MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - REMEDIATION AND REDEVELOPMENT DIVISION
PO BOX 30426, LANSING, MICHIGAN 48909-7926, Phone 517-284-5087, Fax 517-241-9581

Request for DEQ Review of Response Activity Plan

This form is required for submittal of a request for the DEQ to review a Response Activity Plan, under Section 20114b, Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

Section A: Type of Response Activity Plan being Submitted (Check all that apply):

Remedial Investigation	☐	20b(2)Site Specific Criteria	☐
Evaluation Plan	☐	*(modification of generic criteria)*	
Feasibility Study	☐	20b(3) Site Specific Criteria or Surrogate	☐
Remedial Action Plan	☒	*(no generic criteria available)*	
Interim Response Plan	☐	Section 20118(4) and (5) Request	☐
Mixing Zone Request	☐	Land or Resource Use Restrictions	☐
20e(14) De Minimus GSI Impact	☐	Other, Specify: Response Activity Plan- IRP Progress Review	☐

The Response Activity Plan addresses the entire facility: ☐
(entire facility as defined by Part 201, all releases, hazardous substances, and environmental media)

The Response Activity Plan does not address the entire facility: ☐
Please specify the release(s), hazardous substance(s), environmental media, and/or portions of the facility addressed by the Response Activity Plan.

Section B: Facility/Property Subject to (Check all that apply):

Facility regulated under Part 201 Part 201 Facility ID (if known): 25000686	☒
Leaking Underground Storage Tank regulated pursuant to Part 213 Part 211/213. Facility ID, if known:	☐
Oil or gas production and development regulated pursuant to Part 615 or 625	☐
Licensed landfill regulated pursuant to Part 115	☐
Licensed hazardous waste treatment, storage, or disposal facility regulated pursuant to Part 111	☐
Consent Agreement or other legal agreement with the MDEQ	☐

Section C: Facility and Locational Information:

Facility Name: RACER Trust Hemphill Road Industrial Land

Street Address of Property: 3289 South Saginaw

City: Burton State: MI Zip: 48507

Property Tax ID (include all applicable IDs): 25-59-29-300-024

Status of submitter relative to the property (check all that apply):

	Former	Current	Prospective
Owner	☐	☒	☐
Operator	☐	☐	☐

County: Genesee
City/Village/Township: Burton
Town: T7N Range: R7E Section: 30
Quarter: SE Quarter-Quarter:

Decimal Degrees Latitude: 42.9805
Decimal Degrees Longitude: -83.6726

Reference point for latitude and longitude:
Center of site ☒ Main/front door ☐
Front gate/main entrance ☐ Other ☐

Collection method:
Survey ☐ GPS ☐ Interpolation ☒

Request for DEQ Review of Response Activity Plan

Section D: Submitter Information:

Entity/person requesting review: RACER Trust/ David Favero	
Contact Person (name and title): David Favero (Deputy Cleanup Manager)	
Submitter Address: 500 Woodward Ave.	State: MI Zip: 48226
City: Detroit	E-Mail: dfavero@racertrust.org
Telephone: 734-879-9525	
Relationship of contact person to the submitter: Direct Report	Company: RACER Trust
Owner Name, if different from submitter:	
Address:	
City: Telephone:	State: Zip:
	E-Mail:

Section E: Are/were the following present at the facility (Check all that apply):

	Current	Previous	Unknown
Mobile or Migrating Non Aqueous Phase Liquids (NAPL)	☐	☐	☐
Soil contamination above any residential criteria	☒	☐	☐
Soil contamination above any non-residential criteria	☒	☐	☐
Soil aesthetic impacts	☐	☐	☐
Groundwater contamination above any residential criteria	☒	☐	☐
Groundwater contamination above any non-residential criteria	☒	☐	☐
Groundwater aesthetic impacts	☐	☐	☐
Soil Gas contamination above residential vapor intrusion (VI) screening levels	☐	☒	☐
Soil Gas contamination above non-residential VI screening levels	☐	☒	☐
Conditions immediately dangerous to life or health (IDLH)	☐	☐	☐
Fire & Explosion hazards related to releases	☐	☐	☐
Contamination existing in drinking water supply	☐	☐	☐
Imminent threat to drinking water supply	☐	☐	☐
Impact to Surface Water	☐	☐	☐
Surface Water Sediments above screening levels	☐	☐	☐
	☐	☐	☐

Section F: The following questions assist DEQ in evaluating this request.

Known or Suspected Contaminant(s) Type (Check all that apply):
Petroleum ☐ Volatile Organic Compounds ☒ Metals ☒ Other ☐

Current Site Status (Check all that apply):
Undergoing property transfer ☐ Active operations ☐ Inactive operation ☒

Current Property Use:
Residential ☐
Non-residential ☒

Anticipated Property Use:
Residential ☐
Non-residential ☒

Estimated Area of Contamination Addressed in Response Action Plan (Cumulative):
Currently undetermined ☐ < 0.5 acre ☐ > 0.5 acre ☒

Migration:

	Yes	No	Unknown
Has contamination migrated beyond the property **boundaries?**	☐	☒	☐
Has the Notice of Migration been submitted?	☒	☐	☐

Facility Investigation Status:
Ongoing ☐ Complete ☒

Request for DEQ Review of Response Activity Plan

Facility Response Activity Status (Check all that apply):

None ☐ IR Implemented ☒ Response Activity Ongoing ☒ Response Activity Completed ☐

Drinking Water Supply for Facility (Check all that apply):

Municipal ☐ Private Well(s) ☐ No Current Water Supply ☒ Municipal Available ☒

On-site Well(s) (Check all that apply):

Drinking Water ☐ Industrial/Commercial Production ☐ Agricultural/Irrigation ☐ No well on-site ☒
Approximate Depth of Well(s):

Local Drinking Water Supply:

Is facility in a designated Wellhead Protection Area? Yes ☐ No ☒
Distance to nearest off-site drinking water well: 1,125 ft Private ☒ Municipal ☐

Surface Water Bodies on or Adjacent to Facility (Check all that apply):

Wetlands ☐ Ditch ☐ Stream/River ☐ Lake/Pond ☐

Local Surface Water Bodies:

Distance to nearest wetland: 380 ft Ditch: 400 ft Stream/River: Lake/Pond: stormwater retention pond approximately 400 ft

Have other plans been submitted for this facility? No

Facility Name, if different than this submittal:
Date and Name of most recent submittal:

Section G: Environmental Professional Signature:

With my signature below, I certify that this plan and all related materials are true, accurate, and complete to the best of my knowledge and belief.

Signature: Date: 9/26/2017

Printed Name: Brian E. White

Company of Environmental Professional: O'Brien & Gere Engineers, Inc.

Address: 37000 Grand River Ave., Ste 260

City: Farmington Hills State: MI Zip: 48335

Telephone: 248-770-5701 E-mail address: brian.white @obg.com

Section H: Submitter Signature:

With my signature below, I certify that this plan and all related materials are true, accurate, and complete to the best of my knowledge and belief and I am legally authorized to sign for the submitter

Signature: Date: 9/20/2017

Printed name: David Favero

Title/Relationship of signatory to submitter: MI Deputy Cleanup Manager

Address: 500 Woodward Ave., Suite 2650

City: Detroit State: MI Zip: 48226

Telephone: 734-879-9525 E-Mail address: dfavero@racertrust.org

This form and the Response Activity Plan should be submitted to the MDEQ Remediation & Redevelopment Division District Office for the county in which the property is located, unless the response activity is related to a facility that is regulated by another MDEQ Division. A district map is located at www.michigan.gov/deqrrd. If regulated by another division, contact should be made with that division for information on where to submit the form and plan.

OBG

Response Activity Plan

RACER TRUST
Detroit, Michigan

September 2017

SEPTEMBER 20, 2017| 15388| 64740

Response Activity Plan

Prepared for:

RACER TRUST
Detroit, Michigan

BRIAN E. WHITE, SR. VICE PRESIDENT
O'Brien & Gere Engineers, Inc.

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EXECUTIVE SUMMARY

This Response Activity Plan (RAP) summarizes the facility characterization presented in several prior reports that have previously been submitted to the Michigan Department of Environmental Quality (MDEQ). This RAP proposes the implementation of an interim remedial action (IRA) for the RACER Trust Hemphill Road Industrial Land Site (Site) located in Burton, Michigan, in accordance with Rule 299.5532 (1), (2), and (4).

The Site is part of the former Hemphill Landfill and portions of the Site contain waste, referred to herein as waste fill. Several investigations provide abundant data used for facility characterization.

The results of the investigation identified the compounds of concern (COCs) for the Site. The COCs are defined as those compounds which have been detected in soil and groundwater samples in excess of the most restrictive generic nonresidential cleanup criteria in accordance with Section 20120a of the Natural Resources and Environmental Protection Act 1994, PA 451, as amended (NREPA). It should be noted that specific detections of benzene and xylenes in groundwater above Nonresidential Drinking Water criteria are associated with the release from the adjacent service station; therefore, those compounds are not considered groundwater COCs for the RACER Trust Site. Further several monitoring wells are screened in waste fill and therefore samples from these wells represent perched water within the waste fill (leachate), and not groundwater in a natural setting. For simplicity, the water perched in the waste fill and native groundwater are collectively referred to as groundwater in this report. For simplicity, samples identified as soil samples in this report include native soil, re-worked soil, or waste fill material. It is important to note these definitions when evaluating the data and results of comparison to criteria.

The COCs identified for the Site include:

- Soil: ethylbenzene, xylenes, lead, and manganese
- Groundwater: ethylbenzene, arsenic, and lead.

Lastly, site investigations identified the presence of light nonaqueous phase liquid (LNAPL) at the Site and adequately assessed and characterized the LNAPL. The LNAPL is similar in physical characteristic to a waste oil. It does contain benzene, lead, and PCBs but there is no evidence there is dissolved phase impacts emanating from the LNAPL and the LNAPL is not mobile or migrating.

Relevant Site-specific exposure pathways for the Site include the following:

- Risks from drinking water due to soil impact leaching to groundwater
- Risks to surface water due to soil impact leaching to groundwater
- Risks from direct contact due to soil impact
- Risks from drinking water due to groundwater impact
- Risks to surface water due to discharge of groundwater impact.

These pathways will be addressed with the implementation of the IRA, which is expected to protect against exposure to subsurface lead-impacted soil and a Declaration of Restrictive Covenant (DRC) for the Site. Restrictions will be implemented for the Site in accordance with Rule 299.5719. Restrictions will include:

- prohibit Site uses that are not compatible with or are inconsistent with the exposure assumptions for the nonresidential land use category under MCL 324.20120a(1)(b)
- restricting the installation of extraction wells or other methods to extract usage of groundwater beneath the Site
- a requirement to provide notice to the MDEQ of the intent to convey property
- restricting onsite activities which may potentially affect the integrity of the cover over the lead-impacted subsurface soil and prohibiting uncontrolled excavation

- prohibition of building construction on the property without first completing one of the following: Option 1) Evaluate and determine, with MDEQ concurrence, the absence of an unacceptable vapor risk to human health in any existing or newly constructed site buildings, or Option 2) Install, operate and maintain a vapor barrier and/or mitigation system designed to eliminate the potential for subsurface vapor phase hazardous substances to migrate into any building at concentrations greater than applicable criteria.
- management of soils, media and/or debris located on the property in accordance with the applicable requirements of Section 20120c of NREPA, Part 111, Subtitle C of the Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 *et seq* and other relevant state and federal laws
- notice of residual LNAPL presence on the property and restriction of potential activities that may exacerbate or create unacceptable exposure to hazardous substances as a result of conditions due to the presence of residual LNAPL.

In accordance with MCL 324.20114d, upon completion of the IRA that satisfies the MDEQ Nonresidential cleanup criteria, a Certificate of Completion request or No Further Action Report will be prepared and submitted to the MDEQ.

1. INTRODUCTION

This Response Activity Plan (RAP) proposes the implementation of an interim remedial action (IRA) at the Revitalizing Auto Communities Environmental Response Trust (RACER Trust) Hemphill Road Industrial Land Site (Site) in accordance with Rule 299.5532 (1), (2), and (4).

Once the IRA has been completed at the Site, a certificate of completion request or no further action designation will be requested in accordance with the requirements and regulatory authority of the 2011 Rule amendments to Part 201 of 1994 Public Act 451 (1994 PA 451, Part 201), the Natural Resources and Environmental Protection Act, as amended (NREPA).

1.1 SITE LOCATION AND DESCRIPTION

The Hemphill Road Industrial Land Site is located at the southeast corner of the South Saginaw Street and Hemphill Road intersection in Genesee County, Burton, Michigan. The Site is located within Sections 29 and 30 of Township 7 North, Range 7 East. A Site Location Map is included as **Figure 1** and a figure depicting the layout of the Site is included as **Figure 2**. The Site contains the 7.8-acre western portion of the former Hemphill Landfill and is presently an unused lot with portions covered with asphalt or gravel. The Site is bounded to the north by Hemphill Road, on the west by an active service station, medical center, and South Saginaw Street, on the east by an open field (privately owned), and on the south by Storage One (commercial property).

1.2 OVERVIEW OF PROPERTY

1.2.1 Past and Current Property Usage

Prior to 1941 the property was used for agricultural purposes. As part of the municipal Hemphill Landfill, a portion of the Site was filled with industrial and municipal wastes from sometime after 1941 to approximately 1958. Filling activities continued east of the Site until 1978. The Site was developed for commercial use beginning in 1955 with the construction of a building occupied by Kroger on the northern portion. A second building occupied by Taystee Bread was formerly located in the central portion of the Site, and a discount department store was added to the building in 1959.

General Motors Corporation (GMC) purchased the property in 1978. Prior to GMC purchasing the property it was owned by the City of Burton. An investigation was performed on the former southwest portion of the property and the analytical results indicated this area did not meet the definition of a "facility"; therefore, a letter requesting the re-designation of this area was submitted to MDEQ. MDEQ issued a letter dated December 19, 2000 indicating this former portion of the property was not a "facility" as defined under Part 201 of NREPA, 1994 PA 451, as amended. This delisted former portion of the property was sold to Genesee County and a medical center was constructed on it. RACER never owned this former portion of the property.

Remediation & Liability Management Company, Inc. (REALM), a wholly owned subsidiary of GMC, managed the Site from 2001 until 2009, when Motors Liquidation Company (MLC) assumed management of the property as part of the GMC bankruptcy process. The property was transferred to the current owner, RACER Trust, on March 31, 2011. The Site is currently unused, vacant land enclosed by a locked chain link fence and monitored by a local security firm.

1.2.2 Hazardous Substance Use

The eastern portion of the Site includes a portion of the former Hemphill Landfill, which was used for disposal of municipal and industrial wastes from 1941 to approximately 1958. Potentially hazardous materials may have been deposited at the former Hemphill Landfill during this timeframe.

1.3 EVIDENCE PROPERTY IS A "FACILITY"

Based upon several investigations indicating soil and groundwater concentrations of volatile organic compounds (VOCs) and inorganics above the MDEQ Residential criteria, the Site is considered a "facility" as defined in Part 201 of the NREPA, 1994 PA 451.

1.4 PURPOSE AND SCOPE OF RAP

The objective of this RAP is to outline a strategy for implementation of an IRA in a timely and adequate manner to reduce risk to the environment and protect public health. This will be accomplished through installation of soil cover for soil containing lead above the nonresidential soil direct contact lead cleanup criteria and recording a Declaration of Restrictive Covenant (DRC) that will include among other provisions, prohibit uses of the Site not compatible with the exposure assumptions used to establish the Part 201 nonresidential cleanup standards, notice of the presence of residual light non-aqueous phase liquid (LNAPL) at the southeast corner of the property, protection of the soil cover for lead impacted shallow subsurface soils, and groundwater use restriction which is intended to demonstrate impact to groundwater is stable or reducing.

The Site characterization discussed in Section 2 summarizes the nature and extent of impacts at the Site, and identifies the compounds of concern (COC) for the Site. The proposed IRA is described in Section 3.

2. FACILITY CHARACTERIZATION, ANALYSIS, AND REMEDIAL ACTION

2.1 FACILITY CHARACTERIZATION

This Section describes the Site geology, hydrogeology, and facility characterization prior to remedial activities.

2.1.1 Regional Geology

Glacial till deposits in Genesee County are approximately 100 to 200 feet (ft) thick in the eastern section of the county in the area of the Site and 50 to 100 ft thick in the western section. The drift is predominantly clay/till with isolated lenses of sand and/or gravel.

A confining unit exists in the area based on review of water well records. A review of water well records indicates the confining unit is a blue/grey clay that generally exists at 12 to 135 feet below grade (fbg) with thicknesses ranging from 30 to 150 ft.

Stratigraphically the area is part of the Michigan Basin, which is a relatively shallow, intracratonic structure that includes the Lower Peninsula, part of the Upper Peninsula, and parts of Wisconsin, Illinois, Indiana, Ohio, and Ontario. The topography of the bedrock surface in Genesee County ranges from 600 to 700 ft above mean sea level (MSL).

The predominant underlying bedrock in Genesee County is the Saginaw Formation. The Saginaw Formation has a maximum thickness of 765 ft, as reported from well logs collected in the Michigan Basin (MDEQ, 1978). In Genesee County the Saginaw Formation is thickest (100 to 200 ft) in the northwestern part of the county. The formation thins and finally pinches out in the east and southeastern parts of the county. The Saginaw Formation is generally composed of interbedded sandstones, shale, limestone, and coal.

Underlying the Saginaw are the Michigan Formation and the Marshall Sandstone. The Michigan Formation is the underlying bedrock in eastern Genesee County in areas where the Saginaw Formation has thinned out. The Michigan Formation is composed of beds of anhydride and gypsum, gray to dark gray and greenish-gray shale, limestone, dolomite, and sandstone. The Michigan Formation is approximately 50 to 200 ft thick in Genesee County. The Marshall Sandstone underlies the Michigan Formation and consists of sandstone and siltstone with some zones exhibiting red coloration. The Michigan Formation thins out south of Genesee County and is replaced by Marshall Sandstone as the uppermost bedrock formation underlying the glacial drift. The Marshall Sandstone is the major regional water-bearing unit.

2.1.2 Site Geology

Observations of Site geology extends to the uppermost 53 ft of unconsolidated material observed during soil boring installation. Overburden materials consist of intermixed soils and waste fill material. The northern and southern portions of the Site are covered by weathered asphalt. The central portion of the Site is covered by gravel. Fill material which consists of glass, fabric, concrete, carpet, rubber, vinyl, degraded asphalt, wood block, fencing, brick, cardboard, and various metal containers was observed in the borings and was mixed with soil at certain boring locations. The approximate horizontal extent and thickness of the waste fill material is depicted on **Figure 3**. The thickness of the waste fill ranges from 1.5 to 35 ft. Other subsurface materials encountered during drilling activities included silt, sand, peat, and clay in various amounts and depths across the Site. Geologic cross sections depicting the Site subsurface materials are included as **Figures 4**, **5**, and **6**.

2.1.3 Hydrogeology

Genesee County is located on the border of usable groundwater from Mississippian formations (Marshall Sandstone) and Pennsylvanian (Saginaw) formations. At the western edge of Genesee County, well sampling efforts have documented that the total dissolved solid (TDS) levels in these formations are as high as 100,000 mg/L. The glacial drift also has been shown to have elevated levels of TDS. The brine content of these formations diminishes to the east, away from the center of the Michigan Basin. The regional groundwater flow in the Saginaw Formation and Mississippian formations is to the northwest. Well logs east of the Site provided by the Genesee County Health Department indicate that usable groundwater is encountered in the area at approximately 200 fbg.

A small portion of the domestic wells in Genesee County are installed in discontinuous sand and gravel beds within the glacial drift. A larger portion of the wells are installed in bedrock formations, typically the Marshall Sandstone, where elevated concentrations of arsenic are commonly observed. Studies of groundwater resources in Genesee County by the Michigan Department of Community Health (MDCH), the MDEQ, and the US Geological Survey (USGS) indicate that arsenic concentrations in groundwater within the bedrock from Burton Township had a median arsenic concentration of 12.6 µg/l. However, measured arsenic concentrations from within southeastern counties in Michigan has measured above 40 µg/l for wells in glacial sediments.

Previous investigations performed at the Site indicate shallow groundwater observed at depths from approximately 10 to 15 fbg in the northern and western portions of the property in sand seams and a shallow sand unit. Deeper groundwater was observed at an approximate depth of 25 fbg in the two deep soil borings (OBG SB-1D and OBG SB-2D) installed at the Site. Based on the distance between wells and the Site geology, it does not appear the geologic units observed at the Site are continuous across the Site or are connected. Therefore, there is not conclusive data available to assess a groundwater flow direction for the Site. Recent groundwater gauging data was collected on April 11, 2017 and the groundwater elevation data is shown on **Figure 7**. Monitoring well construction information is summarized on **Table 1** and historic groundwater elevations are shown on **Table 2**. Typically, wells installed in the waste fill material water levels are generally observed from 10-20 fbg.

2.1.4 Previous Investigations

Phase I, II, III, and IV investigations were performed by Goldberg, Zoino and Associates (GZA) at the Site from September 1987 through May 1988 (GZA, 1988 and GZA, 1989). The following discussion summarizes each of these investigations:

2.1.4.1 Phase I

Thirteen vadose zone monitoring locations were installed and sampled. Soil samples were collected from each location at a depth of 6 fbg and were screened for the potential presence of organic vapors using a photoionization detector (PID) or flame ionization detector (FID). Based on elevated readings with the field screening instrument, the bottom interval from three boring locations were selected for laboratory analysis by a gas chromatograph (GC). Results from the GC scan indicated the presence of a variety of VOCs in the soil samples.

Additional investigation was performed as part of the Phase I investigation which included the installation of two deep soil borings (depths of 15 and 25 fbg) and one monitoring well. Soil samples collected from the deep borings were field screened using a PID or FID. Several of the soil samples screened indicated VOC readings above background and were collected at depths which correspond to the range in which waste fill materials were observed.

The results of soil boring samples submitted for laboratory analysis indicated generally low concentrations of a variety of VOCs. In addition, concentrations of inorganics (barium, selenium, and zinc) were detected in the soil samples. Groundwater samples collected from two of the borings were analyzed for VOCs at a laboratory. The results indicated no detections of VOCs above method detection limits. The report documenting this investigation concluded that the range of compounds detected in soil samples reflect the presence of paint products and possibly fuel oils within the waste fill material (GZA, 1988).

2.1.4.2 Phase II

Two additional deeper soil borings (15 and 30 fbg) and one monitoring well were installed as part of the Phase II investigation. Soil samples collected from the soil borings were field screened using a PID or FID. Several of the soil samples screened indicated VOC levels above background levels and correspond to the depths at which waste fill material was observed. Soil samples from the monitoring well installed were analyzed for VOCs and metals. The analytical results indicated concentrations of several VOCs and detections of metals above background levels. The analytical results of the groundwater sample collected from the monitoring well indicated no concentrations above method detection limits, however, dissolved concentrations of barium and selenium were detected above the United States Environmental Protection Agency (USEPA) maximum contaminant level (MCL) drinking water standards at that time. The report documenting this investigation concluded that the range of compounds

detected in soil samples reflect the presence of paint products and possibly fuel oils within the waste fill material (GZA, 1988).

2.1.4.3 Phase III and IV

The Phase III and IV investigations were performed to assess the horizontal and vertical extent of elevated metals concentrations in soil, assess groundwater quality and assess the extent of waste fill material across the Site. Five soil borings and three monitoring wells were installed and soil samples were collected from the borings for laboratory analysis of inorganics (barium, copper, lead, selenium, and zinc). These metals were the highest concentrations detected in soil samples analyzed under the Phase I and II investigations. The results of the soil sample analysis indicated lead and barium concentrations exceeded ten times the E.P. toxicity criteria. Three of the lead samples concentrations exceeded the hazardous waste criteria for lead. Results of the groundwater samples indicated dissolved lead below the MCL and barium above the MCL (GZA, 1989).

2.1.4.4 Geophysical Investigation - January 1991

In September 1990, WW Engineering & Science (WWES) performed a geophysical investigation at the Site. The results were documented in a report dated January 1991 (WWES, 1991). The report indicated the Site had several anomalies that are characteristic of areas that contain significant quantities of subsurface metallic debris or high conductivity soil.

2.1.4.5 MDNR Sampling Event - August 1992

The Michigan Department of Natural Resources (MDNR) collected three soil samples and two groundwater samples from the Site in August 1992. The groundwater samples were collected from two monitoring wells previously installed at the Site. The soil samples were submitted to a laboratory for analysis of select semivolatile organic compounds (SVOCs), VOCs, polychlorinated biphenyls (PCBs), pesticides, and metals. The groundwater samples were analyzed for select SVOCs, VOCs, and metals. Soil analytical results indicated concentrations of select SVOCs, VOCs, PCBs, pesticides, and metals above MDNR site specific background levels. Site specific background levels were determined from laboratory analysis of two soil samples collected by the MDNR, along Hemphill Road. Groundwater results indicated concentrations of select SVOCs, VOCs, and metals above method detection limits.

2.1.4.6 Work Plan Hemphill Landfill Investigation – November 1994

A Remediation Investigation Work Plan (RI Work Plan) was prepared by OBG (OBG, 1994) and submitted to the MDNR to assess whether existing conditions at the Site could impact the Schram Drain (*i.e.*, drainage ditch) located 380 ft east of the Site by collecting and analyzing groundwater, surface water, and sediment samples.

On November 16, 1994, the MDNR performed preliminary sampling at the Schram Drain ditch which included the collection of three surface water samples, three sediment samples and five surface soil samples. The samples collected were analyzed for the potential presence of VOCs, SVOCs, PCBs, cyanide, and metals. O'Brien & Gere Engineers, Inc. (OBG) collected split samples at the same locations on behalf of GM.

The results of the implementation of this RI Work Plan indicated the surface water, sediment, and surface soil samples analytical results were below method detection limits or the most restrictive criteria at the time of analysis. Analytical results for the two groundwater samples collected at the Site indicate concentrations of VOCs and dissolved metals above method detection limits (OBG, 1994 and March 2001).

2.1.4.7 Burton Parcel Investigation – November 1997

An investigation was performed by OBG in August 1997 to assess the presence of subsurface waste fill material and potential impact at the Site (OBG, 1997). Twenty-seven shallow soil borings were installed and a soil sample from each boring was submitted to a laboratory for analysis of benzene, ethylbenzene, toluene, xylenes (BTEX), methyl-ter butyl ether (MTBE), methylene chloride, and lead. Attempts were also made to collect groundwater samples from the soil borings; however, subsurface conditions only allowed for collection of three groundwater samples. The analytical results indicated concentrations of ethylbenzene detected in three soil samples and xylenes in one soil sample above method detection limits. The concentrations of ethylbenzene and xylenes detected in soil were below the MDEQ Generic Cleanup criteria at the time of sampling. The analytical results for the lead analysis indicated four soil sample results above the MDEQ Generic Cleanup criteria. The groundwater

analytical results for VOCs indicated concentrations of below method detection limits and results for metals above the MDEQ Generic Drinking Water value for lead and arsenic. The subsurface conditions and extent of subsurface waste fill material at the Site was assessed. The waste fill consisted of glass, fabric, concrete, carpet, rubber, vinyl, degraded asphalt, wood block, fencing, and cardboard.

2.1.4.8 Phase I and II ESA- June 1999

A Phase I and II investigation was completed for a portion of the Site by Insight Environmental Services, Inc. (Insight) in June 1999 (Insight, 1999) to assess a portion of the property for potential transfer. The Phase II investigation included the installation of four soil borings to assess the potential for impact to subsurface soil and groundwater. These locations were identified in the Phase I based on their proximity to a service station adjacent to the western boundary of the Site. Six soil samples were collected from the four borings and were analyzed for VOCs, SVOCs metals, pesticides, and PCBs. No groundwater samples were able to be collected during the soil boring installation due to an inadequate amount of water available in the temporary wells installed. The analytical results for the soil samples indicated concentrations of benzene and strontium above the MDEQ Generic Residential Drinking Water Protection criteria. A synthetic leaching procedure (SPLP) analysis was performed on the soil sample with the benzene detection and the results indicated that benzene did not leach above method detection limits.

A letter was submitted to MDEQ on November 28, 2000 requesting the southwestern portion of the Site not be considered a "facility" in accordance with the Part 201 regulations. MDEQ issued a letter dated December 19, 2000 approving this request.

2.1.4.9 UST Site Assessment - July 1999

A former 5,000-gal gasoline underground storage tank (UST) was reportedly previously removed at the Site. No documentation could be located to confirm removal of the UST and associated piping; therefore, a Site Assessment was performed in accordance with NREPA Part 213 of 1994 PA 451. This included the installation of two soil borings with collection two soil samples (one sample per boring) analyzed for BTEX. The analytical results indicated no detections of BTEX above method detection limits. A UST Site Assessment Report Form was submitted to the MDEQ on July 28, 1999. The MDEQ approved the UST Site Assessment Report Form, documenting closure, in a September 1999 letter.

2.1.4.10 Burton Parcel Additional Investigation - March 2001

An additional investigation was performed by OBG in December 1999. The investigation was performed to further define the extent of the waste fill materials observed during the November 1997 investigation and assess the potential impact from offsite sources. The investigation included the installation of sixteen soil borings with soil samples collected and submitted to a laboratory for analysis of BTEX, methylene chloride and lead. Attempts were made to collect groundwater samples at the sixteen boring locations; however, based on subsurface conditions, seven groundwater samples were able to be collected. The groundwater samples were analyzed for the presence of BTEX, tetrachloroethylene, 1, 2-dichloroethane, and dissolved arsenic, dissolved, lead, and dissolved zinc.

The soil analytical results indicated concentrations of benzene above the MDEQ Generic Nonresidential Drinking Water Protection criteria for three samples which were located in close proximity to the service station adjacent to the western boundary of the Site. Other VOCs were also detected in these samples above method detection limits; however, they were below the MDEQ Generic Commercial Drinking Water Protection criteria. Lead was not detected in the soil samples above the method detection limits. Groundwater analytical results indicated concentrations of benzene, toluene, xylenes, and dissolved lead detected above the MDEQ Generic Commercial Drinking Water criteria at the time in one sample located in close proximity to the service station adjacent to the western boundary of the Site.

The extent of waste fill was assessed within the boundaries of the property during this investigation (see **Figure 3**).

2.1.4.11 Groundwater Monitoring Reports

A groundwater sampling program began in May 1996 as a follow-up to the GZA investigations, and was performed through March 2004 for on-site wells MW-401 and MW-403. Historically, various VOCs, primarily BTEX, and dissolved inorganics (arsenic, barium, lead, and zinc) have been detected at concentrations above MDEQ Generic Nonresidential Drinking Water criteria. Also, a measurable amount of free product was observed on a few occasions in well MW-401.

In March 2004, a detection of ethylbenzene at MW-401 above the MDEQ Generic Nonresidential Drinking Water criterion and intermittent detections of dissolved barium and zinc above their respective Nonresidential Drinking Water criteria in both wells were observed.

No groundwater samples were collected during the four quarterly sampling events conducted after March 2004, based on groundwater sampling protocols prohibiting the collection of samples when a sheen was observed on the purge water. Therefore, in the transmission (November 4, 2005) of the Third Quarter 2005 Groundwater Sampling Report (OBG, 2005), REALM indicated the groundwater sampling program would be terminated.

Upon the MDEQ receiving the request to terminate the groundwater sampling program at the Site, MDEQ sent a letter to REALM dated November 29, 2005. This letter requested a meeting with REALM to discuss the submission of a schedule to assess the nature and extent of the impact to the east and south of the Site.

A meeting was held with MDEQ on February 9, 2006. At this meeting MDEQ indicated they believe GMC filled in their property and further east offsite. MDEQ also indicated that based on the filing of the Notice of Offsite Migration Form (submitted April 30, 2003) indicating the possibility that contamination was migrating from the Site onto adjoining properties, groundwater flow conditions needed be assessed at the Site. MDEQ also requested GMC send a letter documenting/identifying any potentially responsible parties (PRPs) which may have allowed or contributed fill to the Hemphill Landfill, and prepare a Work Plan to investigate groundwater flow conditions. REALM responded to MDEQ with a letter dated August 16, 2006 identifying the City of Burton as a PRP based on historical documentation including Proceedings of the Board of Supervisors of Genesee County (1940-1944), that the City of Burton owned the property and leased the property to individuals who were allowed to place fill in low lying areas on the property. This letter also informed MDEQ of REALM's intent to submit a Work Plan for the investigation of groundwater flow at the Site. MDEQ responded with a letter dated September 18, 2006 citing NREPA, 1994 Act 451, Part 201, Section 29 "it is the responsibility of the party asserting a division of harm to prove it is divisible."

2.1.4.12 Groundwater Investigation – June 2011

The groundwater investigation at the Site included the installation of nine monitoring wells at the Site. The approved Work Plan (OBG, 2010) proposed the installation of up to five shallow and six deep monitoring wells; however, based on subsurface conditions observed in the field, six shallow (less than 20 fbg) and four deep (25 to 45 fbg) monitoring wells were installed during this investigation. Groundwater sampling was performed using low-flow sampling techniques. Groundwater samples were analyzed for the presence of VOCs, total arsenic, total barium, total lead, and total zinc. Existing monitoring wells MW-401 and MW-403 were not sampled because they were constructed with screen lengths of 20 ft and 30 ft, respectively.

Groundwater analytical results indicate no detections of VOCs above method detection limits except in wells OBG MW-5S and OBG MW-6S where the detections were slightly above method detection limits. Concentrations of metals were detected in the wells with total arsenic concentrations detected in wells OBG MW-2S, OBG MW-2D, OBG MW-6D, and OBG MW-7D above MDEQ Nonresidential Drinking Water criteria. However, elevated arsenic in groundwater is common in southeast Michigan, including Genesee County, due to glacial till (clayey) soils that naturally contain arsenic. Based on available data, arsenic concentrations in the regional aquifer range from less than 10 µg/L to greater than 40 µg/L in the Site area with a median concentration of 12.6 µg/L (USGS, 2000) and concentrations in wells installed in glacial sediments exceed 40 µg/L. Concentrations of barium, lead and zinc were either below method detection limits or the MDEQ Nonresidential Drinking Water criteria (OBG, 2011).

Groundwater elevation data was collected from the newly installed wells for two gauging events (December 20, 2010 and February 25, 2011). Based on the distance between wells and the Site geology, it was not apparent if the geologic units observed at the Site are continuous across the Site or are even connected. Therefore, there was not conclusive data available to assess a groundwater flow direction.

Subsequent to well installation, LNAPL was observed in well OBG MW-4S. On two separate events, attempts were made to measure the thickness of free product observed in this well. Due to the highly viscous free product heavily coating the interface probe of the measuring instrument, it was difficult to acquire accurate measurements of the free product thickness. It is estimated that the free product thickness was approximately 4 ft. Monthly LNAPL removal was completed for four consecutive months (May through September 2011). A total of approximately 6 to 7 gallons of LNAPL was removed from the well. Subsequently, an absorbent sock was placed in the well and was replaced quarterly until December 2014.

On May 13, 2011, a sample of the LNAPL was submitted for chemical characterization. A laboratory leachable analysis performed on the LNAPL collected from OBG MW-4S resulted in a detection of benzene (500 µg/L), 1,4-dicholorbenzene (2,800 µg/L), lead (16.2 mg/L) and aroclor 1254 (2,000 µg/L). The detected levels of benzene (D018) and lead (D008) result in the LNAPL being classified as a characteristic hazardous waste in accordance with 40 CFR 261.24. However, these constituents do not appear to be leaching appreciably from the LNAPL to groundwater based on groundwater analytical results discussed in Section 2.1.4.15.

2.1.4.13 Offsite Groundwater Investigation Work Plan - July 3, 2012

A Work Plan was submitted to MDEQ on July 3, 2012 (OBG, 2012) to assess the extent of LNAPL observed in monitoring wells OBG MW-4S and MW-401 at the east and south portion of the Site. The Work Plan also proposed the characterization of LNAPL discovered in well OBG MW-4S through the following analysis: density and specific gravity by American Society for Testing and Materials (ASTM) D-4052, viscosity by ASTM D-445, surface tension by ASTM D-1331, and interfacial tension by ASTM D-971. This Work Plan was approved by MDEQ via email transmission by James Innes on July 19, 2012.

2.1.4.14 Offsite Groundwater Investigation - March 7, 2014

OBG performed the partial completion of the offsite LNAPL delineation in accordance with the MDEQ-approved July 3, 2012 Work Plan on November 11, 2013. Three soil borings (depicted on **Figure 3**) were installed with two completed as monitoring wells (OBG OS MW-1 and OBG OS MW-2) on the property south of the Site. This investigation was performed to assess the extent of LNAPL observed in monitoring wells OBG MW-4S and MW-401 at the southern portion of the Site.

During installation and development of the newly installed monitoring wells and the soil boring at the southern adjacent property to the Site, no field observations indicating the presence of LNAPL were observed. On December 10, 2013, the newly installed wells were developed, and during the well development no indications of LNAPL in the wells was observed. On December 19, 2013 (6 weeks after well installation) the wells were checked for the potential presence of LNAPL and no LNAPL was observed in the wells. Based on the slow recharge of the LNAPL from the formation, subsequent evaluation was performed during Site visits to assess the potential presence of LNAPL in the newly installed wells and there was no indication of the presence of LNAPL in the wells (OBG, 2014).

2.1.4.15 Offsite Groundwater Investigation- August 22, 2014

In June 2014, four soil borings (three completed as monitoring wells OBG OS MW- 3, OBG OS MW-4, and OBG OS MW-5, depicted on **Figure 3**) were installed east of the Site to evaluate the extent of LNAPL observed in monitoring wells OBG MW-4S and MW-401. These borings were also used to confirm the presence of waste fill materials offsite.

During installation of the newly installed monitoring wells and the one soil boring on the eastern adjacent property to the Site, no field observations indicating the presence of LNAPL were observed at the final well locations. At one location (OBG OS SB-4), what appeared to be LNAPL was observed (through observation of small positive reaction with Sudan® dye) in the soil sample from 28 fbg to 29 fbg and this location was backfilled and a new location (OBG OS MW-3) was placed approximately 25 ft to the east from OBG OS SB-4. On June 10, 2014 the

newly installed wells were developed and during the well development no indications of LNAPL in the wells was observed. On July 2, 2014 (3.5 weeks after well installation) and July 28, 2014 (7 weeks after well installation) the wells were checked for the potential presence of LNAPL and no LNAPL was observed in the wells.

To better understand potential risks associated with the LNAPL located at the Site, a groundwater sample from OBG MW-4S was collected from below the LNAPL on July 2, 2014. The sample was analyzed for the presence of VOCs and total and dissolved lead based on the results of previous LNAPL analysis performed in 2011 that detected benzene, 1,4-dichlorobenzene, and lead above MDEQ Part 201 Generic Residential and Nonresidential Drinking Water criteria. Analytical results for the groundwater sample collected below the LNAPL at OBG MW-4S detected benzene at 2 µg/L and 1,4-dichlorobenzene was not detected above method detection limits. Other VOC analytes were detected above method detection limits; however, these detections were below the MDEQ Part 201 Generic Residential Drinking Water criteria. Dissolved lead was not detected above method detection limit and total lead was detected at a concentration of 10 µg/L, which is above the MDEQ Part 201 Generic Residential Drinking Water criteria of 4 µg/L (OBG, 2014).

Based on the groundwater results collected from the groundwater below the LNAPL at OBG MW-4S, it did not appear the constituents were partitioning appreciably from the LNAPL to the dissolved phase in groundwater. The benzene partitioning coefficient is less than 0.01 (1:100); likewise, the lead partitioning coefficient is less than 0.001 (1:1000), and the total lead results may have been effected by the turbidity of the sample (>30 NTUs), as indicated by the non-detect dissolved lead results.

To better understand the physical properties of the LNAPL, an attempt to collect a sample was initiated in June 2012. Monthly site visits were performed to collect available LNAPL in the well. Typically, less than 0.25 ft of LNAPL was observed in the well, was collected, and added to the cumulative sample. In January 2014, the LNAPL sampling was terminated and the volume of LNAPL collected was submitted to a laboratory for analysis. The LNAPL analysis included the following parameter list: kinematic viscosity (ASTM D-7042), density (ASTM 4052), surface tension (ASTM 1331), interfacial tension (ASTM 971), and specific gravity. The laboratory physical analysis of the LNAPL indicated the following results: specific gravity of 0.92- 1.00 @60° F, interfacial tension of 27.2 mN/m, and kinematic viscosity of 1294 cSt @ 50 F. The physical characteristics of the LNAPL is consistent with a waste oil.

2.1.4.16 2014 Semiannual Groundwater Sampling Report - January 23, 2015

A Summary Report for the semiannual 2014 groundwater sampling events performed in April and October 2014 at the Site was prepared (OBG, January 2015) to document the results of the sampling events in accordance with the MDEQ-approved Groundwater Investigation Work Plan, dated September 2010. Two semiannual groundwater sampling events were conducted in 2014 (April 24, 2014 and October 14, 2014). During the April 2014 event, samples were collected from the existing 9 monitoring wells: OBG MW-1S, OBG MW-2S, OBG MW-2D, OBG MW-3, OBG MW-5, OBG MW-6S, OBG MW-6D, OBG MW-7S, and OBG MW-7D. Samples were not collected from wells MW-401 and MW-403 (installed by others) based on the screen lengths of these wells being over 10 ft in length. Also, groundwater samples were not collected during either event from OBG MW-4S based on the presence of LNAPL in this well. In addition to the existing wells sampled during the first semiannual sampling event, and subsequent to the installation of the offsite monitoring wells in June 2014, the additional five offsite wells (OBG OS MW-1 through OBG OS MW-5) were sampled in October 2014 during the second semiannual groundwater sampling event. The groundwater samples were analyzed for VOCs by EPA Method 8260, and total metals (arsenic, barium, lead, and zinc) by EPA Method 200.8. During the second semiannual sampling event, selenium was also analyzed.

Analytical results for the first semiannual sampling event (April 2014) indicate VOCs were not detected above method detection limits, except for low level detections of benzene (2 µg/L), chlorobenzene (1 µg/L), 1,4-dichlorobenzene (1 µg/L), and 1,2,3-trimethylbenzene (2 µg/L) detected at well OBG MW-5S. These concentrations are below the MDEQ Part 201 Generic Residential Drinking Water criteria. Concentrations of total metals: arsenic, barium, lead, and zinc were below the MDEQ Part 201 Generic Residential Drinking Water criteria, except for arsenic at OBG MW-2D (13 µg/L, which exceeded the criterion of 10 µg/L). During groundwater sampling, the turbidity readings for well OBG MW-5S did not stabilize below 20 NTUs; therefore, dissolved metals

analyses were also requested for this sample in accordance with the MDEQ-approved September 2010 Groundwater Investigation Work Plan. The results for dissolved analyses from OBG MW-5S were below the MDEQ Part 201 Generic Residential Drinking Water criteria.

Analytical results for the second semiannual sampling event indicate VOCs were detected above method detection limits for the wells sampled. However, the VOCs detected were below the MDEQ Part 201 Generic Residential and Nonresidential Drinking Water criteria. Groundwater results for inorganic analysis indicate selenium detections were below method detection limits and zinc detections were below MDEQ Part 201 Generic Residential Drinking Water criteria. Analytical results for arsenic, barium, and lead were as follows:

- Total arsenic concentrations above the MDEQ Part 201 Generic Residential and Nonresidential Drinking Water criterion (10 µg/L) ranged from 15 µg/L at OBG MW-6S to 64 µg/L at OBG OS MW-2. Monitoring well OBG MW-5S (14 µg/L) exhibited a detection of dissolved arsenic that was also above the MDEQ Part 201 Generic Residential and Nonresidential Drinking Water criterion.
- Total lead concentrations above the MDEQ Part 201 Generic Residential and Nonresidential Drinking Water criterion (4 µg/L) ranged from 5 µg/L at OBG OS MW-2 to 21 µg/L at OBG OS MW-5.
- Offsite monitoring well OBG OS MW-5 exhibited a concentration of barium (2,160 µg/L) above the MDEQ Part 201 Generic Residential and Nonresidential Drinking Water criterion (2,000 µg/L).

Based on the results of the groundwater samples collected during the October 2014 groundwater sampling event compared to the groundwater samples collected at the Site beneath the LNAPL, the offsite impacts identified do not appear to be emanating from the RACER Site. Review of the groundwater analytical data summarized below indicates groundwater compound concentrations at offsite wells (OBG OS MW-4 and OBG OS MW-5) are generally different than those detected at the Site. Specifically, naphthalene, 2-methylnaphthalene, and chlorobenzene were detected at relatively high concentrations in the offsite wells and were not detected in onsite groundwater samples.

Table A - VOC Compounds Detected in Groundwater

Compound Detected Date Sampled	OBG MW-4S 7/2/2014	OBG MW-5S 10/15/2014	OBG OS MW-4 10/16/2014	OBG OS MW-5 10/16/2014
Benzene	2	<1	<1	<1
Xylenes	3	<2	<2	<2
Isopropylbenzene	15	<5	<5	<5
n- Propylbenzene	18	<1	10	1
1,2,4- Trimethylbenzene	2	<1	6	<1
Sec- buytlbenzene	5	<1	<1	<1
Naphthalene	<5	<5	130	10
2- methylnaphthalene	<5	<5	40	6
1,4-Dicholorbenzene	<1	1	<1	3
Chlorobenzene	<1	<1	7	8

Notes: Results are shown in µg/L.
Sample from OBG MW-4S collected below LNAPL on 7/2/2014. Samples collected from other wells on 10/14/2014.

In addition, review of groundwater elevations at the southeast area of the Site and the offsite wells indicates groundwater observed in the waste fill material in this area may flow to the south. Therefore, it is likely the impacted groundwater at the RACER Site is not the source for groundwater impact offsite to the east.

2.1.4.17 2015 Semiannual Groundwater Sampling Report - December 22, 2015

Semiannual groundwater sampling events were performed in accordance with the MDEQ-approved September 2010 Groundwater Investigation Work Plan in May and October 2015 to collect groundwater quality data for the Site and offsite (OBG, December 2015).

Groundwater samples for the semiannual 2015 sampling events were collected on May 28 and 29, 2015 (1st SA) and October 28, 29, and 30, 2015 (2nd SA). The 1st SA event samples and the 2nd SA event samples were collected from the same 9 onsite monitoring wells and 5 offsite monitoring wells discussed in Section 2.1.4.16. Groundwater sampling was performed in accordance with MDEQ Operational Memorandum No.2-Attachment 5 for low-flow sampling (MDEQ, 2002). Due to the highly viscous LNAPL heavily coating the interface probe of the measuring instrument, it was difficult to acquire an accurate measurement of the LNAPL thickness.

The groundwater samples were analyzed for VOCs by EPA Method 8260 and total metals (arsenic, barium, lead, selenium, and zinc) by EPA Method 200.8.

Analytical results for the first semiannual sampling event (May 2015) indicate VOCs were not detected above method detection limits, except at offsite monitoring wells OBG OS MW-4 and OBG OS MW-5, which exhibited several aromatic hydrocarbon detections (similar to those shown in Table A) at concentrations below the MDEQ Part 201 Generic Residential Drinking Water criteria.

Groundwater analytical results for total inorganic analysis indicate selenium and zinc were not detected above the method detection limits or detections were below the MDEQ Part 201 Generic Residential Drinking Water criteria. Turbidity levels at well OBG-MW7S did not stabilize below 20 NTUs; therefore, a groundwater sample for dissolved metals analysis was also collected and analyzed. Historically, turbidity levels at well OBG MW-7S have been above 20 NTUs.

Analytical results for arsenic, barium, and lead are as follows:

- Total arsenic concentrations above the MDEQ Part 201 Generic Residential and Nonresidential Drinking Water criterion (10 µg/L) ranged from 13 µg/L at OBG MW-3 to, OBG MW- 6D (17 µg/L), OBG MW-7S (dissolved -15 µg/L), 32 µg/L at OBG MW-7D in the onsite wells, and 21 µg/L at OBG OS MW-3S to 53 µg/L OBG OS MW-2 in the offsite wells. Dissolved arsenic was detected above its criterion at 15 µg/L at OBG MW-7S.
- Total lead concentrations above the MDEQ Part 201 Generic Residential and Nonresidential Drinking Water criterion (4 µg/L) were detected in three of the five offsite wells ranging from 5 µg/L at OBG OS MW-3 to 8 µg/L at OBG OS MW-5.
- Offsite monitoring well OBG OS MW-5 exhibited a concentration of total barium (2,370 µg/L) above the MDEQ Part 201 Generic Residential and Nonresidential Drinking Water criterion (2,000 µg/L).

Analytical results for the second semiannual sampling event (October 2015) indicate VOCs were not detected above method detection limits, except at the onsite monitoring well OBG MW-5S, and offsite monitoring wells OBG OS MW-4 and OBG OS MW-5. 1, 4-Dichlorobenzene (2 µg/L) was the only constituent detected in onsite monitoring well OBG MW-5S. Offsite monitoring wells OBG OS MW-4 and OBG OS MW-5 exhibited several aromatic hydrocarbon detections at concentrations below the MDEQ Part 201 Generic Residential Drinking Water criteria.

Groundwater results for inorganic analysis indicate selenium and zinc were not detected above method detection limits or detections were below the MDEQ Part 201 Generic Residential Drinking Water criteria. Turbidity levels at wells OBG-MW7S and OBG MW-5S did not stabilize below 20 NTUs; therefore, a groundwater sample for dissolved metals analysis was also collected and analyzed. Historically, turbidity levels at well OBG MW-7S have been above 20 NTUs and turbidity levels at OBG MW-5S fall into a historical range of 15 to 123 NTUs after purging.

Analytical results for arsenic, barium, and lead are as follows:

- Total arsenic concentrations above the MDEQ Part 201 Generic Residential and Nonresidential Drinking Water criterion (10 µg/L) ranged from 12 µg/L at OBG MW-3 to 42 µg/L at OBG MW-2D in the onsite wells, and 32 µg/L at OBG OS MW-1 to 57 µg/L at OBG OS MW-2 in the offsite wells. Dissolved arsenic was detected above its criterion at 22 µg/L at onsite well OBG MW-7S.

- Total lead concentrations above the MDEQ Part 201 Generic Residential and Nonresidential Drinking Water criterion (4 µg/L) ranged in the offsite wells from 6 µg/L at OBG OS MW-3 to 13 µg/L at OBG OS MW-5.
- Offsite monitoring well OBG OS MW-5 exhibited a concentration of total barium (2,220 µg/L) above the MDEQ Part 201 Generic Residential and Nonresidential Drinking Water criterion (2,000 µg/L).

Review of the groundwater analytical data for both semiannual sampling events indicates groundwater compound concentrations at offsite wells (OBG OS MW-4 and OBG OS MW-5) are mostly different than those detected at the Site. Therefore, it is likely the impacted groundwater at the Site is not the source for groundwater impact offsite to the east.

2.1.4.18 2016 Semiannual Groundwater Sampling Report - December 19, 2016

Semiannual groundwater sampling events were performed in accordance with the MDEQ-approved September 2010 Groundwater Investigation Work Plan in May and October 2016 to collect groundwater quality data for the Site and offsite (OBG, 2016).

Groundwater samples for the semiannual 2016 sampling events were collected on April 13 and 14, 2016 (1st SA) and October 20 and 21, 2016 (2nd SA). The 1st SA event samples and the 2nd SA event samples were collected from 9 onsite monitoring wells and 5 offsite monitoring wells (see Section 2.1.4.16). Groundwater sampling was performed in accordance with MDEQ Operational Memorandum No.2-Attachment 5 for low-flow sampling (MDEQ, 2002). Groundwater samples were not collected during either event from OBG MW-4S based on the presence of LNAPL in this well or from wells OBG MW-8, OBG MW-9, OBG MW-10, and OBG MW-11 as these were installed in June 2016 for LNAPL assessment (see Sections 2.1.4.21 through 2.1.4.23). Due to the highly viscous LNAPL heavily coating the interface probe of the measuring instrument, it was difficult to acquire an accurate measurement of the LNAPL thickness.

The groundwater samples were analyzed for VOCs by EPA Method 8260 and total metals (arsenic, barium, lead, selenium, and zinc) by EPA Method 200.8.

2.1.4.19 First Semiannual Sampling Event - April 2016

Analytical results for the first semiannual sampling event (April 2016) indicate VOCs were not detected above method detection limits except at offsite monitoring wells OBG OS MW-4 and OBG OS MW-5, which exhibited several aromatic hydrocarbon detections at concentrations below MDEQ Part 201 Generic Residential Drinking Water criteria.

Groundwater analytical results for inorganic analysis indicate selenium and zinc were not detected above the method detection limits or detections were below MDEQ Part 201 Generic Residential Drinking Water criteria. Turbidity levels at well OBG-MW7S, OBG OS MW-1, and OBG OS MW-2 did not stabilize below 20 NTUs; therefore, groundwater samples for dissolved metals analysis were collected and analyzed. Historically, turbidity levels at well OBG MW-7S have been above 20 NTUs.

Analytical results for arsenic, barium, and lead are as follows:

- Total arsenic concentrations above the MDEQ Part 201 Generic Residential and Nonresidential Drinking Water criterion (10 µg/L) ranged from 12 µg/L at OBG MW-6S to 34 µg/L at OBG MW-2D in the onsite wells, and was detected at a concentration of 17 µg/L at offsite well OBG OS MW-3. Dissolved arsenic was detected above its criterion at 11 µg/L at onsite well OBG MW-7S, and 33 µg/L and 49 µg/L, respectively at OBG OS MW-1 and OBG OS MW-2.
- Total lead concentrations above the MDEQ Part 201 Generic Residential and Nonresidential Drinking Water criterion (4 µg/L) include: offsite wells OBG OS MW-4 (5 µg/L) and OBG OS MW-5 (5 µg/L).
- Offsite monitoring well OBG OS MW-5 exhibited a concentration of total barium (2,240 µg/L) above the MDEQ Part 201 Generic Residential and Nonresidential Drinking Water criterion (2,000 µg/L).

2.1.4.20 Second Semiannual Sampling Event - October 2016

Analytical results for the second semiannual sampling event (October 2015) indicate VOCs were not detected above method detection limits, except at the onsite monitoring well OBG MW-5S, and offsite monitoring wells OBG OS MW-4 and OBG OS MW-5. 1, 4-Dichlorobenzene (2 µg/L) was detected in onsite monitoring well OBG MW-5S. Offsite monitoring wells OBG OS MW-4 and OBG OS MW-5 exhibited several aromatic hydrocarbon detections at concentrations below MDEQ Part 201 Generic Residential Drinking Water criteria.

Groundwater results for inorganic analysis indicate selenium and zinc were not detected above method detection limits or detections were below MDEQ Part 201 Generic Residential Drinking Water criteria. Turbidity levels at well OBG-MW7S did not stabilize below 20 NTUs; therefore, a groundwater sample for dissolved metals analysis was collected and analyzed. Historically, turbidity levels at well OBG MW-7S have been above 20 NTUs.

Analytical results for arsenic, barium, and lead are as follows:

- Total arsenic concentrations above the MDEQ Part 201 Generic Residential and Nonresidential Drinking Water criterion (10 µg/L) ranged from 20 µg/L at OBG MW-6D to 43 µg/L at OBG MW-2D, and 36 µg/L at OBG OS MW-1 to 61 µg/L at OBG OS MW-2 in the offsite wells. Dissolved arsenic was detected above its criterion at 19 µg/L at onsite well OBG MW-7S.
- Total lead concentrations above the MDEQ Part 201 Generic Residential and Nonresidential Drinking Water criterion (4 µg/L) include offsite wells: OBG OS MW-2 (6 µg/L) and OBG OS MW-5 (9 µg/L).
- Offsite monitoring well OBG OS MW-5 exhibited a concentration of total barium (2,000 µg/L) which is at the MDEQ Part 201 Generic Residential and Nonresidential Drinking Water criterion (2,000 µg/L).

2.1.4.21 Onsite Investigation June 2016 - Draft Memo dated August 29, 2016

An investigation was proposed (April 2016) to MDEQ to further assess the potential presence of LNAPL (OBG, 2016) and assess the extent of lead impacted subsurface soil at the southern portion of the Site. The proposed investigation activities were approved by MDEQ in an email dated April 11, 2016. The results of the investigation were summarized in a draft memo and submitted to MDEQ on August 29, 2016 via email transmission. The investigation activities and results of the onsite investigation are summarized below.

2.1.4.22 LNAPL Assessment

Soil borings were installed using a hydraulic probe to assess subsurface conditions for the potential presence of LNAPL. Three soil borings (OBG MW-8 through OBG MW-10, see **Figure 8**) were installed to evaluate the extent of LNAPL observed in monitoring wells OBG MW-4S and MW-401. An OBG geologist classified the soil during soil boring advancement. Additionally, soils were screened using a PID for the potential presence of volatile vapors. The geologist placed one representative sample from each soil core section for PID headspace screening. Continuous sampling allowed accurate depictions of the stratigraphy and lithology of the overburden were obtained (minimal sloughing).

A monitoring well (OBG MW-8 through OBG MW-10) was installed at each soil boring location through 4.25-inch ID hollow-stem augers (HSA) extended to the bottom of the boring. The monitoring wells were constructed of 2-inch diameter flush-joint PVC casing and a 10-ft length of 0.010-inch slot stainless steel well screen to allow for seasonal water table fluctuation and to optimize LNAPL observation potential in the wells.

LNAPL conditions were observed during the installation of lead assessment soil boring LASB-6 (see Section 2.1.4.23); therefore, two additional soil borings (ASB-1 and ASB-2) were installed to assess the potential presence of LNAPL (**Figure 8**). No field indications of LNAPL were observed at ASB-1 and ASB-2; therefore, a well (OBG MW-11) was installed adjacent to LASB-6. The wells were completed, developed, and sampled in accordance with the MDEQ-approved proposed methods.

Subsequent to monitoring well installation, a location and elevation survey was performed to establish top-of-casing, grade elevations and horizontal control for the newly installed wells.

After allowing the newly installed wells to equilibrate, water levels were collected from the wells on July 14, 2016 and October 20, 2016. The newly installed wells did not exhibit indications of LNAPL in the wells, except for well OBG MW-10. Approximately 4 to 6 inches of LNAPL was observed in this well. The LNAPL observed appears to be similar to the LNAPL observed in wells OBG MW-4S and MW-401.

Based on the two wells (OBG MW-5S and MW-403) north of well OBG MW-10, the LNAPL appears to be adequately assessed at the Site.

2.1.4.23 Lead Assessment

Lead impacted subsurface soil was identified during an assessment of the extent of the waste fill observed at the Site. Previous investigation results indicated concentrations of lead above the MDEQ Nonresidential Direct Contact Criteria in subsurface waste fill at depths ranging from 2 to 10 fbg. Additional assessment of the subsurface was performed to the north and south of the historical borings to further assess the extent of the lead exceedances in the subsurface, so that an exposure barrier could be placed over the area of exceedances, and the area could be properly identified in a DRC.

Six soil boring locations (LASB-1 through LASB-6) were installed (**Figure 8**) utilizing direct push drilling techniques (Geoprobe®), with soil cores collected continuously from grade to the bottom of each boring, which were headspace screened with a PID and described by an OBG geologist. Two samples were collected from each boring at depths consistent with the nearest historical lead-impacted boring. The samples from the borings nearest to the previously detected impacted subsurface material (LASB-1 through LASB-4) were analyzed and the samples from the two northern borings, LASB-5 and LASB-6, were held at the lab pending results from borings LASB-3 and LASB-4 to the south of these. The samples were analyzed for the presence of lead by EPA Method 6010.

Analytical results for lead assessment borings LASB-1 through LASB-4 indicated concentrations of lead below the MDEQ Nonresidential Direct Contact value. Based on these results, the samples from LASB-5 and LASB-6 were not analyzed, and the extent of the subsurface lead impacted subsurface material above MDEQ Direct Contact values is delineated as depicted on **Figure 10**. This figure also depicts the proposed area to be included in a DRC for the Site.

2.1.5 Facility Characterization Conclusions

The above summarized investigations provide abundant data used for facility characterization. The investigations delineated and characterized the waste fill, LNAPL, soil and groundwater. Lastly, site investigations identified the presence of LNAPL at the Site and adequately assessed and characterized the LNAPL. The physical characteristics of the LNAPL is consistent with a waste oil. The LNAPL does contain benzene, lead, and PCBs, but there is no evidence there is dissolved phase impacts emanating from the LNAPL and the LNAPL is not mobile or migrating.

Historical soil and groundwater sample data from the various investigations exceeding MDEQ criteria are summarized on and represented on **Figure 9**. The documented COCs for the Site are as follows:

- Soil: ethylbenzene, xylenes, lead, and manganese
- Groundwater: ethylbenzene, arsenic, and lead

The documented site COCs exclude specific detections of benzene in soil and benzene, ethylbenzene, and xylenes in groundwater primarily limited to an area associated with a release at the service station adjacent to the west side of the Site. MDEQ agreed with this assessment in a letter dated September 18, 2006 in which they stated "In regard to the leaking underground storage tank site ID#18528, located at G-3311 S. Saginaw, the Remediation and Liability Management Company, Inc. is not responsible for contamination migrating onto its property from an offsite source." A copy of the MDEQ September 18, 2006 letter is included in **Appendix A**.

Other areas of impact to soil include:

- Detections of ethylbenzene and xylenes in soil above MDEQ Nonresidential Drinking Water Protection criterion observed at the southern central portion of the Site
- Detections of manganese in soil above MDEQ Nonresidential Drinking Water Protection criterion observed at the western central portion of the Site
- Detections of lead in subsurface materials above the MDEQ Nonresidential Direct Contact criterion observed at the southern central portion of the Site.

Areas of impact to groundwater include:

- Ethylbenzene at the southeast corner of the Site in MW-401 (see Section 2.1.4.11)
- Arsenic across the Site, which likely reflect naturally occurring elevated regional background conditions as previously discussed
- Lead across the Site.

Benzene, ethylbenzene, and xylenes were detected in groundwater above criteria at the western portion of the Site (shown on **Figure 9**), from the unremediated release at the adjacent service station; therefore, these compounds are not considered COCs for the RACER Site.

Benzene and lead were detected in an LNAPL sample collected from well OBG MW-4S at the southeastern area of the Site making these COCs for the LNAPL.

The summary below identifies impacts to soil and groundwater, and discusses the assessment of LNAPL the proposed actions to mitigate the applicable exposure pathways.

2.1.5.1 Impacts to Soil

Ethylbenzene and Xylenes: ethylbenzene and xylenes were detected in soil and waste fill at the southern portion of the Site. These detections are above the Part 201 Residential Drinking Water Protection criteria, but were below the Part 201 Direct Contact criteria and Soil Volatilization to Indoor Air criteria. Groundwater analytical results from wells surrounding these locations were analyzed for VOCs and results indicated no detections of ethylbenzene or xylenes above method detection limits or MDEQ Drinking Water Criteria. Nearby well records indicate a clay thickness ranging from 57 to 102 ft thick (this clay was observed onsite at 50 fbg in southeastern portion of the Site); therefore, it is unlikely these detections in soil would migrate vertically to the useable aquifer (approximately 95 fbg). In addition, the City of Burton Ordinance §51.080 states "No person, being the owner or occupant of any dwelling, house, factory, or place of business in the city, shall use or furnish or permit to be used for human consumption by his or her family, guests, servants, or employees, or by any person in that dwelling, house, factory, or place of business, any water supplied from any spring nor from any well unless that well shall have been inspected by or under the direction of the County Department of Public Health and unless the County Department of Public Health shall have caused a certificate to be issued showing that the supply of water from that well is fit for human consumption," which prohibits the use and installation of water wells. In addition, RACER will place resource use restrictions for groundwater on the Site.

Lead: lead detected in soil and waste fill above Part 201 Nonresidential Direct Contact criterion at three locations grouped in the interior southern portion of the Site from depth of 2-8 fbg, which also exceed the Part 201 Drinking Water Protection criterion. Currently an asphalt cover exists overtop of these locations; however, a soil cover will be placed over the asphalt to further prevent exposure to the impacted soil and waste fill, which will eliminate the current and future potential for exposure to the impacted soil and waste fill, thereby addressing this exposure pathway. Future maintenance activities for the Site could include inspections performed by a RACER Trust designee of the cover and repairs to the cover as necessary. Potential leaching to groundwater can be addressed through a Site-specific groundwater resource use restriction and the City of Burton Ordinance §51.080.

Manganese: the manganese concentrations detected in soil and waste fill were above the Part 201 Residential Drinking Water Protection criteria; however, were below the statewide default background levels and Part 201

Direct Contact criteria. Therefore, although listed as a COC for the Site due to exceedances of the drinking water protection criteria, effectively manganese is not a COC based on the statewide default background level. Furthermore, the detections of manganese are located in the shallow subsurface (less than 10 fbg) and it is highly unlikely leaching manganese could migrate to the useable aquifer, which is at a depth of approximately 95 fbg. Additionally, a Site-specific groundwater resource use restriction will be imposed, and the City of Burton Ordinance §51.080 prohibits the use and installation of water wells.

2.1.5.2 Impacts to Groundwater

Groundwater at the Site is not used for drinking water and is not likely connected to the lower, usable aquifer in this area. Monitoring wells in the eastern portion of the Site are screened within the waste fill material and the groundwater occurs in discontinuous perched lenses within the fill.

Groundwater impacts potentially causing indoor air hazards is **not** a relevant exposure pathway for the Site since no buildings currently exist at the Site and future restrictions will require an assessment of the pathway or provide mitigation if a new structure is constructed.

Volatile Organic Compounds: the detections of benzene, xylenes, and ethylbenzene located at the monitoring well adjacent to the service station are not the responsibility of RACER Trust, as indicated in the September 18, 2006 letter from the MDEQ, which confirms divisibility of these impacts.

A historical (March 2004) concentration of ethylbenzene (106 µg/L) exceeding the Part 201 Residential Drinking Water criterion (74 µg/L) was detected in well MW-401 located in the southeast corner of the Site. Recent (April and July 2014) analytical results, collected from a nearby wells (OBG MW-4S) and (October 2016) surrounding wells OBG MW-1, OBG OS MW-2 and OBG OS MW-5 indicate no detections of ethylbenzene above method detection limits. This RAP will address the potential migration of groundwater to an aquifer by proposing groundwater monitoring. The drinking water exposure pathway will be addressed by recording a resource use restriction prohibiting the installation of wells for the purpose of using groundwater at the Site.

Inorganics: Inorganics have been detected in groundwater from monitoring wells across the Site above the Part 201 Generic Residential/Nonresidential Drinking Water criteria which include: arsenic and lead. Selenium was previously detected in two wells onsite (OBG MW-2D and OBG MW-5S) above the Part 201 Generic Residential/ Nonresidential Drinking Water criteria; however, has not been detected above Method Detection Limits (MDLs) for the most recent two sampling events performed in 2016.

The potential migration of the detected exceedances to groundwater in an aquifer can be addressed through additional groundwater monitoring. The drinking water exposure pathway will be addressed by recording a resource use restriction generally preventing installation of wells for the purpose of using groundwater at the Site. In addition, the City of Burton Ordinance §51.080 prohibits the installation of water wells and use of groundwater for human consumption in the Site area (as discussed previously).

Dissolved arsenic and dissolved selenium has been detected above the Part 201 Groundwater-Surface Water Interface (GSI) criteria; however, surface water does not exist on or adjacent to the Site. The nearest surface body of water (the open portion of the Schram Drain) is approximately 380 ft away from the Site and is not used as a drinking water source; therefore, the criteria for the Part 201 GSI Human Non-Drinking Water Value (HNDV) is applicable. The concentrations of arsenic and selenium are below the Part 201 Surface Water HNDV.

Light Non-Aqueous Phase Liquid: An evaluation of LNAPL at the Site has been performed in accordance with the MDEQ Draft Petroleum Non-Aqueous Phase Liquids (NAPL) Management Policy & Procedure and is included in **Appendix B**.

The LNAPL detected in the southeastern portion of the Site is present primarily within the fill material between 10 and 15 fbg, which indicates the LNAPL is present as a result of the waste fill, not a particular release. A laboratory leachate analysis performed on LNAPL collected from OBG MW-4S resulted in a detection of benzene (500 µg/L), 1,4-dicholorbenzene (2,800 µg/L), lead (16.2 mg/L), and aroclor 1254 (2,000 µg/L); however, a groundwater sample from beneath the LNAPL at well OBG MW-4S was analyzed for VOCs and lead, and the ratio

of concentrations in the groundwater to LNAPL for lead (5 µg/L) was 1:1000 and for benzene (2 µg/L) was 1:250 indicating the constituents in the LNAPL are not partitioning into the groundwater at appreciable concentrations. The detection of benzene and lead results in the LNAPL being classified as a characteristic hazardous waste pursuant to 40 CFR 261.24.

The other VOC constituents detected in the LNAPL have not been detected in groundwater from monitoring wells surrounding the wells in which LNAPL has been observed, indicating they are likely not partitioning to groundwater.

As discussed in Section 2.1.4.15, monthly site visits were performed beginning in June 2012 until January 2014 (19 months) to collect the minimum volume (less than a quart) of LNAPL from OBG MW-4S needed to analyze the physical properties of the LNAPL. Typically, less than 0.25 ft of LNAPL was observed in the well. The sample volume collected was not sufficient to run a LNAPL transmissivity test. This quasi recovery or baildown test indicates that the LNAPL at the Site is generally not recoverable. Laboratory physical analysis of the LNAPL indicated the following results: specific gravity of 0.92- 1.00 @60/60° F, interfacial tension of 27.2 mN/m, and kinematic viscosity of 1294 cSt @ 50 F. The physical characteristics of the LNAPL is consistent with a waste oil.

The results of the evaluation indicated the following:

- The LNAPL is not migrating based on the results of monitoring surrounding wells, the age of the LNAPL, and the physical condition of the LNAPL
- The LNAPL is only minimally mobile based on the age of the waste fill material, the estimated transmissivity (< 0.5 ft2/day) and recovery efforts which have yielded limited volumes and recharge of LNAPL
- The LNAPL is not readily recoverable
- It is unlikely a cost-effective or efficient remedial option exists for the treatment or removal of LNAPL based on limited recoverability, limited soil/waste permeability and geologic heterogeneity
- There is not a dissolved phase groundwater contaminant plume emanating from the LNAPL based on the results of monitoring surrounding wells
- Institutional controls can prevent an exposure pathway risk via resource use restrictions.

2.1.5.3 Waste Fill Delineation

Overburden materials at the Site consist of intermixed soils and waste fill material. Through several investigations the extent waste fill material has been assessed at the Site. Figure 3 depicts the approximate horizontal extent of waste fill at the Site and Figure 4 depicts a subsurface cross section from north to south of the Site. As depicted on these figures, the northern and southern portions of the Site in which waste fill was observed, are covered by weathered asphalt ranging from 3-5 inches thick. Below the asphalt are varying thicknesses of intermixed soils and waste fill.

Fill material which consists of glass, fabric, concrete, carpet, rubber, vinyl, degraded asphalt, wood block, fencing, brick, cardboard, and various metal containers was observed in the borings and was mixed with soil. The thickness of the waste fill at the Site ranges from 1.5 to 35 ft.

2.2 FACILITY ANALYSIS/CONDITIONS EVALUATION

This Section evaluates the potential pathways and source control measures for the Site following implementation of remedial activities in accordance with Rule 299.5532(7) and MCL 324.20118(8).

The likely source of the Site related impact to soil and impact to groundwater (*i.e.*, excluding the previously discussed service station release affecting the western portion of the Site) is likely the fill materials placed on a portion of the Site and naturally occurring inorganics detected in groundwater. The extent of impact to soil and groundwater from the source (fill) has been well characterized though several investigations. The proposed IRA

is intended to prevent contact with soil impact that exceeds direct contact criteria, restrict groundwater use, and provides notification of the presence of residual LNAPL and waste fill so proper due care can be taken.

The following exposure pathways were evaluated and assessed to not be relevant pathways:

- Risks due to volatilization to indoor from groundwater impact: Groundwater impacts causing indoor air hazards is **not** a current complete exposure pathway for the Site. The detected concentrations of VOCs in groundwater are below the MDEQ Nonresidential Groundwater Volatilization to Indoor Air criteria as specified in NREPA, 1994 PA 451, as amended. Potential future risks via this exposure pathway will be addressed through the filing of the resource use restrictions.
- Risks due to soil impact to pose a hazard to ambient air inhalation exposures: Ambient air inhalation from impacted soils is **not** a relevant pathway at the Site. The concentrations of VOCs detected in subsurface soil are below the MDEQ Nonresidential Infinite Source Volatile Soil Inhalation (VSIC) criteria as specified in NREPA, 1994 PA 451, as amended.
- Risks due to soil impact to pose a hazard to ambient air via particulate inhalation exposures: Ambient air particulate inhalation from impacted soils is **not** a relevant exposure pathway at the Site. The concentrations of COCs detected in subsurface soil are below the MDEQ Nonresidential Particulate Soil Inhalation criteria as specified in NREPA, 1994 PA 451, as amended. Potential future risks via this exposure pathway will be addressed through the filing of the resource use restrictions.
- Risks due to soil impact to pose a hazard of injury from indoor air inhalation exposures: Soil volatilization to indoor air from impacted soils is **not** a relevant exposure pathway at the Site. There are no buildings on the Site. The concentrations of COCs detected in subsurface soil are below the MDEQ Nonresidential Soil Volatilization to Indoor Air Inhalation criteria as specified in NREPA, 1994 PA 451, as amended. Potential future risks via this exposure pathway will be addressed through the filing of the resource use restrictions.
- Risk of impacted soil runoff to surface water: Risk of impacted soil runoff to surface waters is **not** a relevant exposure pathway for the Site. The waste fill and soil impacts at the Site are at depths greater than 2 fbg and there does not appear to be a significant potential for impacted soil or waste to reach surface water via direct transport or runoff since the nearest body of surface water is approximately 380 ft away from the Site and the offsite elevation adjacent to the Site is at a greater surface elevation.
- Risk due to surface water sediment impact: There are no surface water features on the Site. Therefore, this pathway is **not** relevant for this Site.

Relevant site-specific exposure pathways for the Site include the following:

- Risks from drinking water due to soil impact leaching to groundwater
- Risks to surface water due to soil impact leaching to groundwater
- Risks from direct contact due to soil impact
- Risks from drinking groundwater due to groundwater impact
- Risks to surface water due to discharge of groundwater impact.

Relevant site-specific exposure pathways for the Site are summarized in the following sections.

2.2.1 Risks Due to Drinking Water Impacts Resulting from Soil Impacts

Soil impact leaching to groundwater at this Site is a relevant transport pathway for the Site. However, groundwater at the Site is unlikely to transport a hazardous substance into an aquifer used for drinking water at a concentration that exceeds the MDEQ Nonresidential Drinking Water criteria.

In addition, with the filing of resource use restrictions, the extraction or usage of groundwater beneath the Site will be prohibited eliminating risks due to hazardous substances in groundwater that may result from the use of the groundwater for drinking.

Groundwater concentrations at the Site are above the MDEQ Nonresidential/Residential Drinking Water criteria. However, with the implementation of the IRA and the filing of a resource use restriction it is expected that groundwater monitoring will demonstrate a reduction in ethylbenzene concentrations at these locations to below the MDEQ Nonresidential/Residential Drinking Water criterion and inorganic concentrations to show a stable or decreasing trend.

In addition, the City of Burton Ordinance §51.080 prohibits the installation of water wells and use of groundwater for human consumption in the Site area (as discussed previously).

2.2.2 Risks Due to Groundwater Impact to Surface Water Resources

Groundwater impacts to surface water resources is a complete exposure pathway for the Site. The most recent groundwater sampling event results, indicate the detected concentrations of VOCs in groundwater are below the MDEQ GSI criteria. However, arsenic concentrations at the Site exceed MDEQ GSI criteria; although, arsenic mobility in groundwater is low and concentrations are not likely to migrate to surface water. Additionally, arsenic concentrations detected at the Site are from wells installed both in native materials and waste fill materials indicating the detections are likely natural-occurring.

Surface water does not exist on or immediately adjacent to the Site. The nearest surface water body is the Schram Drain, which is approximately 380 feet to the east of the Site (**Figure 1**). Furthermore, the storm sewers that traverse the Site (**Figure 2**) are installed at depths above the groundwater table based onsite information; therefore, the potential for groundwater migration to surface water does not exist at the Site.

2.2.3 Risks Due to Direct Contact Exposures to Soil Impacts

Direct contact with soil is a relevant pathway. The concentrations of lead detected in subsurface soil/waste fill at the Site are above MDEQ Nonresidential Direct Contact criterion as specified in NREPA, 1994 PA 451, as amended.

The restriction of uses of the Site that are not compatible with or are inconsistent with the exposure assumptions for the nonresidential criteria, and future maintenance of the asphalt/soil cover at the Site, eliminate the current and future potential for direct dermal contact with the impacted subsurface soil, thereby addressing this exposure pathway.

The IRA will mitigate this pathway with the existing and proposed cover and DRC.

2.2.4 Risks Due to Drinking Impacted Groundwater

The groundwater pathway is a relevant pathway for the Site. However, groundwater at the Site is not used for drinking water and is not likely connected to the lower usable aquifer in this area.

The usage or exposure to the detected exceedances to groundwater in an aquifer can be addressed through filing of a Resource Use Restriction in a DRC preventing groundwater use at the Site, and the potential migration of exceedances can be monitored to demonstrate stability or decreasing trends. Nearby well records indicate a clay thickness ranging from 57 to 102 ft thick (this clay observed onsite at 50 fbg in southeastern portion of the Site), it is unlikely these detections in groundwater would migrate to the useable aquifer. In addition, the City of Burton Ordinance §51.080 prohibits the installation of water wells and use of groundwater for human consumption in the Site area (as discussed previously).

The Site is not located in a wellhead production zone and there are no wellhead protection zones within approximately 3,000 feet of the Site. The nearest private wells to the Site are located approximately 1250 ft east of Schram drain more than a quarter mile away from the Site and approximately 2,300 ft west of the Site. Therefore, the prohibition of installation of wells to extract groundwater at the Site via resource use restrictions, and absence of a wellhead protection zone in the vicinity of the Site eliminates the potential for risks due to hazardous substances in groundwater.

The IRA will mitigate this pathway with the proposed DRC.

2.2.5 Risks Due to Soil Impact for Groundwater to Pose a Hazard to Surface Water

Soil impact leaching to groundwater posing a surface water risk is a relevant exposure pathway at the Site. Groundwater results indicate the detected concentrations of VOCs in groundwater are below the MDEQ GSI criteria; however, inorganics were detected above the MDEQ GSI criteria. Based on the immobile nature of inorganics and the distance to the nearest surface body of water (approximately 380 ft) it is unlikely inorganics would migrate to the nearest surface water.

2.2.6 Acute Toxic and Physical Hazard Risks

There are no acute toxins and physical hazard risks at or posed by the Site. The detected concentrations of VOCs in soil, LNAPL and groundwater are below the MDEQ Generic Flammability/Explosivity Screening Levels (FESLs) as listed in MDEQ Operational Memorandum No. 1 Attachment 1.

2.2.7 Ecological and Aesthetic Impacts

There are no ecological and aesthetic impacts at or posed by the Site.

2.2.8 Other Risks from Hazardous Substance Releases at or Posed by the Facility

There are no other risks from hazardous substance releases at or posed by the Site.

2.2.9 Exposure Pathway Summary

As the COCs may remain in the subsurface material at the Site, the potential for exposure to these COCs has been evaluated in the above sections. The presence of COCs above MDEQ criteria is not in itself indicative of a threat to human health or the environment.

The potential exposure pathways evaluated in the above sections concluded that with implementation of the proposed land and resource use restrictions, and the soil and asphalt cover over the lead impacted subsurface area of the Site, all relevant exposure pathways are addressed.

2.3 PROPOSED REMEDIAL ACTIONS

The proposed IRA will be implemented in accordance with Section 3 upon approval of this RAP. The IRA will include the following:

Restrictions will be implemented for the Site in accordance with Rule 299.5719. Restrictions will include:

- prohibit Site uses that are not compatible with or are inconsistent with the exposure assumptions for the nonresidential land use category under MCL 324.20120a(1)(b)
- restricting the installation of extraction wells or other methods to extract usage of groundwater beneath the Site
- a requirement to provide notice to the MDEQ of the intent to convey property
- restricting onsite activities which may potentially affect the integrity of the cover over the lead-impacted subsurface soil and prohibiting uncontrolled excavation
- prohibition of building construction on the property without first completing one of the following: Option 1) Evaluate and determine, with MDEQ concurrence, the absence of an unacceptable vapor risk to human health in any existing or newly constructed site buildings, or Option 2) Install, operate and maintain a vapor barrier and/or mitigation system designed to eliminate the potential for subsurface vapor phase hazardous substances to migrate into any building at concentrations greater than applicable criteria.
- management of soils, media and/or debris located on the property in accordance with the applicable requirements of Section 20120c of NREPA, Part 111, Subtitle C of the Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 *et seq.* and other relevant state and federal laws

- notice of residual LNAPL and waste fill presence on the property so proper due care can be taken.

The implementation schedule for the IRA is included in **Appendix C**.

Based upon completion of the IRA at the Site a restricted, nonresidential certificate of completion or No Further Action determination is expected for the Site.

Details and documentation regarding the proposed IRA are provided in Section 3 of this RAP.

3. IMPLEMENTATION DETAILS AND PROPOSED INTERIM REMEDIAL ACTION

3.1 SITE SPECIFIC RELEVANT AND APPLICABLE CLEANUP CRITERIA

Based upon available information regarding present and potential future land use, an evaluation of the extent of impact was conducted to design the IRA appropriately to achieve the remedial objectives.

This objective consists of resource use restrictions for subsurface soil/waste fill and groundwater, and adding additional cover material from onsite materials over the lead-impacted area.

Relevant site-specific exposure pathways for the Site include the following:

- Risks from drinking water due to soil impact leaching to groundwater
- Risks to surface water due to soil impact leaching to groundwater
- Risks from direct contact due to soil impact
- Risks from drinking water due to groundwater impact
- Risks to surface water due to discharge of groundwater impact.

An evaluation of potentially complete and applicable transport pathways and exposure routes was conducted to determine the appropriate risk based criteria for use in meeting the remedial objectives described in this document and for means to address those transport and exposure pathways. Currently, the Site is zoned for general business purposes and is vacant. Zoning documentation is included in **Appendix D**. In addition, RACER can place a deed restriction that limits future use to nonresidential. Therefore, the nonresidential scenario was used for evaluation purposes (*i.e.*, Generic Nonresidential Cleanup Criteria).

A site-specific comparison of relevant and applicable nonresidential criteria for soil is summarized on **Table 3**. Review of the analytical data indicates the highest concentrations of COCs detected in soil onsite are as follows:

Table B - Highest Detections of COCs in Soil

COC	Highest Concentration Detected	Location/Depth
Ethylbenzene	49,000 µg/kg	OBG SB-23 (4-6 fbg)
Xylenes (total)	35,000 µg/kg	OBG SB-23 (4-6 fbg)
Lead	3,900 mg/kg	OBG SB-4 (2-4 fbg)
Manganese	330 mg/kg	HP-10-99 (8-10 fbg)

Source: OBG

A site-specific comparison of relevant and applicable nonresidential criteria for groundwater is summarized on **Table 3**. Review of the analytical data indicates the highest concentrations of COCs detected in groundwater onsite are as follows:

Table C - Highest Detections of COCs in Groundwater

COC	Highest Concentration Detected	Location
Ethylbenzene	106 µg/L	MW-401
Total Arsenic	43 µg/L	OBG MW-2D
Total Lead	10 µg/L	OBG MW-4S and OBG MW-7S

Source: OBG

3.2 PROPOSED INTERIM REMEDIAL ACTIONS

The proposed IRA at the Site includes the addition of cover material to the existing asphalt cover in the lead impacted area (as shown on **Figure 10**), recording a land and resource use restrictions in the form of a DRC and the implementation of a groundwater monitoring program. A schedule outlining the implementation of the IRA is included in **Appendix C**. The IRA is discussed in the following sections.

3.2.1 Additional Cover

A work plan for installation of the additional soil cover over lead impacted area will be prepared upon approval of this RAP. The additional cover material currently exists onsite from the development of the Genesee Medical Building constructed on a delisted portion of the original Site. A composite sample of the soil material was collected and submitted to an analytical laboratory for analysis of VOCs by method 8260, SVOCs by method 8270, and Michigan 10 metals by methods 6020/7471. The analytical results were below method detection limits or MDEQ Generic Residential criteria for the soil sample analyzed.

3.2.2 Land and Resource Use Restriction

The restriction of use of the Site, and future imposed deed (*i.e.*, resource use) restrictions, maintenance of the cover at the Site eliminate the current and future potential for direct contact with impacted soil, and groundwater use restrictions, thereby eliminating these exposure pathways. Furthermore, concrete, gravel, and/or asphalt cover a majority of the Site and provide additional protection for exposure to impacted soil.

As the COCs may remain in the subsurface material and groundwater at the Site, the potential for exposure to these COCs has been evaluated in the above sections. The presence of COCs above MDEQ criteria itself is not indicative of a threat to human health or the environment.

The potential exposure pathways evaluation in the above sections concluded that with recording the proposed DRC and installation of the cover over the soil with lead impacts that exceed Nonresidential Direct Contact Criteria, all exposure pathways will be adequately addressed and the Site will qualify for a restricted nonresidential NFA.

The intended future use of the Site will remain nonresidential.

Land use restrictions will be implemented for the Site. In accordance with NREPA Section 20114c, the land use restrictions will be detailed in a restrictive covenant recorded by RACER and approved by the MDEQ that will include:

- Prohibition of Site uses that are not compatible with or are inconsistent with the exposure assumptions for the nonresidential land use category under MCL 324.20120a(1)(b)
- restricting the installation of extraction wells or other methods to extract usage of groundwater beneath the Site
- a requirement to provide notice to the MDEQ of the intent to convey property
- restricting onsite activities which may potentially affect the integrity of the cover over the lead-impacted subsurface soil and prohibiting uncontrolled excavation
- prohibition of building construction on the property without first completing one of the following: Option 1) Evaluate and determine, with MDEQ concurrence, the absence of an unacceptable vapor risk to human health in any existing or newly constructed site buildings, or Option 2) Install, operate and maintain a vapor barrier and/or mitigation system designed to eliminate the potential for subsurface vapor phase hazardous substances to migrate into any building at concentrations greater than applicable criteria.
- management of soils, media and/or debris located on the property in accordance with the applicable requirements of Section 20120c of NREPA, Part 111, Subtitle C of the Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 *et seq* and other relevant state and federal laws
- notice of residual LNAPL and waste fill presence on the property so that proper due care can be taken.

The deed restrictions will be implemented indefinitely. The draft DRC is included in **Appendix F** for MDEQ review and approval. The DRC will be recorded with the Genesee County Registers Office after installation of the soil cover and MDEQ approval.

3.3 INDICATOR PARAMETERS

VOCs and inorganics were identified in the subsurface material and groundwater for which the maximum detected concentrations exceeded the applicable and relevant criteria. Therefore, VOCs, arsenic, and lead are the indicator parameter that will be monitored during implementation of the IRA.

3.4 STATISTICAL METHODS

A trend analysis was performed on the groundwater analytical results to assess concentration trends in the groundwater onsite. The trend analysis is included in **Appendix E**. Inorganic analytical results from the most recent twelve sampling events (March 2012 through October 2016) were used in performing a trend analysis using the Mann-Kendall method. The results indicate the following:

- Arsenic concentration trends in groundwater are either stable, decreasing, or no trend in the onsite wells except for well OBG MW-7D which showed an increasing trend based on an initial concentration of 28 µg/L increasing slightly to a concentration of 32 µg/L over the twelve sampling events over five years (from 2012 through 2016); however, according to available data, arsenic concentrations in the overburden regional aquifer range from less than 10 µg/L to greater than 40 µg/L in the Site area with a median concentration of 12.6 µg/L (USGS, 2000); and there was no identified source of arsenic in the vicinity of MW-7D. Therefore, the detected arsenic concentrations in well OBG MW-7D appear to be naturally occurring.
- Lead concentration trends in groundwater are either stable or decreasing;
- No VOCs were detected above criterion, therefore, no trend analysis was performed.

3.5 SOURCE CONTROL

The source area appears to be the waste fill at the Site but the waste fill does not appear to be significantly impacting Site conditions. Therefore, no source control is proposed.

3.6 IRA EFFECTS ON THE ENVIRONMENTAL CONDITIONS AT THE FACILITY

As discussed in Section 3.1, the relevant potential exposure pathways for the Site include:

- Risks to drinking water due to soil impact leaching to groundwater
- Risks to surface water due to soil impact leaching to groundwater
- Risks from direct contact due to soil impact
- Risks from drinking water due to groundwater impact
- Risks to surface water due to discharge of groundwater impact.

These pathways will be addressed with the implementation of the IRA and recording the DRC.

3.7 IMPLEMENTATION SCHEDULE

The schedule for implementation of the IRA (included in **Appendix C**) will commence upon approval of this RAP.

3.8 OPERATION AND MAINTENANCE PLAN

Activities for the Site will include annual inspection by a RACER Trust designee of the soil cover over the lead-impacted materials until an alternate frequency is approved by MDEQ.

3.9 MONITORING/OBSERVATION WELL ABANDONMENT

Upon final MDEQ closure approval for the Site, the onsite and 5 offsite monitoring wells will be abandoned in accordance with Part 111 Rule 299.9612 (1)(b). Abandonment will include pressure injecting cement-bentonite grout into the wells. Above ground materials (riser and protective casing) will be removed to approximately 2 fbg

and remainder of the hole filled in with soil or asphalt as applicable. Abandoned Well Plugging forms (EQP 2044) will be completed to document well abandonment and will be submitted to the MDEQ.

3.10 CONTINGENCY PLAN

In the event the soil cover for the lead-impacted soil area is damaged or disturbed, appropriate repairs will be made to the cover.

3.11 COMPLIANCE WITH CRITERIA

Present and future land use for the Site will consist of nonresidential use. With the implementation of the proposed IRA, MDEQ Nonresidential cleanup criteria are met, consistent with a nonresidential use category.

3.12 SELF IMPLEMENTED RAP STATEMENT

This is **not** a Self-Implemented RAP because this RAP is being submitted to MDEQ for review and approval. The IRA is consistent with the requirements and regulatory authority of the 2002 Part 201 Rule amendments to MCL PA 451, Part 201 of NREPA administered by the MDEQ.

3.13 ZONING DOCUMENTATION

As identified in **Appendix D**, the Site is zoned for general business use. In accordance with MCL 324.20120a (6), a property for which a RAP is proposed must have zoning that is consistent with the categorical criteria being proposed. Therefore, as the Nonresidential closure is proposed, the current zoning is consistent with this category.

3.14 PLANNED ACTIVITY IS CONSISTENT WITH EXPOSURE ASSUMPTIONS

The planned activities are consistent with the exposure assumptions used in generating nonresidential criteria and adequately address all relevant exposure pathways.

3.15 EXPOSURE ABOVE GENERIC RESIDENTIAL CRITERIA

The proposed DRC will prevent residential use of the Site.

3.16 LAND USE RESTRICTIONS

Upon approval of this RAP and installation of the cover over the lead-impacted soil area, a DRC that prohibits Site uses that are not compatible with or are inconsistent with the exposure assumptions for the nonresidential land use category under MCL 324.20120a(1)(b) will be recorded with the Genesee County Register of Deeds. The restrictions would run with the property and be binding upon the current and all future owners and shall continue until the MDEQ approves modification or rescission of the DRC. A draft of the DRC is included in **Appendix F**.

4. REFERENCES

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TABLES

TABLE 1

Hemphill Road Industrial Land - Burton, Michigan

Monitoring Well Construction Details

Well	Completion Date	Installed By: Consultant/ Driller	Total Well Depth *	Surface Elevation (ft amsl)	Top of Casing Elevation (ft amsl)	Casing Diameter (inches)	Screened Interval Elevations	Screen Depth Formation
OBG MW-1S	29-Nov-10	O'Brien & Gere / Boart Longyear	27.20	774.9	777.64	2	755.44-750.44	Native Soil
OBG MW-2S	30-Nov-10	O'Brien & Gere / Boart Longyear	20.30	772.9	775.33	2	760.03-755.03	Native Soil
OBG MW-2D	30-Nov-10	O'Brien & Gere / Boart Longyear	38.50	772.8	775.19	2	741.69-736.69	Native Soil
OBG MW-3	30-Nov-10	O'Brien & Gere / Boart Longyear	27.70	774.3	777.31**	2	754.54-749.54	Native Soil
OBG MW-4S	30-Nov-10	O'Brien & Gere / Boart Longyear	27.70	766.3	769.15	2	746.45-741.45	Fill
OBG MW-5S	1-Dec-10	O'Brien & Gere / Boart Longyear	20.30	768.5	771.00	2	755.7-750.7	Fill
OBG MW-6S	1-Dec-10	O'Brien & Gere / Boart Longyear	19.10	769.70	772.70	2	758.6-753.6	Native Soil
OBG MW-6D	1-Dec-10	O'Brien & Gere / Boart Longyear	44.40	769.65	772.69	2	733.29-728.29	Native Soil
OBG MW-7S	2-Dec-10	O'Brien & Gere / Boart Longyear	17.70	763.56	766.30	2	753.6-748.6	Fill
OBG MW-7D	2-Dec-10	O'Brien & Gere / Boart Longyear	47.80	763.55	766.36	2	723.56-718.56	Fill
OBG MW-8	9-Jun-16	O'Brien & Gere/ Stock	22.46	768.14	771.21	2	759.23- 749.23	Fill
OBG MW-9	9-Jun-16	O'Brien & Gere/ Stock	22.65	767.91	770.93	2	758.78-748.78	Fill

TABLE 1

Hemphill Road Industrial Land - Burton, Michigan

Monitoring Well Construction Details

Well	Completion Date	Installed By: Consultant/ Driller	Total Well Depth *	Surface Elevation (ft amsl)	Top of Casing Elevation (ft amsl)	Casing Diameter (inches)	Screened Interval Elevations	Screen Depth Formation
OBG MW-10	9-Jun-16	O'Brien & Gere/ Stock	21.00	766.17	768.96	2	758.5-748.5	Fill
OBG MW-11	9-Jun-16	O'Brien & Gere/ Stock	20.00	772.60	775.64	2	762.6- 752.6	Fill
OBG OS MW-1	11-Nov-13	O'Brien & Gere / Cascade	30.15	774.09	776.57	2	756.42-746.42	Fill
OBG OS MW-2	11-Nov-13	O'Brien & Gere / Cascade	30.29	774.02	776.67	2	756.38-746.38	Fill
OBG OS MW-3	9-Jun-14	O'Brien & Gere / Cascade	30.29	779.78	782.89	2	762.59-752.59	Fill
OBG OS MW-4	9-Jun-14	O'Brien & Gere / Cascade	27.76	776.09	779.00	2	761.20-751.20	Fill
OBG OS MW-5	10-Jun-14	O'Brien & Gere / Cascade	28.15	776.45	779.38	2	761.18-751.18	Fill

Notes:

1) ft amsl - feet above mean sea level (NGVD 1929)
2) ft TOC - feet below Top of Casing
3) Wells are polyvinylchloride (PVC), schedule 40, screen slot size 0.010 inch.
4) * - Total well depth as measured from TOC
   Elevation referenced to NGVD 1929
5) ** - OBG MW-3 was repaired, and the TOC resurveyed, on 9/2/2011.

TABLE 2
Hemphill Road Industrial Land, Burton, Michigan
Historical Groundwater Elevations

Well	Top of Casing Elevation (ft amsl)	Depth To Water 12/20/2010 (ft btoc)	Static Water Elevation 12/20/2010 (ft amsl)	Depth To Water 2/25/2011 (ft btoc)	Static Water Elevation 2/25/2011 (ft amsl)	Depth To Water 3/22/2012 (ft btoc)	Static Water Elevation 3/22/2012 (ft amsl)	Depth To Water 6/13/2012 (ft btoc)	Static Water Elevation 6/13/2012 (ft amsl)	Depth To Water 9/20/2012 (ft btoc)	Static Water Elevation 9/20/2012 (ft amsl)	Depth To Water 12/18/2012 (ft btoc)	Static Water Elevation 12/18/2012 (ft amsl)	Depth To Water 4/16/2013 (ft btoc)	Static Water Elevation 4/16/2013 (ft amsl)
OBG MW-1S	777.64	13.80	763.84	13.50	764.14	12.47	765.17	12.70	764.94	13.03	764.61	13.18	764.46	12.28	765.36
OBG MW-2S	775.33	11.59	763.74	11.02	764.31	10.41	764.92	10.45	764.88	10.26	765.07	11.03	764.30	9.76	765.57
OBG MW-2D	775.19	22.02	753.17	21.80	753.39	20.16	755.03	20.45	754.74	22.34	752.85	21.26	753.93	20.57	754.62
OBG MW-3 **	777.31	23.00	754.24	22.95	754.29	22.72	754.59	22.69	754.62	22.69	754.62	22.87	754.44	22.77	754.54
OBG MW-4S	769.15	--	--	--	--	14.30	754.85	14.55	754.60	14.52	754.63	14.6	754.57	14.35	754.80
OBG MW-5S	771.00	15.97	755.03	15.80	755.20	15.48	755.52	15.75	755.25	15.80	755.20	15.93	755.07	15.47	755.53
OBG MW-6S	772.70	14.72	757.98	14.18	758.52	13.81	758.89	14.31	758.39	14.84	757.86	14.62	758.08	12.42	760.28
OBG MW-6D	772.69	19.61	753.08	19.46	753.23	17.99	754.70	18.51	754.18	20.11	752.58	18.96	753.73	18.04	754.65
OBG MW-7S	766.30	8.68	757.62	8.10	758.20	8.12	758.18	8.36	757.94	8.59	757.71	8.37	757.93	7.26	759.04
OBG MW-7D	766.36	14.40	751.96	14.23	752.13	12.55	753.81	13.09	753.27	14.70	751.66	13.73	752.63	12.95	753.41
OBG MW-8	771.21	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
OBG MW-9	770.93	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
OBG MW-10	768.96	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
OBG MW-11	775.64	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
OBG OS MW-1	776.57	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
OBG OS MW-2	776.67	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
OBG OS MW-3	782.89	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
OBG OS MW-4	779.00	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
OBG OS MW-5	779.38	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI

Notes:

1) ft amsl - feet above mean sea level (NGVD 1929).
2) ft btoc - feet below top of casing.
3) --' denotes depth to water not collected.
4) ** - OBG MW-3 was repaired, and the TOC resurveyed, on 9/2/2011.
   The previous TOC was 777.24.
5) NI denotes monitoring well not installed.

TABLE 2
Hemphill Road Industrial Land, Burton, Michigan
Historical Groundwater Elevations

Well	Top of Casing Elevation (ft amsl)	Depth To Water 10/15/2013 (ft btoc)	Static Water Elevation 10/15/2013 (ft amsl)	Depth To Water 12/10/2013 (ft btoc)	Static Water Elevation 12/10/2013 (ft amsl)	Depth To Water 4/24/2014 (ft btoc)	Static Water Elevation 4/24/2014 (ft amsl)	Depth To Water 7/2/2014 (ft btoc)	Static Water Elevation 7/2/2014 (ft amsl)	Depth To Water 7/28/2014 (ft btoc)	Static Water Elevation 7/28/2014 (ft amsl)	Depth To Water 9/11/2014 (ft btoc)	Static Water Elevation 9/11/2014 (ft amsl)	Depth To Water 5/28/2015 (ft btoc)	Static Water Elevation 5/28/2015 (ft amsl)
OBG MW-1S	777.64	13.60	764.04	--	--	12.69	764.95	--	--	--	--	12.44	765.20	12.64	765.00
OBG MW-2S	775.33	11.48	763.85	--	--	10.32	765.01	--	--	--	--	10.29	765.04	10.59	764.74
OBG MW-2D	775.19	21.28	753.91	--	--	20.21	754.98	--	--	--	--	20.42	754.77	19.90	755.29
OBG MW-3 **	777.31	22.78	754.53	--	--	22.73	754.58	--	--	--	--	22.54	754.77	22.85	754.46
OBG MW-4S	769.15	--	--	--	--	--	--	--	--	--	--	14.6	754.58	--	--
OBG MW-5S	771.00	15.80	755.20	--	--	15.59	755.41	--	--	--	--	15.84	755.16	15.61	755.39
OBG MW-6S	772.70	14.94	757.76	--	--	13.79	758.91	--	--	--	--	14.49	758.21	14.22	758.48
OBG MW-6D	772.69	19.21	753.48	--	--	18.10	754.59	--	--	--	--	18.06	754.63	17.54	755.15
OBG MW-7S	766.30	8.85	757.45	--	--	7.81	758.49	--	--	--	--	8.37	757.93	8.25	758.05
OBG MW-7D	766.36	13.93	752.43	--	--	12.64	753.72	--	--	--	--	12.91	753.45	12.35	754.01
OBG MW-8	771.21	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
OBG MW-9	770.93	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
OBG MW-10	768.96	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
OBG MW-11	775.64	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
OBG OS MW-1	776.57	NI	NI	22.10	754.47	--	--	--	--	--	--	22.17	754.40	21.95	754.62
OBG OS MW-2	776.67	NI	NI	21.43	755.24	--	--	--	--	--	--	21.58	755.09	21.34	755.33
OBG OS MW-3	782.89	NI	NI	NI	NI	NI	NI	25.39	757.50	25.52	757.37	25.89	757.00	25.99	756.90
OBG OS MW-4	779.00	NI	NI	NI	NI	NI	NI	24.29	754.71	24.34	754.66	24.48	754.52	24.40	754.60
OBG OS MW-5	779.38	NI	NI	NI	NI	NI	NI	24.71	754.67	24.79	754.59	24.91	754.47	24.82	754.56

Notes:

1) ft amsl - feet above mean sea level (NGVD 1929).
2) ft btoc - feet below top of casing.
3) --' denotes depth to water not measured.
4) ** - OBG MW-3 was repaired, and the TOC resurveyed, on 9/2/2011.
   The previous TOC was 777.24.
5) NI denotes monitoring well not installed.

TABLE 2
Hemphill Road Industrial Land, Burton, Michigan
Historical Groundwater Elevations

Well	Top of Casing Elevation (ft amsl)	Depth To Water 10/29/2015 (ft btoc)	Static Water Elevation 10/29/2015 (ft amsl)	Depth To Water 4/14/2016 (ft btoc)	Static Water Elevation 4/14/2016 (ft amsl)	Depth To Water 9/9/2016 (ft btoc)	Static Water Elevation 9/9/2016 (ft amsl)	Depth To Water 10/21/2016 (ft btoc)	Static Water Elevation 10/21/2016 (ft amsl)	Depth To Water 4/11/2017 (ft btoc)	Static Water Elevation 4/11/2017 (ft amsl)
OBG MW-1S	777.64	12.75	764.89	11.45	766.19	--	--	12.89	764.75	11.28	766.36
OBG MW-2S	775.33	10.77	764.56	9.16	766.17	--	--	10.38	764.95	8.83	766.50
OBG MW-2D	775.19	19.94	755.25	18.83	756.36	--	--	21.02	754.17	18.83	756.36
OBG MW-3 **	777.31	22.77	754.54	22.47	754.84	--	--	23.05	754.26	23.00	754.31
OBG MW-4S	769.15	--	--	--	--	--	--	--	--	--	--
OBG MW-5S	771.00	15.40	755.60	15.17	755.83	--	--	15.80	755.20	14.90	756.10
OBG MW-6S	772.70	14.72	757.98	12.70	760.00	--	--	14.53	758.17	11.71	760.99
OBG MW-6D	772.69	17.70	754.99	16.99	755.70	--	--	17.96	754.73	16.60	756.09
OBG MW-7S	766.30	8.43	757.87	7.27	759.03	--	--	8.14	758.16	6.70	759.60
OBG MW-7D	766.36	12.44	753.92	11.35	755.01	--	--	13.47	752.89	11.34	755.02
OBG MW-8	771.21	NI	NI	NI	NI	16.30	754.91	--	--	15.08	756.13
OBG MW-9	770.93	NI	NI	NI	NI	16.42	754.51	--	--	14.45	756.48
OBG MW-10	768.96	NI	NI	NI	NI	13.90	755.06	--	--	12.99	755.97
OBG MW-11	775.64	NI	NI	NI	NI	18.30	757.34	--	--	15.79	759.85
OBG OS MW-1	776.57	22.24	754.33	21.40	755.17	--	--	21.71	754.86	21.25	755.32
OBG OS MW-2	776.67	21.73	754.94	20.49	756.18	--	--	21.18	755.49	20.34	756.33
OBG OS MW-3	782.89	26.06	756.83	25.10	757.79	--	--	26.33	756.56	24.76	758.13
OBG OS MW-4	779.00	24.25	754.75	23.91	755.09	--	--	24.52	754.48	23.85	755.15
OBG OS MW-5	779.38	24.67	754.71	24.33	755.05	--	--	24.94	754.44	24.25	755.13

Notes:

1) ft amsl - feet above mean sea level (NGVD 1929).
2) ft btoc - feet below top of casing.
3) --' denotes depth to water not measured.
4) ** - OBG MW-3 was repaired, and the TOC resurveyed, on 9/2/2011.
   The previous TOC was 777.24.
5) NI denotes monitoring well not installed.

TABLE 3
Hemphill Road Industrial Land, Burton, Michigan
Soil Analytical Exceedances Summary

MDEQ Criteria		Benzene	Ethylbenzene	Xylenes (Total)	Lead	Manganese
Nonresidential / Residential Drinking Water Protection		100	1,500	5,600	700,000	1,000
Residential Direct Contact		180,000	22,000,000 (C)	410,000,000 (C)	400,000	25,000,000
Nonresidential Direct Contact		840,000	71,000,000 (C)	1,000,000,000 (C)	900,000 (DD)	90,000,000
Groundwater Surface Water Interface Protection		4,000 (x)	360	820	(G,X)	(G,X)
Sample Location	***Sample Depth***					
OBG SB-2	6-8'	--	**1,900**	--	**1,100,000**	na
OBG SB-4	2-4'	--	--	--	**3,900,000**	na
OBG SB-7	8-10'	--	**1,700**	2300	**1,100,000**	na
OBG SB-8	4-6'	--	370	2100	**810,000**	na
OBG SB-23	4-6'	--	**49,000**	**35,000**	110,000	na
OBG SB-28	10-12'	**400**	1,250	3,240	5,100	na
OBG SB-29	8-10'	**120**	240	290	8,100	na
OBG SB-33	10-12'	**540**	60	--	7,400	na
HP-7-99	2-4'	--	--	--	2,000	**62,000**
HP-8-99	8-10'	**170**	--	--	2,300	**100,000**
HP-9-99	2-4'	--	--	--	7,000	**310,000**
HP-10-99	8-10'	--	--	--	8,400	**330,000**

Notes:

1) Analytical results and criteria listed in µg/kg (ppb)
2) "--" indicates compound was not detected.
3) "na" denotes compound was not analyzed for.
4) Bold values indicate a concentration above criteria or a criteria with a concentration that exceeds it.
5) MDEQ cleanup criteria listed in RRD Operational Memorandum #1, Attachment 1 dated December 30, 2013.
6) C- Value presented is a screening level based on the chemical-specific generic soil saturation concentration (Csat) since the calculated risk-based criterion is greater than Csat. Concentrations greater than Csat are acceptable cleanup criteria for this pathway where a site-specific demonstration indicates that free-phase material containing a hazardous substance is not present.
7) DD - hazardous substance causes developmental effects. Residential and Commercial I Direct Contact criteria are protective of both prenatal and postnatal exposure. Industrial and Commercial II, III< and IV Direct Contact criteria are protective for a pregnant adult receptor.
8) G denotes GSI depends on pH or water hardness, or both of the receiving body of water.
9) X denotes the GSI cirteria shown is not protective of surface water used as drinking water.
10) Yellow highlight denotes the detection is used to represent site environmental conditions on Figure 9.

TABLE 3

Hemphill Road Industrial Land, Burton, Michigan

Groundwater Analytical Exceedances Summary (collected from soil boring)

MDEQ Criteria		Benzene	Ethylbenzene	Xylenes (Total)	Dissolved Arsenic	Dissolved Lead
Residential and Nonresidential Drinking Water		5 (A)	74 (E)	280 (E)	10 (A)	4 (L)
Residential and Nonresidential Groundwater Surface Water Interface Criteria		200 (X)	18	41	10	(G,X)
Sample Location	***Sample Date***					
OBG SB-12	8/20-26/97	--	--	--	**29**	**26**
OBG SB-14	8/20-26/97	--	--	--	**63**	**26**
OBG SB-16	8/20-26/97	--	--	--	**56**	**20**
OBG SB-28	12/13-15-99	**1,400**	**1,300**	**6,300**	na	**10**

Notes:

1) Analytical results and criteria listed in µg/l (ppb)

2) "--" indicates compound was not detected above criteria.

3) "na" denotes compound was not analyzed for

4) Bold values indicate a concentration above drinking water criteria or a criteria with a concentration that exceeds it.

5) MDEQ cleanup criteria listed in RRD Operational Memorandum #1, Attachment 1 dated December 30, 2013.

6) A - Criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of 1976 PA 399, MCL 325.1005

7) E - Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

8) G - GSI is dependent on water pH or hardness or both, of the receiving water.

9) X - GSI criterion shown is not protective for surface water that is used as a drinking water source.

10) L denotes 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-specified rules.

11) Yellow highlight denotes the detection is used to represent site environmental conditions on Figure 9.

TABLE 3
Hemphill Road Industrial Land, Burton, Michigan
Historical Groundwater Analytical Exceedances Summary

	MDEQ Criteria	Arsenic	Barium	Lead	Selenium
	Residential Drinking Water	10 (A)	2,000 (A)	4 (L)	50 (A)
	Nonresidential Drinking Water	10 (A)	2,000 (A)	4 (L)	50 (A)
	Residential and Nonresidential Groundwater Surface Water Interface Criteria	10	(G)	(G,X)	5
Sample Location	***Sample Date***				
OBG MW-1S	10/20/2016	--	174	--	--
OBG MW-1S	4/13/2016	--	162	--	--
OBG MW-1S	10/29/2015	2	167	--	--
OBG MW-1S	5/28/2015	--	151	--	--
OBG MW-1S	10/14/2014	2	147	--	--
OBG MW-1S	4/24/2014	--	119	--	--
OBG MW-1S	10/16/2013	4	153	--	--
OBG MW-1S	4/17/2013	2	130	--	--
OBG MW-1S	12/18/2012	3	151	--	--
OBG MW-1S	9/20/2012	3	146	--	--
OBG MW-1S	6/13/2012	2	136	--	--
OBG MW-1S	3/22/2012	3	121	--	--
OBG MW-1S	12/20/2010	3	140	--	--
OBG MW-2S	10/20/2016	**29**	178	--	--
OBG MW-2S	4/13/2016	**15**	166	--	--
OBG MW-2S	10/29/2015	**33**	178	--	--
OBG MW-2S	5/28/2015	**21**	169	--	--
OBG MW-2S	10/14/2014	**34**	175	--	--
OBG MW-2S	4/24/2014	4	160	4	
OBG MW-2S	10/16/2013	**35**	175	--	--
OBG MW-2S	4/17/2013	**17**	167	--	--
OBG MW-2S	12/18/2012	**21**	171	--	--
OBG MW-2S	9/20/2012	**35**	179	--	--
OBG MW-2S	6/13/2012	**26**	159	**5**	--
OBG MW-2S	3/22/2012	**23**	152	--	--
OBG MW-2S	12/20/2010	**11**	107	--	--
OBG MW-2D	10/20/2016	**43**	277	--	--
OBG MW-2D	4/14/2016	**34**	286	--	--
OBG MW-2D	10/29/2015	**42**	290	--	--
OBG MW-2D	5/28/2015	**28**	292	--	--

TABLE 3
Hemphill Road Industrial Land, Burton, Michigan
Historical Groundwater Analytical Exceedances Summary

MDEQ Criteria		Arsenic	Barium	Lead	Selenium
Residential Drinking Water		10 (A)	2,000 (A)	4 (L)	50 (A)
Nonresidential Drinking Water		10 (A)	2,000 (A)	4 (L)	50 (A)
Residential and Nonresidential Groundwater Surface Water Interface Criteria		10	(G)	(G,X)	5
Sample Location	***Sample Date***				
OBG MW-2D	10/14/2014	**42**	313	--	--
OBG MW-2D	4/24/2014	**13**	258	--	n/a
OBG MW-2D	10/16/2013	**43**	329	--	9
OBG MW-2D	4/17/2013	**29**	337	--	--
OBG MW-2D	12/18/2012	**44***	345	--	--
OBG MW-2D	9/20/2012	**42**	336	--	--
OBG MW-2D	6/13/2012	**35**	337	--	--
OBG MW-2D	3/22/2012	**33**	316	--	--
OBG MW-2D	12/20/2010	**17**	262	--	--
OBG MW-3	10/20/2016	7	162	--	--
OBG MW-3	4/14/2016	5	91	--	--
OBG MW-3	10/28/2015	**12**	164	--	--
OBG MW-3	5/28/2015	**13**	116	--	--
OBG MW-3	10/14/2014	5	159	--	--
OBG MW-3	4/24/2014	4	79	--	--
OBG MW-3	10/16/2013	9	177	--	--
OBG MW-3	4/16/2013	**199**	183	--	--
OBG MW-3	12/18/2012	**24**	160	--	--
OBG MW-3	9/20/2012	**5**	164	--	--
OBG MW-3	6/14/2012	**20**	198	**5**	--
OBG MW-3	3/23/2012	6	157	**5**	--
OBG MW-3	12/20/2010	--	191	--	--
OBG MW-4S	7/2/2014	--	183	**10**	--
OBG MW-5S	10/20/2016	3	1280	4	--
OBG MW-5S	4/14/2016	**32**	1260	--	--
OBG MW-5S	10/28/2015	3	1250	--	--
OBG MW-5S	5/28/2015	7	1320	--	--
OBG MW-5S	10/15/2014	**14***	1420	--	--
OBG MW-5S	4/24/2014	4	930	3	--
OBG MW-5S	10/16/2013	4	1400	3	7

TABLE 3
Hemphill Road Industrial Land, Burton, Michigan
Historical Groundwater Analytical Exceedances Summary

	MDEQ Criteria	Arsenic	Barium	Lead	Selenium
	Residential Drinking Water	10 (A)	2,000 (A)	4 (L)	50 (A)
	Nonresidential Drinking Water	10 (A)	2,000 (A)	4 (L)	50 (A)
	Residential and Nonresidential Groundwater Surface Water Interface Criteria	10	(G)	(G,X)	5
Sample Location	***Sample Date***				
OBG MW-5S	4/16/2013	4	1210	--	5
OBG MW-5S	12/18/2012	4	1360	**6**	--
OBG MW-5S	9/20/2012	3	1370	4	--
OBG MW-5S	6/14/2012	3	1370	**7**	--
OBG MW-5S	3/23/2012	3	1250	4	--
OBG MW-5S	12/20/2010	3	952	--	--
OBG MW-6S	10/20/2016	8	166	--	--
OBG MW-6S	4/13/2016	**12**	162	--	--
OBG MW-6S	10/29/2015	**13**	178	--	--
OBG MW-6S	5/28/2015	6	148	--	--
OBG MW-6S	10/16/2014	**15**	197	--	--
OBG MW-6S	4/24/2014	4	161	--	--
OBG MW-6S	10/16/2013	7	199	--	--
OBG MW-6S	4/16/2013	9	180	--	--
OBG MW-6S	12/18/2012	6	194	--	--
OBG MW-6S	9/20/2012	**13***	179	--	--
OBG MW-6S	6/14/2012	8	174	--	--
OBG MW-6S	3/22/2012	**12**	184	--	--
OBG MW-6S	12/20/2010	10	193	--	--
OBG MW-6D	10/20/2016	**20**	--	--	--
OBG MW-6D	4/14/2016	**14**	--	--	--
OBG MW-6D	10/29/2015	**15**	--	--	--
OBG MW-6D	5/28/2015	**17**	--	--	--
OBG MW-6D	10/15/2014	**16**	--	--	--
OBG MW-6D	10/15/2013	**14**	--	--	--
OBG MW-6D	4/16/2013	**14**	--	--	--
OBG MW-6D	12/18/2012	**14***	--	--	--
OBG MW-6D	9/20/2012	**14**	--	--	--
OBG MW-6D	6/13/2012	**17**	--	--	--
OBG MW-6D	3/22/2012	**15**	--	--	--

TABLE 3
Hemphill Road Industrial Land, Burton, Michigan
Historical Groundwater Analytical Exceedances Summary

MDEQ Criteria		Arsenic	Barium	Lead	Selenium
Residential Drinking Water		10 (A)	2,000 (A)	4 (L)	50 (A)
Nonresidential Drinking Water		10 (A)	2,000 (A)	4 (L)	50 (A)
Residential and Nonresidential Groundwater Surface Water Interface Criteria		10	(G)	(G,X)	5
Sample Location	***Sample Date***				
OBG MW-6D	12/20/2010	**15**	90	--	--
OBG MW-7S	10/20/2016	**19***	--	--	--
OBG MW-7S	4/14/2016	**11***	--	--	--
OBG MW-7S	10/28/2015	**22***	--	--	--
OBG MW-7S	5/28/2015	**15***	--	--	--
OBG MW-7S	10/14/2014	**17**	--	--	--
OBG MW-7S	10/15/2013	**22**	--	--	--
OBG MW-7S	12/18/2012	**12***	--	--	--
OBG MW-7S	9/20/2012	**17***	--	--	--
OBG MW-7S	6/13/2012	**13***	--	**10**	--
OBG MW-7S	3/22/2012	**18***	--	--	--
OBG MW-7S	12/20/2010	7	325	3	--
OBG MW-7D	10/20/2016	**32**	--	--	--
OBG MW-7D	4/14/2016	**33**	--	--	--
OBG MW-7D	10/29/2015	**34**	--	--	--
OBG MW-7D	5/28/2015	**32**	--	--	--
OBG MW-7D	10/14/2014	**33**	--	--	--
OBG MW-7D	10/15/2013	**31**	--	--	--
OBG MW-7D	4/16/2013	**30***	--	--	--
OBG MW-7D	12/18/2012	**24***	--	--	--
OBG MW-7D	9/20/2012	**26***	--	--	--
OBG MW-7D	6/13/2012	**31***	--	--	--
OBG MW-7D	3/22/2012	**28***	--	--	--
OBG MW-7D	12/21/2010	**28***	--	--	--
OBG OS-MW-1	10/21/2016	**36**	1000	--	--
OBG OS-MW-1	4/14/2016	**33***	1040	--	--
OBG OS-MW-1	10/30/2015	**32**	887	--	--
OBG OS-MW-1	5/29/2015	**40**	907	--	--
OBG OS-MW-1	10/16/2014	**28**	899	**6**	6

TABLE 3
Hemphill Road Industrial Land, Burton, Michigan
Historical Groundwater Analytical Exceedances Summary

	MDEQ Criteria	Arsenic	Barium	Lead	Selenium
	Residential Drinking Water	10 (A)	2,000 (A)	4 (L)	50 (A)
	Nonresidential Drinking Water	10 (A)	2,000 (A)	4 (L)	50 (A)
	Residential and Nonresidential Groundwater Surface Water Interface Criteria	10	(G)	(G,X)	5
Sample Location	***Sample Date***				
OBG OS-MW-2	10/21/2016	**61**	278	**6**	--
OBG OS-MW-2	4/14/2016	**49***	255	--	--
OBG OS-MW-2	10/30/2015	**57**	290	**8**	--
OBG OS-MW-2	5/29/2015	**53**	264	**7**	--
OBG OS-MW-2	10/16/2014	**64**	283	**5**	--
OBG OS-MW-3	10/21/2016	9	983		--
OBG OS-MW-3	4/13/2016	**17**	248	--	--
OBG OS-MW-3	10/28/2015	6	1410	**6**	--
OBG OS-MW-3	5/29/2015	**21**	226	**5**	--
OBG OS-MW-3	10/14/2014	8	774	**9**	--
OBG OS-MW-4	10/21/2016	--	1310	--	--
OBG OS-MW-4	4/13/2016	3	1310	**5**	--
OBG OS-MW-4	10/28/2015	2	1340	--	--
OBG OS-MW-4	5/29/2015	2	1320	--	--
OBG OS-MW-4	10/14/2014	3	1340	--	--
OBG OS-MW-5	10/21/2016	--	**2,000**	**9**	--
OBG OS-MW-5	4/13/2016	--	**2,240**	**5**	--
OBG OS-MW-5	10/28/2015	--	**2,220**	**13**	--
OBG OS-MW-5	5/28/2015	--	**2,370**	**8**	--
OBG OS-MW-5	10/14/2014	--	**2,160**	**21**	--

Notes:

1) Analtyical results and criteria listed in µg/l (ppb)

2) * denotes samples for OBG-MW2D, OBG-MW5S, OBG-MW6S, OBG-MW6D, OBG-MW7S, OBG-MW7D, OBG-OS MW-1, and OBG-OS MW-2 that were field filtered. Concentrations shown are dissolved metals.

3) "--" indicates compound was not detected above criteria or was not analyzed.

4) Bold values indicate a concentration above drinking water criteria or a criteria with a concentration that exceeds it.

5) MDEQ cleanup criteria listed in RRD Operational Memorandum #1, Attachment 1 dated September 28, 2012.

6) A - Criterion is the State of Michigan Drinking Water Standard established by Section 5 of 1976 PA 399, MCL 325.1005.

7) E - Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of the Natural Resources and Environment Protection Act, 1994 PA 451, as amended.

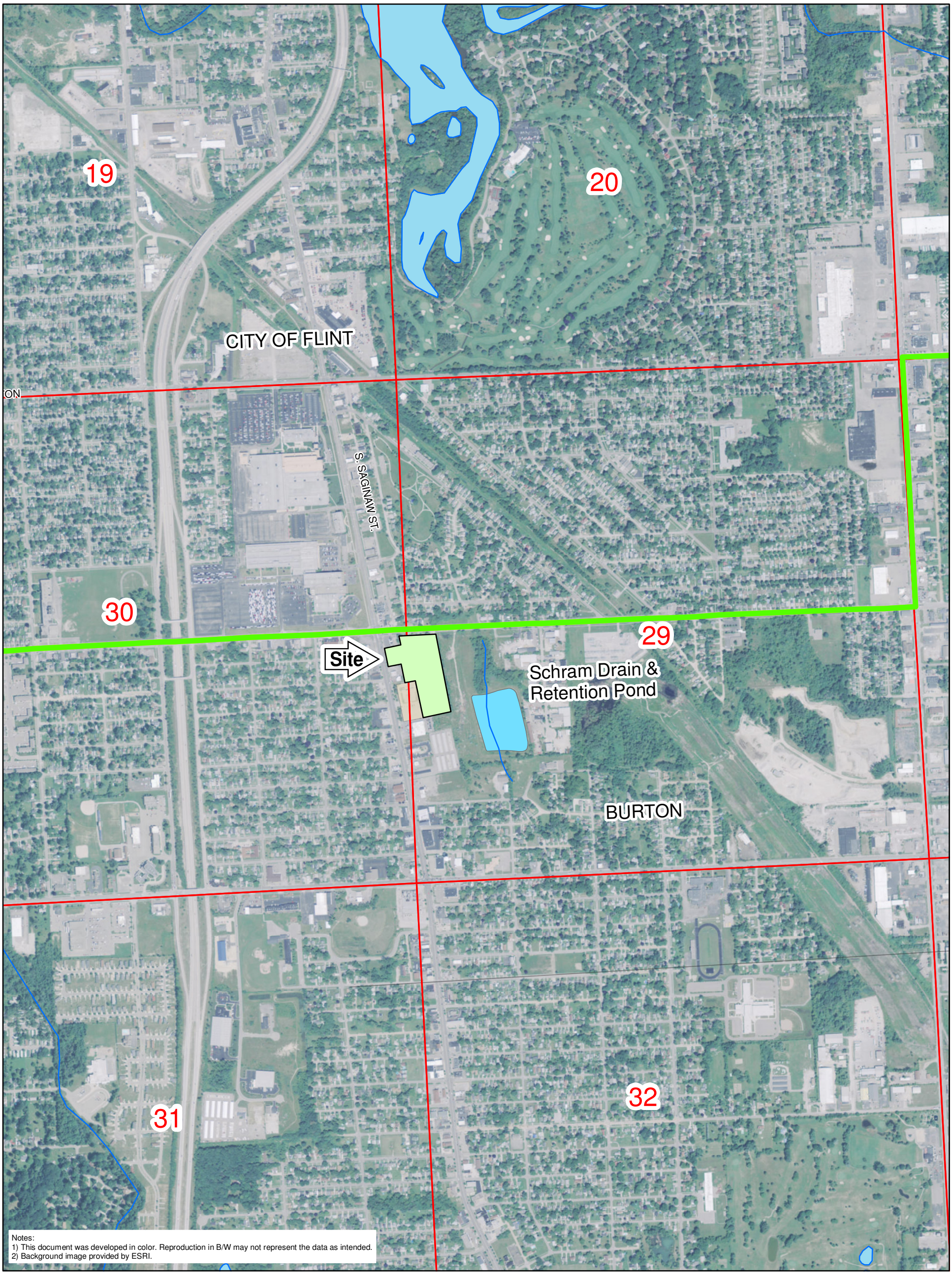
8) G - GSI is dependent on water pH or hardness or both, of the receiving water.

9) X - GSI criterion shown is not protective for surface water that is used as a drinking water source.

10) Yellow highlight denotes the detection above criteria and is used to represent site environmental conditions on Figure 9.

FIGURES

FIGURE 1



I:\Racer-Trust.15388\64740.2017 HRIL\Docs\Reports\RAP\Figures\001 - Figure 1 - Site Location Map.mxd

PLOTDATE: 04/18/17 Oneilljm

LEGEND

HEMPHILL ROAD INDUSTRIAL LAND SITE

30 SECTION LINE & NUMBER

RACER TRUST
HEMPHILL ROAD INDUSTRIAL LAND
BURTON, MICHIGAN

N

SITE LOCATION MAP

0 590 1,180 1,770 2,360
Feet

O'BRIEN & GERE

APRIL 2017

FIGURE 2

Notes:
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PLOTDATE: 04/18/17 Oneilljm

KEY

- HEMPHILL ROAD INDUSTRIAL LAND SITE
- FENCE
- SANITARY SEWER
- STORM SEWER
- WATER LINE
- ELECTRIC LINE (ABOVE/BELOW GRADE)
- MANHOLE
- CATCH BASIN

RACER TRUST
HEMPHILL ROAD INDUSTRIAL LAND
BURTON, MICHIGAN

SITE LAYOUT

0 70 140 210 280
Feet

N

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FIGURE 3

Notes:
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LEGEND

- MONITORING WELL (Screened in native material)
- MONITORING WELL (Screened in non-native material)
- SOIL BORING LOCATION
- ESTIMATED DEPTH OF WASTE FILL BASED ON O'BRIEN & SOIL BORINGS AND HISTORICAL TOPOGRAPHIC REVIEW
- FENCE LINE

RACER TRUST
HEMPHILL ROAD INDUSTRIAL LAND
BURTON, MICHIGAN

APPROXIMATE EXTENT OF WASTE FILL

0 80 160 240 320
Feet

N

O'BRIEN & GERE

APRIL 2017

PLOTDATE: 08/23/17 FinchAJ

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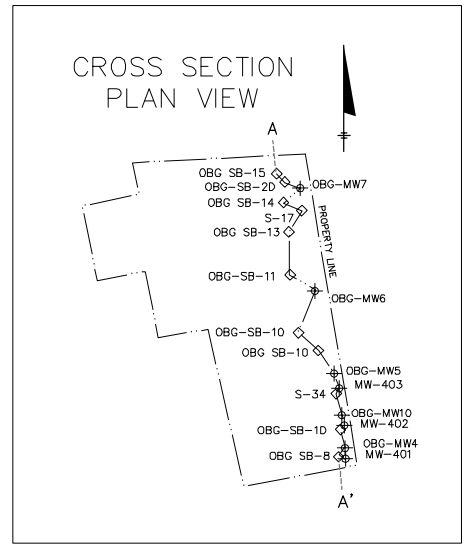
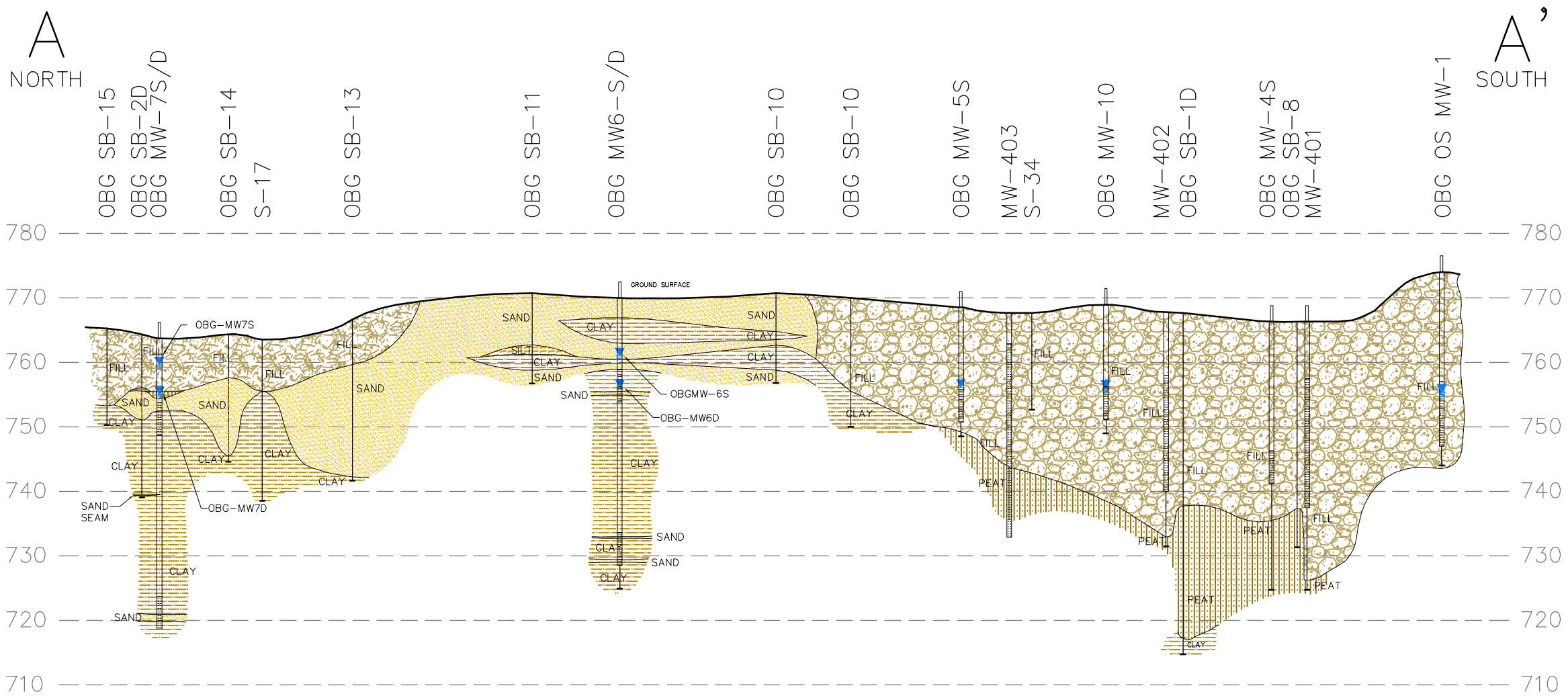
FIGURE 4

NOTES: FILL MATERIAL IS PRIMARILY A SILTY SAND AND GRAVEL MATRIX. WASTE MATERIALS ARE RANDOMLY INTERMIXED WITH THE PRIMARY MATRIX.

STATIC WATER ELEVATIONS WERE RECORDED ON 4/11/2017.





VERTICAL SCALE 1"=20' (20 0 20)

HORIZONTAL SCALE 1"=80' (80 0 80)

LEGEND

- SOIL BORING
- MONITORING WELL
- FILL
- SAND
- SILT
- CLAY
- PEAT
- STATIC WATER ELEVATION

RACER TRUST
HEMPHILL ROAD
INDUSTRIAL LAND
BURTON, MICHIGAN

GEOLOGIC
CROSS SECTION
A – A'

15388/64740-001
APRIL 2017

O'BRIEN & GERE

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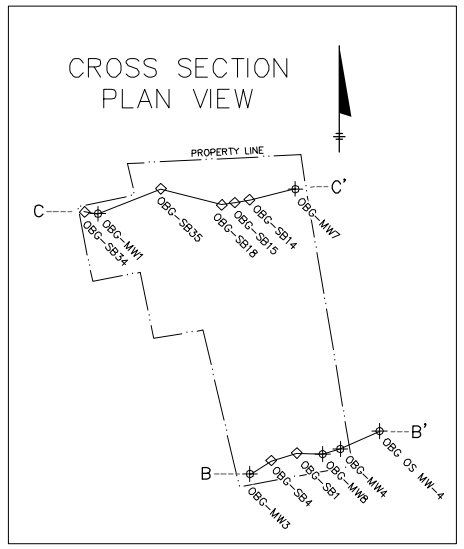
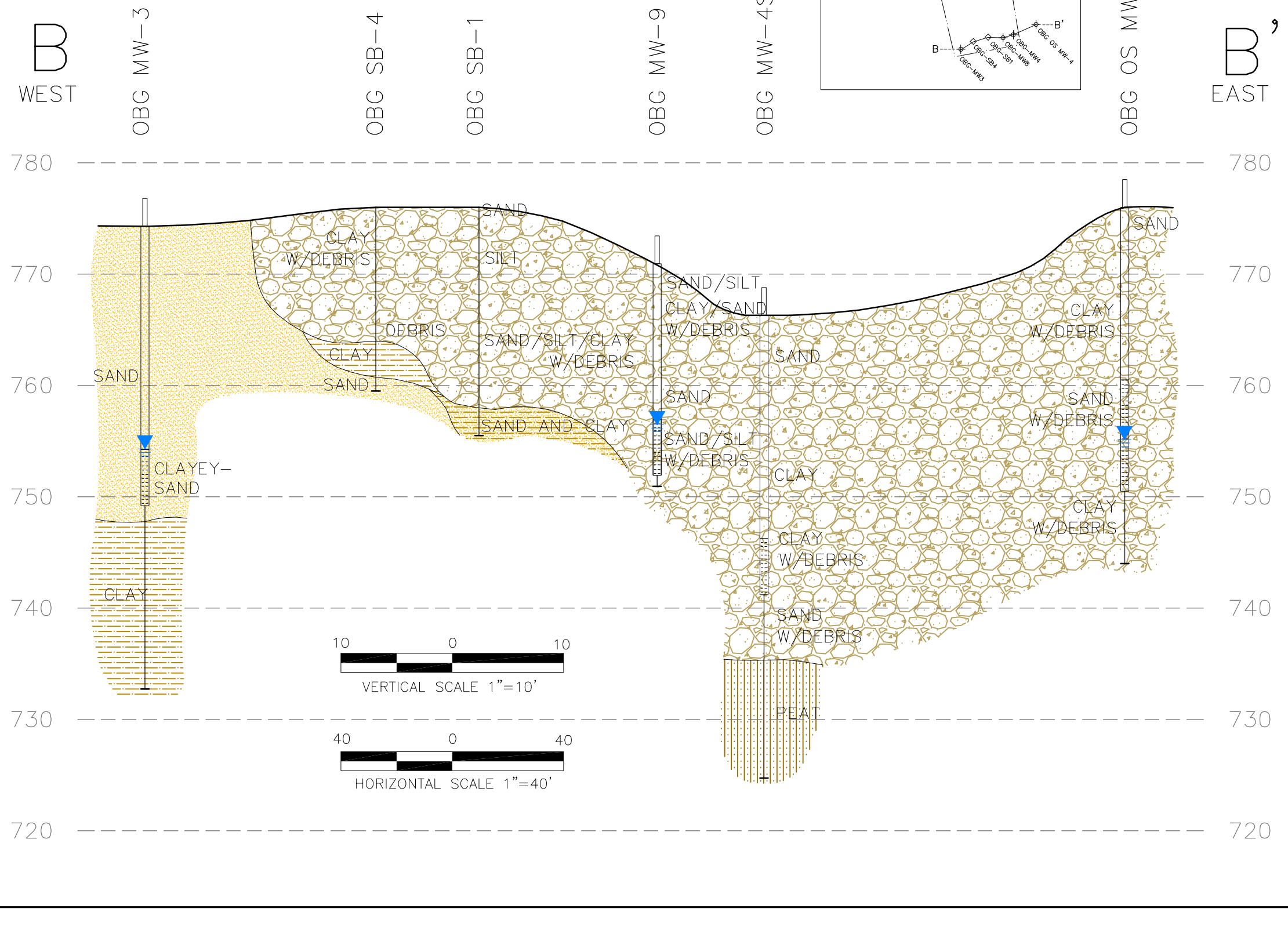
Plot Date: Sep 07, 2017 - 4:15pm

FIGURE 5

NOTES:
FILL MATERIAL IS PRIMARILY A SILTY SAND AND GRAVEL MATRIX. WASTE MATERIALS ARE RANDOMLY INTERMIXED WITH THE PRIMARY MATRIX.

STATIC WATER ELEVATIONS WERE RECORDED ON 4/11/2017.





LEGEND

- SOIL BORING
- MONITORING WELL
- FILL
- SAND
- SILT
- CLAY
- PEAT
- STATIC WATER ELEVATION

RACER TRUST
HEMPHILL ROAD
INDUSTRIAL LAND
BURTON, MICHIGAN

GEOLOGIC
CROSS SECTION
B – B'

15388/64740-001
APRIL 2017

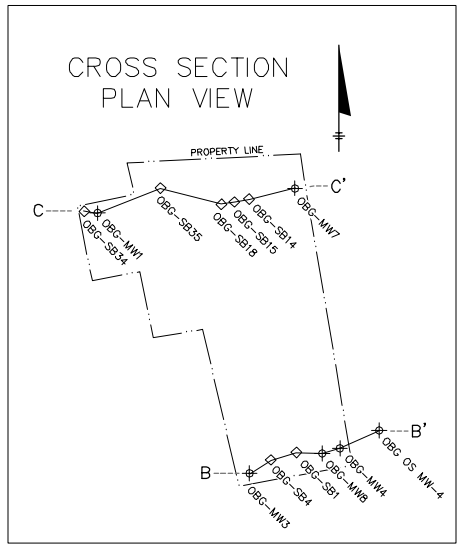
O'BRIEN & GERE

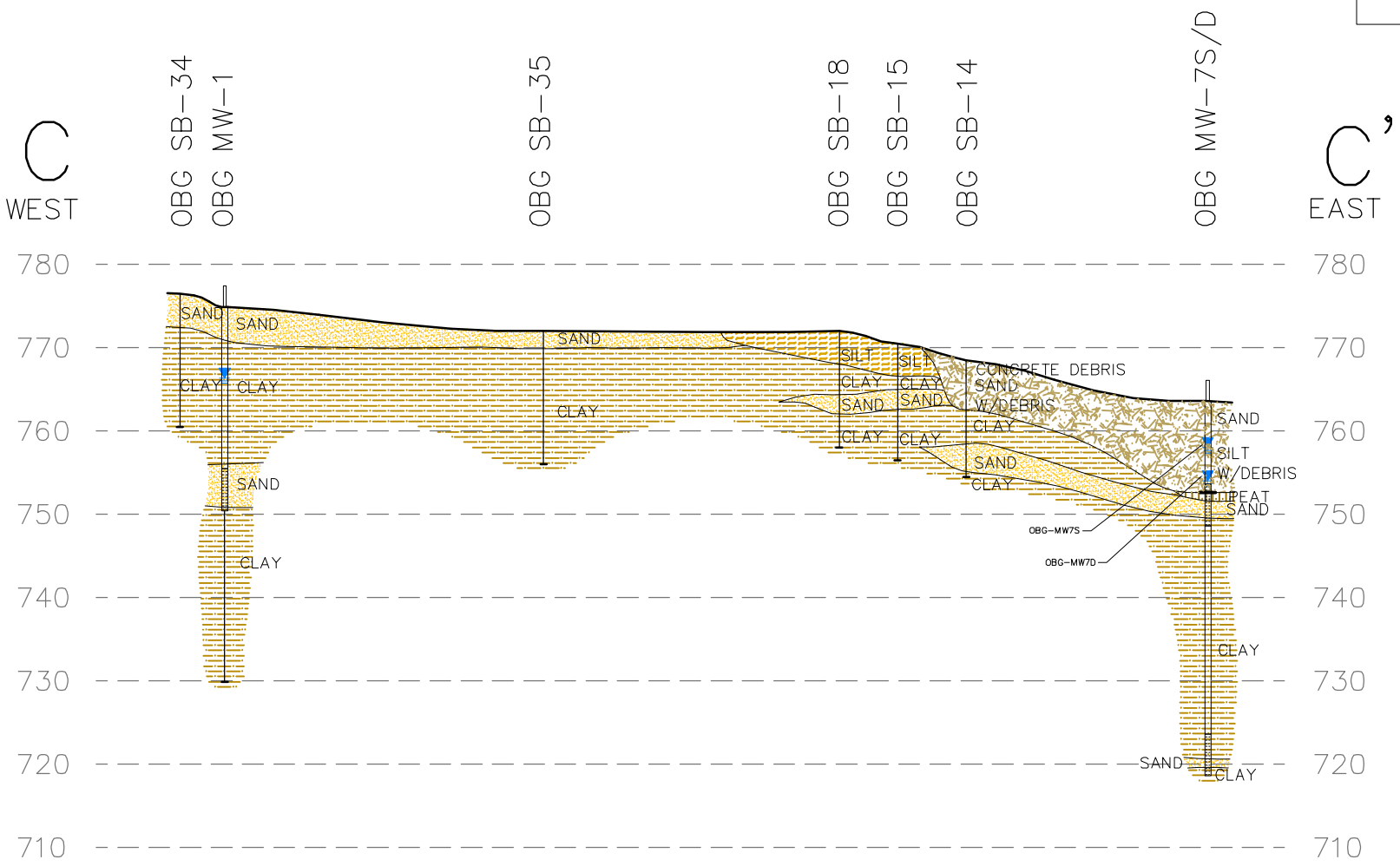
3-31-2011 jmo

FIGURE 6

NOTES: FILL MATERIAL IS PRIMARILY A SILTY SAND AND GRAVEL MATRIX. WASTE MATERIALS ARE RANDOMLY INTERMIXED WITH THE PRIMARY MATRIX.

STATIC WATER ELEVATIONS WERE RECORDED ON 4/11/2017.





VERTICAL SCALE 1"=20' (20 0 20)

HORIZONTAL SCALE 1"=80' (80 0 80)

LEGEND

- SOIL BORING
- MONITORING WELL
- FILL
- SAND
- SILT
- CLAY
- PEAT
- STATIC WATER ELEVATION

RACER TRUST
HEMPHILL ROAD INDUSTRIAL LAND
BURTON, MICHIGAN

GEOLOGIC CROSS SECTION C – C'

15388/64740/001
APRIL 2017

OBRIEN & GERE

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Plot Date: Jun 02, 2017 - 1:41pm

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OBG MW-7D (755.02)
OBG MW-7S (759.60)
OBG MW-1S (766.36)
OBG MW-6S (760.99)
OBG MW-6D (756.09)
OBG MW-2S (766.50)
OBG MW-2D (756.36)
OBG OS MW-3 (758.13)
OBG MW-5S (756.10)
MW-403
OBG MW-11 (759.85)
OBG MW-10 (755.97)
OBG OS MW-4 (755.15)
OBG MW-9 (756.48)
OBG MW-4S
OBG MW-8 (756.13)
MW-401
OBG MW-3 (754.31)
OBG OS MW-5 (755.13)
OBG OS MW-2 (756.33)
OBG OS MW-1 (755.32)

Notes:
1) Groundwater elevations for onsite wells MW-401, MW-403 and OS MW-4S were not recorded for this event.
3) This document was developed in color. Reproduction in B/W may not represent the data as intended.
4) Background image provided by ESRI (July 2014)

PLOTDATE: 05/20/17 FinchAJ

LEGEND

(754.31) MONITORING WELL (Screened in native material) (GROUNDWATER ELEVATION IN FEET)

(759.85) MONITORING WELL (Screened in non-native material) (GROUNDWATER ELEVATION IN FEET)

HEMPHILL ROAD INDUSTRIAL LAND

FORMER BUILDING

APPROXIMATE EXTENT OF WASTE FILL ONSITE

RACER TRUST
HEMPHILL ROAD INDUSTRIAL LAND
BURTON, MICHIGAN

GROUNDWATER ELEVATIONS
APRIL 11, 2017

0 40 80 120 160
Feet

N

O'BRIEN & GERE ENGINEERS, INC.

APRIL 2017

FIGURE 8

I:\Racer-Trust.15388\64740.2017 HRIL\Docs\Reports\RAP\RAP revised files 7-2017\Figures\011 - Figure 8 LASB locations.mxd

SB-11
OBG-SB-10
OBG-SB-41
OBG-SB-42
OBG-SB-43
OBG-SB-40
OBG-SB-39
OBG-SB-38
OBG-SB-37
SB-10
OBG-SB-36
SB-3
ASB-2
OBG MW-2S
OBG-SB-8
OBG-SB-9
OBG MW-2D
OBG-SB-22
OBG MW-5S
LASB-6
ASB-1
OBG MW-11
S-34
HP-2-99
OBG-SB-27
OBG-SB-23
MW-403
SB-2
OBG-SB-3
OBG-SB-7
LASB-5
OBG-SB-24
LASB-4
LASB-3
SB-9
OBG MW-10
OBG-SB-2
SB-1
OBG-SB-1D
OBG-SB-6
HP-1-99
OBG MW-9
OBG MW-4S
OBG-SB-1
OBG-SB-4
SB-8
OBG-SB-5
OBG MW-8
MW-401
LASB-2
LASB-1
OBG MW-3
OBG OS MW-2
OBG OS MW-1

Notes:
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PLOTDATE: 05/31/17 FinchAJ

LEGEND

- MONITORING WELL
- LEAD ASSESSMENT SOIL BORING LOCATION
- LNAPL ASSESSMENT MONITORING WELL
- LNAPL ASSESSMENT SOIL BORING LOCATION
- HISTORICAL SOIL BORING LOCATION
- HEMPHILL ROAD INDUSTRIAL LAND
- FORMER BUILDING

RACER TRUST
HEMPHILL ROAD INDUSTRIAL LAND
BURTON, MICHIGAN

LEAD and LNAPL ASSESSMENT LOCATIONS

0 20 40 60 80
Feet

N

O'BRIEN & GERE ENGINEERS, INC.

FEBRUARY 2017
15388/64740

FIGURE 10

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PLOTDATE: 05/24/17 FinchAJ

LEGEND

- MONITORING WELL
- SOIL BORING LOCATION
- APPROXIMATE EXTENT OF LEAD MDEQ DIRECT CONTACT EXCEEDENCE
- APPROXIMATE EXTENT OF LNAPL
- APPROXIMATE AREA FOR RESTRICTIVE COVENANT
- APPROXIMATE AREA FOR FILL AREA NOTFICATION
- HEMPHILL ROAD INDUSTRIAL LAND
- FORMER BUILDING

RACER TRUST
HEMPHILL ROAD INDUSTRIAL LAND
BURTON, MICHIGAN

RESTRICTION AREAS

0 30 60 90 120
Feet

N

O'BRIEN & GERE ENGINEERS, INC.

FEBRUARY 2017
15388/64740

Appendices

Appendix A

MDEQ September 18, 2006 Letter

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

September 18, 2006

SEP 22 RECD

Mr. David Worrell, P.E.
Remediation and Liability Management Company, Inc.
PCC Central
Mail Code 483-520-190
2000 Center Point Parkway
Pontiac, Michigan 48341-3147

Dear Mr. Worrell:

SUBJECT: Hemphill Landfill, a.k.a. The Burton Parcel, Genesee County
Facility ID 25000686

The Department of Environmental Quality (DEQ) has completed a review of your August 16, 2006, correspondence.

The DEQ looks forward to receipt of your work plan for assessing groundwater.

Feel free to forward information you have concerning other potentially responsible parties. Any documentation that assists the DEQ in determining liability will be greatly appreciated. Please note, however, that under Section 29 of Part 201 of the Natural Resources and Environmental Protection Act, Act 451 of 1994, as amended, it is the responsibility of the party asserting a division of harm to prove it is divisible. If measurable divisibility is beyond proof then, by statute, the State may hold a liable party responsible for the entirety of the harm. Liability in this matter is joint and severable, so any decision by the DEQ to hold one party responsible does not preclude that party from seeking compensation from other parties that may also have liability.

In regard to the leaking underground storage tank site, ID# 18528, located at G-3311 S. Saginaw, the Remediation and Liability Management Company, Inc. is not responsible for contamination migrating onto its property from an off site source. The DEQ project manager for this site is Mr. Dwight Cummings. For further information regarding site #18528 please contact Mr. Cummings at 517-335-6242.

Please submit the work plan for groundwater assessment at the Burton Parcel to my attention at the address below. Feel free to contact me if you have any questions.

Sincerely,

James E. Innes
Lansing District Office
Remediation and Redevelopment Division
517-335-6241

JEI:JJM
cc: Mr. Anthony Finch, O'Brien & Gere
Mr. Dwight Cummings, DEQ

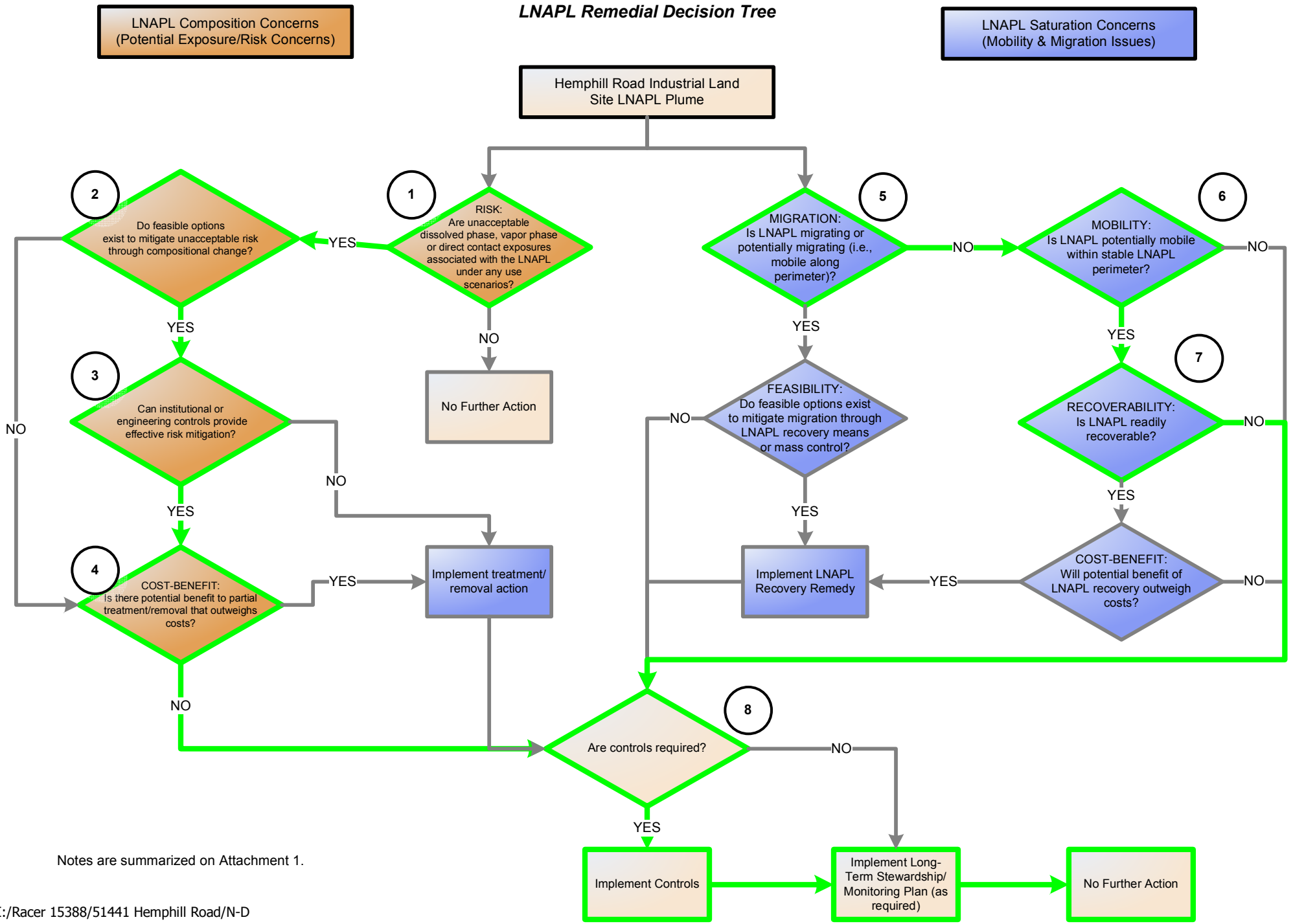
Appendix B

LNAPL Evaluation

RACER Trust
Hemphill Road Industrial Land Site
Burton, MI

O'BRIEN & GERE

LNAPL Remedial Decision Tree



Notes are summarized on Attachment 1.

I:/Racer 15388/51441 Hemphill Road/N-D

Hemphill Road Industrial Land LNAPL Remedial Evaluation

Background:

The RACER Trust Hemphill Road Industrial Land (HRIL) (10 acres known as the Burton Parcel previously owned by General Motors Corporation (GMC)) is located near the southeast corner of the South Saginaw Street and Hemphill Road intersection in Genesee County, Burton, Michigan.

Prior to 1941, the Hemphill Landfill property was used for agricultural purposes. As part of the municipal Hemphill Landfill, the area was filled with industrial and municipal wastes from sometime after 1941 to approximately 1978. The Hemphill Landfill was historically operated by various entities. The RACER Site was occupied by a large discount retailer in the 1960's and the site was covered by structures and asphalt. Operation of the landfill ceased in 1978, and since that time has been covered with a soil cap and is vegetated.

Geology and Hydrogeology:

The HRIL is situated in an area characterized by regional unconsolidated geology consisting of primarily lacustrine clay and silt deposits with interbedded sandy lenses. The uppermost 53 ft of unconsolidated material observed during soil boring installation at the Burton Parcel consists of overburden materials (asphalt, concrete or gravel, intermixed soils and waste fill material). Subsurface materials encountered during drilling activities include silt, sand, clay, and waste fill material in various amounts across the Burton Parcel. Fill material observed primarily at the eastern/southeastern portion of the Burton Parcel consist of glass, fabric, concrete, carpet, rubber, vinyl, degraded asphalt, wood block, fencing, and cardboard and was intermixed with soil material. The largest area of fill material appears to be located at the southeast corner of the Burton Parcel.

Groundwater is encountered at approximately 10 to 25 feet below ground surface (ft bgs) across the Burton Parcel. Based on the site geology and distance between the well locations, groundwater flow at the Burton Parcel cannot be reliably determined.

LNAPL Characteristics:

The LNAPL detected in the wells at the southeastern portion of the Site is present primarily within the fill material between 10 and 15 ft bgs. A table summarizing the approximate depth, thickness and volume of LNAPL removed is attached.

A laboratory leachable analysis performed on LNAPL collected from OBG MW-4S resulted in a detection of benzene (500 ug/l), 1,4-dicholorbenzene (2,800 ug/l), lead (16.2 mg/l) and Aroclor 1254 (2,000 ug/l). The detection of benzene and lead is considered a hazardous level in accordance with 40 CFR 261.24. Additional laboratory physical analysis of the LNAPL indicated the following results: specific gravity of 0.92- 1.00 @60/60 Deg F, interfacial tension of 27.2 mN/m, and kinematic viscosity of 1294 cSt @ 50 F. The physical characteristics of the LNAPL is consistent with a waste oil.

Notes:

1) *Are unacceptable dissolved phase, vapor phase or direct contact exposures associated with the LNAPL under any use scenarios?*

   A sample of the groundwater from below the LNAPL at OBG MW-4S was collected on July 2, 2014 for analysis of VOCs, PCBs and total & dissolved lead. Results of the analysis indicate: VOCs were detected above method detection limits; however, these detections are below the NREPA Part 201 generic

Residential Drinking Water criteria; PCBs were not detected above method detection limits; dissolved lead was not detected above method detection limits and total lead (10ug/l) was detected above NREPA Part 201 generic Residential Drinking Water criterion (4 ug/l).

YES- there is a potential for benzene, 1,4- dichlorobenzene and lead detected in LNAPL to partition into groundwater above the Residential Drinking Water Criteria

- Groundwater Concerns: LNAPL constituents (leachable benzene, 1, 4-dicholorbenzene, and lead) have been detected in the LNAPL at concentrations exceeding NREPA Part 201 Generic Residential Drinking Water criteria.

However, current analytical results from OBG MW-4S groundwater indicate the following:

- Groundwater Concerns: LNAPL constituents (benzene and 1, 4-dicholorbenzene) have not been detected in groundwater below the LNAPL at concentrations exceeding NREPA Part 201 Generic Residential Drinking Water criteria demonstrating these constituents are likely not partitioning from the LNAPL to groundwater. Total lead detected in the groundwater would be addressed through a sitewide resource use restriction and a local ordinance prevents the installation of new water wells in the City of Burton, in addition the shallow groundwater is not utilized for groundwater in the site area, and in accordance with R 325.1632(3) of the MDEQ Well Construction Code Administrative Rules wells are not permitted to be installed shallower than 25 ft bgs (*i.e.*, below the LNAPL depth).
- Volatilization Concerns: LNAPL does not present a direct volatilization risk; however, it is recognized that anaerobic biodegradation of hydrocarbons will generate methane. While there are currently no structures on the site, methane generation could result in indoor air quality concerns for potential future structures.
- Direct Contact Concerns: Concentrations of benzene in LNAPL are below the Part 201 Nonresidential Groundwater Contact criterion (benzene= 11,000 ug/l) and PCBs are below TSCA level of 50 ppm. The shallowest LNAPL impacts are located a minimum of approximately 12 feet below grade, and do not present a direct contact concern under current site conditions (area where LNAPL is observed covered with asphalt cap and site is surrounded by security fence).

2) *Do feasible options exist to mitigate unacceptable risk through compositional change?*

Yes – feasible corrective measures alternatives for LNAPL includes excavation, natural source zone depletion (NSZD), and biosparging. The biosparging treatment alternative represents a technology that causes composition change (*i.e.*, through partitioning of volatile LNAPL constituents into the vapor phase and biodegradation).

Biosparging could reduce the Constituents of Concern (COCs) in the LNAPL through both the volatilization and biodegradation of LNAPL and/or LNAPL constituents. Compositional change of the LNAPL is limited due to:

- Limited mobility potential for LNAPL recoverability of LNAPL (see note 6, below).
- Limited soil permeability and geologic heterogeneity in the LNAPL area.

3) *Can institutional controls or engineering controls provide effective risk mitigation?*

Yes- resource use restrictions can prevent exposure pathway risks.

4) *Cost-Benefit: Is there potential benefit to partial treatment/removal that outweighs costs?*

NO – The costs associated with attempting to compositionally change the LNAPL by selectively treating specific compounds would include treatment/removal of the LNAPL itself. Removal of the LNAPL would include a system that first mobilizes the LNAPL for recovery and then removal. Based on the MDEQ Draft Petroleum Non-Aqueous Phase Liquids (NAPL) Management Policy & Procedure, the MDEQ assumes LNAPL transmissivity greater than 0.5 ft^2/day, can be removed in a cost effective and efficient manner. Previous recovery/LNAPL recharge data suggests the LNAPL transmissivity is less than 0.5 ft^2/day; therefore, the LNAPL cannot likely be recovered in a cost effective and efficient manner.

Groundwater data indicates VOC constituents are not partitioning from LNAPL to groundwater above the Part 201 Residential Drinking Water criteria; therefore, are not migrating off-site at concentrations exceeding this criteria. Total lead was detected in groundwater below the LNAPL at concentrations above the Part 201 Residential Drinking Water criterion; however, a City of Burton ordinance prevents water usage without the permit approval from the County Department of Public Health, and a site-specific Declaration of Restrictive Covenant would also be placed on the property to prohibit the installation of wells on the site.

5) Is LNAPL migrating or potentially migrating (i.e., mobile along perimeter)?

UNLIKELY – an investigation to assess the potential LNAPL mobility through the installation of offsite wells was completed and LNAPL was not observed in these wells. This theory is supported by the following lines of evidence:

- Well Gauging Data: offsite wells located offsite around the periphery of the LNAPL body have remained free of LNAPL.
- LNAPL observed offsite is at a shallower elevation than gauged at the onsite well OBG MW-4S. This may also indicate the LNAPL plume is discontinuous.
- Age of LNAPL Release: Historical filling operations at the Site ceased in 1978 (no active LNAPL sources for more than three decades). LNAPL bodies typically stabilize within 2 to 5 years after a release has been stopped (ITRC 2012).

6) Is LNAPL potentially mobile within stable perimeter?

POTENTIALLY - Mobile LNAPL may be present based on the limited accumulation in monitoring wells in the LNAPL plume. However, based on the following lines of evidence, LNAPL may not be mobile within the LNAPL plume:

- Age of LNAPL Release: Historical filling operations at the Site ceased in 1978 (no active LNAPL sources for more than three decades). LNAPL bodies typically stabilize within 2 to 5 years after a release has been stopped (ITRC 2012).
- The LNAPL transmissivity is estimated to be much less than 0.5 ft^2/day.
- Previous recovery efforts have yielded limited volumes of LNAPL and limited LNAPL recharge.

7) Is LNAPL readily recoverable?

NO – the following lines of evidence indicate that LNAPL is not likely to be readily recoverable:

- LNAPL removal from the onsite well was performed for 4 consecutive months. Initially the approximate thickness of LNAPL in the well was over 4 ft, after removal and measurement the following month, the LNAPL had recovered to 0.99 ft, the following month recovery of 0.32 ft LNAPL and finally recovery of 0.08 ft. This demonstrates the slow recharge of LNAPL into the well.
- Based on the nature of the LNAPL, hydraulic testing of the LNAPL is not feasible; however, based on professional judgement the transmissivity of the LNAPL is likely much less than 0.5 ft^2/day indicating the LNAPL is not able to be cost effectively and efficiently recovered (MDEQ 2013).

- An attempt was made to collect an LNAPL sample for physical analysis, the lack of LNAPL accumulation over a twelve month period suggests limited potential for recovery.

Given that LNAPL body at the site is currently stable, the risks associated with the LNAPL will not change appreciably as a result of active recovery efforts.

8) Are controls required?

YES - the following controls are proposed for LNAPL to limit potential for future exposure:

- Prohibit construction of wells or other means of extracting groundwater for consumption, irrigation, or any other purpose (with the exception of wells necessary for monitoring groundwater quality or short-term dewatering for construction purposes)
- Prohibit construction of new structures, unless construction incorporates appropriate engineering controls to eliminate potential for volatilization to indoor air (associated with methane generation from biodegradation of hydrocarbons), or an evaluation of the volatilization pathway for the new construction must be completed.
- Prohibit removal of soil from the property unless properly characterized to determine if it can be relocated without posing a threat to public health, safety, welfare or environment in the new location.
- Prohibit the installation of sewers or otherwise constructing something in the subsurface at the LNAPL area that would allow for migration or otherwise exacerbate impacts.
- Property use must remain nonresidential.
- Prohibit any activity that could create a preferential pathway for migration, exacerbate existing site conditions, or affect the integrity, effectiveness, and/or operation of any corrective measure.
- Prohibit any excavation or other intrusive activity that could affect the integrity of the surface cover that is present to prevent direct contact with contaminated material, except with using appropriate health and safety measures, during short-term construction or repair projects, or for purposes of further treating or remediating the subject contamination. Any excavation or other intrusive activity, including removing, altering, or disturbing the surface cover, that could affect the integrity of the barrier, must be replaced with a cover that provides at least an equivalent degree of protection as the original barrier. Repair and/or replacement of the barrier must be completed unless additional sampling is conducted that demonstrates that a barrier in the area is no longer necessary in accordance with the applicable provisions and requirements of Part 201 of the Natural Resources and Environmental Protection Act.
- Notification to future property owners to the presence of LNAPL

References:

ASTM International. 2006. Standard Guide for Development of Conceptual Site Models and Remediation Strategies for Light Nonaqueous-Phase Liquids Released to the Subsurface. Document: E 2531-06.

ITRC. 2012. LNAPL Training Part 1: An Improved Understanding of LNAPL Behavior in the Subsurface. Washington, D.C.: Interstate Technology & Regulatory Council, LNAPLs Team. www.itrcweb.org.

Michigan Department of Environmental Quality. 2013. Draft Petroleum Non-Aqueous Phase Liquids (NAPL) Management Policy & Procedure.

Hemphill Road Industrial Land Site
Burton , Michigan
OBG MW-4S LNAPL Observation/Removal Log

(well installled 11-2010)

Date	Approximate Depth to LNAPL (ft)	Depth to Water (ft)	Approximate LNAPL Thickness (ft)	Approximate Volume of LNAPL Removed
12/20/2010	IM	--	4	--
2/25/2011	14.4	18.4	4	--
5/13/2011	14.5	18.63	4.13	3-4 gal.*
6/24/2011	14.19	15.18	0.99	1-2 gal.**
7/29/2011	14.3	14.62	0.32	0.3-0.5 gal**
9/2/2011	14.43	14.51	0.08	< 0.2 gal***
3/22/2012	IM	14.3	--	--
6/13/2012	IM	14.55	--	--
9/21/2012	IM	14.52	--	--
12/18/2012	IM	14.6	--	--
4/16/2013	14.35	14.91	0.56	<.2 gal
10/15/2013	14.49	14.6	0.11	--
4/24/2014	IM	--	--	--
10/14/2014	IM	--	--	--
5/28/2015	IM	--	--	--
10/29/2015	IM	14.49	--	--
4/13/2016	IM	--	--	--
9/9/2016*	IM	14.61	--	--
10/21/2016*	IM	14.6	--	--
2/15/2017*	IM	14.29	--	--
4/11/2017*	13.9	14.4	0.5	--

Notes:
LNAPL denotes Light Non-Aqueous Phase Liquid.
* denotes LNAPL measurement estimated from absorbent sock liner smear.
Depth to LNAPL and water measured from Top-of-casing.
IM denotes immeasurable amount of LNAPL,no measurement could be collected either due to minimal thickness of LNAPL or LNAPL coating the probe not allowing for accurate measurement.
Absorbent sock placed in well

Hemphill Road Industrial Land Site
Burton , Michigan
OBG MW-10 LNAPL Observation/Removal Log

(well installed 6-2016)

Date	Approximate Depth to LNAPL (ft)	Depth to Water (ft)	Approximate LNAPL Thickness (ft)	Approximate Volume of LNAPL Removed
6/10/2016	IM	13.85	--	--
9/9/2016	14.28	14.47	0.19	<.2 gal
10/20/2016	13.95	14.5	0.55	<.5 gal
2/15/2017	IM	13.61	--	--
4/11/2017	IM	12.99	--	--

Notes:
LNAPL denotes Light Non-Aqueous Phase Liquid.
* denotes LNAPL measurement estimated from absorbent sock liner smear.
Depth to LNAPL and water measured from Top-of-casing.
IM denotes immeasurable amount of LNAPL,no measurement could be collected either due to minimal thickness of LNAPL or LNAPL coating the probe not allowing for accurate measurement.
Absorbent sock placed in well

Hemphill Road Industrial Land Site
Burton , Michigan
MW-401 LNAPL Observation/Removal Log
(well installed 5-1988)

Date	Approximate Depth to LNAPL (ft)	Depth to Water (ft)	Approximate LNAPL Thickness (ft)	Approximate Volume of LNAPL Removed
5/18/1988	UNK	12	--	--
1st quarter 1993	UNK	15.26	--	--
2nd quarter 1993	UNK	15.53	--	--
3rd quarter 1993	UNK	15.57	--	--
4th quarter 1993	UNK	15.85	--	--
1st quarter 1994	UNK	15.66	--	--
2nd quarter 1994	UNK	15.57	--	--
3rd quarter 1994	UNK	15.69	--	--
4th quarter 1994	UNK	15.52	--	--
1st quarter 1995	UNK	15.5	--	--
2nd quarter 1995	UNK	15.6	--	--
4th quarter 1995	UNK	16.1	--	--
1st quarter 1996	UNK	13.72	--	--
2nd quarter 1996	UNK	13.7	--	--
3rd quarter 1996	UNK	13.77	--	--
4th quarter 1996	UNK	13.65	--	--
5/7/1998	IM	15.00	--	--
12/13/1999	14.45	14.95	0.5	--
2/22/2000	IM	14.65	--	--
10/30/2000	IM	13.95	--	--
3/28/2001	IM	14.64	--	--
7/2/2001	IM	13.31	0.5	--
9/31/2001	IM	13.3	--	--
12/27/2001	IM	14.74	0.25	--
4/4/2002	IM	14.64	--	--
3/20/2003	IM	14.98	0.3	<.5 gal
6/20/2003	IM	13.6	--	<.2 gal
9/30/2003	IM	13.74	--	<.2 gal
12/16/2003	IM	13.6	--	<.2 gal
3/10/2004	IM	13.47	--	<.2 gal
6/10/2004	IM	17.3	--	<.2 gal
9/15/2004	IM	17.41	--	<.2 gal
12/21/2004	IM	13.51	--	<.2 gal
3/31/2005	IM	17.8	--	<.2 gal
6/8/2005	IM	14.65	--	<.2 gal
9/29/2005	IM	14.1	--	<.2 gal
12/29/2005	IM	13.81	--	<.2 gal
3/22/2012	IM	14.7	--	--
6/13/2012	IM	13.3	--	<.2 gal
9/20/2012	IM	13.3	--	<.2 gal
12/18/2012	13.2	13.3	0.1	<.2 gal
4/16/2013	IM	12.99	--	<.2 gal
10/15/2013	IM	12.99	--	<.2 gal

4/24/2014	IM	14.7	--	--
10/14/2014	IM	13.13	--	--
5/28/2015	IM		--	--
10/29/2015	IM		--	--
4/13/2016	IM		--	--
9/9/2016*	13.35	14.5	1.15	~.5 gal
10/20/2016*	13.2	13.9	0.6	<.2 gal
2/15/2017*	IM	--	0.6	<.2 gal
4/11/2017*	13.85	14.6	0.75	<.2 gal

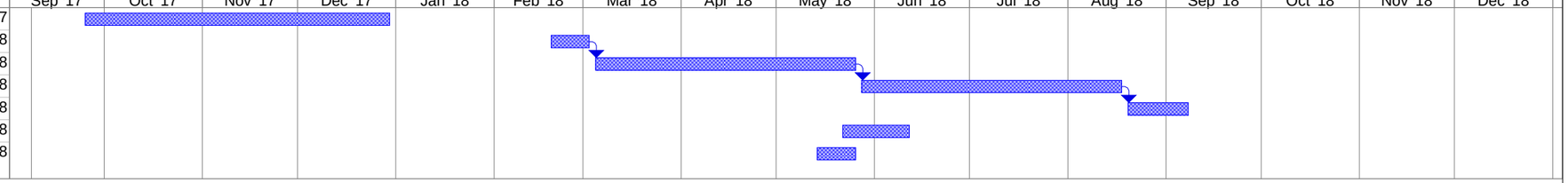
Notes:
LNAPL denotes Light Non-Aqueous Phase Liquid.
* denotes LNAPL measurement estimated from absorbent sock liner smear.
Depth to LNAPL and water measured from Top-of-casing.
IM denotes immeasurable amount of LNAPL,no measurement could be collected either due to minimal thickness of LNAPL or LNAPL coating the probe not allowing for accurate measurement.
Absorbent sock placed in well
UNK denotes unknown

Appendix C

IRA Implementation Schedule

Project Schedule
RACER Trust Hemphill Road Industrial Land
Burton, Michigan

ID	Task Name	Duration	Start	Finish
1	**RAP Submittal/MDEQ Approval**	70 days	Mon 9/25/17	Fri 12/29/17
2	**Direct Contact Cover Work Plan**	10 days	Mon 2/19/18	Fri 3/2/18
3	**MDEQ Work Plan approval**	60 days	Mon 3/5/18	Fri 5/25/18
4	**CAP Bid and Contract Award**	60 days	Mon 5/28/18	Fri 8/17/18
5	**Direct Contact Cover Installation**	15 days	Mon 8/20/18	Fri 9/7/18
6	**Deed Restriction Preparation & Filing**	15 days	Tue 5/22/18	Mon 6/11/18
7	**Monitoring Well Abandonment & Reporting**	10 days	Mon 5/14/18	Fri 5/25/18



Project: App C Schedule 9-8-2017 r1
Date: Fri 9/8/17

Task	Project Summary	Inactive Task	Duration-only	Finish-only
Split	External Tasks	Inactive Milestone	Manual Summary Rollup	Progress
Milestone	External Milestone	Inactive Summary	Manual Summary	Deadline
Summary	Inactive Task	Manual Task	Start-only	

Appendix D

Zoning Map

CITY OF BURTON

ZONING DISTRICTS MAP

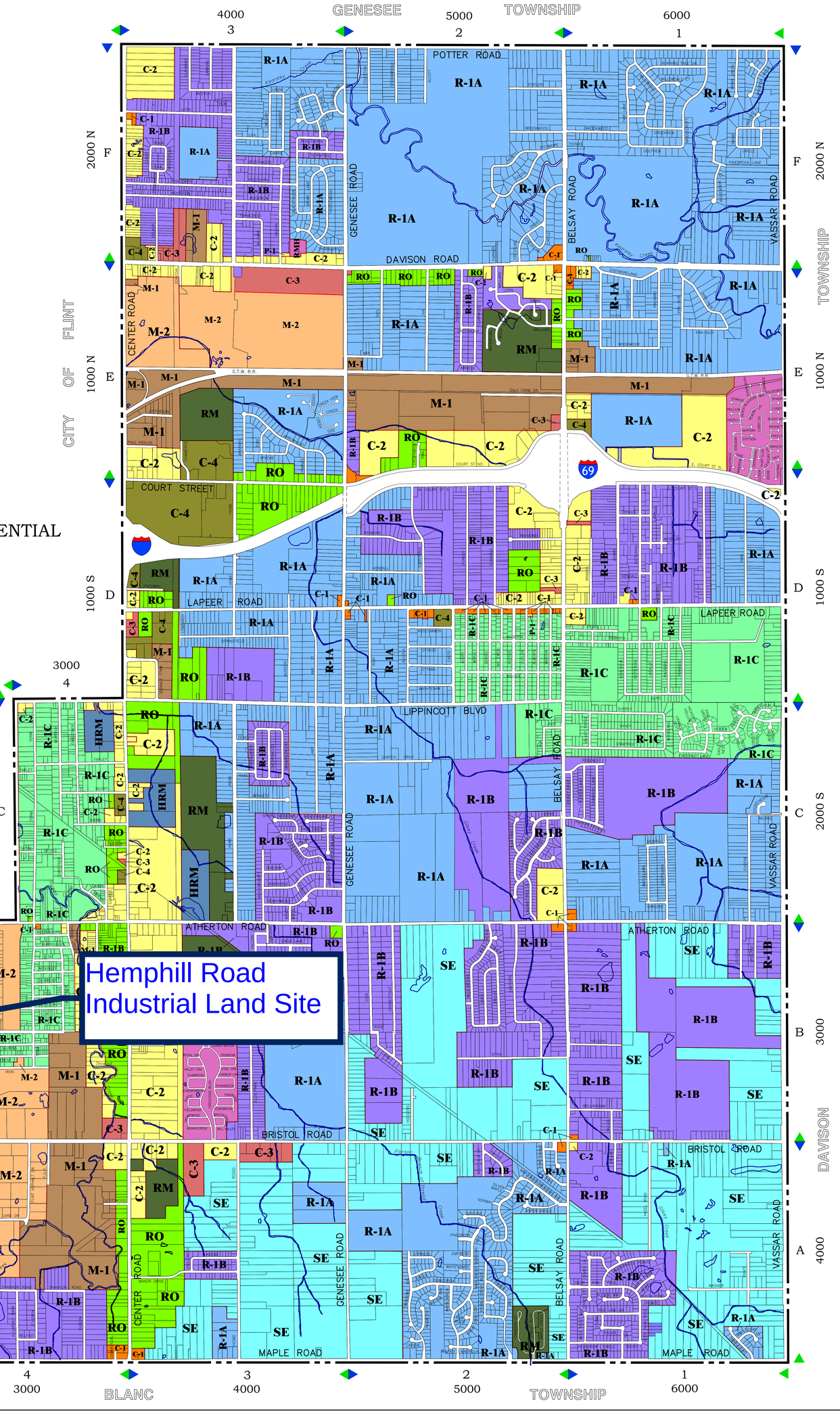
C-1	LOCAL BUSINESS
C-2	GENERAL BUSINESS
C-3	HIGHWAY ORIENTED BUSINESS
C-4	PLANNED SHOPPING CENTER
RO	RESTRICTED OFFICE
M-1	LIGHT INDUSTRIAL
M-2	GENERAL INDUSTRIAL
P-1	VEHICLE PARKING
R-1A	SINGLE FAMILY RESIDENTIAL
R-1B	SINGLE FAMILY RESIDENTIAL
R-1C	SINGLE FAMILY RESIDENTIAL
RM	MULTIPLE FAMILY RESIDENTIAL
SE	SUBURBAN ESTATE RESIDENTIAL
HRM	HIGH RISE / MULTIPLE FAMILY RESIDENTIAL
RMH	MOBILE HOME PARK

PAULA ZELENKO, MAYOR

SCALE
NOT TO SCALE

		3	2	1	
		10	11	12	
		15	14	13	
	21	22	23	24	
30	29	28	27	26	25
31	32	33	34	35	36

SECTION MAP



STREET INDEX

DATA FROM CITY OF BURTON
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TIME OF PRINTING, AND ARE
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CITY OF BURTON
DEPARTMENT OF PUBLIC
DRAWN BY: J.M.R
UPDATED: OCTOBER 2015 BY
PER LATEST ZONING CASE

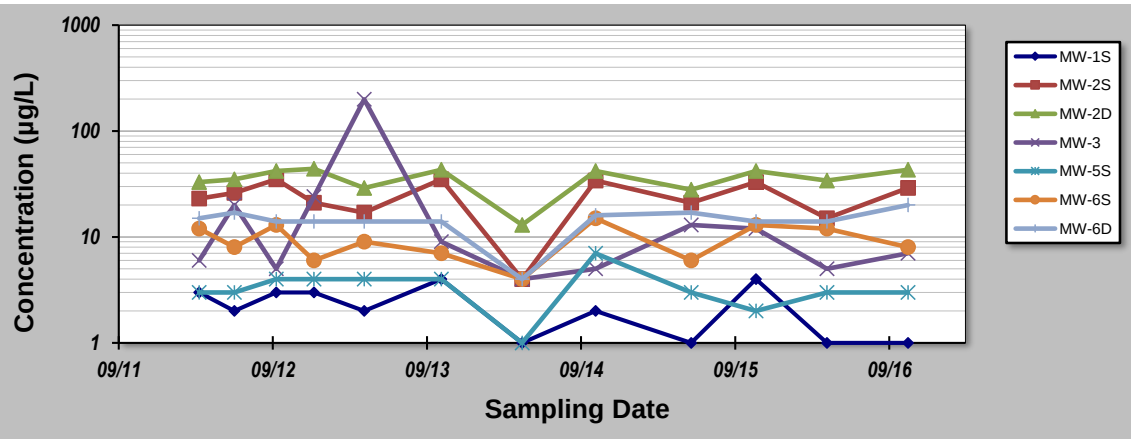
Appendix E

Groundwater Trend Analysis

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	1-Apr-17	Job ID:	64740
Facility Name:	RACER- HRIL	Constituent:	Arsenic
Conducted By:	O'Brien & Gere	Concentration Units:	µg/L

Sampling Point ID:	MW-1S	MW-2S	MW-2D	MW-3	MW-5S	MW-6S	MW-6D
Sampling Event	Sampling Date	ARSENIC CONCENTRATION (µg/L)						
1	22-Mar-12	3	23	33	6	3	12	15
2	13-Jun-12	2	26	35	20	3	8	17
3	20-Sep-12	3	35	42	5	4	13	14
4	18-Dec-12	3	21	44	24	4	6	14
5	16-Apr-13	2	17	29	199	4	9	14
6	15-Oct-13	4	35	43	9	4	7	14
7	24-Apr-14	1	4	13	4	1	4	4
8	14-Oct-14	2	34	42	5	7	15	16
9	28-May-15	1	21	28	13	3	6	17
10	28-Oct-15	4	33	42	12	2	13	14
11	13-Apr-16	1	15	34	5	3	12	14
12	21-Oct-16	1	29	43	7	3	8	20
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.51	0.39	0.26	2.13	0.42	0.37	0.26
Mann-Kendall Statistic (S):		-21	-8	4	-9	-8	-2	4
Confidence Factor:		91.3%	68.1%	58.0%	70.4%	68.1%	52.7%	58.0%
Concentration Trend:		Prob. Decreasing	Stable	No Trend	No Trend	Stable	Stable	No Trend



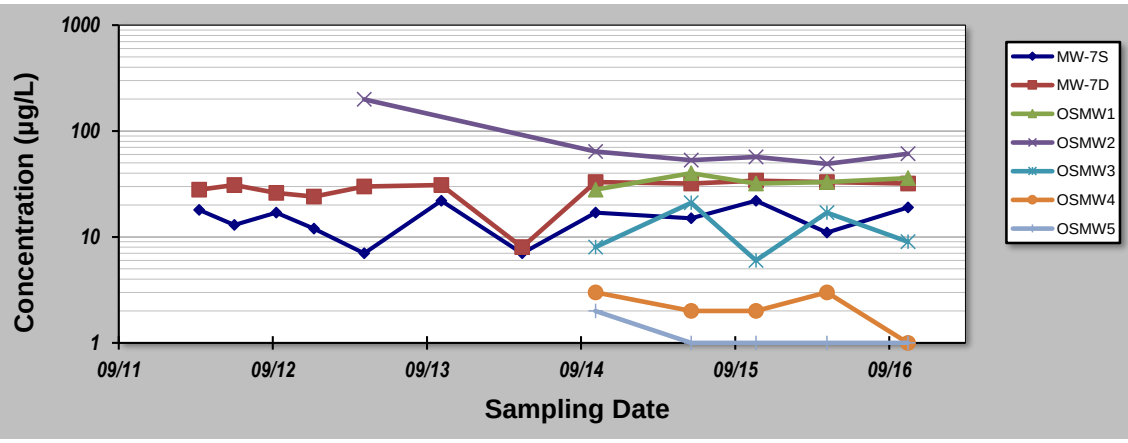
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.
4. -- Indicates that the monitoring well was not sampled.
5. Non-detect results were input as half the value of the detection limit.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	1-Apr-17	Job ID:	64740
Facility Name:	Hemphill Road Industrial Landfill	Constituent:	Arsenic
Conducted By:	O'Brien & Gere	Concentration Units:	µg/L

Sampling Point ID:	MW-7S	MW-7D	OSMW1	OSMW2	OSMW3	OSMW4	OSMW5
Sampling Event	Sampling Date	ARSENIC CONCENTRATION (µg/L)						
1	22-Mar-12	18	28					
2	13-Jun-12	13	31					
3	20-Sep-12	17	26					
4	18-Dec-12	12	24					
5	16-Apr-13	7	30		199			
6	15-Oct-13	22	31					
7	24-Apr-14	7	8					
8	14-Oct-14	17	33	28	64	8	3	2
9	28-May-15	15	32	40	53	21	2	1
10	28-Oct-15	22	34	32	57	6	2	1
11	13-Apr-16	11	33	33	49	17	3	1
12	21-Oct-16	19	32	36	61	9	1	1
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.34	0.25	0.13	0.72	0.53	0.38	0.37
Mann-Kendall Statistic (S):		3	29	4	-7	0	-4	-4
Confidence Factor:		55.4%	97.4%	75.8%	86.4%	40.8%	75.8%	75.8%
Concentration Trend:		No Trend	Increasing	No Trend	Stable	Stable	Stable	Stable



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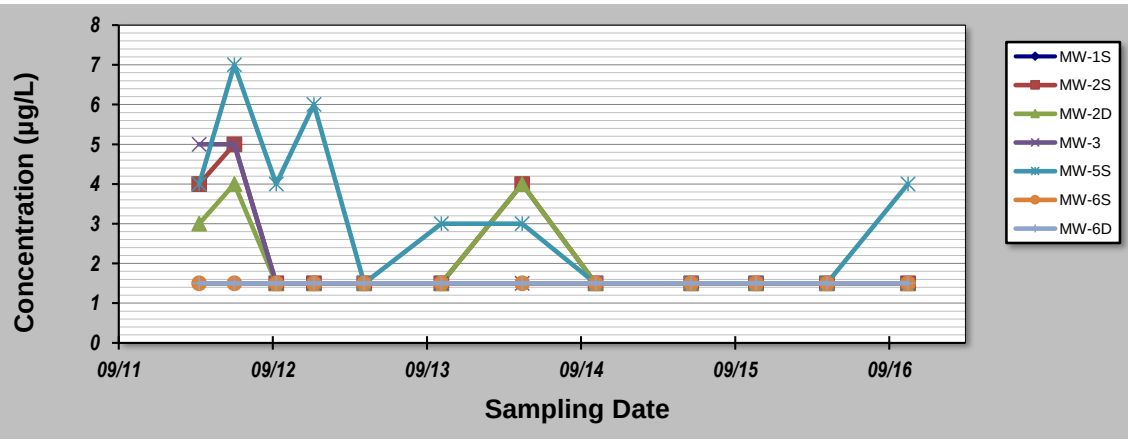
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	1-Apr-17	Job ID:	64740
Facility Name:	Hemphill Road Industrial Landfill	Constituent:	Lead
Conducted By:	O'Brien & Gere	Concentration Units:	µg/L

Sampling Point ID:	MW-1S	MW-2S	MW-2D	MW-3	MW-5S	MW-6S	MW-6D
Sampling Event	Sampling Date	LEAD CONCENTRATION (µg/L)						
1	22-Mar-12	1.5	4	3	5	4	1.5	1.5
2	13-Jun-12	1.5	5	4	5	7	1.5	1.5
3	20-Sep-12	1.5	1.5	1.5	1.5	4	1.5	1.5
4	18-Dec-12	1.5	1.5	1.5	1.5	6	1.5	1.5
5	16-Apr-13	1.5	1.5	1.5	1.5	1.5	1.5	1.5
6	15-Oct-13	1.5	1.5	1.5	1.5	3	1.5	1.5
7	24-Apr-14	1.5	4	4	1.5	3	1.5	1.5
8	14-Oct-14	1.5	1.5	1.5	1.5	1.5	1.5	1.5
9	28-May-15	1.5	1.5	1.5	1.5	1.5	1.5	1.5
10	28-Oct-15	1.5	1.5	1.5	1.5	1.5	1.5	1.5
11	13-Apr-16	1.5	1.5	1.5	1.5	1.5	1.5	1.5
12	21-Oct-16	1.5	1.5	1.5	1.5	4	1.5	1.5
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.00	0.59	0.49	0.65	0.58	0.00	0.00
Mann-Kendall Statistic (S):		0	-19	-17	-20	-28	0	0
Confidence Factor:		47.3%	88.9%	86.0%	90.2%	96.9%	47.3%	47.3%
Concentration Trend:		Stable	Stable	Stable	Prob. Decreasing	Decreasing	Stable	Stable



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

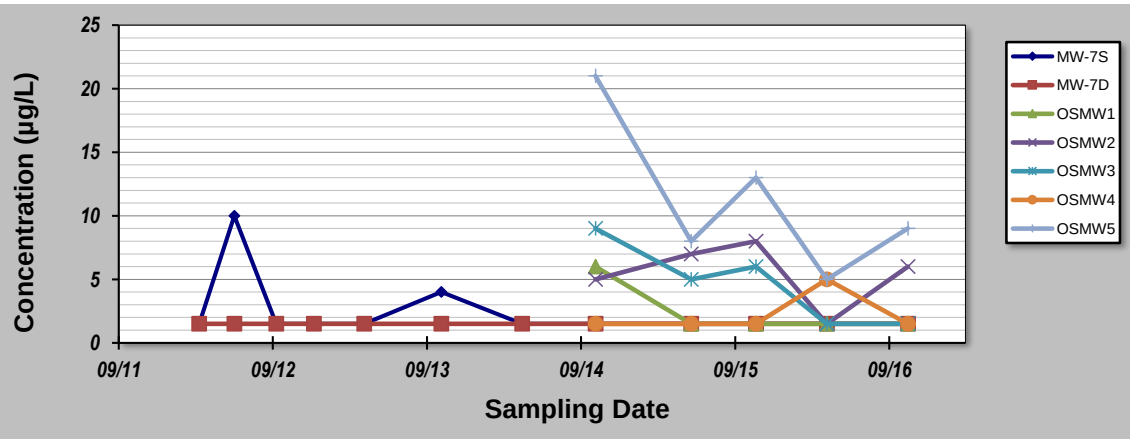
4 -- Indicates that the monitoring well was not sampled.

5 Non-detect results were input as half the value of the detection limit.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	1-Apr-17	Job ID:	64740
Facility Name:	Hemphill Road Industrial Landfill	Constituent:	Lead
Conducted By:	O'Brien & Gere	Concentration Units:	µg/L

Sampling Point ID:	MW-7S	MW-7D	OSMW1	OSMW2	OSMW3	OSMW4	OSMW5
Sampling Event	Sampling Date	LEAD CONCENTRATION (µg/L)						
1	22-Mar-12	1.5	1.5					
2	13-Jun-12	10	1.5					
3	20-Sep-12	1.5	1.5					
4	18-Dec-12	1.5	1.5					
5	16-Apr-13	1.5	1.5					
6	15-Oct-13	4	1.5					
7	24-Apr-14	1.5	1.5					
8	14-Oct-14	1.5	1.5	6	5	9	1.5	21
9	28-May-15	1.5	1.5	1.5	7	5	1.5	8
10	28-Oct-15	1.5	1.5	1.5	8	6	1.5	13
11	13-Apr-16	1.5	1.5	1.5	1.5	1.5	5	5
12	21-Oct-16	1.5	1.5	1.5	6	1.5	1.5	9
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.03	0.00	0.84	0.45	0.69	0.71	0.55
Mann-Kendall Statistic (S):		-11	0	-4	0	-7	2	-4
Confidence Factor:		74.9%	47.3%	75.8%	40.8%	92.1%	59.2%	75.8%
Concentration Trend:		No Trend	Stable	Stable	Stable	Prob. Decreasing	No Trend	Stable



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.
4. -- Indicates that the monitoring well was not sampled.
5. Non-detect results were input as half the value of the detection limit.

Appendix F

Draft Declaration of Restrictive Covenant

AMENDED AND RESTATED
DECLARATION OF RESTRICTIVE COVENANT

MDEQ Reference No: RC-RRD-201-17-TBA
MDEQ Approval Date: TBA, 2017

This Amended and Restated Declaration of Restrictive Covenant (Amended Restrictive Covenant) has been recorded with the Genesee County Register of Deeds to protect public health, safety, welfare and the environment pursuant to the applicable Sections of Part 201, Environmental Remediation, Michigan Compiled Laws (MCL) 324.20101, *et seq*. (Part 201) of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended, MCL 324.101, *et seq.*

This Amended Restrictive Covenant is made by RACER Properties LLC, the address of which is 500 Woodward Avenue, Suite 2650, Detroit, MI 48226, the Grantor and an entity wholly owned by the Revitalizing Auto Communities Environmental Response Trust (Trust), and the current fee title holder of the property, for the benefit of the Grantee, State of Michigan, Department of Environment Quality (MDEQ), the address of which is 525 West Allegan Street, P.O. Box 30473, Lansing, MI 48909-7973.

The recording of this Amended Restrictive Covenant amends and restates in its entirety the Declaration of Restrictive Covenant dated as of September 27, 2013, and recorded with the Genesee County Register of Deeds on September 30, 2013 as Instrument Number 201309300105448 (2013 Restrictive Covenant). To the extent this Amended Restrictive Covenant conflicts with the 2013 Restrictive Covenant, the terms of this Amended Restrictive Covenant shall govern and control.

This Amended Restrictive Covenant has been made to prohibit or restrict activities that could result in unacceptable exposure to environmental contamination present at the property commonly known as Hemphill Industrial Land located at 3289 South Saginaw Street, Burton, Genessee County, Michigan, Site ID# 25000686, Tax Identification Number 59-29-300-024 (7.868 acres), and legally described and illustrated in Exhibit 1 (Property or Site), and to assure that the use of the Property is consistent with the exposure assumptions used to develop the nonresidential clean-up criteria under Section 20120a(1)(b) of NREPA and the exposure control measures relied upon at the Property.

The MDEQ's approval of this Amended and Restated Declaration of Restrictive Covenant is documented by the letter attached as Exhibit 2.

Recording of this Amended Restrictive Covenant with the Genesee County Register of Deeds is designed to: (1) restrict land uses at the Property; (2) restrict exposures to groundwater on the Property; (3) require any future work or other activities on the Property by or for the Owner to be conducted in conformance with; i) applicable Michigan Department of Environmental Quality (MDEQ) soil relocation requirements including but not limited to MCL 324.20120c and any related administrative rules and MDEQ guidance, and ii) applicable due care obligations under MCL 324.20107a and associated administrative rules and guidance, and the Hazardous Waste Operations and Emergency Response Standard (HAZWOPER), 29 Code of Federal Regulations Part 1910; and (4) prohibit structures from being constructed on the Property, unless the Owner has considered the potential for vapor intrusion, if any, and has taken steps to address such potential, if necessary, as may be required by MDEQ.

The land or resource use restrictions contained in this Amended Restrictive Covenant are based upon information available at the time this document was recorded. Future changes in the environmental condition of the Property or changes in the cleanup criteria developed under Part 201; the discovery of environmental conditions at the Property that were not known at the time this document was recorded; or use of the Property in a manner inconsistent with the restrictions described herein, may result in this Amended Restrictive Covenant not being protective of public health, safety, and welfare and the environment. Additional restrictions may become necessary.

This Amended Restrictive Covenant cites laws, rules and regulations in effect at the time it was recorded. To the extent those laws, rules or regulations are subsequently amended, replaced or otherwise superseded, this Restrictive Covenant shall be read to incorporate those amending, replacing or otherwise superseding laws, rules and regulations in place of those currently cited herein.

MDEQ recommends that prospective purchasers or users of the Property undertake appropriate due diligence prior to acquiring or using this Property and undertake appropriate actions to comply with the due care requirements of Section 20107a of the NREPA.

Definitions

“MDEQ" means the Michigan Department of Environmental Quality, its successor entities, and those persons or entities acting on its behalf.

"Owner" means at any given time the then current fee title holder(s) of the Property or any portion thereof, including the fee title holder’s lessees and those persons or entities authorized to act on its behalf. The title to the Property is currently held by RACER Properties LLC, an entity wholly owned by the Trust (RACER Properties and the Trust are collectively referred to herein as “RACER”).

"RACER" means the Revitalizing Auto Communities Environmental Response Trust (or Trust), which on March 31, 2011 was established and assumed the rights, title, and interest of Motors Liquidation Company in and to the Property pursuant to an Environmental Response Trust Consent Decree and Settlement Agreement (Settlement Agreement) entered by the U.S. Bankruptcy Court for the Southern District of New York on March 29, 2011, in the case of *In re*

Motors Liquidation Company, et al., Debtors, Case No. 09-50026 (REG), among the Debtors, the United States of America, certain states including the State of Michigan, the Saint Regis Mohawk Tribe, and EPLET, LLC, (not individually but solely in its representative capacity as Administrative Trustee of the Trust) and RACER Properties LLC.

All other terms used in this document which are defined in Part 3 Definitions, Part 201 of NREPA, or Part 201 Rules under the Michigan Administrative Code (MAC), shall have the same meaning in this document as in those statutes and rules as on the date this Amended Restrictive Covenant is made.

Summary of Response Activities

The Property is part of the former Hemphill Landfill that operated from sometime after 1941 until approximately 1958. Industrial and municipal waste has been placed over a portion of the Property. Investigations of the Property were completed from 1996 through June 2016. The investigations included soil, groundwater and waste fill characterization.

Analysis of soil (including waste fill) and groundwater (including water perched in waste fill) samples collected at the Property identified select volatile organic compounds (VOCs) and metals. It is noted that certain detections of benzene, ethylbenzene and xylenes in groundwater are the result of a release from a service station adjacent to the west side of the Property. Exhibit 3 lists the hazardous substances detected above the MDEQ Part 201 Generic Nonresidential Criteria in soil and groundwater. Waste fill areas are illustrated in Exhibit 4 and the fill is covered with soil or asphalt. The direct contact exposure barrier area for lead-impacted soil is illustrated in Exhibit 5.

Residual light non-aqueous phase liquid (LNAPL), as defined in MDEQ's June 2014, Non-Aqueous Phase Liquid (NAPL) Characterization, Remediation and Management for Petroleum Releases, RRD Resource Materials-25-2014-01, remains in place at the Property. The LNAPL exists below the ground surface at approximately fourteen to sixteen feet below ground surface (bgs) (from an elevation of approximately 750.3 feet above mean sea level (AMSL) to 752.3 feet AMSL). The residual LNAPL area is illustrated in Exhibit 6. The residual LNAPL present appears to be a highly weathered and viscous waste oil. Contaminants present in this area were properly characterized and assessed, and will remain in place at the Property. The restrictions provided for in this Restrictive Covenant serve to prevent exacerbation of and/or unacceptable exposure to hazardous substances as a result of conditions created by the presence of residual LNAPL.

At the time this Amended Restrictive Covenant was recorded, RACER was working with MDEQ to obtain no further action approval pursuant to the requirements of Section 20120b(3) of NREPA.

Copies of all documents related to this matter are located in the MDEQ Lansing District Remediation and Redevelopment Division (RRD) Office.

NOW THEREFORE,

Declaration of Land Use or Resource Use Restrictions

RACER hereby declares and covenants that the Property shall be subject to the following restrictions and conditions and intends that said restrictions and covenants shall run with the land, and may be enforced in perpetuity against the Owner by the following entities: (1) MDEQ and (2) RACER or its successor.

1. Land Use Prohibitions. The Owner shall refrain from or otherwise prohibit all uses of the Property that are not compatible with or are inconsistent with the exposure assumptions for the nonresidential land use category under MCL 324.20120a(1)(b) and generally described in the Description of Allowable Uses, attached hereto as Exhibit 7.

   Part 201 cleanup criteria for land use-based response activities are located in the Government Documents Section of the State of Michigan Library, MCL 324.201201, *et seq*., effective December 31, 2013, and MAC Rules 299.5701 – 299.5727, also effective December 31, 2013.

2. Activities Prohibited. The Owner shall refrain from or otherwise prohibit activities on the Property that may result in exposures above the nonresidential land use category. These prohibited activities include:

   a. Installation or use of drinking water or irrigation wells on the Property.

   b. Installation or use of groundwater extraction wells on the Property except for wells and devices that are part of an MDEQ-approved response activity and for short-term dewatering for construction purposes, provided the dewatering, including management and disposal of the groundwater, is conducted in accordance with all applicable environmental laws and does not cause or result in a new release, exacerbation of any pre-existing environmental condition or any other violation of environmental laws.

   c. Disturbance, damage, modification or removal any monitoring wells (if present) on the Property without the prior written approval of MDEQ and RACER. Monitoring wells present at the Property as of the date of this Amended Restrictive Covenant are identified in Exhibit 8.

   d. Any excavation or other intrusive activities, including but not limited to removal, disturbing, damaging, interfering or otherwise negatively affecting the integrity, effectiveness and operation of the exposure barriers (concrete, soil or vegetative cover), or monitoring wells except if such activity is: temporary (less than sixty (60) days in duration); are part of an MDEQ-approved response activity; are conducted in accordance with all applicable environmental laws; do not cause or result in a new release, exacerbation of any pre-existing environmental condition or any other violation of environmental laws; are approved by RACER in writing in advance;

and repaired to at least the pre-disturbance condition within fourteen (14) days of work completion. The Owner will provide notice to MDEQ of any activities covered by this provision. Monitoring well locations are shown in Exhibit 8. The exposure barrier location is shown and its respective reference elevations are identified in Exhibit 5.

e. Relocation of contaminated soils on the Property except as provided for under Part 201, Section 20120c, MCL 324.20120c.

f. "Treatment", "storage", "disposal" or "release" of any Hazardous Substances, on, at, or below the Property, in a manner that would require a permit under the Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901 *et seq.* (RCRA), or equivalent State law, except pursuant to a plan or permit approved in writing by MDEQ.

g. Removal of any slabs, pavement or other impervious surface on the Property, unless Owner takes responsibility for any and all obligations under environmental laws arising from any such removal, alteration or disturbance, whether or not caused by, arising from or related to, an environmental condition.

h. Building or occupying any structure without first completing one of the following: Option 1) evaluate and determine, in accordance with applicable environmental laws, rules or regulations and to the satisfaction of MDEQ that no unacceptable vapor intrusion risks to human health exist in any existing or newly constructed site buildings; or Option 2) with the concurrence from MDEQ install, operate and maintain a vapor barrier and/or mitigation system designed to eliminate the potential for subsurface vapor phase hazardous substances to migrate into any building at concentrations greater than applicable criteria or otherwise mitigate such potential. This prohibition does not apply to short-term (sixty (60) days or less), occupancy of a building for purposes of construction, renovation, repair or other short-term activities as long as adequate health and safety precautions are employed during these activities and they are performed in compliance with Section 20107a of NREPA.

   If Option 2 above is selected, the Owner shall install and thereafter maintain a vapor barrier and/or install and thereafter operate and maintain a vapor intrusion mitigation system in accordance with applicable standards and criteria at the time, for the purpose of mitigating the potential intrusion of soil vapor below any human-occupied building constructed on the property after the date of this Amended Restrictive Covenant, until it is determined by MDEQ that a vapor barrier or mitigation system is no longer necessary in accordance with Option 1 above.

.

3. Contaminated Soil Management. The Owner shall manage contaminated soils, media and/or debris (if any) and all other soils located at the Property whether encountered on the surface or during below grade work in accordance with any applicable requirements of Part 111, Subtitle C of RCRA, the administrative rules promulgated pursuant to Part

111 and RCRA, and all other relevant State and Federal laws, including but not limited to MCL 324.20120c.

4. Access. The Owner shall grant MDEQ and RACER the right to enter the Property at reasonable times (1) to conduct and complete any and all response activities, together with any reasonably needed ingress and egress to the Property and (2) for the purpose of determining and monitoring compliance with this Amended Restrictive Covenant, including the right to take samples and inspect any records relating thereto, and to perform any actions necessary to maintain compliance with Part 201.

5. Notices. Any notice, demand, request, consent, approval or communication that is required to be made or obtained under this Amended Restrictive Covenant shall be made in writing and shall: include a statement that the notice is being made pursuant to the requirements of this Amended Restrictive Covenant; include the MDEQ Reference Number: RC-RRD-201-17-TBA; and be served either personally or sent via first class mail, postage prepaid, as follows:

For MDEQ:

Remediation and Redevelopment Division Chief
Michigan Department of Environmental Quality
P.O. Box 30241
Lansing, MI 48909-7926

For RACER:

RACER Trust
Attn: Michigan Cleanup Manager
500 Woodward Avenue, Suite 2650
Detroit, MI 48226

6. Conveyance of Property Interest. The Owner shall provide notice to MDEQ and RACER at the addresses in Paragraph 5 of the Owner's intent to transfer any interest in the Property at least fourteen (14) days prior to consummating the conveyance. A conveyance of title, easement or other interest in the Property shall not be consummated by the Owner without adequate and complete provision for compliance with the terms and conditions of this Amended Restrictive Covenant and the applicable provisions of MCL 324.20116. Owner shall include in any instrument conveying any interest in any portion of the Property, including, but not limited to, deeds, leases and mortgages, a notice which is in substantially the following form:

NOTICE: THE INTEREST CONVEYED HEREBY IS SUBJECT TO A DECLARATION OF RESTRICTIVE COVENANT DATED _____ [*month, day, year*], AND RECORDED WITH THE GENESEE COUNTY REGISTER OF DEEDS, LIBER _____, PAGE _____.

A copy of this Amended Restrictive Covenant shall be provided to all future owners, heirs, successors, lessees, easement holders, assigns and transferees by the person transferring the interest.

7. Term. This Amended Restrictive Covenant shall run with the Property and shall be binding on the Owner, and all current and future successors, lessees, easement holders, their assigns and their authorized agents, employees or persons acting under their direction and control. This Amended Restrictive Covenant may only be modified or rescinded with the written approval of MDEQ and RACER.

8. Modification/ Release/Rescission. Owner may request in writing to MDEQ and RACER, at the addresses provided in Paragraph 5, modifications to, or release or rescission of, this Amended Restrictive Covenant. This Amended Restrictive Covenant may be modified, released or rescinded only with the written approval of MDEQ and RACER. Any approved modification to, or release or rescission of, this Amended Restrictive Covenant shall be filed with the Genesee County Registrar of Deeds by the Owner and a certified copy of such modification or release shall be returned to MDEQ and RACER at the addresses provided in Paragraph 5.

9. Enforcement. RACER is entitled to enforce the restrictions and covenants in this Amended Restrictive Covenant by specific performance or other legal action in a court of competent jurisdiction against the current and subsequent Owners of all or part of the Property. MDEQ is entitled to enforce the restrictions and covenants in this Amended Restrictive Covenant by specific performance or other legal action in a court of competent jurisdiction. All remedies available hereunder shall be in addition to any and all other remedies at law or equity.

10. Severability. If any provision of this Amended Restrictive Covenant is held to be invalid by a court of competent jurisdiction, the invalidity of such provision shall not affect the validity of any other provisions of this Amended Restrictive Covenant and all other provisions shall continue to remain in full force and effect.

11. Limitation on RACER's Liability. The liability of RACER and the Administrative Trustee under this Amended Restrictive Covenant is limited by the terms and conditions of the Settlement Agreement, which are incorporated herein by reference.

12. Compliance with this Amended Restrictive Covenant and Applicable Due Care Obligations. The Owner shall at all times comply with the conditions and restrictions of this Amended Restrictive Covenant and the applicable Due Care obligations under Section 107a of NREPA, MCL 324.20107a, under the applicable Michigan administrative rules R299.51003 and under the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§ 9601, *et seq*. The Owner agrees to maintain records of its activities to comply with this Amended Restrictive Covenant and applicable Due Care obligations, and shall timely supply copies of any records documenting such compliance upon request from MDEQ or RACER.

13. Authority to Execute Amended Restrictive Covenant. The undersigned person executing this Amended Restrictive Covenant represents and certifies that he is duly authorized and has been empowered to execute and deliver this Amended Restrictive Covenant.

14. Miscellaneous.

a) Controlling Law. The interpretation and performance of this Amended Restrictive Covenant shall be governed by the laws of the United States as to the obligations referred to in the Settlement Agreement and by the laws and regulations of the State of Michigan for all other purposes hereunder (without reference to choice of laws principles thereof). The right to enforce the conditions and restrictions in this Amended Restrictive Covenant are in addition to other rights and remedies that may be available, including, but not limited to, administrative and judicial remedies under CERCLA or Part 201 of NREPA.

b) Liberal Construction. Any general rule of construction to the contrary notwithstanding, this Amended Restrictive Covenant shall be liberally construed to affect the purpose of this Amended Restrictive Covenant, and the policy and purpose of NREPA and the land use restrictions and prospective use limitations required by Part 201. If any provision of this Amended Restrictive Covenant is found to be ambiguous, an interpretation consistent with the purpose of this Amended Restrictive Covenant that would render the provision valid shall be favored over any interpretation that would render it invalid.

c) Entire Agreement. This Amended Restrictive Covenant and its attachments and appendices supersedes all prior discussions, negotiations, understandings or agreements relating specifically to this Amended Restrictive Covenant, all of which are merged herein.

[signature page follows]

IN WITNESS WHEREOF, RACER Properties LLC has caused this Amended Restrictive Covenant, RC-RRD-201-17-TBA, to be executed on this _____ day of _____, 2017.

RACER PROPERTIES LLC

By: Revitalizing Auto Communities Environmental Response Trust, Sole Member of RACER Properties LLC

By: EPLET, LLC, acting solely in its capacity as Administrative Trustee of Revitalizing Auto Communities Environmental Response Trust

By: _____
ELLIOTT P. LAWS, not individually, but acting solely in his capacity as Managing Member of EPLET, LLC

* * * * * * *

DISTRICT/STATE OF _____)
) ss.
CITY/COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 2017, by ELLIOTT P. LAWS, not individually, but acting solely in his capacity as Managing Member of EPLET, LLC, a Delaware limited liability company, acting solely in its capacity as Administrative Trustee of Revitalizing Auto Communities Environmental Response Trust, a trust formed under the laws of the State of New York, as Sole Member of RACER Properties LLC, a Delaware limited liability company, on behalf of said limited liability company and said trust.

_____
Notary Public Signature

Name of Notary Public _____
Notary Public, District/State of _____
City/County of _____
My Commission Expires: _____
Acting in the County of _____

This document is exempt from state and county transfer taxes pursuant MCL 207.505(a) and MCL 207.526(a).

Prepared by/Return to:
Carl Garvey, General Counsel
RACER Trust
500 Woodward Avenue, Suite 2650
Detroit, MI 48226

LIST OF EXHIBITS

1 LEGAL DESCRIPTION AND ILLUSTRATION OF PROPERTY
1A – RESTRICTED AND NOTICE AREAS

2 MDEQ DRC APPROVAL LETTER

3 HAZARDOUS SUBSTANCES ABOVE CRITERIA IN SOIL AND GROUNDWATER

4 WASTE FILL AREAS

5 DIRECT CONTACT / EXPOSURE BARRIER AREA

6 RESIDUAL LNAPL AREA

7 DESCRIPTION OF ALLOWABLE USES

8 MONITORING WELLS

EXHIBIT 1

LEGAL DESCRIPTION AND ILLUSTRATION OF PROPERTY

Tax ID: 59-29-300-024

Commonly known as: 3289 South Saginaw St., Burton, MI 48529

Land situated in the City of Burton, County of Genesee, State of Michigan and described as follows:

Part of the Southeast ¼ of Section 30 and part of the Southwest ¼ of Section 29, Township 7 North, Range 7 East, City of Burton, Genesee County, Michigan and more particularly described as follows:

Commencing at the West ¼ corner of Section 29; thence South 89 degrees 14 minutes 00 seconds West 299.08 feet to a point on the East-West ¼ line of Section 30; thence South 09 degrees 03 minutes 00 seconds East 183.34 feet to a point on the East line of South Saginaw Street and the point of beginning; thence continuing South 09 degrees 03 minutes 00 seconds East 200.00 feet; thence North 80 degrees 57 minutes 00 seconds East 125.00 feet; thence South 09 degrees 03 minutes 00 seconds East 175.00 feet; thence North 80 degrees 57 minutes 00 seconds East 125.00 feet; thence South 09 degrees 03 minutes 00 seconds East 420.00 feet; thence North 80 degrees 57 minutes 00 seconds East 300.00 feet; thence North 09 degrees 03 minutes 00 seconds West 845.42 feet; thence South 89 degrees 41 minutes 00 seconds West 264.54 feet; thence South 89 degrees 14 minutes 00 seconds West 140.02 feet; thence South 09 degrees 03 minutes 00 seconds East 110.98 feet; thence South 80 degrees 57 minutes 00 seconds West 150.00 feet to the point of beginning.

Containing 7.868 acres of land, more or less, and subject to any and all recorded easements and rights-of-way.

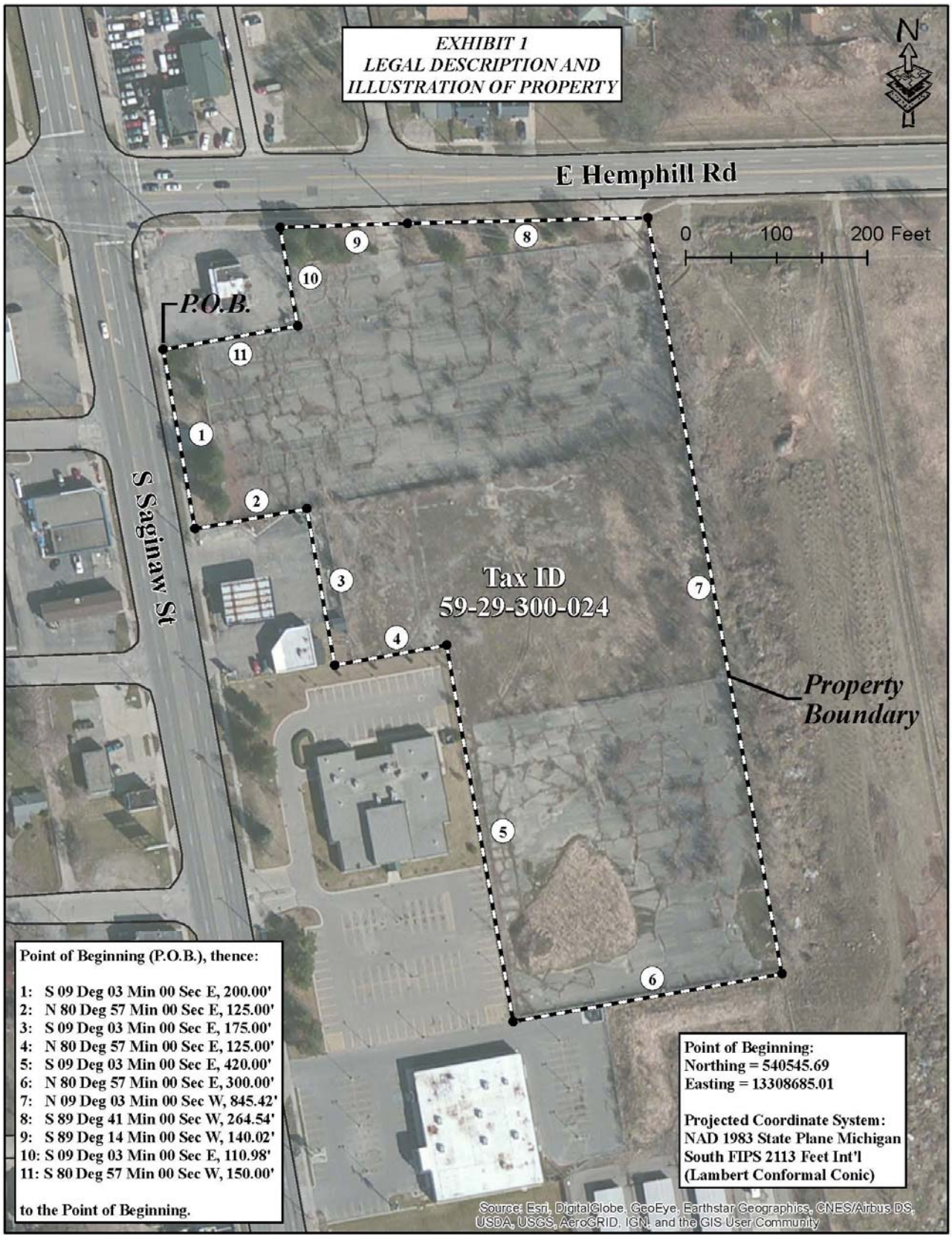


EXHIBIT 1
LEGAL DESCRIPTION AND
ILLUSTRATION OF PROPERTY
N
E Hemphill Rd
0 100 200 Feet
P.O.B.
S Saginaw St
Tax ID
59-29-300-024
Property
Boundary
Point of Beginning (P.O.B.), thence:
1: S 09 Deg 03 Min 00 Sec E, 200.00'
2: N 80 Deg 57 Min 00 Sec E, 125.00'
3: S 09 Deg 03 Min 00 Sec E, 175.00'
4: N 80 Deg 57 Min 00 Sec E, 125.00'
5: S 09 Deg 03 Min 00 Sec E, 420.00'
6: N 80 Deg 57 Min 00 Sec E, 300.00'
7: N 09 Deg 03 Min 00 Sec W, 845.42'
8: S 89 Deg 41 Min 00 Sec W, 264.54'
9: S 89 Deg 14 Min 00 Sec W, 140.02'
10: S 09 Deg 03 Min 00 Sec E, 110.98'
11: S 80 Deg 57 Min 00 Sec W, 150.00'
to the Point of Beginning.
Point of Beginning:
Northing = 540545.69
Easting = 13308685.01
Projected Coordinate System:
NAD 1983 State Plane Michigan
South FIPS 2113 Feet Int'l
(Lambert Conformal Conic)
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS,
USDA, USGS, AeroGRID, IGN, and the GIS User Community

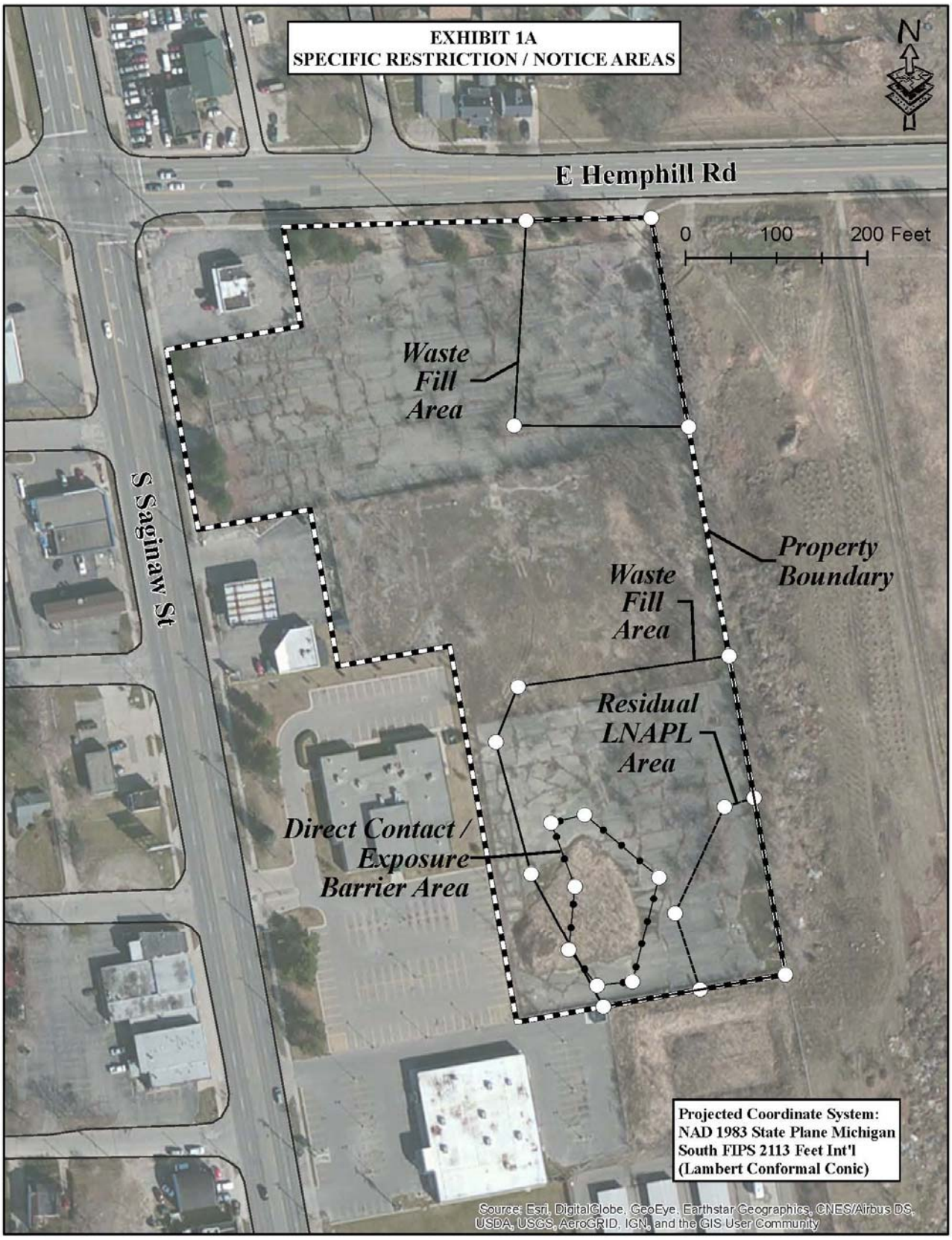


EXHIBIT 1A
SPECIFIC RESTRICTION / NOTICE AREAS
N
E Hemphill Rd
0
100
200 Feet
Waste Fill Area
S Saginaw St
Property Boundary
Waste Fill Area
Residual LNAPL Area
Direct Contact / Exposure Barrier Area
Projected Coordinate System:
NAD 1983 State Plane Michigan South FIPS 2113 Feet Int'l
(Lambert Conformal Conic)
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

EXHIBIT 2
MDEQ DRC APPROVAL LETTER

TO BE INSERTED FOLLOWING MDEQ'S REVIEW AND APPROVAL OF A DRAFT

EXHIBIT 3

HAZARDOUS SUBSTANCES ABOVE CRITERIA IN SOILS AND GROUNDWATER

Media	Substance	Criteria[1] Exceeded
Soil (Including Waste Fill)	Benzene	NRDWP
	Ethylbenzene	NRDWP, GSIP
	Xylenes	NRDWP, GSIP
	Lead	NRDWP, DC

Media	Substance	Criteria[1] Exceeded
Groundwater (Including Water Perched in Waste Fill)	Ethylbenzene	NRDW
	Arsenic	NRDW, GSI
	Lead	NRDW

SOIL
NRDWP- Non-Residential Drinking Water Protection
GSIP – Groundwater Surface Water Interface Protection
DC- Direct Contact

GROUNDWATER
NRDW – Non-Residential Drinking Water Criteria
GSI – Groundwater Surface Water Interface Criteria

1 – MDEQ Part 201Generic Cleanup Criteria – Non-Residential Soil and Groundwater Criteria, Table 1 and Table 2, dated December 30, 2013.

EXHIBIT 4

WASTE FILL AREAS

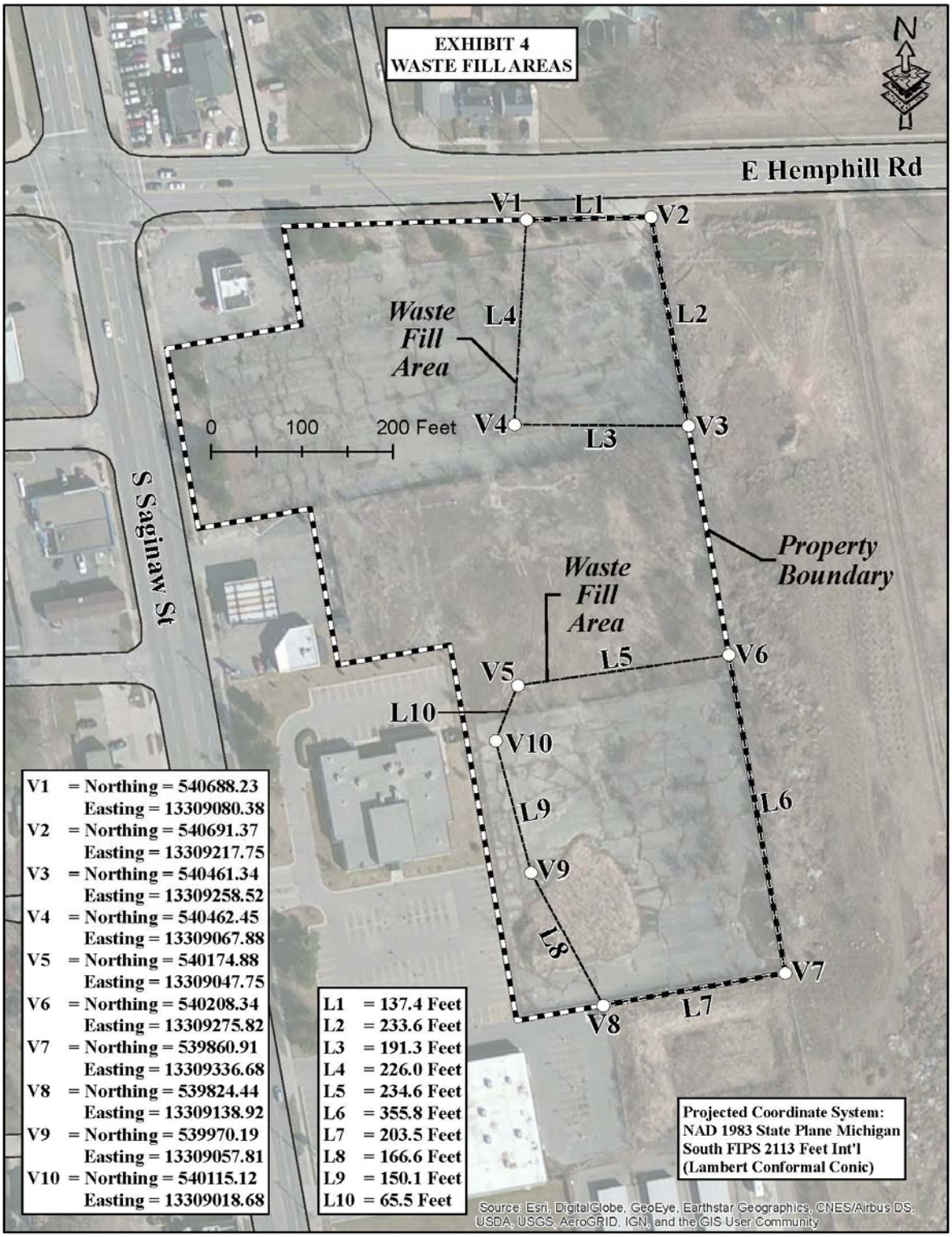


EXHIBIT 5

DIRECT CONTACT / EXPOSURE BARRIER AREA

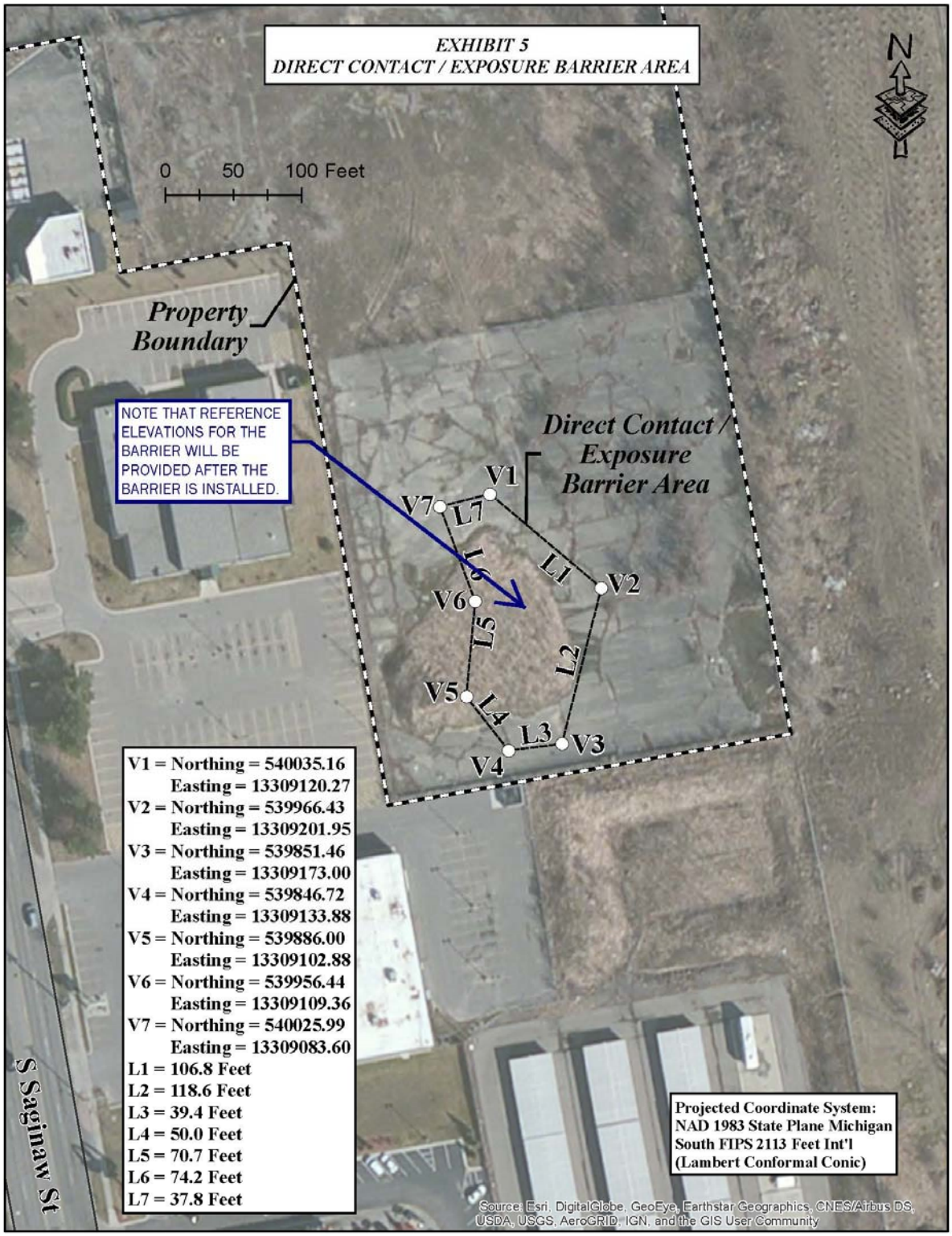


EXHIBIT 6

RESIDUAL LNAPL AREA

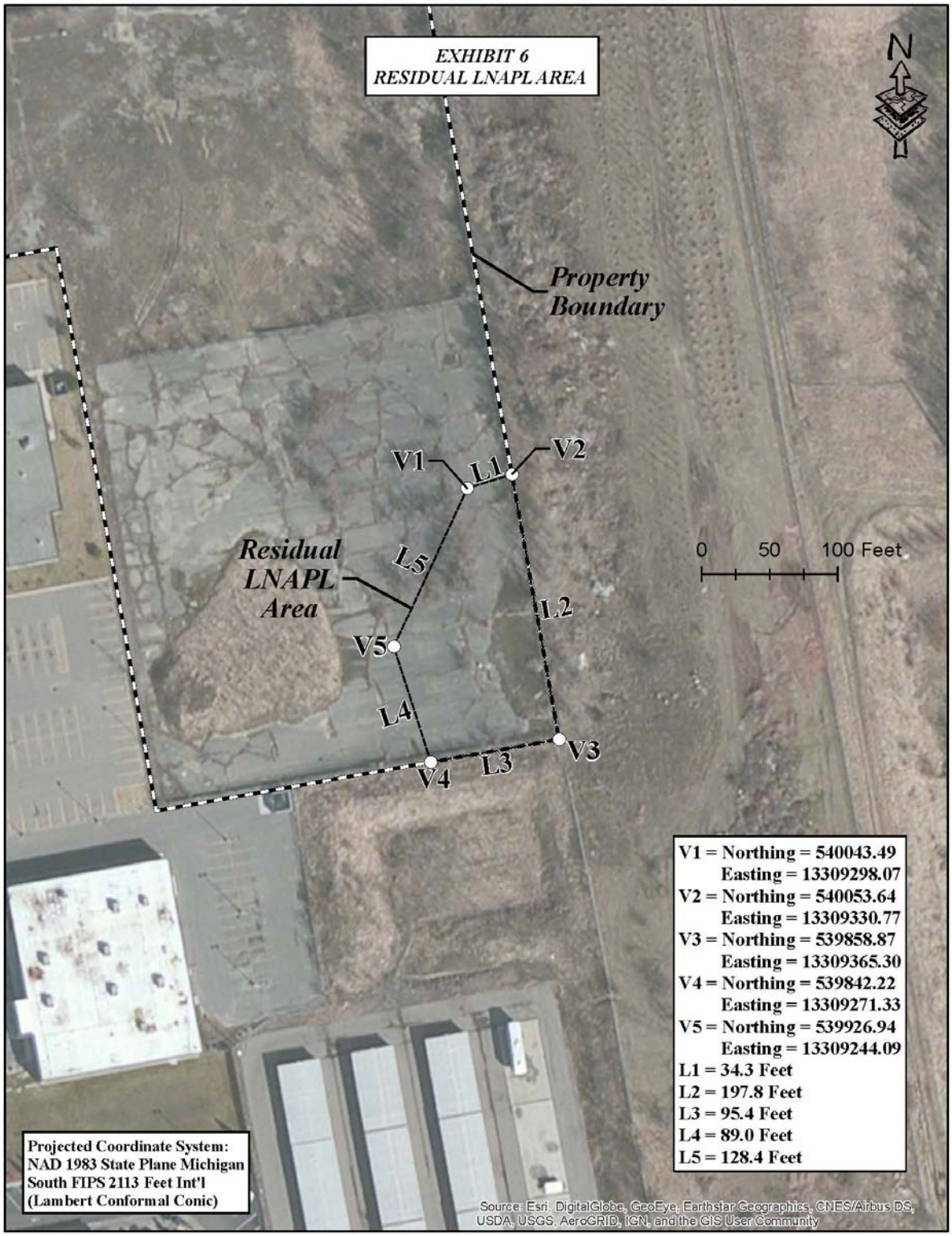


EXHIBIT 7

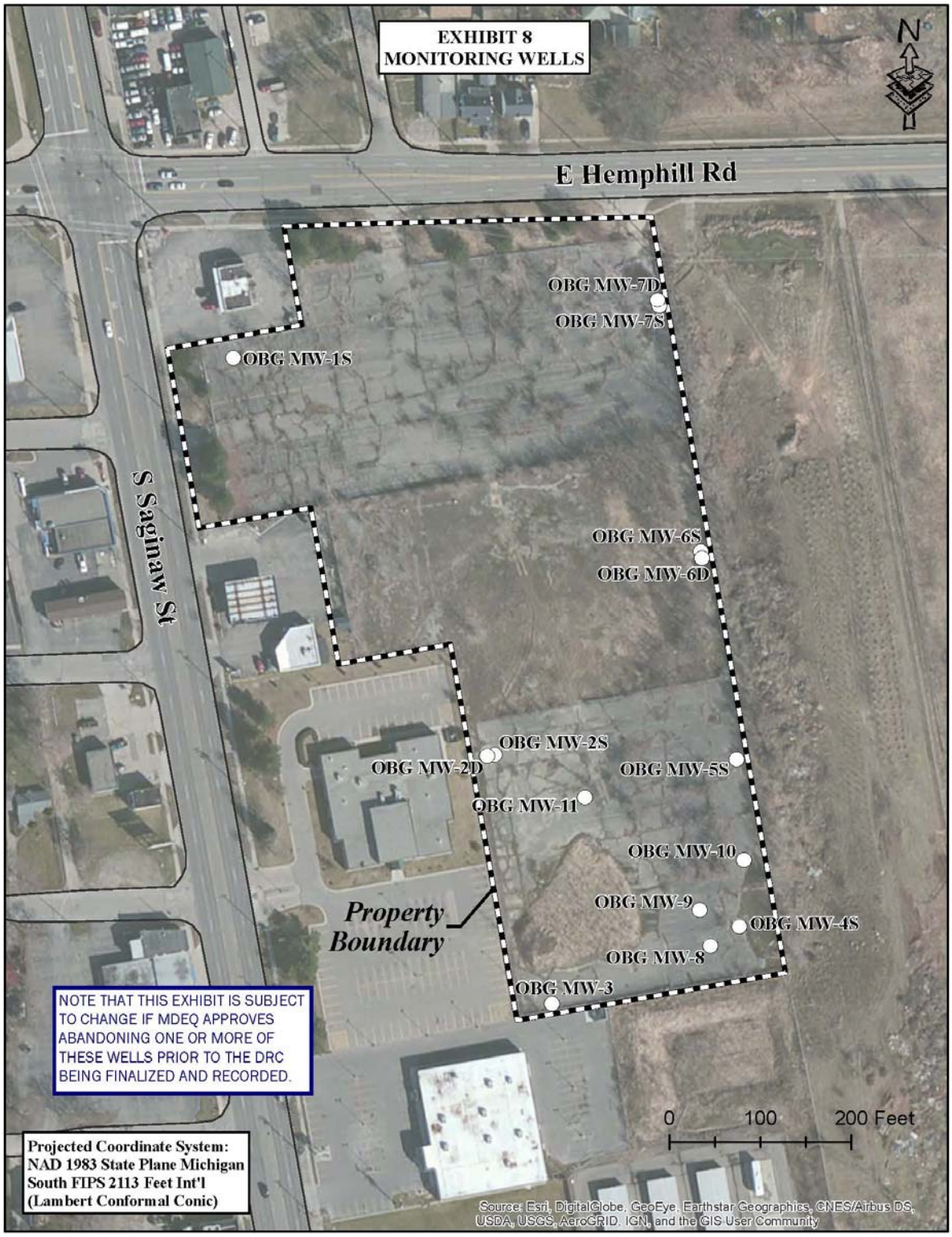
DESCRIPTION OF ALLOWABLE USES

Nonresidential Land Use: This land use is characterized by any use which is not residential in nature and is primarily characterized by industrial and commercial uses. Industrial uses typically involve manufacturing operations engaged in processing and manufacturing of materials or products. Other examples of industrial uses are utility companies, industrial research and development, and petroleum bulk storage. Commercial uses include any business or income-producing use such as commercial warehouses, lumber yards, retail gas stations, auto dealerships and service stations, as well as office buildings, banks, and medical/dental offices (not including hospitals). Commercial uses also include retail businesses whose principal activity is the sale of food or merchandise within an enclosed building and personal service establishments which perform services indoors such as health clubs, barber/beauty salons, photographic studios, etc.

Any residential use is specifically prohibited from the nonresidential land use category. This would include the primary use of the property for human habitation and includes structures such as single family dwellings, multiple family structures, mobile homes, condominiums, and apartment buildings. Residential use is also characterized by any use which is intended to house, educate, or provide care for children, the elderly, the infirm, or other sensitive populations, and therefore could include day care centers, educational facilities, hospitals, elder care facilities, and nursing homes. The use of any accessory building or portion of an existing building as a dwelling unit permitted for a proprietor or storekeeper and their families, located in the same building as their place of occupation, or for a watchman or caretaker is also prohibited. Any authority that allows for residential use of the Property as a legal non-conforming use is also restricted per the prohibitions contained in this restrictive covenant.

EXHIBIT 8

MONITORING WELLS



MONITORING WELL IDENTIFICATION NUMBERS AND LOCATIONS

Well ID	Northing	Easting
OBG MW-1S	540535.61	13308757.61
OBG MW-2S	540098.78	13309044.97
OBG MW-2D	540097.68	13309036.98
OBG MW-3	539824.57	13309108.96
OBG MW-4S	539910.13	13309314.66
OBG MW-5S	540093.74	13309311.19
OBG MW-6S	540322.99	13309272.26
OBG MW-6D	540315.57	13309272.96
OBG MW-7S	540593.02	13309226.16
OBG MW-7D	540599.79	13309224.52
OBG MW-8	539888.87	13309282.67
OBG MW-9	539928.02	13309270.71
OBG MW-10	539983.06	13309319.46
OBG MW-11	540051.66	13309144.28

Coordinates from Michigan State Plane Coordinate System SPC83, South Zone, International Feet.