1640	↓	↓	17.06	1.779	0.25	6.00	-92.2	59
1645	↓	↓	16.74	1.773	0.25	6.14	-96.3	51
1650	↓	↓	16.33	1.771	0.26	6.11	-98.2	48
1655	↓	↓	16.53	1.773	0.28	6.41	-99.0	46
1700	↓	↓	16.38	1.774	0.25	6.49	-110.9	44

O'Brien & Gere Engineers, Inc.

Ground Water Sampling Log

Date 6/28/12  
 Site Name Dort Highway Land  
 Location Grand Blanc, MI  
 Project No. 48631  
 Personnel RSS

Weather Mostly cloudy 95°F  
 Well # MW2-1  
 Evacuation Method Bladder Pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 18.85 ft.  
 Depth to Water \* 8.71 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.653 X LWC  
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 1/2 gal.(s)  
 Did well go dry? NO

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

Instrument Calibration:

Calibrated within Range

pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

Water parameters:

Time	Pumping Rate (ml/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±10 percent	Conductivity (mS/cm) ±10 percent	Dissolved Oxygen (mg/L) ±10 percent	pH ±10 percent	ORP (mV) ±10 percent	Turbidity (NTUs) ±10 percent
1740	initial 100	initial 8.91	initial 22.92	initial 1.444	initial 2.04	initial 6.98	initial -69.5	initial 136
1745	<100	9.03	22.56	1.468	1.01	6.61	-58.1	128
1750		9.39	21.36	1.386	0.89	6.42	-59.9	98
1755		9.70	20.78	1.377	0.63	6.40	-72.4	72
1800		9.91	22.39	1.420	0.52	6.87	-86.7	82
1805		9.93	23.22	1.446	0.47	6.99	-102.1	95
1810		10.13	21.86	1.607	0.47	6.96	-115.2	69
1815		10.18	19.74	1.629	0.53	6.91	-111.7	67
1820		10.35	18.78	1.517	0.74	6.59	-81.5	68
1825		10.39	19.04	1.525	0.59	6.58	-82.9	47
1830	↓	10.43	19.03	1.572	0.50	6.66	-73.2	40

Water Sample: 1840  
 Time Collected

over =>

Physical Appearance at Start

Color Slightly cloudy  
 Odor NONE  
 Turbidity (> 100 NTU) MED  
 Sheen/Free Product NONE

Physical Appearance at Sampling

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) LOW  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
VOCs	2	40 ml Glass	HCL	
Dissolved RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	yes
Total RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	
SVOCs	2	1 l Amber	None	

Notes:

MW2-1

Time	Pump	DD	Temp	Con	Do	pH	ORP	Turb
1835	2100	10.49	18.92	1.618	0.45	6.70	-99.6	35
1840		10.53	18.85	1.637	0.43	6.70	-101.7	32

O'Brien & Gere Engineers, Inc.

Ground Water Sampling Log

Date 6/29/12  
 Site Name Dort Highway Land  
 Location Grand Blanc, MI  
 Project No. \_\_\_\_\_  
 Personnel KBS

Weather Sunny 80°F  
 Well # MW-3  
 Evacuation Method Bladder Pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 19.15 ft.  
 Depth to Water \* 5.35 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:	
X	2" Diameter Well = 0.163 X LWC
	4" Diameter Well = 0.653 X LWC
	6" Diameter Well = 1.469 X LWC

Volume removed before sampling 2 gal.(s)  
 Did well go dry? NO

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify)

Instrument Calibration:

Calibrated within Range  
 pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

Water parameters:

Time	Pumping Rate (ml/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±10 percent	Conductivity (mS/cm) ±10 percent	Dissolved Oxygen (mg/L) ±10 percent	pH ±10 percent	ORP (mV) ±10 percent	Turbidity (NTUs) ±10 percent
1010	initial 100	initial 5.55	initial 21.79	initial 1.477	initial 5.62	initial 6.87	initial -48.2	initial 1100
1015	100	5.67	20.80	1.488	1.50	6.67	-57.2	864
1020	<100	5.80	21.00	1.480	1.06	6.56	-66.4	1100
1025		5.85	21.07	1.484	0.88	6.59	-69.6	1100
1030		5.89	21.03	1.474	0.66	6.64	-81.5	1058
1035		5.93	21.04	1.453	0.51	6.68	-96.3	756
1040		5.99	20.75	1.432	0.41	6.69	-104.1	603
1045		5.99	20.53	1.428	0.39	6.70	-108.3	446
1050		6.00	20.72	1.418	0.35	6.69	-107.9	339
1055		6.00	20.82	1.415	0.33	6.74	-116.5	212
1100	↓	6.00	20.84	1.413	0.32	6.75	-111.5	169

Water Sample: 1150  
 Time Collected

OVER =>

Physical Appearance at Start

Physical Appearance at Sampling

Color Brown  
 Odor NONE  
 Turbidity (> 100 NTU) Light  
 Sheen/Free Product NONE

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) LOW  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
VOCs	2	40 ml Glass	HCL	
Dissolved RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	yes
Total RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	
SVOCs	2	11 Amber	None	

Notes:

MW-3

Time	PUMP	DD	TEMP	Con	DO PP	pH GRP	GRP	Turb
1105	C 100	6.00	20.92	1.410	0.31	6.75	-110.7	124
1110		6.00	21.07	1.406	0.33	6.75	-108.9	92
1115		6.00	20.94	1.407	0.30	6.76	-110.3	76
1120		6.00	20.79	1.406	0.30	6.77	-122.5	60
1125		6.00	20.31	1.401	0.34	6.73	-119.9	48
1130		6.00	20.01	1.398	0.32	6.71	-117.0	38
1135		6.00	20.84	1.399	0.30	6.76	-120.7	34
1140		6.00	20.81	1.399	0.30	6.77	-120.3	21
1145		6.00	20.76	1.398	0.31	6.76	-118.2	22
1150		6.00	20.88	1.397	0.31	6.77	-117.3	20

Date 6/29/12  
 Site Name Dort Highway Land  
 Location Grand Blanc, MI  
 Project No. 487031  
 Personnel KB5

Weather SUNNY 80°F  
 Well # MW-4  
 Evacuation Method Bladder Pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 10.15 ft.  
 Depth to Water \* 5.67 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:	
X	2" Diameter Well = 0.163 X LWC
	4" Diameter Well = 0.653 X LWC
	6" Diameter Well = 1.469 X LWC

Volume removed before sampling 2 gal.(s)  
 Did well go dry? NO

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

Instrument Calibration:

Calibrated within Range

pH yes  
 ORP yes  
 Conductivity yes  
 DO yes

Water parameters:

Time	Pumping Rate (ml/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±10 percent	Conductivity (mS/cm) ±10 percent	Dissolved Oxygen (mg/L) ±10 percent	pH ±10 percent	ORP (mV) ±10 percent	Turbidity (NTUs) ±10 percent
830	initial 100	initial 5.99	initial 17.83	initial 1.482	initial 1.85	initial 6.21	initial 273.1	initial 1100
835		5.99	18.17	1.448	1.08	5.81	287.0	1100
846		6.09	18.59	1.393	0.87	6.09	242.7	752
845		6.09	18.70	1.334	0.81	6.33	174.0	485
850		6.16	18.80	1.291	0.76	6.49	115.1	280
855		6.16	18.87	1.262	0.66	6.61	66.4	184
900		6.24	18.66	1.231	0.52	6.68	24.0	89
905		6.24	18.72	1.217	0.53	6.71	3.9	68
910		6.30	18.85	1.206	0.53	6.78	-18.7	55
915		6.30	18.89	1.197	0.52	6.84	-39.1	33
920	↓	6.30	19.07	1.189	0.52	6.85	-47.7	16

Water Sample:

Time Collected 940

OVER =>

Physical Appearance at Start

Physical Appearance at Sampling

Color Brown  
 Odor NONE  
 Turbidity (> 100 NTU) High  
 Sheen/Free Product NONE

Color Clear  
 Odor NONE  
 Turbidity (> 100 NTU) Low  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
VOCs	2	40 ml Glass	HCL	
Dissolved RCRA Metals	1	125 ml Plastic	HNO3	yes
Total RCRA Metals	1	125 ml Plastic	HNO3	
SVOCs	2	1 l Amber	None	

Notes:

MW-4

Time	Pump	DD	Temp	Con	Do	pH	ORP	Turb
925	100	6.30	19.14	1.180	0.520	6.89	-63.5	14
930	↓	↓	19.16	1.176	0.54	6.76	-69.1	9
935	↓	↓	19.33	1.171	0.53	6.89	-73.5	9
940	↓	↓	19.35	1.170	0.51	6.89	-76.1	5

O'Brien & Gere Engineers, Inc.

Ground Water Sampling Log

Date 6/28/12  
 Site Name Dort Highway Land  
 Location Grand Blanc, MI  
 Project No. \_\_\_\_\_  
 Personnel KBS

Weather Sunny 75°F  
 Well # MW-5  
 Evacuation Method Bladder Pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 6/27/12 25.15 ft.  
 Depth to Water \* 23.20 20.81 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:	
X	2" Diameter Well = 0.163 X LWC
	4" Diameter Well = 0.653 X LWC
	6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 gal.(s)  
 Did well go dry? yes  
 (Other, Specify) \_\_\_\_\_  
 \* Measurements taken from  Well Casing  Protective Casing

Instrument Calibration:

Calibrated within Range

pH yes  
 ORP yes  
 Conductivity yes  
 DO yes

Water parameters:

Time	Pumping Rate (ml/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±10 percent	Conductivity (mS/cm) ±10 percent	Dissolved Oxygen (mg/L) ±10 percent	pH ±10 percent	ORP (mv) ±10 percent	Turbidity (NTUs) ±10 percent
815	initial 100	initial 21.15	initial 15.21	initial 2.641	initial 5.79	initial 6.61	initial 133.4	initial 168
820	<100	21.50	14.15	2.648	4.82	6.18	106.4	124
825		21.69	14.42	2.682	4.81	6.48	71.2	56
830		21.80	14.74	2.689	4.79	6.66	53.2	26
835		21.91	15.09	2.699	4.70	6.83	30.3	33
840		22.00	15.29	2.700	4.59	6.88	19.1	23
845			15.12	2.710	4.55	6.89	11.0	20
850			15.41	2.699	4.41	6.87	4.5	19
855			15.88	2.703	4.32	6.90	-3.5	18
900			16.30	2.702	4.28	6.91	-8.5	16
905			16.11	2.708	4.25	6.89	-12.4	13

Water Sample:

Time Collected 1235 OVER =>

Physical Appearance at Start

Color slightly cloudy  
 Odor NONE  
 Turbidity (> 100 NTU) HIGH  
 Sheen/Free Product NONE

Physical Appearance at Sampling

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) Low  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
VOCs	2	40 ml Glass	HCL	
Dissolved RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	yes
Total RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	
SVOCs	2	11 Amber	None	

Notes: well went DRY during sampling  
 will attempt again once well recharges

collected sample 6/29/12 1235 turbidity 13 NTU  
 before metals collection

# MW-5

Time	PUMP	DO	Temp	Con	DO	pH	ORP	Turb
910	c100		16.42	2.685	4.22	6.88	-16.6	15
915	↓		16.25	2.705	4.16	6.88	-24.9	16
920			15.19	2.684	4.01	6.83	-26.5	16
925			14.82	2.669	3.93	6.79	-27.1	18

O'Brien & Gere Engineers, Inc.

Ground Water Sampling Log

Date 7/2/12  
 Site Name Dort Highway Land  
 Location Grand Blanc, MI  
 Project No. 48631  
 Personnel KBS

Weather SUNNY 85°F  
 Well # MW-10  
 Evacuation Method Plunger Pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 18.40 ft.  
 Depth to Water \* 4.20 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:	
X	2" Diameter Well = 0.163 X LWC
	4" Diameter Well = 0.653 X LWC
	6" Diameter Well = 1.469 X LWC

Volume removed before sampling 2 gal.(s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify)

Instrument Calibration:

Calibrated within Range  
 pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

Water parameters:

Time	Pumping Rate (ml/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±10 percent	Conductivity (mS/cm) ±10 percent	Dissolved Oxygen (mg/L) ±10 percent	pH ±10 percent	ORP (mV) ±10 percent	Turbidity (NTUs) ±10 percent
1120	initial 100	initial 4.40	initial 22.60	initial 1.724	initial 6.57	initial 6.87	initial -59.4	initial 1100
1125	<100	4.68	20.89	1.708	0.85	6.08	-41.4	1100
1130	↓	4.95	20.65	1.710	0.58	6.17	-68.5	895
1135		5.01	20.63	1.710	0.50	6.37	-88.7	473
1140		5.06	20.92	1.708	0.45	6.57	-100.4	358
1145		5.09	21.22	1.711	0.40	6.68	-107.0	224
1150		5.09	21.20	1.709	0.37	6.74	-116.2	169
1155		5.09	21.53	1.716	0.34	6.76	-122.0	102
1200		5.09	21.10	1.714	0.30	6.78	-126.2	78
1205		5.09	21.00	1.713	0.27	6.76	-129.1	41
1210		5.09	20.72	1.708	0.26	6.74	-140.4	39

Water Sample:

Time Collected 1240 OVER =>

Physical Appearance at Start

Physical Appearance at Sampling

Color Brown  
 Odor NONE  
 Turbidity (> 100 NTU) HIGH  
 Sheen/Free Product NONE

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) LOW  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
VOCs	2	40 ml Glass	HCL	
Dissolved RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	yes
Total RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	
SVOCs	2	1 l Amber	None	

Notes:

# MW-6

Time	PUMP	UD	TEMP	CON	DO	PH	ORP	Turb
1215	← 100	5.16	21.70	1.708	0.24	6.79	-141.2	34
1220	↓	5.16	21.95	1.711	0.24	6.81	-137.1	30
1225	↓	5.16	21.77	1.716	0.24	6.82	-126.2	25
1230	↓	5.20	21.33	1.715	0.24	6.81	-128.4	22
1235	↓	5.20	21.17	1.713	0.24	6.79	-134.6	20
1240	↓	5.20	21.66	1.709	0.25	6.81	-156.0	19

**O'Brien & Gere Engineers, Inc.**

**Ground Water Sampling Log**

Date: 6/28/12  
 Site Name: Dort Highway Land Weather: SUNNY  
 Location: Grand Blanc, MI Well #: MW-7  
 Project No.: 48631 Evacuation Method: Bladder Pump  
 Personnel: RBS Sampling Method: Low-flow

**Well Information:**

Depth of Well \* \_\_\_\_\_ ft.  
 Depth to Water \* 9.44 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 \_\_\_\_\_ 4" Diameter Well = 0.653 X LWC  
 \_\_\_\_\_ 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 2 1/2 gal.(s)  
 Did well go dry? NO

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

**Instrument Calibration:**

Calibrated within Range

pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

**Water parameters:**

Time	Pumping Rate (ml/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±10 percent	Conductivity (mS/cm) ±10 percent	Dissolved Oxygen (mg/L) ±10 percent	pH ±10 percent	ORP (mv) ±10 percent	Turbidity (NTUs) ±10 percent
1000	initial 100	initial 9.94	initial 16.84	initial 1.641	initial 2.01	initial 5.97	initial -25.1	initial 1100
1005	<100	10.01	17.92	1.640	1.71	6.15	-38.1	1100
1010		10.09	18.36	1.646	1.14	6.58	-71.9	1100
1015		10.15	18.36	1.648	0.86	6.69	-86.7	1100
1020		10.15	18.44	1.649	0.74	6.74	-94.9	1058
1025		10.19	18.37	1.651	0.55	6.80	-108.2	631
1030		10.21	18.29	1.651	0.48	6.80	-113.3	511
1035		10.25	18.31	1.653	0.42	6.83	-119.7	388
1040		10.33	17.97	1.650	0.38	6.80	-122.8	290
1045		10.39	19.48	1.650	0.35	6.90	-114.1	242
1050	✓	10.44	19.20	1.660	0.33	6.94	-116.9	201

Water Sample: 1130 Time Collected: \_\_\_\_\_ OVER =>

Physical Appearance at Start: \_\_\_\_\_ Physical Appearance at Sampling: \_\_\_\_\_

Color: Brown Color: slightly cloudy  
 Odor: NONE Odor: NONE  
 Turbidity (> 100 NTU): HIGH Turbidity (> 100 NTU): Low  
 Sheen/Free Product: NONE Sheen/Free Product: NONE

**Samples collected:**

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
VOCs	2	40 ml Glass	HCL	
Dissolved RCRA Metals	1	125 ml Plastic	HNO3	yes
Total RCRA Metals	1	125 ml Plastic	HNO3	
SVOCs	2	1 l Amber	None	

Notes: Co-located collected

# MW-7

Time	Pump	DD	Temp	Con	Do	pH	ORP	Turb
1055	C100	10.47	18.13	1.652	0.31	6.87	-120.9	141
1100	↓	10.55	18.02	1.649	0.28	6.85	-125.8	116
1105		10.58	17.90	1.648	0.26	6.85	-127.6	87
1110		10.64	17.98	1.650	0.26	6.86	-125.8	80
1115		10.69	17.77	1.654	0.26	6.87	-129.5	66
1120		10.75	17.97	1.649	0.25	6.87	-126.6	53
1125		10.78	18.57	1.650	0.23	6.91	-125.9	48
1130		10.80	18.54	1.655	0.24	6.93	-130.7	46

O'Brien & Gere Engineers, Inc.

Ground Water Sampling Log

Date 7/2/12  
 Site Name Dort Highway Land  
 Location Grand Blanc, MI  
 Project No. 48631  
 Personnel RBS

Weather Sunny 80°F  
 Well # MW-8  
 Evacuation Method Bladder Pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 20.00 ft.  
 Depth to Water \* 5.75 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:
X 2" Diameter Well = 0.163 X LWC
4" Diameter Well = 0.653 X LWC
6" Diameter Well = 1.469 X LWC

Volume removed before sampling 2 gal.(s)  
 Did well go dry? NO

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify)

Instrument Calibration:

Calibrated within Range

pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

Water parameters:

Time	Pumping Rate (ml/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±10 percent	Conductivity (mS/cm) ±10 percent	Dissolved Oxygen (mg/L) ±10 percent	pH ±10 percent	ORP (mV) ±10 percent	Turbidity (NTUs) ±10 percent
915	initial < 100	initial 6.21	initial 18.40	initial 1.449	initial 7.62	initial 6.81	initial 233.1	initial 1100
920		6.47	17.29	1.440	5.06	5.82	248.6	720
925		7.15	16.41	1.435	4.43	5.87	182.0	377
930		7.55	16.77	1.428	4.31	6.24	112.1	173
935		7.89	17.34	1.431	4.35	6.81	48.2	124
940		8.18	18.21	1.432	4.39	7.08	9.3	89
945		8.62	18.52	1.434	4.52	7.10	-8.9	61
950		8.94	18.98	1.433	4.55	7.11	-22.3	31
955		9.18	19.17	1.435	4.62	7.12	-27.4	27
1000		9.35	19.16	1.437	4.64	7.11	-30.4	21
1005		9.51	19.44	1.436	4.37	7.12	-33.9	15

Water Sample: 1015  
 Time Collected \_\_\_\_\_

OVER =>

Physical Appearance at Start

Physical Appearance at Sampling

Color Brown  
 Odor NONE  
 Turbidity (> 100 NTU) HIGH  
 Sheen/Free Product NONE

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) LOW  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
VOCs	2	40 ml Glass	HCL	
Dissolved RCRA Metals	1	125 ml Plastic	HNO3	yes
Total RCRA Metals	1	125 ml Plastic	HNO3	
SVOCs	2	1 l Amber	None	

Notes: DUP-1 collected

Field Blank collected

MW-8

Time	Pump	DO	Temp	Con	Do	PH	ORP	Turb
1010	2600	9.63	20.64	1.437	4.55	7.12	-33.6	16
1015	↓	9.80	21.28	1.442	4.55	7.13	-33.1	13

Date 6/27/12  
 Site Name Dort Highway Land  
 Location Grand Blanc, MI  
 Project No. 48631  
 Personnel KBS

Weather Sunny 87°F  
 Well # MW-9  
 Evacuation Method Bladder Pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* \_\_\_\_\_ ft.  
 Depth to Water \* 8.05 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:	
X	2" Diameter Well = 0.163 X LWC
	4" Diameter Well = 0.653 X LWC
	6" Diameter Well = 1.469 X LWC

Volume removed before sampling 3 1/2 gal.(s)  
 Did well go dry? NO

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

Instrument Calibration:

Calibrated within Range

pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

Water parameters:

Time	Pumping Rate (m/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±10 percent	Conductivity (mS/cm) ±10 percent	Dissolved Oxygen (mg/L) ±10 percent	pH ±10 percent	ORP (mV) ±10 percent	Turbidity (NTUs) ±10 percent
<u>1520</u>	initial <u>200</u>	initial <u>8.18</u>	initial <u>17.62</u>	initial <u>5.170</u>	initial <u>3.95</u>	initial <u>6.47</u>	initial <u>-85.8</u>	initial <u>&gt;1100</u>
<u>1525</u>	<u>150</u>	<u>8.29</u>	<u>17.77</u>	<u>5.218</u>	<u>0.94</u>	<u>6.45</u>	<u>-120.8</u>	<u>&gt;1100</u>
<u>1530</u>		<u>8.29</u>	<u>16.64</u>	<u>5.217</u>	<u>0.55</u>	<u>6.42</u>	<u>-137.3</u>	<u>71100</u>
<u>1535</u>		<u>8.29</u>	<u>15.97</u>	<u>5.217</u>	<u>0.40</u>	<u>6.42</u>	<u>-154.7</u>	<u>71100</u>
<u>1540</u>		<u>8.29</u>	<u>16.78</u>	<u>5.193</u>	<u>0.32</u>	<u>6.48</u>	<u>-176.3</u>	<u>71100</u>
<u>1545</u>		<u>8.29</u>	<u>16.12</u>	<u>5.249</u>	<u>0.27</u>	<u>6.59</u>	<u>-197.4</u>	<u>71100</u>
<u>1550</u>		<u>8.29</u>	<u>15.98</u>	<u>5.246</u>	<u>0.24</u>	<u>6.59</u>	<u>-205.8</u>	<u>71100</u>
<u>1555</u>		<u>8.29</u>	<u>15.83</u>	<u>5.271</u>	<u>0.23</u>	<u>6.64</u>	<u>-213.9</u>	<u>71100</u>
<u>1600</u>		<u>8.29</u>	<u>15.11</u>	<u>5.274</u>	<u>0.20</u>	<u>6.54</u>	<u>-215.8</u>	<u>846</u>
<u>1605</u>		<u>8.29</u>	<u>17.56</u>	<u>5.277</u>	<u>0.21</u>	<u>6.75</u>	<u>-204.2</u>	<u>542</u>
<u>1610</u>		<u>8.29</u>	<u>18.46</u>	<u>5.301</u>	<u>0.22</u>	<u>6.82</u>	<u>-184.1</u>	<u>492</u>

Water Sample:

Time Collected 1700

OVER =>

Physical Appearance at Start

Physical Appearance at Sampling

Color Brown  
 Odor NONE  
 Turbidity (> 100 NTU) HIGH  
 Sheen/Free Product NONE

Color Slightly cloudy  
 Odor NONE  
 Turbidity (> 100 NTU) MED  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
VOCs	2	40 ml Glass	HCL	
Dissolved RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	yes
Total RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	
SVOCs	2	1 l Amber	None	

Notes: MS/MSD collected Dissolved metals collected

# MW-9

Time	Pump	DD	Temp	Con	DO	pH	ORP	Turb
16:15	150	8.29	17.82	5.306	0.21	6.81	-184.9	319
16:20			17.65	5.303	0.20	6.79	-182.1	256
16:25			17.81	5.280	0.19	6.79	-175.3	176
16:30			17.91	5.284	0.18	6.80	-163.0	135
16:35			16.33	5.289	0.18	6.75	-176.9	103
16:40			16.90	5.243	0.18	6.74	-166.0	91
16:45			16.96	5.251	0.18	6.76	-156.7	82
16:50			17.19	5.248	0.18	6.78	-142.0	76
16:55			17.38	5.252	0.18	6.78	-136.3	76
17:00			17.14	5.260	0.18	6.78	-146.3	73



**O'Brien & Gere Engineers, Inc.**

**Ground Water Sampling Log**

Date 9/27/12  
 Site Name Dort Highway Land  
 Location Grand Blanc, MI  
 Project No. 48631  
 Personnel TJK

Weather 65° cloudy  
 Well # MW-2  
 Evacuation Method Bladder Pump  
 Sampling Method Low-flow

**Well Information:**

Depth of Well \* 21.55 ft.  
 Depth to Water \* 6.75 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.653 X LWC  
 6" Diameter Well = 1.489 X LWC

Volume removed before sampling ~2 gal.(s)  
 Did well go dry? NO

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify)

**Instrument Calibration:**

Calibrated within Range

pH Y  
 ORP Y  
 Conductivity Y  
 DO Y

**Water parameters:**

Time	Pumping Rate (ml/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±3 percent	Conductivity (mS/cm) ±0.005 (mS/cm)	Dissolved Oxygen (mg/L) ±10 percent	pH ±0.1 pH units	ORP (mV) ±10 millivolts	Turbidity (NTUs) ±10 percent
9:55	initial 100	initial 7.02	initial 14.49	initial 1.730	initial <del>8.2</del> 9.2	initial 6.89	initial -48.3	initial 1100
10:00	2100	4.81	14.39	1.726	8.3	6.88	-42.5	1100
10:05	2100	6.86	14.76	1.714	7.02	6.87	-39.5	972
10:10	2100	6.82	14.89	1.712	6.7	6.87	-38.5	833
10:15	2100	6.84	15.00	1.708	6.4	6.87	-37.6	685
10:20	2100	6.86	15.22	1.698	6.0	6.87	-37.2	538
10:25	2100	7.04	14.82	1.685	4.3	6.88	-39.8	425
10:30	2100	6.86	14.91	1.680	4.5	6.87	-39.7	368
10:35	2100	6.86	15.12	1.675	4.9	6.87	-39.2	322
10:40	2100	6.86	15.35	1.674	4.8	6.87	-38.9	284

over

**Water Sample:**

Time Collected 11:30

**Physical Appearance at Start**

**Physical Appearance at Sampling**

Color Brown  
 Odor None  
 Turbidity (> 100 NTU) High  
 Sheen/Free Product None

Color Clear  
 Odor None  
 Turbidity (> 100 NTU) Low  
 Sheen/Free Product None

**Samples collected:**

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
Dissolved RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	yes
Total RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	

Notes:

MW - 2

<u>Time</u>	<u>Pump</u>	<u>DD</u>	<u>Temp</u>	<u>con</u>	<u>Do</u>	<u>PH</u>	<u>ORP</u>	<u>Turb</u>
10:15	<100	6.86	15.72	1.676	4.9	6.88	-37.2	248
10:50	<100	6.85	15.79	1.677	4.8	6.88	-38.0	198
10:55	<100	6.86	15.82	1.676	4.6	6.88	-34.7	195
11:00	<100	6.86	15.85	1.676	4.7	6.88	-35.2	181
11:05	<100	6.86	15.90	1.674	5.0	6.88	-34.1	111
11:10	<100	6.86	16.20	1.672	5.0	6.88	-33.1	94
11:15	<100	6.85	16.24	1.672	<del>4.9</del> 4.9	6.88	-32.1	91
11:20	<100	6.86	16.27	1.672	5.2	6.88	-32.0	89
11:25	<100	6.86	16.26	1.674	5.2	6.88	-31.8	89

O'Brien & Gere Engineers, Inc.

Ground Water Sampling Log

Date 9/27/12  
 Site Name Dort Highway Land  
 Location Grand Blanc, MI  
 Project No. 48831  
 Personnel TJK

Weather 60°F cloudy  
 Well # MW-4  
 Evacuation Method Bladder Pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 12.15 ft.  
 Depth to Water \* 5.43 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:	
X	2" Diameter Well = 0.163 X LWC
	4" Diameter Well = 0.653 X LWC
	6" Diameter Well = 1.469 X LWC

Volume removed before sampling \_\_\_\_\_ gal.(s)  
 Did well go dry? \_\_\_\_\_

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

Instrument Calibration:

Calibrated within Range

pH Y  
 ORP Y  
 Conductivity Y  
 DO Y

Water parameters:

Time	Pumping Rate (ml/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±3 percent	Conductivity (mS/cm) ±0.005 (mS/cm)	Dissolved Oxygen (mg/L) ±10 percent	pH ±0.1 pH units	ORP (mV) ±10 millivolts	Turbidity (NTUs) ±10 percent
<u>12:25</u> initial	<u>2100</u>	<u>6.8</u>	<u>17.15</u>	<u>1.293</u>	<u>14.6</u>	<u>7.07</u>	<u>29.4</u>	<u>323</u>
<u>12:30</u> initial	<u>2100</u>	<u>6.84</u>	<u>17.28</u>	<u>1.262</u>	<u>11.7</u>	<u>7.07</u>	<u>33.1</u>	<u>313</u>
<u>12:35</u>	<u>2100</u>	<u>6.85</u>	<u>17.34</u>	<u>1.224</u>	<u>12</u>	<u>7.05</u>	<u>38.4</u>	<u>222</u>
<u>12:40</u>	<u>2100</u>	<u>6.84</u>	<u>17.32</u>	<u>1.215</u>	<u>10.3</u>	<u>7.05</u>	<u>38.1</u>	<u>202</u>
<u>12:45</u>	<u>2100</u>	<u>6.83</u>	<u>17.26</u>	<u>1.207</u>	<u>.76</u>	<u>7.04</u>	<u>33.7</u>	<u>136</u>
<u>12:50</u>	<u>2100</u>	<u>6.83</u>	<u>17.41</u>	<u>1.200</u>	<u>.51</u>	<u>7.03</u>	<u>30.2</u>	<u>101</u>
<u>12:55</u>	<u>2100</u>	<u>6.84</u>	<u>17.35</u>	<u>1.176</u>	<u>.30</u>	<u>7.03</u>	<u>27.9</u>	<u>56</u>
<u>13:00</u>	<u>2100</u>	<u>6.83</u>	<u>17.26</u>	<u>1.162</u>	<u>.20</u>	<u>7.03</u>	<u>29.1</u>	<u>39</u>
<u>13:05</u>	<u>2100</u>	<u>6.85</u>	<u>17.38</u>	<u>1.146</u>	<u>.18</u>	<u>7.03</u>	<u>27.5</u>	<u>24</u>
<u>13:10</u>	<u>2100</u>	<u>6.80</u>	<u>17.40</u>	<u>1.139</u>	<u>.15</u>	<u>7.02</u>	<u>28.8</u>	<u>11</u>
<u>13:15</u>	<u>2100</u>	<u>6.80</u>	<u>17.44</u>	<u>1.134</u>	<u>.15</u>	<u>7.02</u>	<u>26.7</u>	<u>8</u>

Water Sample: 1320 6.80 17.60 1.129 114 7.02 30.1 7

Physical Appearance at Start

Physical Appearance at Sampling

Color Light Brown  
 Odor None  
 Turbidity (> 100 NTU) High  
 Sheen/Free Product None

Color Clear  
 Odor None  
 Turbidity (> 100 NTU) Low  
 Sheen/Free Product None

Samples collected:

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
Dissolved RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	yes
Total RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	

Notes:

**O'Brien & Gere Engineers, Inc.**

**Ground Water Sampling Log**

Date 9/27/12  
 Site Name Dort Highway Land  
 Location Grand Blanc, MI  
 Project No. \_\_\_\_\_  
 Personnel \_\_\_\_\_

Weather Mostly cloudy 60°F  
 Well # MW2-1  
 Evacuation Method \_\_\_\_\_  
 Sampling Method Low-flow

**Well Information:**

Depth of Well \* 18.85 ft.  
 Depth to Water \* 10.56 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:	
X	2" Diameter Well = 0.163 X LWC
	4" Diameter Well = 0.653 X LWC
	6" Diameter Well = 1.469 X LWC

Volume removed before sampling \_\_\_\_\_ gal.(s)  
 Did well go dry? NO

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

**Instrument Calibration:**

Calibrated within Range

pH Y  
 ORP Y  
 Conductivity Y  
 DO Y

**Water parameters:**

Time	Pumping Rate (ml/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±3 percent	Conductivity (mS/cm) ±0.005 (mS/cm)	Dissolved Oxygen (mg/L) ±10 percent	pH ±0.1 pH units	ORP (mV) ±10 millivolts	Turbidity (NTUs) ±10 percent
1345	initial <100	initial 10.89	initial 16.47	initial 1.476	initial 2.83	initial 7.01	initial -65.3	initial _____
1350	↓		16.38	1.367	1.15	7.13	-53.6	120
1355	↓		17.23	1.293	0.73	7.06	-41.5	88
1400	↓		16.99	1.332	0.48	7.03	-44.9	82
1405	↓		16.80	1.320	0.40	7.03	-43.5	75
1410	↓		16.80	1.316	0.37	7.03	-43.5	67
1415	↓		16.67	1.361	0.31	6.98	-41.1	67
1420	↓		16.68	1.398	0.34	6.98	-43.3	66
1425	↓	12.76	17.16	1.448	0.34	6.97	-41.2	65

Water Sample: 1425  
 Time Collected \_\_\_\_\_

Physical Appearance at Start \_\_\_\_\_

Physical Appearance at Sampling \_\_\_\_\_

Color slightly cloudy  
 Odor NONE  
 Turbidity (> 100 NTU) MED  
 Sheen/Free Product NONE

Color slightly cloudy  
 Odor NONE  
 Turbidity (> 100 NTU) MED  
 Sheen/Free Product NONE

**Samples collected:**

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
Dissolved RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	yes
Total RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	

Notes: \_\_\_\_\_

**O'Brien & Gere Engineers, Inc.**

**Ground Water Sampling Log**

Date 9/27/12  
 Site Name Dort Highway Land  
 Location Grand Blanc, MI  
 Project No. \_\_\_\_\_  
 Personnel \_\_\_\_\_

Weather Mostly cloudy 60°F  
 Well # MW-7  
 Evacuation Method Bladder Pump  
 Sampling Method Low-flow

**Well Information:**

Depth of Well \* \_\_\_\_\_ ft.  
 Depth to Water \* 11.04 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:	
X	2" Diameter Well = 0.163 X LWC
	4" Diameter Well = 0.653 X LWC
	6" Diameter Well = 1.469 X LWC

Volume removed before sampling \_\_\_\_\_ gal.(s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

**Instrument Calibration:**

Calibrated within Range  
 pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

**Water parameters:**

Time	Pumping Rate (mL/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±3 percent	Conductivity (mS/cm) ±0.005 (mS/cm)	Dissolved Oxygen (mg/L) ±10 percent	pH ±0.1 pH units	ORP (mV) ±10 millivolts	Turbidity (NTUs) ±10 percent
1520	initial < 100	initial 10.80	initial 16.65	initial 1.500	initial 1.94	initial 7.07	initial -63.8	initial 1100
1525		11.64	16.60	1.498	0.48	6.99	-63.8	1100
1530		12.02	16.66	1.501	0.43	6.83	-57.8	1100
1535		12.05	17.18	1.500	0.30	6.90	-61.6	844
1546		12.15	17.85	1.502	0.25	6.98	-65.6	585
1545		12.21	17.65	1.511	0.21	8.00	-66.1	379
1550		12.21	17.36	1.516	0.23	6.98	-63.6	275
1555		12.21	17.14	1.521	0.21	6.97	-62.1	379
1600		12.28	17.00	1.526	0.19	6.96	-58.5	117
1605		12.31	16.39	1.533	0.18	6.93	-58.3	97
1610	↓	12.36	16.53	1.528	0.15	6.88	-50.5	86

Water Sample: 1630  
 Time Collected \_\_\_\_\_

**Physical Appearance at Start**

Color Brown/cloudy  
 Odor NONE  
 Turbidity (> 100 NTU) HIGH  
 Sheen/Free Product NONE

**Physical Appearance at Sampling**

Color slightly cloudy  
 Odor NONE  
 Turbidity (> 100 NTU) MED  
 Sheen/Free Product NONE

**Samples collected:**

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
Dissolved RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	yes
Total RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	

Notes:

MW-7

Time	Pump	DD	Temp	Con	Do	PH	ORP	Turb
1615	C100	12.46	16.88	1.509	0.16	6.90	-58.4	91
1620		12.42	16.98	1.530	0.15	6.92	-59.2	74
1625		12.45	17.03	1.530	0.14	6.94	-57.1	68
1630		12.49	16.85	1.529	0.18	6.94	-54.2	65

O'Brien & Gere Engineers, Inc.

Ground Water Sampling Log

Date 9/27/12  
 Site Name Dort Highway Land  
 Location Grand Blanc, MI  
 Project No. \_\_\_\_\_  
 Personnel KBS

Weather Mostly cloudy w/f  
 Well # MW-9  
 Evacuation Method Bladder Pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* \_\_\_\_\_ ft.  
 Depth to Water \* 8.13 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:	
X	2" Diameter Well = 0.163 X LWC
	4" Diameter Well = 0.653 X LWC
	6" Diameter Well = 1.469 X LWC

Volume removed before sampling \_\_\_\_\_ gal.(s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

Instrument Calibration: \_\_\_\_\_ Calibrated within Range  
 pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

Water parameters:

Time	Pumping Rate (ml/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±3 percent	Conductivity (mS/cm) ±0.005 (mS/cm)	Dissolved Oxygen (mg/L) ±10 percent	pH ±0.1 pH units	ORP (mV) ±10 millivolts	Turbidity (NTUs) ±10 percent
<u>1655</u> initial	<u>18.0</u>	initial <u>8.15</u>	initial <u>17.48</u>	initial <u>4.523</u>	initial <u>2.59</u>	initial <u>6.75</u>	initial <u>18.2</u>	initial <u>1100</u>
<u>1700</u>		<u>8.19</u>	<u>17.86</u>	<u>4.563</u>	<u>0.29</u>	<u>6.74</u>	<u>12.0</u>	<u>1068</u>
<u>1705</u>		<u>8.32</u>	<u>15.92</u>	<u>4.568</u>	<u>0.20</u>	<u>6.67</u>	<u>19.0</u>	<u>1100</u>
<u>1710</u>		<u>8.35</u>	<u>15.81</u>	<u>4.568</u>	<u>0.21</u>	<u>6.61</u>	<u>22.2</u>	<u>1100</u>
<u>1715</u>		<u>8.49</u>	<u>15.24</u>	<u>4.605</u>	<u>0.17</u>	<u>6.61</u>	<u>20.3</u>	<u>267</u>
<u>1720</u>		<u>8.45</u>	<u>14.95</u>	<u>4.591</u>	<u>0.14</u>	<u>6.57</u>	<u>21.2</u>	<u>214</u>
<u>1725</u>		<u>8.45</u>	<u>14.97</u>	<u>4.598</u>	<u>0.14</u>	<u>6.58</u>	<u>19.6</u>	<u>151</u>
<u>1730</u>		<u>8.45</u>	<u>14.96</u>	<u>4.589</u>	<u>0.13</u>	<u>6.58</u>	<u>20.7</u>	<u>101</u>
<u>1735</u>		<u>8.45</u>	<u>14.92</u>	<u>4.583</u>	<u>0.13</u>	<u>6.59</u>	<u>21.5</u>	<u>90</u>
<u>1740</u>		<u>8.45</u>	<u>14.92</u>	<u>4.581</u>	<u>0.13</u>	<u>6.58</u>	<u>21.6</u>	<u>74</u>
<u>1745</u>		<u>8.45</u>	<u>15.02</u>	<u>4.585</u>	<u>0.13</u>	<u>6.60</u>	<u>22.4</u>	<u>63</u>

Water Sample: 1810  
 Time Collected \_\_\_\_\_

Physical Appearance at Start	Physical Appearance at Sampling
Color <u>Brown/cloudy</u>	Color <u>slightly cloudy</u>
Odor <u>NONE</u>	Odor <u>NONE</u>
Turbidity (> 100 NTU) <u>HIGH</u>	Turbidity (> 100 NTU) <u>MED</u>
Sheen/Free Product <u>NONE</u>	Sheen/Free Product <u>NONE</u>

Samples collected:

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
Dissolved RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	yes
Total RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	

Notes: field blank collected during sampling

MW-9

Time	PUMP	DO	TEMP	Con	DO	pH	ORP	Turb
1750	<100	8.45	14.60	4.605	0.15	6.60	23.7	
1755		8.45	14.48	4.583	0.12	6.58	25.7	
1800		8.45	15.39	4.587	0.12	6.60	24.7	62
1805		8.45	15.42	4.590	0.13	6.61	24.5	58
1810		8.45	15.40	4.594	0.14	6.63	24.6	55



**O'Brien & Gere Engineers, Inc.**

**Ground Water Sampling Log**

Date: 12/19/12  
 Site Name: Dort Highway Land Weather: Cloudy, 40°, Wet  
 Location: Grand Blanc, MI Well #: MW-2  
 Project No.: \_\_\_\_\_ Evacuation Method: Bladder  
 Personnel: Cox Sampling Method: Low-flow

**Well Information:**

Depth of Well \* 21.55 ft.  
 Depth to Water \* 9.08 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:
X 2" Diameter Well = 0.163 X LWC
4" Diameter Well = 0.653 X LWC
6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 gal.(s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

**Instrument Calibration:**

Calibrated within Range

pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

**Water parameters:**

Time	Pumping Rate (ml/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±3 percent	Conductivity (mS/cm) ±0.005 (mS/cm)	Dissolved Oxygen (mg/L) ±10 percent	pH ±0.1 pH units	ORP (mV) ±10 millivolts	Turbidity (NTUs) ±10 percent
0925	initial 150	initial 9.10	initial 10.67	initial 2.311	initial 3.34	initial 6.73	initial -29.4	initial 212
0930	150	9.20	11.42	2.336	1.42	6.77	-29.8	130
0935	150	9.21	11.58	2.174	1.23	6.82	-26.3	43
0940	150	9.23	11.64	2.042	1.11	6.88	-24.6	8
0945	150	9.23	11.68	2.039	1.03	6.90	-24.8	6
0950	150	9.23	11.69	2.057	1.05	6.91	-24.4	4

**Water Sample:**

Time Collected 0955

Physical Appearance at Start \_\_\_\_\_

Physical Appearance at Sampling \_\_\_\_\_

Color Cloudy  
 Odor \_\_\_\_\_  
 Turbidity (> 100 NTU) High Med  
 Sheen/Free Product \_\_\_\_\_

Color Clear  
 Odor \_\_\_\_\_  
 Turbidity (> 100 NTU) Low  
 Sheen/Free Product \_\_\_\_\_

**Samples collected:**

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
Dissolved RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	yes
Total RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	

Notes:

O'Brien & Gere Engineers, Inc.

Ground Water Sampling Log

Date 12/19/12  
 Site Name Dort Highway Land  
 Location Grand Blanc, MI  
 Project No. \_\_\_\_\_  
 Personnel Cox

Weather Cloudy, 40°, Wet  
 Well # NW-4  
 Evacuation Method Bladder  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 12.15 ft.  
 Depth to Water \* 2.47 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:	
X	2" Diameter Well = 0.163 X LWC
	4" Diameter Well = 0.653 X LWC
	6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1.5 gal.(s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

Instrument Calibration:

Calibrated within Range

pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

Water parameters:

Time	Pumping Rate (ml/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±3 percent	Conductivity (mS/cm) ±0.005 (mS/cm)	Dissolved Oxygen (mg/L) ±10 percent	pH ±0.1 pH units	ORP (mV) ±10 millivolts	Turbidity (NTUs) ±10 percent
<u>1015</u>	initial <u>100</u>	initial <u>2.48</u>	initial <u>7.78</u>	initial <u>1.589</u>	initial <u>6.37</u>	initial <u>7.23</u>	initial <u>-7.7</u>	initial <u>18</u>
<u>1020</u>	<u>100</u>	<u>2.49</u>	<u>8.06</u>	<u>1.434</u>	<u>3.40</u>	<u>7.17</u>	<u>23.4</u>	<u>79</u>
<u>1025</u>	<u>100</u>	<u>2.49</u>	<u>8.22</u>	<u>1.411</u>	<u>2.34</u>	<u>7.13</u>	<u>27.3</u>	<u>412</u>
<u>1030</u>	<u>100</u>	<u>2.49</u>	<u>8.10</u>	<u>1.315</u>	<u>0.94</u>	<u>7.06</u>	<u>32.2</u>	<u>99</u>
<u>1035</u>	<u>100</u>	<u>2.49</u>	<u>8.09</u>	<u>1.295</u>	<u>0.67</u>	<u>7.01</u>	<u>33.0</u>	<u>62</u>
<u>1040</u>	<u>100</u>	<u>2.49</u>	<u>8.20</u>	<u>1.265</u>	<u>0.38</u>	<u>6.98</u>	<u>31.3</u>	<u>35</u>
<u>1045</u>	<u>100</u>	<u>2.49</u>	<u>8.22</u>	<u>1.261</u>	<u>0.40</u>	<u>6.95</u>	<u>32.2</u>	<u>33</u>
<u>1050</u>	<u>100</u>	<u>2.49</u>	<u>8.24</u>	<u>1.260</u>	<u>0.41</u>	<u>6.96</u>	<u>32.4</u>	<u>34</u>

Water Sample:

Time Collected 1055

Physical Appearance at Start

Physical Appearance at Sampling

Color Clear  
 Odor \_\_\_\_\_  
 Turbidity (> 100 NTU) Low  
 Sheen/Free Product \_\_\_\_\_

Color Clear  
 Odor \_\_\_\_\_  
 Turbidity (> 100 NTU) Low  
 Sheen/Free Product \_\_\_\_\_

Samples collected:

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
Dissolved RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	yes
Total RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	

Notes:

O'Brien & Gere Engineers, Inc.

Ground Water Sampling Log

Date 12/19/12  
 Site Name Dort Highway Land Weather Cloudy, 40's, Wet  
 Location Grand Blanc, MI Well # MW-9  
 Project No. \_\_\_\_\_ Evacuation Method Bladder  
 Personnel Cox Sampling Method Low-flow

Well Information:

Depth of Well \* \_\_\_\_\_ ft.  
 Depth to Water \* 7.12 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:
X 2" Diameter Well = 0.163 X LWC
4" Diameter Well = 0.653 X LWC
6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1.5 gal.(s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

Instrument Calibration: Calibrated within Range  
 pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

Water parameters:

Time	Pumping Rate (ml/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±3 percent	Conductivity (mS/cm) ±0.005 (mS/cm)	Dissolved Oxygen (mg/L) ±10 percent	pH ±0.1 pH units	ORP (mV) ±10 millivolts	Turbidity (NTUs) ±10 percent
<u>1110</u>	initial _____	initial <u>7.32</u>	initial <u>9.15</u>	initial <u>3.845</u>	initial <u>3.62</u>	initial <u>6.56</u>	initial <u>128.6</u>	initial <u>484</u>
<u>1115</u>	_____	<u>7.75</u>	<u>11.28</u>	<u>4.491</u>	<u>2.91</u>	<u>6.82</u>	<u>65.6</u>	<u>87</u>
<u>1120</u>	_____	<u>7.78</u>	<u>11.64</u>	<u>4.630</u>	<u>1.71</u>	<u>6.81</u>	<u>46.3</u>	<u>68</u>
<u>1125</u>	_____	<u>7.79</u>	<u>11.50</u>	<u>4.702</u>	<u>1.03</u>	<u>6.76</u>	<u>32.0</u>	<u>54</u>
<u>1130</u>	_____	<u>7.80</u>	<u>11.62</u>	<u>4.731</u>	<u>0.72</u>	<u>6.75</u>	<u>25.9</u>	<u>39</u>
<u>1135</u>	_____	<u>7.80</u>	<u>11.60</u>	<u>4.748</u>	<u>0.54</u>	<u>6.74</u>	<u>22.9</u>	<u>29</u>
<u>1140</u>	_____	<u>7.81</u>	<u>11.60</u>	<u>4.748</u>	<u>0.51</u>	<u>6.73</u>	<u>22.7</u>	<u>25</u>
<u>1145</u>	_____	<u>7.81</u>	<u>11.59</u>	<u>4.749</u>	<u>0.49</u>	<u>6.72</u>	<u>22.5</u>	<u>22</u>
<u>1150</u>	_____	<u>7.81</u>	<u>11.58</u>	<u>7.748</u>	<u>0.48</u>	<u>6.73</u>	<u>22.3</u>	<u>24</u>

Water Sample: Time Collected 1155

Physical Appearance at Start \_\_\_\_\_ Physical Appearance at Sampling \_\_\_\_\_  
 Color Cloudy Color Cloudy Clear  
 Odor \_\_\_\_\_ Odor \_\_\_\_\_  
 Turbidity (> 100 NTU) High Turbidity (> 100 NTU) High Low  
 Sheen/Free Product \_\_\_\_\_ Sheen/Free Product \_\_\_\_\_

Samples collected:

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
Dissolved RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	yes
Total RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	

Notes: Field blank collected during sampling; DUP-1

O'Brien & Gere Engineers, Inc.

Ground Water Sampling Log

Date 12-19-12  
 Site Name Dort Highway Land  
 Location Grand Blanc, MI  
 Project No. \_\_\_\_\_  
 Personnel Cox

Weather Cloudy, 40° Wet  
 Well # MW-7  
 Evacuation Method Bladder  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 22.30 ft.  
 Depth to Water \* 10.96 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:	
X	2" Diameter Well = 0.163 X LWC
	4" Diameter Well = 0.653 X LWC
	6" Diameter Well = 1.469 X LWC

Volume removed before sampling 2 gal.(s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

Instrument Calibration: Calibrated within Range  
 pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

Water parameters:

Time	Pumping Rate (ml/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±3 percent	Conductivity (mS/cm) ±0.005 (mS/cm)	Dissolved Oxygen (mg/L) ±10 percent	pH ±0.1 pH units	ORP (mV) ±10 millivolts	Turbidity (NTUs) ±10 percent
<u>1210</u>	initial <u>&lt;100</u>	initial <u>11.18</u>	initial <u>10.85</u>	initial <u>1.876</u>	initial <u>4.26</u>	initial <u>7.52</u>	initial <u>33.8</u>	initial <u>324</u>
<u>1215</u>	<u>&lt;100</u>	<u>11.34</u>	<u>11.37</u>	<u>1.674</u>	<u>3.75</u>	<u>7.53</u>	<u>31.4</u>	<u>124</u>
<u>1220</u>	<u>&lt;100</u>	<u>11.58</u>	<u>12.05</u>	<u>1.519</u>	<u>3.43</u>	<u>7.33</u>	<u>30.2</u>	<u>57</u>
<u>1225</u>	<u>&lt;100</u>	<u>11.59</u>	<u>12.24</u>	<u>1.534</u>	<u>2.05</u>	<u>7.18</u>	<u>2.8</u>	<u>485</u>
<u>1230</u>	<u>&lt;100</u>	<u>11.63</u>	<u>12.19</u>	<u>1.506</u>	<u>0.73</u>	<u>7.10</u>	<u>-13.8</u>	<u>237</u>
<u>1235</u>	<u>&lt;100</u>	<u>11.65</u>	<u>12.01</u>	<u>1.489</u>	<u>0.54</u>	<u>7.08</u>	<u>-18.7</u>	<u>502</u>
<u>1240</u>	<u>&lt;100</u>	<u>11.68</u>	<u>12.78</u>	<u>1.478</u>	<u>0.39</u>	<u>7.07</u>	<u>-24.8</u>	<u>642</u>
<u>1245</u>	<u>&lt;100</u>	<u>11.72</u>	<u>12.59</u>	<u>1.468</u>	<u>0.41</u>	<u>7.07</u>	<u>-18.1</u>	<u>879</u>
<u>1250</u>	<u>&lt;100</u>	<u>11.75</u>	<u>10.26</u>	<u>1.462</u>	<u>0.53</u>	<u>7.06</u>	<u>-12.7</u>	<u>1100</u>
<u>1255</u>	<u>&lt;100</u>	<u>11.80</u>	<u>9.82</u>	<u>1.459</u>	<u>0.52</u>	<u>7.06</u>	<u>-8.9</u>	<u>1100</u>

Water Sample: 1350  
 Time Collected \_\_\_\_\_

Physical Appearance at Start \_\_\_\_\_

Physical Appearance at Sampling \_\_\_\_\_

Color Cloudy  
 Odor \_\_\_\_\_  
 Turbidity (> 100 NTU) High  
 Sheen/Free Product \_\_\_\_\_

Color Cloudy  
 Odor \_\_\_\_\_  
 Turbidity (> 100 NTU) High  
 Sheen/Free Product \_\_\_\_\_

Samples collected:

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
Dissolved RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	yes
Total RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	

Notes: \_\_\_\_\_



O'Brien & Gere Engineers, Inc.

Ground Water Sampling Log

Date 12-19-12  
 Site Name Dort Highway Land  
 Location Grand Blanc, MI  
 Project No. \_\_\_\_\_  
 Personnel Cox

Weather Cloudy, 40, Wx  
 Well # MW2-1  
 Evacuation Method Bladder  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 18.85 ft.  
 Depth to Water \* 12.25 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:
X 2" Diameter Well = 0.163 X LWC
4" Diameter Well = 0.653 X LWC
6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1.5 gal.(s)  
 Did well go dry? NO

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

Instrument Calibration: Calibrated within Range  
 pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

Water parameters:

Time	Pumping Rate (ml/min.)	Drawdown (ft)	Temperature (Celsius)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTUs)
		0.3 feet or less	±3 percent	±0.005 (mS/cm)	±10 percent	±0.1 pH units	±10 millivolts	±10 percent
<u>1400</u>	initial <100	initial <u>12.32</u>	initial <u>11.16</u>	initial <u>1.330</u>	initial <u>2.83</u>	initial <u>6.50</u>	initial <u>-21.7</u>	initial <u>82</u>
<u>1405</u>	<100	<del>12.32</del> <u>12.35</u>	<u>11.08</u>	<u>1.286</u>	<u>2.62</u>	<u>7.08</u>	<u>-24.7</u>	<u>32</u>
<u>1410</u>	<100	<u>12.37</u>	<u>10.83</u>	<u>1.282</u>	<u>2.45</u>	<u>7.13</u>	<u>-3.7</u>	<u>19</u>
<u>1415</u>	<100	<u>12.42</u>	<u>10.80</u>	<u>1.354</u>	<u>2.03</u>	<u>7.08</u>	<u>-4.9</u>	<u>10</u>
<u>1420</u>	<100	<u>12.45</u>	<u>10.84</u>	<u>1.424</u>	<u>1.90</u>	<u>7.06</u>	<u>-16.0</u>	<u>8</u>
<u>1425</u>	<100	<u>12.51</u>	<u>10.87</u>	<u>1.481</u>	<u>0.68</u>	<u>7.01</u>	<u>-22.9</u>	<u>6</u>
<u>1430</u>	<100	<u>12.54</u>	<u>10.89</u>	<u>1.483</u>	<u>0.42</u>	<u>7.00</u>	<u>-25.1</u>	<u>4</u>
<u>1435</u>	<100	<u>12.57</u>	<u>10.91</u>	<u>1.482</u>	<u>0.38</u>	<u>6.98</u>	<u>-27.3</u>	<u>2</u>
<u>1440</u>	<100	<u>12.59</u>	<u>10.92</u>	<u>1.483</u>	<u>0.39</u>	<u>6.95</u>	<u>-29.1</u>	<u>2</u>

Water Sample: Time Collected 1445

Physical Appearance at Start	Physical Appearance at Sampling
Color <u>Clear</u>	Color <u>Clear</u>
Odor _____	Odor _____
Turbidity (> 100 NTU) <u>Low</u>	Turbidity (> 100 NTU) <u>Low</u>
Sheen/Free Product _____	Sheen/Free Product <u>Clear</u>

Samples collected:

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
Dissolved RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	yes
Total RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	

Notes: (MS/MSD)



O'Brien & Gere Engineers, Inc.

Ground Water Sampling Log

Date 3/14/13  
 Site Name Dort Highway Land  
 Location Grand Blanc, MI  
 Project No. \_\_\_\_\_  
 Personnel KBS

Weather Sunny 25°F  
 Well # MW-9  
 Evacuation Method Bladder Pump  
 Sampling Method Low-flow

**Well Information:**  
 Depth of Well \* \_\_\_\_\_ ft.  
 Depth to Water \* 7.27 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 \_\_\_\_\_ 4" Diameter Well = 0.653 X LWC  
 \_\_\_\_\_ 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 2 gal.(s)  
 Did well go dry? No  
 (Other, Specify) \_\_\_\_\_

\* Measurements taken from  Well Casing  Protective Casing  \_\_\_\_\_

**Instrument Calibration:** Calibrated within Range  
 pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

**Water parameters:**

Time	Pumping Rate (ml/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±3 percent	Conductivity (mS/cm) ±0.005 (mS/cm)	Dissolved Oxygen (mg/L) ±10 percent	pH ±0.1 pH units	ORP (mV) ±10 millivolts	Turbidity (NTUs) ±10 percent
925	initial 100	initial 7.27	initial 6.59	initial 5.110	initial 6.51	initial 6.91	initial 17.7	initial 590
930	↓	7.27	6.39	5.083	4.67	6.86	24.2	986
935		7.27	6.21	5.098	3.20	6.86	26.7	841
940		7.27	6.67	5.108	3.11	6.85	25.4	793
945		7.27	6.12	5.110	3.79	6.84	24.4	757
950		7.27	6.00	5.108	2.55	6.83	24.3	767
955		7.27	5.63	5.111	2.20	6.81	21.5	770
1000		7.27	5.68	5.099	1.84	6.81	18.5	756
1005		7.27	5.70	5.095	1.74	6.81	15.1	705
1010		7.27	5.73	5.096	1.69	6.80	12.9	696

**Water Sample:** 1010  
 Time Collected \_\_\_\_\_

Physical Appearance at Start: cloudy/brown  
 Color: cloudy  
 Odor: None  
 Turbidity (> 100 NTU): HIGH  
 Sheen/Free Product: NONE

Physical Appearance at Sampling: \_\_\_\_\_  
 Color: \_\_\_\_\_  
 Odor: \_\_\_\_\_  
 Turbidity (> 100 NTU): HIGH  
 Sheen/Free Product: NONE

**Samples collected:**

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
Dissolved RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	yes
Total RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	

Notes: Attempted to set pump at midpoint of screen without tapping the well bottom to keep turb low. Turbidity still high during sampling

O'Brien & Gere Engineers, Inc.

Ground Water Sampling Log

Date 3/14/13  
 Site Name Dort Highway Land  
 Location Grand Blanc, MI  
 Project No. \_\_\_\_\_  
 Personnel KBS

Weather Sunny  
 Well # MW-7  
 Evacuation Method Bladder Pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* \_\_\_\_\_ ft.  
 Depth to Water \* 10.50 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:  
 X 2" Diameter Well = 0.163 X LWC  
 4" Diameter Well = 0.653 X LWC  
 6" Diameter Well = 1.469 X LWC

Volume removed before sampling 2 gal.(s)  
 Did well go dry? No

(Other, Specify) \_\_\_\_\_

\* Measurements taken from  Well Casing  Protective Casing  \_\_\_\_\_

Instrument Calibration:

Calibrated within Range

pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

Water parameters:

Time	Pumping Rate (ml/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±3 percent	Conductivity (mS/cm) ±0.005 (mS/cm)	Dissolved Oxygen (mg/L) ±10 percent	pH ±0.1 pH-units	ORP (mV) ±10 millivolts	Turbidity (NTUs) ±10 percent
1055	initial 100	initial 10.78	initial 8.47	initial 1.754	initial 5.23	initial 7.29	initial 41.2	initial 1100
1100	< 100	11.20	6.74	1.659	3.97	7.26	32.6	1100
1105		11.40	6.50	1.6113	3.50	7.31	28.7	1100
1110		11.52	5.80	1.642	3.50	7.23	23.4	914
1115		11.58	5.39	1.642	3.45	7.44	25.8	1100
1120		11.65	5.15	1.639	3.40	7.24	27.5	1080
1125		11.72	4.78	1.639	3.30	7.09	31.0	916
1130		11.84	5.62	1.625	2.91	7.09	33.1	832
1135		11.88	7.69	1.605	2.89	7.10	33.8	793
1140		11.91	7.46	1.627	2.63	7.10	34.8	761
1145	↓	11.93	7.60	1.690	2.60	7.19	36.2	732

Water Sample:

Time Collected 1145

Physical Appearance at Start

Color cloudy / Brown  
 Odor NONE  
 Turbidity (> 100 NTU) HIGH  
 Sheen/Free Product NONE

Physical Appearance at Sampling

Color cloudy  
 Odor NONE  
 Turbidity (> 100 NTU) HIGH  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
Dissolved RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	yes
Total RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	

Notes: Attempted to set pump at mid point of screen without tagging the well bottom to keep this low. Turbidity still high during sampling

O'Brien & Gere Engineers, Inc.

Ground Water Sampling Log

Date 3/14/13  
 Site Name Dort Highway Land  
 Location Grand Blanc, MI  
 Project No. \_\_\_\_\_  
 Personnel KBS

Weather Sunny  
 Well # MWD-1  
 Evacuation Method Bladder Pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 18.85 ft.  
 Depth to Water \* 9.94 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:	
X	2" Diameter Well = 0.163 X LWC
	4" Diameter Well = 0.653 X LWC
	6" Diameter Well = 1.469 X LWC

Volume removed before sampling 1 1/2 gal.(s)  
 Did well go dry? NO

(Other, Specify) \_\_\_\_\_

\* Measurements taken from  Well Casing  Protective Casing

Instrument Calibration:

Calibrated within Range

pH YES  
 ORP YES  
 Conductivity YES  
 DO YES

Water parameters:

Time	Pumping Rate (ml/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±3 percent	Conductivity (mS/cm) ±0.005 (mS/cm)	Dissolved Oxygen (mg/L) ±10 percent	pH ±0.1 pH units	ORP (mV) ±10 millivolts	Turbidity (NTUs) ±10 percent
1230	initial 400	initial 10.25	initial 6.89	initial 1.409	initial 9.32	initial 7.39	initial 75.4	initial 67
1235		10.44	6.31	1.422	5.93	7.29	66.2	41
1240		10.54	6.12	1.421	6.02	7.28	65.6	35
1245		10.69	5.87	1.416	5.77	7.25	73.6	21
1250		10.73	5.91	1.419	5.48	7.26	74.7	17
1255		10.86	5.77	1.429	5.39	7.22	71.6	14
1300		11.00	5.80	1.448	5.17	7.19	60.1	11
1305		11.13	6.17	1.501	4.57	7.10	40.3	8
1310		11.26	6.20	1.51	4.55	7.10	34.8	7
1315	↓	11.34	6.33	1.5	4.33	7.07	31.1	8

Water Sample:

Time Collected 1315

Physical Appearance at Start

Color slightly cloudy  
 Odor NONE  
 Turbidity (> 100 NTU) Low  
 Sheen/Free Product NONE

Physical Appearance at Sampling

Color clear  
 Odor NONE  
 Turbidity (> 100 NTU) LOW  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
Dissolved RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	yes
Total RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	

Notes:

O'Brien & Gere Engineers, Inc.

Ground Water Sampling Log

Date 3/14/13  
 Site Name Dort Highway Land  
 Location Grand Blanc, MI  
 Project No. \_\_\_\_\_  
 Personnel KBS

Weather Sunny 35°F  
 Well # MW-2  
 Evacuation Method Bladder Pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* 21.55 ft.  
 Depth to Water \* 7.95 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:	
X	2" Diameter Well = 0.163 X LWC
	4" Diameter Well = 0.653 X LWC
	6" Diameter Well = 1.469 X LWC

Volume removed before sampling \_\_\_\_\_ gal.(s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

Instrument Calibration:

Calibrated within Range

pH Yes  
 ORP Yes  
 Conductivity Yes  
 DO Yes

Water parameters:

Time	Pumping Rate (ml/min.)	Drawdown (ft) 0.3 feet or less	Temperature (Celsius) ±3 percent	Conductivity (mS/cm) ±0.005 (mS/cm)	Dissolved Oxygen (mg/L) ±10 percent	pH ±0.1 pH units	ORP (mV) ±10 millivolts	Turbidity (NTUs) ±10 percent
1450	initial <u>8.00</u>	initial <u>8.00</u>	initial <u>8.66</u>	initial <u>2.373</u>	initial <u>7.66</u>	initial <u>6.95</u>	initial <u>30.3</u>	initial <u>590</u>
1455		<u>8.00</u>	<u>8.00</u>			<u>6.95</u>	<u>15.2</u>	<u>555</u>
1500		<u>8.00</u>	<u>8.95</u>	<u>2.409</u>	<u>5.07</u>	<u>6.89</u>	<u>14.9</u>	<u>430</u>
1505		<u>8.00</u>	<u>7.84</u>	<u>2.439</u>	<u>1.48</u>	<u>6.86</u>	<u>7.0</u>	<u>319</u>
1510		<u>8.00</u>	<u>8.13</u>	<u>2.419</u>	<u>1.06</u>	<u>6.87</u>	<u>4.9</u>	<u>197</u>
1515		<u>8.00</u>	<u>8.01</u>	<u>2.419</u>	<u>0.98</u>	<u>6.89</u>	<u>5.5</u>	<u>166</u>
1520		<u>8.00</u>	<u>7.95</u>	<u>2.414</u>	<u>0.87</u>	<u>6.90</u>	<u>5.2</u>	<u>148</u>
1525		<u>8.00</u>	<u>8.11</u>	<u>2.405</u>	<u>0.78</u>	<u>6.90</u>	<u>4.7</u>	<u>137</u>
1530		<u>8.00</u>	<u>8.21</u>	<u>2.400</u>	<u>0.74</u>	<u>6.91</u>	<u>2.3</u>	<u>130</u>
1535		<u>8.00</u>	<u>8.19</u>	<u>2.39</u>	<u>0.73</u>	<u>6.92</u>	<u>1.1</u>	<u>102</u>
1540		<u>8.00</u>	<u>8.37</u>	<u>2.39</u>	<u>0.68</u>			

Water Sample:

Time Collected 1540

Physical Appearance at Start

Color cloudy  
 Odor NONE  
 Turbidity (> 100 NTU) HIGH  
 Sheen/Free Product NONE

Physical Appearance at Sampling

Color slightly cloudy  
 Odor NONE  
 Turbidity (> 100 NTU) MED  
 Sheen/Free Product NONE

Samples collected:

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
Dissolved RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	yes
Total RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	

Notes:

\* DUP-1 collected

O'Brien & Gere Engineers, Inc.

Ground Water Sampling Log

Date 4/10/13  
 Site Name Dort Highway Land  
 Location Grand Blanc, MI  
 Project No. 50136  
 Personnel KBS

Weather light Rain 38°F  
 Well # MW-4  
 Evacuation Method Bladder Pump  
 Sampling Method Low-flow

Well Information:

Depth of Well \* \_\_\_\_\_ ft.  
 Depth to Water \* 2.85 ft.  
 Length of Water Column \_\_\_\_\_ ft.  
 Volume of Water in Well \_\_\_\_\_ gal.(s)

Water Volume /ft. for:	
X	2" Diameter Well = 0.163 X LWC
	4" Diameter Well = 0.653 X LWC
	6" Diameter Well = 1.469 X LWC

Volume removed before sampling 2 gal.(s)  
 Did well go dry? No

\* Measurements taken from  Well Casing  Protective Casing  (Other, Specify) \_\_\_\_\_

Instrument Calibration:

Calibrated within Range

pH KBS  
 ORP KBS  
 Conductivity KBS  
 DO KBS

Water parameters:

Time	Pumping Rate (ml/min.)	Drawdown (ft)	Temperature (Celsius)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTUs)
		0.3 feet or less	±3 percent	±0.005 (mS/cm)	±10 percent	±0.1 pH units	±10 millivolts	±10 percent
1020	initial 100	initial 2.70	initial 5.97	initial 1.994	initial 1.88	initial 7.04	initial 19.0	initial 95
1025		2.77	5.74	1.823	1.21	6.84	9.9	159
1030		2.83	5.63	1.705	0.77	6.74	8.8	167
1035		2.90	5.59	1.640	0.69	6.77	9.1	184
1040		2.90	5.54	1.574	0.67	6.75	9.5	190
1045		2.90	5.50	1.529	0.67	6.73	11.0	170
1050		2.90	5.49	1.497	0.61	6.71	11.7	126
1055		2.70	5.47	1.487	0.61	6.70	10.5	83
1100		2.90	5.43	1.478	0.56	6.67	12.1	54
1105		2.90	5.38	1.468	0.55	6.68	15.2	40
		2.94	5.33	1.458	0.55	6.67	16.2	31

Water Sample: Time Collected 1125

Physical Appearance at Start

Physical Appearance at Sampling

Color cloudy  
 Odor no  
 Turbidity (> 100 NTU) High  
 Sheen/Free Product no

Color clear  
 Odor no  
 Turbidity (> 100 NTU) low  
 Sheen/Free Product no

Samples collected:

Analyses	# Bottles	Bottle Size/Type	Preservative	Field Filtered
Dissolved RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	yes
Total RCRA Metals	1	125 ml Plastic	HNO <sub>3</sub>	

Notes:



***APPENDIX E***  
***Groundwater Analytical***  
***Reports***



# Analytical Laboratory Report

Report ID: S53042.01(01)  
Generated on 07/12/2012

Report to

Attention: Clifford Yantz  
O'Brien & Gere Engineers, Inc.  
37000 Grand River Ave.  
Suite 260  
Farmington, MI 48335

Phone: 248-477-5701 FAX:  
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): S53042.01-S53042.06  
Project: RACER Dort Hwy Land  
Collected Date: 06/27/2012 - 06/28/2012  
Submitted Date/Time: 06/28/2012 14:15  
Sampled by: Kevin Schneider  
P.O. #: PO125045

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 RL.  
Samples are held by the lab for 30 days from the sample submittal date unless a written request to hold longer is provided by the client.  
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Laboratory Certifications:

Michigan DNRE (#9956), DOD/ISO 17025 (#L11-184), WBENC (#2005110032)  
Ohio EPA (#CL0002), IN Drinking Water (#C-MI-07), NELAC NY (#11814), NELAC FL (#E871045)  
Some analytes reported may not be certified. Full certification lists are available upon request.

Violetta F. Murshak  
Laboratory Director



# Analytical Laboratory Report

## Sample Summary (6 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S53042.01	MW-9	Groundwater	06/27/2012 17:00
S53042.02	MW-9 MS	Groundwater	06/27/2012 17:00
S53042.03	MW-9 MSD	Groundwater	06/27/2012 17:00
S53042.04	MW-7	Groundwater	06/28/2012 11:30
S53042.05	MW-7 Co-Located	Groundwater	06/28/2012 11:30
S53042.06	TB-1 (Trip Blank)	Groundwater	06/28/2012 00:01



# Analytical Laboratory Report

Lab Sample ID: S53042.01  
 Sample Tag: MW-9  
 Collected Date/Time: 06/27/2012 17:00  
 Matrix: Groundwater  
 COC Reference: 69294

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	HCL	Yes	5.3	IR
2	125ml Plastic	HNO3	Yes	5.3	IR
2	1L Amber	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

BNA Extraction	Completed			3510C	07/03/12 21:48	EMR		
Mercury Digestion	Completed			E245.1	07/05/12 12:25	JRH		
Mercury Digestion	Completed			E245.1	07/05/12 12:25	JRH		
Metal Digestion	Completed			3015A	07/11/12 01:00	SLR		
Metal Digestion	Completed			3015A	07/11/12 01:00	SLR		

### Metals

Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	07/11/12 16:27	SLS	7440-38-2	
Arsenic	0.002	mg/L	0.002	E200.8	07/11/12 14:10	SLS	7440-38-2	
Barium, Dissolved	0.076	mg/L	0.005	E200.8	07/11/12 16:27	SLS	7440-39-3	
Barium	0.086	mg/L	0.005	E200.8	07/11/12 14:10	SLS	7440-39-3	
Cadmium, Dissolved	Not detected	mg/L	0.0005	E200.8	07/11/12 16:27	SLS	7440-43-9	
Cadmium	Not detected	mg/L	0.0005	E200.8	07/11/12 14:10	SLS	7440-43-9	
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	07/11/12 16:27	SLS	7440-47-3	
Chromium	Not detected	mg/L	0.005	E200.8	07/11/12 14:10	SLS	7440-47-3	
Lead, Dissolved	0.004	mg/L	0.003	E200.8	07/11/12 16:27	SLS	7439-92-1	
Lead	0.006	mg/L	0.003	E200.8	07/11/12 14:10	SLS	7439-92-1	
Mercury, Dissolved	Not detected	mg/L	0.0002	E245.1	07/05/12 15:57	JRT	7439-97-6	
Mercury	Not detected	mg/L	0.0002	E245.1	07/05/12 15:25	JRH	7439-97-6	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	07/11/12 16:27	SLS	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	07/11/12 14:10	SLS	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0005	E200.8	07/11/12 16:27	SLS	7440-22-4	
Silver	Not detected	mg/L	0.0005	E200.8	07/11/12 14:10	SLS	7440-22-4	

### Organics - Semi-Volatiles

#### Semi-Volatile Organics - MDEQ

Acenaphthene	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	83-32-9	
Acenaphthylene	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	208-96-8	
Anthracene	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/L	1	SW8270C	07/05/12 14:36	PL	56-55-3	
Benzo(b)fluoranthene	Not detected	ug/L	1	SW8270C	07/05/12 14:36	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/L	1	SW8270C	07/05/12 14:36	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/L	1	SW8270C	07/05/12 14:36	PL	191-24-2	
Benzo(a)pyrene	Not detected	ug/L	1	SW8270C	07/05/12 14:36	PL	50-32-8	
bis(2-Chloroethoxy)methane	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	111-91-1	
bis(2-Chloroethyl)ether	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	111-44-4	
bis(2-Chloroisopropyl)ether	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	108-60-1	
bis(2-Ethylhexyl)phthalate	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	117-81-7	
4-Bromophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	101-55-3	
Butyl benzyl phthalate	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	85-68-7	
4-Chloroaniline	Not detected	ug/L	10	SW8270C	07/05/12 14:36	PL	106-47-8	



# Analytical Laboratory Report

Lab Sample ID: S53042.01 (continued)

Sample Tag: MW-9

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Semi-Volatile Organics - MDEQ (continued)</b>								
2-Chloronaphthalene	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	91-58-7	
4-Chloro-3-methylphenol	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	59-50-7	
2-Chlorophenol	Not detected	ug/L	10	SW8270C	07/05/12 14:36	PL	95-57-8	
4-Chlorophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	7005-72-3	
Chrysene	Not detected	ug/L	1	SW8270C	07/05/12 14:36	PL	218-01-9	
p,m-Cresol	Not detected	ug/L	20	SW8270C	07/05/12 14:36	PL	3/4-Cresol	
o-Cresol	Not detected	ug/L	10	SW8270C	07/05/12 14:36	PL	95-48-7	
Dibenzo(ah)anthracene	Not detected	ug/L	2	SW8270C	07/05/12 14:36	PL	53-70-3	
Dibenzofuran	Not detected	ug/L	4	SW8270C	07/05/12 14:36	PL	132-64-9	
di-n-Butyl phthalate	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	84-74-2	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/05/12 14:36	PL	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/05/12 14:36	PL	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/05/12 14:36	PL	106-46-7	
3,3'-Dichlorobenzidine	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	91-94-1	
2,4-Dichlorophenol	Not detected	ug/L	10	SW8270C	07/05/12 14:36	PL	120-83-2	
Diethyl phthalate	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	84-66-2	
2,4-Dimethylphenol	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	105-67-9	
Dimethyl phthalate	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	131-11-3	
4,6-Dinitro-2-methylphenol	Not detected	ug/L	20	SW8270C	07/05/12 14:36	PL	534-52-1	
2,4-Dinitrophenol	Not detected	ug/L	25	SW8270C	07/05/12 14:36	PL	51-28-5	
2,4-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	121-14-2	
2,6-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	606-20-2	
1,2-Diphenylhydrazine	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	122-66-7	
di-n-Octyl phthalate	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	117-84-0	
Fluoranthene	Not detected	ug/L	1	SW8270C	07/05/12 14:36	PL	206-44-0	
Fluorene	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	86-73-7	
Hexachlorobenzene	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	118-74-1	
Hexachlorobutadiene	Not detected	ug/L	10	SW8270C	07/05/12 14:36	PL	87-68-3	
Hexachlorocyclopentadiene	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	77-47-4	
Hexachloroethane	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	ug/L	2	SW8270C	07/05/12 14:36	PL	193-39-5	
Isophorone	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	78-59-1	
2-Methylnaphthalene	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	91-57-6	
Naphthalene	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	91-20-3	
2-Nitroaniline	Not detected	ug/L	25	SW8270C	07/05/12 14:36	PL	88-74-4	
3-Nitroaniline	Not detected	ug/L	25	SW8270C	07/05/12 14:36	PL	99-09-2	
4-Nitroaniline	Not detected	ug/L	25	SW8270C	07/05/12 14:36	PL	100-01-6	
Nitrobenzene	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	98-95-3	
2-Nitrophenol	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	88-75-5	
4-Nitrophenol	Not detected	ug/L	25	SW8270C	07/05/12 14:36	PL	100-02-7	
N-Nitrosodiphenylamine	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	86-30-6	
N-Nitrosodi-n-propylamine	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	621-64-7	
Pentachlorophenol	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	87-86-5	
Phenanthrene	Not detected	ug/L	2	SW8270C	07/05/12 14:36	PL	85-01-8	
Phenol	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	108-95-2	
Pyrene	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	129-00-0	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	120-82-1	
2,4,5-Trichlorophenol	Not detected	ug/L	5	SW8270C	07/05/12 14:36	PL	95-95-4	
2,4,6-Trichlorophenol	Not detected	ug/L	4	SW8270C	07/05/12 14:36	PL	88-06-2	



# Analytical Laboratory Report

Lab Sample ID: S53042.01 (continued)

Sample Tag: MW-9

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles</b>								
<b>Volatile Organics - DEQ List</b>								
Diethyl ether	Not detected	ug/L	10	SW8260B	07/10/12 14:52	WAT	60-29-7	
Acetone	Not detected	ug/L	50	SW8260B	07/10/12 14:52	WAT	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW8260B	07/10/12 14:52	WAT	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	07/10/12 14:52	WAT	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW8260B	07/10/12 14:52	WAT	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	07/10/12 14:52	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	07/10/12 14:52	WAT	75-71-8	
Chloromethane	Not detected	ug/L	5	SW8260B	07/10/12 14:52	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	75-01-4	
Bromomethane	Not detected	ug/L	5	SW8260B	07/10/12 14:52	WAT	74-83-9	
Chloroethane	Not detected	ug/L	5	SW8260B	07/10/12 14:52	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW8260B	07/10/12 14:52	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	156-59-2	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	07/10/12 14:52	WAT	109-99-9	
Chloroform	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	07/10/12 14:52	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW8260B	07/10/12 14:52	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW8260B	07/10/12 14:52	WAT	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	07/10/12 14:52	WAT	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260B	07/10/12 14:52	WAT		
o-Xylene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	07/10/12 14:52	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	96-18-4	



# Analytical Laboratory Report

Lab Sample ID: S53042.01 (continued)

Sample Tag: MW-9

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
n-Propylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	07/10/12 14:52	WAT	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 14:52	WAT	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW8260B	07/10/12 14:52	WAT	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	07/10/12 14:52	WAT	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 14:52	WAT	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 14:52	WAT	87-61-6	
Naphthalene	Not detected	ug/L	5	SW8260B	07/10/12 14:52	WAT	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	07/10/12 14:52	WAT	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S53042.02  
 Sample Tag: MW-9 MS  
 Collected Date/Time: 06/27/2012 17:00  
 Matrix: Groundwater  
 COC Reference: 69294

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	HCL	Yes	5.3	IR
2	125ml Plastic	HNO3	Yes	5.3	IR
2	1L Amber	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

BNA Extraction	Completed			3510C	07/03/12 21:48	EMR		
Mercury Digestion	Completed			E245.1	07/05/12 12:25	JRH		
Mercury Digestion	Completed			E245.1	07/05/12 12:25	JRH		
Metal Digestion	Completed			3015A	07/11/12 01:00	SLR		
Metal Digestion	Completed			3015A	07/11/12 01:00	SLR		

### Metals

Arsenic, Dissolved	0.112	mg/L	0.002	E200.8	07/11/12 16:29	SLS	7440-38-2	
Arsenic	0.110	mg/L	0.002	E200.8	07/11/12 14:13	SLS	7440-38-2	
Barium, Dissolved	0.182	mg/L	0.005	E200.8	07/11/12 16:29	SLS	7440-39-3	
Barium	0.191	mg/L	0.005	E200.8	07/11/12 14:13	SLS	7440-39-3	
Cadmium, Dissolved	0.1003	mg/L	0.0005	E200.8	07/11/12 16:29	SLS	7440-43-9	
Cadmium	0.0996	mg/L	0.0005	E200.8	07/11/12 14:13	SLS	7440-43-9	
Chromium, Dissolved	0.110	mg/L	0.005	E200.8	07/11/12 16:29	SLS	7440-47-3	
Chromium	0.106	mg/L	0.005	E200.8	07/11/12 14:13	SLS	7440-47-3	
Lead, Dissolved	0.100	mg/L	0.003	E200.8	07/11/12 16:29	SLS	7439-92-1	
Lead	0.096	mg/L	0.003	E200.8	07/11/12 14:13	SLS	7439-92-1	
Mercury, Dissolved	0.0019	mg/L	0.0002	E245.1	07/05/12 15:59	JRT	7439-97-6	
Mercury	0.0019	mg/L	0.0002	E245.1	07/05/12 15:27	JRT	7439-97-6	
Selenium, Dissolved	0.126	mg/L	0.005	E200.8	07/11/12 16:29	SLS	7782-49-2	
Selenium	0.123	mg/L	0.005	E200.8	07/11/12 14:13	SLS	7782-49-2	
Silver, Dissolved	0.0994	mg/L	0.0005	E200.8	07/11/12 16:29	SLS	7440-22-4	
Silver	0.0970	mg/L	0.0005	E200.8	07/11/12 14:13	SLS	7440-22-4	

### Organics - Semi-Volatiles

#### Semi-Volatile Organics - MDEQ

Acenaphthene	43	ug/L	5	SW8270C	07/05/12 15:10	PL	83-32-9	1
Acenaphthylene	49	ug/L	5	SW8270C	07/05/12 15:10	PL	208-96-8	1
Anthracene	43	ug/L	5	SW8270C	07/05/12 15:10	PL	120-12-7	1
Benzo(a)anthracene	47	ug/L	1	SW8270C	07/05/12 15:10	PL	56-55-3	1
Benzo(b)fluoranthene	45	ug/L	1	SW8270C	07/05/12 15:10	PL	205-99-2	1
Benzo(k)fluoranthene	44	ug/L	1	SW8270C	07/05/12 15:10	PL	207-08-9	1
Benzo(ghi)perylene	46	ug/L	1	SW8270C	07/05/12 15:10	PL	191-24-2	1
Benzo(a)pyrene	46	ug/L	1	SW8270C	07/05/12 15:10	PL	50-32-8	1
bis(2-Chloroethoxy)methane	36	ug/L	5	SW8270C	07/05/12 15:10	PL	111-91-1	1
bis(2-Chloroethyl)ether	33	ug/L	5	SW8270C	07/05/12 15:10	PL	111-44-4	1
bis(2-Chloroisopropyl)ether	32	ug/L	5	SW8270C	07/05/12 15:10	PL	108-60-1	1
bis(2-Ethylhexyl)phthalate	46	ug/L	5	SW8270C	07/05/12 15:10	PL	117-81-7	1
4-Bromophenyl phenyl ether	36	ug/L	5	SW8270C	07/05/12 15:10	PL	101-55-3	1
Butyl benzyl phthalate	53	ug/L	5	SW8270C	07/05/12 15:10	PL	85-68-7	1

1-Sample spiked at 0.051 mg/l



# Analytical Laboratory Report

Lab Sample ID: S53042.02 (continued)

Sample Tag: MW-9 MS

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Semi-Volatile Organics - MDEQ (continued)</b>								
4-Chloroaniline	28	ug/L	10	SW8270C	07/05/12 15:10	PL	106-47-8	1
2-Chloronaphthalene	37	ug/L	5	SW8270C	07/05/12 15:10	PL	91-58-7	1
4-Chloro-3-methylphenol	44	ug/L	5	SW8270C	07/05/12 15:10	PL	59-50-7	1
2-Chlorophenol	36	ug/L	10	SW8270C	07/05/12 15:10	PL	95-57-8	1
4-Chlorophenyl phenyl ether	42	ug/L	5	SW8270C	07/05/12 15:10	PL	7005-72-3	1
Chrysene	48	ug/L	1	SW8270C	07/05/12 15:10	PL	218-01-9	1
p,m-Cresol	71	ug/L	20	SW8270C	07/05/12 15:10	PL	3/4-Cresol	1
o-Cresol	37	ug/L	10	SW8270C	07/05/12 15:10	PL	95-48-7	1
Dibenzo(ah)anthracene	40	ug/L	2	SW8270C	07/05/12 15:10	PL	53-70-3	1
Dibenzofuran	43	ug/L	4	SW8270C	07/05/12 15:10	PL	132-64-9	1
di-n-Butyl phthalate	46	ug/L	5	SW8270C	07/05/12 15:10	PL	84-74-2	1
1,2-Dichlorobenzene	29	ug/L	1	SW8270C	07/05/12 15:10	PL	95-50-1	1
1,3-Dichlorobenzene	27	ug/L	1	SW8270C	07/05/12 15:10	PL	541-73-1	1
1,4-Dichlorobenzene	26	ug/L	1	SW8270C	07/05/12 15:10	PL	106-46-7	1
3,3'-Dichlorobenzidine	19	ug/L	5	SW8270C	07/05/12 15:10	PL	91-94-1	1
2,4-Dichlorophenol	40	ug/L	10	SW8270C	07/05/12 15:10	PL	120-83-2	1
Diethyl phthalate	45	ug/L	5	SW8270C	07/05/12 15:10	PL	84-66-2	1
2,4-Dimethylphenol	40	ug/L	5	SW8270C	07/05/12 15:10	PL	105-67-9	1
Dimethyl phthalate	52	ug/L	5	SW8270C	07/05/12 15:10	PL	131-11-3	1B
4,6-Dinitro-2-methylphenol	37	ug/L	20	SW8270C	07/05/12 15:10	PL	534-52-1	1
2,4-Dinitrophenol	43	ug/L	25	SW8270C	07/05/12 15:10	PL	51-28-5	1
2,4-Dinitrotoluene	38	ug/L	5	SW8270C	07/05/12 15:10	PL	121-14-2	1
2,6-Dinitrotoluene	42	ug/L	5	SW8270C	07/05/12 15:10	PL	606-20-2	1
1,2-Diphenylhydrazine	49	ug/L	5	SW8270C	07/05/12 15:10	PL	122-66-7	1
di-n-Octyl phthalate	57	ug/L	5	SW8270C	07/05/12 15:10	PL	117-84-0	1
Fluoranthene	46	ug/L	1	SW8270C	07/05/12 15:10	PL	206-44-0	1
Fluorene	44	ug/L	5	SW8270C	07/05/12 15:10	PL	86-73-7	1
Hexachlorobenzene	42	ug/L	5	SW8270C	07/05/12 15:10	PL	118-74-1	1
Hexachlorobutadiene	28	ug/L	10	SW8270C	07/05/12 15:10	PL	87-68-3	1
Hexachlorocyclopentadiene	43	ug/L	5	SW8270C	07/05/12 15:10	PL	77-47-4	1
Hexachloroethane	26	ug/L	5	SW8270C	07/05/12 15:10	PL	67-72-1	1
Indeno(1,2,3-cd)pyrene	43	ug/L	2	SW8270C	07/05/12 15:10	PL	193-39-5	1
Isophorone	50	ug/L	5	SW8270C	07/05/12 15:10	PL	78-59-1	1
2-Methylnaphthalene	36	ug/L	5	SW8270C	07/05/12 15:10	PL	91-57-6	1
Naphthalene	32	ug/L	5	SW8270C	07/05/12 15:10	PL	91-20-3	1
2-Nitroaniline	42	ug/L	25	SW8270C	07/05/12 15:10	PL	88-74-4	1
3-Nitroaniline	31	ug/L	25	SW8270C	07/05/12 15:10	PL	99-09-2	1
4-Nitroaniline	37	ug/L	25	SW8270C	07/05/12 15:10	PL	100-01-6	1
Nitrobenzene	36	ug/L	5	SW8270C	07/05/12 15:10	PL	98-95-3	1
2-Nitrophenol	32	ug/L	5	SW8270C	07/05/12 15:10	PL	88-75-5	1
4-Nitrophenol	38	ug/L	25	SW8270C	07/05/12 15:10	PL	100-02-7	1
N-Nitrosodiphenylamine	42	ug/L	5	SW8270C	07/05/12 15:10	PL	86-30-6	1
N-Nitrosodi-n-propylamine	39	ug/L	5	SW8270C	07/05/12 15:10	PL	621-64-7	1
Pentachlorophenol	32	ug/L	5	SW8270C	07/05/12 15:10	PL	87-86-5	1
Phenanthrene	45	ug/L	2	SW8270C	07/05/12 15:10	PL	85-01-8	1
Phenol	25	ug/L	5	SW8270C	07/05/12 15:10	PL	108-95-2	1
Pyrene	50	ug/L	5	SW8270C	07/05/12 15:10	PL	129-00-0	1

1-Sample spiked at 0.051 mg/l

B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S53042.02 (continued)

Sample Tag: MW-9 MS

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Semi-Volatile Organics - MDEQ (continued)</b>								
1,2,4-Trichlorobenzene	31	ug/L	5	SW8270C	07/05/12 15:10	PL	120-82-1	1
2,4,5-Trichlorophenol	41	ug/L	5	SW8270C	07/05/12 15:10	PL	95-95-4	1
2,4,6-Trichlorophenol	39	ug/L	4	SW8270C	07/05/12 15:10	PL	88-06-2	1
<b>Organics - Volatiles</b>								
<b>Volatile Organics - DEQ List</b>								
Diethyl ether	41	ug/L	10	SW8260B	07/10/12 21:06	WAT	60-29-7	2
Acetone	Not detected	ug/L	50	SW8260B	07/10/12 21:06	WAT	67-64-1	2
Methyl iodide	46	ug/L	1	SW8260B	07/10/12 21:06	WAT	74-88-4	2
Carbon disulfide	45	ug/L	5	SW8260B	07/10/12 21:06	WAT	75-15-0	2
tert-Methyl butyl ether (MTBE)	44	ug/L	5	SW8260B	07/10/12 21:06	WAT	1634-04-4	2
Acrylonitrile	37	ug/L	2	SW8260B	07/10/12 21:06	WAT	107-13-1	2
2-Butanone (MEK)	28	ug/L	25	SW8260B	07/10/12 21:06	WAT	78-93-3	2
Dichlorodifluoromethane	33	ug/L	5	SW8260B	07/10/12 21:06	WAT	75-71-8	2
Chloromethane	43	ug/L	5	SW8260B	07/10/12 21:06	WAT	74-87-3	2
Vinyl chloride	39	ug/L	1	SW8260B	07/10/12 21:06	WAT	75-01-4	2
Bromomethane	39	ug/L	5	SW8260B	07/10/12 21:06	WAT	74-83-9	2
Chloroethane	43	ug/L	5	SW8260B	07/10/12 21:06	WAT	75-00-3	2
Trichlorofluoromethane	48	ug/L	1	SW8260B	07/10/12 21:06	WAT	75-69-4	2
1,1-Dichloroethene	45	ug/L	1	SW8260B	07/10/12 21:06	WAT	75-35-4	2
Methylene chloride	47	ug/L	5	SW8260B	07/10/12 21:06	WAT	75-09-2	2
trans-1,2-Dichloroethene	46	ug/L	1	SW8260B	07/10/12 21:06	WAT	156-60-5	2
1,1-Dichloroethane	46	ug/L	1	SW8260B	07/10/12 21:06	WAT	75-34-3	2
cis-1,2-Dichloroethene	47	ug/L	1	SW8260B	07/10/12 21:06	WAT	156-59-2	2
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	07/10/12 21:06	WAT	109-99-9	2
Chloroform	47	ug/L	1	SW8260B	07/10/12 21:06	WAT	67-66-3	2
Bromochloromethane	47	ug/L	1	SW8260B	07/10/12 21:06	WAT	74-97-5	2
1,1,1-Trichloroethane	49	ug/L	1	SW8260B	07/10/12 21:06	WAT	71-55-6	2
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	07/10/12 21:06	WAT	108-10-1	2
2-Hexanone	Not detected	ug/L	50	SW8260B	07/10/12 21:06	WAT	591-78-6	2
Carbon tetrachloride	48	ug/L	1	SW8260B	07/10/12 21:06	WAT	56-23-5	2
Benzene	46	ug/L	1	SW8260B	07/10/12 21:06	WAT	71-43-2	2
1,2-Dichloroethane	46	ug/L	1	SW8260B	07/10/12 21:06	WAT	107-06-2	2
Trichloroethene	47	ug/L	1	SW8260B	07/10/12 21:06	WAT	79-01-6	2
1,2-Dichloropropane	46	ug/L	1	SW8260B	07/10/12 21:06	WAT	78-87-5	2
Bromodichloromethane	48	ug/L	1	SW8260B	07/10/12 21:06	WAT	75-27-4	2
Dibromomethane	46	ug/L	5	SW8260B	07/10/12 21:06	WAT	74-95-3	2
cis-1,3-Dichloropropene	46	ug/L	1	SW8260B	07/10/12 21:06	WAT	10061-01-5	2
Toluene	47	ug/L	1	SW8260B	07/10/12 21:06	WAT	108-88-3	2
trans-1,3-Dichloropropene	46	ug/L	1	SW8260B	07/10/12 21:06	WAT	10061-02-6	2
1,1,2-Trichloroethane	45	ug/L	1	SW8260B	07/10/12 21:06	WAT	79-00-5	2
Tetrachloroethene	43	ug/L	1	SW8260B	07/10/12 21:06	WAT	127-18-4	2
trans-1,4-Dichloro-2-butene	36	ug/L	1	SW8260B	07/10/12 21:06	WAT	110-57-6	2
Dibromochloromethane	47	ug/L	5	SW8260B	07/10/12 21:06	WAT	124-48-1	2
1,2-Dibromoethane	43	ug/L	1	SW8260B	07/10/12 21:06	WAT	106-93-4	2
Chlorobenzene	46	ug/L	1	SW8260B	07/10/12 21:06	WAT	108-90-7	2
1,1,1,2-Tetrachloroethane	48	ug/L	1	SW8260B	07/10/12 21:06	WAT	630-20-6	2

1-Sample spiked at 0.051 mg/l

2-Spiked at 50ug/l



# Analytical Laboratory Report

Lab Sample ID: S53042.02 (continued)

Sample Tag: MW-9 MS

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Ethylbenzene	47	ug/L	1	SW8260B	07/10/12 21:06	WAT	100-41-4	1
p,m-Xylene	89	ug/L	2	SW8260B	07/10/12 21:06	WAT		1
o-Xylene	47	ug/L	1	SW8260B	07/10/12 21:06	WAT	95-47-6	1
Styrene	44	ug/L	1	SW8260B	07/10/12 21:06	WAT	100-42-5	1
Isopropylbenzene	48	ug/L	5	SW8260B	07/10/12 21:06	WAT	98-82-8	1
Bromoform	39	ug/L	1	SW8260B	07/10/12 21:06	WAT	75-25-2	1
1,1,2,2-Tetrachloroethane	40	ug/L	1	SW8260B	07/10/12 21:06	WAT	79-34-5	1
1,2,3-Trichloropropane	39	ug/L	1	SW8260B	07/10/12 21:06	WAT	96-18-4	1
n-Propylbenzene	50	ug/L	1	SW8260B	07/10/12 21:06	WAT	103-65-1	1
Bromobenzene	48	ug/L	1	SW8260B	07/10/12 21:06	WAT	108-86-1	1
1,3,5-Trimethylbenzene	46	ug/L	1	SW8260B	07/10/12 21:06	WAT	108-67-8	1
tert-Butylbenzene	47	ug/L	1	SW8260B	07/10/12 21:06	WAT	98-06-6	1
1,2,4-Trimethylbenzene	46	ug/L	1	SW8260B	07/10/12 21:06	WAT	95-63-6	1
sec-Butylbenzene	48	ug/L	1	SW8260B	07/10/12 21:06	WAT	135-98-8	1
p-Isopropyltoluene	49	ug/L	5	SW8260B	07/10/12 21:06	WAT	99-87-6	1
1,3-Dichlorobenzene	47	ug/L	1	SW8260B	07/10/12 21:06	WAT	541-73-1	1
1,4-Dichlorobenzene	48	ug/L	1	SW8260B	07/10/12 21:06	WAT	106-46-7	1
1,2-Dichlorobenzene	48	ug/L	1	SW8260B	07/10/12 21:06	WAT	95-50-1	1
1,2,3-Trimethylbenzene	48	ug/L	1	SW8260B	07/10/12 21:06	WAT	526-73-8	1
n-Butylbenzene	49	ug/L	1	SW8260B	07/10/12 21:06	WAT	104-51-8	1
Hexachloroethane	50	ug/L	5	SW8260B	07/10/12 21:06	WAT	67-72-1	1
1,2-Dibromo-3-chloropropane	38	ug/L	5	SW8260B	07/10/12 21:06	WAT	96-12-8	1
1,2,4-Trichlorobenzene	46	ug/L	5	SW8260B	07/10/12 21:06	WAT	120-82-1	1
1,2,3-Trichlorobenzene	45	ug/L	5	SW8260B	07/10/12 21:06	WAT	87-61-6	1
Naphthalene	40	ug/L	5	SW8260B	07/10/12 21:06	WAT	91-20-3	1
2-Methylnaphthalene	39	ug/L	5	SW8260B	07/10/12 21:06	WAT	91-57-6	1

1-Spiked at 50ug/l



# Analytical Laboratory Report

Lab Sample ID: S53042.03  
 Sample Tag: MW-9 MSD  
 Collected Date/Time: 06/27/2012 17:00  
 Matrix: Groundwater  
 COC Reference: 69294

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	HCL	Yes	5.3	IR
2	125ml Plastic	HNO3	Yes	5.3	IR
2	1L Amber	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

BNA Extraction	Completed			3510C	07/03/12 21:48	EMR		
Mercury Digestion	Completed			E245.1	07/05/12 12:25	JRH		
Mercury Digestion	Completed			E245.1	07/05/12 12:25	JRH		
Metal Digestion	Completed			3015A	07/11/12 01:00	SLR		
Metal Digestion	Completed			3015A	07/11/12 01:00	SLR		

### Metals

Arsenic, Dissolved	0.110	mg/L	0.002	E200.8	07/11/12 16:32	SLS	7440-38-2	
Arsenic	0.107	mg/L	0.002	E200.8	07/11/12 14:16	SLS	7440-38-2	
Barium, Dissolved	0.171	mg/L	0.005	E200.8	07/11/12 16:32	SLS	7440-39-3	
Barium	0.187	mg/L	0.005	E200.8	07/11/12 14:16	SLS	7440-39-3	
Cadmium, Dissolved	0.0980	mg/L	0.0005	E200.8	07/11/12 16:32	SLS	7440-43-9	
Cadmium	0.0996	mg/L	0.0005	E200.8	07/11/12 14:16	SLS	7440-43-9	
Chromium, Dissolved	0.107	mg/L	0.005	E200.8	07/11/12 16:32	SLS	7440-47-3	
Chromium	0.105	mg/L	0.005	E200.8	07/11/12 14:16	SLS	7440-47-3	
Lead, Dissolved	0.096	mg/L	0.003	E200.8	07/11/12 16:32	SLS	7439-92-1	
Lead	0.096	mg/L	0.003	E200.8	07/11/12 14:16	SLS	7439-92-1	
Mercury, Dissolved	0.0019	mg/L	0.0002	E245.1	07/05/12 16:01	JRT	7439-97-6	
Mercury	0.0019	mg/L	0.0002	E245.1	07/05/12 15:29	JRT	7439-97-6	
Selenium, Dissolved	0.127	mg/L	0.005	E200.8	07/11/12 16:32	SLS	7782-49-2	
Selenium	0.121	mg/L	0.005	E200.8	07/11/12 14:16	SLS	7782-49-2	
Silver, Dissolved	0.0975	mg/L	0.0005	E200.8	07/11/12 16:32	SLS	7440-22-4	
Silver	0.0980	mg/L	0.0005	E200.8	07/11/12 14:16	SLS	7440-22-4	

### Organics - Semi-Volatiles

#### Semi-Volatile Organics - MDEQ

Acenaphthene	37	ug/L	5	SW8270C	07/05/12 15:45	PL	83-32-9	1
Acenaphthylene	44	ug/L	5	SW8270C	07/05/12 15:45	PL	208-96-8	1
Anthracene	37	ug/L	5	SW8270C	07/05/12 15:45	PL	120-12-7	1
Benzo(a)anthracene	40	ug/L	1	SW8270C	07/05/12 15:45	PL	56-55-3	1
Benzo(b)fluoranthene	39	ug/L	1	SW8270C	07/05/12 15:45	PL	205-99-2	1
Benzo(k)fluoranthene	36	ug/L	1	SW8270C	07/05/12 15:45	PL	207-08-9	1
Benzo(ghi)perylene	38	ug/L	1	SW8270C	07/05/12 15:45	PL	191-24-2	1
Benzo(a)pyrene	39	ug/L	1	SW8270C	07/05/12 15:45	PL	50-32-8	1
bis(2-Chloroethoxy)methane	34	ug/L	5	SW8270C	07/05/12 15:45	PL	111-91-1	1
bis(2-Chloroethyl)ether	33	ug/L	5	SW8270C	07/05/12 15:45	PL	111-44-4	1
bis(2-Chloroisopropyl)ether	33	ug/L	5	SW8270C	07/05/12 15:45	PL	108-60-1	1
bis(2-Ethylhexyl)phthalate	39	ug/L	5	SW8270C	07/05/12 15:45	PL	117-81-7	1
4-Bromophenyl phenyl ether	30	ug/L	5	SW8270C	07/05/12 15:45	PL	101-55-3	1
Butyl benzyl phthalate	46	ug/L	5	SW8270C	07/05/12 15:45	PL	85-68-7	1

1-Sample spiked at 0.051 mg/l



# Analytical Laboratory Report

Lab Sample ID: S53042.03 (continued)

Sample Tag: MW-9 MSD

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Semi-Volatile Organics - MDEQ (continued)</b>								
4-Chloroaniline	24	ug/L	10	SW8270C	07/05/12 15:45	PL	106-47-8	1
2-Chloronaphthalene	34	ug/L	5	SW8270C	07/05/12 15:45	PL	91-58-7	1
4-Chloro-3-methylphenol	37	ug/L	5	SW8270C	07/05/12 15:45	PL	59-50-7	1
2-Chlorophenol	35	ug/L	10	SW8270C	07/05/12 15:45	PL	95-57-8	1
4-Chlorophenyl phenyl ether	36	ug/L	5	SW8270C	07/05/12 15:45	PL	7005-72-3	1
Chrysene	41	ug/L	1	SW8270C	07/05/12 15:45	PL	218-01-9	1
p,m-Cresol	65	ug/L	20	SW8270C	07/05/12 15:45	PL	3/4-Cresol	1
o-Cresol	35	ug/L	10	SW8270C	07/05/12 15:45	PL	95-48-7	1
Dibenzo(ah)anthracene	33	ug/L	2	SW8270C	07/05/12 15:45	PL	53-70-3	1
Dibenzofuran	37	ug/L	4	SW8270C	07/05/12 15:45	PL	132-64-9	1
di-n-Butyl phthalate	39	ug/L	5	SW8270C	07/05/12 15:45	PL	84-74-2	1
1,2-Dichlorobenzene	31	ug/L	1	SW8270C	07/05/12 15:45	PL	95-50-1	1
1,3-Dichlorobenzene	30	ug/L	1	SW8270C	07/05/12 15:45	PL	541-73-1	1
1,4-Dichlorobenzene	29	ug/L	1	SW8270C	07/05/12 15:45	PL	106-46-7	1
3,3'-Dichlorobenzidine	15	ug/L	5	SW8270C	07/05/12 15:45	PL	91-94-1	1
2,4-Dichlorophenol	35	ug/L	10	SW8270C	07/05/12 15:45	PL	120-83-2	1
Diethyl phthalate	38	ug/L	5	SW8270C	07/05/12 15:45	PL	84-66-2	1
2,4-Dimethylphenol	36	ug/L	5	SW8270C	07/05/12 15:45	PL	105-67-9	1
Dimethyl phthalate	42	ug/L	5	SW8270C	07/05/12 15:45	PL	131-11-3	1B
4,6-Dinitro-2-methylphenol	31	ug/L	20	SW8270C	07/05/12 15:45	PL	534-52-1	1
2,4-Dinitrophenol	36	ug/L	25	SW8270C	07/05/12 15:45	PL	51-28-5	1
2,4-Dinitrotoluene	32	ug/L	5	SW8270C	07/05/12 15:45	PL	121-14-2	1
2,6-Dinitrotoluene	36	ug/L	5	SW8270C	07/05/12 15:45	PL	606-20-2	1
1,2-Diphenylhydrazine	42	ug/L	5	SW8270C	07/05/12 15:45	PL	122-66-7	1
di-n-Octyl phthalate	49	ug/L	5	SW8270C	07/05/12 15:45	PL	117-84-0	1
Fluoranthene	39	ug/L	1	SW8270C	07/05/12 15:45	PL	206-44-0	1
Fluorene	37	ug/L	5	SW8270C	07/05/12 15:45	PL	86-73-7	1
Hexachlorobenzene	35	ug/L	5	SW8270C	07/05/12 15:45	PL	118-74-1	1
Hexachlorobutadiene	29	ug/L	10	SW8270C	07/05/12 15:45	PL	87-68-3	1
Hexachlorocyclopentadiene	42	ug/L	5	SW8270C	07/05/12 15:45	PL	77-47-4	1
Hexachloroethane	29	ug/L	5	SW8270C	07/05/12 15:45	PL	67-72-1	1
Indeno(1,2,3-cd)pyrene	36	ug/L	2	SW8270C	07/05/12 15:45	PL	193-39-5	1
Isophorone	45	ug/L	5	SW8270C	07/05/12 15:45	PL	78-59-1	1
2-Methylnaphthalene	34	ug/L	5	SW8270C	07/05/12 15:45	PL	91-57-6	1
Naphthalene	32	ug/L	5	SW8270C	07/05/12 15:45	PL	91-20-3	1
2-Nitroaniline	36	ug/L	25	SW8270C	07/05/12 15:45	PL	88-74-4	1
3-Nitroaniline	27	ug/L	25	SW8270C	07/05/12 15:45	PL	99-09-2	1
4-Nitroaniline	31	ug/L	25	SW8270C	07/05/12 15:45	PL	100-01-6	1
Nitrobenzene	36	ug/L	5	SW8270C	07/05/12 15:45	PL	98-95-3	1
2-Nitrophenol	30	ug/L	5	SW8270C	07/05/12 15:45	PL	88-75-5	1
4-Nitrophenol	33	ug/L	25	SW8270C	07/05/12 15:45	PL	100-02-7	1
N-Nitrosodiphenylamine	35	ug/L	5	SW8270C	07/05/12 15:45	PL	86-30-6	1
N-Nitrosodi-n-propylamine	37	ug/L	5	SW8270C	07/05/12 15:45	PL	621-64-7	1
Pentachlorophenol	26	ug/L	5	SW8270C	07/05/12 15:45	PL	87-86-5	1
Phenanthrene	37	ug/L	2	SW8270C	07/05/12 15:45	PL	85-01-8	1
Phenol	23	ug/L	5	SW8270C	07/05/12 15:45	PL	108-95-2	1
Pyrene	43	ug/L	5	SW8270C	07/05/12 15:45	PL	129-00-0	1

1-Sample spiked at 0.051 mg/l

B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S53042.03 (continued)

Sample Tag: MW-9 MSD

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Semi-Volatile Organics - MDEQ (continued)</b>								
1,2,4-Trichlorobenzene	31	ug/L	5	SW8270C	07/05/12 15:45	PL	120-82-1	1
2,4,5-Trichlorophenol	34	ug/L	5	SW8270C	07/05/12 15:45	PL	95-95-4	1
2,4,6-Trichlorophenol	34	ug/L	4	SW8270C	07/05/12 15:45	PL	88-06-2	1
<b>Organics - Volatiles</b>								
<b>Volatile Organics - DEQ List</b>								
Diethyl ether	40	ug/L	10	SW8260B	07/10/12 21:28	WAT	60-29-7	2
Acetone	Not detected	ug/L	50	SW8260B	07/10/12 21:28	WAT	67-64-1	2
Methyl iodide	45	ug/L	1	SW8260B	07/10/12 21:28	WAT	74-88-4	2
Carbon disulfide	45	ug/L	5	SW8260B	07/10/12 21:28	WAT	75-15-0	2
tert-Methyl butyl ether (MTBE)	44	ug/L	5	SW8260B	07/10/12 21:28	WAT	1634-04-4	2
Acrylonitrile	36	ug/L	2	SW8260B	07/10/12 21:28	WAT	107-13-1	2
2-Butanone (MEK)	27	ug/L	25	SW8260B	07/10/12 21:28	WAT	78-93-3	2
Dichlorodifluoromethane	33	ug/L	5	SW8260B	07/10/12 21:28	WAT	75-71-8	2
Chloromethane	42	ug/L	5	SW8260B	07/10/12 21:28	WAT	74-87-3	2
Vinyl chloride	38	ug/L	1	SW8260B	07/10/12 21:28	WAT	75-01-4	2
Bromomethane	39	ug/L	5	SW8260B	07/10/12 21:28	WAT	74-83-9	2
Chloroethane	43	ug/L	5	SW8260B	07/10/12 21:28	WAT	75-00-3	2
Trichlorofluoromethane	48	ug/L	1	SW8260B	07/10/12 21:28	WAT	75-69-4	2
1,1-Dichloroethene	45	ug/L	1	SW8260B	07/10/12 21:28	WAT	75-35-4	2
Methylene chloride	45	ug/L	5	SW8260B	07/10/12 21:28	WAT	75-09-2	2
trans-1,2-Dichloroethene	46	ug/L	1	SW8260B	07/10/12 21:28	WAT	156-60-5	2
1,1-Dichloroethane	45	ug/L	1	SW8260B	07/10/12 21:28	WAT	75-34-3	2
cis-1,2-Dichloroethene	46	ug/L	1	SW8260B	07/10/12 21:28	WAT	156-59-2	2
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	07/10/12 21:28	WAT	109-99-9	2
Chloroform	47	ug/L	1	SW8260B	07/10/12 21:28	WAT	67-66-3	2
Bromochloromethane	47	ug/L	1	SW8260B	07/10/12 21:28	WAT	74-97-5	2
1,1,1-Trichloroethane	49	ug/L	1	SW8260B	07/10/12 21:28	WAT	71-55-6	2
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	07/10/12 21:28	WAT	108-10-1	2
2-Hexanone	Not detected	ug/L	50	SW8260B	07/10/12 21:28	WAT	591-78-6	2
Carbon tetrachloride	49	ug/L	1	SW8260B	07/10/12 21:28	WAT	56-23-5	2
Benzene	47	ug/L	1	SW8260B	07/10/12 21:28	WAT	71-43-2	2
1,2-Dichloroethane	46	ug/L	1	SW8260B	07/10/12 21:28	WAT	107-06-2	2
Trichloroethene	48	ug/L	1	SW8260B	07/10/12 21:28	WAT	79-01-6	2
1,2-Dichloropropane	46	ug/L	1	SW8260B	07/10/12 21:28	WAT	78-87-5	2
Bromodichloromethane	49	ug/L	1	SW8260B	07/10/12 21:28	WAT	75-27-4	2
Dibromomethane	46	ug/L	5	SW8260B	07/10/12 21:28	WAT	74-95-3	2
cis-1,3-Dichloropropene	47	ug/L	1	SW8260B	07/10/12 21:28	WAT	10061-01-5	2
Toluene	47	ug/L	1	SW8260B	07/10/12 21:28	WAT	108-88-3	2
trans-1,3-Dichloropropene	47	ug/L	1	SW8260B	07/10/12 21:28	WAT	10061-02-6	2
1,1,2-Trichloroethane	45	ug/L	1	SW8260B	07/10/12 21:28	WAT	79-00-5	2
Tetrachloroethene	44	ug/L	1	SW8260B	07/10/12 21:28	WAT	127-18-4	2
trans-1,4-Dichloro-2-butene	36	ug/L	1	SW8260B	07/10/12 21:28	WAT	110-57-6	2
Dibromochloromethane	49	ug/L	5	SW8260B	07/10/12 21:28	WAT	124-48-1	2
1,2-Dibromoethane	44	ug/L	1	SW8260B	07/10/12 21:28	WAT	106-93-4	2
Chlorobenzene	47	ug/L	1	SW8260B	07/10/12 21:28	WAT	108-90-7	2
1,1,1,2-Tetrachloroethane	49	ug/L	1	SW8260B	07/10/12 21:28	WAT	630-20-6	2

1-Sample spiked at 0.051 mg/l

2-Spiked at 50ug/l



# Analytical Laboratory Report

Lab Sample ID: S53042.03 (continued)

Sample Tag: MW-9 MSD

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Ethylbenzene	48	ug/L	1	SW8260B	07/10/12 21:28	WAT	100-41-4	1
p,m-Xylene	91	ug/L	2	SW8260B	07/10/12 21:28	WAT		1
o-Xylene	49	ug/L	1	SW8260B	07/10/12 21:28	WAT	95-47-6	1
Styrene	45	ug/L	1	SW8260B	07/10/12 21:28	WAT	100-42-5	1
Isopropylbenzene	49	ug/L	5	SW8260B	07/10/12 21:28	WAT	98-82-8	1
Bromoform	41	ug/L	1	SW8260B	07/10/12 21:28	WAT	75-25-2	1
1,1,2,2-Tetrachloroethane	41	ug/L	1	SW8260B	07/10/12 21:28	WAT	79-34-5	1
1,2,3-Trichloropropane	40	ug/L	1	SW8260B	07/10/12 21:28	WAT	96-18-4	1
n-Propylbenzene	51	ug/L	1	SW8260B	07/10/12 21:28	WAT	103-65-1	1
Bromobenzene	49	ug/L	1	SW8260B	07/10/12 21:28	WAT	108-86-1	1
1,3,5-Trimethylbenzene	48	ug/L	1	SW8260B	07/10/12 21:28	WAT	108-67-8	1
tert-Butylbenzene	49	ug/L	1	SW8260B	07/10/12 21:28	WAT	98-06-6	1
1,2,4-Trimethylbenzene	47	ug/L	1	SW8260B	07/10/12 21:28	WAT	95-63-6	1
sec-Butylbenzene	48	ug/L	1	SW8260B	07/10/12 21:28	WAT	135-98-8	1
p-Isopropyltoluene	49	ug/L	5	SW8260B	07/10/12 21:28	WAT	99-87-6	1
1,3-Dichlorobenzene	47	ug/L	1	SW8260B	07/10/12 21:28	WAT	541-73-1	1
1,4-Dichlorobenzene	48	ug/L	1	SW8260B	07/10/12 21:28	WAT	106-46-7	1
1,2-Dichlorobenzene	48	ug/L	1	SW8260B	07/10/12 21:28	WAT	95-50-1	1
1,2,3-Trimethylbenzene	48	ug/L	1	SW8260B	07/10/12 21:28	WAT	526-73-8	1
n-Butylbenzene	49	ug/L	1	SW8260B	07/10/12 21:28	WAT	104-51-8	1
Hexachloroethane	52	ug/L	5	SW8260B	07/10/12 21:28	WAT	67-72-1	1
1,2-Dibromo-3-chloropropane	37	ug/L	5	SW8260B	07/10/12 21:28	WAT	96-12-8	1
1,2,4-Trichlorobenzene	47	ug/L	5	SW8260B	07/10/12 21:28	WAT	120-82-1	1
1,2,3-Trichlorobenzene	45	ug/L	5	SW8260B	07/10/12 21:28	WAT	87-61-6	1
Naphthalene	39	ug/L	5	SW8260B	07/10/12 21:28	WAT	91-20-3	1
2-Methylnaphthalene	40	ug/L	5	SW8260B	07/10/12 21:28	WAT	91-57-6	1

1-Spiked at 50ug/l



# Analytical Laboratory Report

Lab Sample ID: S53042.04  
 Sample Tag: MW-7  
 Collected Date/Time: 06/28/2012 11:30  
 Matrix: Groundwater  
 COC Reference: 69294

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	HCL	Yes	5.3	IR
2	125ml Plastic	HNO3	Yes	5.3	IR
2	1L Amber	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

BNA Extraction	Completed			3510C	07/03/12 21:48	EMR		
Mercury Digestion	Completed			E245.1	07/05/12 12:25	JRH		
Mercury Digestion	Completed			E245.1	07/05/12 12:25	JRH		
Metal Digestion	Completed			3015A	07/11/12 01:00	SLR		
Metal Digestion	Completed			3015A	07/11/12 01:00	SLR		

### Metals

Arsenic, Dissolved	0.023	mg/L	0.002	E200.8	07/11/12 14:02	SLS	7440-38-2	
Arsenic	0.024	mg/L	0.002	E200.8	07/11/12 13:59	SLS	7440-38-2	
Barium, Dissolved	0.090	mg/L	0.005	E200.8	07/11/12 14:02	SLS	7440-39-3	
Barium	0.092	mg/L	0.005	E200.8	07/11/12 13:59	SLS	7440-39-3	
Cadmium, Dissolved	Not detected	mg/L	0.0005	E200.8	07/11/12 14:02	SLS	7440-43-9	
Cadmium	Not detected	mg/L	0.0005	E200.8	07/11/12 13:59	SLS	7440-43-9	
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	07/11/12 14:02	SLS	7440-47-3	
Chromium	Not detected	mg/L	0.005	E200.8	07/11/12 13:59	SLS	7440-47-3	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	07/11/12 14:02	SLS	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	07/11/12 13:59	SLS	7439-92-1	
Mercury, Dissolved	Not detected	mg/L	0.0002	E245.1	07/05/12 15:18	JRT	7439-97-6	
Mercury	Not detected	mg/L	0.0002	E245.1	07/05/12 15:16	JRT	7439-97-6	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	07/11/12 14:02	SLS	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	07/11/12 13:59	SLS	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0005	E200.8	07/11/12 14:02	SLS	7440-22-4	
Silver	Not detected	mg/L	0.0005	E200.8	07/11/12 13:59	SLS	7440-22-4	

### Organics - Semi-Volatiles

#### Semi-Volatile Organics - MDEQ

Acenaphthene	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	83-32-9	
Acenaphthylene	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	208-96-8	
Anthracene	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/L	1	SW8270C	07/05/12 16:19	PL	56-55-3	
Benzo(b)fluoranthene	Not detected	ug/L	1	SW8270C	07/05/12 16:19	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/L	1	SW8270C	07/05/12 16:19	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/L	1	SW8270C	07/05/12 16:19	PL	191-24-2	
Benzo(a)pyrene	Not detected	ug/L	1	SW8270C	07/05/12 16:19	PL	50-32-8	
bis(2-Chloroethoxy)methane	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	111-91-1	
bis(2-Chloroethyl)ether	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	111-44-4	
bis(2-Chloroisopropyl)ether	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	108-60-1	
bis(2-Ethylhexyl)phthalate	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	117-81-7	
4-Bromophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	101-55-3	
Butyl benzyl phthalate	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	85-68-7	
4-Chloroaniline	Not detected	ug/L	10	SW8270C	07/05/12 16:19	PL	106-47-8	



# Analytical Laboratory Report

Lab Sample ID: S53042.04 (continued)

Sample Tag: MW-7

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Semi-Volatile Organics - MDEQ (continued)</b>								
2-Chloronaphthalene	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	91-58-7	
4-Chloro-3-methylphenol	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	59-50-7	
2-Chlorophenol	Not detected	ug/L	10	SW8270C	07/05/12 16:19	PL	95-57-8	
4-Chlorophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	7005-72-3	
Chrysene	Not detected	ug/L	1	SW8270C	07/05/12 16:19	PL	218-01-9	
p,m-Cresol	Not detected	ug/L	20	SW8270C	07/05/12 16:19	PL	3/4-Cresol	
o-Cresol	Not detected	ug/L	10	SW8270C	07/05/12 16:19	PL	95-48-7	
Dibenzo(ah)anthracene	Not detected	ug/L	2	SW8270C	07/05/12 16:19	PL	53-70-3	
Dibenzofuran	Not detected	ug/L	4	SW8270C	07/05/12 16:19	PL	132-64-9	
di-n-Butyl phthalate	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	84-74-2	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/05/12 16:19	PL	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/05/12 16:19	PL	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/05/12 16:19	PL	106-46-7	
3,3'-Dichlorobenzidine	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	91-94-1	
2,4-Dichlorophenol	Not detected	ug/L	10	SW8270C	07/05/12 16:19	PL	120-83-2	
Diethyl phthalate	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	84-66-2	
2,4-Dimethylphenol	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	105-67-9	
Dimethyl phthalate	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	131-11-3	
4,6-Dinitro-2-methylphenol	Not detected	ug/L	20	SW8270C	07/05/12 16:19	PL	534-52-1	
2,4-Dinitrophenol	Not detected	ug/L	25	SW8270C	07/05/12 16:19	PL	51-28-5	
2,4-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	121-14-2	
2,6-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	606-20-2	
1,2-Diphenylhydrazine	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	122-66-7	
di-n-Octyl phthalate	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	117-84-0	
Fluoranthene	Not detected	ug/L	1	SW8270C	07/05/12 16:19	PL	206-44-0	
Fluorene	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	86-73-7	
Hexachlorobenzene	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	118-74-1	
Hexachlorobutadiene	Not detected	ug/L	10	SW8270C	07/05/12 16:19	PL	87-68-3	
Hexachlorocyclopentadiene	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	77-47-4	
Hexachloroethane	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	ug/L	2	SW8270C	07/05/12 16:19	PL	193-39-5	
Isophorone	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	78-59-1	
2-Methylnaphthalene	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	91-57-6	
Naphthalene	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	91-20-3	
2-Nitroaniline	Not detected	ug/L	25	SW8270C	07/05/12 16:19	PL	88-74-4	
3-Nitroaniline	Not detected	ug/L	25	SW8270C	07/05/12 16:19	PL	99-09-2	
4-Nitroaniline	Not detected	ug/L	25	SW8270C	07/05/12 16:19	PL	100-01-6	
Nitrobenzene	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	98-95-3	
2-Nitrophenol	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	88-75-5	
4-Nitrophenol	Not detected	ug/L	25	SW8270C	07/05/12 16:19	PL	100-02-7	
N-Nitrosodiphenylamine	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	86-30-6	
N-Nitrosodi-n-propylamine	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	621-64-7	
Pentachlorophenol	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	87-86-5	
Phenanthrene	Not detected	ug/L	2	SW8270C	07/05/12 16:19	PL	85-01-8	
Phenol	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	108-95-2	
Pyrene	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	129-00-0	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	120-82-1	
2,4,5-Trichlorophenol	Not detected	ug/L	5	SW8270C	07/05/12 16:19	PL	95-95-4	
2,4,6-Trichlorophenol	Not detected	ug/L	4	SW8270C	07/05/12 16:19	PL	88-06-2	



# Analytical Laboratory Report

Lab Sample ID: S53042.04 (continued)

Sample Tag: MW-7

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles</b>								
<b>Volatile Organics - DEQ List</b>								
Diethyl ether	Not detected	ug/L	10	SW8260B	07/10/12 15:14	WAT	60-29-7	
Acetone	Not detected	ug/L	50	SW8260B	07/10/12 15:14	WAT	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW8260B	07/10/12 15:14	WAT	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	07/10/12 15:14	WAT	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW8260B	07/10/12 15:14	WAT	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	07/10/12 15:14	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	07/10/12 15:14	WAT	75-71-8	
Chloromethane	Not detected	ug/L	5	SW8260B	07/10/12 15:14	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	75-01-4	
Bromomethane	Not detected	ug/L	5	SW8260B	07/10/12 15:14	WAT	74-83-9	
Chloroethane	Not detected	ug/L	5	SW8260B	07/10/12 15:14	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW8260B	07/10/12 15:14	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	156-59-2	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	07/10/12 15:14	WAT	109-99-9	
Chloroform	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	07/10/12 15:14	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW8260B	07/10/12 15:14	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW8260B	07/10/12 15:14	WAT	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	07/10/12 15:14	WAT	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260B	07/10/12 15:14	WAT		
o-Xylene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	07/10/12 15:14	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	96-18-4	



# Analytical Laboratory Report

Lab Sample ID: S53042.04 (continued)

Sample Tag: MW-7

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
n-Propylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	07/10/12 15:14	WAT	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:14	WAT	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW8260B	07/10/12 15:14	WAT	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	07/10/12 15:14	WAT	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 15:14	WAT	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 15:14	WAT	87-61-6	
Naphthalene	Not detected	ug/L	5	SW8260B	07/10/12 15:14	WAT	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	07/10/12 15:14	WAT	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S53042.05  
 Sample Tag: MW-7 Co-Located  
 Collected Date/Time: 06/28/2012 11:30  
 Matrix: Groundwater  
 COC Reference: 69294

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	HCL	Yes	5.3	IR
2	125ml Plastic	HNO3	Yes	5.3	IR
2	1L Amber	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

BNA Extraction	Completed			3510C	07/03/12 21:48	EMR		
Mercury Digestion	Completed			E245.1	07/05/12 12:25	JRH		
Mercury Digestion	Completed			E245.1	07/05/12 12:25	JRH		
Metal Digestion	Completed			3015A	07/11/12 01:00	SLR		
Metal Digestion	Completed			3015A	07/11/12 01:00	SLR		

### Metals

Arsenic, Dissolved	0.024	mg/L	0.002	E200.8	07/11/12 16:35	SLS	7440-38-2	
Arsenic	0.029	mg/L	0.002	E200.8	07/11/12 14:05	SLS	7440-38-2	
Barium, Dissolved	0.090	mg/L	0.005	E200.8	07/11/12 16:35	SLS	7440-39-3	
Barium	0.112	mg/L	0.005	E200.8	07/11/12 14:05	SLS	7440-39-3	
Cadmium, Dissolved	Not detected	mg/L	0.0005	E200.8	07/11/12 16:35	SLS	7440-43-9	
Cadmium	Not detected	mg/L	0.0005	E200.8	07/11/12 14:05	SLS	7440-43-9	
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	07/11/12 16:35	SLS	7440-47-3	
Chromium	Not detected	mg/L	0.005	E200.8	07/11/12 14:05	SLS	7440-47-3	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	07/11/12 16:35	SLS	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	07/11/12 14:05	SLS	7439-92-1	
Mercury, Dissolved	Not detected	mg/L	0.0002	E245.1	07/05/12 15:23	JRT	7439-97-6	
Mercury	Not detected	mg/L	0.0002	E245.1	07/05/12 15:20	JRT	7439-97-6	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	07/11/12 16:35	SLS	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	07/11/12 14:05	SLS	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0005	E200.8	07/11/12 16:35	SLS	7440-22-4	
Silver	Not detected	mg/L	0.0005	E200.8	07/11/12 14:05	SLS	7440-22-4	

### Organics - Semi-Volatiles

#### Semi-Volatile Organics - MDEQ

Acenaphthene	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	83-32-9	
Acenaphthylene	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	208-96-8	
Anthracene	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/L	1	SW8270C	07/05/12 16:54	PL	56-55-3	
Benzo(b)fluoranthene	Not detected	ug/L	1	SW8270C	07/05/12 16:54	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/L	1	SW8270C	07/05/12 16:54	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/L	1	SW8270C	07/05/12 16:54	PL	191-24-2	
Benzo(a)pyrene	Not detected	ug/L	1	SW8270C	07/05/12 16:54	PL	50-32-8	
bis(2-Chloroethoxy)methane	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	111-91-1	
bis(2-Chloroethyl)ether	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	111-44-4	
bis(2-Chloroisopropyl)ether	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	108-60-1	
bis(2-Ethylhexyl)phthalate	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	117-81-7	
4-Bromophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	101-55-3	
Butyl benzyl phthalate	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	85-68-7	
4-Chloroaniline	Not detected	ug/L	10	SW8270C	07/05/12 16:54	PL	106-47-8	



# Analytical Laboratory Report

Lab Sample ID: S53042.05 (continued)

Sample Tag: MW-7 Co-Located

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Semi-Volatile Organics - MDEQ (continued)</b>								
2-Chloronaphthalene	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	91-58-7	
4-Chloro-3-methylphenol	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	59-50-7	
2-Chlorophenol	Not detected	ug/L	10	SW8270C	07/05/12 16:54	PL	95-57-8	
4-Chlorophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	7005-72-3	
Chrysene	Not detected	ug/L	1	SW8270C	07/05/12 16:54	PL	218-01-9	
p,m-Cresol	Not detected	ug/L	20	SW8270C	07/05/12 16:54	PL	3/4-Cresol	
o-Cresol	Not detected	ug/L	10	SW8270C	07/05/12 16:54	PL	95-48-7	
Dibenzo(ah)anthracene	Not detected	ug/L	2	SW8270C	07/05/12 16:54	PL	53-70-3	
Dibenzofuran	Not detected	ug/L	4	SW8270C	07/05/12 16:54	PL	132-64-9	
di-n-Butyl phthalate	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	84-74-2	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/05/12 16:54	PL	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/05/12 16:54	PL	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/05/12 16:54	PL	106-46-7	
3,3'-Dichlorobenzidine	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	91-94-1	
2,4-Dichlorophenol	Not detected	ug/L	10	SW8270C	07/05/12 16:54	PL	120-83-2	
Diethyl phthalate	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	84-66-2	
2,4-Dimethylphenol	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	105-67-9	
Dimethyl phthalate	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	131-11-3	
4,6-Dinitro-2-methylphenol	Not detected	ug/L	20	SW8270C	07/05/12 16:54	PL	534-52-1	
2,4-Dinitrophenol	Not detected	ug/L	25	SW8270C	07/05/12 16:54	PL	51-28-5	
2,4-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	121-14-2	
2,6-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	606-20-2	
1,2-Diphenylhydrazine	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	122-66-7	
di-n-Octyl phthalate	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	117-84-0	
Fluoranthene	Not detected	ug/L	1	SW8270C	07/05/12 16:54	PL	206-44-0	
Fluorene	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	86-73-7	
Hexachlorobenzene	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	118-74-1	
Hexachlorobutadiene	Not detected	ug/L	10	SW8270C	07/05/12 16:54	PL	87-68-3	
Hexachlorocyclopentadiene	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	77-47-4	
Hexachloroethane	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	ug/L	2	SW8270C	07/05/12 16:54	PL	193-39-5	
Isophorone	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	78-59-1	
2-Methylnaphthalene	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	91-57-6	
Naphthalene	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	91-20-3	
2-Nitroaniline	Not detected	ug/L	25	SW8270C	07/05/12 16:54	PL	88-74-4	
3-Nitroaniline	Not detected	ug/L	25	SW8270C	07/05/12 16:54	PL	99-09-2	
4-Nitroaniline	Not detected	ug/L	25	SW8270C	07/05/12 16:54	PL	100-01-6	
Nitrobenzene	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	98-95-3	
2-Nitrophenol	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	88-75-5	
4-Nitrophenol	Not detected	ug/L	25	SW8270C	07/05/12 16:54	PL	100-02-7	
N-Nitrosodiphenylamine	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	86-30-6	
N-Nitrosodi-n-propylamine	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	621-64-7	
Pentachlorophenol	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	87-86-5	
Phenanthrene	Not detected	ug/L	2	SW8270C	07/05/12 16:54	PL	85-01-8	
Phenol	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	108-95-2	
Pyrene	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	129-00-0	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	120-82-1	
2,4,5-Trichlorophenol	Not detected	ug/L	5	SW8270C	07/05/12 16:54	PL	95-95-4	
2,4,6-Trichlorophenol	Not detected	ug/L	4	SW8270C	07/05/12 16:54	PL	88-06-2	



# Analytical Laboratory Report

Lab Sample ID: S53042.05 (continued)

Sample Tag: MW-7 Co-Located

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles</b>								
<b>Volatile Organics - DEQ List</b>								
Diethyl ether	Not detected	ug/L	10	SW8260B	07/10/12 15:36	WAT	60-29-7	
Acetone	Not detected	ug/L	50	SW8260B	07/10/12 15:36	WAT	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW8260B	07/10/12 15:36	WAT	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	07/10/12 15:36	WAT	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW8260B	07/10/12 15:36	WAT	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	07/10/12 15:36	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	07/10/12 15:36	WAT	75-71-8	
Chloromethane	Not detected	ug/L	5	SW8260B	07/10/12 15:36	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	75-01-4	
Bromomethane	Not detected	ug/L	5	SW8260B	07/10/12 15:36	WAT	74-83-9	
Chloroethane	Not detected	ug/L	5	SW8260B	07/10/12 15:36	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW8260B	07/10/12 15:36	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	156-59-2	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	07/10/12 15:36	WAT	109-99-9	
Chloroform	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	07/10/12 15:36	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW8260B	07/10/12 15:36	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW8260B	07/10/12 15:36	WAT	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	07/10/12 15:36	WAT	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260B	07/10/12 15:36	WAT		
o-Xylene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	07/10/12 15:36	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	96-18-4	



# Analytical Laboratory Report

Lab Sample ID: S53042.05 (continued)

Sample Tag: MW-7 Co-Located

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
n-Propylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	07/10/12 15:36	WAT	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:36	WAT	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW8260B	07/10/12 15:36	WAT	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	07/10/12 15:36	WAT	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 15:36	WAT	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 15:36	WAT	87-61-6	
Naphthalene	Not detected	ug/L	5	SW8260B	07/10/12 15:36	WAT	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	07/10/12 15:36	WAT	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S53042.06  
 Sample Tag: TB-1 (Trip Blank)  
 Collected Date/Time: 06/28/2012 00:01  
 Matrix: Groundwater  
 COC Reference: 69294

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Organics - Volatiles

#### Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW8260B	07/10/12 15:58	WAT	60-29-7	
Acetone	Not detected	ug/L	50	SW8260B	07/10/12 15:58	WAT	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW8260B	07/10/12 15:58	WAT	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	07/10/12 15:58	WAT	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW8260B	07/10/12 15:58	WAT	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	07/10/12 15:58	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	07/10/12 15:58	WAT	75-71-8	
Chloromethane	Not detected	ug/L	5	SW8260B	07/10/12 15:58	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	75-01-4	
Bromomethane	Not detected	ug/L	5	SW8260B	07/10/12 15:58	WAT	74-83-9	
Chloroethane	Not detected	ug/L	5	SW8260B	07/10/12 15:58	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW8260B	07/10/12 15:58	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	156-59-2	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	07/10/12 15:58	WAT	109-99-9	
Chloroform	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	07/10/12 15:58	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW8260B	07/10/12 15:58	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW8260B	07/10/12 15:58	WAT	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	07/10/12 15:58	WAT	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	100-41-4	



# Analytical Laboratory Report

Lab Sample ID: S53042.06 (continued)

Sample Tag: TB-1 (Trip Blank)

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
p,m-Xylene	Not detected	ug/L	2	SW8260B	07/10/12 15:58	WAT		
o-Xylene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	07/10/12 15:58	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	07/10/12 15:58	WAT	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 15:58	WAT	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW8260B	07/10/12 15:58	WAT	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	07/10/12 15:58	WAT	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 15:58	WAT	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 15:58	WAT	87-61-6	
Naphthalene	Not detected	ug/L	5	SW8260B	07/10/12 15:58	WAT	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	07/10/12 15:58	WAT	91-57-6	



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C.O.C. PAGE # 1 OF 1

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**REPORT TO**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

CONTACT NAME *Clifford Yantz*  
 COMPANY *O'Brien & Gere*  
 ADDRESS *37000 Grand River Ste 260*  
 CITY *Farmington Hills* STATE *MI* ZIP CODE *48335*  
 PHONE NO. *248-477-5761* FAX NO. \_\_\_\_\_ P.O. NO. *125045.07.07*  
 E-MAIL ADDRESS *clifford.yantz@obg.com* QUOTE NO. \_\_\_\_\_

CONTACT NAME *Dave Favero*  SAME  
 COMPANY *RACER Trust*  
 ADDRESS *2930 Ecorse Rd*  
 CITY *Ypsilanti* STATE *MI* ZIP CODE *48197*  
 PHONE NO. *217-741-6235* E-MAIL ADDRESS \_\_\_\_\_

**ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)**

PROJECT NO./NAME *RACER Dort Hwy Land* SAMPLER(S) - PLEASE PRINT/SIGN NAME *Karin Schneider*  
 TURNAROUND TIME REQUIRED  1 DAY  2 DAYS  3 DAYS  STANDARD  OTHER \_\_\_\_\_  
 DELIVERABLES REQUIRED  LEVEL II  LEVEL III  LEVEL IV  EDD  OTHER \_\_\_\_\_

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID  
 SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

# Containers & Preservatives

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	OTHER
	DATE	TIME										
<i>53042.01</i>	<i>6/27/12</i>	<i>1700</i>	<i>MW-9</i>	<i>GW</i>	<i>6</i>	<i>2</i>	<i>2</i>	<i>2</i>				
<i>.02103</i>	<i>6/27/12</i>	<i>1700</i>	<i>MW-9 MS/MSD</i>	<i>GW</i>	<i>12</i>	<i>4</i>	<i>4</i>	<i>4</i>				
<i>.04</i>	<i>6/28/12</i>	<i>1130</i>	<i>MW-7</i>	<i>GW</i>	<i>6</i>	<i>2</i>	<i>2</i>	<i>2</i>				
<i>.05</i>	<i>6/28/12</i>	<i>1130</i>	<i>MW-7 CO-LOCATED</i>	<i>GW</i>	<i>6</i>	<i>2</i>	<i>2</i>	<i>2</i>				
<i>.06</i>	<i>6/28/12</i>	<i>—</i>	<i>TB-1 (Trip Blank)</i>	<i>QC</i>	<i>1</i>	<i>1</i>						

VOCs	SVOCs	Total RCRA METALS	Dissolved RCRA METALS
<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>
<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>
<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>
<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>
<i>X</i>			

Certifications  
 OHIO VAP  Drinking Water  
 DoD  NPDES  
 Project Locations  
 Detroit  New York  
 Other *MI Grand Blanc*  
 Special Instructions

RELINQUISHED BY: *[Signature]* *O'Brien & Gere* DATE *6/28/12* TIME *1310*  
 RELINQUISHED BY: *[Signature]* DATE *6/28/12* TIME *1310*  
 RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_

RELINQUISHED BY: *[Signature]* DATE *6/28/12* TIME *1415*  
 RELINQUISHED BY: *[Signature]* DATE *6/28/12* TIME *1415*  
 SEAL NO. SEAL INTACT YES  NO  INITIALS \_\_\_\_\_  
 SEAL NO. SEAL INTACT YES  NO  INITIALS \_\_\_\_\_  
 NOTES: TEMP. ON ARRIVAL *5.3*

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE



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C.O.C. PAGE # 1 OF 1

69294

**REPORT TO** **CHAIN OF CUSTODY RECORD** **INVOICE TO**

CONTACT NAME Clifford Yantz  
 COMPANY O'Brien & Gere  
 ADDRESS 37000 Grand River Ste 260  
 CITY Farmington Hills STATE MI ZIP CODE 48335  
 PHONE NO. 248-477-5781 FAX NO. \_\_\_\_\_ P.O. NO. 125045.07.07  
 E-MAIL ADDRESS clifford.yantz@obg.com QUOTE NO. \_\_\_\_\_

CONTACT NAME Dave Favero  SAME  
 COMPANY RACER TRUST  
 ADDRESS 2930 Ecorse Rd  
 CITY Ypsilanti STATE MI ZIP CODE 48197  
 PHONE NO. 248-741-6035 E-MAIL ADDRESS \_\_\_\_\_

**ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)**

PROJECT NO./NAME RACER Dort Hwy Land #12960 TASK 07 SAMPLER(S) - PLEASE PRINT/SIGN NAME Kara Schneider  
 TURNAROUND TIME REQUIRED  1 DAY  2 DAYS  3 DAYS  STANDARD  OTHER \_\_\_\_\_  
 DELIVERABLES REQUIRED  LEVEL II  LEVEL III  LEVEL IV  EDD  OTHER \_\_\_\_\_

Certifications  
 OHIO VAP  Drinking Water  
 DoD  NPDES  
 Project Locations  
 Detroit  New York  
 Other Grand Blanc, MI  
 Special Instructions \_\_\_\_\_

MERIT LAB NO.	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives								VOCs	SVOCs	Total RCPA METALS	Dissolved RCPA METALS
	DATE	TIME				NONE	10	100	1000	10000	100000	1000000	OTHER				
<u>530460</u>	<u>6/27/12</u>	<u>1700</u>	<u>MW-9</u>	<u>GW</u>	<u>6</u>	<u>2</u>	<u>2</u>	<u>2</u>					<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	
<u>02605</u>	<u>6/27/12</u>	<u>1700</u>	<u>MW-9 MS/MSD</u>	<u>GW</u>	<u>12</u>	<u>4</u>	<u>4</u>	<u>4</u>					<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	
<u>04</u>	<u>6/28/12</u>	<u>1130</u>	<u>MW-7</u>	<u>GW</u>	<u>6</u>	<u>2</u>	<u>2</u>	<u>2</u>					<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	
<u>05</u>	<u>6/28/12</u>	<u>1130</u>	<u>MW-7 CO-LOCATED</u>	<u>GW</u>	<u>6</u>	<u>2</u>	<u>2</u>	<u>2</u>					<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	
<u>06</u>	<u>6/28/12</u>	<u>---</u>	<u>TB-1 (Trip Blank)</u>	<u>QL</u>	<u>1</u>	<u>1</u>							<u>X</u>				

RELINQUISHED BY: Kara Schneider (Sampler) DATE 6/28/12 TIME 1310  
 SIGNATURE/ORGANIZATION O'Brien & Gere  
 RELINQUISHED BY: [Signature] DATE 6/28/12 TIME 1310  
 SIGNATURE/ORGANIZATION \_\_\_\_\_  
 RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 SIGNATURE/ORGANIZATION \_\_\_\_\_  
 RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 SIGNATURE/ORGANIZATION \_\_\_\_\_

RELINQUISHED BY: [Signature] DATE 6/28/12 TIME 1415  
 SIGNATURE/ORGANIZATION \_\_\_\_\_  
 RELINQUISHED BY: [Signature] DATE 6/28/12 TIME 1415  
 SIGNATURE/ORGANIZATION \_\_\_\_\_  
 SEAL NO. \_\_\_\_\_ SEAL INTACT YES  NO  INITIALS \_\_\_\_\_  
 SEAL NO. \_\_\_\_\_ SEAL INTACT YES  NO  INITIALS \_\_\_\_\_  
 NOTES: \_\_\_\_\_ TEMP. ON ARRIVAL 5.3

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE



# Analytical Laboratory Report

Report ID: S53059.01(01)  
Generated on 07/12/2012

Report to

Attention: Clifford Yantz  
O'Brien & Gere Engineers, Inc.  
37000 Grand River Ave.  
Suite 260  
Farmington, MI 48335

Phone: 248-477-5701 FAX:  
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): S53059.01-S53059.07  
Project: RACER Dort Hwy Land  
Collected Date: 06/28/2012 - 06/29/2012  
Submitted Date/Time: 06/29/2012 14:40  
Sampled by: Kevin Schneider  
P.O. #: PO125045

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 RL.  
Samples are held by the lab for 30 days from the sample submittal date unless a written request to hold longer is provided by the client.  
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Laboratory Certifications:

Michigan DNRE (#9956), DOD/ISO 17025 (#L11-184), WBENC (#2005110032)  
Ohio EPA (#CL0002), IN Drinking Water (#C-MI-07), NELAC NY (#11814), NELAC FL (#E871045)  
Some analytes reported may not be certified. Full certification lists are available upon request.

Violetta F. Murshak  
Laboratory Director



# Analytical Laboratory Report

## Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S53059.01	MW-1	Groundwater	06/28/2012 14:35
S53059.02	MW-2	Groundwater	06/28/2012 17:00
S53059.03	MW2-1	Groundwater	06/28/2012 18:40
S53059.04	MW-4	Groundwater	06/29/2012 09:40
S53059.05	MW-3	Groundwater	06/29/2012 11:50
S53059.06	MW-5	Groundwater	06/29/2012 12:35
S53059.07	TB-2 (Trip Blank)	Groundwater	06/29/2012 00:01



# Analytical Laboratory Report

Lab Sample ID: S53059.01  
 Sample Tag: MW-1  
 Collected Date/Time: 06/28/2012 14:35  
 Matrix: Groundwater  
 COC Reference: 65462

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	HCL	Yes	5.3	IR
2	125ml Plastic	HNO3	Yes	5.3	IR
2	1L Amber	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

BNA Extraction	Completed			3510C	07/05/12 18:32	EMR		
Mercury Digestion	Completed			E245.1	07/05/12 12:25	JRH		
Mercury Digestion	Completed			E245.1	07/05/12 12:25	JRH		
Metal Digestion	Completed			3015A	07/11/12 01:00	SLR		
Metal Digestion	Completed			3015A	07/11/12 01:00	SLR		

### Metals

Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	07/11/12 16:03	SLS	7440-38-2	
Arsenic	Not detected	mg/L	0.002	E200.8	07/11/12 16:00	SLS	7440-38-2	
Barium, Dissolved	0.084	mg/L	0.005	E200.8	07/11/12 16:03	SLS	7440-39-3	
Barium	0.098	mg/L	0.005	E200.8	07/11/12 16:00	SLS	7440-39-3	
Cadmium, Dissolved	Not detected	mg/L	0.0005	E200.8	07/11/12 16:03	SLS	7440-43-9	
Cadmium	Not detected	mg/L	0.0005	E200.8	07/11/12 16:00	SLS	7440-43-9	
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	07/11/12 16:03	SLS	7440-47-3	
Chromium	Not detected	mg/L	0.005	E200.8	07/11/12 16:00	SLS	7440-47-3	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	07/11/12 16:03	SLS	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	07/11/12 16:00	SLS	7439-92-1	
Mercury, Dissolved	Not detected	mg/L	0.0002	E245.1	07/05/12 15:38	JRT	7439-97-6	
Mercury	Not detected	mg/L	0.0002	E245.1	07/05/12 15:36	JRT	7439-97-6	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	07/11/12 16:03	SLS	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	07/11/12 16:00	SLS	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0005	E200.8	07/11/12 16:03	SLS	7440-22-4	
Silver	Not detected	mg/L	0.0005	E200.8	07/11/12 16:00	SLS	7440-22-4	

### Organics - Semi-Volatiles

#### Semi-Volatile Organics - MDEQ

Acenaphthene	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	83-32-9	
Acenaphthylene	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	208-96-8	
Anthracene	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/L	1	SW8270C	07/06/12 13:48	PL	56-55-3	
Benzo(b)fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 13:48	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 13:48	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/L	1	SW8270C	07/06/12 13:48	PL	191-24-2	
Benzo(a)pyrene	Not detected	ug/L	1	SW8270C	07/06/12 13:48	PL	50-32-8	
bis(2-Chloroethoxy)methane	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	111-91-1	
bis(2-Chloroethyl)ether	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	111-44-4	
bis(2-Chloroisopropyl)ether	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	108-60-1	
bis(2-Ethylhexyl)phthalate	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	117-81-7	
4-Bromophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	101-55-3	
Butyl benzyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	85-68-7	
4-Chloroaniline	Not detected	ug/L	10	SW8270C	07/06/12 13:48	PL	106-47-8	



# Analytical Laboratory Report

Lab Sample ID: S53059.01 (continued)

Sample Tag: MW-1

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Semi-Volatile Organics - MDEQ (continued)</b>								
2-Chloronaphthalene	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	91-58-7	
4-Chloro-3-methylphenol	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	59-50-7	
2-Chlorophenol	Not detected	ug/L	10	SW8270C	07/06/12 13:48	PL	95-57-8	
4-Chlorophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	7005-72-3	
Chrysene	Not detected	ug/L	1	SW8270C	07/06/12 13:48	PL	218-01-9	
p,m-Cresol	Not detected	ug/L	20	SW8270C	07/06/12 13:48	PL	3/4-Cresol	
o-Cresol	Not detected	ug/L	10	SW8270C	07/06/12 13:48	PL	95-48-7	
Dibenzo(ah)anthracene	Not detected	ug/L	2	SW8270C	07/06/12 13:48	PL	53-70-3	
Dibenzofuran	Not detected	ug/L	4	SW8270C	07/06/12 13:48	PL	132-64-9	
di-n-Butyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	84-74-2	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 13:48	PL	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 13:48	PL	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 13:48	PL	106-46-7	
3,3'-Dichlorobenzidine	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	91-94-1	
2,4-Dichlorophenol	Not detected	ug/L	10	SW8270C	07/06/12 13:48	PL	120-83-2	
Diethyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	84-66-2	
2,4-Dimethylphenol	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	105-67-9	
Dimethyl phthalate	10	ug/L	5	SW8270C	07/06/12 13:48	PL	131-11-3	B
4,6-Dinitro-2-methylphenol	Not detected	ug/L	20	SW8270C	07/06/12 13:48	PL	534-52-1	
2,4-Dinitrophenol	Not detected	ug/L	25	SW8270C	07/06/12 13:48	PL	51-28-5	
2,4-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	121-14-2	
2,6-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	606-20-2	
1,2-Diphenylhydrazine	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	122-66-7	
di-n-Octyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	117-84-0	
Fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 13:48	PL	206-44-0	
Fluorene	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	86-73-7	
Hexachlorobenzene	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	118-74-1	
Hexachlorobutadiene	Not detected	ug/L	10	SW8270C	07/06/12 13:48	PL	87-68-3	
Hexachlorocyclopentadiene	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	77-47-4	
Hexachloroethane	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	ug/L	2	SW8270C	07/06/12 13:48	PL	193-39-5	
Isophorone	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	78-59-1	
2-Methylnaphthalene	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	91-57-6	
Naphthalene	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	91-20-3	
2-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 13:48	PL	88-74-4	
3-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 13:48	PL	99-09-2	
4-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 13:48	PL	100-01-6	
Nitrobenzene	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	98-95-3	
2-Nitrophenol	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	88-75-5	
4-Nitrophenol	Not detected	ug/L	25	SW8270C	07/06/12 13:48	PL	100-02-7	
N-Nitrosodiphenylamine	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	86-30-6	
N-Nitrosodi-n-propylamine	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	621-64-7	
Pentachlorophenol	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	87-86-5	
Phenanthrene	Not detected	ug/L	2	SW8270C	07/06/12 13:48	PL	85-01-8	
Phenol	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	108-95-2	
Pyrene	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	129-00-0	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	120-82-1	
2,4,5-Trichlorophenol	Not detected	ug/L	5	SW8270C	07/06/12 13:48	PL	95-95-4	

B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S53059.01 (continued)

Sample Tag: MW-1

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Semi-Volatile Organics - MDEQ (continued)</b>								
2,4,6-Trichlorophenol	Not detected	ug/L	4	SW8270C	07/06/12 13:48	PL	88-06-2	
<b>Organics - Volatiles</b>								
<b>Volatile Organics - DEQ List</b>								
Diethyl ether	Not detected	ug/L	10	SW8260B	07/10/12 16:20	WAT	60-29-7	
Acetone	Not detected	ug/L	50	SW8260B	07/10/12 16:20	WAT	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW8260B	07/10/12 16:20	WAT	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	07/10/12 16:20	WAT	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW8260B	07/10/12 16:20	WAT	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	07/10/12 16:20	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	07/10/12 16:20	WAT	75-71-8	
Chloromethane	Not detected	ug/L	5	SW8260B	07/10/12 16:20	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	75-01-4	
Bromomethane	Not detected	ug/L	5	SW8260B	07/10/12 16:20	WAT	74-83-9	
Chloroethane	Not detected	ug/L	5	SW8260B	07/10/12 16:20	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW8260B	07/10/12 16:20	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	156-59-2	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	07/10/12 16:20	WAT	109-99-9	
Chloroform	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	07/10/12 16:20	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW8260B	07/10/12 16:20	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW8260B	07/10/12 16:20	WAT	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	07/10/12 16:20	WAT	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260B	07/10/12 16:20	WAT		
o-Xylene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	100-42-5	



# Analytical Laboratory Report

Lab Sample ID: S53059.01 (continued)

Sample Tag: MW-1

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Isopropylbenzene	Not detected	ug/L	5	SW8260B	07/10/12 16:20	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	07/10/12 16:20	WAT	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:20	WAT	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW8260B	07/10/12 16:20	WAT	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	07/10/12 16:20	WAT	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 16:20	WAT	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 16:20	WAT	87-61-6	
Naphthalene	Not detected	ug/L	5	SW8260B	07/10/12 16:20	WAT	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	07/10/12 16:20	WAT	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S53059.02  
 Sample Tag: MW-2  
 Collected Date/Time: 06/28/2012 17:00  
 Matrix: Groundwater  
 COC Reference: 65462

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	HCL	Yes	5.3	IR
2	125ml Plastic	HNO3	Yes	5.3	IR
2	1L Amber	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

BNA Extraction	Completed			3510C	07/05/12 18:32	EMR		
Mercury Digestion	Completed			E245.1	07/05/12 12:25	JRH		
Mercury Digestion	Completed			E245.1	07/05/12 12:25	JRH		
Metal Digestion	Completed			3015A	07/11/12 01:00	SLR		
Metal Digestion	Completed			3015A	07/11/12 01:00	SLR		

### Metals

Arsenic, Dissolved	0.027	mg/L	0.002	E200.8	07/11/12 16:09	SLS	7440-38-2	
Arsenic	0.028	mg/L	0.002	E200.8	07/11/12 16:06	SLS	7440-38-2	
Barium, Dissolved	0.042	mg/L	0.005	E200.8	07/11/12 16:09	SLS	7440-39-3	
Barium	0.045	mg/L	0.005	E200.8	07/11/12 16:06	SLS	7440-39-3	
Cadmium, Dissolved	Not detected	mg/L	0.0005	E200.8	07/11/12 16:09	SLS	7440-43-9	
Cadmium	Not detected	mg/L	0.0005	E200.8	07/11/12 16:06	SLS	7440-43-9	
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	07/11/12 16:09	SLS	7440-47-3	
Chromium	Not detected	mg/L	0.005	E200.8	07/11/12 16:06	SLS	7440-47-3	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	07/11/12 16:09	SLS	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	07/11/12 16:06	SLS	7439-92-1	
Mercury, Dissolved	Not detected	mg/L	0.0002	E245.1	07/05/12 15:43	JRT	7439-97-6	
Mercury	Not detected	mg/L	0.0002	E245.1	07/05/12 15:41	JRT	7439-97-6	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	07/11/12 16:09	SLS	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	07/11/12 16:06	SLS	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0005	E200.8	07/11/12 16:09	SLS	7440-22-4	
Silver	Not detected	mg/L	0.0005	E200.8	07/11/12 16:06	SLS	7440-22-4	

### Organics - Semi-Volatiles

#### Semi-Volatile Organics - MDEQ

Acenaphthene	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	83-32-9	
Acenaphthylene	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	208-96-8	
Anthracene	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/L	1	SW8270C	07/06/12 14:24	PL	56-55-3	
Benzo(b)fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 14:24	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 14:24	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/L	1	SW8270C	07/06/12 14:24	PL	191-24-2	
Benzo(a)pyrene	Not detected	ug/L	1	SW8270C	07/06/12 14:24	PL	50-32-8	
bis(2-Chloroethoxy)methane	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	111-91-1	
bis(2-Chloroethyl)ether	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	111-44-4	
bis(2-Chloroisopropyl)ether	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	108-60-1	
bis(2-Ethylhexyl)phthalate	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	117-81-7	
4-Bromophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	101-55-3	
Butyl benzyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	85-68-7	
4-Chloroaniline	Not detected	ug/L	10	SW8270C	07/06/12 14:24	PL	106-47-8	



# Analytical Laboratory Report

Lab Sample ID: S53059.02 (continued)

Sample Tag: MW-2

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Semi-Volatile Organics - MDEQ (continued)</b>								
2-Chloronaphthalene	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	91-58-7	
4-Chloro-3-methylphenol	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	59-50-7	
2-Chlorophenol	Not detected	ug/L	10	SW8270C	07/06/12 14:24	PL	95-57-8	
4-Chlorophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	7005-72-3	
Chrysene	Not detected	ug/L	1	SW8270C	07/06/12 14:24	PL	218-01-9	
p,m-Cresol	Not detected	ug/L	20	SW8270C	07/06/12 14:24	PL	3/4-Cresol	
o-Cresol	Not detected	ug/L	10	SW8270C	07/06/12 14:24	PL	95-48-7	
Dibenzo(ah)anthracene	Not detected	ug/L	2	SW8270C	07/06/12 14:24	PL	53-70-3	
Dibenzofuran	Not detected	ug/L	4	SW8270C	07/06/12 14:24	PL	132-64-9	
di-n-Butyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	84-74-2	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 14:24	PL	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 14:24	PL	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 14:24	PL	106-46-7	
3,3'-Dichlorobenzidine	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	91-94-1	
2,4-Dichlorophenol	Not detected	ug/L	10	SW8270C	07/06/12 14:24	PL	120-83-2	
Diethyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	84-66-2	
2,4-Dimethylphenol	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	105-67-9	
Dimethyl phthalate	5	ug/L	5	SW8270C	07/06/12 14:24	PL	131-11-3	B
4,6-Dinitro-2-methylphenol	Not detected	ug/L	20	SW8270C	07/06/12 14:24	PL	534-52-1	
2,4-Dinitrophenol	Not detected	ug/L	25	SW8270C	07/06/12 14:24	PL	51-28-5	
2,4-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	121-14-2	
2,6-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	606-20-2	
1,2-Diphenylhydrazine	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	122-66-7	
di-n-Octyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	117-84-0	
Fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 14:24	PL	206-44-0	
Fluorene	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	86-73-7	
Hexachlorobenzene	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	118-74-1	
Hexachlorobutadiene	Not detected	ug/L	10	SW8270C	07/06/12 14:24	PL	87-68-3	
Hexachlorocyclopentadiene	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	77-47-4	
Hexachloroethane	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	ug/L	2	SW8270C	07/06/12 14:24	PL	193-39-5	
Isophorone	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	78-59-1	
2-Methylnaphthalene	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	91-57-6	
Naphthalene	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	91-20-3	
2-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 14:24	PL	88-74-4	
3-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 14:24	PL	99-09-2	
4-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 14:24	PL	100-01-6	
Nitrobenzene	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	98-95-3	
2-Nitrophenol	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	88-75-5	
4-Nitrophenol	Not detected	ug/L	25	SW8270C	07/06/12 14:24	PL	100-02-7	
N-Nitrosodiphenylamine	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	86-30-6	
N-Nitrosodi-n-propylamine	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	621-64-7	
Pentachlorophenol	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	87-86-5	
Phenanthrene	Not detected	ug/L	2	SW8270C	07/06/12 14:24	PL	85-01-8	
Phenol	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	108-95-2	
Pyrene	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	129-00-0	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	120-82-1	
2,4,5-Trichlorophenol	Not detected	ug/L	5	SW8270C	07/06/12 14:24	PL	95-95-4	

B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S53059.02 (continued)

Sample Tag: MW-2

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Semi-Volatile Organics - MDEQ (continued)</b>								
2,4,6-Trichlorophenol	Not detected	ug/L	4	SW8270C	07/06/12 14:24	PL	88-06-2	
<b>Organics - Volatiles</b>								
<b>Volatile Organics - DEQ List</b>								
Diethyl ether	Not detected	ug/L	10	SW8260B	07/10/12 16:43	WAT	60-29-7	
Acetone	Not detected	ug/L	50	SW8260B	07/10/12 16:43	WAT	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW8260B	07/10/12 16:43	WAT	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	07/10/12 16:43	WAT	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW8260B	07/10/12 16:43	WAT	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	07/10/12 16:43	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	07/10/12 16:43	WAT	75-71-8	
Chloromethane	Not detected	ug/L	5	SW8260B	07/10/12 16:43	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	75-01-4	
Bromomethane	Not detected	ug/L	5	SW8260B	07/10/12 16:43	WAT	74-83-9	
Chloroethane	Not detected	ug/L	5	SW8260B	07/10/12 16:43	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW8260B	07/10/12 16:43	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	156-59-2	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	07/10/12 16:43	WAT	109-99-9	
Chloroform	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	07/10/12 16:43	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW8260B	07/10/12 16:43	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW8260B	07/10/12 16:43	WAT	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	07/10/12 16:43	WAT	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260B	07/10/12 16:43	WAT		
o-Xylene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	100-42-5	



# Analytical Laboratory Report

Lab Sample ID: S53059.02 (continued)

Sample Tag: MW-2

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Isopropylbenzene	Not detected	ug/L	5	SW8260B	07/10/12 16:43	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	07/10/12 16:43	WAT	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 16:43	WAT	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW8260B	07/10/12 16:43	WAT	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	07/10/12 16:43	WAT	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 16:43	WAT	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 16:43	WAT	87-61-6	
Naphthalene	Not detected	ug/L	5	SW8260B	07/10/12 16:43	WAT	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	07/10/12 16:43	WAT	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S53059.03  
 Sample Tag: MW2-1  
 Collected Date/Time: 06/28/2012 18:40  
 Matrix: Groundwater  
 COC Reference: 65462

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	HCL	Yes	5.3	IR
2	125ml Plastic	HNO3	Yes	5.3	IR
2	1L Amber	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

BNA Extraction	Completed			3510C	07/05/12 18:32	EMR		
Mercury Digestion	Completed			E245.1	07/05/12 12:25	JRH		
Mercury Digestion	Completed			E245.1	07/05/12 12:25	JRH		
Metal Digestion	Completed			3015A	07/11/12 01:00	SLR		
Metal Digestion	Completed			3015A	07/11/12 01:00	SLR		

### Metals

Arsenic, Dissolved	0.020	mg/L	0.002	E200.8	07/11/12 16:15	SLS	7440-38-2	
Arsenic	0.018	mg/L	0.002	E200.8	07/11/12 16:12	SLS	7440-38-2	
Barium, Dissolved	0.081	mg/L	0.005	E200.8	07/11/12 16:15	SLS	7440-39-3	
Barium	0.083	mg/L	0.005	E200.8	07/11/12 16:12	SLS	7440-39-3	
Cadmium, Dissolved	Not detected	mg/L	0.0005	E200.8	07/11/12 16:15	SLS	7440-43-9	
Cadmium	Not detected	mg/L	0.0005	E200.8	07/11/12 16:12	SLS	7440-43-9	
Chromium, Dissolved	Not detected	mg/L	0.005	E200.8	07/11/12 16:15	SLS	7440-47-3	
Chromium	Not detected	mg/L	0.005	E200.8	07/11/12 16:12	SLS	7440-47-3	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	07/11/12 16:15	SLS	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	07/11/12 16:12	SLS	7439-92-1	
Mercury, Dissolved	Not detected	mg/L	0.0002	E245.1	07/05/12 15:45	JRT	7439-97-6	
Mercury	Not detected	mg/L	0.0002	E245.1	07/05/12 15:47	JRT	7439-97-6	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	07/11/12 16:15	SLS	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	07/11/12 16:12	SLS	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0005	E200.8	07/11/12 16:15	SLS	7440-22-4	
Silver	Not detected	mg/L	0.0005	E200.8	07/11/12 16:12	SLS	7440-22-4	

### Organics - Semi-Volatiles

#### Semi-Volatile Organics - MDEQ

Acenaphthene	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	83-32-9	
Acenaphthylene	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	208-96-8	
Anthracene	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/L	1	SW8270C	07/06/12 14:59	PL	56-55-3	
Benzo(b)fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 14:59	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 14:59	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/L	1	SW8270C	07/06/12 14:59	PL	191-24-2	
Benzo(a)pyrene	Not detected	ug/L	1	SW8270C	07/06/12 14:59	PL	50-32-8	
bis(2-Chloroethoxy)methane	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	111-91-1	
bis(2-Chloroethyl)ether	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	111-44-4	
bis(2-Chloroisopropyl)ether	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	108-60-1	
bis(2-Ethylhexyl)phthalate	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	117-81-7	
4-Bromophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	101-55-3	
Butyl benzyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	85-68-7	
4-Chloroaniline	Not detected	ug/L	10	SW8270C	07/06/12 14:59	PL	106-47-8	



# Analytical Laboratory Report

Lab Sample ID: S53059.03 (continued)

Sample Tag: MW2-1

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Semi-Volatile Organics - MDEQ (continued)</b>								
2-Chloronaphthalene	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	91-58-7	
4-Chloro-3-methylphenol	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	59-50-7	
2-Chlorophenol	Not detected	ug/L	10	SW8270C	07/06/12 14:59	PL	95-57-8	
4-Chlorophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	7005-72-3	
Chrysene	Not detected	ug/L	1	SW8270C	07/06/12 14:59	PL	218-01-9	
p,m-Cresol	Not detected	ug/L	20	SW8270C	07/06/12 14:59	PL	3/4-Cresol	
o-Cresol	Not detected	ug/L	10	SW8270C	07/06/12 14:59	PL	95-48-7	
Dibenzo(ah)anthracene	Not detected	ug/L	2	SW8270C	07/06/12 14:59	PL	53-70-3	
Dibenzofuran	Not detected	ug/L	4	SW8270C	07/06/12 14:59	PL	132-64-9	
di-n-Butyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	84-74-2	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 14:59	PL	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 14:59	PL	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 14:59	PL	106-46-7	
3,3'-Dichlorobenzidine	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	91-94-1	
2,4-Dichlorophenol	Not detected	ug/L	10	SW8270C	07/06/12 14:59	PL	120-83-2	
Diethyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	84-66-2	
2,4-Dimethylphenol	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	105-67-9	
Dimethyl phthalate	8	ug/L	5	SW8270C	07/06/12 14:59	PL	131-11-3	B
4,6-Dinitro-2-methylphenol	Not detected	ug/L	20	SW8270C	07/06/12 14:59	PL	534-52-1	
2,4-Dinitrophenol	Not detected	ug/L	25	SW8270C	07/06/12 14:59	PL	51-28-5	
2,4-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	121-14-2	
2,6-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	606-20-2	
1,2-Diphenylhydrazine	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	122-66-7	
di-n-Octyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	117-84-0	
Fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 14:59	PL	206-44-0	
Fluorene	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	86-73-7	
Hexachlorobenzene	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	118-74-1	
Hexachlorobutadiene	Not detected	ug/L	10	SW8270C	07/06/12 14:59	PL	87-68-3	
Hexachlorocyclopentadiene	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	77-47-4	
Hexachloroethane	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	ug/L	2	SW8270C	07/06/12 14:59	PL	193-39-5	
Isophorone	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	78-59-1	
2-Methylnaphthalene	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	91-57-6	
Naphthalene	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	91-20-3	
2-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 14:59	PL	88-74-4	
3-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 14:59	PL	99-09-2	
4-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 14:59	PL	100-01-6	
Nitrobenzene	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	98-95-3	
2-Nitrophenol	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	88-75-5	
4-Nitrophenol	Not detected	ug/L	25	SW8270C	07/06/12 14:59	PL	100-02-7	
N-Nitrosodiphenylamine	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	86-30-6	
N-Nitrosodi-n-propylamine	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	621-64-7	
Pentachlorophenol	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	87-86-5	
Phenanthrene	Not detected	ug/L	2	SW8270C	07/06/12 14:59	PL	85-01-8	
Phenol	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	108-95-2	
Pyrene	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	129-00-0	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	120-82-1	
2,4,5-Trichlorophenol	Not detected	ug/L	5	SW8270C	07/06/12 14:59	PL	95-95-4	

B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S53059.03 (continued)

Sample Tag: MW2-1

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Semi-Volatile Organics - MDEQ (continued)</b>								
2,4,6-Trichlorophenol	Not detected	ug/L	4	SW8270C	07/06/12 14:59	PL	88-06-2	
<b>Organics - Volatiles</b>								
<b>Volatile Organics - DEQ List</b>								
Diethyl ether	Not detected	ug/L	10	SW8260B	07/10/12 17:04	WAT	60-29-7	
Acetone	Not detected	ug/L	50	SW8260B	07/10/12 17:04	WAT	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW8260B	07/10/12 17:04	WAT	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	07/10/12 17:04	WAT	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW8260B	07/10/12 17:04	WAT	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	07/10/12 17:04	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	07/10/12 17:04	WAT	75-71-8	
Chloromethane	Not detected	ug/L	5	SW8260B	07/10/12 17:04	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	75-01-4	
Bromomethane	Not detected	ug/L	5	SW8260B	07/10/12 17:04	WAT	74-83-9	
Chloroethane	Not detected	ug/L	5	SW8260B	07/10/12 17:04	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW8260B	07/10/12 17:04	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	156-59-2	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	07/10/12 17:04	WAT	109-99-9	
Chloroform	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	07/10/12 17:04	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW8260B	07/10/12 17:04	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW8260B	07/10/12 17:04	WAT	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	07/10/12 17:04	WAT	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260B	07/10/12 17:04	WAT		
o-Xylene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	100-42-5	



# Analytical Laboratory Report

Lab Sample ID: S53059.03 (continued)

Sample Tag: MW2-1

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Isopropylbenzene	Not detected	ug/L	5	SW8260B	07/10/12 17:04	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	07/10/12 17:04	WAT	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:04	WAT	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW8260B	07/10/12 17:04	WAT	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	07/10/12 17:04	WAT	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 17:04	WAT	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 17:04	WAT	87-61-6	
Naphthalene	Not detected	ug/L	5	SW8260B	07/10/12 17:04	WAT	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	07/10/12 17:04	WAT	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S53059.04  
 Sample Tag: MW-4  
 Collected Date/Time: 06/29/2012 09:40  
 Matrix: Groundwater  
 COC Reference: 65462

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	HCL	Yes	5.3	IR
1	125ml Plastic	HNO3	Yes	5.3	IR
2	1L Amber	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

BNA Extraction	Completed			3510C	07/05/12 18:32	EMR		
Mercury Digestion	Completed			E245.1	07/05/12 12:25	JRH		
Metal Digestion	Completed			3015A	07/11/12 01:00	SLR		

### Metals

Arsenic	Not detected	mg/L	0.002	E200.8	07/11/12 16:43	SLS	7440-38-2	
Barium	0.135	mg/L	0.005	E200.8	07/11/12 16:43	SLS	7440-39-3	
Cadmium	Not detected	mg/L	0.0005	E200.8	07/11/12 16:43	SLS	7440-43-9	
Chromium	Not detected	mg/L	0.005	E200.8	07/11/12 16:43	SLS	7440-47-3	
Lead	Not detected	mg/L	0.003	E200.8	07/11/12 16:43	SLS	7439-92-1	
Mercury	Not detected	mg/L	0.0002	E245.1	07/05/12 15:50	JRT	7439-97-6	
Selenium	Not detected	mg/L	0.005	E200.8	07/11/12 16:43	SLS	7782-49-2	
Silver	Not detected	mg/L	0.0005	E200.8	07/11/12 16:43	SLS	7440-22-4	

### Organics - Semi-Volatiles

#### Semi-Volatile Organics - MDEQ

Acenaphthene	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	83-32-9	
Acenaphthylene	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	208-96-8	
Anthracene	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/L	1	SW8270C	07/06/12 15:35	PL	56-55-3	
Benzo(b)fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 15:35	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 15:35	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/L	1	SW8270C	07/06/12 15:35	PL	191-24-2	
Benzo(a)pyrene	Not detected	ug/L	1	SW8270C	07/06/12 15:35	PL	50-32-8	
bis(2-Chloroethoxy)methane	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	111-91-1	
bis(2-Chloroethyl)ether	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	111-44-4	
bis(2-Chloroisopropyl)ether	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	108-60-1	
bis(2-Ethylhexyl)phthalate	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	117-81-7	
4-Bromophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	101-55-3	
Butyl benzyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	85-68-7	
4-Chloroaniline	Not detected	ug/L	10	SW8270C	07/06/12 15:35	PL	106-47-8	
2-Chloronaphthalene	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	91-58-7	
4-Chloro-3-methylphenol	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	59-50-7	
2-Chlorophenol	Not detected	ug/L	10	SW8270C	07/06/12 15:35	PL	95-57-8	
4-Chlorophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	7005-72-3	
Chrysene	Not detected	ug/L	1	SW8270C	07/06/12 15:35	PL	218-01-9	
p,m-Cresol	Not detected	ug/L	20	SW8270C	07/06/12 15:35	PL	3/4-Cresol	
o-Cresol	Not detected	ug/L	10	SW8270C	07/06/12 15:35	PL	95-48-7	
Dibenzo(ah)anthracene	Not detected	ug/L	2	SW8270C	07/06/12 15:35	PL	53-70-3	
Dibenzofuran	Not detected	ug/L	4	SW8270C	07/06/12 15:35	PL	132-64-9	
di-n-Butyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	84-74-2	



# Analytical Laboratory Report

Lab Sample ID: S53059.04 (continued)

Sample Tag: MW-4

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Semi-Volatile Organics - MDEQ (continued)</b>								
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 15:35	PL	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 15:35	PL	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 15:35	PL	106-46-7	
3,3'-Dichlorobenzidine	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	91-94-1	
2,4-Dichlorophenol	Not detected	ug/L	10	SW8270C	07/06/12 15:35	PL	120-83-2	
Diethyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	84-66-2	
2,4-Dimethylphenol	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	105-67-9	
Dimethyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	131-11-3	
4,6-Dinitro-2-methylphenol	Not detected	ug/L	20	SW8270C	07/06/12 15:35	PL	534-52-1	
2,4-Dinitrophenol	Not detected	ug/L	25	SW8270C	07/06/12 15:35	PL	51-28-5	
2,4-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	121-14-2	
2,6-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	606-20-2	
1,2-Diphenylhydrazine	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	122-66-7	
di-n-Octyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	117-84-0	
Fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 15:35	PL	206-44-0	
Fluorene	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	86-73-7	
Hexachlorobenzene	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	118-74-1	
Hexachlorobutadiene	Not detected	ug/L	10	SW8270C	07/06/12 15:35	PL	87-68-3	
Hexachlorocyclopentadiene	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	77-47-4	
Hexachloroethane	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	ug/L	2	SW8270C	07/06/12 15:35	PL	193-39-5	
Isophorone	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	78-59-1	
2-Methylnaphthalene	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	91-57-6	
Naphthalene	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	91-20-3	
2-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 15:35	PL	88-74-4	
3-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 15:35	PL	99-09-2	
4-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 15:35	PL	100-01-6	
Nitrobenzene	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	98-95-3	
2-Nitrophenol	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	88-75-5	
4-Nitrophenol	Not detected	ug/L	25	SW8270C	07/06/12 15:35	PL	100-02-7	
N-Nitrosodiphenylamine	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	86-30-6	
N-Nitrosodi-n-propylamine	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	621-64-7	
Pentachlorophenol	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	87-86-5	
Phenanthrene	Not detected	ug/L	2	SW8270C	07/06/12 15:35	PL	85-01-8	
Phenol	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	108-95-2	
Pyrene	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	129-00-0	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	120-82-1	
2,4,5-Trichlorophenol	Not detected	ug/L	5	SW8270C	07/06/12 15:35	PL	95-95-4	
2,4,6-Trichlorophenol	Not detected	ug/L	4	SW8270C	07/06/12 15:35	PL	88-06-2	
<b>Organics - Volatiles</b>								
<b>Volatile Organics - DEQ List</b>								
Diethyl ether	Not detected	ug/L	10	SW8260B	07/10/12 17:26	WAT	60-29-7	
Acetone	Not detected	ug/L	50	SW8260B	07/10/12 17:26	WAT	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW8260B	07/10/12 17:26	WAT	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	07/10/12 17:26	WAT	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW8260B	07/10/12 17:26	WAT	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	07/10/12 17:26	WAT	78-93-3	



# Analytical Laboratory Report

Lab Sample ID: S53059.04 (continued)

Sample Tag: MW-4

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	07/10/12 17:26	WAT	75-71-8	
Chloromethane	Not detected	ug/L	5	SW8260B	07/10/12 17:26	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	75-01-4	
Bromomethane	Not detected	ug/L	5	SW8260B	07/10/12 17:26	WAT	74-83-9	
Chloroethane	Not detected	ug/L	5	SW8260B	07/10/12 17:26	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW8260B	07/10/12 17:26	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	156-59-2	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	07/10/12 17:26	WAT	109-99-9	
Chloroform	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	07/10/12 17:26	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW8260B	07/10/12 17:26	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW8260B	07/10/12 17:26	WAT	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	07/10/12 17:26	WAT	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260B	07/10/12 17:26	WAT		
o-Xylene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	07/10/12 17:26	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	07/10/12 17:26	WAT	99-87-6	



# Analytical Laboratory Report

Lab Sample ID: S53059.04 (continued)

Sample Tag: MW-4

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:26	WAT	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW8260B	07/10/12 17:26	WAT	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	07/10/12 17:26	WAT	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 17:26	WAT	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 17:26	WAT	87-61-6	
Naphthalene	Not detected	ug/L	5	SW8260B	07/10/12 17:26	WAT	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	07/10/12 17:26	WAT	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S53059.05  
 Sample Tag: MW-3  
 Collected Date/Time: 06/29/2012 11:50  
 Matrix: Groundwater  
 COC Reference: 65462

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	HCL	Yes	5.3	IR
1	125ml Plastic	HNO3	Yes	5.3	IR
2	1L Amber	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

BNA Extraction	Completed			3510C	07/05/12 18:32	EMR		
Mercury Digestion	Completed			E245.1	07/05/12 12:25	JRH		
Metal Digestion	Completed			3015A	07/11/12 01:00	SLR		

### Metals

Arsenic	Not detected	mg/L	0.002	E200.8	07/11/12 16:21	SLS	7440-38-2	
Barium	0.094	mg/L	0.005	E200.8	07/11/12 16:21	SLS	7440-39-3	
Cadmium	Not detected	mg/L	0.0005	E200.8	07/11/12 16:21	SLS	7440-43-9	
Chromium	Not detected	mg/L	0.005	E200.8	07/11/12 16:21	SLS	7440-47-3	
Lead	Not detected	mg/L	0.003	E200.8	07/11/12 16:21	SLS	7439-92-1	
Mercury	Not detected	mg/L	0.0002	E245.1	07/05/12 15:52	JRT	7439-97-6	
Selenium	Not detected	mg/L	0.005	E200.8	07/11/12 16:21	SLS	7782-49-2	
Silver	Not detected	mg/L	0.0005	E200.8	07/11/12 16:21	SLS	7440-22-4	

### Organics - Semi-Volatiles

#### Semi-Volatile Organics - MDEQ

Acenaphthene	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	83-32-9	
Acenaphthylene	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	208-96-8	
Anthracene	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/L	1	SW8270C	07/06/12 16:10	PL	56-55-3	
Benzo(b)fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 16:10	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 16:10	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/L	1	SW8270C	07/06/12 16:10	PL	191-24-2	
Benzo(a)pyrene	Not detected	ug/L	1	SW8270C	07/06/12 16:10	PL	50-32-8	
bis(2-Chloroethoxy)methane	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	111-91-1	
bis(2-Chloroethyl)ether	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	111-44-4	
bis(2-Chloroisopropyl)ether	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	108-60-1	
bis(2-Ethylhexyl)phthalate	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	117-81-7	
4-Bromophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	101-55-3	
Butyl benzyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	85-68-7	
4-Chloroaniline	Not detected	ug/L	10	SW8270C	07/06/12 16:10	PL	106-47-8	
2-Chloronaphthalene	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	91-58-7	
4-Chloro-3-methylphenol	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	59-50-7	
2-Chlorophenol	Not detected	ug/L	10	SW8270C	07/06/12 16:10	PL	95-57-8	
4-Chlorophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	7005-72-3	
Chrysene	Not detected	ug/L	1	SW8270C	07/06/12 16:10	PL	218-01-9	
p,m-Cresol	Not detected	ug/L	20	SW8270C	07/06/12 16:10	PL	3/4-Cresol	
o-Cresol	Not detected	ug/L	10	SW8270C	07/06/12 16:10	PL	95-48-7	
Dibenzo(ah)anthracene	Not detected	ug/L	2	SW8270C	07/06/12 16:10	PL	53-70-3	
Dibenzofuran	Not detected	ug/L	4	SW8270C	07/06/12 16:10	PL	132-64-9	
di-n-Butyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	84-74-2	



# Analytical Laboratory Report

Lab Sample ID: S53059.05 (continued)

Sample Tag: MW-3

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Semi-Volatile Organics - MDEQ (continued)</b>								
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 16:10	PL	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 16:10	PL	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 16:10	PL	106-46-7	
3,3'-Dichlorobenzidine	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	91-94-1	
2,4-Dichlorophenol	Not detected	ug/L	10	SW8270C	07/06/12 16:10	PL	120-83-2	
Diethyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	84-66-2	
2,4-Dimethylphenol	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	105-67-9	
Dimethyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	131-11-3	
4,6-Dinitro-2-methylphenol	Not detected	ug/L	20	SW8270C	07/06/12 16:10	PL	534-52-1	
2,4-Dinitrophenol	Not detected	ug/L	25	SW8270C	07/06/12 16:10	PL	51-28-5	
2,4-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	121-14-2	
2,6-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	606-20-2	
1,2-Diphenylhydrazine	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	122-66-7	
di-n-Octyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	117-84-0	
Fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 16:10	PL	206-44-0	
Fluorene	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	86-73-7	
Hexachlorobenzene	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	118-74-1	
Hexachlorobutadiene	Not detected	ug/L	10	SW8270C	07/06/12 16:10	PL	87-68-3	
Hexachlorocyclopentadiene	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	77-47-4	
Hexachloroethane	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	ug/L	2	SW8270C	07/06/12 16:10	PL	193-39-5	
Isophorone	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	78-59-1	
2-Methylnaphthalene	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	91-57-6	
Naphthalene	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	91-20-3	
2-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 16:10	PL	88-74-4	
3-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 16:10	PL	99-09-2	
4-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 16:10	PL	100-01-6	
Nitrobenzene	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	98-95-3	
2-Nitrophenol	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	88-75-5	
4-Nitrophenol	Not detected	ug/L	25	SW8270C	07/06/12 16:10	PL	100-02-7	
N-Nitrosodiphenylamine	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	86-30-6	
N-Nitrosodi-n-propylamine	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	621-64-7	
Pentachlorophenol	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	87-86-5	
Phenanthrene	Not detected	ug/L	2	SW8270C	07/06/12 16:10	PL	85-01-8	
Phenol	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	108-95-2	
Pyrene	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	129-00-0	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	120-82-1	
2,4,5-Trichlorophenol	Not detected	ug/L	5	SW8270C	07/06/12 16:10	PL	95-95-4	
2,4,6-Trichlorophenol	Not detected	ug/L	4	SW8270C	07/06/12 16:10	PL	88-06-2	
<b>Organics - Volatiles</b>								
<b>Volatile Organics - DEQ List</b>								
Diethyl ether	Not detected	ug/L	10	SW8260B	07/10/12 17:48	WAT	60-29-7	
Acetone	Not detected	ug/L	50	SW8260B	07/10/12 17:48	WAT	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW8260B	07/10/12 17:48	WAT	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	07/10/12 17:48	WAT	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW8260B	07/10/12 17:48	WAT	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	07/10/12 17:48	WAT	78-93-3	



# Analytical Laboratory Report

Lab Sample ID: S53059.05 (continued)

Sample Tag: MW-3

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	07/10/12 17:48	WAT	75-71-8	
Chloromethane	Not detected	ug/L	5	SW8260B	07/10/12 17:48	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	75-01-4	
Bromomethane	Not detected	ug/L	5	SW8260B	07/10/12 17:48	WAT	74-83-9	
Chloroethane	Not detected	ug/L	5	SW8260B	07/10/12 17:48	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW8260B	07/10/12 17:48	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	156-60-5	
1,1-Dichloroethane	6	ug/L	1	SW8260B	07/10/12 17:48	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	156-59-2	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	07/10/12 17:48	WAT	109-99-9	
Chloroform	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	07/10/12 17:48	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW8260B	07/10/12 17:48	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW8260B	07/10/12 17:48	WAT	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	07/10/12 17:48	WAT	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260B	07/10/12 17:48	WAT		
o-Xylene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	07/10/12 17:48	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	07/10/12 17:48	WAT	99-87-6	



# Analytical Laboratory Report

Lab Sample ID: S53059.05 (continued)

Sample Tag: MW-3

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 17:48	WAT	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW8260B	07/10/12 17:48	WAT	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	07/10/12 17:48	WAT	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 17:48	WAT	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 17:48	WAT	87-61-6	
Naphthalene	Not detected	ug/L	5	SW8260B	07/10/12 17:48	WAT	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	07/10/12 17:48	WAT	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S53059.06  
 Sample Tag: MW-5  
 Collected Date/Time: 06/29/2012 12:35  
 Matrix: Groundwater  
 COC Reference: 65462

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	HCL	Yes	5.3	IR
1	125ml Plastic	HNO3	Yes	5.3	IR
2	1L Amber	None	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

BNA Extraction	Completed			3510C	07/05/12 18:32	EMR		
Mercury Digestion	Completed			E245.1	07/05/12 12:25	JRH		
Metal Digestion	Completed			3015A	07/11/12 01:00	SLR		

### Metals

Arsenic	Not detected	mg/L	0.002	E200.8	07/11/12 16:24	SLS	7440-38-2	
Barium	0.054	mg/L	0.005	E200.8	07/11/12 16:24	SLS	7440-39-3	
Cadmium	Not detected	mg/L	0.0005	E200.8	07/11/12 16:24	SLS	7440-43-9	
Chromium	Not detected	mg/L	0.005	E200.8	07/11/12 16:24	SLS	7440-47-3	
Lead	Not detected	mg/L	0.003	E200.8	07/11/12 16:24	SLS	7439-92-1	
Mercury	Not detected	mg/L	0.0002	E245.1	07/05/12 15:54	JRT	7439-97-6	
Selenium	Not detected	mg/L	0.005	E200.8	07/11/12 16:24	SLS	7782-49-2	
Silver	Not detected	mg/L	0.0005	E200.8	07/11/12 16:24	SLS	7440-22-4	

### Organics - Semi-Volatiles

#### Semi-Volatile Organics - MDEQ

Acenaphthene	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	83-32-9	
Acenaphthylene	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	208-96-8	
Anthracene	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/L	1	SW8270C	07/06/12 16:45	PL	56-55-3	
Benzo(b)fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 16:45	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 16:45	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/L	1	SW8270C	07/06/12 16:45	PL	191-24-2	
Benzo(a)pyrene	Not detected	ug/L	1	SW8270C	07/06/12 16:45	PL	50-32-8	
bis(2-Chloroethoxy)methane	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	111-91-1	
bis(2-Chloroethyl)ether	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	111-44-4	
bis(2-Chloroisopropyl)ether	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	108-60-1	
bis(2-Ethylhexyl)phthalate	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	117-81-7	
4-Bromophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	101-55-3	
Butyl benzyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	85-68-7	
4-Chloroaniline	Not detected	ug/L	10	SW8270C	07/06/12 16:45	PL	106-47-8	
2-Chloronaphthalene	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	91-58-7	
4-Chloro-3-methylphenol	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	59-50-7	
2-Chlorophenol	Not detected	ug/L	10	SW8270C	07/06/12 16:45	PL	95-57-8	
4-Chlorophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	7005-72-3	
Chrysene	Not detected	ug/L	1	SW8270C	07/06/12 16:45	PL	218-01-9	
p,m-Cresol	Not detected	ug/L	20	SW8270C	07/06/12 16:45	PL	3/4-Cresol	
o-Cresol	Not detected	ug/L	10	SW8270C	07/06/12 16:45	PL	95-48-7	
Dibenzo(ah)anthracene	Not detected	ug/L	2	SW8270C	07/06/12 16:45	PL	53-70-3	
Dibenzofuran	Not detected	ug/L	4	SW8270C	07/06/12 16:45	PL	132-64-9	
di-n-Butyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	84-74-2	



# Analytical Laboratory Report

Lab Sample ID: S53059.06 (continued)

Sample Tag: MW-5

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Semi-Volatile Organics - MDEQ (continued)</b>								
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 16:45	PL	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 16:45	PL	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 16:45	PL	106-46-7	
3,3'-Dichlorobenzidine	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	91-94-1	
2,4-Dichlorophenol	Not detected	ug/L	10	SW8270C	07/06/12 16:45	PL	120-83-2	
Diethyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	84-66-2	
2,4-Dimethylphenol	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	105-67-9	
Dimethyl phthalate	8	ug/L	5	SW8270C	07/06/12 16:45	PL	131-11-3	B
4,6-Dinitro-2-methylphenol	Not detected	ug/L	20	SW8270C	07/06/12 16:45	PL	534-52-1	
2,4-Dinitrophenol	Not detected	ug/L	25	SW8270C	07/06/12 16:45	PL	51-28-5	
2,4-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	121-14-2	
2,6-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	606-20-2	
1,2-Diphenylhydrazine	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	122-66-7	
di-n-Octyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	117-84-0	
Fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 16:45	PL	206-44-0	
Fluorene	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	86-73-7	
Hexachlorobenzene	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	118-74-1	
Hexachlorobutadiene	Not detected	ug/L	10	SW8270C	07/06/12 16:45	PL	87-68-3	
Hexachlorocyclopentadiene	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	77-47-4	
Hexachloroethane	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	ug/L	2	SW8270C	07/06/12 16:45	PL	193-39-5	
Isophorone	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	78-59-1	
2-Methylnaphthalene	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	91-57-6	
Naphthalene	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	91-20-3	
2-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 16:45	PL	88-74-4	
3-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 16:45	PL	99-09-2	
4-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 16:45	PL	100-01-6	
Nitrobenzene	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	98-95-3	
2-Nitrophenol	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	88-75-5	
4-Nitrophenol	Not detected	ug/L	25	SW8270C	07/06/12 16:45	PL	100-02-7	
N-Nitrosodiphenylamine	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	86-30-6	
N-Nitrosodi-n-propylamine	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	621-64-7	
Pentachlorophenol	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	87-86-5	
Phenanthrene	Not detected	ug/L	2	SW8270C	07/06/12 16:45	PL	85-01-8	
Phenol	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	108-95-2	
Pyrene	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	129-00-0	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	120-82-1	
2,4,5-Trichlorophenol	Not detected	ug/L	5	SW8270C	07/06/12 16:45	PL	95-95-4	
2,4,6-Trichlorophenol	Not detected	ug/L	4	SW8270C	07/06/12 16:45	PL	88-06-2	
<b>Organics - Volatiles</b>								
<b>Volatile Organics - DEQ List</b>								
Diethyl ether	Not detected	ug/L	10	SW8260B	07/10/12 18:10	WAT	60-29-7	
Acetone	Not detected	ug/L	50	SW8260B	07/10/12 18:10	WAT	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW8260B	07/10/12 18:10	WAT	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	07/10/12 18:10	WAT	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW8260B	07/10/12 18:10	WAT	107-13-1	

B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S53059.06 (continued)

Sample Tag: MW-5

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	07/10/12 18:10	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	07/10/12 18:10	WAT	75-71-8	
Chloromethane	Not detected	ug/L	5	SW8260B	07/10/12 18:10	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	75-01-4	
Bromomethane	Not detected	ug/L	5	SW8260B	07/10/12 18:10	WAT	74-83-9	
Chloroethane	Not detected	ug/L	5	SW8260B	07/10/12 18:10	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW8260B	07/10/12 18:10	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	156-59-2	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	07/10/12 18:10	WAT	109-99-9	
Chloroform	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	07/10/12 18:10	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW8260B	07/10/12 18:10	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW8260B	07/10/12 18:10	WAT	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	07/10/12 18:10	WAT	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260B	07/10/12 18:10	WAT		
o-Xylene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	07/10/12 18:10	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	135-98-8	



# Analytical Laboratory Report

Lab Sample ID: S53059.06 (continued)

Sample Tag: MW-5

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	07/10/12 18:10	WAT	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:10	WAT	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW8260B	07/10/12 18:10	WAT	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	07/10/12 18:10	WAT	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 18:10	WAT	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 18:10	WAT	87-61-6	
Naphthalene	Not detected	ug/L	5	SW8260B	07/10/12 18:10	WAT	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	07/10/12 18:10	WAT	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S53059.07  
 Sample Tag: TB-2 (Trip Blank)  
 Collected Date/Time: 06/29/2012 00:01  
 Matrix: Groundwater  
 COC Reference: 65462

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Organics - Volatiles

#### Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW8260B	07/10/12 18:33	WAT	60-29-7	
Acetone	Not detected	ug/L	50	SW8260B	07/10/12 18:33	WAT	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW8260B	07/10/12 18:33	WAT	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	07/10/12 18:33	WAT	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW8260B	07/10/12 18:33	WAT	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	07/10/12 18:33	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	07/10/12 18:33	WAT	75-71-8	
Chloromethane	Not detected	ug/L	5	SW8260B	07/10/12 18:33	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	75-01-4	
Bromomethane	Not detected	ug/L	5	SW8260B	07/10/12 18:33	WAT	74-83-9	
Chloroethane	Not detected	ug/L	5	SW8260B	07/10/12 18:33	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW8260B	07/10/12 18:33	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	156-59-2	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	07/10/12 18:33	WAT	109-99-9	
Chloroform	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	07/10/12 18:33	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW8260B	07/10/12 18:33	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW8260B	07/10/12 18:33	WAT	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	07/10/12 18:33	WAT	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	100-41-4	



# Analytical Laboratory Report

Lab Sample ID: S53059.07 (continued)

Sample Tag: TB-2 (Trip Blank)

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
p,m-Xylene	Not detected	ug/L	2	SW8260B	07/10/12 18:33	WAT		
o-Xylene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	07/10/12 18:33	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	07/10/12 18:33	WAT	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:33	WAT	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW8260B	07/10/12 18:33	WAT	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	07/10/12 18:33	WAT	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 18:33	WAT	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 18:33	WAT	87-61-6	
Naphthalene	Not detected	ug/L	5	SW8260B	07/10/12 18:33	WAT	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	07/10/12 18:33	WAT	91-57-6	



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 Phone (517) 332-0167 Fax (517) 332-6333  
 www.meritlabs.com

C.O.C. PAGE # 1 OF 1

65462

**REPORT TO**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

CONTACT NAME: Clifford Yantz  
 COMPANY: O'Brien & Gere  
 ADDRESS: 27000 Grand River Ave Ste 260  
 CITY: Farmington Hills STATE: MI ZIP CODE: 48335  
 PHONE NO.: 248-477-5701 FAX NO.: P.O. NO.: 125045.07.07  
 E-MAIL ADDRESS: clifford.yantz@obg.com QUOTE NO.:

CONTACT NAME: Dave Favero  SAME  
 COMPANY: RACER Trust  
 ADDRESS: 2930 Ecorse Rd  
 CITY: Ypsilanti STATE: MI ZIP CODE: 48197  
 PHONE NO.: 313-741-6235 FAX NO.: P.O. NO.:

ANALYSIS (ATTACH LIST IF MORE SPACE REQUIRED)

PROJECT NO./NAME: RACER Dist Hwy Land Task 07 RACER #12960  
 SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider *KS*  
 TURNAROUND TIME REQUIRED:  24 HR  48 HR  72 HR  STANDARD  OTHER  
 DELIVERABLES REQUIRED:  STANDARD  LEVEL II  LEVEL III  OTHER

SPECIAL INSTRUCTIONS/NOTES	

MATRIX CODE	GW-GROUNDWATER	WW-WASTEWATER	S-SOIL	L-LIQUID	SD-SOLID	# Containers & Preservatives
	SL-SLUDGE	O-OIL	A-AIR	W-WASTE	M-MISC	

MERIT LAB NO.	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCL	HNO3	H2SO4	HNOH	METH	OTHER	VOLs	SVOLs	TOTAL RCRA METALS	DISSOLV RCRA METALS								
	DATE	TIME																						
5305901	6/28/12	1435	MW-1	GW	6	2	2	2					X	X	X	X								
.02	↓	1700	MW-2	GW	6	2	2	2					X	X	X	X								
.03	↓	1840	MW2-1	GW	6	2	2	2					X	X	X	X								
.04	6/29/12	940	MW-4	GW	5	2	2	1					X	X	X									
.05	↓	1150	MW-3	GW	5	2	2	1					X	X	X									
.06	↓	1235	MW-5	GW	5	2	2	1					X	X	X									
.07	↓	—	TB-2 (Trip Blank)	GL	1		1						X											

RELINQUISHED BY: *KS* O'Brien & Gere DATE: 6/29/12 TIME: 1340  
 RECEIVED BY: *MH* DATE: 6-29-12 TIME: 1340

RELINQUISHED BY: *Ch...* DATE: 6/29/12 TIME: 1440  
 RECEIVED BY: *...* DATE: 6/29/12 TIME: 1440

SEAL NO.	SEAL INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	INITIALS	NOTES:	TEMP. ON ARRIVAL: 5.3
SEAL NO.	SEAL INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	INITIALS		

PLEASE NOTE: SIGNING ACKNOWLEDGES ACCEPTANCE OF TERMS & CONDITIONS ON REVERSE SIDE



# Analytical Laboratory Report

Report ID: S53069.01(01)  
Generated on 07/11/2012

Report to

Attention: Clifford Yantz  
O'Brien & Gere Engineers, Inc.  
37000 Grand River Ave.  
Suite 260  
Farmington, MI 48335

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Report produced by

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Report Summary

Lab Sample ID(s): S53069.01-S53069.06  
Project: RACER Dort Hwy Land  
Collected Date: 07/02/2012  
Submitted Date/Time: 07/02/2012 14:30  
Sampled by: Kevin Schneider  
P.O. #: PO125045

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 RL.  
Samples are held by the lab for 30 days from the sample submittal date unless a written request to hold longer is provided by the client.  
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Laboratory Certifications:

Michigan DNRE (#9956), DOD/ISO 17025 (#L11-184), WBENC (#2005110032)  
Ohio EPA (#CL0002), IN Drinking Water (#C-MI-07), NELAC NY (#11814), NELAC FL (#E871045)  
Some analytes reported may not be certified. Full certification lists are available upon request.

Violetta F. Murshak  
Laboratory Director



# Analytical Laboratory Report

## Sample Summary (6 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S53069.01	MW-8	Groundwater	07/02/2012 10:15
S53069.02	DUP-1	Groundwater	07/02/2012 00:01
S53069.03	FB-1 (Field Blank)	Quality Control	07/02/2012 10:45
S53069.04	MW-6	Groundwater	07/02/2012 12:40
S53069.05	EB-1 (Equipment Blank)	Quality Control	07/02/2012 13:20
S53069.06	TB-3 (Trip Blank)	Quality Control	07/02/2012 00:01



# Analytical Laboratory Report

Lab Sample ID: S53069.01  
 Sample Tag: MW-8  
 Collected Date/Time: 07/02/2012 10:15  
 Matrix: Groundwater  
 COC Reference: 63586

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	HCL	Yes	5.2	IR
1	125ml Plastic	HNO3	Yes	5.2	IR
2	1L Amber	None	Yes	5.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

BNA Extraction	Completed			3510C	07/05/12 18:32	EMR		
Mercury Digestion	Completed			E245.1	07/09/12 12:00	JRH		
Metal Digestion	Completed			3015A	07/05/12 01:00	SLR		

### Metals

Arsenic	Not detected	mg/L	0.002	E200.8	07/05/12 20:56	SLS	7440-38-2	
Barium	0.105	mg/L	0.005	E200.8	07/05/12 20:56	SLS	7440-39-3	
Cadmium	Not detected	mg/L	0.0005	E200.8	07/05/12 20:56	SLS	7440-43-9	
Chromium	Not detected	mg/L	0.005	E200.8	07/05/12 20:56	SLS	7440-47-3	
Lead	Not detected	mg/L	0.003	E200.8	07/05/12 20:56	SLS	7439-92-1	
Mercury	Not detected	mg/L	0.0002	E245.1	07/09/12 14:53	JRT	7439-97-6	
Selenium	Not detected	mg/L	0.005	E200.8	07/05/12 20:56	SLS	7782-49-2	
Silver	Not detected	mg/L	0.0005	E200.8	07/05/12 20:56	SLS	7440-22-4	

### Organics - Semi-Volatiles

#### Semi-Volatile Organics - MDEQ

Acenaphthene	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	83-32-9	
Acenaphthylene	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	208-96-8	
Anthracene	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/L	1	SW8270C	07/06/12 17:20	PL	56-55-3	
Benzo(b)fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 17:20	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 17:20	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/L	1	SW8270C	07/06/12 17:20	PL	191-24-2	
Benzo(a)pyrene	Not detected	ug/L	1	SW8270C	07/06/12 17:20	PL	50-32-8	
bis(2-Chloroethoxy)methane	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	111-91-1	
bis(2-Chloroethyl)ether	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	111-44-4	
bis(2-Chloroisopropyl)ether	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	108-60-1	
bis(2-Ethylhexyl)phthalate	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	117-81-7	
4-Bromophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	101-55-3	
Butyl benzyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	85-68-7	
4-Chloroaniline	Not detected	ug/L	10	SW8270C	07/06/12 17:20	PL	106-47-8	
2-Chloronaphthalene	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	91-58-7	
4-Chloro-3-methylphenol	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	59-50-7	
2-Chlorophenol	Not detected	ug/L	10	SW8270C	07/06/12 17:20	PL	95-57-8	
4-Chlorophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	7005-72-3	
Chrysene	Not detected	ug/L	1	SW8270C	07/06/12 17:20	PL	218-01-9	
p,m-Cresol	Not detected	ug/L	20	SW8270C	07/06/12 17:20	PL	3/4-Cresol	
o-Cresol	Not detected	ug/L	10	SW8270C	07/06/12 17:20	PL	95-48-7	
Dibenzo(ah)anthracene	Not detected	ug/L	2	SW8270C	07/06/12 17:20	PL	53-70-3	
Dibenzofuran	Not detected	ug/L	4	SW8270C	07/06/12 17:20	PL	132-64-9	
di-n-Butyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	84-74-2	



# Analytical Laboratory Report

Lab Sample ID: S53069.01 (continued)

Sample Tag: MW-8

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Semi-Volatile Organics - MDEQ (continued)</b>								
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 17:20	PL	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 17:20	PL	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 17:20	PL	106-46-7	
3,3'-Dichlorobenzidine	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	91-94-1	
2,4-Dichlorophenol	Not detected	ug/L	10	SW8270C	07/06/12 17:20	PL	120-83-2	
Diethyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	84-66-2	
2,4-Dimethylphenol	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	105-67-9	
Dimethyl phthalate	8	ug/L	5	SW8270C	07/06/12 17:20	PL	131-11-3	B
4,6-Dinitro-2-methylphenol	Not detected	ug/L	20	SW8270C	07/06/12 17:20	PL	534-52-1	
2,4-Dinitrophenol	Not detected	ug/L	25	SW8270C	07/06/12 17:20	PL	51-28-5	
2,4-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	121-14-2	
2,6-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	606-20-2	
1,2-Diphenylhydrazine	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	122-66-7	
di-n-Octyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	117-84-0	
Fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 17:20	PL	206-44-0	
Fluorene	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	86-73-7	
Hexachlorobenzene	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	118-74-1	
Hexachlorobutadiene	Not detected	ug/L	10	SW8270C	07/06/12 17:20	PL	87-68-3	
Hexachlorocyclopentadiene	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	77-47-4	
Hexachloroethane	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	ug/L	2	SW8270C	07/06/12 17:20	PL	193-39-5	
Isophorone	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	78-59-1	
2-Methylnaphthalene	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	91-57-6	
Naphthalene	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	91-20-3	
2-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 17:20	PL	88-74-4	
3-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 17:20	PL	99-09-2	
4-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 17:20	PL	100-01-6	
Nitrobenzene	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	98-95-3	
2-Nitrophenol	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	88-75-5	
4-Nitrophenol	Not detected	ug/L	25	SW8270C	07/06/12 17:20	PL	100-02-7	
N-Nitrosodiphenylamine	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	86-30-6	
N-Nitrosodi-n-propylamine	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	621-64-7	
Pentachlorophenol	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	87-86-5	
Phenanthrene	Not detected	ug/L	2	SW8270C	07/06/12 17:20	PL	85-01-8	
Phenol	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	108-95-2	
Pyrene	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	129-00-0	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	120-82-1	
2,4,5-Trichlorophenol	Not detected	ug/L	5	SW8270C	07/06/12 17:20	PL	95-95-4	
2,4,6-Trichlorophenol	Not detected	ug/L	4	SW8270C	07/06/12 17:20	PL	88-06-2	
<b>Organics - Volatiles</b>								
<b>Volatile Organics - DEQ List</b>								
Diethyl ether	Not detected	ug/L	10	SW8260B	07/10/12 18:55	WAT	60-29-7	
Acetone	Not detected	ug/L	50	SW8260B	07/10/12 18:55	WAT	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW8260B	07/10/12 18:55	WAT	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	07/10/12 18:55	WAT	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW8260B	07/10/12 18:55	WAT	107-13-1	

B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S53069.01 (continued)

Sample Tag: MW-8

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	07/10/12 18:55	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	07/10/12 18:55	WAT	75-71-8	
Chloromethane	Not detected	ug/L	5	SW8260B	07/10/12 18:55	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	75-01-4	
Bromomethane	Not detected	ug/L	5	SW8260B	07/10/12 18:55	WAT	74-83-9	
Chloroethane	Not detected	ug/L	5	SW8260B	07/10/12 18:55	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW8260B	07/10/12 18:55	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	156-59-2	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	07/10/12 18:55	WAT	109-99-9	
Chloroform	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	07/10/12 18:55	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW8260B	07/10/12 18:55	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW8260B	07/10/12 18:55	WAT	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	07/10/12 18:55	WAT	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260B	07/10/12 18:55	WAT		
o-Xylene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	07/10/12 18:55	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	135-98-8	



# Analytical Laboratory Report

Lab Sample ID: S53069.01 (continued)

Sample Tag: MW-8

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	07/10/12 18:55	WAT	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 18:55	WAT	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW8260B	07/10/12 18:55	WAT	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	07/10/12 18:55	WAT	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 18:55	WAT	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 18:55	WAT	87-61-6	
Naphthalene	Not detected	ug/L	5	SW8260B	07/10/12 18:55	WAT	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	07/10/12 18:55	WAT	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S53069.02  
 Sample Tag: DUP-1  
 Collected Date/Time: 07/02/2012 00:01  
 Matrix: Groundwater  
 COC Reference: 63586

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	HCL	Yes	5.2	IR
1	125ml Plastic	HNO3	Yes	5.2	IR
2	1L Amber	None	Yes	5.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

BNA Extraction	Completed			3510C	07/05/12 18:32	EMR		
Mercury Digestion	Completed			E245.1	07/09/12 12:00	JRH		
Metal Digestion	Completed			3015A	07/05/12 01:00	SLR		

### Metals

Arsenic	Not detected	mg/L	0.002	E200.8	07/05/12 21:00	SLS	7440-38-2	
Barium	0.111	mg/L	0.005	E200.8	07/05/12 21:00	SLS	7440-39-3	
Cadmium	Not detected	mg/L	0.0005	E200.8	07/05/12 21:00	SLS	7440-43-9	
Chromium	Not detected	mg/L	0.005	E200.8	07/05/12 21:00	SLS	7440-47-3	
Lead	Not detected	mg/L	0.003	E200.8	07/05/12 21:00	SLS	7439-92-1	
Mercury	Not detected	mg/L	0.0002	E245.1	07/09/12 14:55	JRT	7439-97-6	
Selenium	Not detected	mg/L	0.005	E200.8	07/05/12 21:00	SLS	7782-49-2	
Silver	Not detected	mg/L	0.0005	E200.8	07/05/12 21:00	SLS	7440-22-4	

### Organics - Semi-Volatiles

#### Semi-Volatile Organics - MDEQ

Acenaphthene	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	83-32-9	
Acenaphthylene	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	208-96-8	
Anthracene	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/L	1	SW8270C	07/06/12 17:56	PL	56-55-3	
Benzo(b)fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 17:56	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 17:56	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/L	1	SW8270C	07/06/12 17:56	PL	191-24-2	
Benzo(a)pyrene	Not detected	ug/L	1	SW8270C	07/06/12 17:56	PL	50-32-8	
bis(2-Chloroethoxy)methane	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	111-91-1	
bis(2-Chloroethyl)ether	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	111-44-4	
bis(2-Chloroisopropyl)ether	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	108-60-1	
bis(2-Ethylhexyl)phthalate	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	117-81-7	
4-Bromophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	101-55-3	
Butyl benzyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	85-68-7	
4-Chloroaniline	Not detected	ug/L	10	SW8270C	07/06/12 17:56	PL	106-47-8	
2-Chloronaphthalene	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	91-58-7	
4-Chloro-3-methylphenol	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	59-50-7	
2-Chlorophenol	Not detected	ug/L	10	SW8270C	07/06/12 17:56	PL	95-57-8	
4-Chlorophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	7005-72-3	
Chrysene	Not detected	ug/L	1	SW8270C	07/06/12 17:56	PL	218-01-9	
p,m-Cresol	Not detected	ug/L	20	SW8270C	07/06/12 17:56	PL	3/4-Cresol	
o-Cresol	Not detected	ug/L	10	SW8270C	07/06/12 17:56	PL	95-48-7	
Dibenzo(ah)anthracene	Not detected	ug/L	2	SW8270C	07/06/12 17:56	PL	53-70-3	
Dibenzofuran	Not detected	ug/L	4	SW8270C	07/06/12 17:56	PL	132-64-9	
di-n-Butyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	84-74-2	



# Analytical Laboratory Report

Lab Sample ID: S53069.02 (continued)

Sample Tag: DUP-1

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Semi-Volatile Organics - MDEQ (continued)</b>								
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 17:56	PL	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 17:56	PL	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 17:56	PL	106-46-7	
3,3'-Dichlorobenzidine	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	91-94-1	
2,4-Dichlorophenol	Not detected	ug/L	10	SW8270C	07/06/12 17:56	PL	120-83-2	
Diethyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	84-66-2	
2,4-Dimethylphenol	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	105-67-9	
Dimethyl phthalate	10	ug/L	5	SW8270C	07/06/12 17:56	PL	131-11-3	B
4,6-Dinitro-2-methylphenol	Not detected	ug/L	20	SW8270C	07/06/12 17:56	PL	534-52-1	
2,4-Dinitrophenol	Not detected	ug/L	25	SW8270C	07/06/12 17:56	PL	51-28-5	
2,4-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	121-14-2	
2,6-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	606-20-2	
1,2-Diphenylhydrazine	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	122-66-7	
di-n-Octyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	117-84-0	
Fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 17:56	PL	206-44-0	
Fluorene	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	86-73-7	
Hexachlorobenzene	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	118-74-1	
Hexachlorobutadiene	Not detected	ug/L	10	SW8270C	07/06/12 17:56	PL	87-68-3	
Hexachlorocyclopentadiene	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	77-47-4	
Hexachloroethane	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	ug/L	2	SW8270C	07/06/12 17:56	PL	193-39-5	
Isophorone	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	78-59-1	
2-Methylnaphthalene	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	91-57-6	
Naphthalene	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	91-20-3	
2-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 17:56	PL	88-74-4	
3-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 17:56	PL	99-09-2	
4-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 17:56	PL	100-01-6	
Nitrobenzene	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	98-95-3	
2-Nitrophenol	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	88-75-5	
4-Nitrophenol	Not detected	ug/L	25	SW8270C	07/06/12 17:56	PL	100-02-7	
N-Nitrosodiphenylamine	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	86-30-6	
N-Nitrosodi-n-propylamine	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	621-64-7	
Pentachlorophenol	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	87-86-5	
Phenanthrene	Not detected	ug/L	2	SW8270C	07/06/12 17:56	PL	85-01-8	
Phenol	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	108-95-2	
Pyrene	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	129-00-0	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	120-82-1	
2,4,5-Trichlorophenol	Not detected	ug/L	5	SW8270C	07/06/12 17:56	PL	95-95-4	
2,4,6-Trichlorophenol	Not detected	ug/L	4	SW8270C	07/06/12 17:56	PL	88-06-2	
<b>Organics - Volatiles</b>								
<b>Volatile Organics - DEQ List</b>								
Diethyl ether	Not detected	ug/L	10	SW8260B	07/10/12 19:17	WAT	60-29-7	
Acetone	Not detected	ug/L	50	SW8260B	07/10/12 19:17	WAT	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW8260B	07/10/12 19:17	WAT	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	07/10/12 19:17	WAT	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW8260B	07/10/12 19:17	WAT	107-13-1	

B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S53069.02 (continued)

Sample Tag: DUP-1

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	07/10/12 19:17	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	07/10/12 19:17	WAT	75-71-8	
Chloromethane	Not detected	ug/L	5	SW8260B	07/10/12 19:17	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	75-01-4	
Bromomethane	Not detected	ug/L	5	SW8260B	07/10/12 19:17	WAT	74-83-9	
Chloroethane	Not detected	ug/L	5	SW8260B	07/10/12 19:17	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW8260B	07/10/12 19:17	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	156-59-2	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	07/10/12 19:17	WAT	109-99-9	
Chloroform	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	07/10/12 19:17	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW8260B	07/10/12 19:17	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW8260B	07/10/12 19:17	WAT	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	07/10/12 19:17	WAT	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260B	07/10/12 19:17	WAT		
o-Xylene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	07/10/12 19:17	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	135-98-8	



# Analytical Laboratory Report

Lab Sample ID: S53069.02 (continued)

Sample Tag: DUP-1

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	07/10/12 19:17	WAT	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:17	WAT	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW8260B	07/10/12 19:17	WAT	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	07/10/12 19:17	WAT	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 19:17	WAT	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 19:17	WAT	87-61-6	
Naphthalene	Not detected	ug/L	5	SW8260B	07/10/12 19:17	WAT	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	07/10/12 19:17	WAT	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S53069.03  
 Sample Tag: FB-1 (Field Blank)  
 Collected Date/Time: 07/02/2012 10:45  
 Matrix: Quality Control  
 COC Reference: 63586

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	HCL	Yes	5.2	IR
1	125ml Plastic	HNO3	Yes	5.2	IR
2	1L Amber	None	Yes	5.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

BNA Extraction	Completed			3510C	07/05/12 18:32	EMR		
Mercury Digestion	Completed			E245.1	07/09/12 12:00	JRH		
Metal Digestion	Completed			3015A	07/05/12 01:00	SLR		

### Metals

Arsenic	Not detected	mg/L	0.002	E200.8	07/05/12 21:04	SLS	7440-38-2	
Barium	Not detected	mg/L	0.005	E200.8	07/05/12 21:04	SLS	7440-39-3	
Cadmium	Not detected	mg/L	0.0005	E200.8	07/05/12 21:04	SLS	7440-43-9	
Chromium	Not detected	mg/L	0.005	E200.8	07/05/12 21:04	SLS	7440-47-3	
Lead	Not detected	mg/L	0.003	E200.8	07/05/12 21:04	SLS	7439-92-1	
Mercury	Not detected	mg/L	0.0002	E245.1	07/09/12 14:57	JRT	7439-97-6	
Selenium	Not detected	mg/L	0.005	E200.8	07/05/12 21:04	SLS	7782-49-2	
Silver	Not detected	mg/L	0.0005	E200.8	07/05/12 21:04	SLS	7440-22-4	

### Organics - Semi-Volatiles

#### Semi-Volatile Organics - MDEQ

Acenaphthene	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	83-32-9	
Acenaphthylene	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	208-96-8	
Anthracene	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/L	1	SW8270C	07/06/12 18:31	PL	56-55-3	
Benzo(b)fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 18:31	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 18:31	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/L	1	SW8270C	07/06/12 18:31	PL	191-24-2	
Benzo(a)pyrene	Not detected	ug/L	1	SW8270C	07/06/12 18:31	PL	50-32-8	
bis(2-Chloroethoxy)methane	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	111-91-1	
bis(2-Chloroethyl)ether	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	111-44-4	
bis(2-Chloroisopropyl)ether	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	108-60-1	
bis(2-Ethylhexyl)phthalate	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	117-81-7	
4-Bromophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	101-55-3	
Butyl benzyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	85-68-7	
4-Chloroaniline	Not detected	ug/L	10	SW8270C	07/06/12 18:31	PL	106-47-8	
2-Chloronaphthalene	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	91-58-7	
4-Chloro-3-methylphenol	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	59-50-7	
2-Chlorophenol	Not detected	ug/L	10	SW8270C	07/06/12 18:31	PL	95-57-8	
4-Chlorophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	7005-72-3	
Chrysene	Not detected	ug/L	1	SW8270C	07/06/12 18:31	PL	218-01-9	
p,m-Cresol	Not detected	ug/L	20	SW8270C	07/06/12 18:31	PL	3/4-Cresol	
o-Cresol	Not detected	ug/L	10	SW8270C	07/06/12 18:31	PL	95-48-7	
Dibenzo(ah)anthracene	Not detected	ug/L	2	SW8270C	07/06/12 18:31	PL	53-70-3	
Dibenzofuran	Not detected	ug/L	4	SW8270C	07/06/12 18:31	PL	132-64-9	
di-n-Butyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	84-74-2	



# Analytical Laboratory Report

Lab Sample ID: S53069.03 (continued)

Sample Tag: FB-1 (Field Blank)

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Semi-Volatile Organics - MDEQ (continued)</b>								
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 18:31	PL	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 18:31	PL	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 18:31	PL	106-46-7	
3,3'-Dichlorobenzidine	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	91-94-1	
2,4-Dichlorophenol	Not detected	ug/L	10	SW8270C	07/06/12 18:31	PL	120-83-2	
Diethyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	84-66-2	
2,4-Dimethylphenol	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	105-67-9	
Dimethyl phthalate	9	ug/L	5	SW8270C	07/06/12 18:31	PL	131-11-3	B
4,6-Dinitro-2-methylphenol	Not detected	ug/L	20	SW8270C	07/06/12 18:31	PL	534-52-1	
2,4-Dinitrophenol	Not detected	ug/L	25	SW8270C	07/06/12 18:31	PL	51-28-5	
2,4-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	121-14-2	
2,6-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	606-20-2	
1,2-Diphenylhydrazine	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	122-66-7	
di-n-Octyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	117-84-0	
Fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 18:31	PL	206-44-0	
Fluorene	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	86-73-7	
Hexachlorobenzene	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	118-74-1	
Hexachlorobutadiene	Not detected	ug/L	10	SW8270C	07/06/12 18:31	PL	87-68-3	
Hexachlorocyclopentadiene	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	77-47-4	
Hexachloroethane	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	ug/L	2	SW8270C	07/06/12 18:31	PL	193-39-5	
Isophorone	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	78-59-1	
2-Methylnaphthalene	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	91-57-6	
Naphthalene	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	91-20-3	
2-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 18:31	PL	88-74-4	
3-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 18:31	PL	99-09-2	
4-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 18:31	PL	100-01-6	
Nitrobenzene	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	98-95-3	
2-Nitrophenol	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	88-75-5	
4-Nitrophenol	Not detected	ug/L	25	SW8270C	07/06/12 18:31	PL	100-02-7	
N-Nitrosodiphenylamine	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	86-30-6	
N-Nitrosodi-n-propylamine	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	621-64-7	
Pentachlorophenol	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	87-86-5	
Phenanthrene	Not detected	ug/L	2	SW8270C	07/06/12 18:31	PL	85-01-8	
Phenol	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	108-95-2	
Pyrene	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	129-00-0	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	120-82-1	
2,4,5-Trichlorophenol	Not detected	ug/L	5	SW8270C	07/06/12 18:31	PL	95-95-4	
2,4,6-Trichlorophenol	Not detected	ug/L	4	SW8270C	07/06/12 18:31	PL	88-06-2	
<b>Organics - Volatiles</b>								
<b>Volatile Organics - DEQ List</b>								
Diethyl ether	Not detected	ug/L	10	SW8260B	07/10/12 19:39	WAT	60-29-7	
Acetone	Not detected	ug/L	50	SW8260B	07/10/12 19:39	WAT	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW8260B	07/10/12 19:39	WAT	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	07/10/12 19:39	WAT	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW8260B	07/10/12 19:39	WAT	107-13-1	

B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S53069.03 (continued)

Sample Tag: FB-1 (Field Blank)

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	07/10/12 19:39	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	07/10/12 19:39	WAT	75-71-8	
Chloromethane	Not detected	ug/L	5	SW8260B	07/10/12 19:39	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	75-01-4	
Bromomethane	Not detected	ug/L	5	SW8260B	07/10/12 19:39	WAT	74-83-9	
Chloroethane	Not detected	ug/L	5	SW8260B	07/10/12 19:39	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW8260B	07/10/12 19:39	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	156-59-2	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	07/10/12 19:39	WAT	109-99-9	
Chloroform	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	07/10/12 19:39	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW8260B	07/10/12 19:39	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW8260B	07/10/12 19:39	WAT	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	07/10/12 19:39	WAT	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260B	07/10/12 19:39	WAT		
o-Xylene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	07/10/12 19:39	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	135-98-8	



# Analytical Laboratory Report

Lab Sample ID: S53069.03 (continued)

Sample Tag: FB-1 (Field Blank)

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	07/10/12 19:39	WAT	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 19:39	WAT	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW8260B	07/10/12 19:39	WAT	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	07/10/12 19:39	WAT	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 19:39	WAT	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 19:39	WAT	87-61-6	
Naphthalene	Not detected	ug/L	5	SW8260B	07/10/12 19:39	WAT	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	07/10/12 19:39	WAT	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S53069.04  
 Sample Tag: MW-6  
 Collected Date/Time: 07/02/2012 12:40  
 Matrix: Groundwater  
 COC Reference: 63586

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	HCL	Yes	5.2	IR
1	125ml Plastic	HNO3	Yes	5.2	IR
2	1L Amber	None	Yes	5.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

BNA Extraction	Completed			3510C	07/05/12 18:32	EMR		
Mercury Digestion	Completed			E245.1	07/09/12 12:00	JRH		
Metal Digestion	Completed			3015A	07/05/12 01:00	SLR		

### Metals

Arsenic	Not detected	mg/L	0.002	E200.8	07/05/12 21:08	SLS	7440-38-2	
Barium	0.046	mg/L	0.005	E200.8	07/05/12 21:08	SLS	7440-39-3	
Cadmium	Not detected	mg/L	0.0005	E200.8	07/05/12 21:08	SLS	7440-43-9	
Chromium	Not detected	mg/L	0.005	E200.8	07/05/12 21:08	SLS	7440-47-3	
Lead	Not detected	mg/L	0.003	E200.8	07/05/12 21:08	SLS	7439-92-1	
Mercury	Not detected	mg/L	0.0002	E245.1	07/09/12 14:59	JRT	7439-97-6	
Selenium	Not detected	mg/L	0.005	E200.8	07/05/12 21:08	SLS	7782-49-2	
Silver	Not detected	mg/L	0.0005	E200.8	07/05/12 21:08	SLS	7440-22-4	

### Organics - Semi-Volatiles

#### Semi-Volatile Organics - MDEQ

Acenaphthene	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	83-32-9	
Acenaphthylene	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	208-96-8	
Anthracene	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/L	1	SW8270C	07/06/12 19:07	PL	56-55-3	
Benzo(b)fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 19:07	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 19:07	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/L	1	SW8270C	07/06/12 19:07	PL	191-24-2	
Benzo(a)pyrene	Not detected	ug/L	1	SW8270C	07/06/12 19:07	PL	50-32-8	
bis(2-Chloroethoxy)methane	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	111-91-1	
bis(2-Chloroethyl)ether	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	111-44-4	
bis(2-Chloroisopropyl)ether	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	108-60-1	
bis(2-Ethylhexyl)phthalate	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	117-81-7	
4-Bromophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	101-55-3	
Butyl benzyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	85-68-7	
4-Chloroaniline	Not detected	ug/L	10	SW8270C	07/06/12 19:07	PL	106-47-8	
2-Chloronaphthalene	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	91-58-7	
4-Chloro-3-methylphenol	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	59-50-7	
2-Chlorophenol	Not detected	ug/L	10	SW8270C	07/06/12 19:07	PL	95-57-8	
4-Chlorophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	7005-72-3	
Chrysene	Not detected	ug/L	1	SW8270C	07/06/12 19:07	PL	218-01-9	
p,m-Cresol	Not detected	ug/L	20	SW8270C	07/06/12 19:07	PL	3/4-Cresol	
o-Cresol	Not detected	ug/L	10	SW8270C	07/06/12 19:07	PL	95-48-7	
Dibenzo(ah)anthracene	Not detected	ug/L	2	SW8270C	07/06/12 19:07	PL	53-70-3	
Dibenzofuran	Not detected	ug/L	4	SW8270C	07/06/12 19:07	PL	132-64-9	
di-n-Butyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	84-74-2	



# Analytical Laboratory Report

Lab Sample ID: S53069.04 (continued)

Sample Tag: MW-6

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Semi-Volatile Organics - MDEQ (continued)</b>								
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 19:07	PL	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 19:07	PL	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 19:07	PL	106-46-7	
3,3'-Dichlorobenzidine	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	91-94-1	
2,4-Dichlorophenol	Not detected	ug/L	10	SW8270C	07/06/12 19:07	PL	120-83-2	
Diethyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	84-66-2	
2,4-Dimethylphenol	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	105-67-9	
Dimethyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	131-11-3	
4,6-Dinitro-2-methylphenol	Not detected	ug/L	20	SW8270C	07/06/12 19:07	PL	534-52-1	
2,4-Dinitrophenol	Not detected	ug/L	25	SW8270C	07/06/12 19:07	PL	51-28-5	
2,4-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	121-14-2	
2,6-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	606-20-2	
1,2-Diphenylhydrazine	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	122-66-7	
di-n-Octyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	117-84-0	
Fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 19:07	PL	206-44-0	
Fluorene	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	86-73-7	
Hexachlorobenzene	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	118-74-1	
Hexachlorobutadiene	Not detected	ug/L	10	SW8270C	07/06/12 19:07	PL	87-68-3	
Hexachlorocyclopentadiene	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	77-47-4	
Hexachloroethane	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	ug/L	2	SW8270C	07/06/12 19:07	PL	193-39-5	
Isophorone	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	78-59-1	
2-Methylnaphthalene	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	91-57-6	
Naphthalene	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	91-20-3	
2-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 19:07	PL	88-74-4	
3-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 19:07	PL	99-09-2	
4-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 19:07	PL	100-01-6	
Nitrobenzene	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	98-95-3	
2-Nitrophenol	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	88-75-5	
4-Nitrophenol	Not detected	ug/L	25	SW8270C	07/06/12 19:07	PL	100-02-7	
N-Nitrosodiphenylamine	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	86-30-6	
N-Nitrosodi-n-propylamine	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	621-64-7	
Pentachlorophenol	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	87-86-5	
Phenanthrene	Not detected	ug/L	2	SW8270C	07/06/12 19:07	PL	85-01-8	
Phenol	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	108-95-2	
Pyrene	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	129-00-0	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	120-82-1	
2,4,5-Trichlorophenol	Not detected	ug/L	5	SW8270C	07/06/12 19:07	PL	95-95-4	
2,4,6-Trichlorophenol	Not detected	ug/L	4	SW8270C	07/06/12 19:07	PL	88-06-2	
<b>Organics - Volatiles</b>								
<b>Volatile Organics - DEQ List</b>								
Diethyl ether	Not detected	ug/L	10	SW8260B	07/10/12 20:01	WAT	60-29-7	
Acetone	Not detected	ug/L	50	SW8260B	07/10/12 20:01	WAT	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW8260B	07/10/12 20:01	WAT	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	07/10/12 20:01	WAT	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW8260B	07/10/12 20:01	WAT	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	07/10/12 20:01	WAT	78-93-3	



# Analytical Laboratory Report

Lab Sample ID: S53069.04 (continued)

Sample Tag: MW-6

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	07/10/12 20:01	WAT	75-71-8	
Chloromethane	Not detected	ug/L	5	SW8260B	07/10/12 20:01	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	75-01-4	
Bromomethane	Not detected	ug/L	5	SW8260B	07/10/12 20:01	WAT	74-83-9	
Chloroethane	Not detected	ug/L	5	SW8260B	07/10/12 20:01	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW8260B	07/10/12 20:01	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	156-59-2	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	07/10/12 20:01	WAT	109-99-9	
Chloroform	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	07/10/12 20:01	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW8260B	07/10/12 20:01	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW8260B	07/10/12 20:01	WAT	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	07/10/12 20:01	WAT	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260B	07/10/12 20:01	WAT		
o-Xylene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	07/10/12 20:01	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	07/10/12 20:01	WAT	99-87-6	



# Analytical Laboratory Report

Lab Sample ID: S53069.04 (continued)

Sample Tag: MW-6

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:01	WAT	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW8260B	07/10/12 20:01	WAT	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	07/10/12 20:01	WAT	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 20:01	WAT	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 20:01	WAT	87-61-6	
Naphthalene	Not detected	ug/L	5	SW8260B	07/10/12 20:01	WAT	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	07/10/12 20:01	WAT	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S53069.05  
 Sample Tag: EB-1 (Equipment Blank)  
 Collected Date/Time: 07/02/2012 13:20  
 Matrix: Quality Control  
 COC Reference: 63586

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	40ml Glass	HCL	Yes	5.2	IR
1	125ml Plastic	HNO3	Yes	5.2	IR
2	1L Amber	None	Yes	5.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
BNA Extraction	Completed			3510C	07/05/12 18:32	EMR		
Mercury Digestion	Completed			E245.1	07/09/12 12:00	JRH		
Metal Digestion	Completed			3015A	07/05/12 01:00	SLR		

## Metals

Arsenic	Not detected	mg/L	0.002	E200.8	07/05/12 21:12	SLS	7440-38-2	
Barium	Not detected	mg/L	0.005	E200.8	07/05/12 21:12	SLS	7440-39-3	
Cadmium	Not detected	mg/L	0.0005	E200.8	07/05/12 21:12	SLS	7440-43-9	
Chromium	Not detected	mg/L	0.005	E200.8	07/05/12 21:12	SLS	7440-47-3	
Lead	Not detected	mg/L	0.003	E200.8	07/05/12 21:12	SLS	7439-92-1	
Mercury	Not detected	mg/L	0.0002	E245.1	07/09/12 15:11	JRT	7439-97-6	
Selenium	Not detected	mg/L	0.005	E200.8	07/05/12 21:12	SLS	7782-49-2	
Silver	Not detected	mg/L	0.0005	E200.8	07/05/12 21:12	SLS	7440-22-4	

## Organics - Semi-Volatiles

### Semi-Volatile Organics - MDEQ

Acenaphthene	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	83-32-9	
Acenaphthylene	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	208-96-8	
Anthracene	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/L	1	SW8270C	07/06/12 19:43	PL	56-55-3	
Benzo(b)fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 19:43	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 19:43	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/L	1	SW8270C	07/06/12 19:43	PL	191-24-2	
Benzo(a)pyrene	Not detected	ug/L	1	SW8270C	07/06/12 19:43	PL	50-32-8	
bis(2-Chloroethoxy)methane	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	111-91-1	
bis(2-Chloroethyl)ether	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	111-44-4	
bis(2-Chloroisopropyl)ether	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	108-60-1	
bis(2-Ethylhexyl)phthalate	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	117-81-7	
4-Bromophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	101-55-3	
Butyl benzyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	85-68-7	
4-Chloroaniline	Not detected	ug/L	10	SW8270C	07/06/12 19:43	PL	106-47-8	
2-Chloronaphthalene	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	91-58-7	
4-Chloro-3-methylphenol	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	59-50-7	
2-Chlorophenol	Not detected	ug/L	10	SW8270C	07/06/12 19:43	PL	95-57-8	
4-Chlorophenyl phenyl ether	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	7005-72-3	
Chrysene	Not detected	ug/L	1	SW8270C	07/06/12 19:43	PL	218-01-9	
p,m-Cresol	Not detected	ug/L	20	SW8270C	07/06/12 19:43	PL	3/4-Cresol	
o-Cresol	Not detected	ug/L	10	SW8270C	07/06/12 19:43	PL	95-48-7	
Dibenzo(ah)anthracene	Not detected	ug/L	2	SW8270C	07/06/12 19:43	PL	53-70-3	
Dibenzofuran	Not detected	ug/L	4	SW8270C	07/06/12 19:43	PL	132-64-9	
di-n-Butyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	84-74-2	



# Analytical Laboratory Report

Lab Sample ID: S53069.05 (continued)

Sample Tag: EB-1 (Equipment Blank)

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Semi-Volatiles (continued)</b>								
<b>Semi-Volatile Organics - MDEQ (continued)</b>								
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 19:43	PL	95-50-1	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 19:43	PL	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8270C	07/06/12 19:43	PL	106-46-7	
3,3'-Dichlorobenzidine	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	91-94-1	
2,4-Dichlorophenol	Not detected	ug/L	10	SW8270C	07/06/12 19:43	PL	120-83-2	
Diethyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	84-66-2	
2,4-Dimethylphenol	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	105-67-9	
Dimethyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	131-11-3	
4,6-Dinitro-2-methylphenol	Not detected	ug/L	20	SW8270C	07/06/12 19:43	PL	534-52-1	
2,4-Dinitrophenol	Not detected	ug/L	25	SW8270C	07/06/12 19:43	PL	51-28-5	
2,4-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	121-14-2	
2,6-Dinitrotoluene	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	606-20-2	
1,2-Diphenylhydrazine	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	122-66-7	
di-n-Octyl phthalate	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	117-84-0	
Fluoranthene	Not detected	ug/L	1	SW8270C	07/06/12 19:43	PL	206-44-0	
Fluorene	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	86-73-7	
Hexachlorobenzene	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	118-74-1	
Hexachlorobutadiene	Not detected	ug/L	10	SW8270C	07/06/12 19:43	PL	87-68-3	
Hexachlorocyclopentadiene	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	77-47-4	
Hexachloroethane	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	ug/L	2	SW8270C	07/06/12 19:43	PL	193-39-5	
Isophorone	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	78-59-1	
2-Methylnaphthalene	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	91-57-6	
Naphthalene	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	91-20-3	
2-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 19:43	PL	88-74-4	
3-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 19:43	PL	99-09-2	
4-Nitroaniline	Not detected	ug/L	25	SW8270C	07/06/12 19:43	PL	100-01-6	
Nitrobenzene	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	98-95-3	
2-Nitrophenol	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	88-75-5	
4-Nitrophenol	Not detected	ug/L	25	SW8270C	07/06/12 19:43	PL	100-02-7	
N-Nitrosodiphenylamine	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	86-30-6	
N-Nitrosodi-n-propylamine	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	621-64-7	
Pentachlorophenol	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	87-86-5	
Phenanthrene	Not detected	ug/L	2	SW8270C	07/06/12 19:43	PL	85-01-8	
Phenol	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	108-95-2	
Pyrene	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	129-00-0	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	120-82-1	
2,4,5-Trichlorophenol	Not detected	ug/L	5	SW8270C	07/06/12 19:43	PL	95-95-4	
2,4,6-Trichlorophenol	Not detected	ug/L	4	SW8270C	07/06/12 19:43	PL	88-06-2	
<b>Organics - Volatiles</b>								
<b>Volatile Organics - DEQ List</b>								
Diethyl ether	Not detected	ug/L	10	SW8260B	07/10/12 20:23	WAT	60-29-7	
Acetone	Not detected	ug/L	50	SW8260B	07/10/12 20:23	WAT	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW8260B	07/10/12 20:23	WAT	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	07/10/12 20:23	WAT	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW8260B	07/10/12 20:23	WAT	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	07/10/12 20:23	WAT	78-93-3	



# Analytical Laboratory Report

Lab Sample ID: S53069.05 (continued)

Sample Tag: EB-1 (Equipment Blank)

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	07/10/12 20:23	WAT	75-71-8	
Chloromethane	Not detected	ug/L	5	SW8260B	07/10/12 20:23	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	75-01-4	
Bromomethane	Not detected	ug/L	5	SW8260B	07/10/12 20:23	WAT	74-83-9	
Chloroethane	Not detected	ug/L	5	SW8260B	07/10/12 20:23	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW8260B	07/10/12 20:23	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	156-59-2	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	07/10/12 20:23	WAT	109-99-9	
Chloroform	9	ug/L	1	SW8260B	07/10/12 20:23	WAT	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	07/10/12 20:23	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW8260B	07/10/12 20:23	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	78-87-5	
Bromodichloromethane	2	ug/L	1	SW8260B	07/10/12 20:23	WAT	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW8260B	07/10/12 20:23	WAT	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	07/10/12 20:23	WAT	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260B	07/10/12 20:23	WAT		
o-Xylene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	07/10/12 20:23	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	07/10/12 20:23	WAT	99-87-6	



# Analytical Laboratory Report

Lab Sample ID: S53069.05 (continued)

Sample Tag: EB-1 (Equipment Blank)

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:23	WAT	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW8260B	07/10/12 20:23	WAT	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	07/10/12 20:23	WAT	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 20:23	WAT	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 20:23	WAT	87-61-6	
Naphthalene	Not detected	ug/L	5	SW8260B	07/10/12 20:23	WAT	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	07/10/12 20:23	WAT	91-57-6	



# Analytical Laboratory Report

Lab Sample ID: S53069.06  
Sample Tag: TB-3 (Trip Blank)  
Collected Date/Time: 07/02/2012 00:01  
Matrix: Quality Control  
COC Reference: 63586

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	5.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Organics - Volatiles

#### Volatile Organics - DEQ List

Diethyl ether	Not detected	ug/L	10	SW8260B	07/10/12 20:44	WAT	60-29-7	
Acetone	Not detected	ug/L	50	SW8260B	07/10/12 20:44	WAT	67-64-1	
Methyl iodide	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	74-88-4	
Carbon disulfide	Not detected	ug/L	5	SW8260B	07/10/12 20:44	WAT	75-15-0	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW8260B	07/10/12 20:44	WAT	1634-04-4	
Acrylonitrile	Not detected	ug/L	2	SW8260B	07/10/12 20:44	WAT	107-13-1	
2-Butanone (MEK)	Not detected	ug/L	25	SW8260B	07/10/12 20:44	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	5	SW8260B	07/10/12 20:44	WAT	75-71-8	
Chloromethane	Not detected	ug/L	5	SW8260B	07/10/12 20:44	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	75-01-4	
Bromomethane	Not detected	ug/L	5	SW8260B	07/10/12 20:44	WAT	74-83-9	
Chloroethane	Not detected	ug/L	5	SW8260B	07/10/12 20:44	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	5	SW8260B	07/10/12 20:44	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	156-59-2	
Tetrahydrofuran	Not detected	ug/L	90	SW8260B	07/10/12 20:44	WAT	109-99-9	
Chloroform	5	ug/L	1	SW8260B	07/10/12 20:44	WAT	67-66-3	
Bromochloromethane	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	74-97-5	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	71-55-6	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW8260B	07/10/12 20:44	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	50	SW8260B	07/10/12 20:44	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	75-27-4	
Dibromomethane	Not detected	ug/L	5	SW8260B	07/10/12 20:44	WAT	74-95-3	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	127-18-4	
trans-1,4-Dichloro-2-butene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	110-57-6	
Dibromochloromethane	Not detected	ug/L	5	SW8260B	07/10/12 20:44	WAT	124-48-1	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	106-93-4	
Chlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	108-90-7	
1,1,1,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	630-20-6	
Ethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	100-41-4	



# Analytical Laboratory Report

Lab Sample ID: S53069.06 (continued)

Sample Tag: TB-3 (Trip Blank)

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Organics - Volatiles (continued)</b>								
<b>Volatile Organics - DEQ List (continued)</b>								
p,m-Xylene	Not detected	ug/L	2	SW8260B	07/10/12 20:44	WAT		
o-Xylene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	5	SW8260B	07/10/12 20:44	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	75-25-2	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	79-34-5	
1,2,3-Trichloropropane	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	96-18-4	
n-Propylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	103-65-1	
Bromobenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	108-86-1	
1,3,5-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	108-67-8	
tert-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	98-06-6	
1,2,4-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	95-63-6	
sec-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	135-98-8	
p-Isopropyltoluene	Not detected	ug/L	5	SW8260B	07/10/12 20:44	WAT	99-87-6	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	95-50-1	
1,2,3-Trimethylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	526-73-8	
n-Butylbenzene	Not detected	ug/L	1	SW8260B	07/10/12 20:44	WAT	104-51-8	
Hexachloroethane	Not detected	ug/L	5	SW8260B	07/10/12 20:44	WAT	67-72-1	
1,2-Dibromo-3-chloropropane	Not detected	ug/L	5	SW8260B	07/10/12 20:44	WAT	96-12-8	
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 20:44	WAT	120-82-1	
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW8260B	07/10/12 20:44	WAT	87-61-6	
Naphthalene	Not detected	ug/L	5	SW8260B	07/10/12 20:44	WAT	91-20-3	
2-Methylnaphthalene	Not detected	ug/L	5	SW8260B	07/10/12 20:44	WAT	91-57-6	



2680 East Lansing Dr., East Lansing, MI 48823  
 Phone (517) 332-0167 Fax (517) 332-6333  
 www.meritlabs.com

C.O.C. PAGE # 1 OF 1

63586

**REPORT TO**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

CONTACT NAME: Clifford Yantz  
 COMPANY: O'Brien + Gere  
 ADDRESS: 3700 Grand River  
 CITY: Farmington Hills STATE: MI ZIP CODE: 48335  
 PHONE NO.: 248-477-5701 FAX NO.:  P.O. NO.: 125045.07.07  
 E-MAIL ADDRESS: clifford.yantz@obg.com QUOTE NO.:

CONTACT NAME: Dave Favero  SAME  
 COMPANY: RACER Trust  
 ADDRESS: 2930 Ecorse Rd  
 CITY: Ypsilanti STATE: MI ZIP CODE: 48197  
 PHONE NO.: 247-741-6235 FAX NO.:  P.O. NO.:

**ANALYSIS (ATTACH LIST IF MORE SPACE REQUIRED)**

PROJECT NO./NAME: RACER Dort Hwy Land site # 12960-07 SAMPLER(S) - PLEASE PRINT/SIGN NAME: Kevin Schneider *KS*  
 TURNAROUND TIME REQUIRED:  24 HR  48 HR  72 HR  STANDARD  OTHER  
 DELIVERABLES REQUIRED:  STANDARD  LEVEL II  LEVEL III  OTHER

MATRIX CODE	GW=GROUNDWATER SL=SLUDGE	YW=WASTEWATER O=OIL	S=SOIL A=AIR	L=LIQUID W=WASTE	SD=SOLID M=MISC	# Containers & Preservatives	VOCS	SVOCs	TOTAL PCRA METALS	SPECIAL INSTRUCTIONS/NOTES									
53069.01							X	X	X										
.02							X	X	X										
.03							X	X	X										
.04							X	X	X										
.05							X	X	X										
.06							X												

MERIT LAB NO.	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCL	HNO3	H2SO4	NaOH	MeOH	OTHER
	DATE	TIME										
53069.01	7/2/12	1015	MW-8	GW	5	2	2	1				
.02			DUP-1	GW	5	2	2	1				
.03		1045	FB-1 (Field Blank)	QC	5	2	2	1				
.04		1240	MW-6	GW	5	2	2	1				
.05		1320	EB-1 (Equipment Blank)	QC	5	2	2	1				
.06			TB-3 (Trip Blank)	QC	1							

RELINQUISHED BY: *Zeff* / O'Brien + Gere DATE: 7/2/12 TIME: 1330  
 RECEIVED BY: *[Signature]* DATE: 7-2-12 TIME: 1330  
 RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_  
 RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

RELINQUISHED BY: *[Signature]* DATE: 7-2-12 TIME: 1830  
 RECEIVED BY: *[Signature]* DATE: 7-2-12 TIME: 1430  
 SEAL NO. SEAL INTACT YES  NO  INITIALS: \_\_\_\_\_ NOTES: \_\_\_\_\_ TEMP. ON ARRIVAL: 52  
 SEAL NO. SEAL INTACT YES  NO  INITIALS: \_\_\_\_\_

PLEASE NOTE: SIGNING ACKNOWLEDGES ACCEPTANCE OF TERMS & CONDITIONS ON REVERSE SIDE





# Analytical Laboratory Report

Report ID: S54059.01(01)  
Generated on 10/01/2012

Report to

Attention: Clifford Yantz  
O'Brien & Gere Engineers, Inc.  
37000 Grand River Ave.  
Suite 260  
Farmington, MI 48335

Phone: 248-477-5701 FAX:  
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): S54059.01-S54059.11  
Project: RACER Dort Hwy Land  
Collected Date: 09/27/2012  
Submitted Date/Time: 09/28/2012 09:00  
Sampled by: Kevin Schneider  
P.O. #: 11210767

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 RL.  
Samples are held by the lab for 30 days from the sample submittal date unless a written request to hold longer is provided by the client.  
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Laboratory Certifications:

Michigan DNRE (#9956), DOD/ISO 17025 (#L11-184), WBENC (#2005110032)  
Ohio EPA (#CL0002), IN Drinking Water (#C-MI-07), NELAC NY (#11814), NELAC FL (#E871045)  
Some analytes reported may not be certified. Full certification lists are available upon request.

Violetta F. Murshak  
Laboratory Director



# Analytical Laboratory Report

## Sample Summary (11 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S54059.01	MW-2	Groundwater	09/27/2012 11:30
S54059.02	MW-2 Co-Located	Groundwater	09/27/2012 11:30
S54059.03	MW-4	Groundwater	09/27/2012 13:20
S54059.04	MW-2-1	Groundwater	09/27/2012 14:25
S54059.05	MW-2-1 MS	Groundwater	09/27/2012 14:25
S54059.06	MW-2-1 MSD	Groundwater	09/27/2012 14:25
S54059.07	MW-7	Groundwater	09/27/2012 16:30
S54059.08	FB-1	Groundwater	09/27/2012 17:15
S54059.09	MW-9	Groundwater	09/27/2012 18:10
S54059.10	DUP-1	Groundwater	09/27/2012 00:01
S54059.11	EB-1	Groundwater	09/27/2012 18:30



# Analytical Laboratory Report

Lab Sample ID: S54059.01  
 Sample Tag: MW-2  
 Collected Date/Time: 09/27/2012 11:30  
 Matrix: Groundwater  
 COC Reference: 71028

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
Metal Digestion	Completed			3015A	10/01/12 01:00	SLR		
Metal Digestion	Completed			3015A	10/01/12 01:00	SLR		
<b>Metals</b>								
Arsenic, Dissolved	0.035	mg/L	0.002	E200.8	10/01/12 13:07	SLS	7440-38-2	
Arsenic	0.034	mg/L	0.002	E200.8	10/01/12 13:04	SLS	7440-38-2	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	10/01/12 13:07	SLS	7439-92-1	
Lead	0.004	mg/L	0.003	E200.8	10/01/12 13:04	SLS	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	10/01/12 13:07	SLS	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	10/01/12 13:04	SLS	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0002	E200.8	10/01/12 16:50	SLS	7440-22-4	
Silver	Not detected	mg/L	0.0002	E200.8	10/01/12 16:48	SLS	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S54059.02  
 Sample Tag: MW-2 Co-Located  
 Collected Date/Time: 09/27/2012 11:30  
 Matrix: Groundwater  
 COC Reference: 71028

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
Metal Digestion	Completed			3015A	10/01/12 01:00	SLR		
Metal Digestion	Completed			3015A	10/01/12 01:00	SLR		
<b>Metals</b>								
Arsenic, Dissolved	0.034	mg/L	0.002	E200.8	10/01/12 13:13	SLS	7440-38-2	
Arsenic	0.035	mg/L	0.002	E200.8	10/01/12 13:10	SLS	7440-38-2	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	10/01/12 13:13	SLS	7439-92-1	
Lead	0.004	mg/L	0.003	E200.8	10/01/12 13:10	SLS	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	10/01/12 13:13	SLS	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	10/01/12 13:10	SLS	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0002	E200.8	10/01/12 16:54	SLS	7440-22-4	
Silver	Not detected	mg/L	0.0002	E200.8	10/01/12 16:52	SLS	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S54059.03  
 Sample Tag: MW-4  
 Collected Date/Time: 09/27/2012 13:20  
 Matrix: Groundwater  
 COC Reference: 71028

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	10/01/12 01:00	SLR		
Metal Digestion	Completed			3015A	10/01/12 01:00	SLR		

**Metals**

Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	10/01/12 13:19	SLS	7440-38-2	
Arsenic	Not detected	mg/L	0.002	E200.8	10/01/12 13:16	SLS	7440-38-2	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	10/01/12 13:19	SLS	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	10/01/12 13:16	SLS	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	10/01/12 13:19	SLS	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	10/01/12 13:16	SLS	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0002	E200.8	10/01/12 16:58	SLS	7440-22-4	
Silver	Not detected	mg/L	0.0002	E200.8	10/01/12 16:56	SLS	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S54059.04  
 Sample Tag: MW-2-1  
 Collected Date/Time: 09/27/2012 14:25  
 Matrix: Groundwater  
 COC Reference: 71028

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	10/01/12 01:00	SLR		
Metal Digestion	Completed			3015A	10/01/12 01:00	SLR		

**Metals**

Arsenic, Dissolved	0.026	mg/L	0.002	E200.8	10/01/12 14:03	SLS	7440-38-2	
Arsenic	0.032	mg/L	0.002	E200.8	10/01/12 13:29	SLS	7440-38-2	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	10/01/12 14:03	SLS	7439-92-1	
Lead	0.004	mg/L	0.003	E200.8	10/01/12 13:29	SLS	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	10/01/12 14:03	SLS	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	10/01/12 13:29	SLS	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0002	E200.8	10/01/12 17:27	SLS	7440-22-4	
Silver	Not detected	mg/L	0.0002	E200.8	10/01/12 17:04	SLS	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S54059.05  
 Sample Tag: MW-2-1 MS  
 Collected Date/Time: 09/27/2012 14:25  
 Matrix: Groundwater  
 COC Reference: 71028

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	10/01/12 01:00	SLR		
Metal Digestion	Completed			3015A	10/01/12 01:00	SLR		

**Metals**

Arsenic, Dissolved	0.131	mg/L	0.002	E200.8	10/01/12 14:06	SLS	7440-38-2	
Arsenic	0.140	mg/L	0.002	E200.8	10/01/12 13:32	SLS	7440-38-2	
Lead, Dissolved	0.096	mg/L	0.003	E200.8	10/01/12 14:06	SLS	7439-92-1	
Lead	0.099	mg/L	0.003	E200.8	10/01/12 13:32	SLS	7439-92-1	
Selenium, Dissolved	0.108	mg/L	0.005	E200.8	10/01/12 14:06	SLS	7782-49-2	
Selenium	0.113	mg/L	0.005	E200.8	10/01/12 13:32	SLS	7782-49-2	
Silver, Dissolved	0.0900	mg/L	0.0002	E200.8	10/01/12 17:29	SLS	7440-22-4	
Silver	0.0911	mg/L	0.0002	E200.8	10/01/12 17:06	SLS	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S54059.06  
 Sample Tag: MW-2-1 MSD  
 Collected Date/Time: 09/27/2012 14:25  
 Matrix: Groundwater  
 COC Reference: 71028

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	10/01/12 01:00	SLR		
Metal Digestion	Completed			3015A	10/01/12 01:00	SLR		

**Metals**

Arsenic, Dissolved	0.131	mg/L	0.002	E200.8	10/01/12 14:09	SLS	7440-38-2	
Arsenic	0.139	mg/L	0.002	E200.8	10/01/12 13:35	SLS	7440-38-2	
Lead, Dissolved	0.099	mg/L	0.003	E200.8	10/01/12 14:09	SLS	7439-92-1	
Lead	0.100	mg/L	0.003	E200.8	10/01/12 13:35	SLS	7439-92-1	
Selenium, Dissolved	0.111	mg/L	0.005	E200.8	10/01/12 14:09	SLS	7782-49-2	
Selenium	0.112	mg/L	0.005	E200.8	10/01/12 13:35	SLS	7782-49-2	
Silver, Dissolved	0.0925	mg/L	0.0002	E200.8	10/01/12 17:32	SLS	7440-22-4	
Silver	0.0936	mg/L	0.0002	E200.8	10/01/12 17:09	SLS	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S54059.07  
 Sample Tag: MW-7  
 Collected Date/Time: 09/27/2012 16:30  
 Matrix: Groundwater  
 COC Reference: 71028

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	10/01/12 01:00	SLR		
Metal Digestion	Completed			3015A	10/01/12 01:00	SLR		

**Metals**

Arsenic, Dissolved	0.030	mg/L	0.002	E200.8	10/01/12 13:26	SLS	7440-38-2	
Arsenic	0.028	mg/L	0.002	E200.8	10/01/12 13:22	SLS	7440-38-2	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	10/01/12 13:26	SLS	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	10/01/12 13:22	SLS	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	10/01/12 13:26	SLS	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	10/01/12 13:22	SLS	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0002	E200.8	10/01/12 17:02	SLS	7440-22-4	
Silver	Not detected	mg/L	0.0002	E200.8	10/01/12 17:00	SLS	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S54059.08  
Sample Tag: FB-1  
Collected Date/Time: 09/27/2012 17:15  
Matrix: Groundwater  
COC Reference: 71028

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### **Extraction / Prep.**

Metal Digestion	Completed			3015A	10/01/12 01:00	SLR		
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### **Metals**

Arsenic	Not detected	mg/L	0.002	E200.8	10/01/12 13:44	SLS	7440-38-2	
Lead	Not detected	mg/L	0.003	E200.8	10/01/12 13:44	SLS	7439-92-1	
Selenium	Not detected	mg/L	0.005	E200.8	10/01/12 13:44	SLS	7782-49-2	
Silver	Not detected	mg/L	0.0002	E200.8	10/01/12 17:16	SLS	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S54059.09  
 Sample Tag: MW-9  
 Collected Date/Time: 09/27/2012 18:10  
 Matrix: Groundwater  
 COC Reference: 71028

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	10/01/12 01:00	SLR		
Metal Digestion	Completed			3015A	10/01/12 01:00	SLR		

**Metals**

Arsenic, Dissolved	0.003	mg/L	0.002	E200.8	10/01/12 13:50	SLS	7440-38-2	
Arsenic	0.004	mg/L	0.002	E200.8	10/01/12 13:47	SLS	7440-38-2	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	10/01/12 13:50	SLS	7439-92-1	
Lead	0.003	mg/L	0.003	E200.8	10/01/12 13:47	SLS	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	10/01/12 13:50	SLS	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	10/01/12 13:47	SLS	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0002	E200.8	10/01/12 17:19	SLS	7440-22-4	
Silver	Not detected	mg/L	0.0002	E200.8	10/01/12 17:17	SLS	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S54059.10  
 Sample Tag: DUP-1  
 Collected Date/Time: 09/27/2012 00:01  
 Matrix: Groundwater  
 COC Reference: 71028

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	10/01/12 01:00	SLR		
Metal Digestion	Completed			3015A	10/01/12 01:00	SLR		

**Metals**

Arsenic, Dissolved	0.003	mg/L	0.002	E200.8	10/01/12 13:57	SLS	7440-38-2	
Arsenic	0.003	mg/L	0.002	E200.8	10/01/12 13:54	SLS	7440-38-2	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	10/01/12 13:57	SLS	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	10/01/12 13:54	SLS	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	10/01/12 13:57	SLS	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	10/01/12 13:54	SLS	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0002	E200.8	10/01/12 17:23	SLS	7440-22-4	
Silver	Not detected	mg/L	0.0002	E200.8	10/01/12 17:21	SLS	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S54059.11  
Sample Tag: EB-1  
Collected Date/Time: 09/27/2012 18:30  
Matrix: Groundwater  
COC Reference: 71028

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	5.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### **Extraction / Prep.**

Metal Digestion	Completed			3015A	10/01/12 01:00	SLR		
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### **Metals**

Arsenic	Not detected	mg/L	0.002	E200.8	10/01/12 14:00	SLS	7440-38-2	
Lead	0.003	mg/L	0.003	E200.8	10/01/12 14:00	SLS	7439-92-1	
Selenium	Not detected	mg/L	0.005	E200.8	10/01/12 14:00	SLS	7782-49-2	
Silver	Not detected	mg/L	0.0002	E200.8	10/01/12 17:25	SLS	7440-22-4	



2680 East Lansing Dr., East Lansing, MI 48823  
 Phone (517) 332-0167 Fax (517) 332-4034  
 www.meritlabs.com

C.O.C. PAGE # 1 OF 1

71028

**REPORT TO**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

CONTACT NAME Clifford Yantz  
 COMPANY O'Brien & Gere  
 ADDRESS 37000 Grand River  
 CITY Farmington Hills STATE MI ZIP CODE 48335  
 PHONE NO. 248-477-5701 FAX NO. 248-477-5701  
 E-MAIL ADDRESS Clifford.Yantz@obg.com

CONTACT NAME David Favero  SAME  
 COMPANY RALER Trust  
 ADDRESS 2930 Eloise Rd  
 CITY Ypsilanti STATE MI ZIP CODE 48197  
 PHONE NO. 313-741-6235 E-MAIL ADDRESS \_\_\_\_\_

**ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)**

PROJECT NO./NAME RALER Dort Hwy Land SAMPLER(S) - PLEASE PRINT/SIGN NAME Kevin Schneider  
 TURNAROUND TIME REQUIRED  1 DAY  2 DAYS  3 DAYS  STANDARD  OTHER \_\_\_\_\_  
 DELIVERABLES REQUIRED  LEVEL II  LEVEL III  LEVEL IV  EDD  OTHER \_\_\_\_\_

Certifications  
 OHIO VAP  Drinking Water  
 DoD  NPDES  
 Project Locations  
 Detroit  New York  
 Other Grand Blanc, MI  
 Special Instructions \_\_\_\_\_

MATRIX CODE: GW-GROUNDWATER WW-WASTEWATER S-SOIL L-LIQUID SD-SOLID  
 SL-SLUDGE DW-DRINKING WATER O-OIL WP-WIPE A-AIR W-WASTE

# Containers & Preservatives

MERIT LAB NO. FOR LAB USE ONLY	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	OTHER	Arsenic, Lead, Selenium Silver (TOTAL)	Arsenic, Lead, Selenium Silver (Dissolved)
	DATE	TIME												
54059.01	9/27/12	1130	MW-2	GW	2			2					X	X
.02		1130	MW-2 CO-LOCATED	GW	2			2					X	X
.03		1320	MW-4	GW	2			2					X	X
.04		1425	MW2-1	GW	2			2					X	X
05/06		1425	MW2-1 MS/MSD	GW	4			4					X	X
.07		1630	MW-7	GW	2			2					X	X
.08		1715	FB-1	QC	1			1					X	
.09		1810	MW-9	GW	2			2					X	X
.10			DUP-1	GW	2			2					X	X
.11		1830	EB-1	QC	1			1					X	

RELINQUISHED BY: [Signature] OBG  Sampler DATE 9/28/12 TIME 900  
 RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 RELINQUISHED BY: [Signature] DATE 9-28-12 TIME 900  
 SEAL NO. SEAL INTACT YES  NO  INITIALS \_\_\_\_\_  
 SEAL NO. SEAL INTACT YES  NO  INITIALS \_\_\_\_\_  
 NOTES: TEMP. ON ARRIVAL 5.3





# Analytical Laboratory Report

Report ID: S55044.01(01)  
Generated on 12/27/2012

## Report to

---

Attention: Clifford Yantz  
O'Brien & Gere Engineers, Inc.  
37000 Grand River Ave.  
Suite 260  
Farmington, MI 48335

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

## Report produced by

---

Merit Laboratories, Inc.  
2680 East Lansing Drive  
East Lansing, MI 48823

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

## Contacts for report questions:

Andy Ball (andyball@meritlabs.com)  
Tabitha Faust (tfaust@meritlabs.com)

## Report Summary

---

Lab Sample ID(s): S55044.01-S55044.11  
Project: RACER Dort Hwy Land  
Collected Date: 12/19/2012  
Submitted Date/Time: 12/20/2012 16:00  
Sampled by: Chris Cox  
P.O. #: PO125045

## 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 reporting limit (RL).

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc..

## Laboratory Certifications:

Michigan DNRE (#9956), DOD/ISO 17025 (#69699), WBENC (#2005110032), Ohio EPA (#CL0002), IN Drinking Water (#C-MI-07), NELAC NY (#11814)

Some analytes reported may not be certified. Full certification lists are available upon request.

Violetta F. Murshak  
Laboratory Director



## Analytical Laboratory Report

### Sample Summary (11 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S55044.01	MW-2	Groundwater	12/19/2012 09:55
S55044.02	MW-2 CoLocated	Groundwater	12/19/2012 09:55
S55044.03	MW-4	Groundwater	12/19/2012 10:55
S55044.04	FB-1	Quality Control	12/19/2012 11:15
S55044.05	MW-9	Groundwater	12/19/2012 11:55
S55044.06	MW-7	Groundwater	12/19/2012 13:50
S55044.07	MW-2-1	Groundwater	12/19/2012 14:45
S55044.08	MW-2-1 MS	Groundwater	12/19/2012 14:45
S55044.09	MW-2-1 MSD	Groundwater	12/19/2012 14:45
S55044.10	Dup-1	Groundwater	12/19/2012 00:01
S55044.11	EB-1	Quality Control	12/19/2012 12:05



# Analytical Laboratory Report

Lab Sample ID: S55044.01  
 Sample Tag: MW-2  
 Collected Date/Time: 12/19/2012 09:55  
 Matrix: Groundwater  
 COC Reference: 71029

Sample Containers

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

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	12/27/12 10:00	PER		
Metal Digestion	Completed			3015A	12/27/12 10:00	PER		

**Metals**

Arsenic, Dissolved	0.031	mg/L	0.002	E200.8	12/27/12 15:08	PER	7440-38-2	
Arsenic	0.032	mg/L	0.002	E200.8	12/27/12 13:39	PER	7440-38-2	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	12/27/12 15:08	PER	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	12/27/12 13:39	PER	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	12/27/12 15:08	PER	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	12/27/12 13:39	PER	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0005	E200.8	12/27/12 15:08	PER	7440-22-4	
Silver	Not detected	mg/L	0.0005	E200.8	12/27/12 13:39	PER	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55044.02  
 Sample Tag: MW-2 CoLocated  
 Collected Date/Time: 12/19/2012 09:55  
 Matrix: Groundwater  
 COC Reference: 71029

Sample Containers

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

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	12/27/12 10:00	PER		
Metal Digestion	Completed			3015A	12/27/12 10:00	PER		

**Metals**

Arsenic, Dissolved	0.030	mg/L	0.002	E200.8	12/27/12 15:10	PER	7440-38-2	
Arsenic	0.035	mg/L	0.002	E200.8	12/27/12 13:40	PER	7440-38-2	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	12/27/12 15:10	PER	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	12/27/12 13:40	PER	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	12/27/12 15:10	PER	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	12/27/12 13:40	PER	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0005	E200.8	12/27/12 15:10	PER	7440-22-4	
Silver	Not detected	mg/L	0.0005	E200.8	12/27/12 13:40	PER	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55044.03  
 Sample Tag: MW-4  
 Collected Date/Time: 12/19/2012 10:55  
 Matrix: Groundwater  
 COC Reference: 71029

Sample Containers

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

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	12/27/12 10:00	PER		
Metal Digestion	Completed			3015A	12/27/12 10:00	PER		

**Metals**

Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	12/27/12 15:11	PER	7440-38-2	
Arsenic	Not detected	mg/L	0.002	E200.8	12/27/12 13:42	PER	7440-38-2	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	12/27/12 15:11	PER	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	12/27/12 13:42	PER	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	12/27/12 15:11	PER	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	12/27/12 13:42	PER	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0005	E200.8	12/27/12 15:11	PER	7440-22-4	
Silver	Not detected	mg/L	0.0005	E200.8	12/27/12 13:42	PER	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55044.04  
Sample Tag: FB-1  
Collected Date/Time: 12/19/2012 11:15  
Matrix: Quality Control  
COC Reference: 71029

## Sample Containers

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

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### **Extraction / Prep.**

Metal Digestion	Completed			3015A	12/27/12 10:00	PER		
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### **Metals**

Arsenic	Not detected	mg/L	0.002	E200.8	12/27/12 13:31	PER	7440-38-2	
Lead	Not detected	mg/L	0.003	E200.8	12/27/12 13:31	PER	7439-92-1	
Selenium	Not detected	mg/L	0.005	E200.8	12/27/12 13:31	PER	7782-49-2	
Silver	Not detected	mg/L	0.0005	E200.8	12/27/12 13:31	PER	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55044.05  
 Sample Tag: MW-9  
 Collected Date/Time: 12/19/2012 11:55  
 Matrix: Groundwater  
 COC Reference: 71029

Sample Containers

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

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	12/27/12 10:00	PER		
Metal Digestion	Completed			3015A	12/27/12 10:00	PER		

**Metals**

Arsenic, Dissolved	0.003	mg/L	0.002	E200.8	12/27/12 15:13	PER	7440-38-2	
Arsenic	0.003	mg/L	0.002	E200.8	12/27/12 13:43	PER	7440-38-2	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	12/27/12 15:13	PER	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	12/27/12 13:43	PER	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	12/27/12 15:13	PER	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	12/27/12 13:43	PER	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0005	E200.8	12/27/12 15:13	PER	7440-22-4	
Silver	Not detected	mg/L	0.0005	E200.8	12/27/12 13:43	PER	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55044.06  
 Sample Tag: MW-7  
 Collected Date/Time: 12/19/2012 13:50  
 Matrix: Groundwater  
 COC Reference: 71029

Sample Containers

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

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	12/27/12 10:00	PER		
Metal Digestion	Completed			3015A	12/27/12 10:00	PER		

**Metals**

Arsenic, Dissolved	0.010	mg/L	0.002	E200.8	12/27/12 15:22	PER	7440-38-2	
Arsenic	0.010	mg/L	0.002	E200.8	12/27/12 15:19	PER	7440-38-2	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	12/27/12 15:22	PER	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	12/27/12 15:19	PER	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	12/27/12 15:22	PER	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	12/27/12 15:19	PER	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0005	E200.8	12/27/12 15:22	PER	7440-22-4	
Silver	Not detected	mg/L	0.0005	E200.8	12/27/12 15:19	PER	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55044.07  
 Sample Tag: MW-2-1  
 Collected Date/Time: 12/19/2012 14:45  
 Matrix: Groundwater  
 COC Reference: 71029

Sample Containers

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

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	12/27/12 10:00	PER		
Metal Digestion	Completed			3015A	12/27/12 10:00	PER		

**Metals**

Arsenic, Dissolved	0.020	mg/L	0.002	E200.8	12/27/12 15:25	PER	7440-38-2	
Arsenic	0.019	mg/L	0.002	E200.8	12/27/12 14:40	PER	7440-38-2	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	12/27/12 15:25	PER	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	12/27/12 14:40	PER	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	12/27/12 15:25	PER	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	12/27/12 14:40	PER	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0005	E200.8	12/27/12 15:25	PER	7440-22-4	
Silver	Not detected	mg/L	0.0005	E200.8	12/27/12 14:40	PER	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55044.08  
 Sample Tag: MW-2-1 MS  
 Collected Date/Time: 12/19/2012 14:45  
 Matrix: Groundwater  
 COC Reference: 71029

Sample Containers

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

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	12/27/12 10:00	PER		
Metal Digestion	Completed			3015A	12/27/12 10:00	PER		

**Metals**

Arsenic, Dissolved	0.298	mg/L	0.002	E200.8	12/27/12 15:36	PER	7440-38-2	
Arsenic	0.304	mg/L	0.002	E200.8	12/27/12 14:48	PER	7440-38-2	
Lead, Dissolved	0.239	mg/L	0.003	E200.8	12/27/12 15:36	PER	7439-92-1	
Lead	0.241	mg/L	0.003	E200.8	12/27/12 14:48	PER	7439-92-1	
Selenium, Dissolved	0.301	mg/L	0.005	E200.8	12/27/12 15:36	PER	7782-49-2	
Selenium	0.307	mg/L	0.005	E200.8	12/27/12 14:48	PER	7782-49-2	
Silver, Dissolved	0.243	mg/L	0.0005	E200.8	12/27/12 15:36	PER	7440-22-4	
Silver	0.249	mg/L	0.0005	E200.8	12/27/12 14:48	PER	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55044.09  
 Sample Tag: MW-2-1 MSD  
 Collected Date/Time: 12/19/2012 14:45  
 Matrix: Groundwater  
 COC Reference: 71029

Sample Containers

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

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	12/27/12 10:00	PER		
Metal Digestion	Completed			3015A	12/27/12 10:00	PER		

**Metals**

Arsenic, Dissolved	0.311	mg/L	0.002	E200.8	12/27/12 15:38	PER	7440-38-2	
Arsenic	0.302	mg/L	0.002	E200.8	12/27/12 14:50	PER	7440-38-2	
Lead, Dissolved	0.237	mg/L	0.003	E200.8	12/27/12 15:38	PER	7439-92-1	
Lead	0.239	mg/L	0.003	E200.8	12/27/12 14:50	PER	7439-92-1	
Selenium, Dissolved	0.310	mg/L	0.005	E200.8	12/27/12 15:38	PER	7782-49-2	
Selenium	0.298	mg/L	0.005	E200.8	12/27/12 14:50	PER	7782-49-2	
Silver, Dissolved	0.246	mg/L	0.0005	E200.8	12/27/12 15:38	PER	7440-22-4	
Silver	0.244	mg/L	0.0005	E200.8	12/27/12 14:50	PER	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55044.10  
 Sample Tag: Dup-1  
 Collected Date/Time: 12/19/2012 00:01  
 Matrix: Groundwater  
 COC Reference: 71029

Sample Containers

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

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	12/27/12 10:00	PER		
Metal Digestion	Completed			3015A	12/27/12 10:00	PER		

**Metals**

Arsenic, Dissolved	0.003	mg/L	0.002	E200.8	12/27/12 15:23	PER	7440-38-2	
Arsenic	0.003	mg/L	0.002	E200.8	12/27/12 13:49	PER	7440-38-2	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	12/27/12 15:23	PER	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	12/27/12 13:49	PER	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	12/27/12 15:23	PER	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	12/27/12 13:49	PER	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0005	E200.8	12/27/12 15:23	PER	7440-22-4	
Silver	Not detected	mg/L	0.0005	E200.8	12/27/12 13:49	PER	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55044.11  
Sample Tag: EB-1  
Collected Date/Time: 12/19/2012 12:05  
Matrix: Quality Control  
COC Reference: 71029

## Sample Containers

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

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### **Extraction / Prep.**

Metal Digestion	Completed			3015A	12/27/12 10:00	PER		
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### **Metals**

Arsenic	Not detected	mg/L	0.002	E200.8	12/27/12 13:33	PER	7440-38-2	
Lead	Not detected	mg/L	0.003	E200.8	12/27/12 13:33	PER	7439-92-1	
Selenium	Not detected	mg/L	0.005	E200.8	12/27/12 13:33	PER	7782-49-2	
Silver	Not detected	mg/L	0.0005	E200.8	12/27/12 13:33	PER	7440-22-4	



2680 East Lansing Dr., East Lansing, MI 48823  
 Phone (517) 332-0167 Fax (517) 332-4034  
 www.meritlabs.com

C.O.C. PAGE # 1 OF 1

71029

**REPORT TO** **CHAIN OF CUSTODY RECORD** **INVOICE TO**

CONTACT NAME Clifford Yantz  
 COMPANY D'Brien + Gere  
 ADDRESS 37000 Grand River Avenue, Suite 260  
 CITY Farmington Hills STATE MI ZIP CODE 48335  
 PHONE NO. 248-477-5701 FAX NO.  P.O. NO. 125045.07.07  
 E-MAIL ADDRESS Clifford.Yantz@obg.com QUOTE NO.

CONTACT NAME David Favero  SAME  
 COMPANY RACER Trust  
 ADDRESS 2930 Ecorse Rd  
 CITY Ypsilanti STATE MI ZIP CODE 48197  
 PHONE NO. 217-741-6235 E-MAIL ADDRESS

**ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)**

PROJECT NO./NAME Racer Dort Hwy Cond SAMPLER(S) - PLEASE PRINT/SIGN NAME Chris Cox/CKC  
 TURNAROUND TIME REQUIRED  1 DAY  2 DAYS  3 DAYS  STANDARD  OTHER   
 DELIVERABLES REQUIRED  LEVEL II  LEVEL III  LEVEL IV  EDD  OTHER

Certifications  
 OHIO VAP  Drinking Water  
 DoD  NPDES  
 Project Locations  
 Detroit  New York  
 Other Grand Blanc  
 Special Instructions

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID  
 SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives							Asenic Selenium Lead Silver (Total)	Asenic Selenium Lead Silver (Dissolved)
	DATE	TIME				NONE	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	OTHER		
55044.01	12/19/12	0955	MW-2	GW	2			2					X	X
.02		0955	MW-2 Co Located	GW	2			2					X	X
.03		1055	MW-4	GW	2			2					X	X
.04		1115	FB-1	RC	1			1					X	
.05		1155	MW-9	GW	2			2					X	X
.06		1350	MW-7	GW	2			2					X	X
.07		1445	MW 2-1	GW	2			2					X	X
.08/.09		1445	MW 2-1 (MS/MSD)	GW	4			4					X	X
.10			DVP-1	GW	2			2					X	X
.11		1205	EB-1	RC	1			1					X	

RELINQUISHED BY: Chris Cox / D'Brien + Gere  Sampler DATE 12-20-12 TIME 1705  
 RELINQUISHED BY: Matt DATE 12-20-12 TIME 1405  
 RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_

RELINQUISHED BY: Barbara Ball DATE 12-20-12 TIME 16:00  
 RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 SEAL NO. SEAL INTACT YES  NO  INITIALS \_\_\_\_\_ NOTES: TEMP. ON ARRIVAL 4.5  
 SEAL NO. SEAL INTACT YES  NO  INITIALS \_\_\_\_\_





# Analytical Laboratory Report

Report ID: S55756.01(01)  
Generated on 03/22/2013

## Report to

---

Attention: Clifford Yantz  
O'Brien & Gere Engineers, Inc.  
37000 Grand River Ave.  
Suite 260  
Farmington, MI 48335

Phone: 248-477-5701 FAX:  
Email: Clifford.Yantz@obg.com

## Report produced by

---

Merit Laboratories, Inc.  
2680 East Lansing Drive  
East Lansing, MI 48823

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

## Contacts for report questions:

Andy Ball (andyball@meritlabs.com)  
Tabitha Faust (tfaust@meritlabs.com)

## Report Summary

---

Lab Sample ID(s): S55756.01-S55756.10  
Project: RACER Dort Hwy Land  
Collected Date: 03/14/2013  
Submitted Date/Time: 03/15/2013 14:15  
Sampled by: Kevin Schneider  
P.O. #: 11311199

## Report Notes

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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 reporting limit (RL).  
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.  
Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc..

## Laboratory Certifications:

Michigan DNRE (#9956), DOD/ISO 17025 (#69699), WBENC (#2005110032), Ohio EPA (#CL0002), IN Drinking Water (#C-MI-07), NELAC NY (#11814)  
Some analytes reported may not be certified. Full certification lists are available upon request.

Violetta F. Murshak  
Laboratory Director



## Analytical Laboratory Report

### Sample Summary (10 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S55756.01	MW-9	Groundwater	03/14/2013 10:10
S55756.02	MW-9 Co-Located	Groundwater	03/14/2013 10:10
S55756.03	MW-7	Groundwater	03/14/2013 11:45
S55756.04	MW-2-1	Groundwater	03/14/2013 13:15
S55756.05	MW-2-1 MS	Groundwater	03/14/2013 13:15
S55756.06	MW-2-1 MSD	Groundwater	03/14/2013 13:15
S55756.07	MW-2	Groundwater	03/14/2013 15:40
S55756.08	FB-1	Quality Control	03/14/2013 15:50
S55756.09	EB-1	Quality Control	03/14/2013 16:15
S55756.10	DUP-1	Groundwater	03/14/2013 00:01



# Analytical Laboratory Report

Lab Sample ID: S55756.01  
 Sample Tag: MW-9  
 Collected Date/Time: 03/14/2013 10:10  
 Matrix: Groundwater  
 COC Reference: 79611

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	03/22/13 01:00	SLR		
Metal Digestion	Completed			3015A	03/22/13 01:00	SLR		

**Metals**

Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	03/22/13 13:37	SLS	7440-38-2	
Arsenic	0.006	mg/L	0.002	E200.8	03/22/13 13:34	SLS	7440-38-2	
Lead, Dissolved	0.011	mg/L	0.003	E200.8	03/22/13 15:38	SLS	7439-92-1	
Lead	0.018	mg/L	0.003	E200.8	03/22/13 15:36	SLS	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	03/22/13 13:37	SLS	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	03/22/13 13:34	SLS	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0002	E200.8	03/22/13 13:37	SLS	7440-22-4	
Silver	0.0003	mg/L	0.0002	E200.8	03/22/13 13:34	SLS	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55756.02  
 Sample Tag: MW-9 Co-Located  
 Collected Date/Time: 03/14/2013 10:10  
 Matrix: Groundwater  
 COC Reference: 79611

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	03/22/13 01:00	SLR		
Metal Digestion	Completed			3015A	03/22/13 01:00	SLR		

**Metals**

Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	03/22/13 13:43	SLS	7440-38-2	
Arsenic	0.007	mg/L	0.002	E200.8	03/22/13 13:40	SLS	7440-38-2	
Lead, Dissolved	0.012	mg/L	0.003	E200.8	03/22/13 15:42	SLS	7439-92-1	
Lead	0.021	mg/L	0.003	E200.8	03/22/13 15:40	SLS	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	03/22/13 13:43	SLS	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	03/22/13 13:40	SLS	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0002	E200.8	03/22/13 13:43	SLS	7440-22-4	
Silver	Not detected	mg/L	0.0002	E200.8	03/22/13 13:40	SLS	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55756.03  
 Sample Tag: MW-7  
 Collected Date/Time: 03/14/2013 11:45  
 Matrix: Groundwater  
 COC Reference: 79611

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
<b>Extraction / Prep.</b>								
Metal Digestion	Completed			3015A	03/22/13 01:00	SLR		
Metal Digestion	Completed			3015A	03/22/13 01:00	SLR		
<b>Metals</b>								
Arsenic, Dissolved	0.005	mg/L	0.002	E200.8	03/22/13 13:49	SLS	7440-38-2	
Arsenic	0.011	mg/L	0.002	E200.8	03/22/13 13:46	SLS	7440-38-2	
Lead, Dissolved	0.009	mg/L	0.003	E200.8	03/22/13 15:46	SLS	7439-92-1	
Lead	0.020	mg/L	0.003	E200.8	03/22/13 15:44	SLS	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	03/22/13 13:49	SLS	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	03/22/13 13:46	SLS	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0002	E200.8	03/22/13 13:49	SLS	7440-22-4	
Silver	Not detected	mg/L	0.0002	E200.8	03/22/13 13:46	SLS	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55756.04  
 Sample Tag: MW-2-1  
 Collected Date/Time: 03/14/2013 13:15  
 Matrix: Groundwater  
 COC Reference: 79611

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	03/22/13 01:00	SLR		
Metal Digestion	Completed			3015A	03/22/13 01:00	SLR		

**Metals**

Arsenic, Dissolved	0.011	mg/L	0.002	E200.8	03/22/13 14:30	SLS	7440-38-2	
Arsenic	0.010	mg/L	0.002	E200.8	03/22/13 13:52	SLS	7440-38-2	
Lead, Dissolved	0.007	mg/L	0.003	E200.8	03/22/13 16:14	SLS	7439-92-1	
Lead	0.008	mg/L	0.003	E200.8	03/22/13 15:48	SLS	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	03/22/13 14:30	SLS	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	03/22/13 13:52	SLS	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0002	E200.8	03/22/13 14:30	SLS	7440-22-4	
Silver	Not detected	mg/L	0.0002	E200.8	03/22/13 13:52	SLS	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55756.05  
 Sample Tag: MW-2-1 MS  
 Collected Date/Time: 03/14/2013 13:15  
 Matrix: Groundwater  
 COC Reference: 79611

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	03/22/13 01:00	SLR		
Metal Digestion	Completed			3015A	03/22/13 01:00	SLR		

**Metals**

Arsenic, Dissolved	0.274	mg/L	0.002	E200.8	03/22/13 14:33	SLS	7440-38-2	
Arsenic	0.278	mg/L	0.002	E200.8	03/22/13 13:55	SLS	7440-38-2	
Lead, Dissolved	0.268	mg/L	0.003	E200.8	03/22/13 16:16	SLS	7439-92-1	
Lead	0.264	mg/L	0.003	E200.8	03/22/13 15:50	SLS	7439-92-1	
Selenium, Dissolved	0.250	mg/L	0.005	E200.8	03/22/13 14:33	SLS	7782-49-2	
Selenium	0.260	mg/L	0.005	E200.8	03/22/13 13:55	SLS	7782-49-2	
Silver, Dissolved	0.2548	mg/L	0.0002	E200.8	03/22/13 14:33	SLS	7440-22-4	
Silver	0.2563	mg/L	0.0002	E200.8	03/22/13 13:55	SLS	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55756.06  
 Sample Tag: MW-2-1 MSD  
 Collected Date/Time: 03/14/2013 13:15  
 Matrix: Groundwater  
 COC Reference: 79611

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	03/22/13 01:00	SLR		
Metal Digestion	Completed			3015A	03/22/13 01:00	SLR		

**Metals**

Arsenic, Dissolved	0.275	mg/L	0.002	E200.8	03/22/13 14:36	SLS	7440-38-2	
Arsenic	0.277	mg/L	0.002	E200.8	03/22/13 13:59	SLS	7440-38-2	
Lead, Dissolved	0.267	mg/L	0.003	E200.8	03/22/13 16:18	SLS	7439-92-1	
Lead	0.264	mg/L	0.003	E200.8	03/22/13 15:52	SLS	7439-92-1	
Selenium, Dissolved	0.270	mg/L	0.005	E200.8	03/22/13 14:36	SLS	7782-49-2	
Selenium	0.261	mg/L	0.005	E200.8	03/22/13 13:59	SLS	7782-49-2	
Silver, Dissolved	0.2552	mg/L	0.0002	E200.8	03/22/13 14:36	SLS	7440-22-4	
Silver	0.2573	mg/L	0.0002	E200.8	03/22/13 13:59	SLS	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55756.07  
 Sample Tag: MW-2  
 Collected Date/Time: 03/14/2013 15:40  
 Matrix: Groundwater  
 COC Reference: 79611

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	03/22/13 01:00	SLR		
Metal Digestion	Completed			3015A	03/22/13 01:00	SLR		

**Metals**

Arsenic, Dissolved	0.009	mg/L	0.002	E200.8	03/22/13 14:20	SLS	7440-38-2	
Arsenic	0.027	mg/L	0.002	E200.8	03/22/13 14:17	SLS	7440-38-2	
Lead, Dissolved	0.006	mg/L	0.003	E200.8	03/22/13 16:08	SLS	7439-92-1	
Lead	0.005	mg/L	0.003	E200.8	03/22/13 16:06	SLS	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	03/22/13 14:20	SLS	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	03/22/13 14:17	SLS	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0002	E200.8	03/22/13 14:20	SLS	7440-22-4	
Silver	Not detected	mg/L	0.0002	E200.8	03/22/13 14:17	SLS	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55756.08  
Sample Tag: FB-1  
Collected Date/Time: 03/14/2013 15:50  
Matrix: Quality Control  
COC Reference: 79611

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
----------	---------	-------	----	--------	---------------	---------	-------	-------

### **Extraction / Prep.**

Metal Digestion	Completed			3015A	03/22/13 01:00	SLR		
-----------------	-----------	--	--	-------	----------------	-----	--	--

### **Metals**

Arsenic	Not detected	mg/L	0.002	E200.8	03/22/13 14:08	SLS	7440-38-2	
Lead	Not detected	mg/L	0.003	E200.8	03/22/13 16:02	SLS	7439-92-1	
Selenium	Not detected	mg/L	0.005	E200.8	03/22/13 14:08	SLS	7782-49-2	
Silver	Not detected	mg/L	0.0002	E200.8	03/22/13 14:08	SLS	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55756.09  
Sample Tag: EB-1  
Collected Date/Time: 03/14/2013 16:15  
Matrix: Quality Control  
COC Reference: 79611

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
----------	---------	-------	----	--------	---------------	---------	-------	-------

### **Extraction / Prep.**

Metal Digestion	Completed			3015A	03/22/13 01:00	SLR		
-----------------	-----------	--	--	-------	----------------	-----	--	--

### **Metals**

Arsenic	Not detected	mg/L	0.002	E200.8	03/22/13 14:11	SLS	7440-38-2	
Lead	Not detected	mg/L	0.003	E200.8	03/22/13 16:04	SLS	7439-92-1	
Selenium	Not detected	mg/L	0.005	E200.8	03/22/13 14:11	SLS	7782-49-2	
Silver	Not detected	mg/L	0.0002	E200.8	03/22/13 14:11	SLS	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55756.10  
 Sample Tag: DUP-1  
 Collected Date/Time: 03/14/2013 00:01  
 Matrix: Groundwater  
 COC Reference: 79611

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
----------	---------	-------	----	--------	---------------	---------	-------	-------

**Extraction / Prep.**

Metal Digestion	Completed			3015A	03/22/13 01:00	SLR		
Metal Digestion	Completed			3015A	03/22/13 01:00	SLR		

**Metals**

Arsenic, Dissolved	0.010	mg/L	0.002	E200.8	03/22/13 14:27	SLS	7440-38-2	
Arsenic	0.027	mg/L	0.002	E200.8	03/22/13 14:23	SLS	7440-38-2	
Lead, Dissolved	0.008	mg/L	0.003	E200.8	03/22/13 16:12	SLS	7439-92-1	
Lead	0.009	mg/L	0.003	E200.8	03/22/13 16:10	SLS	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	03/22/13 14:27	SLS	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	03/22/13 14:23	SLS	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0002	E200.8	03/22/13 14:27	SLS	7440-22-4	
Silver	Not detected	mg/L	0.0002	E200.8	03/22/13 14:23	SLS	7440-22-4	



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C.O.C. PAGE # 1 OF 1

79611

**REPORT TO**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

CONTACT NAME Clifford Yantz  
 COMPANY O'Brien & Gere  
 ADDRESS 37000 Grand River  
 CITY Farmington Hills STATE MI ZIP CODE 48335  
 PHONE NO. 248-477-5701 FAX NO. 248-477-5962 P.O. NO. 11311200  
 E-MAIL ADDRESS Clifford.Yantz@obg.com QUOTE NO.

CONTACT NAME  SAME  
 COMPANY  
 ADDRESS  
 CITY STATE ZIP CODE  
 PHONE NO. E-MAIL ADDRESS

**ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)**

PROJECT NO./NAME RACER Dirt Hwy Land SAMPLER(S) - PLEASE PRINT/SIGN NAME Kevin Schneider  
 TURNAROUND TIME REQUIRED  1 DAY  2 DAYS  3 DAYS  STANDARD  OTHER  
 DELIVERABLES REQUIRED  STD  LEVEL II  LEVEL III  LEVEL IV  EDD  OTHER

Certifications  
 OHIO VAP  Drinking Water  
 DoD  NPDES  
 Project Locations  
 Detroit  New York  
 Other Grand Blanc, MI  
 Special Instructions

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID  
 SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

# Containers & Preservatives  
 NONE HCl HNO<sub>3</sub> H<sub>2</sub>SO<sub>4</sub> NaOH MeOH OTHER  
 Arsenic, lead, selenium silver (TOTAL)  
 Arsenic, lead, selenium silver (DISSOLVED)

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	OTHER	Arsenic, lead, selenium silver (TOTAL)	Arsenic, lead, selenium silver (DISSOLVED)
	DATE	TIME												
<u>55756.01</u>	<u>3/14/13</u>	<u>1010</u>	<u>MW-9</u>	<u>GW</u>	<u>2</u>			<u>2</u>					<u>X</u>	<u>X</u>
<u>.02</u>	<u>1</u>	<u>1010</u>	<u>MW-9 CO LOCATED</u>	<u>GW</u>	<u>2</u>			<u>2</u>					<u>X</u>	<u>X</u>
<u>.03</u>		<u>1145</u>	<u>MW-7</u>	<u>GW</u>	<u>2</u>			<u>2</u>					<u>X</u>	<u>X</u>
<u>.04</u>		<u>1315</u>	<u>MW2-1</u>	<u>GW</u>	<u>2</u>			<u>2</u>					<u>X</u>	<u>X</u>
<u>05/06</u>		<u>1315</u>	<u>MW2-1 Ms/MSD</u>	<u>GW</u>	<u>4</u>			<u>4</u>					<u>X</u>	<u>X</u>
<u>.07</u>		<u>1540</u>	<u>MW-2</u>	<u>GW</u>	<u>2</u>			<u>2</u>					<u>X</u>	<u>X</u>
<u>.08</u>		<u>1550</u>	<u>FB-1</u>	<u>GL</u>	<u>1</u>			<u>1</u>					<u>X</u>	
<u>.09</u>	<u>↓</u>	<u>1645</u>	<u>EB-1</u>	<u>GL</u>	<u>1</u>			<u>1</u>					<u>X</u>	
<u>.10</u>	<u>↓</u>	<u>-</u>	<u>DUP-1</u>	<u>GW</u>	<u>2</u>			<u>2</u>					<u>X</u>	<u>X</u>

RELINQUISHED BY: [Signature] 3/15/13 12-  
 RECEIVED BY: [Signature] 3-5-13 12-  
 RELINQUISHED BY: [Signature] DATE TIME  
 RECEIVED BY: DATE TIME

RELINQUISHED BY: [Signature] 3-15-13 TIME  
 RECEIVED BY: [Signature] 3-15-13 1465  
 SEAL NO. SEAL INTACT YES  NO  INITIALS  
 NOTES: TEMP. ON ARRIVAL 42.8



# Analytical Laboratory Report

Report ID: S56059.01(01)  
Generated on 04/26/2013

Report to

Attention: Clifford Yantz  
O'Brien & Gere Engineers, Inc.  
37000 Grand River Ave.  
Suite 260  
Farmington, MI 48335

Phone: 248-477-5701 FAX:  
Email: Clifford.Yantz@obg.com

Report produced by

Merit Laboratories, Inc.  
2680 East Lansing Drive  
East Lansing, MI 48823

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

Contacts for report questions:

Andy Ball (andyball@meritlabs.com)  
Tabitha Faust (tfaust@meritlabs.com)

Report Summary

Lab Sample ID(s): S56059.01  
Project: RACER Dort Hwy Land  
Collected Date: 04/10/2013  
Submitted Date/Time: 04/12/2013 12:00  
Sampled by: Kevin Schneider  
P.O. #: 11311200

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 reporting limit (RL).  
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.  
Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc..

Laboratory Certifications:

Michigan DNRE (#9956), DOD/ISO 17025 (#69699), WBENC (#2005110032), Ohio EPA (#CL0002), IN Drinking Water (#C-MI-07), NELAC NY (#11814)  
Some analytes reported may not be certified. Full certification lists are available upon request.

Violetta F. Murshak  
Laboratory Director



# Analytical Laboratory Report

Sample Summary (1 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S56059.01	MW-4	Groundwater	04/10/2013 11:25



# Analytical Laboratory Report

Lab Sample ID: S56059.01  
 Sample Tag: MW-4  
 Collected Date/Time: 04/10/2013 11:25  
 Matrix: Groundwater  
 COC Reference: 041190

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
----------	---------	-------	----	--------	---------------	---------	-------	-------

**Extraction / Prep.**

Metal Digestion	Completed			3015A	04/26/13 10:00	PER		
Metal Digestion	Completed			3015A	04/26/13 10:00	PER		

**Metals**

Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	04/26/13 14:00	PER	7440-38-2	
Arsenic	Not detected	mg/L	0.002	E200.8	04/26/13 13:56	PER	7440-38-2	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	04/26/13 14:00	PER	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	04/26/13 13:56	PER	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	04/26/13 14:00	PER	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	04/26/13 13:56	PER	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0005	E200.8	04/26/13 14:00	PER	7440-22-4	
Silver	Not detected	mg/L	0.0005	E200.8	04/26/13 13:56	PER	7440-22-4	



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041190  
 INVOICE TO

**REPORT TO**

**CHAIN OF CUSTODY RECORD**

CONTACT NAME Clifford Yantz  
 COMPANY O'Brien & Gere  
 ADDRESS 37000 Grand River  
 CITY Farmington Hills STATE MI ZIP CODE 48335  
 PHONE NO. 248-477-5701 FAX NO. 248-477-5962 P.O. NO. 11311200  
 E-MAIL ADDRESS clifford.yantz@obg.com QUOTE NO.

CONTACT NAME SAME  
 COMPANY  
 ADDRESS  
 CITY STATE ZIP CODE  
 PHONE NO. FAX NO. P.O. NO.

**ANALYSIS (ATTACH LIST IF MORE SPACE REQUIRED)**

PROJECT NO./NAME RALER Dort Hwy Land SAMPLER(S) - PLEASE PRINT/SIGN NAME Kevin Schneider KSK  
 TURNAROUND TIME REQUIRED  24 HR  48 HR  72 HR  STANDARD  OTHER  
 DELIVERABLES REQUIRED  STANDARD  LEVEL II  LEVEL III  OTHER  
 MATRIX CODE: GW=GROUNDWATER SL=SLUDGE WW=WASTEWATER O=OIL S=SOIL A=AIR L=LIQUID W=WASTE SD=SOLID M=MISC  
 # Containers & Preservatives

MERIT LAB NO.	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCL	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	OTHER	Arsenic, Lead, Selenium, Silver (TOTAL)	Arsenic, Lead Selenium, Silver (Dissolved)	SPECIAL INSTRUCTIONS/NOTES
	DATE	TIME													
<u>56059.01</u>	<u>4/10/13</u>	<u>1125</u>	<u>MW-4</u>	<u>GW</u>	<u>2</u>			<u>2</u>					<u>X</u>	<u>X</u>	

RELINQUISHED BY: KSK O'Brien & Gere DATE 4/12/13 TIME 1030  
 RECEIVED BY: AW MRB DATE 4-12-13 TIME 1030  
 RELINQUISHED BY: DATE TIME  
 RECEIVED BY: DATE TIME

RELINQUISHED BY: Shy Merit DATE 4-12-13 TIME  
 RECEIVED BY: Talbot Faust DATE 4-12-13 TIME 1200  
 SEAL NO. SEAL INTACT YES  NO  INITIALS NOTES: TEMP. ON ARRIVAL 46  
 SEAL NO. SEAL INTACT YES  NO  INITIALS

PLEASE NOTE: SIGNING ACKNOWLEDGES ACCEPTANCE OF TERMS & CONDITIONS ON REVERSE SIDE

***APPENDIX F***  
***IRM Technical Memorandum***

FINAL REPORT

**INTERIM REMEDIAL MEASURE  
TECHNICAL MEMORANDUM  
DORT HIGHWAY LAND  
GRAND BLANC, MICHIGAN**

Revitalizing Auto Communities Environmental Response Trust (RACER)  
Ypsilanti, Michigan

JUNE 2013



# Interim Remedial Measure Technical Memorandum Dort Highway Land

Affronting Dort Highway  
Grand Blanc, Michigan

Prepared for: RACER Trust  
Ypsilanti, Michigan



---

SCOTT L. CORMIER, P.E.  
VICE PRESIDENT  
O'Brien & Gere Engineers, Inc.

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## 1. GENERAL

### 1.1 INTRODUCTION

This Interim Remedial Measure (IRM) technical memorandum has been prepared on behalf of the Revitalizing Auto Communities Environmental Response (RACER) Trust to document soil and wood floor block remediation activities that were conducted at the Dort Highway Site located in Grand Blanc, Michigan, herein referred to as "the Site" (Figure 1). The IRM activities were completed in accordance with the methods outlined in the Floor Block Area Investigation & Corrective Measures Alternatives Analysis report (O'Brien & Gere, 2011b).

The objective of the IRM activities was to remove wood floor block and soil containing polynuclear aromatic hydrocarbons (PAHs) in excess of the Michigan Department of Environmental Quality (MDEQ) nonresidential direct contact criteria from the former floor block area along the southern portion of the property (Figure 2).

### 1.2 BACKGROUND

On average approximately 4 feet of soils (and fill materials, including concrete and asphalt pavement) were stripped/removed from the Site during the demolition of the former Press Room to fill in its basement. The soil removal activities were completed in 2009 on the Site, and no seeding or stabilization of the Site was undertaken. Some areas were not stripped to the 4 foot depth due to encountering concrete or debris in the former water test for tank trough and former floor block areas (Figure 2). Figure 3 represents the topography of the Site in 2010 after the soil removal activities were completed in 2009.

A Site Conditions investigation (O'Brien & Gere, 2011a) and a Floor Block Area Investigation (O'Brien & Gere, 2011e) were conducted by RACER in August and September 2011. These investigations were conducted to assess the site conditions following the soil removal activities, and to evaluate the extent and potential impacts associated with the wood floor blocks identified on the southern end of the Site during the Phase I Environmental Site Assessment (ESA) conducted in 2010 for Motors Liquidation Company (MLC) (O'Brien & Gere, 2010). The Site Conditions and Floor Block Area Investigations indicated that PAHs were the only semi-volatile organic compounds (SVOCs) detected at the Site, and were the only constituent of concern (COC) at the Site because volatile organic compounds (VOCs) and polychlorinated biphenyls (PCBs) were not detected, and none of the surface soil, soil in contact with floor block, or floor block samples analyzed for RCRA metals contained metals above the MDEQ nonresidential soil cleanup criteria. This confirmed the Phase II ESA (O'Brien & Gere, 2007a) and Delineation Investigation (O'Brien & Gere, 2007b) results for the Site, and indicated that impacts at the Site were removed during the soil removal activities with the exception of PAH impacted soil associated with the floor blocks observed in the former floor block area (see Figure 4 for the original estimated outline of the former floor block area).

Various PAH constituents were detected at concentrations above the MDEQ nonresidential direct contact and/or drinking water protection criteria in floor block samples FB-01 through FB-05, soil in contact with floor blocks samples FBS-01, FBS-02 and FBS-03, and bulk soil samples FBS-09, FBS-10, FBS-13 and FBS-14 within the former floor block area. These bulk soil samples were associated with caches of floor blocks in two subareas of the former floor block area known as Subareas A and B (Figure 4). However, the bulk soil not associated with caches of floor blocks were below the nonresidential criteria.

A third subarea, Subarea C (Figure 4), was associated with the PAH impacts that were not fully removed during the previous soil removal activities, and up to about 3.5 ft of additional soil removal was required in Subarea C.

Therefore, the floor blocks, soil in contact with the floor blocks, and the bulk soils in Subareas A through C were recommended for removal to eliminate potential future leaching to groundwater or direct contact exposure risks. However, it was recommended to leave the remaining soil in the former floor block area, once the floor blocks were removed from the soils, because the bulk soil poses little risk through direct contact (and no apparent risk to groundwater). An estimated 1,962 CY of soil (957 CY) and floor blocks (1,005 CY) were estimated to need removal and disposal to remediate the former floor block area.

## 2. PRE-EXCAVATION ACTIVITIES

The following section describes the activities conducted prior to beginning excavation activities.

### 2.1 WASTE CHARACTERIZATION

A wood block sample was collected for waste characterization on November 17, 2011. The sample was analyzed for toxicity characteristic leaching procedure (TCLP) metals (cadmium, chromium, and lead), PCBs, BTEX (benzene, toluene, ethylbenzene, and xylenes), and extractable organic halogens (EOX), as required by the landfill for waste approval. The results showed that metals, PCBs, and BTEX were below their respective detection limits. EOX was detected at a concentration of 140 mg/kg, but was below the screening level of 1,000 mg/kg. The waste characterization sample was considered non-hazardous and approved for landfill disposal. Appendix A contains the laboratory reports for the waste characterization sample.

### 2.2 SURVEY

A survey of the former floor block area was conducted prior to mobilization. The survey established the former floor block area, and the subareas where both soil and floor block were removed. The initial survey was also utilized to establish the pre-excitation topography of the former floor block area (Figure 5).

### 2.3 SURFACE WATER SAMPLING

On December 19, 2011 three storm water samples (SW-1 through SW-3, see Figure 4) were collected from ponded water near the southern storm water discharge structure on-Site (Figure 2) to document whether PAHs from the wood floor blocks had adversely affected the on-Site surface water prior to allowing this water to be discharged from the Site, and prior to beginning remediation activities. No PAH constituents were detected in these surface water samples. The surface water sample analytical results are shown on Table 1, and Appendix B contains the laboratory reports for the surface water samples.

### 2.4 SOIL EROSION AND SEDIMENTATION CONTROL

On December 20, 2011, silt fencing was installed on the west (down slope) side of the remediation area as a soil erosion and sedimentation control measure for the Site. In addition, a storm water collection ditch/berm system was constructed inside (east) of the silt fence sedimentation control barrier prior to commencing the excavation activities at the Site. The storm water ditch/berm location is shown on Figure 5. The purpose of the ditch/ berm was to contain and prevent impacted storm water runoff from the remediation area from discharging off-Site. The storm water ditch was approximately 1 to 2 ft deep and approximately 300 ft in length, and the berm was approximately the same height as the adjacent ditch depth and was placed immediately to the west of the ditch.

Furthermore, to help keep the adjacent off-Site roads free of mud and sediment, an approximate 100 ft long section of the temporary haul road established to access the former floor block area was lined with gravel at the Site entrance. As a vehicle drove over the gravel, the gravel helped remove mud and sediment from the wheels of the vehicles reducing soil transport off the Site.

### 3. IRM ACTIVITIES

The majority of the IRM activities, including soil and floor block excavation and removal, confirmation sampling and analysis, backfilling and off-Site disposal of approximately 3,105 tons of material containing PAHs were completed between December 21, 2011 and January 24, 2012. Site restoration, including seeding, fertilizing and mulching (see Section 3.7) was completed on March 22, 2012, due to wet conditions following final Site grading on January 24, 2012. IRM activities were conducted by CTI and Associates, Inc. (CTI) and oversight of the IRM operations was performed by O'Brien & Gere.

The IRM activities utilized standard construction equipment, including a trackhoe excavator, skid-steer loader and dozer as well as general labor to complete the work.

The following section summarizes the IRM activities conducted at the Site. Appendix C provides a photographic log of the IRM activities.

#### 3.1 WOOD FLOOR BLOCK EXCAVATION

Figures 4 and 5 present the original estimated extent of the former floor block area based on the Floor Block Area Investigation results, as well as the original estimated outlines of Subareas A, B, and C. Soil and floor blocks were removed from the three subareas and where caches of floor blocks were encountered during the remediation efforts. However, soils from the remainder of the former floor block area were used as backfill once the floor blocks had been removed because these soil were below the MDEQ nonresidential direct contact criteria.

To remediate the former floor block area, the excavator and dozer excavated 1 to 7 fbg with the deepest excavations within the three subareas. However, outside of the subareas and where caches of floor blocks were encountered, the average depth of the excavation was approximately 2 fbg. If the density of floor blocks within the excavated soil exceeded approximately 40 percent, then both the soil and floor blocks were stockpiled for disposal; otherwise, only the floor blocks were removed and stockpiled for disposal, and the soil was returned to the excavated area. Several caches of floor blocks were discovered during the excavation activities that exceeded the floor block to soil density of approximately 40 percent. These caches of floor blocks are shown on Figure 6, as well as the final configuration of Subareas A, B and C.

The floor blocks were removed manually from the soil by spreading the soil in about 6 inch thick or less layers and working the excavated soil. This process was labor intensive and was hampered by wet Site conditions that impeded the separation of the floor blocks from the soil, but was effective in removing the floor blocks.

In addition, other construction wood material discovered during the excavation activities near the western edge of the former floor block area were removed during IRM activities. A thick concrete slab or a portion of a former foundation was discovered west of Subarea B, which was too large to be moved and was left on Site.

#### 3.2 SUBAREA EXCAVATION

In the subareas the soil and floor block were removed with the excavator and stock piled in an adjacent location for loading and transporting to the landfill.

Subarea A was located on the northwest side of the former floor block area. The area was approximately 150 ft by 70 ft and the depth of the excavation was approximately 1 foot. Subarea B was located on the east side of the former floor block area approximately 110 ft southeast of Subarea A. The area was approximately 160 ft by 60 ft and the depth of the excavation ranged from 1.5 ft in the central portion of the subarea to 7 ft in the northern area. Subarea C was located on the eastern edge of the former floor block area approximately 70 ft east of Subarea B. The area was approximately 50 by 30 ft and the depth of the excavation ranged from 4.5 ft to 6 ft. An inspection of each subarea was conducted by O'Brien & Gere personnel to verify the floor blocks were removed prior to collection of confirmatory samples. The floor blocks were scattered throughout the subareas.

### 3.3 SUBAREA CONFIRMATION SAMPLING

Confirmation samples were collected from the floors and sidewalls of the Subareas A, B and C excavations to confirm that the impacted soil was properly removed. The confirmation samples were collected using a biased sampling approach in accordance with methods described in the MDEQ Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria (S<sup>3</sup>TM) guidance document, dated August 2002.

At Subarea A, a total of nine floor samples at depths of 1 fbg and six sidewall samples at depths of 0.5 fbg were collected. The floor samples were identified as CF-A-1 through CF-A-9 and the sidewall samples were identified as CS-A-1 through CS-A-6 (Figure 7). Confirmatory sample CS-A-5 was above the direct contact criterion for benzo(a)pyrene; therefore, Subarea A was expanded about 20 ft further to the north and reconfirmation sample CS-A-6 was collected, which was below the direct contact criteria.

At Subarea B, a total of eleven floor samples at depths ranging between 1.5 and 7 fbg and five sidewall samples at depths between 1 and 4 fbg were collected. The floor samples were identified as CF-B-1 through CF-B-11 and the sidewall samples were identified as CS-B-1 through CS-B-5 (Figure 7). Confirmatory sample CF-B-1 was above the direct contact criterion for benzo(a)pyrene; therefore, the southern portion of the floor of Subarea B was expanded about 1 ft deeper and reconfirmation samples CF-B-10 and CF-B-11 were collected, which were below the direct contact criteria.

At Subarea C, a total of five floor samples at depths ranging between 4.5 and 6 feet fbg and five sidewall samples at a depth of approximately 2 fbg were collected. The floor samples were identified as CF-C-1 through CF-C-5 and the sidewall samples were identified as CS-C-1 through CS-C-5. Confirmatory sample CF-C-2 was above the direct contact criterion for benzo(a)pyrene; therefore, the eastern portion of the floor of Subarea C was expanded about 1.5 ft deeper and reconfirmation sample CF-B-5 was collected, which was below the direct contact criteria.

Samples selected for analysis were placed directly into clean, non-preserved, laboratory supplied containers, labeled, placed in an ice-filled cooler, and transported to Merit Laboratories, Inc. of East Lansing, Michigan under appropriate chain-of custody protocols. Samples were analyzed for the presence of select PAHs. Confirmatory sample analytical results are shown on Table 2, and Appendix D contains the laboratory reports for the confirmatory samples.

### 3.4 STORM WATER DITCH ICE AND WATER REMOVAL

On January 11, 2012, two storm water samples (SW-4 and SW-5) were collected from the storm water collection ditch and analyzed for PAHs. Sample SW-4 located on the south end of the storm water ditch exceeded the MDEQ groundwater surface water interface (GSI) criterion for naphthalene (11 µg/l) with a concentration of 1,019 µg/l, and the MDEQ nonresidential drinking water (750 µg/l) and GSI criteria (19 µg/l) for 2-methylnaphthalene with a concentration of 767 µg/l (Table 1 and Appendix B).

Ice and water from the storm water collection ditch were removed and loaded into the skid-steer loader with the excavator. The ice and water was then transported and placed into two sealed DOT-approved roll-off boxes equipped with liners and tarp covers pending disposal (see Section 3.5).

### 3.5 WASTE STAGING AND DISPOSAL

Soils and floor blocks, and other construction wood material discovered during the excavation activities near the western edge of the former floor block area removed during IRM activities were staged on the northern edge of the former floor block area near the temporary haul road to allow loading of the haul trucks. The excavator was used to load the soil, floor blocks, and other wood material into the trucks. Between December 27, 2011 and January 20, 2012 the soil, floor blocks and other wood material were transported off Site by Aldridge Trucking Company to Citizens Disposal Landfill located in Grand Blanc, Michigan, a Type II landfill, for disposal under non-hazardous manifest protocols. In total, approximately 3,105 tons (or approximately 2,150 CY) of soil, floor block and other wood material was transported to Citizens Disposal.

On January 20, 2012 U.S. Industrial Technologies, Inc. (USIT, Inc.) transported the ice and water off-Site to EQ Detroit, Inc. (EQ Detroit) located in Detroit, Michigan for disposal. A total of approximately 3,550 gallons of ice and water were transported to EQ Detroit for disposal.

### 3.6 BACKFILLING

Clean fill material was used to backfill the excavations in the three subareas. A total of 2,580 tons (or approximately 1,850 CY) of fill material was imported to fill the deeper excavations. The fill material was directly unloaded into the excavations and compacted to grade using the dozer and/or the excavator. The remaining areas within the former floor block area did not receive backfill material and were simply graded. Finish grading was performed using the dozer.

### 3.7 RESTORATION OF SURFACES

The former floor block area was covered with two inches of topsoil following the completion of the backfilling and grading activities. The former floor block area was sloped towards the west and southwest to drain toward the storm water discharge structure located in the southwest section of the Site (Figure 2). A total of 45 truckloads of topsoil were brought onto the Site, totaling 1,840 CY and were spread and graded using the dozer. Due to wet Site conditions the former floor block area was not seeded and mulched immediately subsequent to the spreading of the topsoil, instead the former floor block area was seeded, fertilized and mulched on March 22, 2012 after the area was allowed to partially dry out to help minimize the formation of ruts during the seeding process.

### 3.8 FINAL SURVEY

A survey of the finished grades of the former floor block area was conducted after the completion of the seeding operations. The survey established the final topography of the former floor block area. The post-excavation or final survey topography of the former floor block area is illustrated in Figure 8.

#### 4. CONCLUSIONS

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Based on field observations during the excavation activities and confirmation sampling presented in this technical memorandum, removal of the floor block and impacted soil was achieved and the remediation of the former floor block area is considered complete.

## 5. REFERENCES

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MDEQ, 2002. Sampling Strategies and Statistics Training Materials (S<sup>3</sup>TM) for Part 201 Cleanup Criteria.

O'Brien & Gere Engineers, Inc., 2007a. Phase II Environmental Site Assessment, MFD Area 2 – Grand Blanc (Site #029), Grand Blanc, Michigan. May.

O'Brien & Gere Engineers, Inc., 2007b. Delineation Investigation, MFD Area 2 – Grand Blanc (Site #029), Grand Blanc, Michigan. December.

O'Brien & Gere Engineers, Inc., 2010. Phase I Environmental Site Assessment, MLC Site #1296 – Dort Highway Land, Grand Blanc, Michigan. May.

O'Brien & Gere. 2011a. Site History and Current Conditions Report, Dort Highway Land, Grand Blanc, Michigan. Farmington Hills, Michigan. August.

O'Brien & Gere. 2011b. Health and Safety Plan, Dort Highway Land, Grand Blanc, Michigan. Farmington Hills, Michigan. August.

O'Brien & Gere. 2011c. Sampling and Analysis Plan, Dort Highway Land, Grand Blanc, Michigan. Farmington Hills, Michigan. August.

O'Brien & Gere. 2011d. Quality Control Document, Dort Highway Land, Grand Blanc, Michigan. Farmington Hills, Michigan. August.

O'Brien & Gere. 2011e. Floor Block Area Investigation & Corrective Measures Alternatives Analysis, Dort Highway Land, Grand Blanc, Michigan. Farmington Hills, Michigan. October 28.

***TABLES***

**Table 1**  
**Summary of Storm Water Analytical Results**  
**Dort Highway Land**  
**Grand Blanc, Michigan**

		MDEQ Criteria			SW-1	SW-2	SW-3	SW-4	SW-5
		Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Protection Criteria	Nonresidential Groundwater Contact Criteria					
Parameter									
Acenaphthene	µg/l	3,800	38	4,200	<5	<5	<5	<5	<5
Acenaphthylene	µg/l	150	ID	3,900	<5	<5	<5	<5	<5
Anthracene	µg/l	43	ID	43	<5	<5	<5	<5	<5
Benzo(a)anthracene	µg/l	8.5	ID	9.4	<5	<5	<5	<5	<5
Benzo(a)pyrene	µg/l	5.0	ID	1.0	<5	<5	<5	<5	<5
Benzo(b)fluoranthene	µg/l	1.5	ID	1.5	<5	<5	<5	<5	<5
Benzo(k)fluoranthene	µg/l	1.0	NA	1.0	<5	<5	<5	<5	<5
Benzo(ghi)perylene	µg/l	1.0	ID	1.0	<5	<5	<5	<5	<5
Chrysene	µg/l	1.6	ID	1.6	<5	<5	<5	<5	<5
Dibenzo(ah)anthracene	µg/l	NLL	NLL	8,000	<5	<5	<5	<5	<5
Fluoranthene	µg/l	2.0	ID	2.0	<5	<5	<5	<5	<5
Fluorene	µg/l	210	1.6	210	<5	<5	<5	<5	<5
Indeno(1,2,3-cd)pyrene	µg/l	2.0	ID	2.0	<5	<5	<5	<5	<5
Naphthalene	µg/l	1,500	11	31,000	<5	<5	<5	1,019	<5
Phenanthrene	µg/l	150	2.0	1,000	<5	<5	<5	<5	<5
Pyrene	µg/l	140	ID	140	<5	<5	<5	<5	<5
2-Methylnaphthalene	µg/l	750	19	25,000	<5	<5	<5	767	<5
1-Methylnaphthalene	µg/l	NC	NC	NC	<5	<5	<5	308	<5

Exceeds GSI protection criteria only  
 Exceeds nonresidential drinking water criteria or both GSI and drinking water criteria  
 Exceeds nonresidential direct contact criteria  
(ID) Means insufficient data to develop criterion  
(NC) Means no criterion or value is available  
(NA) Means not available

**Table 2  
Summary of Sidewall and Floor Confirmatory Sample Analytical Results  
Dort Highway Land  
Grand Blanc, Michigan**

Parameter		MDEQ Criteria			CS-A-1	CS-A-2	CS-A-3	CS-A-4	CS-A-5 (Excavated)	CS-A-6 (Reconfirmation Sample for CS-A-5)	CF-A-1	CF-A-2	CF-A-3	CF-A-4	CF-A-5	CF-A-6	CF-A-7	CF-A-8	CF-A-9
		Nonresidential Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Nonresidential Direct Contact Criteria															
Acenaphthene	µg/kg	8.8E+05	8700	1.3E+08	<300	<300	<300	<300	1,800	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Acenaphthylene	µg/kg	17000	ID	5.2E+06	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Anthracene	µg/kg	41000	ID	7.3E+08	<300	300	<300	<300	5,000	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Benzo(a)anthracene	µg/kg	NLL	NLL	80000	<300	800	<300	<300	6,700	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Benzo(a)pyrene	µg/kg	NLL	NLL	8000	<300	800	<300	<300	8,300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Benzo(b)fluoranthene	µg/kg	NLL	NLL	80000	<300	1,400	<300	<300	12,200	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Benzo(k)fluoranthene	µg/kg	NLL	NLL	8.0E+05	<300	1,400	<300	<300	12,600	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Benzo(ghi)perylene	µg/kg	NLL	NLL	7.0E+06	<300	500	<300	<300	3,500	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Chrysene	µg/kg	NLL	NLL	8.0E+06	<300	800	<300	<300	6,700	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Dibenzo(ah)anthracene	µg/kg	NLL	NLL	8000	<300	<300	<300	<300	400	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Fluoranthene	µg/kg	7.30E+05	5500	1.3E+08	<300	2,100	<300	<300	16,300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Fluorene	µg/kg	8.9E+05	5300	8.7E+07	<300	<300	<300	<300	1,900	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Indeno(1,2,3-cd)pyrene	µg/kg	NLL	NLL	80000	<300	400	<300	<300	3,600	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Naphthalene	µg/kg	1.00E+05	730	5.2E+07	<300	<300	<300	<300	400	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Phenanthrene	µg/kg	1.60E+05	2100	5.2E+06	<300	1,500	<300	<300	14,200	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Pyrene	µg/kg	4.8E+05	ID	8.4E+07	<300	1,600	<300	<300	12,000	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
2-Methylnaphthalene	µg/kg	1.70E+05	4200	2.6E+07	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
1-Methylnaphthalene	µg/kg	NC	NC	NC	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300

     Exceeds GSI protection criteria only  
     Exceeds nonresidential drinking water protection criteria or both GSI and drinking water protection criteria  
     Exceeds nonresidential direct contact criteria  
 CS-A-4 - Indicates sidewall confirmatory sample number 4 from Subarea A  
 CF-B-3 - Indicates floor confirmatory sample number 3 from Subarea B  
 (D) Calculated criterion exceeds 100 percent  
 (G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness,  
 or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall  
 be calculated based on the pH or hardness of the receiving surface water  
 (X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used  
 as a drinking water source  
 (DD) Hazardous substances causes developmental effects  
 (NLL) Means hazardous substances is not likely to leach under most soil conditions  
 (ID) Means insufficient data to develop criterion  
 (NC) Means no criterion or value is available  
 -- Not analyzed

**Table 2  
Summary of Sidewall and Floor Confirmatory Sample Analytical Results  
Dort Highway Land  
Grand Blanc, Michigan**

Parameter		MDEQ Criteria			CS-B-1	CS-B-2	CS-B-3	CS-B-4	CS-B-5	CF-B-1 (Excavated)	CF-B-2	CF-B-3	CF-B-4	CF-B-5	CF-B-6	CF-B-7	CF-B-8	CF-B-9	CF-B-10 (Reconfirmation Sample for CF-B-1)	CF-B-11 (Reconfirmation Sample for CF-B-1)
		Nonresidential Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Nonresidential Direct Contact Criteria																
Acenaphthene	µg/kg	8.8E+05	8700	1.3E+08	800	<300	<300	<300	400	3,000	<300	<300	<300	300	700	<300	700	1,400	<300	<300
Acenaphthylene	µg/kg	17000	ID	5.2E+06	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Anthracene	µg/kg	41000	ID	7.3E+08	1,500	<300	300	500	1,000	5,300	<300	<300	<300	1,400	1,100	<300	<300	2,300	<300	<300
Benzo(a)anthracene	µg/kg	NLL	NLL	80000	3,000	600	800	1,700	1,900	7,900	1,000	1,000	800	3,200	2,300	300	500	4,500	<300	<300
Benzo(a)pyrene	µg/kg	NLL	NLL	8000	3,300	600	800	2,200	2,100	8,300	1,300	1,100	1,000	3,600	2,600	400	600	5,200	<300	<300
Benzo(b)fluoranthene	µg/kg	NLL	NLL	80000	5,300	1,000	1,400	3,600	3,400	13,700	2,100	1,700	1,700	6,100	4,400	600	900	8,600	<300	<300
Benzo(k)fluoranthene	µg/kg	NLL	NLL	8.0E+05	5,300	1,000	1,300	3,500	3,400	14,300	2,100	1,600	1,600	6,100	4,400	600	900	8,700	<300	<300
Benzo(ghi)perylene	µg/kg	NLL	NLL	7.0E+06	1,500	400	500	1,300	1,100	3,500	900	600	700	1,800	1,400	<300	300	2,300	<300	<300
Chrysene	µg/kg	NLL	NLL	8.0E+06	3,100	700	800	2,000	2,100	8,400	1,100	1,100	1,000	3,600	2,600	400	600	5,000	<300	<300
Dibenzo(ah)anthracene	µg/kg	NLL	NLL	8000	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Fluoranthene	µg/kg	7.30E+05	5500	1.3E+08	8,100	1,300	1,800	3,500	5,100	25,200	1,900	1,900	2,000	8,100	5,800	800	1,000	13,000	<300	<300
Fluorene	µg/kg	8.9E+05	5300	8.7E+07	700	<300	<300	<300	400	2,300	<300	<300	<300	400	700	<300	600	1,300	<300	<300
Indeno(1,2,3-cd)pyrene	µg/kg	NLL	NLL	80000	1,500	300	500	1,200	1,000	3,800	800	600	600	1,800	1,300	<300	<300	2,400	<300	<300
Naphthalene	µg/kg	1.00E+05	730	5.2E+07	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	4,000	<300	<300	<300
Phenanthrene	µg/kg	1.60E+05	2100	5.2E+06	5,700	600	1,100	1,500	3,300	20,600	900	800	1,100	4,700	3,600	400	900	9,500	<300	<300
Pyrene	µg/kg	4.8E+05	ID	8.4E+07	5,900	1,000	1,400	2,900	3,700	16,600	1,700	1,500	1,600	6,000	4,600	600	800	9,200	<300	<300
2-Methylnaphthalene	µg/kg	1.70E+05	4200	2.6E+07	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	700	<300	<300	<300
1-Methylnaphthalene	µg/kg	NC	NC	NC	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300	500	<300	<300	<300

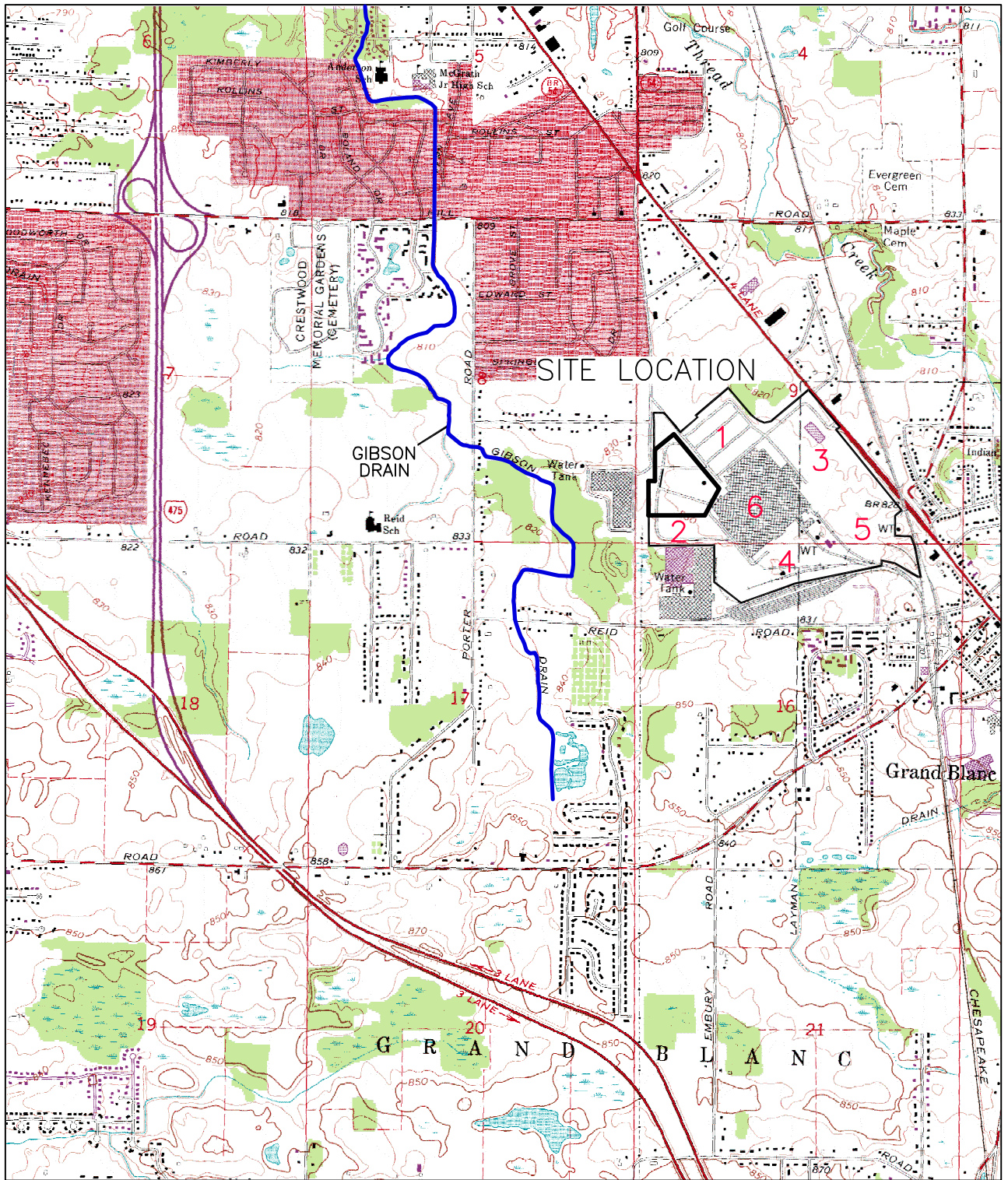
     Exceeds GSI protection criteria only  
     Exceeds nonresidential drinking water protection criteria or both GSI and drinking water protection criteria  
     Exceeds nonresidential direct contact criteria  
 CS-A-4 - Indicates sidewall confirmatory sample number 4 from Subarea A  
 CF-B-3 - Indicates floor confirmatory sample number 3 from Subarea B  
 (D) Calculated criterion exceeds 100 percent  
 (G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness,  
 or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall  
 be calculated based on the pH or hardness of the receiving surface water  
 (X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used  
 as a drinking water source  
 (DD) Hazardous substances causes developmental effects  
 (NLL) Means hazardous substances is not likely to leach under most soil conditions  
 (ID) Means insufficient data to develop criterion  
 (NC) Means no criterion or value is available  
 -- Not analyzed

**Table 2  
Summary of Sidewall and Floor Confirmatory Sample Analytical Results  
Dort Highway Land  
Grand Blanc, Michigan**

Parameter		MDEQ Criteria			CS-C-1	CS-C-2	CS-C-3	CS-C-4	CS-C-5	CF-C-1	CF-C-2 (Excavated)	CF-C-3	CF-C-4	CF-C-5 (Reconfirmation Sample for CF-C-2)
		Nonresidential Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Nonresidential Direct Contact Criteria										
Acenaphthene	µg/kg	8.8E+05	8700	1.3E+08	<300	<300	<300	<300	<300	<300	2,000	1,900	<300	<300
Acenaphthylene	µg/kg	17000	ID	5.2E+06	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
Anthracene	µg/kg	41000	ID	7.3E+08	<300	<300	<300	300	<300	400	4,000	4,000	<300	<300
Benzo(a)anthracene	µg/kg	NLL	NLL	80000	<300	<300	500	900	<300	900	10,800	6,200	<300	<300
Benzo(a)pyrene	µg/kg	NLL	NLL	8000	300	<300	600	1,100	<300	1,000	12,100	6,400	<300	<300
Benzo(b)fluoranthene	µg/kg	NLL	NLL	80000	500	<300	1,000	1,800	400	1,600	19,900	10,300	<300	<300
Benzo(k)fluoranthene	µg/kg	NLL	NLL	8.0E+05	500	<300	1,000	1,800	400	1,600	21,500	10,600	<300	<300
Benzo(ghi)perylene	µg/kg	NLL	NLL	7.0E+06	<300	<300	400	700	<300	600	5,200	2,800	<300	<300
Chrysene	µg/kg	NLL	NLL	8.0E+06	300	<300	600	100	<300	1,100	11,600	6,300	<300	<300
Dibenzo(ah)anthracene	µg/kg	NLL	NLL	8000	<300	<300	<300	<300	<300	<300	400	<300	<300	<300
Fluoranthene	µg/kg	7.30E+05	5500	1.3E+08	600	<300	1,300	2,000	600	2,200	31,400	18,500	<300	<300
Fluorene	µg/kg	8.9E+05	5300	8.7E+07	<300	<300	<300	<300	<300	<300	1,500	1,400	<300	<300
Indeno(1,2,3-cd)pyrene	µg/kg	NLL	NLL	80000	<300	<300	400	700	<300	500	5,500	2,900	<300	<300
Naphthalene	µg/kg	1.00E+05	730	5.2E+07	<300	<300	<300	<300	<300	<300	300	<300	<300	<300
Phenanthrene	µg/kg	1.60E+05	2100	5.2E+06	400	<300	600	1,100	<300	1,400	16,800	14,600	<300	<300
Pyrene	µg/kg	4.8E+05	ID	8.4E+07	500	<300	1,000	1,600	400	1,700	21,100	21,800	<300	<300
2-Methylnaphthalene	µg/kg	1.70E+05	4200	2.6E+07	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300
1-Methylnaphthalene	µg/kg	NC	NC	NC	<300	<300	<300	<300	<300	<300	<300	<300	<300	<300

  Exceeds GSI protection criteria only  
  Exceeds nonresidential drinking water protection criteria or both GSI and drinking water protection criteria  
  Exceeds nonresidential direct contact criteria  
 CS-A-4 - Indicates sidewall confirmatory sample number 4 from Subarea A  
 CF-B-3 - Indicates floor confirmatory sample number 3 from Subarea B  
 (D) Calculated criterion exceeds 100 percent  
 (G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness,  
 or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall  
 be calculated based on the pH or hardness of the receiving surface water  
 (X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used  
 as a drinking water source  
 (DD) Hazardous substances causes developmental effects  
 (NLL) Means hazardous substances is not likely to leach under most soil conditions  
 (ID) Means insufficient data to develop criterion  
 (NC) Means no criterion or value is available  
 -- Not analyzed

***FIGURES***



  
 MICHIGAN  
 QUADRANGLE LOCATION  
 14774/50136.001  
 JUNE 2013

RACER TRUST  
 DORT HIGHWAY LAND  
 GRAND BLANC, MICHIGAN  
 SITE LOCATION



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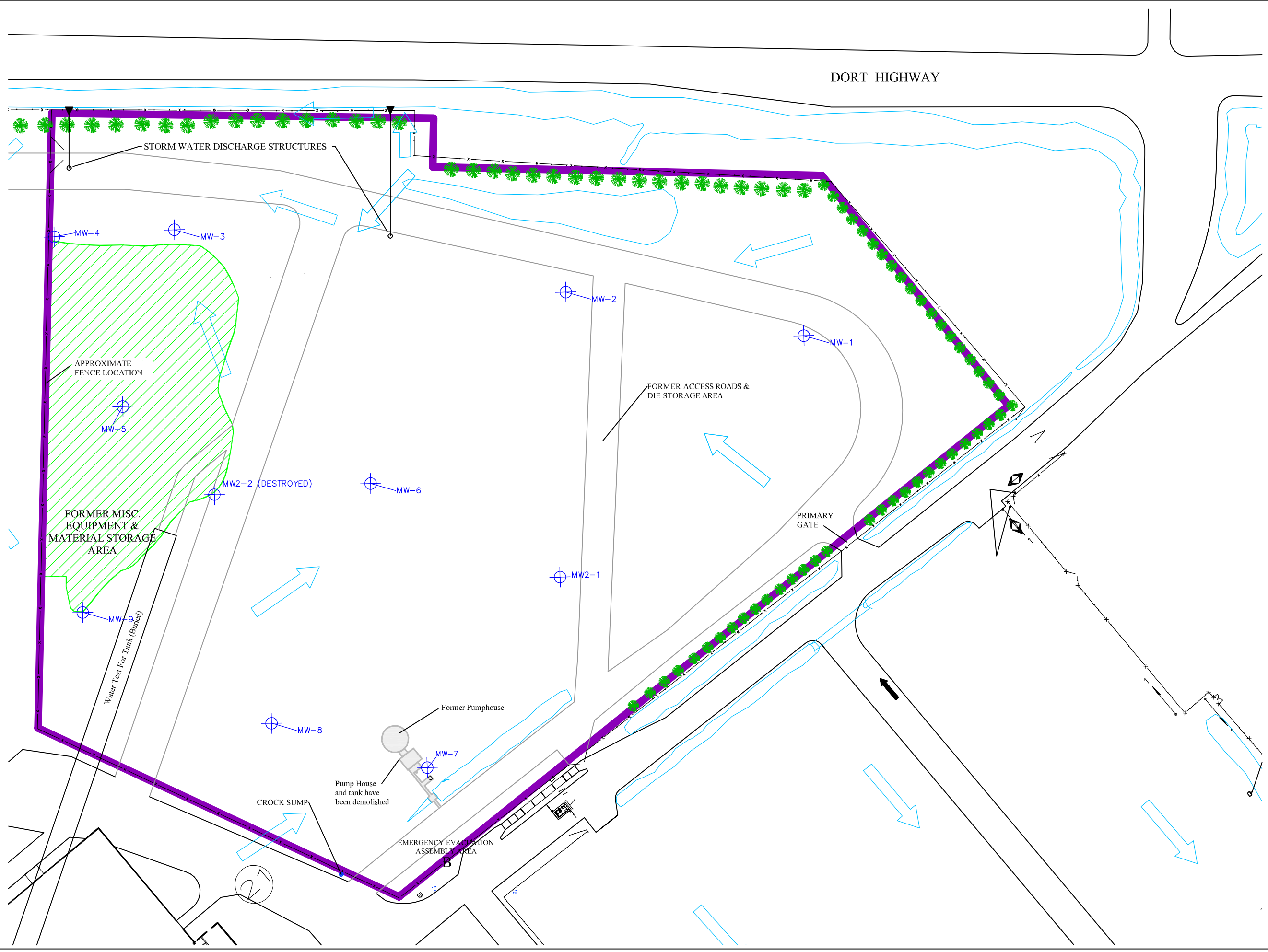









FIGURE 2



**LEGEND**

-  MONITORING WELL LOCATION
-  FORMER FLOOR BLOCK AREA
-  APPROXIMATE RACER TRUST PROPERTY LINE
-  FORMER TANK TEST TRACK AND DIE STORAGE ACCESS ROADS
-  APPROXIMATE FENCE LOCATION
-  SURFACE RUNOFF FLOW DIRECTION
-  STORM WATER DISCHARGE STRUCTURE

**SITE LAYOUT**

RACER TRUST  
DORT HIGHWAY LAND  
GRAND BLANC, MICHIGAN

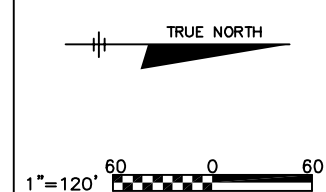
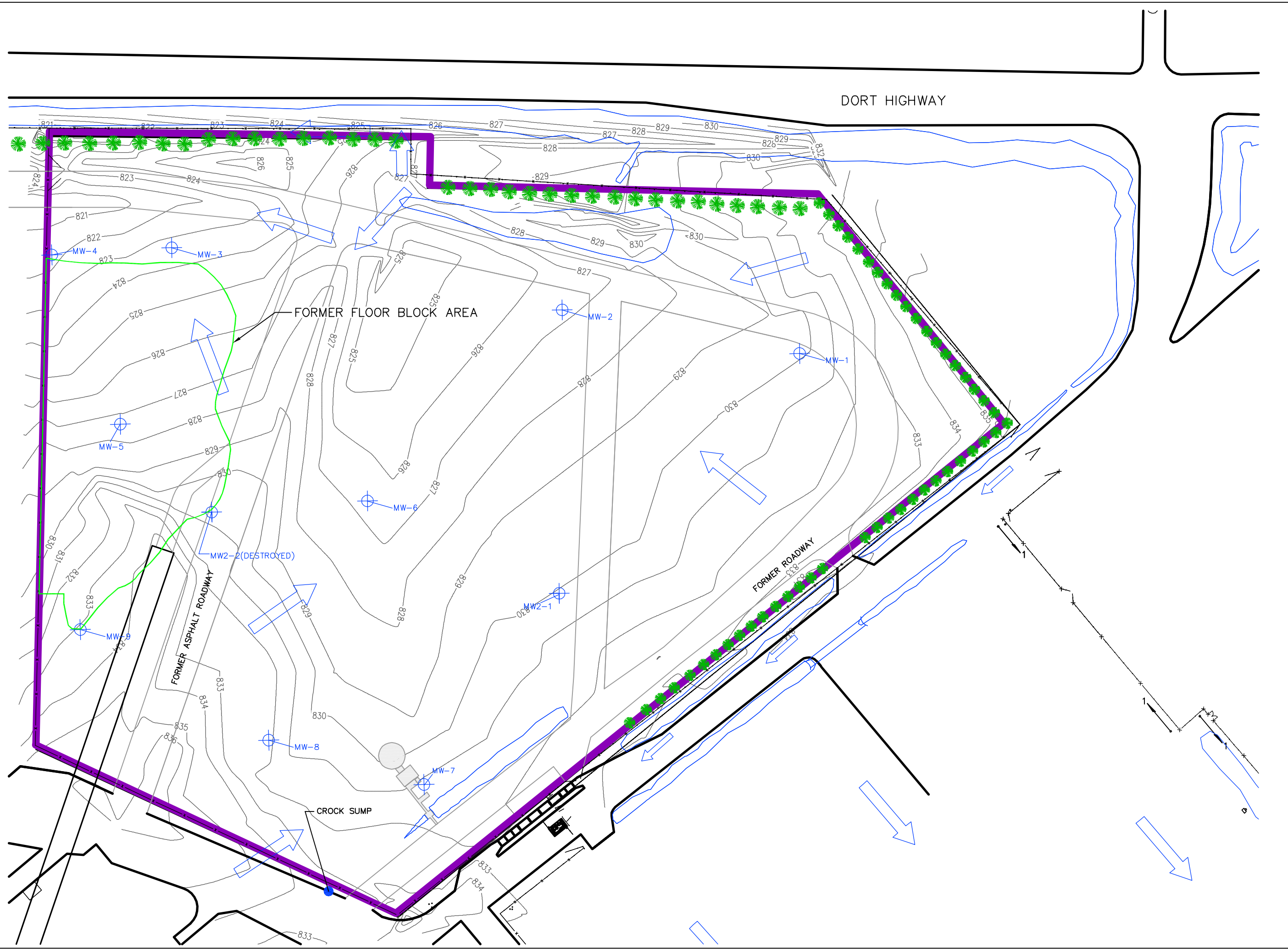
15388/50136.002  
JUNE 2013



FIGURE 3

I:\Pacer-Truett\15388\50136.Dort-Highway\Docs\DWG\Sheets\003

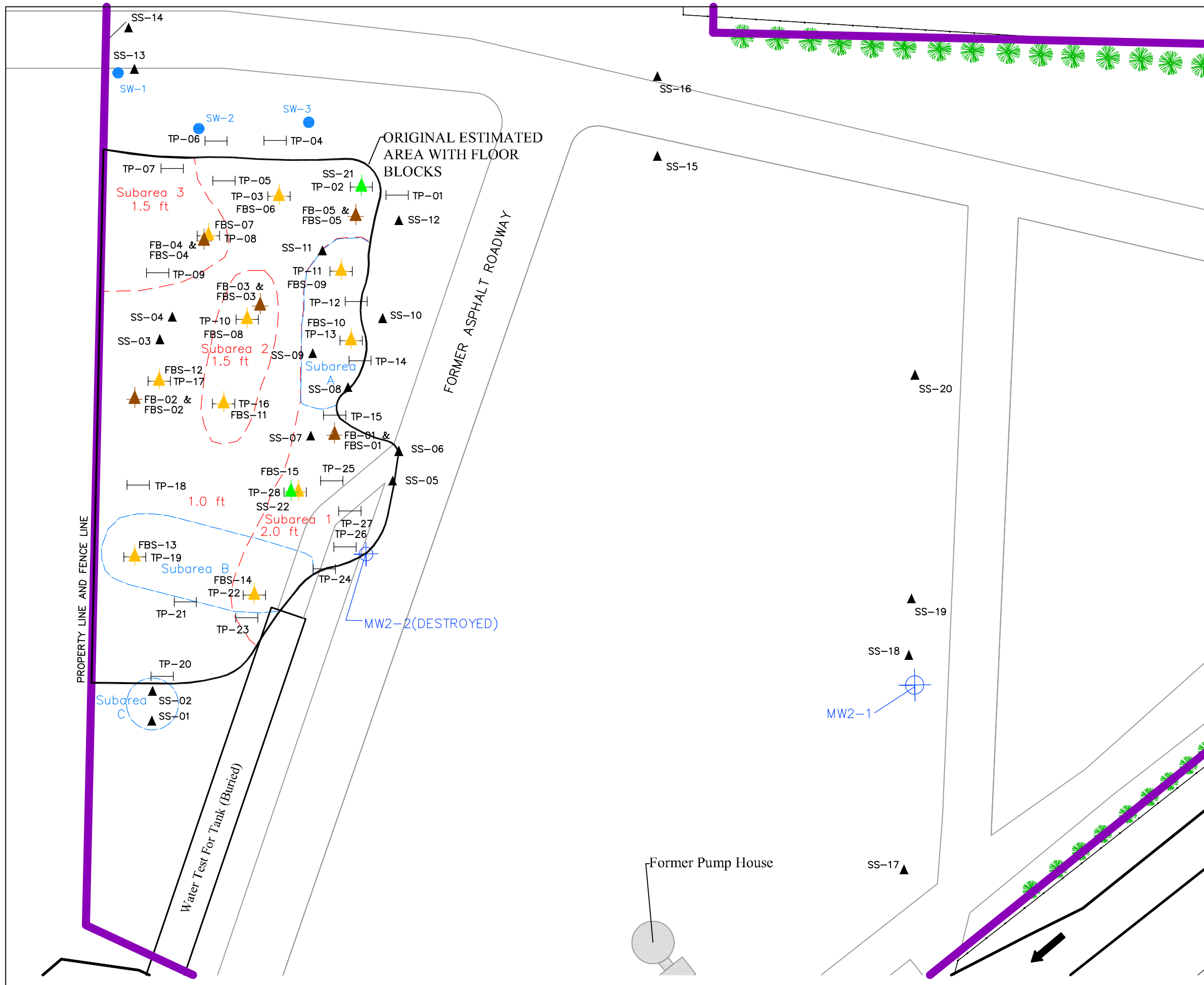
PLOT DATE: 06/07/13 078 TJK



- LEGEND**
- TOPOGRAPHIC CONTOURS
  - ↗ RUNOFF DRAINAGE FLOW DIRECTION
  - ⊕ MONITORING WELL LOCATION
  - APPROXIMATE RACER TRUST PROPERTY LINE
  - FORMER TANK TEST TRACK AND DIE STORAGE ACCESS ROADS
  - ✱ APPROXIMATE FENCE LOCATION

SITE TOPOGRAPHY  
RACER TRUST  
DORT HIGHWAY LAND  
GRAND BLANC, MICHIGAN

FIGURE 4

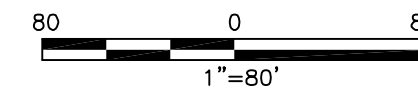


LEGEND

- MONITORING WELL LOCATION
- FLOOR BLOCK LOCATION AND FLOOR BLOCK SAMPLE (8/11/2011)
- SURFACE SOIL SAMPLE (8/11/2011)
- FLOOR BLOCK SAMPLE (9/15/2011)
- SUBSURFACE SOIL SAMPLE (9/15/2011)
- TEST PIT LOCATION (9/15/2011)
- AREA WITH GREATER DENSITY OF FLOOR BLOCK
- AREA POTENTIALLY REQUIRING REMEDIATION
- 1.5' APPROXIMATE DEPTH OF FLOOR BLOCK (FEET)
- SURFACE WATER SAMPLE (12/19/2011)

RACER TRUST  
DORT HIGHWAY LAND  
GRAND BLANC, MICHIGAN

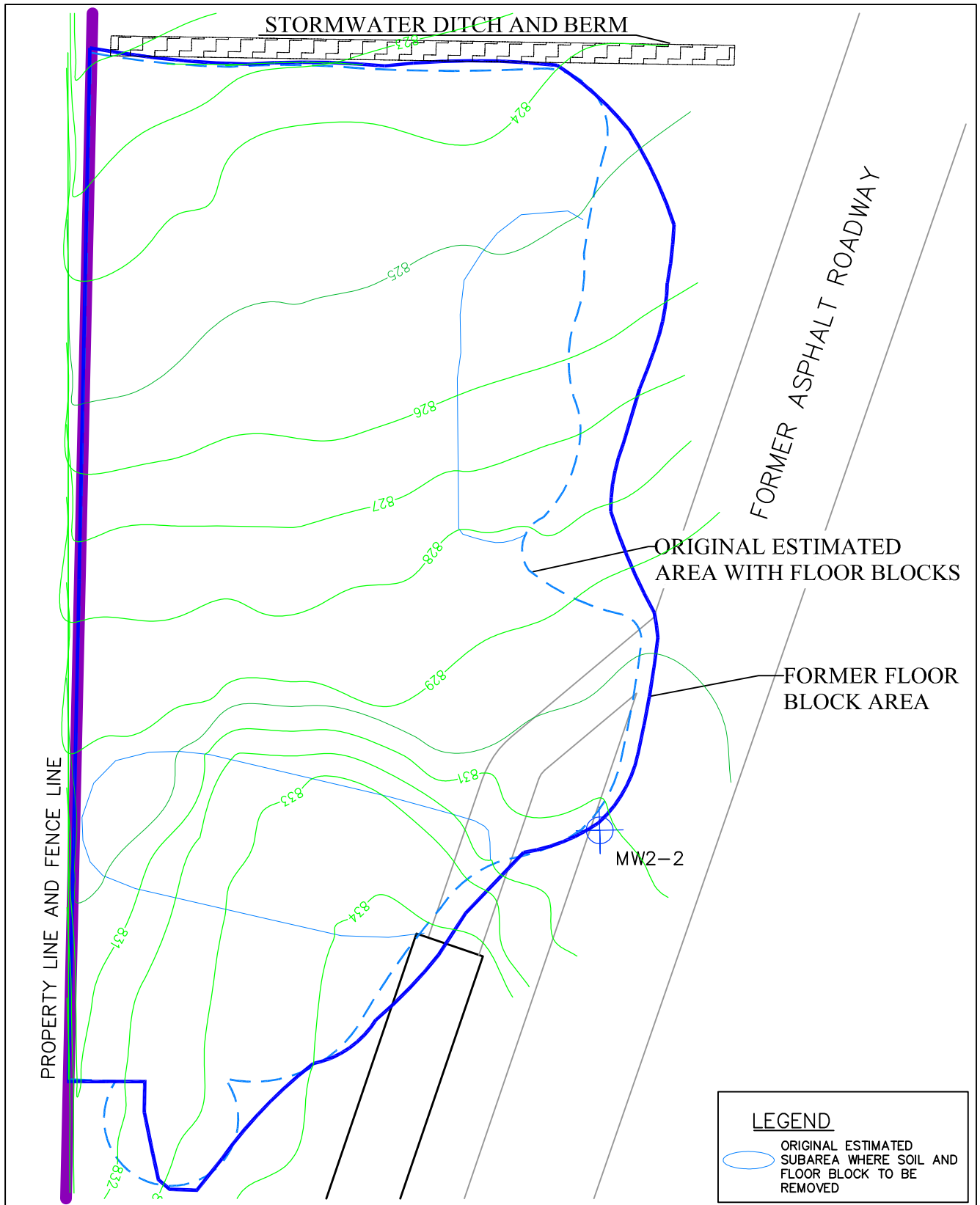
SITE CONDITIONS AND  
FLOOR BLOCK AREA  
INVESTIGATION



15388/50136  
JUNE 2013



I:\Racer-Trust.15388\50136.Dort-Highway\Docs\DWG\Sheets\IRM DWGS\005

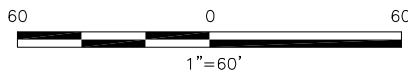


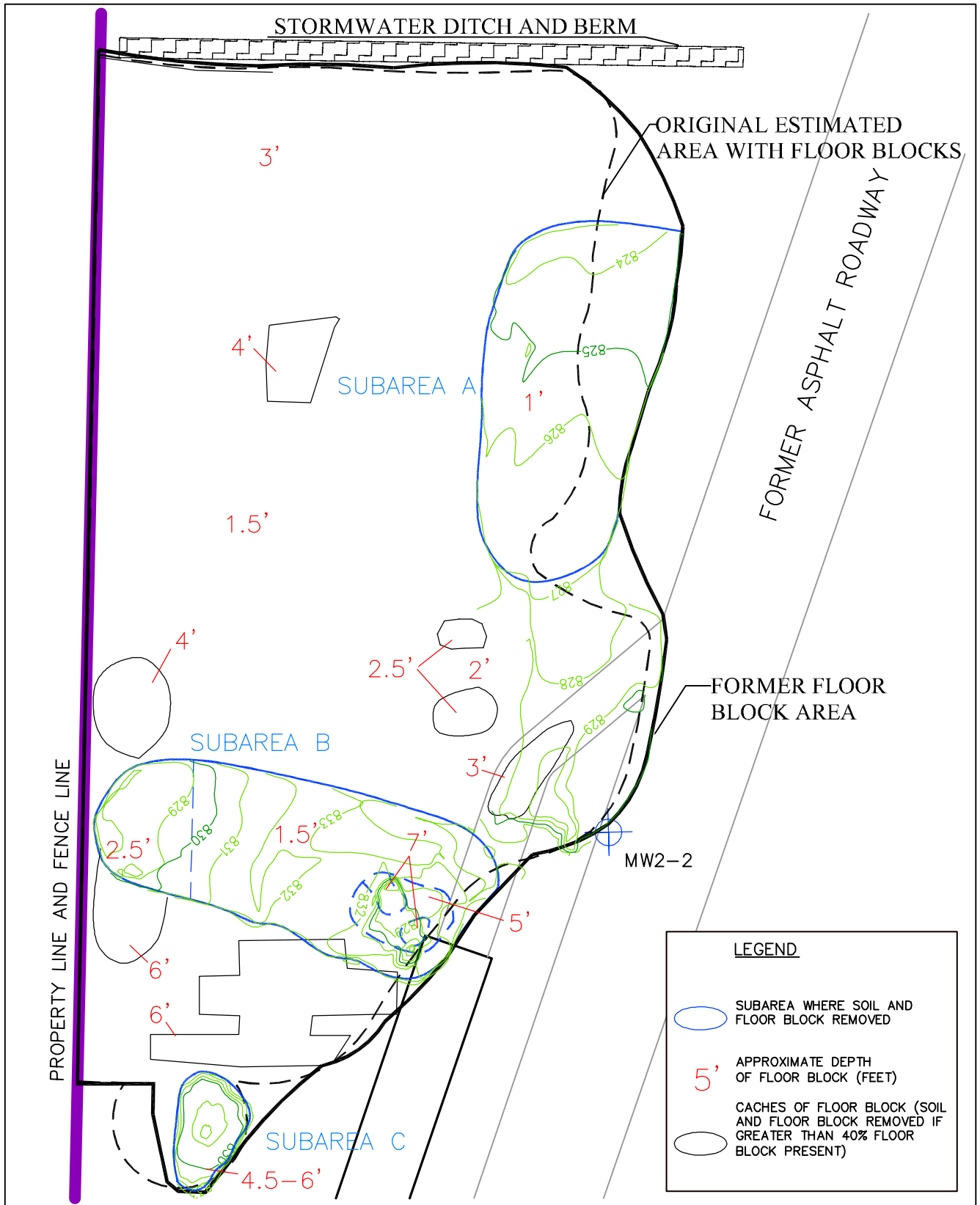
PLOT DATE: 06/17/13 078 TJK

RACER TRUST  
DORT HIGHWAY LAND  
GRAND BLANC, MICHIGAN

15388.50136.005  
JUNE 2013

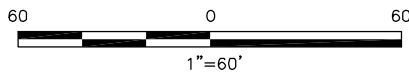
PRE-EXCAVATION TOPOGRAPHY

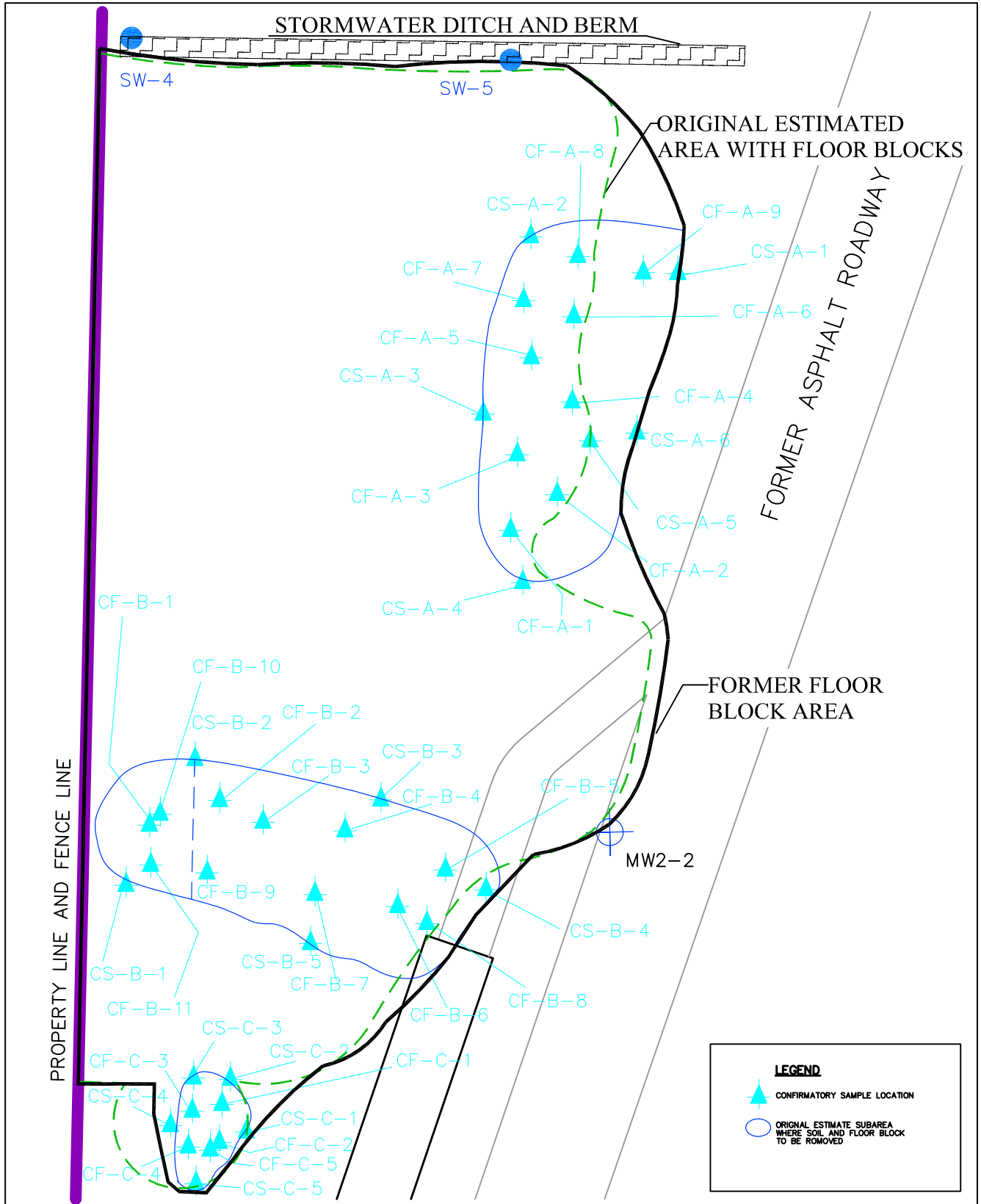




RACER TRUST  
 DORT HIGHWAY LAND  
 GRAND BLANC, MICHIGAN  
 EXCAVATION DEPTH

15388.50136-006  
 JUNE 2013





RACER TRUST  
DORT HIGHWAY LAND  
GRAND BLANC, MICHIGAN

CONFIRMATORY SAMPLE LOCATIONS

15388.50136.007  
JUNE 2013

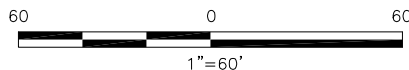
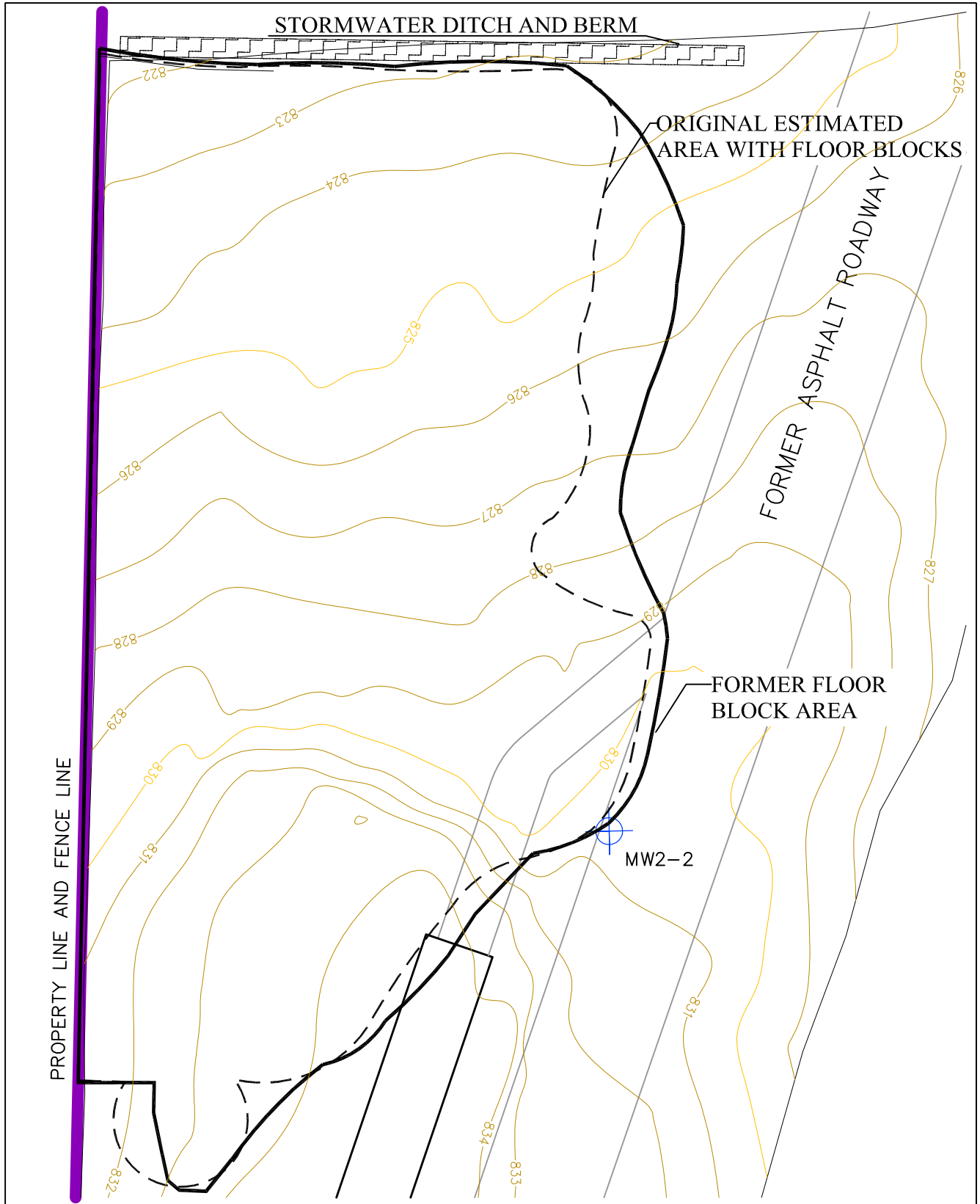


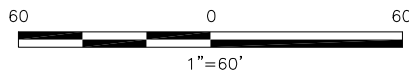
FIGURE 8



RACER TRUST  
 DORT HIGHWAY LAND  
 GRAND BLANC, MICHIGAN

15388.50136-008  
 JUNE 2013

POST-EXCAVATION TOPOGRAPHY



***APPENDICES***

*APPENDIX A*  
*Waste Characterization*  
*Sample Results*



# Analytical Laboratory Report

Report ID: S50815.01(03)  
Generated on 11/23/2011  
Replaces report S50815.01(02) generated on 11/23/2011

Report to

Attention: Clifford Yantz  
O'Brien & Gere Engineers, Inc.  
37000 Grand River Ave.  
Suite 260  
Farmington, MI 48335

Phone: 248-477-5701 FAX:  
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): S50815.01  
Project: Dort Hwy Land  
Collected Date: 11/17/2011  
Submitted Date/Time: 11/17/2011 14:30  
Sampled by: Kevin Schneider  
P.O. #: MTL1296

Complete report.

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 RL.  
Samples are held by the lab for 30 days from the sample submittal date unless a written request to hold longer is provided by the client.  
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Laboratory Certifications:

Michigan DNRE (#9956), Ohio EPA (#CL0002), NELAC NY (#11814), NELAC FL (#E871045), WBENC (#2005110032)  
Some analytes reported may not be certified. Full certification lists are available upon request.

Violetta F. Murshak  
Laboratory Director



# Analytical Laboratory Report

Sample Summary (1 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S50815.01	FB-06	Solid	11/17/2011 09:15



# Analytical Laboratory Report

Lab Sample ID: S50815.01  
 Sample Tag: FB-06  
 Collected Date/Time: 11/17/2011 09:15  
 Matrix: Solid  
 COC Reference: 53653

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	32oz Glass	None	Yes	4.6	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
----------	---------	-------	----	--------	---------------	---------	-------	-------

### Extraction / Prep.

Extraction, PCB	Completed			3550B	11/21/11 12:40	CCM		
Metal Digestion	Completed			3015A	11/22/11 12:55	JRH		

### TCLP Extraction

Initial Sample pH	N/A			1311	11/21/11 16:45	WAR		
pH after 3.5 ml HCl	N/A			1311	11/21/11 16:45	WAR		
% Solids	100			1311	11/21/11 16:45	WAR		
Sample Used g	100			1311	11/21/11 16:45	WAR		
Final Volume mL	2,000			1311	11/21/11 16:45	WAR		
TCLP Extraction Fluid	1			1311	11/21/11 16:45	WAR		
Final Extract pH	5.05			1311	11/21/11 16:45	WAR		

### Metals

Cadmium, TCLP	Not detected	mg/L	0.005	6020	11/22/11 16:03	SLS	7440-43-9	
Chromium, TCLP	Not detected	mg/L	0.05	6020	11/22/11 16:03	SLS	7440-47-3	
Lead, TCLP	Not detected	mg/L	0.03	6020	11/22/11 14:43	SLS	7439-92-1	

### Organics - PCBs/Pesticides

#### PCB List

PCB-1016	Not detected	ug/kg	330	8082A	11/22/11 11:42	JANB	12674-11-2	
PCB-1242	Not detected	ug/kg	330	8082A	11/22/11 11:42	JANB	53469-21-9	
PCB-1221	Not detected	ug/kg	330	8082A	11/22/11 11:42	JANB	11104-28-2	
PCB-1232	Not detected	ug/kg	330	8082A	11/22/11 11:42	JANB	11141-16-5	
PCB-1248	Not detected	ug/kg	330	8082A	11/22/11 11:42	JANB	12672-29-6	
PCB-1254	Not detected	ug/kg	330	8082A	11/22/11 11:42	JANB	11097-69-1	
PCB-1260	Not detected	ug/kg	330	8082A	11/22/11 11:42	JANB	11096-82-5	

### Organics - Volatiles

#### BTEX

Benzene	Not detected	ug/kg	20,000	8260B	11/22/11 14:53	WAT	71-43-2	X
Toluene	Not detected	ug/kg	20,000	8260B	11/22/11 14:53	WAT	108-88-3	X
Ethylbenzene	Not detected	ug/kg	20,000	8260B	11/22/11 14:53	WAT	100-41-4	X
p,m-Xylene	Not detected	ug/kg	20,000	8260B	11/22/11 14:53	WAT		X
o-Xylene	Not detected	ug/kg	20,000	8260B	11/22/11 14:53	WAT	95-47-6	X

### Organics

TOX	140,000	ug/kg	230,000	9023	11/22/11 12:08	TestA		O1
-----	---------	-------	---------	------	----------------	-------	--	----

X-Elevated reporting limit due to matrix interference

O-Analysis performed by outside laboratory. See attached report. 1-Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.



2680 East Lansing Dr., East Lansing, MI 48823  
 Phone (517) 332-0167 Fax (517) 332-6333  
 www.meritlabs.com

C.O.C. PAGE # 1 OF 1

53653

**REPORT TO**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

CONTACT NAME Cliff Yantz  
 COMPANY O'Brien & Gere  
 ADDRESS 37000 Grand River ave Ste 260  
 CITY Farmington Hills STATE Mi ZIP CODE 48335  
 PHONE NO. 248-477-5701 FAX NO. \_\_\_\_\_ P.O. NO. \_\_\_\_\_  
 E-MAIL ADDRESS clifford.yantz@obg.com QUOTE NO. \_\_\_\_\_

CONTACT NAME \_\_\_\_\_  SAME  
 COMPANY \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP CODE \_\_\_\_\_  
 PHONE NO. \_\_\_\_\_ FAX NO. \_\_\_\_\_ P.O. NO. \_\_\_\_\_

**ANALYSIS (ATTACH LIST IF MORE SPACE REQUIRED)**

PROJECT NO./NAME <u>Doct Hwy Land</u>		SAMPLER(S) - PLEASE PRINT/SIGN NAME <u>Kevin Schneider</u>		SPECIAL INSTRUCTIONS/NOTES																
TURNAROUND TIME REQUIRED <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input checked="" type="checkbox"/> 72 HR <input type="checkbox"/> STANDARD <input type="checkbox"/> OTHER																				
DELIVERABLES REQUIRED <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> LEVEL II <input type="checkbox"/> LEVEL III <input type="checkbox"/> OTHER																				
MATRIX CODE:	GW-GROUNDWATER SL-SLUDGE	WW-WASTEWATER O-OIL	S-SOIL A-AIR	L-LIQUID W-WASTE	SD-SOLID M-MISC	# Containers & Preservatives					<u>TCLP Cd, Cr, Pb</u> <u>Extractable (EOX)</u> <u>Organic Halogens</u> <u>BIEX</u> <u>PCB</u>									
MERIT LAB NO.	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCL	HNO3	H2SO4	NaOH	MeOH	OTHER								
	DATE	TIME																		
<u>50815.01</u>	<u>11/17/11</u>	<u>915</u>	<u>FB-06</u>	<u>SD</u>	<u>1</u>								<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>				

RELINQUISHED BY: SIGNATURE/ORGANIZATION [Signature] OBG DATE 11/17/11 TIME 1315  
 RECEIVED BY: SIGNATURE/ORGANIZATION [Signature] DATE 11-17-11 TIME 1315

RELINQUISHED BY: SIGNATURE/ORGANIZATION [Signature] DATE 11-17-11 TIME 1430  
 RECEIVED BY: SIGNATURE/ORGANIZATION [Signature] DATE 11-17-11 TIME 1430  
 SEAL NO. \_\_\_\_\_ SEAL INTACT YES  NO  INITIALS \_\_\_\_\_ NOTES: \_\_\_\_\_ TEMP. ON ARRIVAL 9/6

PLEASE NOTE: SIGNING ACKNOWLEDGES ACCEPTANCE OF TERMS & CONDITIONS ON REVERSE SIDE

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica North Canton  
4101 Shuffel Street NW  
North Canton, OH 44720  
Tel: (330)497-9396

TestAmerica Job ID: 240-6134-1  
Client Project/Site: 50815

For:  
Merit Laboratories  
2680 E Lansing Drive  
East Lansing, Michigan 48823

Attn: Paula Shaw



Authorized for release by:  
11/23/2011 12:16:31 PM

Denise Heckler  
Project Manager II  
[denise.heckler@testamericainc.com](mailto:denise.heckler@testamericainc.com)



### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Table of Contents

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## Definitions/Glossary

Client: Merit Laboratories  
Project/Site: 50815

TestAmerica Job ID: 240-6134-1

### Qualifiers

#### General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Case Narrative

Client: Merit Laboratories  
Project/Site: 50815

TestAmerica Job ID: 240-6134-1

---

**Job ID: 240-6134-1**

---

**Laboratory: TestAmerica North Canton**

---

**Narrative**

**Job Narrative**  
**240-6134-1**

**Comments**

No additional comments.

**Receipt**

All samples were received in good condition within temperature requirements.

**General Chemistry**

No analytical or quality issues were noted.

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# Method Summary

Client: Merit Laboratories  
Project/Site: 50815

TestAmerica Job ID: 240-6134-1

Method	Method Description	Protocol	Laboratory
9023	Organic Halides, Extractable (EOX)	SW846	TAL NC
Moisture	Percent Moisture	EPA	TAL NC

**Protocol References:**

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL NC = TestAmerica North Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



# Sample Summary

Client: Merit Laboratories  
Project/Site: 50815

TestAmerica Job ID: 240-6134-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-6134-1	50815.01	Solid	11/17/11 09:15	11/18/11 10:15

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# Detection Summary

Client: Merit Laboratories  
Project/Site: 50815

TestAmerica Job ID: 240-6134-1

**Client Sample ID: 50815.01**

**Lab Sample ID: 240-6134-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Halogens, Extractable Organic	140	J	230	60	mg/Kg	1	☼	9023	Total/NA

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# Client Sample Results

Client: Merit Laboratories  
Project/Site: 50815

TestAmerica Job ID: 240-6134-1

**Client Sample ID: 50815.01**

**Date Collected: 11/17/11 09:15**

**Date Received: 11/18/11 10:15**

**Lab Sample ID: 240-6134-1**

**Matrix: Solid**

**Percent Solids: 85.1**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Halogens, Extractable Organic	140	J	230	60	mg/Kg	☼	11/22/11 07:47	11/22/11 12:08	1

# QC Association Summary

Client: Merit Laboratories  
Project/Site: 50815

TestAmerica Job ID: 240-6134-1

## General Chemistry

### Analysis Batch: 24188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-6134-1	50815.01	Total/NA	Solid	Moisture	

### Prep Batch: 24282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-6134-1	50815.01	Total/NA	Solid	9023	

### Analysis Batch: 24414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-6134-1	50815.01	Total/NA	Solid	9023	24282

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# Lab Chronicle

Client: Merit Laboratories  
Project/Site: 50815

TestAmerica Job ID: 240-6134-1

**Client Sample ID: 50815.01**

**Lab Sample ID: 240-6134-1**

**Date Collected: 11/17/11 09:15**

**Matrix: Solid**

**Date Received: 11/18/11 10:15**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	24188	11/21/11 11:39	CN	TAL NC
Total/NA	Prep	9023			24282	11/22/11 07:47	TH	TAL NC
Total/NA	Analysis	9023		1	24414	11/22/11 12:08	TH	TAL NC

**Laboratory References:**

TAL NC = TestAmerica North Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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## Certification Summary

Client: Merit Laboratories  
Project/Site: 50815

TestAmerica Job ID: 240-6134-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica North Canton	ACCLASS	DoD ELAP		ADE-1437
TestAmerica North Canton	California	NELAC	9	01144CA
TestAmerica North Canton	Connecticut	State Program	1	PH-0590
TestAmerica North Canton	Florida	NELAC	4	E87225
TestAmerica North Canton	Georgia	Georgia EPD	4	N/A
TestAmerica North Canton	Illinois	NELAC	5	200004
TestAmerica North Canton	Kansas	NELAC	7	E-10336
TestAmerica North Canton	Kentucky	State Program	4	58
TestAmerica North Canton	Minnesota	NELAC	5	039-999-348
TestAmerica North Canton	Nevada	State Program	9	OH-000482008A
TestAmerica North Canton	New Jersey	NELAC	2	OH001
TestAmerica North Canton	New York	NELAC	2	10975
TestAmerica North Canton	Ohio	OVAP	5	CL0024
TestAmerica North Canton	Pennsylvania	NELAC	3	68-00340
TestAmerica North Canton	USDA	USDA		P330-11-00328
TestAmerica North Canton	Virginia	NELAC Secondary AB	3	460175
TestAmerica North Canton	West Virginia	West Virginia DEP	3	210
TestAmerica North Canton	Wisconsin	State Program	5	999518190

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.



**TestAmerica Cooler Receipt Form/Narrative**  
**North Canton Facility**

Lot Number: #6134

Client Verit Project \_\_\_\_\_ By: [Signature]  
 (Signature)

Cooler Received on 11/18/11 Opened on 11/18/11

FedEx  UPS  DHL  FAS  Stetson  Client Drop Off  TestAmerica Courier  Other \_\_\_\_\_

TestAmerica Cooler # TA Dayton Multiple Coolers  Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler(s)? Yes  No  Intact? Yes  No  NA

If YES, Quantity \_\_\_\_\_ Quantity Unsalvageable \_\_\_\_\_

Were custody seals on the outside of cooler(s) signed and dated? Yes  No  NA

Were custody seals on the bottle(s)? Yes  No

If YES, are there any exceptions? \_\_\_\_\_

2. Shippers' packing slip attached to the cooler(s)? Yes  No

3. Did custody papers accompany the sample(s)? Yes  No  Relinquished by client? Yes  No

4. Were the custody papers signed in the appropriate place? Yes  No

5. Packing material used: Bubble Wrap  Foam  None  Other \_\_\_\_\_

6. Cooler temperature upon receipt 3.4 °C See back of form for multiple coolers/temps

METHOD: IR  Other

COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None

7. Did all bottles arrive in good condition (Unbroken)? Yes  No

8. Could all bottle labels be reconciled with the COC? Yes  No

9. Were sample(s) at the correct pH upon receipt? Yes  No  NA

10. Were correct bottle(s) used for the test(s) indicated? Yes  No

11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA

12. Sufficient quantity received to perform indicated analyses? Yes  No

13. Was a trip blank present in the cooler(s)? Yes  No  Were VOAs on the COC? Yes  No

Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal  Voice Mail  Other

Concerning: \_\_\_\_\_

**14. CHAIN OF CUSTODY**

The following discrepancies occurred:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**15. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.

Sample(s) \_\_\_\_\_ were received in a broken container.

Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter. (Notify PM)

**16. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in Sample

Receiving to meet recommended pH level(s). Nitric Acid Lot# 110410-HNO<sub>3</sub>; Sulfuric Acid Lot# 110410-H<sub>2</sub>SO<sub>4</sub>; Sodium

Hydroxide Lot# 121809 -NaOH; Hydrochloric Acid Lot# 041911-HCl; Sodium Hydroxide and Zinc Acetate Lot# 100108-

(CH<sub>3</sub>COO)<sub>2</sub>Zn/NaOH. What time was preservative added to sample(s)?

Client ID	pH	Date	Initials



## Login Sample Receipt Checklist

Client: Merit Laboratories

Job Number: 240-6134-1

**Login Number: 6134**

**List Source: TestAmerica North Canton**

**List Number: 1**

**Creator: Gambone, Mike**

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



***APPENDIX B***  
***Surface Water Sample***  
***Results***



# Analytical Laboratory Report

Report ID: S51108.01(01)  
Generated on 12/20/2011

Report to

Attention: Mr. Clifford Yantz  
O'Brien & Gere Engineers  
37000 Grand River Ave.  
Suite 260  
Farmington, MI 48335

Phone: 248-477-5701 FAX: 248-477-5962  
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): S51108.01-S51108.03  
Project: Dort Hwy Land  
Collected Date: 12/19/2011  
Submitted Date/Time: 12/19/2011 12:57  
Sampled by: Kevin Schneider  
P.O. #:

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 RL.  
Samples are held by the lab for 30 days from the sample submittal date unless a written request to hold longer is provided by the client.  
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Laboratory Certifications:

Michigan DNRE (#9956), Ohio EPA (#CL0002), NELAC NY (#11814), NELAC FL (#E871045), WBENC (#2005110032)  
Some analytes reported may not be certified. Full certification lists are available upon request.

Violetta F. Murshak  
Laboratory Director



# Analytical Laboratory Report

## Sample Summary (3 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S51108.01	SW-1	Storm Water	12/19/2011 11:30
S51108.02	SW-2	Storm Water	12/19/2011 11:32
S51108.03	SW-3	Storm Water	12/19/2011 11:34



# Analytical Laboratory Report

Lab Sample ID: S51108.01  
 Sample Tag: SW-1  
 Collected Date/Time: 12/19/2011 11:30  
 Matrix: Storm Water  
 COC Reference: 65465

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	1L Amber	None	Yes	4.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### **Extraction / Prep.**

PNA Extraction	Completed			3510C	12/19/11 19:27	EMR		
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### **Organics - Semi-Volatiles**

#### **Polynuclear Aromatic Hydrocarbon**

Acenaphthene	Not detected	ug/L	5	8270C	12/20/11 13:03	PL	83-32-9	
Acenaphthylene	Not detected	ug/L	5	8270C	12/20/11 13:03	PL	208-96-8	
Anthracene	Not detected	ug/L	5	8270C	12/20/11 13:03	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/L	5	8270C	12/20/11 13:03	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/L	5	8270C	12/20/11 13:03	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/L	5	8270C	12/20/11 13:03	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/L	5	8270C	12/20/11 13:03	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/L	5	8270C	12/20/11 13:03	PL	191-24-2	
Chrysene	Not detected	ug/L	5	8270C	12/20/11 13:03	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/L	5	8270C	12/20/11 13:03	PL	53-70-3	
Fluoranthene	Not detected	ug/L	5	8270C	12/20/11 13:03	PL	206-44-0	
Fluorene	Not detected	ug/L	5	8270C	12/20/11 13:03	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/L	5	8270C	12/20/11 13:03	PL	193-39-5	
Naphthalene	Not detected	ug/L	5	8270C	12/20/11 13:03	PL	91-20-3	
Phenanthrene	Not detected	ug/L	5	8270C	12/20/11 13:03	PL	85-01-8	
Pyrene	Not detected	ug/L	5	8270C	12/20/11 13:03	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/L	5	8270C	12/20/11 13:03	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/L	5	8270C	12/20/11 13:03	PL	90-12-0	



# Analytical Laboratory Report

Lab Sample ID: S51108.02  
 Sample Tag: SW-2  
 Collected Date/Time: 12/19/2011 11:32  
 Matrix: Storm Water  
 COC Reference: 65465

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	1L Amber	None	Yes	4.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3510C	12/19/11 19:27	EMR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatic Hydrocarbon

Acenaphthene	Not detected	ug/L	5	8270C	12/20/11 13:26	PL	83-32-9	
Acenaphthylene	Not detected	ug/L	5	8270C	12/20/11 13:26	PL	208-96-8	
Anthracene	Not detected	ug/L	5	8270C	12/20/11 13:26	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/L	5	8270C	12/20/11 13:26	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/L	5	8270C	12/20/11 13:26	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/L	5	8270C	12/20/11 13:26	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/L	5	8270C	12/20/11 13:26	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/L	5	8270C	12/20/11 13:26	PL	191-24-2	
Chrysene	Not detected	ug/L	5	8270C	12/20/11 13:26	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/L	5	8270C	12/20/11 13:26	PL	53-70-3	
Fluoranthene	Not detected	ug/L	5	8270C	12/20/11 13:26	PL	206-44-0	
Fluorene	Not detected	ug/L	5	8270C	12/20/11 13:26	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/L	5	8270C	12/20/11 13:26	PL	193-39-5	
Naphthalene	Not detected	ug/L	5	8270C	12/20/11 13:26	PL	91-20-3	
Phenanthrene	Not detected	ug/L	5	8270C	12/20/11 13:26	PL	85-01-8	
Pyrene	Not detected	ug/L	5	8270C	12/20/11 13:26	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/L	5	8270C	12/20/11 13:26	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/L	5	8270C	12/20/11 13:26	PL	90-12-0	



# Analytical Laboratory Report

Lab Sample ID: S51108.03  
Sample Tag: SW-3  
Collected Date/Time: 12/19/2011 11:34  
Matrix: Storm Water  
COC Reference: 65465

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	1L Amber	None	Yes	4.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### **Extraction / Prep.**

PNA Extraction	Completed			3510C	12/19/11 19:27	EMR		
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### **Organics - Semi-Volatiles**

#### **Polynuclear Aromatic Hydrocarbon**

Acenaphthene	Not detected	ug/L	5	8270C	12/20/11 13:48	PL	83-32-9	
Acenaphthylene	Not detected	ug/L	5	8270C	12/20/11 13:48	PL	208-96-8	
Anthracene	Not detected	ug/L	5	8270C	12/20/11 13:48	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/L	5	8270C	12/20/11 13:48	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/L	5	8270C	12/20/11 13:48	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/L	5	8270C	12/20/11 13:48	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/L	5	8270C	12/20/11 13:48	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/L	5	8270C	12/20/11 13:48	PL	191-24-2	
Chrysene	Not detected	ug/L	5	8270C	12/20/11 13:48	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/L	5	8270C	12/20/11 13:48	PL	53-70-3	
Fluoranthene	Not detected	ug/L	5	8270C	12/20/11 13:48	PL	206-44-0	
Fluorene	Not detected	ug/L	5	8270C	12/20/11 13:48	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/L	5	8270C	12/20/11 13:48	PL	193-39-5	
Naphthalene	Not detected	ug/L	5	8270C	12/20/11 13:48	PL	91-20-3	
Phenanthrene	Not detected	ug/L	5	8270C	12/20/11 13:48	PL	85-01-8	
Pyrene	Not detected	ug/L	5	8270C	12/20/11 13:48	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/L	5	8270C	12/20/11 13:48	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/L	5	8270C	12/20/11 13:48	PL	90-12-0	





# Analytical Laboratory Report

Revised Report

Report ID: S51293.01(02)  
Generated on 02/08/2012  
Replaces report S51293.01(01) generated on 01/12/2012

Report to

Attention: Clifford Yantz  
O'Brien & Gere Engineers, Inc.  
37000 Grand River Ave.  
Suite 260  
Farmington, MI 48335

Phone: 248-477-5701 FAX:  
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): S51293.01-S51293.02  
Project: Dort Hwy Land  
Collected Date: 01/11/2012  
Submitted Date/Time: 01/11/2012 13:30  
Sampled by: Kevin Schneider  
P.O. #: MTL1296

Reporting limits changed

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 RL.  
Samples are held by the lab for 30 days from the sample submittal date unless a written request to hold longer is provided by the client.  
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Laboratory Certifications:

Michigan DNRE (#9956), DOD/ISO 17025 (#L11-184), WBENC (#2005110032)  
Ohio EPA (#CL0002), IN Drinking Water (#C-MI-07), NELAC NY (#11814), NELAC FL (#E871045)  
Some analytes reported may not be certified. Full certification lists are available upon request.

Violetta F. Murshak  
Laboratory Director



# Analytical Laboratory Report

Revised Report

## Sample Summary (2 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S51293.01	SW-4	Water	01/11/2012 09:45
S51293.02	SW-5	Water	01/11/2012 09:55



# Analytical Laboratory Report

Revised Report

Lab Sample ID: S51293.01  
 Sample Tag: SW-4  
 Collected Date/Time: 01/11/2012 09:45  
 Matrix: Water  
 COC Reference: 61739

### Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	1L Amber	None	Yes	4.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3510C	01/11/12 23:53	EMR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatic Hydrocarbon

Acenaphthene	Not detected	ug/L	5	8270C	01/12/12 13:03	PL	83-32-9	
Acenaphthylene	Not detected	ug/L	5	8270C	01/12/12 13:03	PL	208-96-8	
Anthracene	Not detected	ug/L	5	8270C	01/12/12 13:03	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/L	1	8270C	01/12/12 13:03	PL	56-55-3	M
Benzo(a)pyrene	Not detected	ug/L	1	8270C	01/12/12 13:03	PL	50-32-8	M
Benzo(b)fluoranthene	Not detected	ug/L	2	8270C	01/12/12 13:03	PL	205-99-2	MX
Benzo(k)fluoranthene	Not detected	ug/L	2	8270C	01/12/12 13:03	PL	207-08-9	MX
Benzo(ghi)perylene	Not detected	ug/L	5	8270C	01/12/12 13:03	PL	191-24-2	
Chrysene	Not detected	ug/L	1	8270C	01/12/12 13:03	PL	218-01-9	M
Dibenzo(ah)anthracene	Not detected	ug/L	2	8270C	01/12/12 13:03	PL	53-70-3	M
Fluoranthene	Not detected	ug/L	1	8270C	01/12/12 13:03	PL	206-44-0	M
Fluorene	Not detected	ug/L	5	8270C	01/12/12 13:03	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/L	2	8270C	01/12/12 13:03	PL	193-39-5	M
Naphthalene	1,019	ug/L	5	8270C	01/12/12 13:03	PL	91-20-3	
Phenanthrene	Not detected	ug/L	2	8270C	01/12/12 13:03	PL	85-01-8	M
Pyrene	Not detected	ug/L	5	8270C	01/12/12 13:03	PL	129-00-0	
2-Methylnaphthalene	767	ug/L	5	8270C	01/12/12 13:03	PL	91-57-6	
1-Methylnaphthalene	308	ug/L	5	8270C	01/12/12 13:03	PL	90-12-0	

M-Result reported to MDL not RDL

X-Elevated reporting limit due to matrix interference



# Analytical Laboratory Report

Revised Report

Lab Sample ID: S51293.02  
 Sample Tag: SW-5  
 Collected Date/Time: 01/11/2012 09:55  
 Matrix: Water  
 COC Reference: 61739

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	1L Amber	None	Yes	4.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

PNA Extraction	Completed			3510C	01/11/12 23:53	EMR		
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**Organics - Semi-Volatiles**

**Polynuclear Aromatic Hydrocarbon**

Acenaphthene	Not detected	ug/L	5	8270C	01/12/12 13:22	PL	83-32-9	
Acenaphthylene	Not detected	ug/L	5	8270C	01/12/12 13:22	PL	208-96-8	
Anthracene	Not detected	ug/L	5	8270C	01/12/12 13:22	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/L	1	8270C	01/12/12 13:22	PL	56-55-3	M
Benzo(a)pyrene	Not detected	ug/L	1	8270C	01/12/12 13:22	PL	50-32-8	M
Benzo(b)fluoranthene	Not detected	ug/L	1	8270C	01/12/12 13:22	PL	205-99-2	M
Benzo(k)fluoranthene	Not detected	ug/L	1	8270C	01/12/12 13:22	PL	207-08-9	M
Benzo(ghi)perylene	Not detected	ug/L	5	8270C	01/12/12 13:22	PL	191-24-2	
Chrysene	Not detected	ug/L	1	8270C	01/12/12 13:22	PL	218-01-9	M
Dibenzo(ah)anthracene	Not detected	ug/L	2	8270C	01/12/12 13:22	PL	53-70-3	M
Fluoranthene	Not detected	ug/L	1	8270C	01/12/12 13:22	PL	206-44-0	M
Fluorene	Not detected	ug/L	5	8270C	01/12/12 13:22	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/L	2	8270C	01/12/12 13:22	PL	193-39-5	M
Naphthalene	Not detected	ug/L	5	8270C	01/12/12 13:22	PL	91-20-3	
Phenanthrene	Not detected	ug/L	2	8270C	01/12/12 13:22	PL	85-01-8	M
Pyrene	Not detected	ug/L	5	8270C	01/12/12 13:22	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/L	5	8270C	01/12/12 13:22	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/L	5	8270C	01/12/12 13:22	PL	90-12-0	

M-Result reported to MDL not RDL



2680 East Lansing Dr., East Lansing, MI 48823  
 Phone (517) 332-0167 Fax (517) 332-6333  
 www.meritlabs.com

C.O.C. PAGE # 1 OF 1

61739

**REPORT TO**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

CONTACT NAME Clifford Yantz  
 COMPANY O'Brien & Gere  
 ADDRESS 37000 Grand River Ave Ste 260  
 CITY Farmington Hills STATE MI ZIP CODE 48335  
 PHONE NO. 248-477-5701 FAX NO. 248-477-5962 P.O. NO.  
 E-MAIL ADDRESS clifford.yantz@obg.com QUOTE NO.

CONTACT NAME  SAME  
 COMPANY  
 ADDRESS  
 CITY STATE ZIP CODE  
 PHONE NO. FAX NO. P.O. NO.

**ANALYSIS (ATTACH LIST IF MORE SPACE REQUIRED)**

PROJECT NO./NAME			SAMPLER(S) - PLEASE PRINT/SIGN NAME										SPECIAL INSTRUCTIONS/NOTES													
<u>Dort Hwy Land</u>			<u>Kevin Schneider</u> <i>[Signature]</i>																							
TURNAROUND TIME REQUIRED <input checked="" type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input type="checkbox"/> STANDARD <input type="checkbox"/> OTHER			DELIVERABLES REQUIRED <input type="checkbox"/> STANDARD <input type="checkbox"/> LEVEL II <input checked="" type="checkbox"/> LEVEL III <input type="checkbox"/> OTHER																							
MATRIX CODE:		YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION				# Containers & Preservatives																		
GW-GROUNDWATER SL-SLUDGE		WW-WASTEWATER O-OIL		S-SOIL A-AIR		L-LIQUID W-WASTE		SD-SOLID M-MISC																		
MERIT LAB NO.	DATE	TIME	IDENTIFICATION-DESCRIPTION				MATRIX	# OF BOTTLES	NONE	HCL	HNO3	H2SO4	NaOH	MeOH	OTHER											
<u>51293.01</u>	<u>1/11/12</u>	<u>945</u>	<u>SW-4</u>				<u>SW</u>	<u>1</u>								<u>X</u>										
<u>.02</u>	<u>1/11/12</u>	<u>955</u>	<u>SW-5</u>				<u>SW</u>	<u>1</u>								<u>X</u>										


PAHs

RELINQUISHED BY: [Signature] OBG DATE 1/11/12 TIME 11:30  
 RECEIVED BY: [Signature] WHL DATE 1-11-12 TIME 11:30  
 RELINQUISHED BY: SIGNATURE/ORGANIZATION DATE TIME  
 RECEIVED BY: SIGNATURE/ORGANIZATION DATE TIME

RELINQUISHED BY: [Signature] WHL DATE 1-11-12 TIME 1:30  
 RECEIVED BY: [Signature] WHL DATE 1-11-12 TIME 1:30  
 SEAL NO. SEAL INTACT YES  NO  INITIALS NOTES: TEMP. ON ARRIVAL 45  
 SEAL NO. SEAL INTACT YES  NO  INITIALS

*APPENDIX C*  
*Photographic Log*

**APPENDIX C – PHOTOGRAPHIC LOG**

<b>CLIENT NAME:</b> RACER Trust		<b>SITE LOCATION:</b> Dort Hwy Land – Grand Blanc, Michigan	<b>PROJECT NO.</b> 50136
<b>PHOTO NO.</b> 1	<b>DATE:</b> 01/02/2012		
<b>DESCRIPTION</b> Floor blocks removed by spreading soil with excavator and dozer.			

<b>CLIENT NAME:</b> RACER Trust		<b>SITE LOCATION:</b> Dort Hwy Land – Grand Blanc, Michigan	<b>PROJECT NO.</b> 50136
<b>PHOTO NO.</b> 2	<b>DATE:</b> 01/02/2012		
<b>DESCRIPTION</b> Soil was dozed into stock pile, and then slowly spread soil for floor block removal.			

<b>CLIENT NAME:</b> RACER Trust		<b>SITE LOCATION:</b> Dort Hwy Land – Grand Blanc, Michigan	<b>PROJECT NO.</b> 50136
<b>PHOTO NO.</b> 3	<b>DATE:</b> 12/22/2011		
<b>DESCRIPTION</b> Small stockpile of floor block and soil.			

<b>CLIENT NAME:</b> RACER Trust		<b>SITE LOCATION:</b> Dort Hwy Land – Grand Blanc, Michigan	<b>PROJECT NO.</b> 50136
<b>PHOTO NO.</b> 4	<b>DATE:</b> 01/10/2012		
<b>DESCRIPTION</b> Floor block removed while spreading soil with the dozer.			

<b>CLIENT NAME:</b> RACER Trust		<b>SITE LOCATION:</b> Dort Hwy Land – Grand Blanc, Michigan	<b>PROJECT NO.</b> 50136
<b>PHOTO NO.</b> 5	<b>DATE:</b> 12/29/2011		
<b>DESCRIPTION</b> Cache of floor blocks in Subarea B.			

<b>CLIENT NAME:</b> RACER Trust		<b>SITE LOCATION:</b> Dort Hwy Land – Grand Blanc, Michigan	<b>PROJECT NO.</b> 50136
<b>PHOTO NO.</b> 6	<b>DATE:</b> 12/29/2011		
<b>DESCRIPTION</b> Deeper portion of Subarea B.			

<b>CLIENT NAME:</b> RACER Trust		<b>SITE LOCATION:</b> Dort Hwy Land – Grand Blanc, Michigan	<b>PROJECT NO.</b> 50136
<b>PHOTO NO.</b> 7	<b>DATE:</b> 12/29/2011		
<b>DESCRIPTION</b> Subarea C prior to final soil removal.			

<b>CLIENT NAME:</b> RACER Trust		<b>SITE LOCATION:</b> Dort Hwy Land – Grand Blanc, Michigan	<b>PROJECT NO.</b> 50136
<b>PHOTO NO.</b> 8	<b>DATE:</b> 01/16/2012		
<b>DESCRIPTION</b> Storm water ditch – water/ice removal.			

<b>CLIENT NAME:</b> RACER Trust		<b>SITE LOCATION:</b> Dort Hwy Land – Grand Blanc, Michigan	<b>PROJECT NO.</b> 50136
<b>PHOTO NO.</b> 9	<b>DATE:</b> 01/16/2012		
<b>DESCRIPTION</b> Water/ice in rolloff.			

<b>CLIENT NAME:</b> RACER Trust		<b>SITE LOCATION:</b> Dort Hwy Land – Grand Blanc, Michigan	<b>PROJECT NO.</b> 50136
<b>PHOTO NO.</b> 10	<b>DATE:</b> 01/16/2012		
<b>DESCRIPTION</b> Storm water ditch area after removal of water and graded.			

<b>CLIENT NAME:</b> RACER Trust		<b>SITE LOCATION:</b> Dort Hwy Land – Grand Blanc, Michigan	<b>PROJECT NO.</b> 50136
<b>PHOTO NO.</b> 11	<b>DATE:</b> 01/20/2012		
<b>DESCRIPTION</b> Topsoil placement.			

<b>CLIENT NAME:</b> RACER Trust		<b>SITE LOCATION:</b> Dort Hwy Land – Grand Blanc, Michigan	<b>PROJECT NO.</b> 50136
<b>PHOTO NO.</b> 12	<b>DATE:</b> 01/24/2012		
<b>DESCRIPTION</b> Topsoil placed and finished grading.			

<b>CLIENT NAME:</b> RACER Trust		<b>SITE LOCATION:</b> Dort Hwy Land – Grand Blanc, Michigan	<b>PROJECT NO.</b> 50136
<b>PHOTO NO.</b> 13	<b>DATE:</b> 03/23/2012		
<b>DESCRIPTION</b> Floor Block Area after completion of seeding, fertilization, and mulching. Southern half of the area.			

<b>CLIENT NAME:</b> RACER Trust		<b>SITE LOCATION:</b> Dort Hwy Land – Grand Blanc, Michigan	<b>PROJECT NO.</b> 50136
<b>PHOTO NO.</b> 14	<b>DATE:</b> 03/23/2012		
<b>DESCRIPTION</b> Floor Block Area after completion of seeding, fertilization, and mulching. Northern half of the area.			

***APPENDIX D***  
***Confirmatory Sample***  
***Analytical Reports***



# Analytical Laboratory Report

Report ID: S51180.01(01)  
Generated on 12/30/2011

Report to

Attention: Clifford Yantz  
O'Brien & Gere Engineers, Inc.  
37000 Grand River Ave.  
Suite 260  
Farmington, MI 48335

Phone: 248-477-5701 FAX:  
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): S51180.01-S51180.23  
Project: Dort Hwy Land  
Collected Date: 12/28/2011  
Submitted Date/Time: 12/29/2011 08:00  
Sampled by: Kevin Schneider  
P.O. #: MTL1296

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 RL.  
Samples are held by the lab for 30 days from the sample submittal date unless a written request to hold longer is provided by the client.  
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Laboratory Certifications:

Michigan DNRE (#9956), Ohio EPA (#CL0002), NELAC NY (#11814), NELAC FL (#E871045), WBENC (#2005110032)  
Some analytes reported may not be certified. Full certification lists are available upon request.

Violetta F. Murshak  
Laboratory Director



## Analytical Laboratory Report

### Sample Summary (23 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S51180.01	CF-B-1	Soil	12/28/2011 14:45
S51180.02	CF-B-2	Soil	12/28/2011 14:50
S51180.03	CF-B-3	Soil	12/28/2011 14:55
S51180.04	CF-B-4	Soil	12/28/2011 15:00
S51180.05	CF-B-5	Soil	12/28/2011 15:05
S51180.06	CF-B-6	Soil	12/28/2011 15:10
S51180.07	CF-B-7	Soil	12/28/2011 15:15
S51180.08	CF-B-8	Soil	12/28/2011 15:20
S51180.09	CF-B-9	Soil	12/28/2011 15:25
S51180.10	CS-B-1	Soil	12/28/2011 15:30
S51180.11	CS-B-2	Soil	12/28/2011 15:35
S51180.12	CS-B-3	Soil	12/28/2011 15:40
S51180.13	CS-B-4	Soil	12/28/2011 15:45
S51180.14	CS-B-5	Soil	12/28/2011 15:50
S51180.15	CF-C-1	Soil	12/28/2011 15:52
S51180.16	CF-C-2	Soil	12/28/2011 15:54
S51180.17	CF-C-3	Soil	12/28/2011 15:56
S51180.18	CF-C-4	Soil	12/28/2011 15:58
S51180.19	CS-C-1	Soil	12/28/2011 16:00
S51180.20	CS-C-2	Soil	12/28/2011 16:02
S51180.21	CS-C-3	Soil	12/28/2011 16:04
S51180.22	CS-C-4	Soil	12/28/2011 16:06
S51180.23	CS-C-5	Soil	12/28/2011 16:08



# Analytical Laboratory Report

Lab Sample ID: S51180.01  
 Sample Tag: CF-B-1  
 Collected Date/Time: 12/28/2011 14:45  
 Matrix: Soil  
 COC Reference: 57834

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 09:03	EMR		
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### Inorganics

Total Solids	89	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	3,000	ug/kg	300	8270C	12/29/11 22:12	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 22:12	PL	208-96-8	
Anthracene	5,300	ug/kg	300	8270C	12/29/11 22:12	PL	120-12-7	
Benzo(a)anthracene	7,900	ug/kg	300	8270C	12/29/11 22:12	PL	56-55-3	
Benzo(a)pyrene	8,300	ug/kg	300	8270C	12/29/11 22:12	PL	50-32-8	
Benzo(b)fluoranthene	13,700	ug/kg	300	8270C	12/29/11 22:12	PL	205-99-2	p
Benzo(k)fluoranthene	14,300	ug/kg	300	8270C	12/29/11 22:12	PL	207-08-9	p
Benzo(ghi)perylene	3,500	ug/kg	300	8270C	12/29/11 22:12	PL	191-24-2	
Chrysene	8,400	ug/kg	300	8270C	12/29/11 22:12	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	12/29/11 22:12	PL	53-70-3	
Fluoranthene	25,200	ug/kg	300	8270C	12/29/11 22:12	PL	206-44-0	
Fluorene	2,300	ug/kg	300	8270C	12/29/11 22:12	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	3,800	ug/kg	300	8270C	12/29/11 22:12	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	12/29/11 22:12	PL	91-20-3	
Phenanthrene	20,600	ug/kg	300	8270C	12/29/11 22:12	PL	85-01-8	
Pyrene	16,600	ug/kg	300	8270C	12/29/11 22:12	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 22:12	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 22:12	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S51180.02  
 Sample Tag: CF-B-2  
 Collected Date/Time: 12/28/2011 14:50  
 Matrix: Soil  
 COC Reference: 57834

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 09:03	EMR		
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### Inorganics

Total Solids	93	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	12/29/11 20:36	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 20:36	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	12/29/11 20:36	PL	120-12-7	
Benzo(a)anthracene	1,000	ug/kg	300	8270C	12/29/11 20:36	PL	56-55-3	
Benzo(a)pyrene	1,300	ug/kg	300	8270C	12/29/11 20:36	PL	50-32-8	
Benzo(b)fluoranthene	2,100	ug/kg	300	8270C	12/29/11 20:36	PL	205-99-2	p
Benzo(k)fluoranthene	2,100	ug/kg	300	8270C	12/29/11 20:36	PL	207-08-9	p
Benzo(ghi)perylene	900	ug/kg	300	8270C	12/29/11 20:36	PL	191-24-2	
Chrysene	1,100	ug/kg	300	8270C	12/29/11 20:36	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	12/29/11 20:36	PL	53-70-3	
Fluoranthene	1,900	ug/kg	300	8270C	12/29/11 20:36	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	12/29/11 20:36	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	800	ug/kg	300	8270C	12/29/11 20:36	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	12/29/11 20:36	PL	91-20-3	
Phenanthrene	900	ug/kg	300	8270C	12/29/11 20:36	PL	85-01-8	
Pyrene	1,700	ug/kg	300	8270C	12/29/11 20:36	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 20:36	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 20:36	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S51180.03  
 Sample Tag: CF-B-3  
 Collected Date/Time: 12/28/2011 14:55  
 Matrix: Soil  
 COC Reference: 57834

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 09:03	EMR		
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### Inorganics

Total Solids	88	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	12/29/11 16:09	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 16:09	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	12/29/11 16:09	PL	120-12-7	
Benzo(a)anthracene	1,000	ug/kg	300	8270C	12/29/11 16:09	PL	56-55-3	
Benzo(a)pyrene	1,100	ug/kg	300	8270C	12/29/11 16:09	PL	50-32-8	
Benzo(b)fluoranthene	1,700	ug/kg	300	8270C	12/29/11 16:09	PL	205-99-2	p
Benzo(k)fluoranthene	1,600	ug/kg	300	8270C	12/29/11 16:09	PL	207-08-9	p
Benzo(ghi)perylene	600	ug/kg	300	8270C	12/29/11 16:09	PL	191-24-2	
Chrysene	1,100	ug/kg	300	8270C	12/29/11 16:09	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	12/29/11 16:09	PL	53-70-3	
Fluoranthene	1,900	ug/kg	300	8270C	12/29/11 16:09	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	12/29/11 16:09	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	600	ug/kg	300	8270C	12/29/11 16:09	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	12/29/11 16:09	PL	91-20-3	
Phenanthrene	800	ug/kg	300	8270C	12/29/11 16:09	PL	85-01-8	
Pyrene	1,500	ug/kg	300	8270C	12/29/11 16:09	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 16:09	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 16:09	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S51180.04  
 Sample Tag: CF-B-4  
 Collected Date/Time: 12/28/2011 15:00  
 Matrix: Soil  
 COC Reference: 57834

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 09:03	EMR		
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### Inorganics

Total Solids	92	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	12/29/11 16:28	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 16:28	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	12/29/11 16:28	PL	120-12-7	
Benzo(a)anthracene	800	ug/kg	300	8270C	12/29/11 16:28	PL	56-55-3	
Benzo(a)pyrene	1,000	ug/kg	300	8270C	12/29/11 16:28	PL	50-32-8	
Benzo(b)fluoranthene	1,700	ug/kg	300	8270C	12/29/11 16:28	PL	205-99-2	p
Benzo(k)fluoranthene	1,600	ug/kg	300	8270C	12/29/11 16:28	PL	207-08-9	p
Benzo(ghi)perylene	700	ug/kg	300	8270C	12/29/11 16:28	PL	191-24-2	
Chrysene	1,000	ug/kg	300	8270C	12/29/11 16:28	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	12/29/11 16:28	PL	53-70-3	
Fluoranthene	2,000	ug/kg	300	8270C	12/29/11 16:28	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	12/29/11 16:28	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	600	ug/kg	300	8270C	12/29/11 16:28	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	12/29/11 16:28	PL	91-20-3	
Phenanthrene	1,100	ug/kg	300	8270C	12/29/11 16:28	PL	85-01-8	
Pyrene	1,600	ug/kg	300	8270C	12/29/11 16:28	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 16:28	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 16:28	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S51180.05  
 Sample Tag: CF-B-5  
 Collected Date/Time: 12/28/2011 15:05  
 Matrix: Soil  
 COC Reference: 57834

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 09:03	EMR		
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### Inorganics

Total Solids	89	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	300	ug/kg	300	8270C	12/29/11 21:53	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 21:53	PL	208-96-8	
Anthracene	1,400	ug/kg	300	8270C	12/29/11 21:53	PL	120-12-7	
Benzo(a)anthracene	3,200	ug/kg	300	8270C	12/29/11 21:53	PL	56-55-3	
Benzo(a)pyrene	3,600	ug/kg	300	8270C	12/29/11 21:53	PL	50-32-8	
Benzo(b)fluoranthene	6,100	ug/kg	300	8270C	12/29/11 21:53	PL	205-99-2	p
Benzo(k)fluoranthene	6,100	ug/kg	300	8270C	12/29/11 21:53	PL	207-08-9	p
Benzo(ghi)perylene	1,800	ug/kg	300	8270C	12/29/11 21:53	PL	191-24-2	
Chrysene	3,600	ug/kg	300	8270C	12/29/11 21:53	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	12/29/11 21:53	PL	53-70-3	
Fluoranthene	8,100	ug/kg	300	8270C	12/29/11 21:53	PL	206-44-0	
Fluorene	400	ug/kg	300	8270C	12/29/11 21:53	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	1,800	ug/kg	300	8270C	12/29/11 21:53	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	12/29/11 21:53	PL	91-20-3	
Phenanthrene	4,700	ug/kg	300	8270C	12/29/11 21:53	PL	85-01-8	
Pyrene	6,000	ug/kg	300	8270C	12/29/11 21:53	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 21:53	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 21:53	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S51180.06  
 Sample Tag: CF-B-6  
 Collected Date/Time: 12/28/2011 15:10  
 Matrix: Soil  
 COC Reference: 57834

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 09:03	EMR		
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### Inorganics

Total Solids	89	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	700	ug/kg	300	8270C	12/29/11 21:15	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 21:15	PL	208-96-8	
Anthracene	1,100	ug/kg	300	8270C	12/29/11 21:15	PL	120-12-7	
Benzo(a)anthracene	2,300	ug/kg	300	8270C	12/29/11 21:15	PL	56-55-3	
Benzo(a)pyrene	2,600	ug/kg	300	8270C	12/29/11 21:15	PL	50-32-8	
Benzo(b)fluoranthene	4,400	ug/kg	300	8270C	12/29/11 21:15	PL	205-99-2	p
Benzo(k)fluoranthene	4,400	ug/kg	300	8270C	12/29/11 21:15	PL	207-08-9	p
Benzo(ghi)perylene	1,400	ug/kg	300	8270C	12/29/11 21:15	PL	191-24-2	
Chrysene	2,600	ug/kg	300	8270C	12/29/11 21:15	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	12/29/11 21:15	PL	53-70-3	
Fluoranthene	5,800	ug/kg	300	8270C	12/29/11 21:15	PL	206-44-0	
Fluorene	700	ug/kg	300	8270C	12/29/11 21:15	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	1,300	ug/kg	300	8270C	12/29/11 21:15	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	12/29/11 21:15	PL	91-20-3	
Phenanthrene	3,600	ug/kg	300	8270C	12/29/11 21:15	PL	85-01-8	
Pyrene	4,600	ug/kg	300	8270C	12/29/11 21:15	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 21:15	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 21:15	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S51180.07  
 Sample Tag: CF-B-7  
 Collected Date/Time: 12/28/2011 15:15  
 Matrix: Soil  
 COC Reference: 57834

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 09:03	EMR		
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### Inorganics

Total Solids	89	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	12/29/11 16:47	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 16:47	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	12/29/11 16:47	PL	120-12-7	
Benzo(a)anthracene	300	ug/kg	300	8270C	12/29/11 16:47	PL	56-55-3	
Benzo(a)pyrene	400	ug/kg	300	8270C	12/29/11 16:47	PL	50-32-8	
Benzo(b)fluoranthene	600	ug/kg	300	8270C	12/29/11 16:47	PL	205-99-2	p
Benzo(k)fluoranthene	600	ug/kg	300	8270C	12/29/11 16:47	PL	207-08-9	p
Benzo(ghi)perylene	Not detected	ug/kg	300	8270C	12/29/11 16:47	PL	191-24-2	
Chrysene	400	ug/kg	300	8270C	12/29/11 16:47	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	12/29/11 16:47	PL	53-70-3	
Fluoranthene	800	ug/kg	300	8270C	12/29/11 16:47	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	12/29/11 16:47	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	8270C	12/29/11 16:47	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	12/29/11 16:47	PL	91-20-3	
Phenanthrene	400	ug/kg	300	8270C	12/29/11 16:47	PL	85-01-8	
Pyrene	600	ug/kg	300	8270C	12/29/11 16:47	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 16:47	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 16:47	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S51180.08  
 Sample Tag: CF-B-8  
 Collected Date/Time: 12/28/2011 15:20  
 Matrix: Soil  
 COC Reference: 57834

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 09:03	EMR		
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### Inorganics

Total Solids	85	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	700	ug/kg	300	8270C	12/29/11 17:06	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 17:06	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	12/29/11 17:06	PL	120-12-7	
Benzo(a)anthracene	500	ug/kg	300	8270C	12/29/11 17:06	PL	56-55-3	
Benzo(a)pyrene	600	ug/kg	300	8270C	12/29/11 17:06	PL	50-32-8	
Benzo(b)fluoranthene	900	ug/kg	300	8270C	12/29/11 17:06	PL	205-99-2	p
Benzo(k)fluoranthene	900	ug/kg	300	8270C	12/29/11 17:06	PL	207-08-9	p
Benzo(ghi)perylene	300	ug/kg	300	8270C	12/29/11 17:06	PL	191-24-2	
Chrysene	600	ug/kg	300	8270C	12/29/11 17:06	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	12/29/11 17:06	PL	53-70-3	
Fluoranthene	1,000	ug/kg	300	8270C	12/29/11 17:06	PL	206-44-0	
Fluorene	600	ug/kg	300	8270C	12/29/11 17:06	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	8270C	12/29/11 17:06	PL	193-39-5	
Naphthalene	4,000	ug/kg	300	8270C	12/29/11 17:06	PL	91-20-3	
Phenanthrene	900	ug/kg	300	8270C	12/29/11 17:06	PL	85-01-8	
Pyrene	800	ug/kg	300	8270C	12/29/11 17:06	PL	129-00-0	
2-Methylnaphthalene	700	ug/kg	300	8270C	12/29/11 17:06	PL	91-57-6	
1-Methylnaphthalene	500	ug/kg	300	8270C	12/29/11 17:06	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S51180.09  
 Sample Tag: CF-B-9  
 Collected Date/Time: 12/28/2011 15:25  
 Matrix: Soil  
 COC Reference: 57834

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 09:03	EMR		
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### Inorganics

Total Solids	86	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	1,400	ug/kg	300	8270C	12/29/11 22:50	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 22:50	PL	208-96-8	
Anthracene	2,300	ug/kg	300	8270C	12/29/11 22:50	PL	120-12-7	
Benzo(a)anthracene	4,500	ug/kg	300	8270C	12/29/11 22:50	PL	56-55-3	
Benzo(a)pyrene	5,200	ug/kg	300	8270C	12/29/11 22:50	PL	50-32-8	
Benzo(b)fluoranthene	8,600	ug/kg	300	8270C	12/29/11 22:50	PL	205-99-2	p
Benzo(k)fluoranthene	8,700	ug/kg	300	8270C	12/29/11 22:50	PL	207-08-9	p
Benzo(ghi)perylene	2,300	ug/kg	300	8270C	12/29/11 22:50	PL	191-24-2	
Chrysene	5,000	ug/kg	300	8270C	12/29/11 22:50	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	12/29/11 22:50	PL	53-70-3	
Fluoranthene	13,000	ug/kg	300	8270C	12/29/11 22:50	PL	206-44-0	
Fluorene	1,300	ug/kg	300	8270C	12/29/11 22:50	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	2,400	ug/kg	300	8270C	12/29/11 22:50	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	12/29/11 22:50	PL	91-20-3	
Phenanthrene	9,500	ug/kg	300	8270C	12/29/11 22:50	PL	85-01-8	
Pyrene	9,200	ug/kg	300	8270C	12/29/11 22:50	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 22:50	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 22:50	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S51180.10  
 Sample Tag: CS-B-1  
 Collected Date/Time: 12/28/2011 15:30  
 Matrix: Soil  
 COC Reference: 57834

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 09:03	EMR		
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### Inorganics

Total Solids	86	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	800	ug/kg	300	8270C	12/29/11 21:34	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 21:34	PL	208-96-8	
Anthracene	1,500	ug/kg	300	8270C	12/29/11 21:34	PL	120-12-7	
Benzo(a)anthracene	3,000	ug/kg	300	8270C	12/29/11 21:34	PL	56-55-3	
Benzo(a)pyrene	3,300	ug/kg	300	8270C	12/29/11 21:34	PL	50-32-8	
Benzo(b)fluoranthene	5,300	ug/kg	300	8270C	12/29/11 21:34	PL	205-99-2	p
Benzo(k)fluoranthene	5,300	ug/kg	300	8270C	12/29/11 21:34	PL	207-08-9	p
Benzo(ghi)perylene	1,500	ug/kg	300	8270C	12/29/11 21:34	PL	191-24-2	
Chrysene	3,100	ug/kg	300	8270C	12/29/11 21:34	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	12/29/11 21:34	PL	53-70-3	
Fluoranthene	8,100	ug/kg	300	8270C	12/29/11 21:34	PL	206-44-0	
Fluorene	700	ug/kg	300	8270C	12/29/11 21:34	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	1,500	ug/kg	300	8270C	12/29/11 21:34	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	12/29/11 21:34	PL	91-20-3	
Phenanthrene	5,700	ug/kg	300	8270C	12/29/11 21:34	PL	85-01-8	
Pyrene	5,900	ug/kg	300	8270C	12/29/11 21:34	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 21:34	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 21:34	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S51180.11  
 Sample Tag: CS-B-2  
 Collected Date/Time: 12/28/2011 15:35  
 Matrix: Soil  
 COC Reference: 57834

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 09:03	EMR		
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### Inorganics

Total Solids	81	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	12/29/11 17:25	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 17:25	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	12/29/11 17:25	PL	120-12-7	
Benzo(a)anthracene	600	ug/kg	300	8270C	12/29/11 17:25	PL	56-55-3	
Benzo(a)pyrene	600	ug/kg	300	8270C	12/29/11 17:25	PL	50-32-8	
Benzo(b)fluoranthene	1,000	ug/kg	300	8270C	12/29/11 17:25	PL	205-99-2	p
Benzo(k)fluoranthene	1,000	ug/kg	300	8270C	12/29/11 17:25	PL	207-08-9	p
Benzo(ghi)perylene	400	ug/kg	300	8270C	12/29/11 17:25	PL	191-24-2	
Chrysene	700	ug/kg	300	8270C	12/29/11 17:25	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	12/29/11 17:25	PL	53-70-3	
Fluoranthene	1,300	ug/kg	300	8270C	12/29/11 17:25	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	12/29/11 17:25	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	300	ug/kg	300	8270C	12/29/11 17:25	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	12/29/11 17:25	PL	91-20-3	
Phenanthrene	600	ug/kg	300	8270C	12/29/11 17:25	PL	85-01-8	
Pyrene	1,000	ug/kg	300	8270C	12/29/11 17:25	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 17:25	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 17:25	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S51180.12  
 Sample Tag: CS-B-3  
 Collected Date/Time: 12/28/2011 15:40  
 Matrix: Soil  
 COC Reference: 57834

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 09:03	EMR		
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### Inorganics

Total Solids	87	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	12/29/11 19:58	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 19:58	PL	208-96-8	
Anthracene	300	ug/kg	300	8270C	12/29/11 19:58	PL	120-12-7	
Benzo(a)anthracene	800	ug/kg	300	8270C	12/29/11 19:58	PL	56-55-3	
Benzo(a)pyrene	800	ug/kg	300	8270C	12/29/11 19:58	PL	50-32-8	
Benzo(b)fluoranthene	1,400	ug/kg	300	8270C	12/29/11 19:58	PL	205-99-2	p
Benzo(k)fluoranthene	1,300	ug/kg	300	8270C	12/29/11 19:58	PL	207-08-9	p
Benzo(ghi)perylene	500	ug/kg	300	8270C	12/29/11 19:58	PL	191-24-2	
Chrysene	800	ug/kg	300	8270C	12/29/11 19:58	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	12/29/11 19:58	PL	53-70-3	
Fluoranthene	1,800	ug/kg	300	8270C	12/29/11 19:58	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	12/29/11 19:58	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	500	ug/kg	300	8270C	12/29/11 19:58	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	12/29/11 19:58	PL	91-20-3	
Phenanthrene	1,100	ug/kg	300	8270C	12/29/11 19:58	PL	85-01-8	
Pyrene	1,400	ug/kg	300	8270C	12/29/11 19:58	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 19:58	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 19:58	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S51180.13  
 Sample Tag: CS-B-4  
 Collected Date/Time: 12/28/2011 15:45  
 Matrix: Soil  
 COC Reference: 57835

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 09:03	EMR		
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### Inorganics

Total Solids	88	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	12/29/11 20:56	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 20:56	PL	208-96-8	
Anthracene	500	ug/kg	300	8270C	12/29/11 20:56	PL	120-12-7	
Benzo(a)anthracene	1,700	ug/kg	300	8270C	12/29/11 20:56	PL	56-55-3	
Benzo(a)pyrene	2,200	ug/kg	300	8270C	12/29/11 20:56	PL	50-32-8	
Benzo(b)fluoranthene	3,600	ug/kg	300	8270C	12/29/11 20:56	PL	205-99-2	p
Benzo(k)fluoranthene	3,500	ug/kg	300	8270C	12/29/11 20:56	PL	207-08-9	p
Benzo(ghi)perylene	1,300	ug/kg	300	8270C	12/29/11 20:56	PL	191-24-2	
Chrysene	2,000	ug/kg	300	8270C	12/29/11 20:56	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	12/29/11 20:56	PL	53-70-3	
Fluoranthene	3,500	ug/kg	300	8270C	12/29/11 20:56	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	12/29/11 20:56	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	1,200	ug/kg	300	8270C	12/29/11 20:56	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	12/29/11 20:56	PL	91-20-3	
Phenanthrene	1,500	ug/kg	300	8270C	12/29/11 20:56	PL	85-01-8	
Pyrene	2,900	ug/kg	300	8270C	12/29/11 20:56	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 20:56	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 20:56	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S51180.14  
 Sample Tag: CS-B-5  
 Collected Date/Time: 12/28/2011 15:50  
 Matrix: Soil  
 COC Reference: 57835

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 09:03	EMR		
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### Inorganics

Total Solids	90	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	400	ug/kg	300	8270C	12/29/11 20:17	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 20:17	PL	208-96-8	
Anthracene	1,000	ug/kg	300	8270C	12/29/11 20:17	PL	120-12-7	
Benzo(a)anthracene	1,900	ug/kg	300	8270C	12/29/11 20:17	PL	56-55-3	
Benzo(a)pyrene	2,100	ug/kg	300	8270C	12/29/11 20:17	PL	50-32-8	
Benzo(b)fluoranthene	3,400	ug/kg	300	8270C	12/29/11 20:17	PL	205-99-2	p
Benzo(k)fluoranthene	3,400	ug/kg	300	8270C	12/29/11 20:17	PL	207-08-9	p
Benzo(ghi)perylene	1,100	ug/kg	300	8270C	12/29/11 20:17	PL	191-24-2	
Chrysene	2,100	ug/kg	300	8270C	12/29/11 20:17	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	12/29/11 20:17	PL	53-70-3	
Fluoranthene	5,100	ug/kg	300	8270C	12/29/11 20:17	PL	206-44-0	
Fluorene	400	ug/kg	300	8270C	12/29/11 20:17	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	1,000	ug/kg	300	8270C	12/29/11 20:17	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	12/29/11 20:17	PL	91-20-3	
Phenanthrene	3,300	ug/kg	300	8270C	12/29/11 20:17	PL	85-01-8	
Pyrene	3,700	ug/kg	300	8270C	12/29/11 20:17	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 20:17	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 20:17	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S51180.15  
 Sample Tag: CF-C-1  
 Collected Date/Time: 12/28/2011 15:52  
 Matrix: Soil  
 COC Reference: 57835

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 09:03	EMR		
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### Inorganics

Total Solids	88	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	12/29/11 17:44	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 17:44	PL	208-96-8	
Anthracene	400	ug/kg	300	8270C	12/29/11 17:44	PL	120-12-7	
Benzo(a)anthracene	900	ug/kg	300	8270C	12/29/11 17:44	PL	56-55-3	
Benzo(a)pyrene	1,000	ug/kg	300	8270C	12/29/11 17:44	PL	50-32-8	
Benzo(b)fluoranthene	1,600	ug/kg	300	8270C	12/29/11 17:44	PL	205-99-2	p
Benzo(k)fluoranthene	1,600	ug/kg	300	8270C	12/29/11 17:44	PL	207-08-9	p
Benzo(ghi)perylene	600	ug/kg	300	8270C	12/29/11 17:44	PL	191-24-2	
Chrysene	1,100	ug/kg	300	8270C	12/29/11 17:44	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	12/29/11 17:44	PL	53-70-3	
Fluoranthene	2,200	ug/kg	300	8270C	12/29/11 17:44	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	12/29/11 17:44	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	500	ug/kg	300	8270C	12/29/11 17:44	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	12/29/11 17:44	PL	91-20-3	
Phenanthrene	1,400	ug/kg	300	8270C	12/29/11 17:44	PL	85-01-8	
Pyrene	1,700	ug/kg	300	8270C	12/29/11 17:44	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 17:44	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 17:44	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S51180.16  
 Sample Tag: CF-C-2  
 Collected Date/Time: 12/28/2011 15:54  
 Matrix: Soil  
 COC Reference: 57835

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 09:03	EMR		
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### Inorganics

Total Solids	81	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	2,000	ug/kg	300	8270C	12/29/11 23:09	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 23:09	PL	208-96-8	
Anthracene	4,000	ug/kg	300	8270C	12/29/11 23:09	PL	120-12-7	
Benzo(a)anthracene	10,800	ug/kg	300	8270C	12/29/11 23:09	PL	56-55-3	
Benzo(a)pyrene	12,100	ug/kg	300	8270C	12/29/11 23:09	PL	50-32-8	
Benzo(b)fluoranthene	19,900	ug/kg	300	8270C	12/29/11 23:09	PL	205-99-2	p
Benzo(k)fluoranthene	21,500	ug/kg	300	8270C	12/29/11 23:09	PL	207-08-9	p
Benzo(ghi)perylene	5,200	ug/kg	300	8270C	12/29/11 23:09	PL	191-24-2	
Chrysene	11,600	ug/kg	300	8270C	12/29/11 23:09	PL	218-01-9	
Dibenzo(ah)anthracene	400	ug/kg	300	8270C	12/29/11 23:09	PL	53-70-3	
Fluoranthene	31,400	ug/kg	300	8270C	12/29/11 23:09	PL	206-44-0	
Fluorene	1,500	ug/kg	300	8270C	12/29/11 23:09	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	5,500	ug/kg	300	8270C	12/29/11 23:09	PL	193-39-5	
Naphthalene	300	ug/kg	300	8270C	12/29/11 23:09	PL	91-20-3	
Phenanthrene	16,800	ug/kg	300	8270C	12/29/11 23:09	PL	85-01-8	
Pyrene	21,100	ug/kg	300	8270C	12/29/11 23:09	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 23:09	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 23:09	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S51180.17  
 Sample Tag: CF-C-3  
 Collected Date/Time: 12/28/2011 15:56  
 Matrix: Soil  
 COC Reference: 57835

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 09:03	EMR		
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### Inorganics

Total Solids	85	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	1,900	ug/kg	300	8270C	12/29/11 22:31	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 22:31	PL	208-96-8	
Anthracene	4,000	ug/kg	300	8270C	12/29/11 22:31	PL	120-12-7	
Benzo(a)anthracene	6,200	ug/kg	300	8270C	12/29/11 22:31	PL	56-55-3	
Benzo(a)pyrene	6,400	ug/kg	300	8270C	12/29/11 22:31	PL	50-32-8	
Benzo(b)fluoranthene	10,300	ug/kg	300	8270C	12/29/11 22:31	PL	205-99-2	p
Benzo(k)fluoranthene	10,600	ug/kg	300	8270C	12/29/11 22:31	PL	207-08-9	p
Benzo(ghi)perylene	2,800	ug/kg	300	8270C	12/29/11 22:31	PL	191-24-2	
Chrysene	6,300	ug/kg	300	8270C	12/29/11 22:31	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	12/29/11 22:31	PL	53-70-3	
Fluoranthene	18,500	ug/kg	300	8270C	12/29/11 22:31	PL	206-44-0	
Fluorene	1,400	ug/kg	300	8270C	12/29/11 22:31	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	2,900	ug/kg	300	8270C	12/29/11 22:31	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	12/29/11 22:31	PL	91-20-3	
Phenanthrene	14,600	ug/kg	300	8270C	12/29/11 22:31	PL	85-01-8	
Pyrene	12,800	ug/kg	300	8270C	12/29/11 22:31	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 22:31	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 22:31	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S51180.18  
 Sample Tag: CF-C-4  
 Collected Date/Time: 12/28/2011 15:58  
 Matrix: Soil  
 COC Reference: 57835

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 09:03	EMR		
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### Inorganics

Total Solids	87	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	12/29/11 18:03	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 18:03	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	12/29/11 18:03	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/kg	300	8270C	12/29/11 18:03	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/kg	300	8270C	12/29/11 18:03	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/kg	300	8270C	12/29/11 18:03	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/kg	300	8270C	12/29/11 18:03	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/kg	300	8270C	12/29/11 18:03	PL	191-24-2	
Chrysene	Not detected	ug/kg	300	8270C	12/29/11 18:03	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	12/29/11 18:03	PL	53-70-3	
Fluoranthene	Not detected	ug/kg	300	8270C	12/29/11 18:03	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	12/29/11 18:03	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	8270C	12/29/11 18:03	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	12/29/11 18:03	PL	91-20-3	
Phenanthrene	Not detected	ug/kg	300	8270C	12/29/11 18:03	PL	85-01-8	
Pyrene	Not detected	ug/kg	300	8270C	12/29/11 18:03	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 18:03	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 18:03	PL	90-12-0	



# Analytical Laboratory Report

Lab Sample ID: S51180.19  
 Sample Tag: CS-C-1  
 Collected Date/Time: 12/28/2011 16:00  
 Matrix: Soil  
 COC Reference: 57835

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 09:03	EMR		
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### Inorganics

Total Solids	87	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	12/29/11 18:23	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 18:23	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	12/29/11 18:23	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/kg	300	8270C	12/29/11 18:23	PL	56-55-3	
Benzo(a)pyrene	300	ug/kg	300	8270C	12/29/11 18:23	PL	50-32-8	
Benzo(b)fluoranthene	500	ug/kg	300	8270C	12/29/11 18:23	PL	205-99-2	p
Benzo(k)fluoranthene	500	ug/kg	300	8270C	12/29/11 18:23	PL	207-08-9	p
Benzo(ghi)perylene	Not detected	ug/kg	300	8270C	12/29/11 18:23	PL	191-24-2	
Chrysene	300	ug/kg	300	8270C	12/29/11 18:23	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	12/29/11 18:23	PL	53-70-3	
Fluoranthene	600	ug/kg	300	8270C	12/29/11 18:23	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	12/29/11 18:23	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	8270C	12/29/11 18:23	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	12/29/11 18:23	PL	91-20-3	
Phenanthrene	400	ug/kg	300	8270C	12/29/11 18:23	PL	85-01-8	
Pyrene	500	ug/kg	300	8270C	12/29/11 18:23	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 18:23	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 18:23	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S51180.20  
 Sample Tag: CS-C-2  
 Collected Date/Time: 12/28/2011 16:02  
 Matrix: Soil  
 COC Reference: 57835

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 09:03	EMR		
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### Inorganics

Total Solids	86	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	12/29/11 18:42	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 18:42	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	12/29/11 18:42	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/kg	300	8270C	12/29/11 18:42	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/kg	300	8270C	12/29/11 18:42	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/kg	300	8270C	12/29/11 18:42	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/kg	300	8270C	12/29/11 18:42	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/kg	300	8270C	12/29/11 18:42	PL	191-24-2	
Chrysene	Not detected	ug/kg	300	8270C	12/29/11 18:42	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	12/29/11 18:42	PL	53-70-3	
Fluoranthene	Not detected	ug/kg	300	8270C	12/29/11 18:42	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	12/29/11 18:42	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	8270C	12/29/11 18:42	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	12/29/11 18:42	PL	91-20-3	
Phenanthrene	Not detected	ug/kg	300	8270C	12/29/11 18:42	PL	85-01-8	
Pyrene	Not detected	ug/kg	300	8270C	12/29/11 18:42	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 18:42	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 18:42	PL	90-12-0	



# Analytical Laboratory Report

Lab Sample ID: S51180.21  
 Sample Tag: CS-C-3  
 Collected Date/Time: 12/28/2011 16:04  
 Matrix: Soil  
 COC Reference: 57835

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 11:39	EMR		
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### Inorganics

Total Solids	90	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	12/29/11 19:01	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 19:01	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	12/29/11 19:01	PL	120-12-7	
Benzo(a)anthracene	500	ug/kg	300	8270C	12/29/11 19:01	PL	56-55-3	
Benzo(a)pyrene	600	ug/kg	300	8270C	12/29/11 19:01	PL	50-32-8	
Benzo(b)fluoranthene	1,000	ug/kg	300	8270C	12/29/11 19:01	PL	205-99-2	p
Benzo(k)fluoranthene	1,000	ug/kg	300	8270C	12/29/11 19:01	PL	207-08-9	p
Benzo(ghi)perylene	400	ug/kg	300	8270C	12/29/11 19:01	PL	191-24-2	
Chrysene	600	ug/kg	300	8270C	12/29/11 19:01	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	12/29/11 19:01	PL	53-70-3	
Fluoranthene	1,300	ug/kg	300	8270C	12/29/11 19:01	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	12/29/11 19:01	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	400	ug/kg	300	8270C	12/29/11 19:01	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	12/29/11 19:01	PL	91-20-3	
Phenanthrene	600	ug/kg	300	8270C	12/29/11 19:01	PL	85-01-8	
Pyrene	1,000	ug/kg	300	8270C	12/29/11 19:01	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 19:01	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 19:01	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S51180.22  
 Sample Tag: CS-C-4  
 Collected Date/Time: 12/28/2011 16:06  
 Matrix: Soil  
 COC Reference: 57835

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 11:39	EMR		
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### Inorganics

Total Solids	86	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	12/29/11 19:39	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 19:39	PL	208-96-8	
Anthracene	300	ug/kg	300	8270C	12/29/11 19:39	PL	120-12-7	
Benzo(a)anthracene	900	ug/kg	300	8270C	12/29/11 19:39	PL	56-55-3	
Benzo(a)pyrene	1,100	ug/kg	300	8270C	12/29/11 19:39	PL	50-32-8	
Benzo(b)fluoranthene	1,800	ug/kg	300	8270C	12/29/11 19:39	PL	205-99-2	p
Benzo(k)fluoranthene	1,800	ug/kg	300	8270C	12/29/11 19:39	PL	207-08-9	p
Benzo(ghi)perylene	700	ug/kg	300	8270C	12/29/11 19:39	PL	191-24-2	
Chrysene	1,000	ug/kg	300	8270C	12/29/11 19:39	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	12/29/11 19:39	PL	53-70-3	
Fluoranthene	2,000	ug/kg	300	8270C	12/29/11 19:39	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	12/29/11 19:39	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	700	ug/kg	300	8270C	12/29/11 19:39	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	12/29/11 19:39	PL	91-20-3	
Phenanthrene	1,100	ug/kg	300	8270C	12/29/11 19:39	PL	85-01-8	
Pyrene	1,600	ug/kg	300	8270C	12/29/11 19:39	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 19:39	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 19:39	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S51180.23  
 Sample Tag: CS-C-5  
 Collected Date/Time: 12/28/2011 16:08  
 Matrix: Soil  
 COC Reference: 57835

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/29/11 11:39	EMR		
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### Inorganics

Total Solids	86	%	1	Std M 2540 B	12/29/11 15:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	12/29/11 19:20	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	12/29/11 19:20	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	12/29/11 19:20	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/kg	300	8270C	12/29/11 19:20	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/kg	300	8270C	12/29/11 19:20	PL	50-32-8	
Benzo(b)fluoranthene	400	ug/kg	300	8270C	12/29/11 19:20	PL	205-99-2	p
Benzo(k)fluoranthene	400	ug/kg	300	8270C	12/29/11 19:20	PL	207-08-9	p
Benzo(ghi)perylene	Not detected	ug/kg	300	8270C	12/29/11 19:20	PL	191-24-2	
Chrysene	Not detected	ug/kg	300	8270C	12/29/11 19:20	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	12/29/11 19:20	PL	53-70-3	
Fluoranthene	600	ug/kg	300	8270C	12/29/11 19:20	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	12/29/11 19:20	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	8270C	12/29/11 19:20	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	12/29/11 19:20	PL	91-20-3	
Phenanthrene	Not detected	ug/kg	300	8270C	12/29/11 19:20	PL	85-01-8	
Pyrene	400	ug/kg	300	8270C	12/29/11 19:20	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 19:20	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	12/29/11 19:20	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



2680 East Lansing Dr., East Lansing, MI 48823  
 Phone (517) 332-0167 Fax (517) 332-6333  
 www.meritlabs.com

C.O.C. PAGE # 1 OF 2

57834

**REPORT TO**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

CONTACT NAME: Clifford Yantz  
 COMPANY: O'Brien + Gere  
 ADDRESS: 37000 Grand River St 260  
 CITY: Farmington Hills STATE: MI ZIP CODE: 48335  
 PHONE NO.: 248-477-5701 FAX NO.: P.O. NO.:  
 E-MAIL ADDRESS: clifford.yantz@obg.com QUOTE NO.:

CONTACT NAME:  SAME  
 COMPANY:  
 ADDRESS:  
 CITY: STATE: ZIP CODE:  
 PHONE NO.: FAX NO.: P.O. NO.:

**ANALYSIS (ATTACH LIST IF MORE SPACE REQUIRED)**

PROJECT NO./NAME		SAMPLER(S) - PLEASE PRINT/SIGN NAME														SPECIAL INSTRUCTIONS/NOTES			
Dort Hwy Land		Kevin Schneider <i>[Signature]</i>																	
TURNAROUND TIME REQUIRED																			
<input checked="" type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input type="checkbox"/> STANDARD <input type="checkbox"/> OTHER																			
DELIVERABLES REQUIRED																			
<input type="checkbox"/> STANDARD <input type="checkbox"/> LEVEL II <input checked="" type="checkbox"/> LEVEL III <input type="checkbox"/> OTHER																			
MATRIX CODE	GW=GROUNDWATER SL=SLUDGE	WW=WASTEWATER O=OIL	S=SOIL A=AIR	L=LIQUID W=WASTE	SD=SOLID M=MISC	# Containers & Preservatives													
MERIT LAB NO.	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCL	HNO3	H2SO4	NaOH	MeOH	OTHER							
	DATE	TIME																	
5180.d	12/28/11	1445	CF-B-1	S	1	1							X						
.02		1450	CF-B-2	S	1	1							X						
.03		1455	CF-B-3	S	1	1							X						
.04		1500	CF-B-4	S	1	1							X						
.05		1505	CF-B-5	S	1	1							X						
.06		1510	CF-B-6	S	1	1							X						
.07		1515	CF-B-7	S	1	1							X						
.08		1520	CF-B-8	S	1	1							X						
.09		1525	CF-B-9	S	1	1							X						
.10		1530	CS-B-1	S	1	1							X						
.11		1535	CS-B-2	S	1	1							X						
.12		1540	CS-B-3	S	1	1							X						

PATHS

RELINQUISHED BY: *[Signature]* / 056    DATE: 12/28/11    TIME: 16:55  
 RECEIVED BY:    DATE:    TIME:  
 RELINQUISHED BY:    DATE:    TIME:  
 RECEIVED BY:    DATE:    TIME:

RELINQUISHED BY:    DATE:    TIME:  
 RECEIVED BY: *[Signature]*    DATE: 28 Dec 11    TIME: 16:55  
 SEAL NO.    SEAL INTACT YES  NO     INITIALS    NOTES: TEMP. ON ARRIVAL 5.8  
 SEAL NO.    SEAL INTACT YES  NO     INITIALS





# Analytical Laboratory Report

Report ID: S51194.01(01)  
Generated on 01/03/2012

Report to

Attention: Clifford Yantz  
O'Brien & Gere Engineers, Inc.  
37000 Grand River Ave.  
Suite 260  
Farmington, MI 48335

Phone: 248-477-5701 FAX:  
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): S51194.01-S51194.14  
Project: Dort Hwy Land  
Collected Date: 12/30/2011  
Submitted Date/Time: 12/30/2011 11:12  
Sampled by: Cliff Yantz  
P.O. #: MTL1296

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 RL.  
Samples are held by the lab for 30 days from the sample submittal date unless a written request to hold longer is provided by the client.  
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Laboratory Certifications:

Michigan DNRE (#9956), Ohio EPA (#CL0002), NELAC NY (#11814), NELAC FL (#E871045), WBENC (#2005110032)  
Some analytes reported may not be certified. Full certification lists are available upon request.

Violetta F. Murshak  
Laboratory Director



# Analytical Laboratory Report

## Sample Summary (14 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S51194.01	CS-A-1	Soil	12/30/2011 09:05
S51194.02	CS-A-2	Soil	12/30/2011 09:10
S51194.03	CS-A-3	Soil	12/30/2011 09:15
S51194.04	CS-A-4	Soil	12/30/2011 09:20
S51194.05	CS-A-5	Soil	12/30/2011 09:25
S51194.06	CF-A-1	Soil	12/30/2011 09:30
S51194.07	CF-A-2	Soil	12/30/2011 09:35
S51194.08	CF-A-3	Soil	12/30/2011 09:42
S51194.09	CF-A-4	Soil	12/30/2011 09:46
S51194.10	CF-A-5	Soil	12/30/2011 09:50
S51194.11	CF-A-6	Soil	12/30/2011 09:54
S51194.12	CF-A-7	Soil	12/30/2011 09:57
S51194.13	CF-A-8	Soil	12/30/2011 10:01
S51194.14	CF-A-9	Soil	12/30/2011 10:05



# Analytical Laboratory Report

Lab Sample ID: S51194.01  
 Sample Tag: CS-A-1  
 Collected Date/Time: 12/30/2011 09:05  
 Matrix: Soil  
 COC Reference: 63525

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/30/11 14:31	EMR		
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### Inorganics

Total Solids	84	%	1	Std M 2540 B	12/30/11 11:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	01/03/12 12:29	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	01/03/12 12:29	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	01/03/12 12:29	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/kg	300	8270C	01/03/12 12:29	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/kg	300	8270C	01/03/12 12:29	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 12:29	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 12:29	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/kg	300	8270C	01/03/12 12:29	PL	191-24-2	
Chrysene	Not detected	ug/kg	300	8270C	01/03/12 12:29	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	01/03/12 12:29	PL	53-70-3	
Fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 12:29	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	01/03/12 12:29	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	8270C	01/03/12 12:29	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	01/03/12 12:29	PL	91-20-3	
Phenanthrene	Not detected	ug/kg	300	8270C	01/03/12 12:29	PL	85-01-8	
Pyrene	Not detected	ug/kg	300	8270C	01/03/12 12:29	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 12:29	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 12:29	PL	90-12-0	



# Analytical Laboratory Report

Lab Sample ID: S51194.02  
 Sample Tag: CS-A-2  
 Collected Date/Time: 12/30/2011 09:10  
 Matrix: Soil  
 COC Reference: 63525

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/30/11 14:31	EMR		
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### Inorganics

Total Solids	80	%	1	Std M 2540 B	12/30/11 11:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	01/03/12 12:52	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	01/03/12 12:52	PL	208-96-8	
Anthracene	300	ug/kg	300	8270C	01/03/12 12:52	PL	120-12-7	
Benzo(a)anthracene	800	ug/kg	300	8270C	01/03/12 12:52	PL	56-55-3	
Benzo(a)pyrene	800	ug/kg	300	8270C	01/03/12 12:52	PL	50-32-8	
Benzo(b)fluoranthene	1,400	ug/kg	300	8270C	01/03/12 12:52	PL	205-99-2	p
Benzo(k)fluoranthene	1,400	ug/kg	300	8270C	01/03/12 12:52	PL	207-08-9	p
Benzo(ghi)perylene	500	ug/kg	300	8270C	01/03/12 12:52	PL	191-24-2	
Chrysene	800	ug/kg	300	8270C	01/03/12 12:52	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	01/03/12 12:52	PL	53-70-3	
Fluoranthene	2,100	ug/kg	300	8270C	01/03/12 12:52	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	01/03/12 12:52	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	400	ug/kg	300	8270C	01/03/12 12:52	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	01/03/12 12:52	PL	91-20-3	
Phenanthrene	1,500	ug/kg	300	8270C	01/03/12 12:52	PL	85-01-8	
Pyrene	1,600	ug/kg	300	8270C	01/03/12 12:52	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 12:52	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 12:52	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S51194.03  
 Sample Tag: CS-A-3  
 Collected Date/Time: 12/30/2011 09:15  
 Matrix: Soil  
 COC Reference: 63525

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/30/11 14:31	EMR		
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### Inorganics

Total Solids	83	%	1	Std M 2540 B	12/30/11 11:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	01/03/12 13:14	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	01/03/12 13:14	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	01/03/12 13:14	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/kg	300	8270C	01/03/12 13:14	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/kg	300	8270C	01/03/12 13:14	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 13:14	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 13:14	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/kg	300	8270C	01/03/12 13:14	PL	191-24-2	
Chrysene	Not detected	ug/kg	300	8270C	01/03/12 13:14	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	01/03/12 13:14	PL	53-70-3	
Fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 13:14	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	01/03/12 13:14	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	8270C	01/03/12 13:14	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	01/03/12 13:14	PL	91-20-3	
Phenanthrene	Not detected	ug/kg	300	8270C	01/03/12 13:14	PL	85-01-8	
Pyrene	Not detected	ug/kg	300	8270C	01/03/12 13:14	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 13:14	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 13:14	PL	90-12-0	



# Analytical Laboratory Report

Lab Sample ID: S51194.04  
 Sample Tag: CS-A-4  
 Collected Date/Time: 12/30/2011 09:20  
 Matrix: Soil  
 COC Reference: 63525

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/30/11 14:31	EMR		
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### Inorganics

Total Solids	86	%	1	Std M 2540 B	12/30/11 11:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	01/03/12 13:31	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	01/03/12 13:31	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	01/03/12 13:31	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/kg	300	8270C	01/03/12 13:31	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/kg	300	8270C	01/03/12 13:31	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 13:31	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 13:31	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/kg	300	8270C	01/03/12 13:31	PL	191-24-2	
Chrysene	Not detected	ug/kg	300	8270C	01/03/12 13:31	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	01/03/12 13:31	PL	53-70-3	
Fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 13:31	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	01/03/12 13:31	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	8270C	01/03/12 13:31	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	01/03/12 13:31	PL	91-20-3	
Phenanthrene	Not detected	ug/kg	300	8270C	01/03/12 13:31	PL	85-01-8	
Pyrene	Not detected	ug/kg	300	8270C	01/03/12 13:31	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 13:31	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 13:31	PL	90-12-0	



# Analytical Laboratory Report

Lab Sample ID: S51194.05  
 Sample Tag: CS-A-5  
 Collected Date/Time: 12/30/2011 09:25  
 Matrix: Soil  
 COC Reference: 63525

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/30/11 14:31	EMR		
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### Inorganics

Total Solids	83	%	1	Std M 2540 B	12/30/11 11:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	1,800	ug/kg	300	8270C	01/03/12 13:50	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	01/03/12 13:50	PL	208-96-8	
Anthracene	5,000	ug/kg	300	8270C	01/03/12 13:50	PL	120-12-7	
Benzo(a)anthracene	6,700	ug/kg	300	8270C	01/03/12 13:50	PL	56-55-3	
Benzo(a)pyrene	8,300	ug/kg	300	8270C	01/03/12 13:50	PL	50-32-8	
Benzo(b)fluoranthene	12,200	ug/kg	300	8270C	01/03/12 13:50	PL	205-99-2	p
Benzo(k)fluoranthene	12,600	ug/kg	300	8270C	01/03/12 13:50	PL	207-08-9	p
Benzo(ghi)perylene	3,500	ug/kg	300	8270C	01/03/12 13:50	PL	191-24-2	
Chrysene	6,700	ug/kg	300	8270C	01/03/12 13:50	PL	218-01-9	
Dibenzo(ah)anthracene	400	ug/kg	300	8270C	01/03/12 13:50	PL	53-70-3	
Fluoranthene	16,300	ug/kg	300	8270C	01/03/12 13:50	PL	206-44-0	
Fluorene	1,900	ug/kg	300	8270C	01/03/12 13:50	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	3,600	ug/kg	300	8270C	01/03/12 13:50	PL	193-39-5	
Naphthalene	400	ug/kg	300	8270C	01/03/12 13:50	PL	91-20-3	
Phenanthrene	14,200	ug/kg	300	8270C	01/03/12 13:50	PL	85-01-8	
Pyrene	12,000	ug/kg	300	8270C	01/03/12 13:50	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 13:50	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 13:50	PL	90-12-0	

p-Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.



# Analytical Laboratory Report

Lab Sample ID: S51194.06  
 Sample Tag: CF-A-1  
 Collected Date/Time: 12/30/2011 09:30  
 Matrix: Soil  
 COC Reference: 63525

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/30/11 14:31	EMR		
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### Inorganics

Total Solids	83	%	1	Std M 2540 B	12/30/11 11:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	01/03/12 11:37	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	01/03/12 11:37	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	01/03/12 11:37	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/kg	300	8270C	01/03/12 11:37	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/kg	300	8270C	01/03/12 11:37	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 11:37	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 11:37	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/kg	300	8270C	01/03/12 11:37	PL	191-24-2	
Chrysene	Not detected	ug/kg	300	8270C	01/03/12 11:37	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	01/03/12 11:37	PL	53-70-3	
Fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 11:37	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	01/03/12 11:37	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	8270C	01/03/12 11:37	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	01/03/12 11:37	PL	91-20-3	
Phenanthrene	Not detected	ug/kg	300	8270C	01/03/12 11:37	PL	85-01-8	
Pyrene	Not detected	ug/kg	300	8270C	01/03/12 11:37	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 11:37	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 11:37	PL	90-12-0	



# Analytical Laboratory Report

Lab Sample ID: S51194.07  
 Sample Tag: CF-A-2  
 Collected Date/Time: 12/30/2011 09:35  
 Matrix: Soil  
 COC Reference: 63525

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/30/11 14:31	EMR		
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### Inorganics

Total Solids	80	%	1	Std M 2540 B	12/30/11 11:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	01/03/12 11:56	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	01/03/12 11:56	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	01/03/12 11:56	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/kg	300	8270C	01/03/12 11:56	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/kg	300	8270C	01/03/12 11:56	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 11:56	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 11:56	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/kg	300	8270C	01/03/12 11:56	PL	191-24-2	
Chrysene	Not detected	ug/kg	300	8270C	01/03/12 11:56	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	01/03/12 11:56	PL	53-70-3	
Fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 11:56	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	01/03/12 11:56	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	8270C	01/03/12 11:56	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	01/03/12 11:56	PL	91-20-3	
Phenanthrene	Not detected	ug/kg	300	8270C	01/03/12 11:56	PL	85-01-8	
Pyrene	Not detected	ug/kg	300	8270C	01/03/12 11:56	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 11:56	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 11:56	PL	90-12-0	



# Analytical Laboratory Report

Lab Sample ID: S51194.08  
 Sample Tag: CF-A-3  
 Collected Date/Time: 12/30/2011 09:42  
 Matrix: Soil  
 COC Reference: 63525

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/30/11 14:31	EMR		
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### Inorganics

Total Solids	80	%	1	Std M 2540 B	12/30/11 11:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	01/03/12 12:15	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	01/03/12 12:15	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	01/03/12 12:15	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/kg	300	8270C	01/03/12 12:15	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/kg	300	8270C	01/03/12 12:15	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 12:15	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 12:15	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/kg	300	8270C	01/03/12 12:15	PL	191-24-2	
Chrysene	Not detected	ug/kg	300	8270C	01/03/12 12:15	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	01/03/12 12:15	PL	53-70-3	
Fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 12:15	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	01/03/12 12:15	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	8270C	01/03/12 12:15	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	01/03/12 12:15	PL	91-20-3	
Phenanthrene	Not detected	ug/kg	300	8270C	01/03/12 12:15	PL	85-01-8	
Pyrene	Not detected	ug/kg	300	8270C	01/03/12 12:15	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 12:15	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 12:15	PL	90-12-0	



# Analytical Laboratory Report

Lab Sample ID: S51194.09  
 Sample Tag: CF-A-4  
 Collected Date/Time: 12/30/2011 09:46  
 Matrix: Soil  
 COC Reference: 63525

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/30/11 14:31	EMR		
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### Inorganics

Total Solids	80	%	1	Std M 2540 B	12/30/11 11:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	01/03/12 12:34	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	01/03/12 12:34	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	01/03/12 12:34	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/kg	300	8270C	01/03/12 12:34	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/kg	300	8270C	01/03/12 12:34	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 12:34	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 12:34	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/kg	300	8270C	01/03/12 12:34	PL	191-24-2	
Chrysene	Not detected	ug/kg	300	8270C	01/03/12 12:34	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	01/03/12 12:34	PL	53-70-3	
Fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 12:34	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	01/03/12 12:34	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	8270C	01/03/12 12:34	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	01/03/12 12:34	PL	91-20-3	
Phenanthrene	Not detected	ug/kg	300	8270C	01/03/12 12:34	PL	85-01-8	
Pyrene	Not detected	ug/kg	300	8270C	01/03/12 12:34	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 12:34	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 12:34	PL	90-12-0	



# Analytical Laboratory Report

Lab Sample ID: S51194.10  
 Sample Tag: CF-A-5  
 Collected Date/Time: 12/30/2011 09:50  
 Matrix: Soil  
 COC Reference: 63525

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/30/11 14:31	EMR		
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### Inorganics

Total Solids	86	%	1	Std M 2540 B	12/30/11 11:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	01/03/12 13:36	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	01/03/12 13:36	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	01/03/12 13:36	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/kg	300	8270C	01/03/12 13:36	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/kg	300	8270C	01/03/12 13:36	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 13:36	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 13:36	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/kg	300	8270C	01/03/12 13:36	PL	191-24-2	
Chrysene	Not detected	ug/kg	300	8270C	01/03/12 13:36	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	01/03/12 13:36	PL	53-70-3	
Fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 13:36	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	01/03/12 13:36	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	8270C	01/03/12 13:36	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	01/03/12 13:36	PL	91-20-3	
Phenanthrene	Not detected	ug/kg	300	8270C	01/03/12 13:36	PL	85-01-8	
Pyrene	Not detected	ug/kg	300	8270C	01/03/12 13:36	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 13:36	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 13:36	PL	90-12-0	



# Analytical Laboratory Report

Lab Sample ID: S51194.11  
 Sample Tag: CF-A-6  
 Collected Date/Time: 12/30/2011 09:54  
 Matrix: Soil  
 COC Reference: 63525

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/30/11 14:31	EMR		
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### Inorganics

Total Solids	81	%	1	Std M 2540 B	12/30/11 11:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	01/03/12 12:53	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	01/03/12 12:53	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	01/03/12 12:53	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/kg	300	8270C	01/03/12 12:53	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/kg	300	8270C	01/03/12 12:53	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 12:53	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 12:53	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/kg	300	8270C	01/03/12 12:53	PL	191-24-2	
Chrysene	Not detected	ug/kg	300	8270C	01/03/12 12:53	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	01/03/12 12:53	PL	53-70-3	
Fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 12:53	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	01/03/12 12:53	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	8270C	01/03/12 12:53	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	01/03/12 12:53	PL	91-20-3	
Phenanthrene	Not detected	ug/kg	300	8270C	01/03/12 12:53	PL	85-01-8	
Pyrene	Not detected	ug/kg	300	8270C	01/03/12 12:53	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 12:53	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 12:53	PL	90-12-0	



# Analytical Laboratory Report

Lab Sample ID: S51194.12  
 Sample Tag: CF-A-7  
 Collected Date/Time: 12/30/2011 09:57  
 Matrix: Soil  
 COC Reference: 63525

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/30/11 14:31	EMR		
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### Inorganics

Total Solids	80	%	1	Std M 2540 B	12/30/11 11:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	01/03/12 13:12	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	01/03/12 13:12	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	01/03/12 13:12	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/kg	300	8270C	01/03/12 13:12	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/kg	300	8270C	01/03/12 13:12	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 13:12	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 13:12	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/kg	300	8270C	01/03/12 13:12	PL	191-24-2	
Chrysene	Not detected	ug/kg	300	8270C	01/03/12 13:12	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	01/03/12 13:12	PL	53-70-3	
Fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 13:12	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	01/03/12 13:12	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	8270C	01/03/12 13:12	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	01/03/12 13:12	PL	91-20-3	
Phenanthrene	Not detected	ug/kg	300	8270C	01/03/12 13:12	PL	85-01-8	
Pyrene	Not detected	ug/kg	300	8270C	01/03/12 13:12	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 13:12	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 13:12	PL	90-12-0	



# Analytical Laboratory Report

Lab Sample ID: S51194.13  
 Sample Tag: CF-A-8  
 Collected Date/Time: 12/30/2011 10:01  
 Matrix: Soil  
 COC Reference: 57836

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/30/11 14:31	EMR		
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### Inorganics

Total Solids	84	%	1	Std M 2540 B	12/30/11 11:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	01/03/12 13:59	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	01/03/12 13:59	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	01/03/12 13:59	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/kg	300	8270C	01/03/12 13:59	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/kg	300	8270C	01/03/12 13:59	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 13:59	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 13:59	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/kg	300	8270C	01/03/12 13:59	PL	191-24-2	
Chrysene	Not detected	ug/kg	300	8270C	01/03/12 13:59	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	01/03/12 13:59	PL	53-70-3	
Fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 13:59	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	01/03/12 13:59	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	8270C	01/03/12 13:59	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	01/03/12 13:59	PL	91-20-3	
Phenanthrene	Not detected	ug/kg	300	8270C	01/03/12 13:59	PL	85-01-8	
Pyrene	Not detected	ug/kg	300	8270C	01/03/12 13:59	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 13:59	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 13:59	PL	90-12-0	



# Analytical Laboratory Report

Lab Sample ID: S51194.14  
 Sample Tag: CF-A-9  
 Collected Date/Time: 12/30/2011 10:05  
 Matrix: Soil  
 COC Reference: 57836

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	12/30/11 14:31	EMR		
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### Inorganics

Total Solids	88	%	1	Std M 2540 B	12/30/11 11:00	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	01/03/12 14:21	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	01/03/12 14:21	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	01/03/12 14:21	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/kg	300	8270C	01/03/12 14:21	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/kg	300	8270C	01/03/12 14:21	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 14:21	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 14:21	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/kg	300	8270C	01/03/12 14:21	PL	191-24-2	
Chrysene	Not detected	ug/kg	300	8270C	01/03/12 14:21	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	01/03/12 14:21	PL	53-70-3	
Fluoranthene	Not detected	ug/kg	300	8270C	01/03/12 14:21	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	01/03/12 14:21	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	8270C	01/03/12 14:21	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	01/03/12 14:21	PL	91-20-3	
Phenanthrene	Not detected	ug/kg	300	8270C	01/03/12 14:21	PL	85-01-8	
Pyrene	Not detected	ug/kg	300	8270C	01/03/12 14:21	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 14:21	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/03/12 14:21	PL	90-12-0	





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C.O.C. PAGE # 2 OF 2

57836

**REPORT TO**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

CONTACT NAME CLIFFORD YANTZ  
 COMPANY OBORN & GORE  
 ADDRESS 37000 GRAND RIVER AVE STE 200  
 CITY FARMINGTON HILLS STATE MI ZIP CODE 48335  
 PHONE NO. 2484775701 FAX NO. \_\_\_\_\_ P.O. NO. \_\_\_\_\_  
 E-MAIL ADDRESS CLIFFORD.YANTZ@OBG.COM QUOTE NO. \_\_\_\_\_

CONTACT NAME SAME  
 COMPANY \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP CODE \_\_\_\_\_  
 PHONE NO. \_\_\_\_\_ FAX NO. \_\_\_\_\_ P.O. NO. \_\_\_\_\_

**ANALYSIS (ATTACH LIST IF MORE SPACE REQUIRED)**

PROJECT NO./NAME DORT HILWAY LAND SAMPLER(S) - PLEASE PRINT/SIGN NAME CLIFF YANTZ  
 TURNAROUND TIME REQUIRED  24 HR  48 HR  72 HR  STANDARD  OTHER  
 DELIVERABLES REQUIRED  STANDARD  LEVEL II  LEVEL III  OTHER

# Containers & Preservatives										SPECIAL INSTRUCTIONS/NOTES	
MATRIX CODE	GW=GROUNDWATER	WW=WASTEWATER	S=SOIL	L=LIQUID	SD=SOLID	SL=SLUDGE	O=OIL	A=AIR	W=WASTE		M=MISC
											PAWS

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE O=OIL A=AIR W=WASTE M=MISC

MERIT LAB NO.	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCL	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	OTHER
	DATE	TIME										
51194.13	12/30/11	1001	CF-A-8	S	1	1						
.14	12/30/11	1005	CF-A-9	S	1	1						

RELINQUISHED BY: Clifford Yantz / OBG DATE 12/30/11 TIME 11:12  
 RECEIVED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 RECEIVED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 RECEIVED BY: [Signature] DATE 12-30-11 TIME 11:12  
 SEAL NO. SEAL INTACT YES  NO  INITIALS \_\_\_\_\_ NOTES: TEMP. ON ARRIVAL \_\_\_\_\_  
 SEAL NO. SEAL INTACT YES  NO  INITIALS \_\_\_\_\_

PLEASE NOTE: SIGNING ACKNOWLEDGES ACCEPTANCE OF TERMS & CONDITIONS ON REVERSE SIDE



# Analytical Laboratory Report

Report ID: S51198.01(01)  
Generated on 01/04/2012

Report to

Attention: Clifford Yantz  
O'Brien & Gere Engineers, Inc.  
37000 Grand River Ave.  
Suite 260  
Farmington, MI 48335

Phone: 248-477-5701 FAX:  
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): S51198.01-S51198.03  
Project: Dort Hwy Land  
Collected Date: 01/02/2012  
Submitted Date/Time: 01/03/2012 08:00  
Sampled by: Clifford Yantz  
P.O. #: MTL1296

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 RL.  
Samples are held by the lab for 30 days from the sample submittal date unless a written request to hold longer is provided by the client.  
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Laboratory Certifications:

Michigan DNRE (#9956), Ohio EPA (#CL0002), NELAC NY (#11814), NELAC FL (#E871045), WBENC (#2005110032)  
Some analytes reported may not be certified. Full certification lists are available upon request.

Violetta F. Murshak  
Laboratory Director



# Analytical Laboratory Report

## Sample Summary (3 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S51198.01	CF-B-10	Soil	01/02/2012 10:20
S51198.02	CF-B-11	Soil	01/02/2012 10:25
S51198.03	CF-C-5	Soil	01/02/2012 10:43



# Analytical Laboratory Report

Lab Sample ID: S51198.01  
 Sample Tag: CF-B-10  
 Collected Date/Time: 01/02/2012 10:20  
 Matrix: Soil  
 COC Reference: 62628

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	01/03/12 22:52	EMR		
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### Inorganics

Total Solids	83	%	1	Std M 2540 B	01/03/12 11:30	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	01/04/12 12:08	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	01/04/12 12:08	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	01/04/12 12:08	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/kg	300	8270C	01/04/12 12:08	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/kg	300	8270C	01/04/12 12:08	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/kg	300	8270C	01/04/12 12:08	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/kg	300	8270C	01/04/12 12:08	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/kg	300	8270C	01/04/12 12:08	PL	191-24-2	
Chrysene	Not detected	ug/kg	300	8270C	01/04/12 12:08	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	01/04/12 12:08	PL	53-70-3	
Fluoranthene	Not detected	ug/kg	300	8270C	01/04/12 12:08	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	01/04/12 12:08	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	8270C	01/04/12 12:08	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	01/04/12 12:08	PL	91-20-3	
Phenanthrene	Not detected	ug/kg	300	8270C	01/04/12 12:08	PL	85-01-8	
Pyrene	Not detected	ug/kg	300	8270C	01/04/12 12:08	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/04/12 12:08	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/04/12 12:08	PL	90-12-0	



# Analytical Laboratory Report

Lab Sample ID: S51198.02  
 Sample Tag: CF-B-11  
 Collected Date/Time: 01/02/2012 10:25  
 Matrix: Soil  
 COC Reference: 62628

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	01/03/12 22:52	EMR		
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### Inorganics

Total Solids	83	%	1	Std M 2540 B	01/03/12 11:30	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	01/04/12 12:27	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	01/04/12 12:27	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	01/04/12 12:27	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/kg	300	8270C	01/04/12 12:27	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/kg	300	8270C	01/04/12 12:27	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/kg	300	8270C	01/04/12 12:27	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/kg	300	8270C	01/04/12 12:27	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/kg	300	8270C	01/04/12 12:27	PL	191-24-2	
Chrysene	Not detected	ug/kg	300	8270C	01/04/12 12:27	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	01/04/12 12:27	PL	53-70-3	
Fluoranthene	Not detected	ug/kg	300	8270C	01/04/12 12:27	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	01/04/12 12:27	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	8270C	01/04/12 12:27	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	01/04/12 12:27	PL	91-20-3	
Phenanthrene	Not detected	ug/kg	300	8270C	01/04/12 12:27	PL	85-01-8	
Pyrene	Not detected	ug/kg	300	8270C	01/04/12 12:27	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/04/12 12:27	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/04/12 12:27	PL	90-12-0	



# Analytical Laboratory Report

Lab Sample ID: S51198.03  
 Sample Tag: CF-C-5  
 Collected Date/Time: 01/02/2012 10:43  
 Matrix: Soil  
 COC Reference: 62628

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	5.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### Extraction / Prep.

PNA Extraction	Completed			3550B	01/03/12 22:52	EMR		
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### Inorganics

Total Solids	83	%	1	Std M 2540 B	01/03/12 11:30	WAR		
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### Organics - Semi-Volatiles

#### Polynuclear Aromatics

Acenaphthene	Not detected	ug/kg	300	8270C	01/04/12 12:46	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	01/04/12 12:46	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	01/04/12 12:46	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/kg	300	8270C	01/04/12 12:46	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/kg	300	8270C	01/04/12 12:46	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/kg	300	8270C	01/04/12 12:46	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/kg	300	8270C	01/04/12 12:46	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/kg	300	8270C	01/04/12 12:46	PL	191-24-2	
Chrysene	Not detected	ug/kg	300	8270C	01/04/12 12:46	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	01/04/12 12:46	PL	53-70-3	
Fluoranthene	Not detected	ug/kg	300	8270C	01/04/12 12:46	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	01/04/12 12:46	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	8270C	01/04/12 12:46	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	01/04/12 12:46	PL	91-20-3	
Phenanthrene	Not detected	ug/kg	300	8270C	01/04/12 12:46	PL	85-01-8	
Pyrene	Not detected	ug/kg	300	8270C	01/04/12 12:46	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/04/12 12:46	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/04/12 12:46	PL	90-12-0	



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C.O.C. PAGE # 1 OF 1

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**REPORT TO**

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

CONTACT NAME *Clifford Yantz*  
 COMPANY *O'Brien & Gere*  
 ADDRESS *37000 Grand River, Suite 260*  
 CITY *Farmington Hills* STATE *MI* ZIP CODE *48330*  
 PHONE NO. *248 4775701* FAX NO. *248 4775962* P.O. NO.  
 E-MAIL ADDRESS *Clifford.Yantz@obg.com* QUOTE NO.

CONTACT NAME *ALGAME*  
 COMPANY  
 ADDRESS  
 CITY STATE ZIP CODE  
 PHONE NO. FAX NO. P.O. NO.

**ANALYSIS (ATTACH LIST IF MORE SPACE REQUIRED)**

PROJECT NO./NAME *Dort Hwy Land* SAMPLER(S) - PLEASE PRINT/SIGN NAME *Clifford Yantz*  
 TURNAROUND TIME REQUIRED  24 HR  48 HR  72 HR  STANDARD  OTHER  
 DELIVERABLES REQUIRED  STANDARD  LEVEL II  LEVEL III  OTHER

MATRIX CODE: GW=GROUNDWATER SL=SLUDGE WW=WASTEWATER O=OIL S=SOIL A=AIR L=LIQUID W=WASTE SD=SOLID M=MISC

# Containers & Preservatives

MERIT LAB NO.	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCL	HNO3	H2SO4	NaOH	MeOH	OTHER	SPECIAL INSTRUCTIONS/NOTES
	DATE	TIME											
<i>51198.01</i>	<i>1/2/12</i>	<i>10:20</i>	<i>CF-B-10</i>	<i>S</i>	<i>1</i>	<i>X</i>							<i>DATA</i>
<i>.02</i>	<i>↓</i>	<i>10:25</i>	<i>CF-B-11</i>	<i>S</i>	<i>1</i>	<i>X</i>							
<i>.03</i>	<i>↓</i>	<i>10:43</i>	<i>CF-C-5</i>	<i>S</i>	<i>1</i>	<i>X</i>							

RELINQUISHED BY: SIGNATURE/ORGANIZATION *Clifford Yantz / O'Brien & Gere* DATE *1/2/11* TIME *17:15*  
 RECEIVED BY: SIGNATURE/ORGANIZATION  
 RELINQUISHED BY: SIGNATURE/ORGANIZATION DATE TIME  
 RECEIVED BY: SIGNATURE/ORGANIZATION DATE TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION DATE TIME  
 RECEIVED BY: SIGNATURE/ORGANIZATION *Andrew Ball* DATE *03/20/12* TIME *0800*  
 SEAL NO. SEAL INTACT YES  NO  INITIALS NOTES: TEMP. ON ARRIVAL *5.0*  
 SEAL NO. SEAL INTACT YES  NO  INITIALS

PLEASE NOTE: SIGNING ACKNOWLEDGES ACCEPTANCE OF TERMS & CONDITIONS ON REVERSE SIDE



# Analytical Laboratory Report

Revised Report

Report ID: S51209.01(02)  
Generated on 01/31/2012  
Replaces report S51209.01(01) generated on 01/04/2012

Report to

Attention: Clifford Yantz  
O'Brien & Gere Engineers, Inc.  
37000 Grand River Ave.  
Suite 260  
Farmington, MI 48335

Phone: 248-477-5701 FAX:  
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): S51209.01  
Project: Dort Hwy Land  
Collected Date: 01/03/2012  
Submitted Date/Time: 01/03/2012 16:55  
Sampled by: Clifford Yantz  
P.O. #: MTL1296

Sample tag on sample .01 changed to match COC.

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 RL.  
Samples are held by the lab for 30 days from the sample submittal date unless a written request to hold longer is provided by the client.  
Report shall not be reproduced except in full, without the written approval of Merit Laboratories.

Laboratory Certifications:

Michigan DNRE (#9956), Ohio EPA (#CL0002), NELAC NY (#11814), NELAC FL (#E871045), WBENC (#2005110032)  
Some analytes reported may not be certified. Full certification lists are available upon request.

Violetta F. Murshak  
Laboratory Director



# Analytical Laboratory Report

Revised Report

Sample Summary (1 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S51209.01	CS-A-6	Soil	01/03/2012 15:45



# Analytical Laboratory Report

Revised Report

Lab Sample ID: S51209.01  
 Sample Tag: CS-A-6  
 Collected Date/Time: 01/03/2012 15:45  
 Matrix: Soil  
 COC Reference: 61740

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	4oz Glass	None	Yes	2.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

PNA Extraction	Completed			3550B	01/03/12 22:52	EMR		
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**Inorganics**

Total Solids	86	%	1	Std M 2540 B	01/04/12 12:00	WAR		
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**Organics - Semi-Volatiles**

**Polynuclear Aromatics**

Acenaphthene	Not detected	ug/kg	300	8270C	01/04/12 13:06	PL	83-32-9	
Acenaphthylene	Not detected	ug/kg	300	8270C	01/04/12 13:06	PL	208-96-8	
Anthracene	Not detected	ug/kg	300	8270C	01/04/12 13:06	PL	120-12-7	
Benzo(a)anthracene	Not detected	ug/kg	300	8270C	01/04/12 13:06	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/kg	300	8270C	01/04/12 13:06	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/kg	300	8270C	01/04/12 13:06	PL	205-99-2	
Benzo(k)fluoranthene	Not detected	ug/kg	300	8270C	01/04/12 13:06	PL	207-08-9	
Benzo(ghi)perylene	Not detected	ug/kg	300	8270C	01/04/12 13:06	PL	191-24-2	
Chrysene	Not detected	ug/kg	300	8270C	01/04/12 13:06	PL	218-01-9	
Dibenzo(ah)anthracene	Not detected	ug/kg	300	8270C	01/04/12 13:06	PL	53-70-3	
Fluoranthene	Not detected	ug/kg	300	8270C	01/04/12 13:06	PL	206-44-0	
Fluorene	Not detected	ug/kg	300	8270C	01/04/12 13:06	PL	86-73-7	
Indeno(1,2,3-cd)pyrene	Not detected	ug/kg	300	8270C	01/04/12 13:06	PL	193-39-5	
Naphthalene	Not detected	ug/kg	300	8270C	01/04/12 13:06	PL	91-20-3	
Phenanthrene	Not detected	ug/kg	300	8270C	01/04/12 13:06	PL	85-01-8	
Pyrene	Not detected	ug/kg	300	8270C	01/04/12 13:06	PL	129-00-0	
2-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/04/12 13:06	PL	91-57-6	
1-Methylnaphthalene	Not detected	ug/kg	300	8270C	01/04/12 13:06	PL	90-12-0	



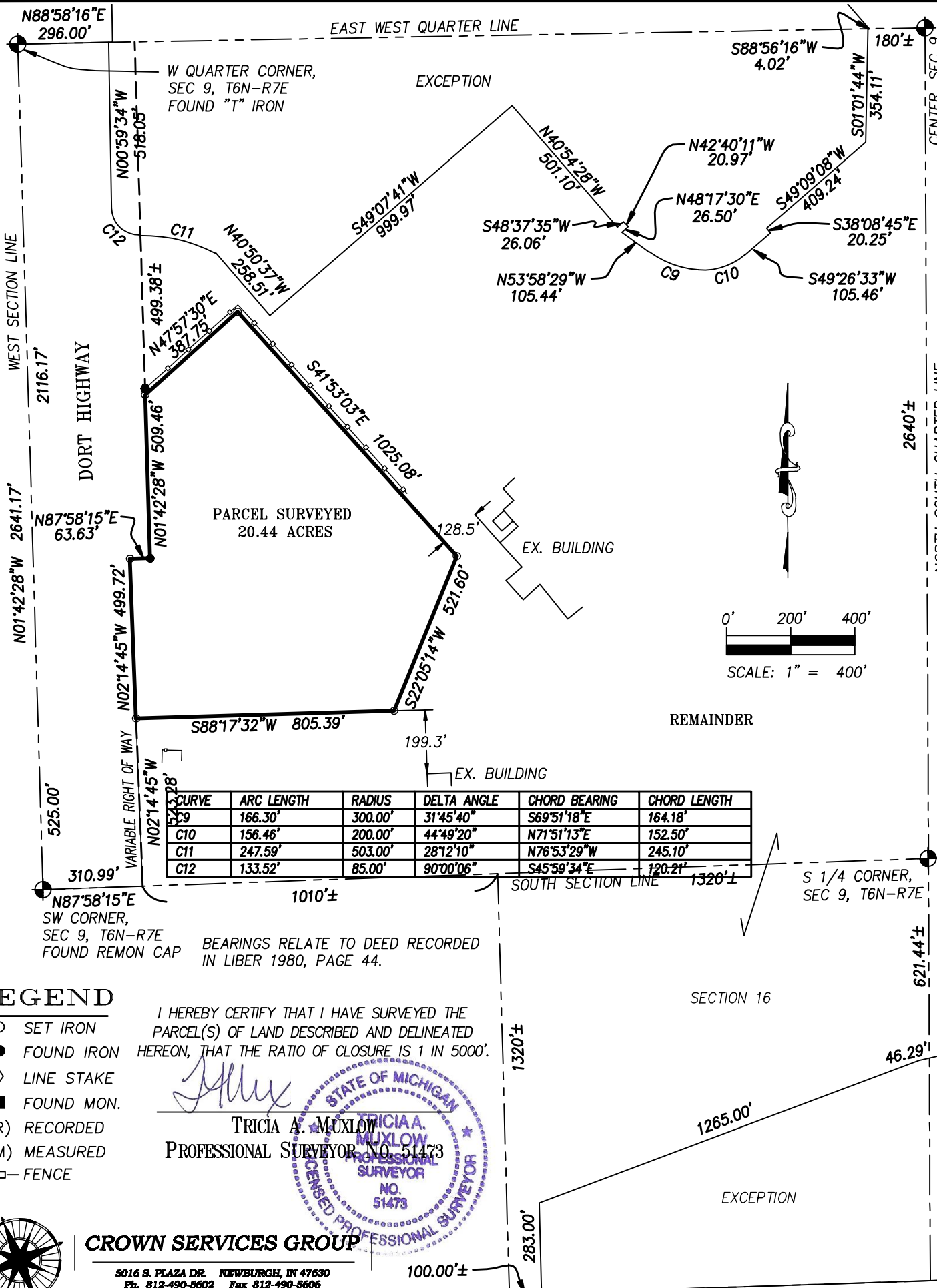
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*All materials printed on recycled paper.* 



***APPENDIX G***  
***Legal Survey and Legal***  
***Description***

MUXLOW SURVEYING SERVICES, LLC  
NOT MEASURED - ALL RIGHTS RESERVED



**LEGAL DESCRIPTION OF PARCEL SURVEYED:**  
PART OF THE SOUTHWEST QUARTER OF SECTION 9, TOWN 6 NORTH, RANGE 7 EAST, GRAND BLANC TOWNSHIP, GENESEE COUNTY, MICHIGAN; THENCE N87°58'15"E 310.99 FEET; THENCE N02°14'45"W 523.28 FEET TO THE POINT OF BEGINNING; THENCE N02°14'45"W 499.72 FEET; THENCE N87°58'15"E 63.63 FEET; THENCE N01°42'28"W 509.46 FEET; THENCE N47°57'30"E 387.75 FEET; THENCE S41°53'03"E 1025.08 FEET; THENCE S22°05'14"W 521.60 FEET; THENCE S88°17'32"W 805.39 FEET TO THE POINT OF BEGINNING. CONTAINING 20.44 ACRES.

**LEGAL DESCRIPTION OF REMAINDER:**  
ALL THAT PART OF THE SOUTHWEST 1/4 OF SECTION 9, TOWN 6 NORTH, RANGE 7 EAST, GRAND BLANC TOWNSHIP, GENESEE COUNTY, MICHIGAN, LYING EASTERLY OF THE EAST RIGHT OF WAY LINE OF DORT HIGHWAY AND DORT HIGHWAY. EXCEPTING THEREFROM THE FOLLOWING PREMISES CONVEYED BY COVENANT DEED RECORDED IN INSTRUMENT NO. 20051260009155, DESCRIBED AS: PART OF SECTION 9, TOWN 6 NORTH, RANGE 7 EAST, TOWNSHIP OF GRAND BLANC, GENESEE COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE EAST AND WEST 1/4 LINE, WHICH IS NORTH 88 DEGREES 58 MINUTES 16 SECONDS EAST, 296.00 FEET FROM THE WEST 1/4 CORNER OF SAID SECTION 9; THENCE NORTH 00 DEGREES 59 MINUTES 34 SECONDS WEST ALONG THE EAST RIGHT-OF-WAY LINE OF DORT HIGHWAY EXTENSION, 627.13 FEET TO THE SOUTHEASTERLY LINE OF CONSUMERS ENERGY COMPANY PROPERTY; THENCE NORTHEASTERLY ALONG SAID SOUTHEASTERLY LINE, NORTH 24 DEGREES 45 MINUTES 07 SECONDS EAST, 243.89 FEET AND NORTH 49 DEGREES 11 MINUTES 44 SECONDS EAST, 1186.67 FEET TO THE SOUTHWESTERLY LINE OF SAGINAW ROAD; THENCE SOUTH 40 DEGREES 55 MINUTES 25 SECONDS EAST ALONG SAID SOUTHWESTERLY LINE, 2093.21 FEET; THENCE SOUTH 88 DEGREES 56 MINUTES 16 SECONDS WEST, 4.02 FEET; THENCE SOUTH 01 DEGREES 01 MINUTES 44 SECONDS WEST, 354.11; THENCE SOUTH 49 DEGREES 09 MINUTES 08 SECONDS WEST 409.24 FEET; THENCE SOUTH 38 DEGREES 08 MINUTES 45 SECONDS EAST, 20.25 FEET; THENCE SOUTH 49 DEGREES 26 MINUTES 33 SECONDS WEST, 105.46 FEET; THENCE ON A CURVE TO THE RIGHT, HAVING A RADIUS OF 200.00 FEET, WITH A CHORD BEARING AND DISTANCE OF SOUTH 71 DEGREES 51 MINUTES 13 SECONDS WEST, 152.50 FEET; THENCE ON A CURVE TO THE RIGHT, HAVING A RADIUS OF 300.00 FEET, WITH A CHORD BEARING AND DISTANCE OF NORTH 69 DEGREES 51 MINUTES 18 SECONDS WEST, 164.18 FEET; THENCE NORTH 53 DEGREES 58 MINUTES 29 SECONDS WEST 105.44 FEET THENCE NORTH 48 DEGREES 17 MINUTES 30 SECONDS EAST, 26.50 FEET; THENCE NORTH 42 DEGREES 40 MINUTES 11 SECONDS WEST, 20.97 FEET; THENCE SOUTH 48 DEGREES 37 MINUTES 35 SECONDS WEST, 26.06 FEET; THENCE NORTH 40 DEGREES 54 MINUTES 28 SECONDS WEST 501.10 FEET; THENCE SOUTH 49 DEGREES 07 MINUTES 41 SECONDS WEST, 999.97 FEET; THENCE NORTH 40 DEGREES 50 MINUTES 37 SECONDS WEST, 258.51 FEET; THENCE ON A CURVE TO THE LEFT, HAVING A RADIUS OF 503.00 FEET WITH A CHORD BEARING AND DISTANCE OF NORTH 76 DEGREES 53 MINUTES 29 SECONDS WEST, 245.10 FEET; THENCE ON A CURVE TO THE RIGHT, HAVING A RADIUS OF 85.00 FEET, WITH A CHORD BEARING AND DISTANCE OF NORTH 45 DEGREES 59 MINUTES 34 SECONDS WEST, 120.21 FEET TO SAID EAST RIGHT OF WAY LINE OF DORT HIGHWAY EXTENSION; THENCE NORTH 00 DEGREES 59 MINUTES 34 SECONDS WEST, ALONG SAID EAST LINE, 518.05 FEET TO THE PLACE OF BEGINNING.

TOGETHER WITH A NON-EXCLUSIVE TEMPORARY ACCESS ROADWAY EASEMENT FOR THE PURPOSE OF PERMITTING THE PASSAGE OF MOTOR VEHICLES AND PEDESTRIANS TO AND FROM DORT HIGHWAY, EVIDENCED OF RECORD BY ACCESS EASEMENT AGREEMENT (RACEWAY) RECORDED IN INSTRUMENT NO. 200407220078701, GENESEE COUNTY RECORDS.

ALL THAT PART OF THE NORTHEAST 1/4 OF THE NORTHWEST 1/4 OF SECTION 16 LYING NORTHERLY OF A LINE DESCRIBED AS: BEGINNING NORTH 89 DEGREES 41 MINUTES EAST, 100 FEET AND NORTH 00 DEGREES 05 MINUTES 20 SECONDS WEST 283.48 FEET FROM THE SOUTHWEST CORNER OF THE NORTHEAST 1/4 OF THE NORTHWEST 1/4; THENCE NORTH 70 DEGREES EAST TO THE NORTH-SOUTH 1/4 LINE OF SAID SECTION 16 AND THE POINT OF ENDING.

EXCEPTING THEREFROM THE FOLLOWING DESCRIBED PREMISES CONVEYED BY DEED RECORDED IN THE DEED LIBER 1331, PAGE 505 TO THE CHESAPEAKE AND OHIO RAILWAY COMPANY, DESCRIBED AS: PART OF SECTION 16, TOWN 6 NORTH, RANGE 7 EAST AND LOT 189 OF ASSESSOR'S PLAT NO. 3, CITY OF GRAND BLANC, TOWN 6 NORTH, RANGE 7 EAST, CITY OF GRAND BLANC AND TOWNSHIP OF GRAND BLANC, GENESEE COUNTY, MICHIGAN, DESCRIBED AS: BEGINNING AT A POINT ON THE EAST 1/8TH LINE OF SAID SECTION 16, WHICH IS NORTH 89 DEGREES 44 MINUTES EAST ALONG THE NORTH LINE OF SAID SECTION 16, 1331.59 FEET AND SOUTH 00 DEGREES 07 MINUTES 30 SECONDS WEST, 281.92 FEET FROM THE NORTH 1/4 POST OF SAID SECTION; THENCE SOUTH 77 DEGREES 33 MINUTES EAST, 216.76 FEET; THENCE 433.07 FEET ON A CURVE TO THE RIGHT, HAVING A RADIUS OF 683.87 FEET AND A CHORD BEARING AND DISTANCE OF SOUTH 59 DEGREES 24 MINUTES 30 SECONDS EAST, 425.87 FEET; THENCE NORTH 77 DEGREES 01 MINUTE EAST, 39.95 FEET, TO THE CHESAPEAKE AND OHIO RAILWAY COMPANY'S WESTERLY RIGHT-OF-WAY LINE; THENCE SOUTH 06 DEGREES 51 MINUTES EAST ALONG SAID WESTERLY RIGHT-OF-WAY LINE, 396.75 FEET; THENCE SOUTH 78 DEGREES 04 MINUTES WEST, 147.27 FEET; THENCE NORTH 10 DEGREES 54 MINUTES WEST, 56.85 FEET; THENCE SOUTH 78 DEGREES 58 MINUTES WEST, 100.55 FEET; THENCE NORTH 12 DEGREES 59 MINUTES WEST, 54.00 FEET; THENCE SOUTH 77 DEGREES 01 MINUTE WEST, 283.62 FEET; THENCE SOUTH 00 DEGREES 07 MINUTES 30 SECONDS WEST, 296.52 FEET TO THE CENTER LINE OF REID ROAD; THENCE SOUTH 89 DEGREES 11 MINUTES WEST ALONG THE CENTER LINE OF REID ROAD, 1332.60 FEET; THENCE SOUTH 89 DEGREES 41 MINUTES WEST A LONG SAID CENTER LINE OF REID ROAD, 1238.75 FEET; THENCE NORTH 00 DEGREES 12 MINUTES EAST 283.00 FEET; THENCE NORTH 71 DEGREES 00 MINUTES EAST, 1265.00 FEET; THENCE NORTH 78 DEGREES 43 MINUTES EAST, 1403.49 FEET; THENCE NORTH 00 DEGREES 07 MINUTES 30 SECONDS EAST, 79.88 FEET TO THE PLACE OF BEGINNING. ALSO EXCEPTING THEREFROM THE FOLLOWING PREMISES CONVEYED BY SPECIAL WARRANTY DEED RECORDED IN MASTER LIBER 3402, PAGE 63, DESCRIBED AS: PART OF THE NORTHWEST 1/4 OF SECTION 16, TOWNSHIP 6 NORTH, RANGE 7 EAST, TOWNSHIP OF GRAND BLANC, GENESEE COUNTY, MICHIGAN, DESCRIBED AS: COMMENCING AT THE NORTHWEST CORNER OF SAID SECTION 16; THENCE SOUTH 89 DEGREES 57 MINUTES 10 SECONDS EAST ALONG THE NORTH LINE OF SAID SECTION 16, A DISTANCE OF 1334.40 FEET; THENCE SOUTH 00 DEGREES 05 MINUTES 20 SECONDS WEST 545.44 FEET TO THE POINT OF BEGINNING; THENCE SOUTH 48 DEGREES 47 MINUTES 10 SECONDS EAST 568.31 FEET; THENCE SOUTH 70 DEGREES 51 MINUTES 41 SECONDS WEST 347.48 FEET; THENCE SOUTH 00 DEGREES 05 MINUTES 20 SECONDS WEST 283.48 FEET TO THE CENTERLINE OF REID ROAD; THENCE SOUTH 89 DEGREES 41 MINUTES 00 SECONDS WEST ALONG SAID CENTERLINE 100.00 FEET; THENCE NORTH 00 DEGREES 05 MINUTES 20 SECONDS EAST 772.40 FEET TO THE POINT OF BEGINNING.

ALSO EXCEPTING PART OF THE SOUTHWEST QUARTER OF SECTION 9, TOWN 6 NORTH, RANGE 7 EAST, GRAND BLANC TOWNSHIP, GENESEE COUNTY, MICHIGAN; THENCE N87°58'15"E 310.99 FEET; THENCE N02°14'45"W 523.28 FEET TO THE POINT OF BEGINNING; THENCE N02°14'45"W 499.72 FEET; THENCE N87°58'15"E 63.63 FEET; THENCE N01°42'28"W 509.46 FEET; THENCE N47°57'30"E 387.75 FEET; THENCE S41°53'03"E 1025.08 FEET; THENCE S22°05'14"W 521.60 FEET; THENCE S88°17'32"W 805.39 FEET TO THE POINT OF BEGINNING.

**LEGEND**

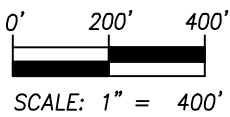
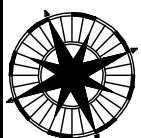
- SET IRON
- FOUND IRON
- ◇ LINE STAKE
- FOUND MON.
- (R) RECORDED
- (M) MEASURED
- FENCE

I HEREBY CERTIFY THAT I HAVE SURVEYED THE PARCEL(S) OF LAND DESCRIBED AND DELINEATED HEREON, THAT THE RATIO OF CLOSURE IS 1 IN 5000'.

*Tricia A. Muxlow*  
**TRICIA A. MUXLOW**  
 PROFESSIONAL SURVEYOR NO. 51473  
 STATE OF MICHIGAN  
 LICENSED PROFESSIONAL SURVEYOR  
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**MFD-WELD TOOL DORT HIGHWAY**

**SECTION 9, T6N-R7E GRAND BLANC TWP. GENESEE CO., MI**

**BOUNDARY SURVEY**

**ISSUED FOR:**  
 CROWN REVIEW 08/16/10

**REVISIONS:**

FILE: 9375  
 PROJECT MGR: TAM  
 DESIGNED BY:  
 DRAWN BY: PMN  
 SCALE: 1" = 400'

SHEET: 1 OF 1

**BNDY**  
 9375

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