ECT Project No. 15-0831

REMEDIAL INVESTIGATION REPORT

Linden Multi-Site Historical Leaking Underground Storage Tank Investigation

Genesee County, Michigan

February 12, 2016

Prepared for:

Department of Environmental Quality

Michigan Department of Environmental Quality
Remediation & Redevelopment Division
Lansing District Office

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EXECUTIVE SUMMARY

The Michigan Department of Natural Resources and Environment Remediation Division (DEQ-RD) retained Environmental Consulting & Technology, Inc. (ECT) to complete a remedial investigation (RI) in the City of Linden. This investigation focused on seven study areas where historical information indicated the possible presence or former presence of underground storage tanks (USTs). A geophysical survey conducted as part of this RI revealed some anomalies possibly due to USTs, and soil and groundwater sampling confirmed that petroleum constituents were present in some of the study areas. Soil impacts exceeding generic cleanup criteria for the Drinking Water Protection (DWP) and Groundwater-Surface Water Interface Protection (GSIP) pathways were found in areas 1, 2, 4, and 6. Groundwater exceedences for the Drinking Water (DW) and Groundwater-Surface Water Interface (GSI) pathways were present in areas 2 and 6. Screening criteria for soil saturation were exceeded in Area 6, GP-15-14 and GP-15-17.

ECT recommends conducting additional investigation to define the extent of soil and groundwater impacts.

1.0 INTRODUCTION

The purpose of this report is to describe remedial investigation activities and associated results at multiple sites near the Broad and Bridge Street impact area in the city of Linden, Michigan (Figure 1). These investigation activities were undertaken to supplement previous and ongoing investigations by describing potential soil and groundwater impacts due to sources not yet investigated.

The Michigan Department of Environmental Quality-Remediation and Redevelopment Division (MDEQ-RRD) asked Environmental Consulting & Technology, Inc. (ECT) to provide "Extended Professional Services" (i.e., unanticipated site inspections; perform periodic support activities to address and/or respond to municipal/community outreach concerns/issues; attend MDEQ-RRD requested meeting; oversee responsible party investigations; perform field activities and undertake required subsurface assessment activities, etc.) relevant to the continued investigation of the nature and extent of benzene and other petroleum-related volatile organic compounds (VOCs) which have given rise to ambient/indoor air and combustible petroleum vapor concerns within nearby commercial structures, as well as adversely affected other media (soil, groundwater, and storm water) along an approximate two-block section of Bridge Street (south of the Shiawassee River and north of Hickory St.) in downtown Linden.

In an effort to further investigate the origin of contaminants within the study area, ECT supervised Ground Penetrating Radar (GPR) and Electromagnetic Induction (EM) survey activities conducted to assess the potential presence and location of abandoned underground storage tank (UST) systems at other properties proximal to the Broad and Bridge Street impact area. ECT performed subsurface assessment activities to evaluate the source and migration pathway of the contaminants within the affected study area. Soil borings were advanced for the collection of discrete soil and groundwater samples. Soil boring and groundwater sample locations were selected based on findings disclosed subsequent to the completion of the GPR and EM survey as well as procuring private property access. Representative soil and groundwater samples obtained during these efforts were submitted for standard VOC analysis. Some groundwater samples were also submitted for dissolved lead analysis.

2.0 SITE BACKGROUND

Prior to implementation of the evaluation activities presented in this report, analytical testing had confirmed the presence of petroleum constituents in soil and groundwater sample, indoor air samples collected within occupied buildings along North Bridge Street and concentrations of VOCs in water samples collected from a basement sump (109 North Bridge Street) and a storm water catch basin (208 North Bridge Street). The study area is located in the central business district of the City of Linden. In general the study area encompasses the properties along the east and west sides of North/South Bridge Street (extending north from the intersection of Hickory Street to the Shiawassee River), as well as both sides of East/West Broad Street (specifically, that area between

Main Street extending west to Walmer Street); see Figure 2.

3.0 REMEDIAL INVESTIGATION OBJECTIVES

The Scope of Work described in this Work Plan has been developed based on information from previous investigations performed within the study area in collaboration with MDEQ-RRD. The primary objectives of the Work Plan are as follows:

- Further assess the potential presence and location of any abandoned UST systems (petroleum release/source areas) potentially and/or known to exist within the immediate study area.
- Ascertain soil/groundwater quality data to help refine/differentiate contaminant migration within the study area.
- If conditions allow, identify distinct contaminant fingerprints that support the association of contaminant origin to a respective location.

4.0 SAMPLING PROCEDURES

4.1 Soil Sampling Procedures

Continuous soil samples were collected at each soil boring location from the surface to the uppermost groundwater bearing zone, excluding perched groundwater. Following the retrieval of each soil sample core, soil samples were described and logged by qualified ECT technical staff in accordance with the Unified Soil Classification System and field screened for petroleum vapors using a MiniRAE 3000 photoionization detector (PID). The instrument has a minimum detection limit of one part per million (ppm) and was calibrated prior to usage.

The total depth of the borings was determined based upon discovered subsurface soil conditions; specifically, apparent soil permeability characteristics and vertical contaminant distribution, as well as the presence of shallow groundwater.

Soil borings were generally advanced to depths of approximately 15 feet below grade level (bgl). Discrete soil samples were retained for laboratory analyses. Soil samples were selected from the interval(s) of the soil column that exhibited the highest PID readings and/or an unsaturated sample obtained from above the apparent vadose zone/saturated interface.

Soil samples selected for laboratory analyses were preserved in the field with methanol in accordance with U.S. EPA Method 5035 and placed on ice in a cooler for storage and subsequent transportation to the MDEQ State Laboratory. The soil samples were submitted under chain-of- custody (COC) documentation for VOC analyses using U.S. EPA SW846, Method 8260B.

Upon completion of the soil and groundwater sampling activities at each boring location, down-hole drilling and sampling tools were retracted from the ground and the open boring was backfilled with soil cuttings, sealed with granular bentonite, and finished at grade with artificial composite materials

similar to those currently existing at each respective soil boring location (i.e., topsoil/seed, bituminous patch, concrete, gravel, etc.)

Subsequent to the completion of the above-referenced sampling activities, the horizontal location of each boring location (to the nearest foot) was determined in reference to the property's existing building and/or other fixed relevant facility features.

To reduce the potential for cross-contamination between drilling locations, drilling and sampling equipment (i.e., core samplers, sampling rod, etc.) were properly decontaminated in accordance with standard operating procedures.

4.2 Groundwater Sampling Procedures

Based upon geophysical survey results, groundwater samples were collected at several locations. Groundwater samples were collected concurrent with direct-push soil sampling efforts through a 1-inch PVC well screen which was temporarily installed at a depth straddling the groundwater/vadose soil interface. Prior to groundwater sample collection, groundwater was purged using a peristaltic pump to develop the screened interval. Following evacuation of the purge water, a groundwater sample was collected in pre-labeled/preserved laboratory provided jars/vials and placed on ice in a cooler for storage and subsequent transportation to the MDEQ State Laboratory. Groundwater samples were submitted to the MDEQ State Laboratory under COC documentation for VOC analyses using U.S. EPA Method 8260B. Selected groundwater samples were also submitted for analysis of lead using U.S. EPA Method 6010.

As directed by the MDEQ-RRD, ECT installed temporary groundwater monitoring wells for future sampling at select boring locations. Temporary monitoring wells were constructed using one-inch diameter, schedule 40 polyvinyl chloride (PVC) casing and a five-foot long, #10 slotted PVC screen. Permanent monitoring wells, constructed of two-inch PVC, were installed at two locations, MW-1 (GP-15-2) and MW-2 (GP-15-3). The annular space between the well screen and borehole was filled with pre-sorted filter sand from the terminus of the borehole to approximately one foot above the top of the well screen. A granular bentonite and/or bentonite slurry was placed above the filter sand to approximately 1½ ft below surface grade. Each monitoring well was completed as a flush mount installation and secured with a locking cap.

Completed temporary monitoring wells were developed using an MDEQ-approved method. Development times and volumes were based on observed groundwater clarity. Reference points were inscribed into each monitoring well's top-of-casing (TOC) to ensure a common TOC reference elevation is established for future data collection during monitoring events.

During the groundwater sampling activities, each monitoring well location was inspected for apparent structural integrity. Each monitoring well was accessed and allowed to vent prior to obtaining depth-to-groundwater measurements to avoid the collection of erroneous groundwater data caused by accumulated vapor pressure or a vacuum within a sealed well casing. An electronic dual-phase groundwater level meter was used to measure the depth-to-groundwater and the thickness of any NAPL present.

Low-flow or minimal drawdown techniques were used to sample all locations. Disposable/dedicated tubing was used at each location to minimize the possibility of cross-contamination between sampling locations.

Peristaltic sampling pumps were used for purging and sampling at each monitoring well location. After the pump was in-place and prior to purging, groundwater levels was measured from the top-of-casing using an electric tape and recorded to the nearest 0.01 foot. The water level tape was left in-place during purging and sampling to monitor groundwater level drawdown. The measurement probe was washed with non-phosphate detergent solution and rinsed with fresh water prior to insertion into each sampling location/monitoring well.

Pumping rates were maintained from the lowest sustainable pumping rate to no more than 500 ml/min. Well-specific pumping rates were determined by monitoring groundwater levels during purging and adjusting the pumping rate to stabilize the drawdown at a practical minimum above the top of the well screen at wells with fully submersed screens. In the event drawdown could not be stabilized above the top of the screen at the lowest sustainable pumping rate, purging ceased and the monitoring well was allowed to recover enough to obtain the required sample volume(s) without dewatering the top of the screen or drawing in the NAPL.

Stabilization parameters (dissolved oxygen [DO], pH, specific conductivity, oxidation/reduction potential [ORP], turbidity, and temperature) were measured using a flow-through cell with calibrated sensing probes and real time readouts. The stabilization parameters were recorded at intervals of five or greater minutes until the variations in parameters stabilized to:

pH	±0.1 unit
DO	±10% for values greater than 0.5 mg/l, if three Dissolved Oxygen values are less than 0.5 mg/l, consider the values as stabilized
Specific Conductivity	±3%
ORP	±10 mV
Turbidity	10% for values greater than 5 NTU, if three Turbidity values are less than 5 NTU, consider the values as stabilized
Temperature	±3%

After stabilization (or well recovery in the case of low-yield wells), samples were collected upstream of the flow-through cell to eliminate possible residual contamination from the cell vessel. All groundwater samples were placed in laboratory provided/field-preserved (as required) containers, labeled, and put in an iced cooler immediately after collection.

4.3 Sampling Documentation

Sample-specific field data entry forms were used to provide documentation of the sampling procedures and instrument calibration monitoring. Sampling personnel noted any deviations from the standard sampling procedure or extraordinary observations during sampling. The signed forms were kept as documentation of the sampling procedures.

4.4 Chain-of-Custody Procedures

Each sample was logged on a COC form maintained throughout the sample collection efforts. The COC accompanies each sample following collection, during transportation, storage, and receipt at the MDEQ's State Laboratory. Laboratory personnel recorded the time and signed the form upon sample receipt. The form contains sample identification, analysis assignments, date and time of collection, and names of sampling personnel.

4.5 Summary of Investigation Scope

A summary of the investigation scope conducted by ECT under the direction of the MDEQ is presented in the following table:

Study Area/ Purpose	Geophysical Survey	Soil Sampling	Groundwater Sampling
1: Former Fire Hall with gas pump	Yes	GP-15-4 (5.5-6 ft)	-
2: Historical accounts of petroleum impacts	Yes	HA-15-1 (7.5-8 ft) GP-15-1 (10.5-11 ft) GP-15-2 (9.5-10 ft) GP-15-3 (9.8-10 ft)	HA-15-1 (7.5-8 ft) GP-15-1 (9-14 ft) MW-15-1 (8-12 ft) MW-15-2 (10-15 ft)
3: Former auto dealership with USTs	Yes	-	-
4: Auto sales, 3 USTs removed	Yes	GP-15-6 (5-5.5 ft) GP-15-7(4.5-5.5 ft) GP-15-8 (5-5.25 ft) GP-15-9 (8-8.25 ft)	-
5: Former repair facility	Yes	GP-15-10 (8.5-9 ft) GP-15-11(9-9.5 ft) GP-15-12 (6-6.5 ft) GP-15-13 (9-9.5 ft)	MW-15-13 (9-14 ft)
6: Former gas station, known UST locations	No	GP-15-14 (9.5-10 ft) GP-15-15(9-9.5 ft) GP-15-16 (9.25-9.5 ft) GP-15-17 (7.5-8 ft) GP-15-18(9.25-9.5 ft) GP-15-19 (9.5-9.75 ft) GP-15-20 (9-9.5 ft)	MW-15-14 (9-14 ft) MW-15-17 (7-12 ft) MW-15-19 (8-13 ft) MW-15-20 (8-13 ft)
7: Known UST location	No	GP-15-5 (6-6.5 ft)	-

The Study Areas with soil boring and monitor well locations are shown on Figure 2.

5.0 INVESTIGATION RESULTS

5.1 Geophysical Survey Results

The Geophysical Survey was completed by Geophysical Imaging, Inc. on October 16, 2015; their report is included in Appendix A. Historical information was used to select areas where USTs were reportedly present. The sites selected for the survey are shown on Figure 2, and the results can be summarized as follows:

- Area 1: strong metal anomaly in northeast of study area; possible UST cavity
- Area 2: strong metal anomaly in west of study area; possible reinforced concrete
- Area 3: strong metal anomaly; possible backfilled excavation
- Area 4: backfilled excavations in west and south of survey area
- Area 5: strong metal anomaly in west of survey grid; two possible USTs

Based on these results and other historical information, seven study areas were selected for further investigation using a Geoprobe® to collect soil and groundwater samples.

5.2 Soil Results

Soil borings were performed from November 10-12, 2015. Boring logs are included in Appendix B. Boring log information was converted to geologic cross sections, with the locations shown on Figure 3 and cross-sections A-A' and B-B' are shown on Figure 5 and 6, respectively. The Laboratory Analytical Report is included in Appendix C, and the analytical results are shown on the location map in Figure 6.

Cross-sectional information presented herein supplements the results presented in an earlier document (*Conceptual Site Model and Preliminary Pathway Evaluation*, ECT, November 2014). Cross-section A-A' runs East-West along Broad Street and shows sand overlying clay, with a gravel layer present at intermediate depths at some locations. Cross-section B-B' runs North-South along Bridge Street and shows similar lithology, with greater heterogeneity than in A-A'.

Area 1: At this location, one soil boring, GP-15-4, was advanced to a depth of 15 ft bgs. A trace of VOCs was detected using the PID, and a sample was collected from 5.5-6 ft, where faint hydrocarbon odors were also detected. Petroleum constituents were detected in the soil sample from GP-15-4, several of which exceeded MDEQ generic cleanup criteria (TMBs, Xylenes, naphthalene, ethylbenzene). Criteria exceeded were for the Drinking Water Protection (DWP) and Groundwater-Surface Water Interface Protection (GSIP) pathways.

Area 2: Four borings were advanced at this location: GP-15-1, 15-2, 15-3, and HA-15-1. Each boring was advanced to a depth of 15 ft bgs. A trace of VOCs was detected using the PID in GP-15-3, and a sample was collected from this interval (9.8-10 ft). Samples were collected from GP-15-1 and GP-15-2 at the transition from vadose zone to saturated zone. No VOCs were detected in the

lab analysis of the samples collected from GP-15-1 and GP-15-2 and HA-15-1. In the sample from GP-15-3, several VOCs were detected, some at concentrations exceeding MDEQ generic cleanup criteria (benzene, ethylbenzene, naphthalene, TMB, and xylenes). Criteria exceeded were for the DWP and GSIP categories.

Area 3: No soil borings were advanced in this study area because samples from previous soil borings advanced nearby by others did not contain petroleum residuals.

Area 4: Four borings were advanced in this study area, GP-15-6 through GP-15-9. No VOCs were detected in GP-15-6 and GP-15-8, either by PID screening or laboratory analysis. In GP-15-7 and GP-15-9, the PID detected VOCs and laboratory analysis confirmed the presence of petroleum constituents, in some cases at concentrations exceeding MDEQ generic cleanup criteria. In GP-15-7, ethylbenzene, TMBs, and xylenes exceeded criteria; in GP-15-9, 1,2,4-TMB exceeded criteria. Criteria exceeded were for the DWP and GSIP categories.

Area 5: Four soil borings were advanced in this study area, GP-15-10 though GP-15-13. VOCs were not detected either by PID screening or laboratory analysis of samples from these borings.

Area 6: Seven soil borings were advanced in study area 6, GP-15-14 through GP-15-20. Four of the borings did not contain detectable VOCs (GP-15-15, GP-15-16, GP-15-18, and GP-15-19). The sample from GP-15-14, collected at a depth of 9.5-10 ft, contained high concentrations of several petroleum constituents. Because several constituents were found at concentrations exceeding the soil saturation screening criteria, it is possible that non-aqueous phase liquids may be present. The sample from GP-15-17 (7.5-8 ft) also contained high concentrations of petroleum constituents, as did the sample from GP-15-20 (9-9.5 ft) – both in exceedance of the MDEQ generic cleanup criteria. In addition to the soil saturation screening criteria, sample concentrations exceeded criteria for the DWP and GSIP categories.

Area 7: One soil boring, GP-15-5 was advanced in study area 7. No VOCs were detected at this location, either by PID screening or laboratory analysis.

5.3 Groundwater Results

Groundwater sampling, through temporary or permanent monitoring wells, was performed in Study Areas 2, 5, and 6. The groundwater sample analytical results are summarized on Table 2 and are shown on Figure 7.

Area 2: Groundwater samples were collected from HA-15-1, GP-15-1, GP-15-2/MW-15-1 (both temporary and permanent well), and GP-15-3/MW-15-2 (permanent well only). The groundwater sample collected from GP-15-1 was free of petroleum constituents, but samples from each of the other locations contained constituents that exceeded criteria for the DW and GSI pathways.

Area 5: A groundwater sample was collected from GP-15-13, screened at a depth of 9-14 ft. This sample did not contain detectable concentrations of petroleum constituents.

Area 6: Groundwater samples were collected from GP-15-14, GP-15-17, GP-15-19, and GP-15-20. Each sample contained petroleum constituents; samples from GP-15-14, GP-15-19, and GP-15-20 contained constituents at concentrations that exceeded DW and/or GSI criteria.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The initial investigation of potential sources has revealed that petroleum releases have evidently occurred in some of the study areas. The following table summarizes the locations where cleanup criteria were exceeded in soil and groundwater samples.

Study Area/ Purpose	Soil Results *Criteria Exceeded*	Groundwater Results *Criteria Exceeded*
1: Former Fire Hall with gas pump	GP-15-4 (5.5-6 ft) DWP, GSIP	-
2: Historical accounts of petroleum impacts	GP-15-3 (9.8-10 ft) DWP, GSIP	HA-15-1 (7.5-8 ft) DW, GSI GP-15-1 (9-14 ft) DW, GSI MW-15-1 (8-13 ft) DW, GSI MW-15-2 (10-15 ft) DW, GSI
4: Auto sales, 3 USTs removed	GP-15-7(4.5-5.5 ft) DWP, GSIP GP-15-9 (8-8.25 ft) DWP, GSIP	-
6: Operating gas station, known UST locations	GP-15-14 (9.5-10 ft) DWP, GSIP, Csat GP-15-17 (7.5-8 ft) DWP, GSIP, Csat GP-15-20 (9-9.5 ft) DWP, GSIP	GP-15-14 (9-14 ft) DW, GSI GP-15-19 (8-13 ft) DW, GSI GP-15-20 (8-13 ft) DW, GSI

In some of these areas, ECT recommends additional investigation to define the nature and extent of impacts. Specifically, ECT recommends the following follow-up investigation activities:

Area 1: Report a UST release; perform additional soil borings to define soil impacts.

Area 2: Investigate potential utility corridor involvement.

Area 3: No additional investigation is recommended at this time.

Area 4: Additional investigation to evaluate the potential for vapor intrusion at nearby properties on Bridge Street, potential GSI impacts, and to define the vertical extent of impacts.

Area 5: Confirm that no USTs remain in this area.

Area 6: Report a UST release; additional investigation to evaluate the potential for vapor intrusion, potential GSI impacts, and to define the extent of impacts, especially to the south, west, and north.

Area 7: No additional investigation is recommended at this time.

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0 feet 1000

Figure 1

Site Location

Linden Multi-Site Historical Leaking Underground Storage Tank Investigation

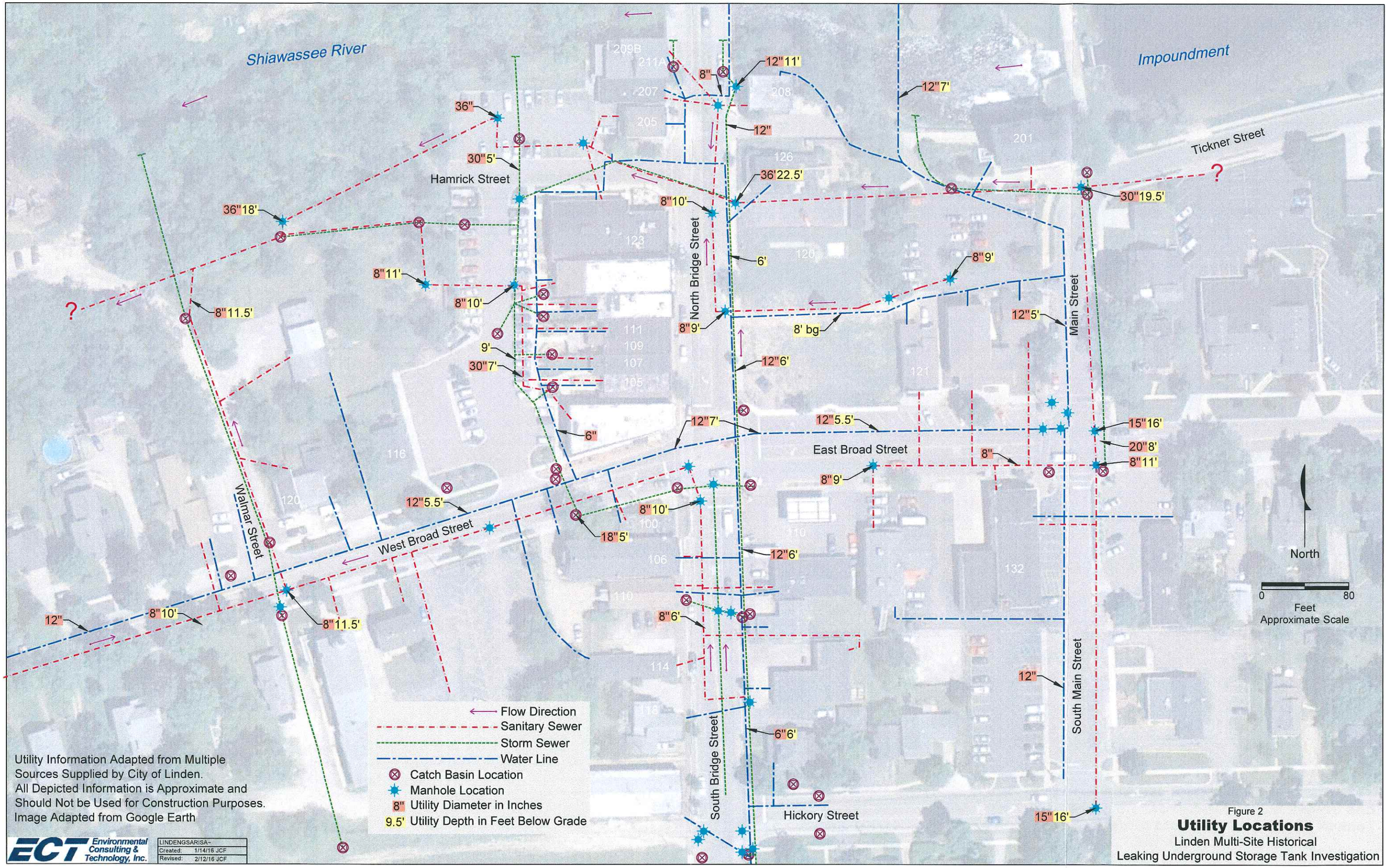


Figure 2
Utility Locations
Linden Multi-Site Historical
Leaking Underground Storage Tank Investigation

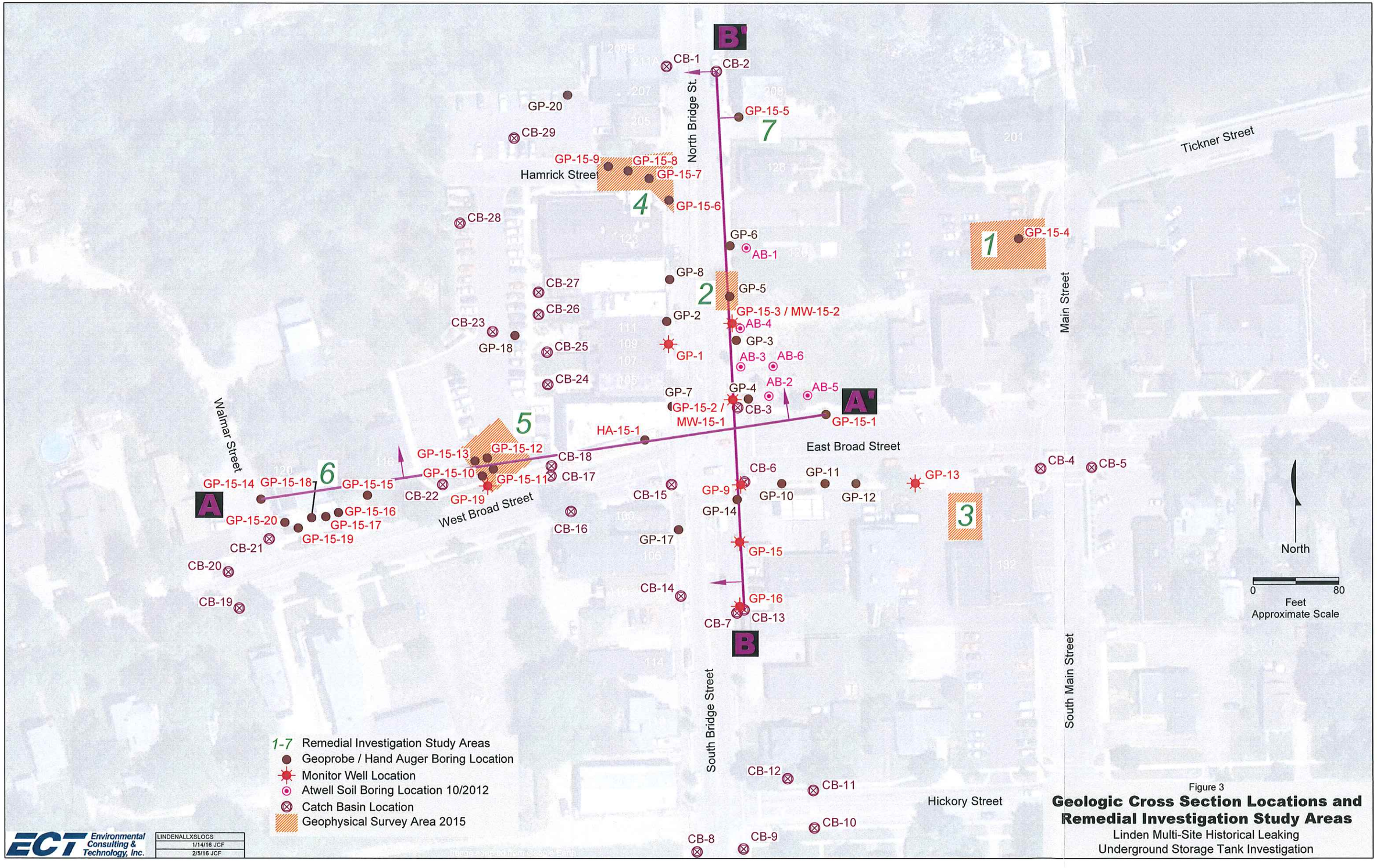
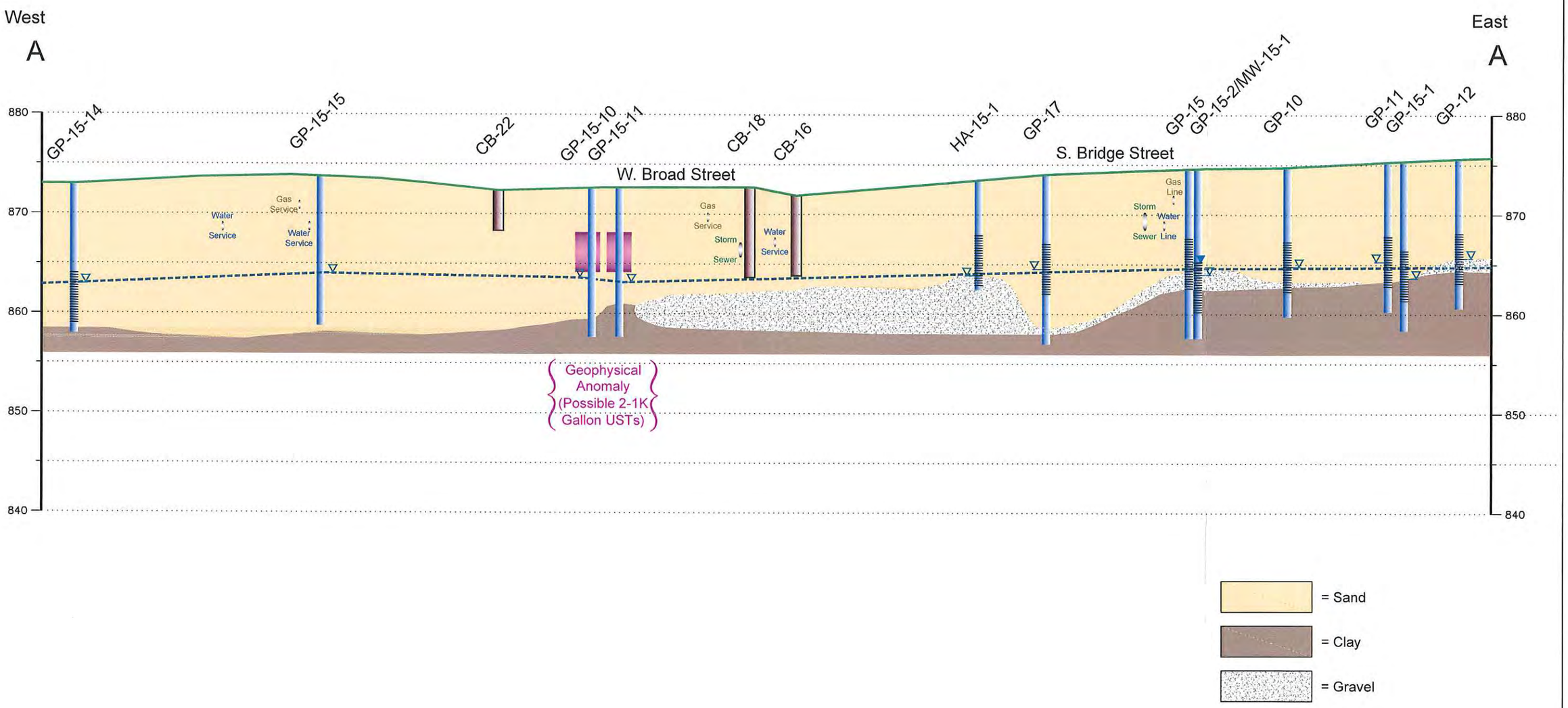


Figure 3

Geologic Cross Section Locations and Remedial Investigation Study Areas

Linden Multi-Site Historical Leaking Underground Storage Tank Investigation



= Water Level During Drilling
= Static Water Level (8/8/14)

= Screened Interval

0 feet 40
10 0
Vertical Exaggeration: 4X

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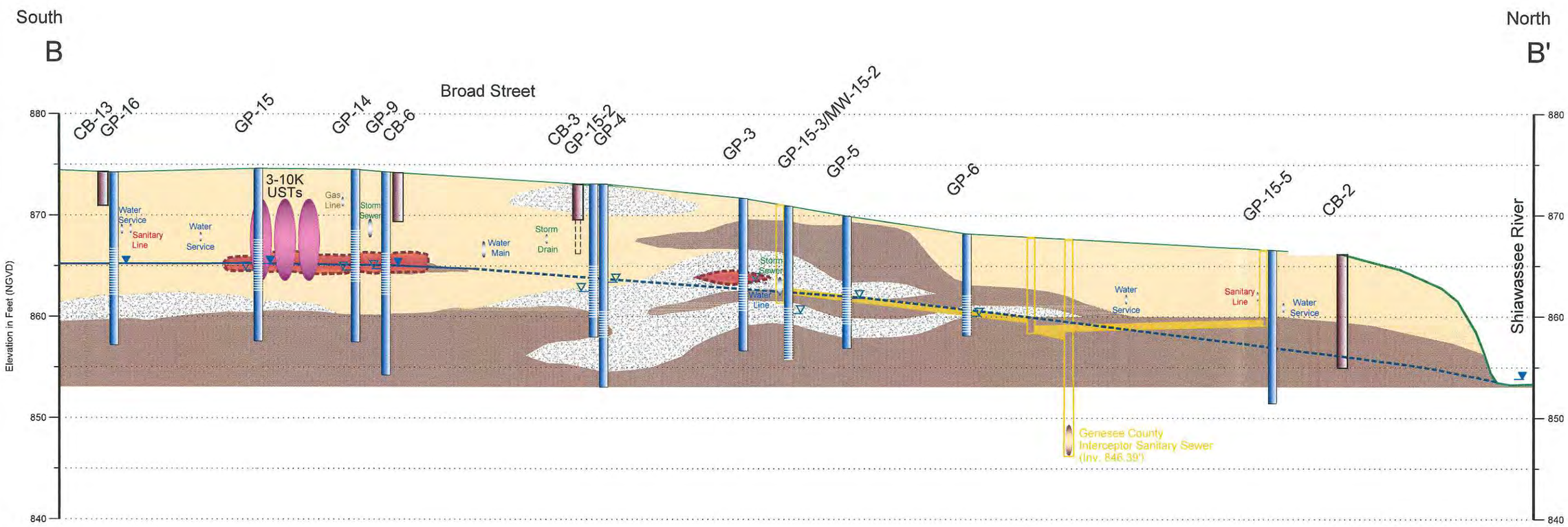
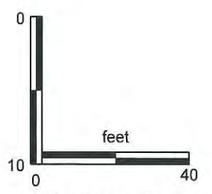
Revised: 2/5/16 JCF

Figure 4

Cross Section A-A'

Linden Multi-Site Historical Leaking Underground Storage Tank Investigation





Vertical Exaggeration: 4X

= Sand

= Clay

= Gravel

= Approximate Extent of LNAPL Observed by ECT on July / August 2014

= Conceptual Water Level Elevation

= Water Level During Drilling

= Static Water Level (8/21/14)

= Screened Interval

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Figure 5

Cross Section B-B'

Linden Multi-Site Historical Leaking Underground Storage Tank Investigation

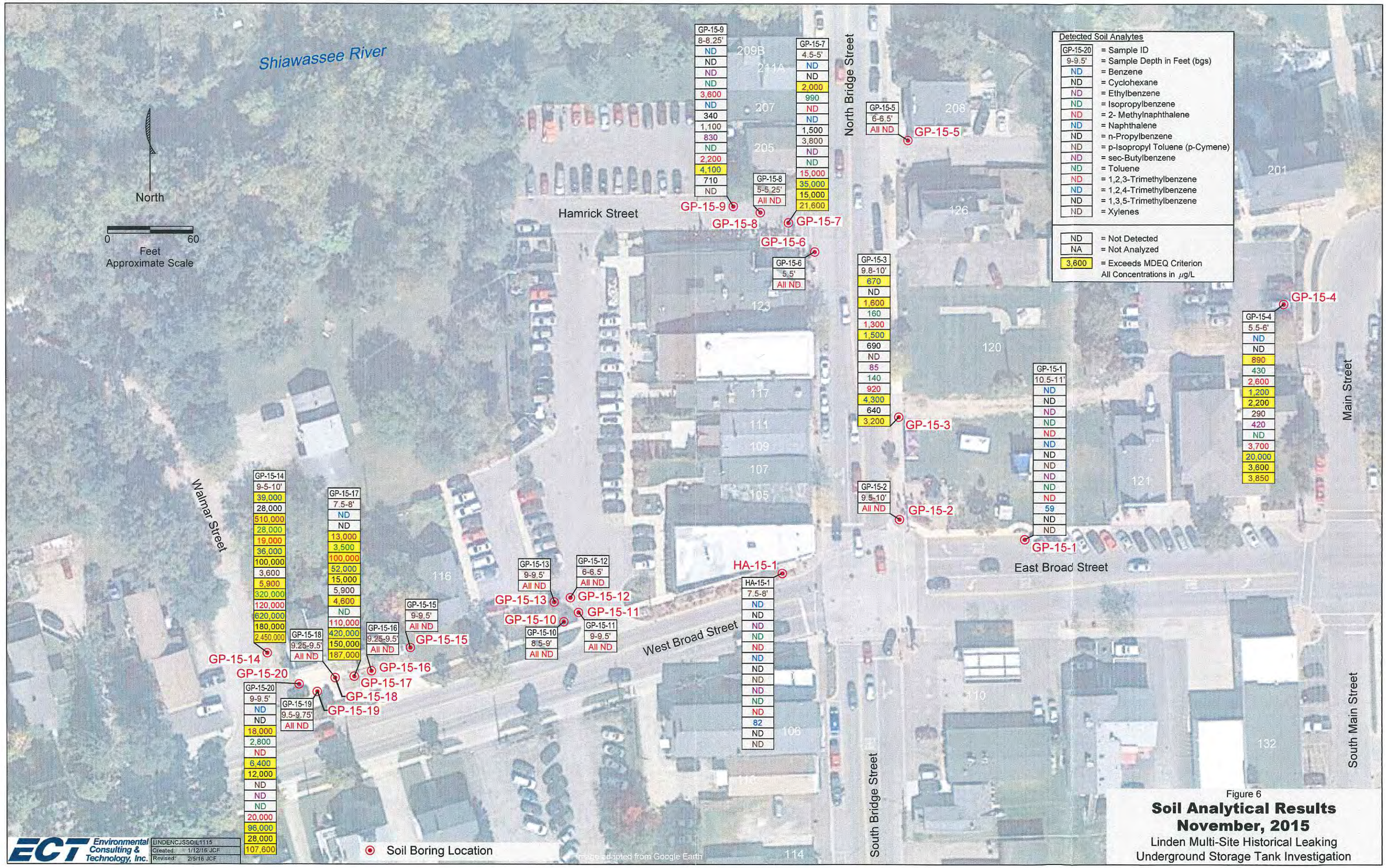

Figure 6

Soil Analytical Results
November, 2015

Linden Multi-Site Historical Leaking Underground Storage Tank Investigation

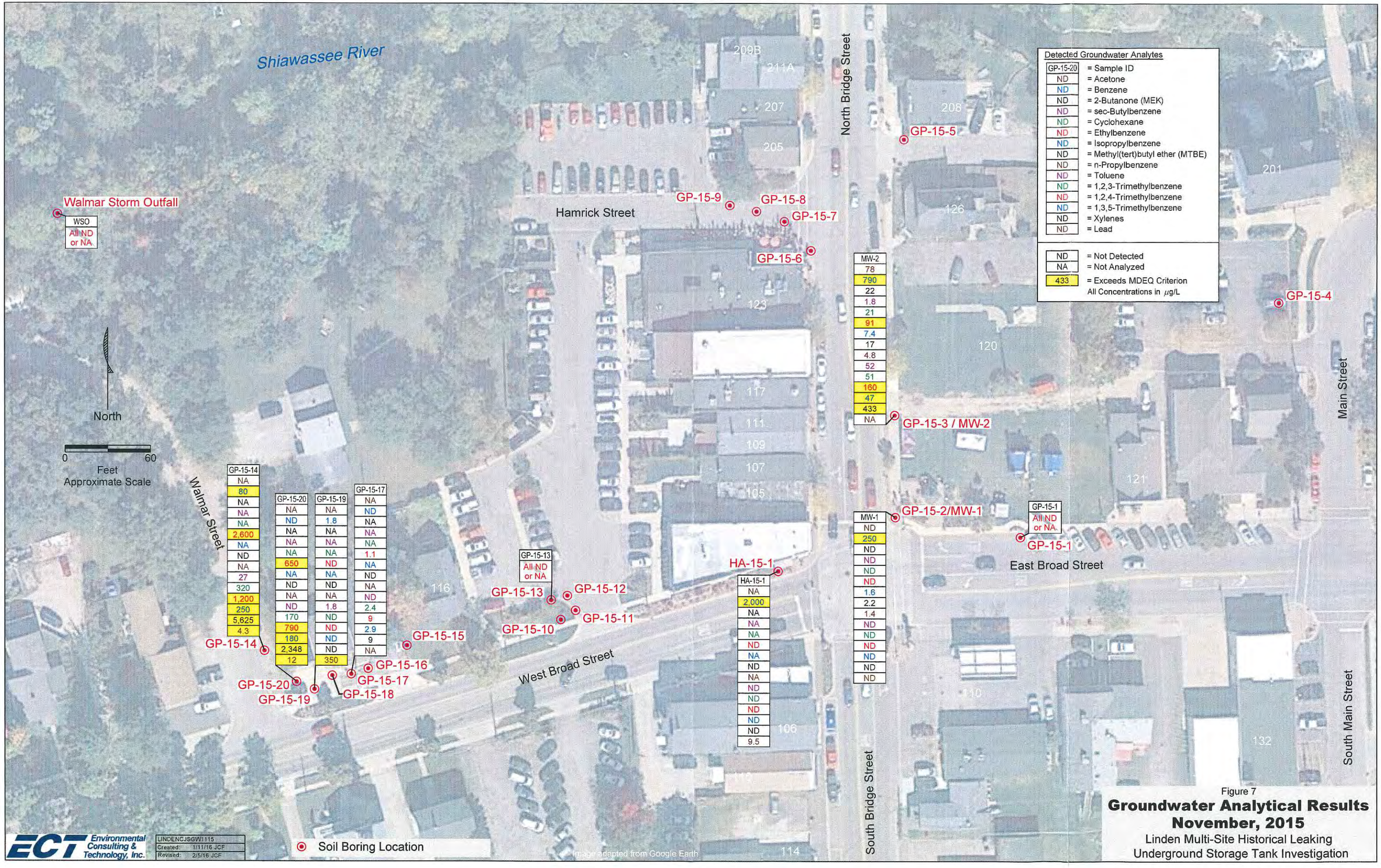

Figure 7

Groundwater Analytical Results
November, 2015

Linden Multi-Site Historical Leaking Underground Storage Tank Investigation

TABLES

Table 1

Soil Sample Analytical Results

City of Linden
Other Sites Remedial Investigation

Soil Samples			Historical accounts of petroleum impacts Area 2				Former Fire Hall with gas pump Area 1	Known UST location Area 7	MDEQ Residential Criteria						
Parameter	CAS No.	Units	HA-15-1 7.5-8'	GP-15-1 10.5-11'	GP-15-2 9.5-10'	GP-15-3 9.8-10'	GP-15-4 5.5-6'	GP-15-5 6-6.5'	Drinking Water Protection Criteria & RBSLs	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Infinite Source Volatile Soil Ambient Inhalation Criteria & RBSLs	Particulate Soil Inhalation Criteria & RBSLs	Direct Contact Criteria	Soil Saturation Concentration Screening Levels
			11/11/15	11/10/15	11/10/15	11/10/15	11/10/15	11/10/15							
Volatile Organic Compounds															
Acetone	67641	ug/kg	<1500	<1200	<1400	<1300	<1200	<1500	15,000	34,000	290,000,000	130,000,000	1,000,000,000	23,000,000	110,000,000
Acrylonitrile	107131	ug/kg	<390	<300	<350	<330	<310	<380	100	100	6,600	5,000	45,000,000	16,000	8,300,000
Benzene	71432	ug/kg	<77	<61	<69	**670**	<62	<76	100	4,000	1,600	13,000	380,000,000	180,000	400,000
Bromobenzene	108861	ug/kg	<77	<61	<69	<66	<62	<76	550	NA	310,000	450,000	530,000,000	540,000	760,000
Bromochloromethane	74975	ug/kg	<77	<61	<69	<66	<62	<76	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75274	ug/kg	<77	<61	<69	<66	<62	<76	1,600	ID	1,200	9,100	84,000,000	110,000	1,500,000
Bromoform	75252	ug/kg	<77	<61	<69	<66	<62	<76	1,600	ID	150,000	90,000	2,800,000,000	820,000	870,000
Bromomethane (Methyl Bromide)	74839	ug/kg	<310	<240	<280	<260	<250	<300	200	700	860	11,000	330,000,000	320,000	2,200,000
2-Butanone (MEK)	78933	ug/kg	<390	<300	<350	<330	<310	<380	260,000	44,000	54,000,000	29,000,000	67,000,000,000	120,000,000	27,000,000
Carbon disulfide	75150	ug/kg	<77	<61	<69	<66	<62	<76	16,000	ID	76,000	1,300,000	47,000,000,000	7,200,000	280,000
Carbon tetrachloride	56235	ug/kg	<77	<61	<69	<66	<62	<76	100	900	190	3,500	130,000,000	96,000	390,000
Chlorobenzene	108907	ug/kg	<77	<61	<69	<66	<62	<76	2,000	500	120,000	770,000	4,700,000,000	4,300,000	260,000
Chloroethane	75003	ug/kg	<390	<300	<350	<330	<310	<380	8,600	22,000	2,900,000	30,000,000	670,000,000,000	2,600,000	950,000
Chloroform	67663	ug/kg	<77	<61	<69	<66	<62	<76	1,600	7,000	7,200	45,000	1,300,000,000	1,200,000	1,500,000
Chloromethane(Methyl Chloride)	74873	ug/kg	<390	<300	<350	<330	<310	<380	5,200	ID	2,300	40,000	4,900,000,000	1,600,000	1,100,000
cis-1,2-Dichloroethene	156592	ug/kg	<77	<61	<69	<66	<62	<76	1,400	12,000	22,000	180,000	2,300,000,000	2,500,000	640,000
cis-1,3-Dichloropropene	542756	ug/kg	<77	<61	<69	<66	<62	<76	170	180	1,000	18,000	780,000,000	10,000	620,000
Cyclohexane	110827	ug/kg	<390	<300	<350	<330	<310	<380	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-Chloropropane	96128	ug/kg	<390	<300	<350	<330	<310	<380	10	ID	220	260	560,000	4,400	1,200
Dibromochloromethane	124481	ug/kg	<77	<61	<69	<66	<62	<76	1,600	ID	3,900	24,000	130,000,000	110,000	610,000
1,2-Dibromoethane	106934	ug/kg	<77	<61	<69	<66	<62	<76	NA	NA	NA	NA	NA	NA	NA
Dibromomethane (Methylene Bromide)	74953	ug/kg	<77	<61	<69	<66	<62	<76	1,600	NA	ID	ID	ID	2,500,000	2,000,000
1,2-Dichlorobenzene	95501	ug/kg	<77	<61	<69	<66	<62	<76	14,000	280	11,000,000	39,000,000	100,000,000,000	19,000,000	210,000
1,3-Dichlorobenzene	541731	ug/kg	<77	<61	<69	<66	<62	<76	170	680	26,000	79,000	20,000,000	200,000	170,000
1,4-Dichlorobenzene	106467	ug/kg	<77	<61	<69	<66	<62	<76	1,700	360	19,000	77,000	450,000,000	400,000	NA
Dichlorodifluoromethane	75718	ug/kg	<390	<300	<350	<330	<310	<380	95,000	ID	90,000	53,000,000	3,300,000,000,000	52,000,000	1,000,000
1,1-Dichloroethane	75343	ug/kg	<77	<61	<69	<66	<62	<76	18,000	15,000	230,000	2,100,000	33,000,000,000	27,000,000	890,000
1,2-Dichloroethane	107062	ug/kg	<77	<61	<69	<66	<62	<76	100	7,200	2,100	6,200	120,000,000	91,000	1,200,000
1,1-Dichloroethene	75354	ug/kg	<77	<61	<69	<66	<62	<76	140	2,600	62	1,100	62,000,000	200,000	570,000
1,2-Dichloropropane	78875	ug/kg	<77	<61	<69	<66	<62	<76	100	4,600	4,000	25,000	270,000,000	140,000	550,000
Diethyl ether	60297	ug/kg	<310	<240	<280	<260	<250	<300	200	ID	28,000,000	85,000,000	800,000,000,000	110,000,000	7,400,000
Diisopropyl Ether (DIPE)	108203	ug/kg	<390	<300	<350	<330	<310	<380	600	ID	670,000	340,000	4,100,000,000	920,000	1,300
Ethyl benzene	100414	ug/kg	<77	<61	<69	**1,600**	**890**	<76	1,500	360	87,000	720,000	1,000,000,000	22,000,000	140,000
Ethyltertiarybutylether (ETBE)	637923	ug/kg	<390	<300	<350	<330	<310	<380	980	ID	540,000	1,900,000	25,000,000,000	ID	650,000
2-Hexanone (Methyl Butyl Ketone)	591786	ug/kg	<390	<300	<350	<330	<310	<380	20,000	ID	990,000	1,100,000	2,700,000,000	32,000,000	2,500,000
Isopropylbenzene	98828	ug/kg	<77	<61	<69	**160**	**430**	<76	91,000	3,200	400,000	1,700,000	5,800,000,000	25,000,000	390,000
Methyl iodide (Iodomethane)	74884	ug/kg	<77	<360	<410	<390	<370	<450	NA	NA	NA	NA	NA	NA	NA
Methyl(tert)butyl ether (MTBE)	1634044	ug/kg	<77	<61	<69	<66	<62	<76	800	140,000	9,900,000	25,000,000	200,000,000,000	1,500,000	5,900,000
4-methyl-2-pentanone(MIBK)	108101	ug/kg	<390	<300	<350	<330	<310	<380	36,000	ID	37,000,000	45,000,000	140,000,000,000	56,000,000	2,700,000
Methylene chloride	75092	ug/kg	<150	<120	<140	<130	<120	<150	100	30,000	45,000	210,000	6,600,000,000	1,300,000	2,300,000
2-Methylnaphthalene	91576	ug/kg	<390	<300	<350	**1,300**	**2,600**	<380	57,000	4,200	2,700,000	1,500,000	670,000,000	8,100,000	NA
Naphthalene	91203	ug/kg	<390	<300	<350	**1,500**	**1,200**	<380	35,000	730	250,000	300,000	200,000,000	16,000,000	NA
n-Butylbenzene	104518	ug/kg	<77	<61	<69	<66	<62	<76	1,600	ID	ID	ID	2,000,000,000	2,500,000	10,000,000
n-Propylbenzene	103651	ug/kg	<77	<61	<69	**690**	**2,200**	<76	1,600	ID	ID	ID	1,300,000,000	2,500,000	10,000,000
p-Isopropyl Toluene (p-Cymene)	99876	ug/kg	<77	<61	<69	<66	**290**	<76	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135988	ug/kg	<77	<61	<69	**85**	**420**	<76	1,600	ID	ID	ID	400,000,000	2,500,000	10,000,000
Styrene	100425	ug/kg	<77	<61	<69	<66	<62	<76	2,700	2,100	250,000	970,000	5,500,000,000	400,000	520,000
TertiaryAmylmethylether (TAME)	994058	ug/kg	<390	<300	<350	<330	<310	<380	3,900	NA	58,000	340,000	4,100,000,000	29,000,000	440,000
Tertiary Butyl Alcohol (TBA)	75650	ug/kg	<3900	<3000	<3500	<3300	<3100	<3800	78,000	NA	310,000,000	97,000,000	130,000,000,000	120,000,000	110,000,000
tertiaryButylbenzene	98066	ug/kg	<77	<61	<69	<66	<62	<76	1,600	ID	ID	ID	670,000,000	2,500,000	10,000,000
1,1,1,2-Tetrachloroethane	630206	ug/kg	<77	<61	<69	<66	<62	<76	1,500	ID	6,200	36,000	420,000,000	480,000	440,000
1,1,2,2-Tetrachloroethane	79345	ug/kg	<77	<61	<69	<66	<62	<76	170	1,600	4,300	10,000	54,000,000	53,000	870,000
Tetrachloroethene	127184	ug/kg	<77	<61	<69	<66	<62	<76	100	1,200	11,000	170,000	2,700,000,000	200,000	88,000
Tetrahydrofuran (THF)	109999	ug/kg	<390	<300	<350	<330	<310	<380	1,900	220,000	1,300,000	13,000,000	390,000,000,000	2,900,000	120,000,000
Toluene	108883	ug/kg	<77	<61	<69	**140**	<62	<76	16,000	5,400	330,000	2,800,000	27,000,000,000	50,000,000	250,000
trans-1,2-Dichloroethene	156605	ug/kg	<77	<61	<69	<66	<62	<76	2,000	30,000	23,000	280,000	4,700,000,000	3,800,000	1,400,000
trans-1,3-Dichloropropene	542756	ug/kg	<77	<61	<69	<66	<62	<76	NA	NA	NA	NA	NA	NA	NA
trans-1,4-Dichloro-2-butene	110576	ug/kg	<390	<300	<350	<330	<310	<280	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87616	ug/kg	<390	<300	<350	<330	<310	<380	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120821	ug/kg	<390	<300	<350	<330	<310	<380	4,200	5,900	9,600,000	28,000,000	25,000,000,000	990,000	1,100,000
1,1,1-Trichloroethane	71556	ug/kg	<77	<61	<69	<66	<62	<76	4,000	1,800	250,000	3,800,000	67,000,000,000	500,000,000	460,000
1,1,2-Trichloroethane	79005	ug/kg	<77	<61	<69	<66	<62	<76	100	8,600	4,600	17,000	190,000,000	180,000	920,000
Trichloroethene	79016	ug/kg	<77	<61	<69	<66	<62	<76	100	4,000	1,000	11,000	130,000,000	500,000	500,000
Trichlorofluoromethane	75694	ug/kg	<77	<61	<69	<66	<62	<76	52,000	NA	2,800,000	92,000,000	3,800,000,000,000	79,000,000	560,000
1,2,3-Trichloropropane	96184	ug/kg	<77	<61	<69	<66	<62	<76	840	NA	4,000	9,200	20,000,000	1,300,000	830,000
1,2,3-Trimethylbenzene	526738	ug/kg	<77	<61	<69	**920**	**3,700**	<76	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95636	ug/kg	**82**	**59**	<69	**4,300**	**20,000**	<76	2,100	570	4,300,000	21,000,000	82,000,000,000	32,000,000	110,000
1,3,5-Trimethylbenzene	108678	ug/kg	<77	<61	<69	**640**	**3,600**	<76	1,600	1,100	2,600,000	16,000,000	82,000,000,000	32,000,000	94,000
Vinyl chloride	75014	ug/kg	<77	<61	<69	<66	<62	<76	40	260	270	4,200	350,000,000	3,800	490,000
Xylenes	1330207	ug/kg	<150	<120	<140	**3,200**	**3,850**	<150	5,600	820	6,300,000	46,000,000	1,000,000,000	410,000,000	150,000
All Other VOCs	Varies	ug/kg							-	-	-	-	-	-	-
Inorganics															
Total Solids		%	84.90	93.90	87.80	89.80	90.00	83.70							

Notes:
ug/kg = micrograms per kilogram
< = less than current method detection limit
Bold = Parameter Exceeds Respective Analytical Laboratory Reporting Limit
Shade = Parameter Exceeds Respective Criterion
ID = Insufficient Data to Develop Criterion
NA = Criterion or Value is Not Available or Not Applicable
[1] MDEQ criteria taken from MDEQ Part 201 Generic Cleanup Criteria and Screening Levels - December 30, 2013
Please see MDEQ footnotes for MDEQ Part 201 Generic Cleanup Criteria and Screening Levels - December 30, 2013 criteria

Table 1

Soil Sample Analytical Results

City of Linden
Other Sites Remedial Investigation

Soil Samples			Auto sales, 3 USTs removed Area 4				Former repair facility Area 5				MDEQ Residential Criteria						
Parameter	CAS No.	Units	GP-15-6 5-5.5' 11/11/15	GP-15-7 4.5-5' 11/11/15	GP-15-8 5-5.25' 11/11/15	GP-15-9 8-8.25' 11/11/15	GP-15-10 8.5-9' 11/11/15	GP-15-11 9-9.5' 11/11/15	GP-15-12 6-6.5' 11/11/15	GP-15-13 9-9.5' 11/11/15	Drinking Water Protection Criteria & RBSLs	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Infinite Source Volatile Soil Ambient Inhalation Criteria & RBSLs	Particulate Soil Inhalation Criteria & RBSLs	Direct Contact Criteria	Soil Saturation Concentration Screening Levels
Volatile Organic Compounds																	
Acetone	67641	ug/kg	<1300	<15000	<1400	<5900	<1400	<1300	<1300	<1400	15,000	34,000	290,000,000	130,000,000	1,000,000,000	23,000,000	110,000,000
Acrylonitrile	107131	ug/kg	<330	<3700	<360	<1500	<350	<310	<320	<350	100	100	6,600	5,000	46,000,000	16,000	8,300,000
Benzene	71432	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	100	4,000	1,600	13,000	380,000,000	180,000	400,000
Bromobenzene	108861	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	550	NA	310,000	450,000	530,000,000	540,000	760,000
Bromochloromethane	74975	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75274	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	1,600	ID	1,200	9,100	64,000,000	110,000	1,500,000
Bromoform	75252	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	1,600	ID	150,000	90,000	2,800,000,000	820,000	870,000
Bromomethane (Methyl Bromide)	74839	ug/kg	<260	<3000	<280	<1200	<280	<250	<250	<280	200	700	860	11,000	330,000,000	320,000	2,200,000
2-Butanone (MEK)	78933	ug/kg	<330	<3700	<360	<1500	<350	<310	<320	<350	260,000	44,000	54,000,000	29,000,000	67,000,000,000	120,000,000	27,000,000
Carbon disulfide	75150	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	16,000	ID	76,000	1,300,000	47,000,000,000	7,200,000	280,000
Carbon tetrachloride	56235	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	100	900	190	3,500	130,000,000	98,000	390,000
Chlorobenzene	108907	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	2,000	500	120,000	770,000	4,700,000,000	4,300,000	260,000
Chloroethane	75003	ug/kg	<330	<3700	<360	<1500	<350	<310	<320	<350	8,800	22,000	2,600,000	30,000,000	670,000,000,000	2,600,000	950,000
Chloroform	67663	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	1,600	7,000	7,200	45,000	1,300,000,000	1,200,000	1,500,000
Chloromethane(Methyl Chloride)	74873	ug/kg	<330	<3700	<360	<1500	<350	<310	<320	<350	5,200	ID	2,300	40,000	4,900,000,000	1,600,000	1,100,000
cis-1,2-Dichloroethene	156592	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	1,400	12,000	22,000	180,000	2,300,000,000	2,500,000	640,000
cis-1,3-Dichloropropene	542756	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	170	180	1,000	18,000	780,000,000	10,000	620,000
Cyclohexane	110827	ug/kg	<330	<3700	<360	<1500	<350	<310	<320	<350	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-Chloropropane	96128	ug/kg	<330	<3700	<360	<1500	<350	<310	<320	<350	10	ID	220	260	560,000	4,400	1,200
Dibromochloromethane	124481	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	1,600	ID	3,900	24,000	130,000,000	110,000	610,000
1,2-Dibromoethane	106934	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	NA	NA	NA	NA	NA	NA	NA
Dibromomethane (Methylene Bromide)	74953	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	1,600	NA	ID	ID	ID	2,500,000	2,000,000
1,2-Dichlorobenzene	95501	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	14,000	280	11,000,000	39,000,000	100,000,000,000	19,000,000	210,000
1,3-Dichlorobenzene	541731	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	170	680	26,000	79,000	20,000,000	200,000	170,000
1,4-Dichlorobenzene	106467	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	1,700	360	19,000	77,000	450,000,000	400,000	NA
Dichlorodifluoromethane	75718	ug/kg	<330	<3700	<360	<1500	<350	<310	<320	<350	95,000	ID	90,000	53,000,000	3,300,000,000,000	52,000,000	1,000,000
1,1-Dichloroethane	75343	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	18,000	15,000	230,000	2,100,000	33,000,000,000	27,000,000	890,000
1,2-Dichloroethane	107062	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	100	7,200	2,100	6,200	120,000,000	91,000	1,200,000
1,1-Dichloroethene	75354	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	140	2,600	62	1,100	62,000,000	200,000	570,000
1,2-Dichloropropane	78875	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	100	4,600	4,000	25,000	270,000,000	140,000	550,000
Diethyl ether	60297	ug/kg	<260	<3000	<280	<1200	<280	<250	<250	<280	200	ID	28,000,000	85,000,000	800,000,000,000	110,000,000	7,400,000
Diisopropyl Ether (DIPE)	108203	ug/kg	<330	<3700	<360	<1500	<350	<310	<320	<350	600	ID	670,000	340,000	4,100,000,000	920,000	1,300
Ethyl benzene	100414	ug/kg	<66	**2,000**	<71	<290	<69	<63	<63	<71	1,500	360	87,000	720,000	1,000,000,000	22,000,000	140,000
Ethyltertiarybutylether (ETBE)	637923	ug/kg	<330	<3700	<360	<1500	<350	<310	<320	<350	980	ID	540,000	1,900,000	25,000,000,000	ID	650,000
2-Hexanone (Methyl Butyl Ketone)	591786	ug/kg	<330	<3700	<360	<1500	<350	<310	<320	<350	20,000	ID	990,000	1,100,000	2,700,000,000	32,000,000	2,500,000
Isopropylbenzene	98828	ug/kg	<66	**990**	<71	<290	<69	<63	<63	<71	91,000	3,200	400,000	1,700,000	5,800,000,000	25,000,000	390,000
Methyl iodide (Iodomethane)	74884	ug/kg	<390	<750	<430	<290	<69	<380	<380	<71	NA	NA	NA	NA	NA	NA	NA
Methyl(tert)butyl ether (MTBE)	1634044	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	800	140,000	9,900,000	25,000,000	200,000,000,000	1,500,000	5,900,000
4-methyl-2-pentanone(MIBK)	108101	ug/kg	<330	<3700	<360	<1500	<350	<310	<320	<350	36,000	ID	37,000,000	45,000,000	140,000,000,000	56,000,000	2,700,000
Methylene chloride	75092	ug/kg	<130	<1500	<140	<590	<140	<130	<130	<140	100	30,000	46,000	210,000	6,600,000,000	1,300,000	2,300,000
2-Methylnaphthalene	91576	ug/kg	<330	<3700	<360	**3,600**	<350	<310	<320	<350	57,000	4,200	2,700,000	1,500,000	670,000,000	8,100,000	NA
Naphthalene	91203	ug/kg	<330	<3700	<360	<1500	<350	<310	<320	<350	35,000	730	250,000	350,000	200,000,000	16,000,000	NA
n-Butylbenzene	104518	ug/kg	<66	<750	<71	**1,500**	<69	<63	<63	<71	1,600	ID	ID	ID	2,000,000,000	2,500,000	10,000,000
n-Propylbenzene	103651	ug/kg	<66	**1,500**	<71	**340**	<69	<63	<63	<71	1,600	ID	ID	ID	1,300,000,000	2,500,000	10,000,000
p-Isopropyl Toluene (p-Cymene)	99876	ug/kg	<66	**3,800**	<71	**1,100**	<69	<63	<63	<71	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135988	ug/kg	<66	<750	<71	**830**	<69	<63	<63	<71	1,600	ID	ID	ID	400,000,000	2,500,000	10,000,000
Styrene	100425	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	2,700	2,100	250,000	970,000	5,500,000,000	400,000	520,000
TertiaryAmylmethylether (TAME)	994058	ug/kg	<330	<3700	<360	<1500	<350	<310	<320	<350	3,900	NA	58,000	340,000	4,100,000,000	29,000,000	440,000
Tertiary Butyl Alcohol (TBA)	75650	ug/kg	<3300	<37000	<3600	<15000	<3500	<3100	<3200	<3500	78,000	NA	310,000,000	97,000,000	130,000,000,000	120,000,000	110,000,000
tertiaryButylbenzene	98066	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	1,600	ID	ID	ID	670,000,000	2,500,000	10,000,000
1,1,1,2-Tetrachloroethane	630206	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	1,500	ID	6,200	36,000	420,000,000	480,000	440,000
1,1,2,2-Tetrachloroethane	79345	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	170	1,600	4,300	10,000	54,000,000	53,000	670,000
Tetrachloroethene	127184	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	100	1,200	11,000	170,000	2,700,000,000	200,000	88,000
Tetrahydrofuran (THF)	109999	ug/kg	<330	<3700	<360	<1500	<350	<310	<320	<350	1,900	220,000	1,300,000	13,000,000	390,000,000,000	2,900,000	120,000,000
Toluene	108883	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	16,000	5,400	330,000	2,800,000	27,000,000,000	50,000,000	250,000
trans-1,2-Dichloroethene	156605	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	2,000	30,000	23,000	280,000	4,700,000,000	3,800,000	1,400,000
trans-1,3-Dichloropropene	542756	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	NA	NA	NA	NA	NA	NA	NA
trans-1,4-Dichloro-2-butene	110576	ug/kg	<330	<3700	<360	<1500	<350	<310	<320	<350	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87616	ug/kg	<330	<3700	<360	<1500	<350	<310	<320	<350	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120821	ug/kg	<330	<3700	<360	<1500	<350	<310	<320	<350	4,200	5,900	9,600,000	28,000,000	25,000,000,000	990,000	1,100,000
1,1,1-Trichloroethane	71556	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	4,000	1,800	260,000	3,600,000	67,000,000,000	500,000,000	480,000
1,1,2-Trichloroethane	79005	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	100	5,600	4,600	17,000	190,000,000	180,000	920,000
Trichloroethene	79016	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	100	4,000	1,000	11,000	130,000,000	500,000	500,000
Trichlorofluoromethane	75694	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	52,000	NA	2,800,000	92,000,000	3,800,000,000,000	79,000,000	560,000
1,2,3-Trichloropropane	96184	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	840	NA	4,000	9,200	20,000,000	1,300,000	830,000
1,2,3-Trimethylbenzene	526738	ug/kg	<66	**15,000**	<71	**2,200**	<69	<63	<63	<71	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95636	ug/kg	<66	**35,000**	<71	**4,100**	<69	<63	<63	<71	2,100	570	4,300,000	21,000,000	82,000,000,000	32,000,000	110,000
1,3,5-Trimethylbenzene	108678	ug/kg	<66	**15,000**	<71	**710**	<69	<63	<63	<71	1,800	1,100	2,600,000	16,000,000	82,000,000,000	32,000,000	94,000
Vinyl chloride	75014	ug/kg	<66	<750	<71	<290	<69	<63	<63	<71	40	260	270	4,200	350,000,000	3,800	490,000
Xylenes	1330207	ug/kg	<130	**21,600**	<140	<590	<140	<130	<130	<140	5,600	820	8,300,000	46,000,000	1,000,000,000	410,000,000	150,000
All Other VOCs	Varies	ug/kg									-	-	-	-	-	-	-
Inorganics																	
Total Solids		%	89.60	84.10	86.20	84.10	86.10	91.90	92.80	84.60							

Notes:
ug/kg = micrograms per kilogram
< = less than current method detection limit
Bold = Parameter Exceeds Respective Analytical Laboratory Reporting Limit
Shade = Parameter Exceeds Respective Criterion
ID = Insufficient Data to Develop Criterion
NA = Criterion or Value is Not Available or Not Applicable
[1] MDEQ criteria taken from MDEQ Part 201 Generic Cleanup Criteria and Screening Levels - December 30, 2013
Please see MDEQ footnotes for MDEQ Part 201 Generic Cleanup Criteria and Screening Levels - December 30, 2013 criteria.

Table 1

Soil Sample Analytical Results

City of Linden
Other Sites Remedial Investigation

Soil Samples			Former gas station, known UST locations Area 6							MDEQ Residential Criteria						
Parameter	CAS No.	Units	GP-15-14 9.5-10'	GP-15-15 9-9.5'	GP-15-16 9.25-9.5'	GP-15-17 7.5-8'	GP-15-18 9.25-9.5'	GP-15-19 9.5-9.75'	GP-15-20 9-9.5'	Drinking Water Protection Criteria & RBSLs	Groundwater Surface Water Interface Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Infinite Source Volatile Soil Ambient Inhalation Criteria & RBSLs	Particulate Soil Inhalation Criteria & RBSLs	Direct Contact Criteria	Soil Saturation Concentration Screening Levels
			11/11/15	11/11/15	11/12/15	11/12/15	11/12/15	11/12/15	11/12/15							
Volatile Organic Compounds																
Acetone	67641	ug/kg	<11000	<1300	<1400	<52000	<1200	<1300	<25000	15,000	34,000	290,000,000	130,000,000	1,000,000,000	23,000,000	110,000,000
Acrylonitrile	107131	ug/kg	<2800	<330	<350	<13000	<300	<320	<6200	100	100	6,600	5,000	46,000,000	16,000	8,300,000
Benzene	71432	ug/kg	**39,000**	<67	<71	<2600	<61	<63	<1200	100	4,000	1,600	13,000	380,000,000	180,000	400,000
Bromobenzene	108861	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	550	NA	310,000	450,000	530,000,000	540,000	760,000
Bromochloromethane	74975	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75274	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	1,600	ID	1,200	9,100	84,000,000	110,000	1,500,000
Bromoform	75252	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	1,600	ID	150,000	90,000	2,800,000,000	820,000	870,000
Bromomethane (Methyl Bromide)	74839	ug/kg	<2300	<270	<280	<10000	<240	<250	<5000	200	700	860	11,000	330,000,000	320,000	2,200,000
2-Butanone (MEK)	78933	ug/kg	<2800	<330	<350	<13000	<300	<320	<6200	260,000	44,000	54,000,000	29,000,000	67,000,000,000	120,000,000	27,000,000
Carbon disulfide	75150	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	16,000	ID	76,000	1,300,000	47,000,000,000	7,200,000	280,000
Carbon tetrachloride	56235	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	100	900	100	3,500	130,000,000	96,000	390,000
Chlorobenzene	108907	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	2,000	600	120,000	770,000	4,700,000,000	4,300,000	280,000
Chloroethane	75003	ug/kg	<2800	<330	<350	<13000	<300	<320	<6200	8,600	22,000	2,900,000	30,000,000	670,000,000,000	2,600,000	980,000
Chloroform	67663	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	1,600	7,000	7,200	45,000	1,300,000,000	1,200,000	1,500,000
Chloromethane(Methyl Chloride)	74873	ug/kg	<2800	<330	<350	<13000	<300	<320	<6200	5,200	ID	2,300	40,000	4,900,000,000	1,500,000	1,100,000
cis-1,2-Dichloroethene	156592	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	1,400	12,000	22,000	180,000	2,300,000,000	2,500,000	640,000
cis-1,3-Dichloropropene	542756	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	170	180	1,000	18,000	780,000,000	10,000	620,000
Cyclohexane	110827	ug/kg	**28,000**	<330	<350	<13000	<300	<320	<6200	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-Chloropropane	96128	ug/kg	<2800	<330	<350	<13000	<300	<320	<6200	10	ID	220	260	560,000	4,400	1,200
Dibromochloromethane	124481	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	1,600	ID	3,900	24,000	130,000,000	110,000	610,000
1,2-Dibromoethane	106934	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	NA	NA	NA	NA	NA	NA	NA
Dibromomethane (Methylene Bromide)	74953	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	1,600	NA	ID	ID	ID	2,500,000	2,000,000
1,2-Dichlorobenzene	95501	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	14,000	280	11,000,000	39,000,000	100,000,000,000	19,000,000	210,000
1,3-Dichlorobenzene	541731	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	170	880	26,000	79,000	20,000,000	200,000	170,000
1,4-Dichlorobenzene	106467	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	1,700	380	19,000	77,000	450,000,000	400,000	NA
Dichlorodifluoromethane	75718	ug/kg	<2800	<330	<350	<13000	<300	<320	<6200	95,000	ID	90,000	53,000,000	3,300,000,000,000	52,000,000	1,000,000
1,1-Dichloroethane	75343	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	18,000	15,000	230,000	2,100,000	33,000,000,000	27,000,000	890,000
1,2-Dichloroethane	107062	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	100	7,200	2,100	6,200	120,000,000	91,000	1,200,000
1,1-Dichloroethene	75354	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	140	2,600	62	1,100	62,000,000	200,000	570,000
1,2-Dichloropropane	78875	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	100	4,800	4,000	25,000	270,000,000	140,000	550,000
Diethyl ether	60297	ug/kg	<2300	<270	<280	<10000	<240	<250	<5000	200	ID	28,000,000	85,000,000	800,000,000,000	110,000,000	7,400,000
Diisopropyl Ether (DIPE)	108203	ug/kg	<2800	<330	<350	<13000	<300	<320	<6200	600	ID	670,000	340,000	4,100,000,000	920,000	1,300
Ethyl benzene	100414	ug/kg	**510,000**	<67	<71	**13,000**	<61	<63	**18,000**	1,500	360	87,000	720,000	1,000,000,000	22,000,000	140,000
Ethyltertiarybutylether (ETBE)	637923	ug/kg	<2800	<330	<350	<13000	<300	<320	<6200	980	ID	540,000	1,900,000	25,000,000,000	ID	650,000
2-Hexanone (Methyl Butyl Ketone)	591786	ug/kg	<2800	<330	<350	<13000	<300	<320	<6200	20,000	ID	990,000	1,100,000	2,700,000,000	32,000,000	2,500,000
Isopropylbenzene	98828	ug/kg	**28,000**	<67	<71	**3,500**	<61	<63	**2,800**	91,000	3,200	400,000	1,700,000	5,800,000,000	25,000,000	390,000
Methyl iodide (Iodomethane)	74884	ug/kg	<3400	<400	<420	<2600	<370	<380	<1200	NA	NA	NA	NA	NA	NA	NA
Methyl(tert)butyl ether (MTBE)	1634044	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	800	140,000	9,900,000	25,000,000	200,000,000,000	1,600,000	5,900,000
4-methyl-2-pentanone(MIBK)	108101	ug/kg	<2800	<330	<350	<13000	<300	<320	<6200	36,000	ID	37,000,000	45,000,000	140,000,000,000	56,000,000	2,700,000
Methylene chloride	75092	ug/kg	<1100	<130	<140	<5200	<120	<130	<2500	100	30,000	45,000	210,000	6,600,000,000	1,300,000	2,300,000
2-Methylnaphthalene	91576	ug/kg	**19,000**	<330	<350	**100,000**	<300	<320	<6200	57,000	4,200	2,700,000	1,500,000	670,000,000	8,100,000	NA
Naphthalene	91203	ug/kg	**36,000**	<330	<350	**52,000**	<300	<320	**6,400**	35,000	730	250,000	300,000	200,000,000	19,000,000	NA
n-Butylbenzene	104518	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	1,600	ID	ID	ID	2,000,000,000	2,500,000	10,000,000
n-Propylbenzene	103651	ug/kg	**100,000**	<67	<71	**15,000**	<61	<63	**12,000**	1,600	ID	ID	ID	1,300,000,000	2,500,000	10,000,000
p-Isopropyl Toluene (p-Cymene)	99876	ug/kg	**3,600**	<67	<71	**5,900**	<61	<63	<1200	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	135988	ug/kg	**5,900**	<67	<71	**4,600**	<61	<63	<1200	1,600	ID	ID	ID	400,000,000	2,500,000	10,000,000
Styrene	100425	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	2,700	2,100	250,000	970,000	5,500,000,000	400,000	520,000
TertiaryAmylmethylether (TAME)	994058	ug/kg	<2800	<330	<350	<13000	<300	<320	<6200	3,900	NA	58,000	340,000	4,100,000,000	29,000,000	440,000
Tertiary Butyl Alcohol (TBA)	75650	ug/kg	<28000	<3300	<3500	<130000	<3000	<3200	<62000	78,000	NA	310,000,000	97,000,000	130,000,000,000	120,000,000	110,000,000
tertiaryButylbenzene	98066	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	1,600	ID	ID	ID	670,000,000	2,500,000	10,000,000
1,1,1,2-Tetrachloroethane	630206	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	1,500	ID	6,200	38,000	420,000,000	480,000	440,000
1,1,2,2-Tetrachloroethane	79345	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	170	1,500	4,300	10,000	54,000,000	53,000	870,000
Tetrachloroethene	127184	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	100	1,200	11,000	170,000	2,700,000,000	200,000	88,000
Tetrahydrofuran (THF)	109999	ug/kg	<2800	<330	<350	<13000	<300	<320	<6200	1,900	220,000	1,300,000	13,000,000	390,000,000,000	2,900,000	120,000,000
Toluene	108883	ug/kg	**320,000**	<67	<71	<2600	<61	<63	<1200	16,000	5,400	330,000	2,800,000	27,000,000,000	50,000,000	260,000
trans-1,2-Dichloroethene	156605	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	2,000	30,000	23,000	280,000	4,700,000,000	3,600,000	1,400,000
trans-1,3-Dichloropropene	542756	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	NA	NA	NA	NA	NA	NA	NA
trans-1,4-Dichloro-2-butene	110576	ug/kg	<2800	<330	<350	<13000	<300	<320	<6200	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87616	ug/kg	<2800	<330	<350	<13000	<300	<320	<6200	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120821	ug/kg	<2800	<330	<350	<13000	<300	<320	<6200	4,200	5,600	9,600,000	28,000,000	25,000,000,000	990,000	1,100,000
1,1,1-Trichloroethane	71556	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	4,000	1,800	250,000	3,800,000	67,000,000,000	500,000,000	460,000
1,1,2-Trichloroethane	79005	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	100	5,600	4,600	17,000	190,000,000	180,000	920,000
Trichloroethene	79016	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	100	4,000	1,000	11,000	130,000,000	500,000	500,000
Trichlorofluoromethane	75694	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	52,000	NA	2,800,000	92,000,000	3,800,000,000,000	79,000,000	560,000
1,2,3-Trichloropropane	96184	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	840	NA	4,000	9,200	20,000,000	1,300,000	830,000
1,2,3-Trimethylbenzene	526738	ug/kg	**120,000**	<67	<71	**110,000**	<61	<63	**20,000**	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95636	ug/kg	**620,000**	<67	<71	**420,000**	<61	<63	**96,000**	2,100	570	4,300,000	21,000,000	82,000,000,000	32,000,000	110,000
1,3,5-Trimethylbenzene	108678	ug/kg	**180,000**	<67	<71	**150,000**	<61	<63	**28,000**	1,800	1,100	2,600,000	16,000,000	82,000,000,000	32,000,000	94,000
Vinyl chloride	75014	ug/kg	<570	<67	<71	<2600	<61	<63	<1200	40	260	270	4,200	350,000,000	3,800	490,000
Xylenes	1330207	ug/kg	**2,450,000**	<130	<140	**187,000**	<120	<130	**107,600**	5,600	820	6,300,000	46,000,000	1,000,000,000	410,000,000	150,000
All Other VOCs	Varies	ug/kg								-	-	-	-	-	-	-
Inorganics																
Total Solids		%	87.90	89.40	89.1	90.1	93.40	92.50	93.10							

Notes:
ug/kg = micrograms per kilogram
< = less than current method detection limit
Bold = Parameter Exceeds Respective Analytical Laboratory Reporting Limit
Shade = Parameter Exceeds Respective Criterion
ID = Insufficient Data to Develop Criterion
NA = Criterion or Value is Not Available or Not Applicable
MDEQ criteria taken from MDEQ Part 201 Generic Cleanup Criteria and Screening Levels - December 30, 2013
Please see MDEQ footnotes for MDEQ Part 201 Generic Cleanup Criteria and Screening Levels - December 30, 2013 criteria

Table 2

Groundwater Sample Analytical Results

City of Linden
Other Sites Remedial Investigation

Groundwater Samples			Historical accounts of petroleum impacts Area 2					Former repair facility Area 5	Former gas station, known UST locations Area 6				MDEQ Residential Criteria			
Parameter	CAS No.	Units	HA-15-1 5.5-10.5'	GP-15-1 9-14'	GP-15-2 8-13'	GP-15-2 / MW-15-1	GP-15-3 / MW-15-2	GP-15-13 9-14'	GP-15-14* 9-14'	GP-15-17 7-12'	GP-15-19 8-13'	GP-15-20 8-13'	Drinking Water Criteria & RBSLs	Groundwater: Surface Water Interface Criteria & RBSLs	Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs	Flammability and Explosivity Screening Level
			11/11/2015	11/10/2015	11/10/2015	11/18/2015	11/18/2015	11/11/2015	11/12/2015	11/12/2015	11/12/2015	11/12/2015				
Volatile Organic Compounds																
Acetone	67641	ug/L	NA	NA	NA	<20	**78**	NA	NA	NA	NA	NA	730	1,700	1,000,000,000	15,000,000
Acrylonitrile	107131	ug/L	NA	NA	NA	<5	<5	NA	NA	NA	NA	NA	2.6	2	34,000	6,400,000
Benzene	71432	ug/L	**2,000**	<1	**2,600**	**250**	**790**	<1	**80**	<1	**1.8**	<10	5	200	5,600	68,000
Bromobenzene	108861	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	18	NA	180,000	ID
Bromochloromethane	74975	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75274	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	80	ID	4,800	ID
Bromoform	75252	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	80	ID	470,000	ID
Bromomethane (Methyl Bromide)	74839	ug/L	NA	NA	NA	<5	<5	NA	NA	NA	NA	NA	10	35	4,000	ID
2-Butanone (MEK)	78933	ug/L	NA	NA	NA	<5	**22**	NA	NA	NA	NA	NA	13,000	2,200	240,000,000	ID
n-Butylbenzene	104518	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	80	ID	ID	ID
sec-Butylbenzene	135988	ug/L	NA	NA	NA	<1	**1.8**	NA	NA	NA	NA	NA	80	ID	ID	ID
tert-Butylbenzene	98066	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	80	ID	ID	ID
Carbon disulfide	75150	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	800	ID	250,000	13,000
Carbon tetrachloride	56235	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	5	45	370	ID
Chlorobenzene	108907	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	100	25	210,000	160,000
Chloroethane	75003	ug/L	NA	NA	NA	<5	<5	NA	NA	NA	NA	NA	430	1,100	5,700,000	110,000
Chloroform	67663	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	80	350	28,000	ID
Chloromethane(Methyl Chloride)	74873	ug/L	NA	NA	NA	<5	<5	NA	NA	NA	NA	NA	260	ID	8,600	36,000
cis-1,2-Dichloroethene	156592	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	70	620	93,000	530,000
cis-1,3-Dichloropropene	542756	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	8.5	9	3,900	130,000
Cyclohexane	110827	ug/L	NA	NA	NA	<5	**21**	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-Chloropropane	96128	ug/L	NA	NA	NA	<5	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	124481	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	80	ID	14,000	ID
1,2-Dibromoethane	106934	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane (Methylene Bromide)	74953	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	230	NA	ID	ID
1,2-Dichlorobenzene	95501	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	600	13	160,000	NA
1,3-Dichlorobenzene	541731	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	6.6	28	18,000	ID
1,4-Dichlorobenzene	106467	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	75	17	16,000	NA
Dichlorodifluoromethane	75718	ug/L	NA	NA	NA	<5	<5	NA	NA	NA	NA	NA	1,700	ID	220,000	ID
1,1-Dichloroethane	75343	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	880	740	1,000,000	380,000
1,2-Dichloroethane	107062	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	5	360	9,600	2,500,000
1,1-Dichloroethene	75354	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	7	130	200	97,000
1,2-Dichloropropane	78875	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	5	230	16,000	550,000
Diethyl ether	60297	ug/L	NA	NA	NA	<5	<5	NA	NA	NA	NA	NA	10	ID	61,000,000	650,000
Diisopropyl Ether (DIPE)	108203	ug/L	NA	NA	NA	<5	<5	NA	NA	NA	NA	NA	30	ID	8,000	8,000
Ethyl benzene	100414	ug/L	<10	<1	<10	<1	**91**	<1	**2600**	**1.1**	<1	**650**	74	18	110,000	43,000
Ethyltertiarybutylether (ETBE)	637923	ug/L	NA	NA	NA	<5	<5	NA	NA	NA	NA	NA	49	ID	2,900,000	ID
2-Hexanone (Methyl Butyl Ketone)	591786	ug/L	NA	NA	NA	<5	<5	NA	NA	NA	NA	NA	1,000	ID	4,200,000	NA
Isopropylbenzene	98828	ug/L	NA	NA	NA	**1.6**	**7.4**	NA	NA	NA	NA	NA	800	28	56,000	29,000
Methyl Iodide (Iodomethane)	74884	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl(tert)butyl ether (MTBE)	1634044	ug/L	<10	<1	**15**	**2.2**	**17**	<1	<10	<1	<1	<10	40	7,100	47,000,000	ID
4-methyl-2-pentanone(MIBK)	108101	ug/L	NA	NA	NA	<5	<5	NA	NA	NA	NA	NA	1,800	ID	20,000,000	ID
Methylene chloride	75092	ug/L	NA	NA	NA	<5	<5	NA	NA	NA	NA	NA	5	1,500	220,000	ID
2-Methylnaphthalene	91576	ug/L	NA	NA	NA	<5	<5	NA	NA	NA	NA	NA	260	19	25,000	ID
Naphthalene	91203	ug/L	NA	NA	NA	<5	<5	NA	NA	NA	NA	NA	520	11	31,000	NA
n-Propylbenzene	103651	ug/L	NA	NA	NA	**1.4**	**4.8**	NA	NA	NA	NA	NA	80	ID	ID	ID
p-Isopropyl Toluene (p-Cymene)	99876	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100425	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	100	80	170,000	140,000
TertiaryAmylmethylether (TAME)	994058	ug/L	NA	NA	NA	<5	<5	NA	NA	NA	NA	NA	190	NA	260,000	NA
Tertiary Butyl Alcohol (TBA)	75650	ug/L	NA	NA	NA	<50	<50	NA	NA	NA	NA	NA	3,900	NA	1,000,000,000	61,000,000
1,1,1,2-Tetrachloroethane	630206	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	77	ID	15,000	ID
1,1,2,2-Tetrachloroethane	79345	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	8.5	78	12,000	ID
Tetrachloroethene	127184	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	5	60	25,000	ID
Tetrahydrofuran (THF)	109999	ug/L	NA	NA	NA	<5	<5	NA	NA	NA	NA	NA	95	11,000	6,900,000	60,000
Toluene	108883	ug/L	<10	<1	<10	<1	**52**	<1	**27**	<1	**1.8**	<10	790	270	530,000	61,000
trans-1,2-Dichloroethene	156605	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	100	1,500	85,000	230,000
trans-1,3-Dichloropropene	542756	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,4-Dichloro-2-butene	110576	ug/L	NA	NA	NA	<5	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	87616	ug/L	NA	NA	NA	<5	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	120821	ug/L	NA	NA	NA	<5	<5	NA	NA	NA	NA	NA	70	99	300,000	NA
1,1,1-Trichloroethane	71556	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	200	89	660,000	ID
1,1,2-Trichloroethane	79005	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	5	330	17,000	NA
Trichloroethene	79016	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	5	200	2,200	ID
Trichlorofluoromethane	75694	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	2,600	NA	1,100,000	ID
1,2,3-Trichloropropane	96184	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	42	NA	8,300	NA
1,2,3-Trimethylbenzene	526738	ug/L	<10	<1	**10**	<1	**51**	<1	**320**	**2.4**	<1	**170**	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95636	ug/L	<10	<1	<10	<1	**160**	<1	**1,200**	**9**	<1	**790**	63	17	56,000	56,000
1,3,5-Trimethylbenzene	108678	ug/L	<10	<1	<10	<1	**91**	<1	**250**	**2.9**	<1	**180**	72	13	61,000	ID
Vinyl chloride	75014	ug/L	NA	NA	NA	<1	<1	NA	NA	NA	NA	NA	2	13	1,100	33,000
Xylenes	1330207	ug/L	<20	<2	<10	<1	**433**	<2	**5,625**	**9**	<1	**2,348**	280	41	190,000	70,000
Other VOCs	varies	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
Inorganics- Metals																
Lead		ug/L	**9.5**	NA	**3.1**	<1	NA	ND	**4.3**	NA	**350**	**12**	4	(G,X)	NLV	ID

Notes:
* GP-15-14 is the correct sample designation. Sample mislabled in field / COC / lab report data as GP-15-15.
ug/L = micrograms per Liter
< = less than current method detection limit
Bold = Parameter Exceeds Respective Analytical Laboratory Reporting Limit
[1] MDEQ criteria taken from MDEQ Part 201 Generic Cleanup Criteria and Screening Levels - December 30, 2013
Please see MDEQ footnotes for MDEQ Part 201 Generic Cleanup Criteria and Screening Levels - December 30, 2013
ND = Parameter Not Detected at or Above Laboratory Detection Limits

Grey indicates contaminant was detected.
Yellow indicates contaminant exceeds DWC.
Blue indicates contaminant exceeds GSIC.
Green indicates contaminant exceeds both DWC and GSIC.
"ID" means insufficient data to develop criterion.
"NA" means a criterion or value is not available or, in the case of analytical result, not analyzed.
"NLV" means hazardous substance is not likely to volatilize under most conditions.
Letters in criteria columns refer to Footnotes of the Criteria/RBSLs tables.

APPENDIX A

Geophysical Survey Report

ECT Environmental Consulting & Technology, Inc.

Geophysical Imaging, Inc.
3765 Timber Valley Drive
Maumee, OH 43537
Phone/fax: (419) 868-2902

October 19, 2015

GII Project No. 15-724

Craig Simon
Staff Scientist III
Environmental Consulting & Technology, Inc.
3125 Sovereign Drive, Suite 9E
Lansing, MI 48911

Geophysical Survey Report
Broad and Bridge Streets
Linden, Michigan

Dear Mr. Simon:

This letter report summarizes the results and interpretations of the geophysical survey performed for Environmental Consulting & Technology, Inc. (ECT) by Geophysical Imaging, Inc. (GII) at the above-referenced site. The purpose of the survey was to detect if abandoned underground storage tanks (USTs) are present at the site.

Project Background

According to ECT, USTs were historically present at the site. The status of USTs is unknown.

Field Activities and Data Processing

On October 16, 2015, a combined electromagnetic induction (EM) and ground-penetrating radar (GPR) survey was conducted by GII at the site in the areas designated by ECT. Figures 1 and 2 depict the approximate areas surveyed and the general site features. The EM survey was performed in "continuous survey" mode along 2.5-foot spaced transects. GII used a GSSI EMP-400 multi-frequency EM profiler with integrated GPS. Two EM exploration frequencies (9,000 Hz and 12,000 Hz) were selected for the site. Prior to the EM survey, field, operator, and zero in-phase calibrations were performed at the site. In "continuous survey" mode, data are acquired at a fixed time interval while the operator walks along a survey line at a steady pace. Both in-phase (metal sensitive) and quadrature (terrain conductivity) measurements were acquired during the EM survey. These measurements were automatically stored in a wireless data logger, and later downloaded to a computer for subsequent processing. Two software packages

were utilized to define suspect areas, MagMap (supplied by E.G. & G. Geometrics) and SURFER (developed by Golden Software). Selected EM measurement contour maps are presented on Figures 3 and 4.

The GPR survey was performed along 5-foot spaced profiles. GII used a GSSI SIR-3000 GPR system with a 400-megahertz (MHz) dipole antenna mounted on a wheeled cart to scan the survey area. Several test scans were completed to observe the overall GPR responses to setup survey parameters prior to the GPR survey. A survey wheel was used to acquire distance-based data at the density of 18 scans per foot. Anomalous reflective objects/structures were noted and marked on the ground surface during the data acquisition. Additional linescans were performed to better understand anomalous targets. The GPR data were automatically stored in a data logger, and later downloaded to a computer for subsequent processing. The data processing consisted of Time-Zero Adjustment (time zero of the vertical scale aligned with the surface reflection) and Background Removal (horizontal banding) to the GPR scans. Targeted GPR linescans are presented on Figure 5.

Results and Interpretations

Area 1: The EM survey identified a strong EM in-phase ('metal') anomaly located at the northeastern portion of the survey grid. One targeted GPR linescan (Linescan A) was performed in this anomaly area. Based on the EM and GPR data, this anomaly area was interpreted to represent possible reinforced concrete. The GPR survey identified a backfilled excavation located at the northern portion of the survey grid. Two targeted GPR linescans (Linescans B and C) were performed in the anomaly area. More chaotic reflection response was identified on GPR scans. Based on the GPR data and site history, this anomaly area was interpreted to represent possible a former UST cavity.

Area 2: The EM survey identified a large area of strong EM 'metal' anomaly located at the western portion of the survey grid. One targeted GPR linescan (Linescan D) was performed in this anomaly area. Based on the EM and GPR data, this anomaly area was interpreted to represent possible rebar concrete.

Area 3: A strong EM 'metal' anomaly identified was associated with a metal plate on the sidewalk. The GPR survey identified a backfilled excavation located at the northeastern portion of the survey grid. One targeted GPR linescan (Linescan F) was performed in the anomaly area. Based on the GPR data and site history, this anomaly area was interpreted to represent possible a former UST cavity.

Area 4: No strong EM 'metal' anomaly was identified. The GPR survey identified two backfilled excavations located at the western and southern portions of the survey grid, respectively. Four targeted GPR linescans (Linescans G, H, I, and J) were performed in these anomaly areas. More or less chaotic reflection response was identified on GPR scans. Based on the GPR data and site history, these anomaly areas were interpreted to represent possible former UST cavities.

Area 5: The EM survey identified a strong EM 'metal' anomaly located at the western portion of the survey grid. One targeted GPR linescan (Linescan K) was performed in this anomaly area. Two hyperbolic reflection responses was detected on GPR scans. The shape, strength and ring-down of these reflections are similar to the GPR response that is often observed over cylindrical-shaped objects such as USTs, large diameter pipes or cylindrical-shaped containers. Based on the EM and GPR data, this anomaly area was interpreted to represent two possible USTs.

Survey Methods and Limitations

The EM operates by driving a transmitter coil with an AC current at audio frequencies to generate a sinusoidal time-varying magnetic field. A receiver coil is positioned on or near the surface of the earth some distance away from the transmitter coil. The transmitted time-varying magnetic field generated by the transmitter coil induces secondary currents to flow in the subsurface, which in turn generate a secondary (induced) magnetic field. Both the induced secondary field, along with the primary field, is detected and recorded at the receiver coil.

The EM instruments contain two sets of coils that are located within opposite sides of the tool. One set of coil is used to transmit a primary magnetic field, which generates electrical current in the ground. The created current then generates a secondary magnetic field, which is sensed by the coils in the receiver end of the instrument. Data is then collected on a control unit indicating the conductivity of the earth. The magnitude of the secondary field is broken into two orthogonal components. The two components of the secondary magnetic field are in-phase (real component) and the quadrature or out-of-phase (imaginary component). For instruments operating within the Low Induction Number (LIN) approximation, the magnitude of the quadrature component of the secondary field is linearly proportional to the apparent conductivity. The in-phase measurement is most sensitive to buried metallic objects and can be used locate buried steel reinforced structures, UST, large utility pipes, and other metallic targets. In the absence of a highly conductive material (e.g. metallic targets) in the subsurface, the magnitude of the in-phase component is dependant on the magnetic susceptibility of the subsurface. The EMP-400 allows multiple frequency measurements at each survey station. The depth of exploration depends on the operating frequencies, target size and shape, and host-target conductivity. Site conditions that can limit, even preclude EM data interpretation include: urban or developed areas, thunderstorms and nearby metallic objects at or above the ground surface such as parked vehicles near the survey stations, rebar concrete, metal siding, overhead power lines, metal fence/guard rail, and manhole covers, etc. Areas of a site that may be difficult or impossible to survey include: steep slopes, standing water areas, overgrown vegetation areas, and obstructed areas.

GPR operates by transmitting pulses of ultra high frequency radio waves (microwave electromagnetic energy) down into the ground through a transducer or antenna. When the transmitted signal enters the ground, it contacts objects or subsurface strata with

different electrical conductivities and dielectric constants. Part of the ground penetrating radar waves reflect off of the object or interface; while the rest of the waves pass through to the next interface. The reflected signals return to the antenna, pass through the antenna, and are received by the digital control unit. The control unit registers the reflections against two-way travel time in nanoseconds (ns) and then amplifies the signals. The output signal voltage peaks are plotted on the GPR profile as different color bands by the digital control unit.

GPR waves with 400 MHz frequency typically can reach depths up to 12 feet below ground surface (bgs) in low conductivity materials such as dry sand or granite. Clays, shale, and other high conductivity materials or materials having high moisture, may attenuate or absorb GPR signals, greatly decreasing the depth of penetration to 3 feet bgs or less. Other site conditions that can limit even preclude GPR data acquisition and interpretation include: surface obstructions, uneven ground surface, standing water, cellular tower, rebar concrete, small or shallow buried objects, and over-grown vegetation, etc.

Conclusions

This geophysical survey has identified seven anomalies, one of which may represent two buried USTs. The geophysical results presented herein are interpreted. No warranty, certification, or statement of fact, either expressed or implied, regarding actual subsurface conditions within the surveyed area(s) is contained herein. If uncertainties exist regarding the presence of geophysical anomalies, test pit excavations should be conducted to explore the actual subsurface conditions. No interpretation of subsurface conditions can be made for areas not surveyed or paved with rebar concrete. Please note that the survey data reflect site conditions on the day of the field survey.

GII greatly appreciates this opportunity to provide ECT with our geophysical survey service. If you have any questions, please contact me at (419) 868-2902.

Sincerely,

Geophysical Imaging, Inc.

Ming He
President/Geophysicist

Attachments
Figures 1 – 5

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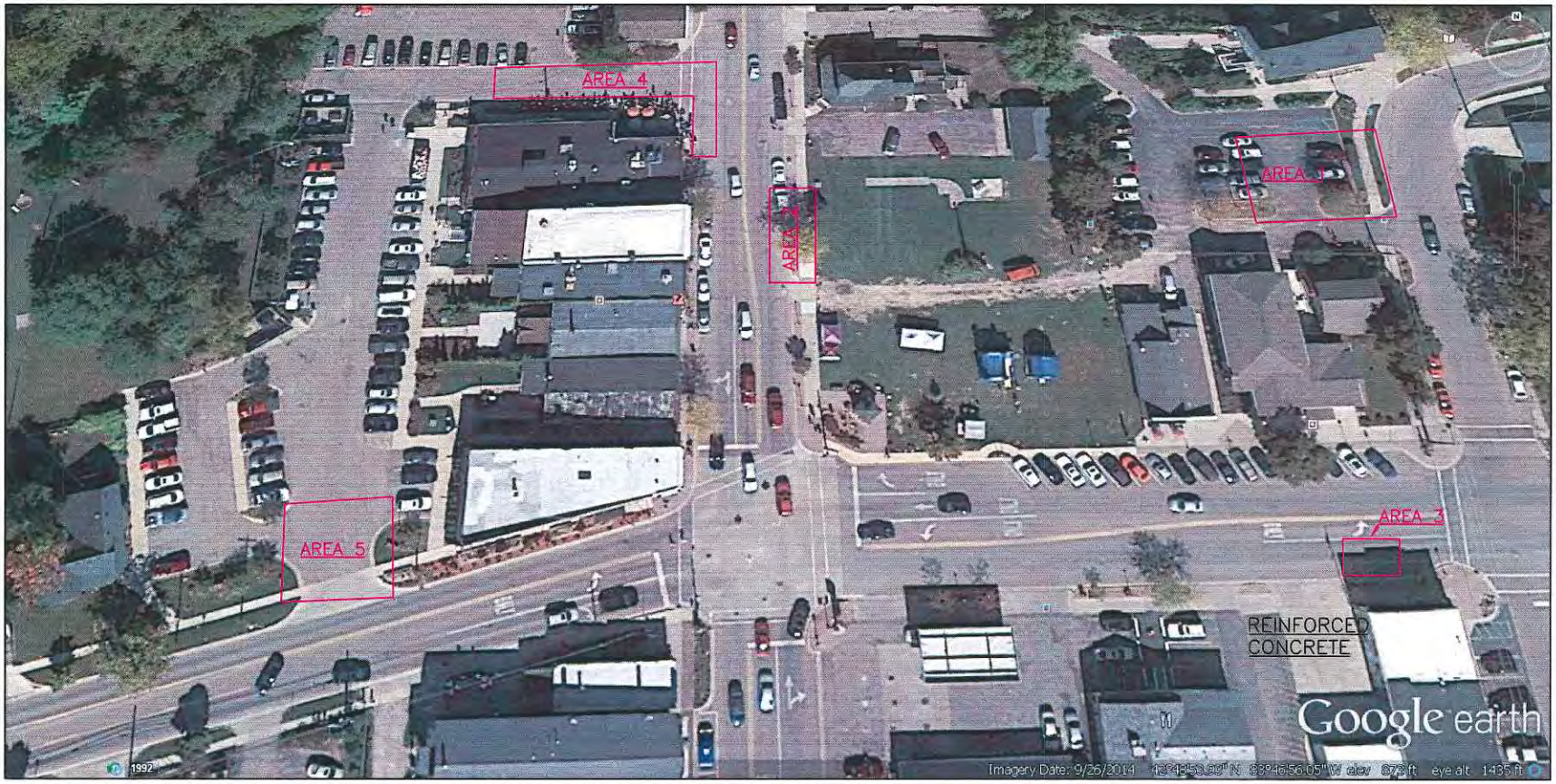


NOT TO SCALE

FIGURE 1

SURVEY AREA DIAGRAM

BROAD AND BRIDGE STREETS
LINDEN, MICHIGAN

Client
ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC.
LANSING, MICHIGAN

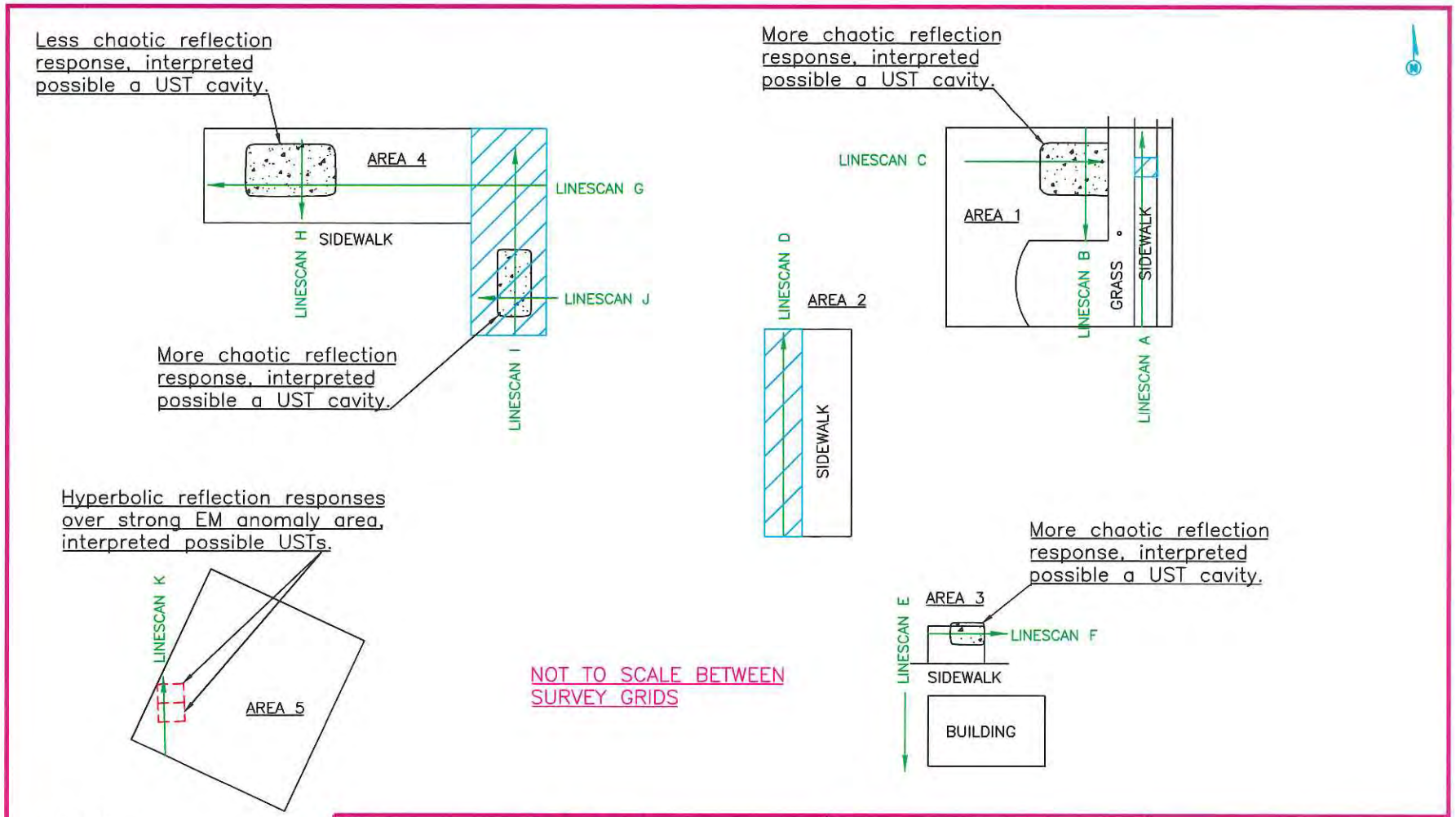
GEOPHYSICAL IMAGING, INC.
3765 TIMBER VALLEY DR
MAUMEE, OH 43537

DRAWN MH

CHECKED

DRAWING NAME
15-724Fig1

Geophysical Imaging



LEGEND:

o FIRE HYDRANT

REBAR CONCRETE

APPROXIMATE SCALE – FEET

0 40 80

FIGURE 2
SURVEY DIAGRAM WITH GEOPHYSICAL INTERPRETATIONS
BROAD AND BRIDGE STREETS
LINDEN, MICHIGAN

Client
ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC.
LANSING, MICHIGAN

GEOPHYSICAL IMAGING, INC.
3765 TIMBER VALLEY DR
MAUMEE, OH 43537

DRAWN MH

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DRAWING NAME
15-724Fig2

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LEGEND:

- FIRE HYDRANT
- REBAR CONCRETE

APPROXIMATE SCALE – FEET

0 40 80

FIGURE 3
EM IN-PHASE (METAL SENSITIVE)
CONTOUR MAP – 9,000 Hz
BROAD AND BRIDGE STREETS
LINDEN, MICHIGAN

Client
ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC.
LANSING, MICHIGAN

GEOPHYSICAL IMAGING, INC.
3765 TIMBER VALLEY DR
MAUMEE, OH 43537

DRAWN MH

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DRAWING NAME
15-724Fig3

Geophysical Imaging

LEGEND:

- FIRE HYDRANT
- REBAR CONCRETE

APPROXIMATE SCALE – FEET

0 40 80

FIGURE 4
EM QUADRATURE (TERRAIN CONDUCTIVITY) CONTOUR MAP – 9,000 Hz
BROAD AND BRIDGE STREETS
LINDEN, MICHIGAN

Client
ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC.
LANSING, MICHIGAN

GEOPHYSICAL IMAGING, INC.
3765 TIMBER VALLEY DR
MAUMEE, OH 43537

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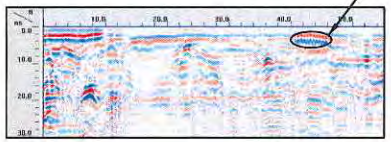
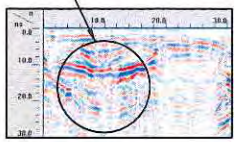
15-724Fig4

Geophysical Imaging

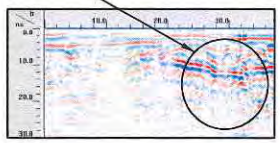
LINESCAN A: reinforced concrete.



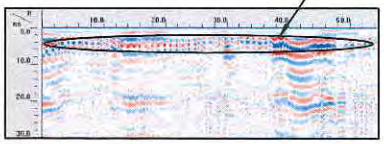
LINESCAN B: more chaotic reflection response, interpreted possible a UST cavity.



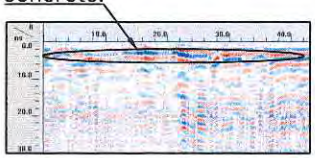
LINESCAN C: more chaotic reflection response, interpreted possible a UST cavity.



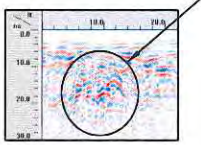
LINESCAN D: rebar concrete.



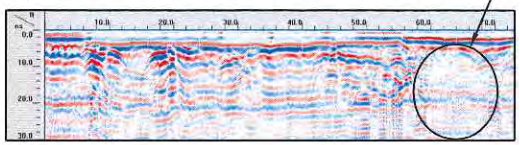
LINESCAN E: reinforced concrete.



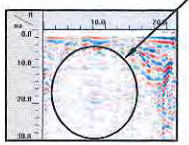
LINESCAN F: more chaotic reflection response, interpreted possible a UST cavity.



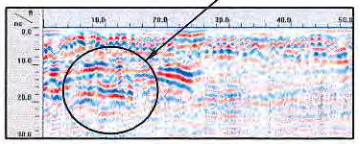
LINESCAN G: less chaotic reflection response, interpreted possible a UST cavity.



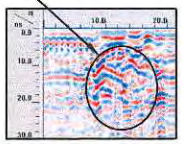
LINESCAN H: less chaotic reflection response, interpreted possible a UST cavity.



LINESCAN I: more chaotic reflection response, interpreted possible a UST cavity.



LINESCAN J: more chaotic reflection response, interpreted possible a UST cavity.



LINESCAN K: hyperbolic reflection responses over strong EM anomaly area, interpreted possible USTs.

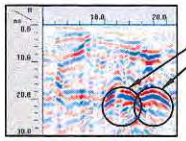


FIGURE 5
TARGETED GPR LINESCANS
LINESCANS A THROUGH K
BROAD AND BRIDGE STREETS
LINDEN, MICHIGAN

Client
ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC.
LANSING, MICHIGAN

GEOPHYSICAL IMAGING, INC.
3765 TIMBER VALLEY DR
MAUMEE, OH 43537

DRAWN MH

CHECKED

DRAWING NAME
15-724Fig5

Geophysical Imaging

APPENDIX B

Soil Boring Logs

ECT Environmental Consulting & Technology, Inc.

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LOG OF BORING GP-15-1

Other Site Investigation
Broad/Bridge Street Benzene Contamination
Linden, Michigan

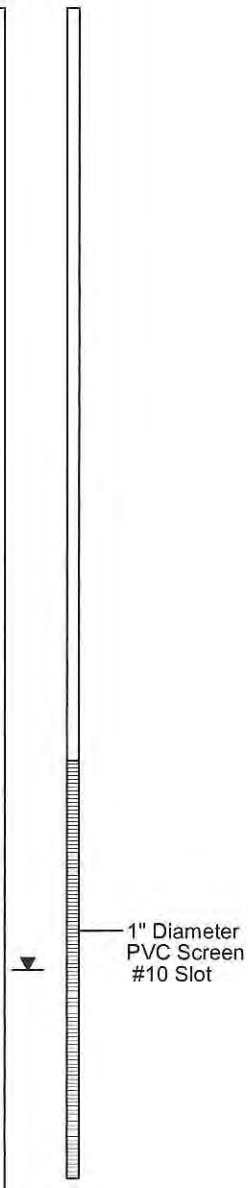
Project #15-0831

Date Completed : 11/10/2015
Hole Diameter : 2.5"
Drilling Company : N. American Probing Services
Drilling Method : 5410DT
Company Rep. : Craig J. Simon

Boring Location : East Broad Street R.O.W.

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (%)	Sample ID	DESCRIPTION	REMARKS
0						ASPHALT	
1	GW		0.0			SANDY GRAVEL, brown/gray	
2	SP			60		SAND, brown, fine to medium grained, trace gravel	
3			0.0				
4							
5			0.0				
6							
7			0.0	90			
8							
9	CL					SANDY CLAY, brown/gray, fat, plastic	
10	CL		0.0			SANDY CLAY, gray, with gravel	
11					GP-15-1(10.5-11')		
12	SP		0.0			SAND, gray, fine grained, trace of clay, saturated	
13	CL		0.0	90		SANDY CLAY, gray, with gravel, moist, no odor	
14							
15						End of Boring bgs - below ground surface	

GP-15-1 (Temp.):



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LOG OF BORING GP-15-2

Other Site Investigation
Broad/Bridge Street Benzene Contamination
Linden, Michigan

Project #15-0831

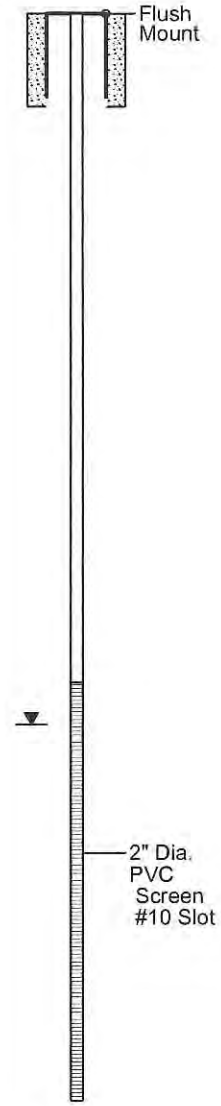
Date Completed : 11/10/2015
Hole Diameter : 2.5"
Drilling Company : N. American Probing Services
Drilling Method : 5410DT
Company Rep. : Craig J. Simon

Boring Location : Northeast Corner
: Broad/Bridge Intersection

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (%)	Sample ID	DESCRIPTION	REMARKS
0						GRAVEL, MASON SAND (fill), brick pavers at surface	
1			0.0			SAND, brown, fine to medium grained, trace silt, moist	
2				30			
3	SP		0.0				
4							
5			0.0				
6	SM					SILTY SAND, brown, fine grained, saturated	
						SAND, brown, fine to coarse grained, trace gravel, moist	
7			0.0				
8	SP			60			
9			0.0			SANDY CLAY, gray, trace gravel, moist, soft	
	CL				GP-15-2(9.5-10')		
10						SANDY GRAVEL, gray, saturated, no odor	
11	GW		0.0				
12						SANDY CLAY, gray, medium-soft, no odor	
13	CL		0.0	90			
14							
15			0.0				

End of Boring
bgs - below ground surface

MW-15-1:



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LOG OF BORING GP-15-3

Other Site Investigation
Broad/Bridge Street Benzene Contamination
Linden, Michigan

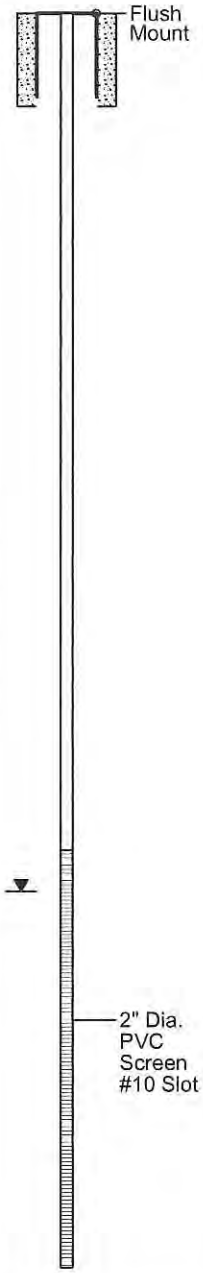
Project #15-0831

Date Completed : 11/10/2015
Hole Diameter : 2.5"
Drilling Company : N. American Probing Services
Drilling Method : 5410DT
Company Rep. : Craig J. Simon

Boring Location : North Bridge Street R.O.W.

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (%)	Sample ID	DESCRIPTION	REMARKS
0						CONCRETE	
1	SM		0.0			SILTY SAND, brown, fine to medium grained, trace gravel, moist	
2	SM			70		SILTY SAND, brown, fine grained	
3			0.0			SANDY CLAY, brown, medium-stiff, moist	
4							
5			0.0				
6	CL						
7			0.0	70			
8							
9	SM					SILTY SAND, brown, trace gravel, saturated	
	SS					SANDSTONE, gray, saturated, no odor	smells old, degraded
	GW		3.2		GP-15-3(9.8-10')	GRAVEL, gray/black, trace sand, stained, moderate hydrocarbon odor	
10	CL					SANDY CLAY, gray, medium-stiff, moist, no odor	
11						CLAYEY SAND, dark gray, fine to coarse grained, stained, strong fresh hydrocarbon (gasoline) odor	
12	SC		87.4	40			
13							
14	CL		0.0			SANDY CLAY, gray, trace gravel, no odor	
15						End of Boring bgs - below ground surface	

MW-15-2:



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LOG OF BORING GP-15-4

Other Site Investigation
Broad/Bridge Street Benzene Contamination
Linden, Michigan

Project #15-0831

Date Completed : 11/10/2015
Hole Diameter : 2.5"
Drilling Company : N. American Probing Services
Drilling Method : 5410DT
Company Rep. : Craig J. Simon

Boring Location : Former Linden Milling Co.

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (%)	Sample ID	DESCRIPTION	REMARKS
0						ASPHALT	
	SM					SILTY SAND, brown/gray, fine grained, trace gravel, dry	
1							
	SP		0.0			SAND, brown, fine to medium grained, trace silt, moist, no odor	
2				40			
	CL		0.0			SANDY CLAY, brown, some gravel, moist, no odor	
3							
4							
5	CL		3.2		GP-15-4(5.5-6')	SANDY CLAY, gray, mild hydrocarbon odor at 5-6' bgs	Smells old, degraded
6							
7			0.3	100			
8							
9			0.0				
10							
11			0.0				
12				90			
13			0.0				
14							
15							

End of Boring
bgs - below ground surface

ECT Environmental Consulting & Technology, Inc.
www.ectinc.com

LOG OF BORING GP-15-5

Other Site Investigation
Broad/Bridge Street Benzene Contamination
Linden, Michigan

Project #15-0831

Date Completed : 11/10/2015
Hole Diameter : 2.5"
Drilling Company : N. American Probing Services
Drilling Method : 5410DT
Company Rep. : Craig J. Simon

Boring Location : Adjacent to 208 North Bridge

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (%)	Sample ID	DESCRIPTION	REMARKS
0						ASPHALT	
	SW		0.0			SANDY GRAVEL, brown, loose, dry	
1							
2	SP			50		SAND, tan, fine to medium grained, trace silt, moist, loose	
3			0.0				
4	SM					SILTY SAND, dark brown, fine grained, cohesive, moist, no odor	
5			0.0			RED BRICK, fill	
6	SM				GP-15-5(6-6.5')	SILTY SAND, dark brown, fine grained, cohesive, moist, no odor	
	CL					SANDY CLAY, brown, medium-soft, moist	
7			0.0	80			
8							
9			0.0				
10							
11			0.0				
12				100			
13			0.0				
14							
15			0.0				

End of Boring
bgs - below ground surface

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LOG OF BORING GP-15-6

Other Site Investigation
Broad/Bridge Street Benzene Contamination
Linden, Michigan

Project #15-0831

Date Completed : 11/11/2015
Hole Diameter : 2.5"
Drilling Company : N. American Probing Services
Drilling Method : 5410DT
Company Rep. : Craig J. Simon

Boring Location : North Bridge Street R.O.W.
: (123 North Bridge)

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (%)	Sample ID	DESCRIPTION	REMARKS
0						ASPHALT	
1			0.0			NO RECOVERY	
2				10			
3			0.0				
4							
5	SC		0.0		GP-15-6(5-5.5')	CLAYEY SAND, fine grained, soft, moist	
6							
7	CL		0.0	100		SANDY CLAY, brown, medium-stiff	
8							
9			0.0				
10	CL					CLAY, brown/gray, with sand trace gravel, stiff, no odor	
11			0.0				
12				100			
13			0.0				
14							
15			0.0				

End of Boring
bgs - below ground surface

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LOG OF BORING GP-15-7

Other Site Investigation
Broad/Bridge Street Benzene Contamination
Linden, Michigan

Project #15-0831

Date Completed : 11/11/2015
Hole Diameter : 2.5"
Drilling Company : N. American Probing Services
Drilling Method : 5410DT
Company Rep. : Craig J. Simon

Boring Location : Hamrick Street R.O.W.

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (%)	Sample ID	DESCRIPTION	REMARKS
0						ASPHALT	
1	SM		3.1			SILTY SAND, brown, fine to medium grained, loose, dry	
2	SM		10.0	60		SILTY SAND, brown/gray (stained), moist, strong degraded hydrocarbon odor	
3							
4			687		GP-15-7(4.5.5-5)		
5			91				
6	CL		55			SANDY CLAY, brown, soft, degraded hydrocarbon odor	
7			12	100			
8	CL		0.0			CLAY, brown, medium-soft, some sand, no odor	
9							
10							
11			0.0				
12	CL			100		CLAY, gray, trace sand and gravel, no odor	
13							
14			0.0				
15							

End of Boring
bgs - below ground surface

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LOG OF BORING GP-15-8

Other Site Investigation
Broad/Bridge Street Benzene Contamination
Linden, Michigan

Project #15-0831

Date Completed : 11/11/2015
Hole Diameter : 2.5"
Drilling Company : N. American Probing Services
Drilling Method : 5410DT
Company Rep. : Craig J. Simon

Boring Location : Hamrick Street R.O.W.

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (%)	Sample ID	DESCRIPTION	REMARKS
0						ASPHALT	
						GRAVEL	
1			0.0			SAND, fine to medium grained, trace gravel, no odor	
2				40			
3	SP		0.0				
4							
5			0.0		GP-15-8(5-5.25')	CLAY, brown, with sand, trace silt, medium-soft, moist	
	CL						
6						CLAY, brown, with silt and some sand, trace gravel, medium-stiff	
7			0.0	90			
8							
9			0.0				
10	CL						
11			0.0				
12				80			
13			0.0				
14							
15			0.0				

End of Boring
bgs - below ground surface

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LOG OF BORING GP-15-9

Other Site Investigation
Broad/Bridge Street Benzene Contamination
Linden, Michigan

Project #15-0831

Date Completed : 11/11/2015
Hole Diameter : 2.5"
Drilling Company : N. American Probing Services
Drilling Method : 5410DT
Company Rep. : Craig J. Simon

Boring Location : Hamrick Street R.O.W.

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (%)	Sample ID	DESCRIPTION	REMARKS
0						ASPHALT	
						GRAVEL	
1	SM			40		SILTY SAND, brown, fine grained, trace gravel (fill)	
2							
3							
4							
5	SM					SILTY SAND, dark brown, trace brick and gravel	
6	CL		12	100		CLAY, brown/gray, mottled, with sand, trace gravel, medium-soft, strong degraded hydrocarbon odor throughout	
7			38				
8			80 119		GP-15-9(8-8.25)		
9	CL		31 3.8			SANDY CLAY, gray, trace gravel, medium-stiff	dissapating odor with depth
10	ML					SILT, gray, dry	
11						End of Boring bgs - below ground surface	
12							
13							
14							
15							

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LOG OF BORING GP-15-10

Other Site Investigation
Broad/Bridge Street Benzene Contamination
Linden, Michigan

Project #15-0831

Date Completed : 11/11/2015
Hole Diameter : 2.5"
Drilling Company : N. American Probing Services
Drilling Method : 5410DT
Company Rep. : Craig J. Simon

Boring Location : Linden Municipal
: Parking Lot Entrance

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (%)	Sample ID	DESCRIPTION	REMARKS
0						TOPSOIL,vegetation	
1	SP		0.0	60		SAND, brown, fine to medium grained, trace silt (fill), moist, loose	
2							
3			0.0				
4							
5			0.0				
6							
7			0.0	60			
8							
9			0.0		GP-15-10(8.5-9')		▼
10	SP					SAND, tan, fine to medium grained	
11			0.0				
12				80			
13	CL		0.0			SILTY CLAY, gray, trace sand and gravel, medium-stiff, moist	
14							
15						End of Boring bgs - below ground surface	

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LOG OF BORING GP-15-11

Other Site Investigation
Broad/Bridge Street Benzene Contamination
Linden, Michigan

Project #15-0831

Date Completed : 11/11/2015
Hole Diameter : 2.5"
Drilling Company : N. American Probing Services
Drilling Method : 5410DT
Company Rep. : Craig J. Simon

Boring Location : Linden Municipal
: Parking Lot Entrance

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (%)	Sample ID	DESCRIPTION	REMARKS
0						ASPHALT	
						SANDY GRAVEL, brown, dry, loose	
1			0.0			SAND, brown/orange, fine to coarse grained, trace gravel, moist, loose	
2				50			
3			0.0				
4	SP						
5			0.0				
6							
7			0.0	70			
8							
						SAND, tan, fine to medium grained,	
9			0.0		GP-15-11(9-9.5')		▼
10	SP						
11			0.0			SILTY CLAY, gray, trace gravel, medium-soft, moist	
12				90			
13	CL		0.0				
14							
15			0.0				
						End of Boring bgs - below ground surface	

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LOG OF BORING GP-15-12

Other Site Investigation
Broad/Bridge Street Benzene Contamination
Linden, Michigan

Project #15-0831

Date Completed : 11/11/2015
Hole Diameter : 2.5"
Drilling Company : N. American Probing Services
Drilling Method : 5410DT
Company Rep. : Craig J. Simon

Boring Location : Linden Municipal
: Parking Lot Entrance

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (%)	Sample ID	DESCRIPTION	REMARKS
0						ASPHALT	
1			0.0			GRAVEL, gray, with sand, dry, loose	
2	SP			50		SAND, brown/orange, fine to medium grained, with silt, trace gravel, moist, loose	
3			0.0				
4							
5			0.0				
6					GP-15-12(6-6.5')		gray color from 6-6.5' bgs (stain?) no odor
7			0.0	70			
8							
9			0.0			SAND, tan, fine to medium grained	
10	SP						
11			0.0				
12				90			
13	ML		0.0			SANDY SILT, gray, cohesive, moist	
14	CL					CLAY, gray, with sand, medium-soft, moist, soft	
15			0.0				

End of Boring
bgs - below ground surface

ECT Environmental Consulting & Technology, Inc.
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LOG OF BORING GP-15-13

Other Site Investigation
Broad/Bridge Street Benzene Contamination
Linden, Michigan

Project #15-0831

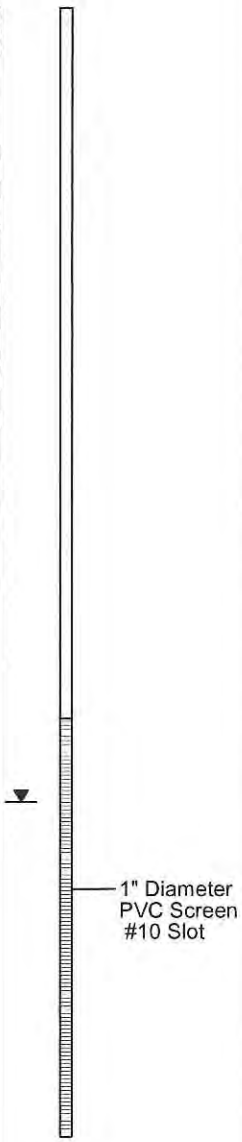
Date Completed : 11/11/2015
Hole Diameter : 2.5"
Drilling Company : N. American Probing Services
Drilling Method : 5410DT
Company Rep. : Craig J. Simon

Boring Location : Linden Municipal
: Parking Lot Entrance

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (%)	Sample ID	DESCRIPTION	REMARKS
0–1						TOPSOIL with vegetation	
1–4			0.0 0.0	50		GRAVELLY SAND, brown/gray, fine to medium grained, moist, loose	
4–6	SP		0.0			SAND, orange, fine to coarse grained, trace silt, moist, loose	
6–14	SP		0.0 0.0 0.0 0.0	80 90	GP-15-13(9-9.5')	SAND, tan, fine to medium grained	
14–15	CL		0.0			CLAY, gray, with silt and trace sand, medium-soft, moist	

End of Boring
bgs - below ground surface

GP-15-13 (Temp.):



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LOG OF BORING GP-15-14

Other Site Investigation
Broad/Bridge Street Benzene Contamination
Linden, Michigan

Project #15-0831

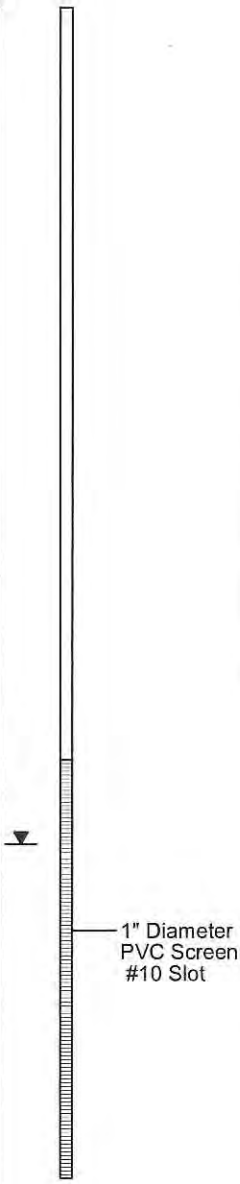
Date Completed : 11/11/2015
Hole Diameter : 2.5"
Drilling Company : N. American Probing Services
Drilling Method : 5410DT
Company Rep. : Craig J. Simon

Boring Location : Walmar Street R.O.W.

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (%)	Sample ID	DESCRIPTION	REMARKS
0						SANDY GRAVEL, brown	
1	SM		0.0	50		SILTY SAND, brown, fine to medium grained, trace gravel (fill), moist, loose	
2							
3	SM		0.0			SILTY SAND, dark brown, with gravel, trace clay	
4	SM		15.2 35 121			SILTY SAND, dark brown/black, fine grained, moderate degraded hydrocarbon odor	
5	SM		290	60		SILTY SAND, dark brown/black, fine grained, very strong hydrocarbon odor (fresh) throughout	
6							
7							
8			710				
9							
10			1312		GP-15-14(9.5-10')		
11							
12				70			stained dark gray to black from 12-13' bgs
13							
14							
15	CL		0.0			CLAY, gray, with sand, trace gravel, medium-stiff, moist, no odor	

End of Boring
bgs - below ground surface

GP-15-14 (Temp.):



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LOG OF BORING GP-15-15

Other Site Investigation
Broad/Bridge Street Benzene Contamination
Linden, Michigan

Project #15-0831

Date Completed : 11/11/2015
Hole Diameter : 2.5"
Drilling Company : N. American Probing Services
Drilling Method : 5410DT
Company Rep. : Craig J. Simon

Boring Location : 120 West Broad Street

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (%)	Sample ID	DESCRIPTION	REMARKS
0						TOPSOIL,vegetation	
1	SP		0.0	70		SAND, tan/brown, fine to coarse grained, trace gravel	
2							
3			0.0				
4							
5	SP		0.0	60		SAND, tan/brown, fine to coarse grained, trace gravel, wet at 9.75' bgs	
6							
7			0.0				
8							
9			0.0		GP-15-15(9-9.5')		
10	SP		0.0	50		SAND, tan/brown, fine to coarse grained, increasing gravel with depth, saturated	
11							
12							
13			0.0				
14							
15						End of Boring bgs - below ground surface	

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LOG OF BORING GP-15-16

Other Site Investigation
Broad/Bridge Street Benzene Contamination
Linden, Michigan

Project #15-0831

Date Completed : 11/12/2015
Hole Diameter : 2.5"
Drilling Company : N. American Probing Services
Drilling Method : 5410DT
Company Rep. : Craig J. Simon

Boring Location : 120 West Broad Street

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (%)	Sample ID	DESCRIPTION	REMARKS
0						ASPHALT	
						GRAVEL, gray, with sand, dry, loose	
1	SP		0.0			SAND, brown, fine to medium grained, trace sand and gravel, gray stain at 9.25-9.5' bgs, mild degraded hydrocarbon odor	
2				50			
3			0.0				
4							
5			0.0				
6							
7			0.0	70			
8							
9			4.1		GP-15-16(9.25-9.5')		
10	SP					SAND, brown, fine to medium grained with gravel, saturated, no odor/stain	
11			0.0				
12				90			
13			0.0				
14							
15			0.0				

End of Boring
bgs - below ground surface

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LOG OF BORING GP-15-17

Other Site Investigation
Broad/Bridge Street Benzene Contamination
Linden, Michigan

Project #15-0831

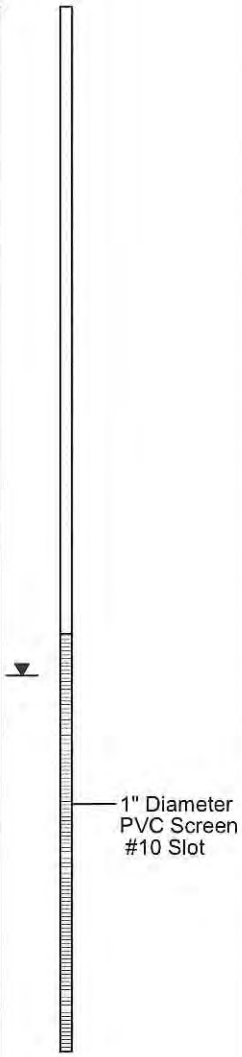
Date Completed : 11/12/2015
Hole Diameter : 2.5"
Drilling Company : N. American Probing Services
Drilling Method : 5410DT
Company Rep. : Craig J. Simon

Boring Location : 120 West Broad Street

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (%)	Sample ID	DESCRIPTION	REMARKS
0						ASPHALT	
						GRAVEL, with some sand	
1						SAND, brown/orange, fine to medium grained, trace sand and gravel	
			0.0				
2				50			
3	SP						
			0.0				
4							
5						SAND, brown/orange, fine to medium grained, trace sand and gravel, gray/black stain from 8.5-10' bgs, strong (fresh) hydrocarbon odor	
			0.0				
6							
7							
	SP			60			
					GP-15-17(7.5-8')		
8			1001				
9			454.3				
10						SAND, brown/orange, fine to medium grained, trace sand and gravel, no stain, mild hydrocarbon odor	
			4.1				
11							
	SP						
12			0.0	80			
13						SILTY CLAY, gray, trace sand, medium-stiff, moist	
14	CL		0.0				
15						End of Boring	

bgs - below ground surface

GP-15-17 (Temp.):



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LOG OF BORING GP-15-18

Other Site Investigation
Broad/Bridge Street Benzene Contamination
Linden, Michigan

Project #15-0831

Date Completed : 11/12/2015
Hole Diameter : 2.5"
Drilling Company : N. American Probing Services
Drilling Method : 5410DT
Company Rep. : Craig J. Simon

Boring Location : 120 West Broad Street

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (%)	Sample ID	DESCRIPTION	REMARKS
0						CONCRETE	
1	SP		0.0	40		SAND, brown, fine to medium grained, trace silt	
2							
3			0.0				
4							
5			0.0				
6	SP			60		SAND, brown, fine to medium grained, trace silt, saturated, 1"- thick black stain at 10' bgs disappears immediately, mild degraded hydrocarbon odor	
7			0.0				
8							
9			1.7		GP-15-18(9.25-9.5')		
10			195				
11							
12	CL		0.0	70		SILTY CLAY, gray, stiff, moist	
13							
14			0.0				
15						End of Boring bgs - below ground surface	

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LOG OF BORING GP-15-19

Other Site Investigation
Broad/Bridge Street Benzene Contamination
Linden, Michigan

Project #15-0831

Date Completed : 11/12/2015
Hole Diameter : 2.5"
Drilling Company : N. American Probing Services
Drilling Method : 5410DT
Company Rep. : Craig J. Simon

Boring Location : 120 West Broad Street

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (%)	Sample ID	DESCRIPTION	REMARKS
0						CONCRETE	
1	SP		0.0	50		SAND, brown, fine to medium grained, trace silt, loose, moist	
2							
3			0.0				
4							
5			0.0				
6	SP			50		SAND, brown, fine to medium grained, trace silt, loose, moist, no odor/stain	
7			0.0				
8					GP-15-19(9.5-9.75')		
9			0.0				
10							
11			0.0			SILTY CLAY, gray, trace gravel, medium-soft, moist, no odor	
12	CL			90			
13			0.0				
14							
15			0.0			End of Boring bgs - below ground surface	

GP-15-19 (Temp.):

1" Dia. PVC Screen #10 Slot

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LOG OF BORING GP-15-20

Other Site Investigation
Broad/Bridge Street Benzene Contamination
Linden, Michigan

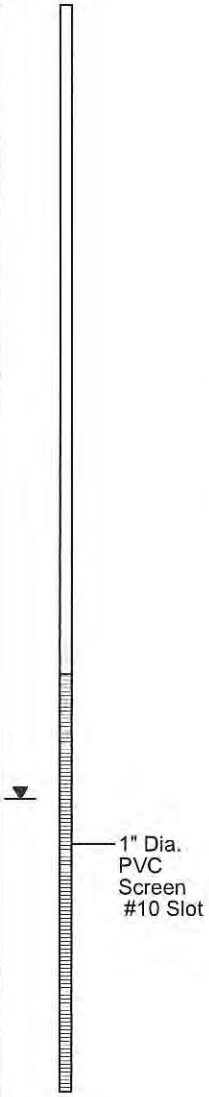
Project #15-0831

Date Completed : 11/12/2015
Hole Diameter : 2.5"
Drilling Company : N. American Probing Services
Drilling Method : 5410DT
Company Rep. : Craig J. Simon

Boring Location : 120 West Broad Street

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (%)	Sample ID	DESCRIPTION	REMARKS
0						CONCRETE	
						SANDY GRAVEL, brown	
1			0.0			SAND, brown, fine to medium grained, trace gravel, loose, moist	
2				60			
3	SP		0.0				
4							
5						SAND, brown, fine to medium grained, with silt, brick and coal fragments present from 5-7' bgs, strong hydrocarbon odor present from 7.5-10' bgs, smells moderately fresh, light gray stain at 10-11' bgs	
6			0.0				
7			19				
8	SP		85	60			
9			395		GP-15-20(9-9.5')		
10			715				
11			8.1				
			0.0			SANDY GRAVEL, brown, saturated, no stain	
12						SANDY CLAY, gray, medium-soft, moist, no odor	
13	CL			90			
14							
15						End of Boring bgs - below ground surface	

GP-15-20 (Temp.):



ECT Environmental Consulting & Technology, Inc.
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LOG OF BORING HA-15-1

Other Site Investigation
Broad/Bridge Street Benzene Contamination
Linden, Michigan

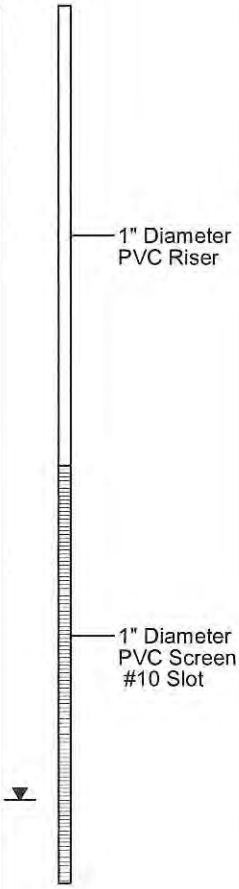
Project #15-0831

Date Completed : 11/10/2015
Hole Diameter : ~3"
Drilling Company : ECT, Inc.
Drilling Method : Hand Auger
Company Rep. : Jason Bartholomew

Boring Location : West Broad Street
: South Side of Thimbleberry
: Antiques (Flower Bed)

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Recovery (%)	Sample ID	DESCRIPTION	REMARKS
0						Mulch	
			0			Fill, slag	
1						SAND, brown, medium grained, fine-coarse gravel, moist	
			0				
2	SP						
			0				
3							
			0				
4						SAND, light brown, fine grained, trace fine gravel	
			0				
5							
	SP		0				
6							
			0				
7							
			4.1		HA-15-1 (7-8')	SILT, gray, some fine sand, moist to wet	
8							
	ML		0				
9							
			0			GRAVEL, saturated	
10	GW						
			0				
11						End of Boring bgs - below ground surface	
12							
13							
14							
15							

HA-15-1 (Temp.):



APPENDIX C

Laboratory Analytical Report

ECT Environmental Consulting & Technology, Inc.

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

03 December 2015

Work Order: 1511104

Price: $2,740.50

Marjorie Frisch
MDEQ-RRD-LANSING
525 W. Allegan Street
Lansing, MI 48909

RE: CITY OF LINDEN BROAD&BRIDGE ST BENZENE (

I certify that the analyses performed by the MDEQ Environmental Laboratory were conducted by methods approved by the U.S. Environmental Protection Agency and other appropriate regulatory agencies.

Sincerely,

George Krisztian
Laboratory Director

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

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TEL: (517) 335-9800
FAX: (517) 335-9600

MDEQ-RRD-LANSING	Project: CITY OF LINDEN BROAD&BRIDGE ST BENZENE CONTAMIN.	
525 W. Allegan Street	Site Code: 550570-00	**Reported:**
Lansing MI, 48909	Project Manager: Marjorie Frisch	12/03/2015

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
GP-15-16 9.25-9.5'	1511104-01	Soil/Sediment	11/12/2015	11/13/2015	
GP-15-17 7.5-8'	1511104-02	Soil/Sediment	11/12/2015	11/13/2015	
GP-15-18 9.25-9.5'	1511104-03	Soil/Sediment	11/12/2015	11/13/2015	
GP-15-19 9.5-9.75'	1511104-04	Soil/Sediment	11/12/2015	11/13/2015	
GP-15-20 9-9.5'	1511104-05	Soil/Sediment	11/12/2015	11/13/2015	
GP-15-15 9-9.5'	1511104-06	Soil/Sediment	11/11/2015	11/13/2015	
GP-15-6 5-5.5'	1511104-07	Soil/Sediment	11/11/2015	11/13/2015	
GP-15-7 4.5-5'	1511104-08	Soil/Sediment	11/11/2015	11/13/2015	
GP-15-8 5-5.25'	1511104-09	Soil/Sediment	11/11/2015	11/13/2015	
GP-15-9 8-8.25'	1511104-10	Soil/Sediment	11/11/2015	11/13/2015	
HA-15-1 7.5-8'	1511104-11	Soil/Sediment	11/11/2015	11/13/2015	
GP-15-10 8.5-9'	1511104-12	Soil/Sediment	11/11/2015	11/13/2015	
GP-15-11 9-9.5'	1511104-13	Soil/Sediment	11/11/2015	11/13/2015	
GP-15-12 6-6.5'	1511104-14	Soil/Sediment	11/11/2015	11/13/2015	
GP-15-13 9-9.5'	1511104-15	Soil/Sediment	11/11/2015	11/13/2015	
GP-15-14 9.5-10'	1511104-16	Soil/Sediment	11/11/2015	11/13/2015	
GP-15-1 10.5-11'	1511104-17	Soil/Sediment	11/10/2015	11/13/2015	
GP-15-2 9.5-10'	1511104-18	Soil/Sediment	11/10/2015	11/13/2015	
GP-15-3 9.8-10'	1511104-19	Soil/Sediment	11/10/2015	11/13/2015	
GP-15-4 5.5-6'	1511104-20	Soil/Sediment	11/10/2015	11/13/2015	
GP-15-5 6-6.5	1511104-21	Soil/Sediment	11/10/2015	11/13/2015	

STATE OF MICHIGAN
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Notes and Definitions

Y37	Raised RL due to possible laboratory contamination.
Y20	Reporting Limits (RL) raised due to matrix.
Y11	Unidentified peaks present in sample.
X	Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200 °C. 2-Methylnaphthalene & naphthalene have boiling points above 200 °C and are better suited to analysis by methods 8270 & 625 as semivolatile organics.
V	Value not available due to dilution.
T	Reported value is less than the reporting limit (RL). Result is estimated.
A11	Result is estimated due to high initial verification standard criteria failure.
A09	Result is estimated due to high recovery of batch quality control.
A06	Result is estimated due to high continuing calibration standard criteria failure.
A05	Result and reporting limit are estimated due to low continuing calibration standard criteria failure.
A04	Result is estimated due to high matrix spike recovery.
ND	Indicates compound analyzed for but not detected
RL	Reporting Limit
NA	Not Applicable
dry	Sample results reported on a dry weight basis

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TEL: (517) 335-9800
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Client ID: GP-15-16 9.25-9.5'

Lab ID: 1511104-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
71-55-6	1,1,1-Trichloroethane	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
79-00-5	1,1,2-Trichloroethane	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
75-34-3	1,1-Dichloroethane	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
75-35-4	1,1-Dichloroethylene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	350	ug/kg dry	50	11/19/15	B5K1912	8260	
96-18-4	1,2,3-Trichloropropane	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	350	ug/kg dry	50	11/19/15	B5K1912	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	350	ug/kg dry	50	11/19/15	B5K1912	8260	
106-93-4	1,2-Dibromoethane	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
95-50-1	1,2-Dichlorobenzene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
107-06-2	1,2-Dichloroethane	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
78-87-5	1,2-Dichloropropane	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
541-73-1	1,3-Dichlorobenzene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
106-46-7	1,4-Dichlorobenzene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
78-93-3	2-Butanone (MEK)	ND	350	ug/kg dry	50	11/19/15	B5K1912	8260	
591-78-6	2-Hexanone	ND	350	ug/kg dry	50	11/19/15	B5K1912	8260	
91-57-6	2-Methylnaphthalene	ND	350	ug/kg dry	50	11/19/15	B5K1912	8260	X
67-64-1	2-Propanone (acetone)	ND	1400	ug/kg dry	50	11/19/15	B5K1912	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	350	ug/kg dry	50	11/19/15	B5K1912	8260	
107-13-1	Acrylonitrile	ND	350	ug/kg dry	50	11/19/15	B5K1912	8260	
71-43-2	Benzene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
108-86-1	Bromobenzene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
74-97-5	Bromochloromethane	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
75-27-4	Bromodichloromethane	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
75-25-2	Bromoform	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
74-83-9	Bromomethane	ND	280	ug/kg dry	50	11/19/15	B5K1912	8260	
75-15-0	Carbon disulfide	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
56-23-5	Carbon tetrachloride	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
108-90-7	Chlorobenzene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
75-00-3	Chloroethane	ND	350	ug/kg dry	50	11/19/15	B5K1912	8260	
67-66-3	Chloroform	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
74-87-3	Chloromethane	ND	350	ug/kg dry	50	11/19/15	B5K1912	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
110-82-7	Cyclohexane	ND	350	ug/kg dry	50	11/19/15	B5K1912	8260	
124-48-1	Dibromochloromethane	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	

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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: GP-15-16 9.25-9.5'

Lab ID: 1511104-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
75-71-8	Dichlorodifluoromethane	ND	350	ug/kg dry	50	11/19/15	B5K1912	8260	
60-29-7	Diethyl ether	ND	280	ug/kg dry	50	11/19/15	B5K1912	8260	
108-20-3	Diisopropyl Ether	ND	350	ug/kg dry	50	11/19/15	B5K1912	8260	
100-41-4	Ethylbenzene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
637-92-3	Ethyltertiarybutylether	ND	350	ug/kg dry	50	11/19/15	B5K1912	8260	
67-72-1	Hexachloroethane	ND	350	ug/kg dry	50	11/19/15	B5K1912	8260	
98-82-8	Isopropylbenzene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
1330-20-7	m & p - Xylene	ND	140	ug/kg dry	50	11/19/15	B5K1912	8260	
74-88-4	Methyl iodide	ND	420	ug/kg dry	50	11/19/15	B5K1912	8260	Y37
75-09-2	Methylene chloride	ND	140	ug/kg dry	50	11/19/15	B5K1912	8260	
1634-04-4	Methyltertiarybutylether	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
91-20-3	Naphthalene	ND	350	ug/kg dry	50	11/19/15	B5K1912	8260	X
104-51-8	n-Butylbenzene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
103-65-1	n-Propylbenzene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
95-47-6	o-Xylene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
99-87-6	p-Isopropyl toluene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
135-98-8	sec-Butylbenzene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
100-42-5	Styrene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
98-06-6	tert-Butylbenzene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
75-65-0	tertiary Butyl Alcohol	ND	3500	ug/kg dry	50	11/19/15	B5K1912	8260	
994-05-8	tertiaryAmylmethylether	ND	350	ug/kg dry	50	11/19/15	B5K1912	8260	
127-18-4	Tetrachloroethylene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
109-99-9	Tetrahydrofuran	ND	350	ug/kg dry	50	11/19/15	B5K1912	8260	
108-88-3	Toluene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	350	ug/kg dry	50	11/19/15	B5K1912	8260	
79-01-6	Trichloroethylene	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
75-69-4	Trichlorofluoromethane	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
75-01-4	Vinyl chloride	ND	71	ug/kg dry	50	11/19/15	B5K1912	8260	
Surrogate: Bromofluorobenzene			*111 %*	*40.3-194*		*11/19/15*	B5K1912	*8260*	
Surrogate: Dibromofluoromethane			*125 %*	*52.1-217*		*11/19/15*	B5K1912	*8260*	
Surrogate: Toluene-d8			*120 %*	*55.4-196*		*11/19/15*	B5K1912	*8260*	

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

Client ID: GP-15-16 9.25-9.5'

Lab ID: 1511104-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	**% Total Solids**	**89.1**	0.1	%	1	11/19/15	B5K1919	2540 B	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: GP-15-17 7.5-8'

Lab ID: 1511104-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									**See note Y11**
630-20-6	1,1,1,2-Tetrachloroethane	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
71-55-6	1,1,1-Trichloroethane	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
79-00-5	1,1,2-Trichloroethane	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
75-34-3	1,1-Dichloroethane	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
75-35-4	1,1-Dichloroethylene	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	13000	ug/kg dry	2000	11/18/15	B5K1810	8260	
96-18-4	1,2,3-Trichloropropane	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
526-73-8	**1,2,3-Trimethylbenzene**	**110000**	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	13000	ug/kg dry	2000	11/18/15	B5K1810	8260	
95-63-6	**1,2,4-Trimethylbenzene**	**420000**	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	13000	ug/kg dry	2000	11/18/15	B5K1810	8260	
106-93-4	1,2-Dibromoethane	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
95-50-1	1,2-Dichlorobenzene	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
107-06-2	1,2-Dichloroethane	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
78-87-5	1,2-Dichloropropane	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
108-67-8	**1,3,5-Trimethylbenzene**	**150000**	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
541-73-1	1,3-Dichlorobenzene	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
106-46-7	1,4-Dichlorobenzene	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
78-93-3	2-Butanone (MEK)	ND	13000	ug/kg dry	2000	11/18/15	B5K1810	8260	
591-78-6	2-Hexanone	ND	13000	ug/kg dry	2000	11/18/15	B5K1810	8260	
91-57-6	**2-Methylnaphthalene**	**100000**	13000	ug/kg dry	2000	11/18/15	B5K1810	8260	X
67-64-1	2-Propanone (acetone)	ND	52000	ug/kg dry	2000	11/18/15	B5K1810	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	13000	ug/kg dry	2000	11/18/15	B5K1810	8260	
107-13-1	Acrylonitrile	ND	13000	ug/kg dry	2000	11/18/15	B5K1810	8260	
71-43-2	Benzene	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
108-86-1	Bromobenzene	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
74-97-5	Bromochloromethane	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
75-27-4	Bromodichloromethane	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
75-25-2	Bromoform	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
74-83-9	Bromomethane	ND	10000	ug/kg dry	2000	11/18/15	B5K1810	8260	
75-15-0	Carbon disulfide	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
56-23-5	Carbon tetrachloride	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
108-90-7	Chlorobenzene	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
75-00-3	Chloroethane	ND	13000	ug/kg dry	2000	11/18/15	B5K1810	8260	
67-66-3	Chloroform	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
74-87-3	Chloromethane	ND	13000	ug/kg dry	2000	11/18/15	B5K1810	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
110-82-7	Cyclohexane	ND	13000	ug/kg dry	2000	11/18/15	B5K1810	8260	
124-48-1	Dibromochloromethane	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	

STATE OF MICHIGAN
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MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-17 7.5-8'

Lab ID: 1511104-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									**See note Y11**
74-95-3	Dibromomethane	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
75-71-8	Dichlorodifluoromethane	ND	13000	ug/kg dry	2000	11/18/15	B5K1810	8260	
60-29-7	Diethyl ether	ND	10000	ug/kg dry	2000	11/18/15	B5K1810	8260	
108-20-3	Diisopropyl Ether	ND	13000	ug/kg dry	2000	11/18/15	B5K1810	8260	
100-41-4	**Ethylbenzene**	**13000**	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
637-92-3	Ethyltertiarybutylether	ND	13000	ug/kg dry	2000	11/18/15	B5K1810	8260	
67-72-1	Hexachloroethane	ND	13000	ug/kg dry	2000	11/18/15	B5K1810	8260	
98-82-8	**Isopropylbenzene**	**3500**	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
1330-20-7	**m & p - Xylene**	**150000**	5200	ug/kg dry	2000	11/18/15	B5K1810	8260	
74-88-4	Methyl iodide	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
75-09-2	Methylene chloride	ND	5200	ug/kg dry	2000	11/18/15	B5K1810	8260	
1634-04-4	Methyltertiarybutylether	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
91-20-3	**Naphthalene**	**52000**	13000	ug/kg dry	2000	11/18/15	B5K1810	8260	X
104-51-8	n-Butylbenzene	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
103-65-1	**n-Propylbenzene**	**15000**	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
95-47-6	**o-Xylene**	**37000**	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
99-87-6	**p-Isopropyl toluene**	**5900**	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
135-98-8	**sec-Butylbenzene**	**4600**	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
100-42-5	Styrene	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
98-06-6	tert-Butylbenzene	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
75-65-0	tertiary Butyl Alcohol	ND	130000	ug/kg dry	2000	11/18/15	B5K1810	8260	
994-05-8	tertiaryAmylmethylether	ND	13000	ug/kg dry	2000	11/18/15	B5K1810	8260	
127-18-4	Tetrachloroethylene	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
109-99-9	Tetrahydrofuran	ND	13000	ug/kg dry	2000	11/18/15	B5K1810	8260	
108-88-3	Toluene	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	13000	ug/kg dry	2000	11/18/15	B5K1810	8260	
79-01-6	Trichloroethylene	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
75-69-4	Trichlorofluoromethane	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
75-01-4	Vinyl chloride	ND	2600	ug/kg dry	2000	11/18/15	B5K1810	8260	
Surrogate: Bromofluorobenzene		*Not Applicable*		*40.3-194*		*11/18/15*	B5K1810	*8260*	*V*
Surrogate: Dibromofluoromethane		*Not Applicable*		*52.1-217*		*11/18/15*	B5K1810	*8260*	*V*
Surrogate: Toluene-d8		*Not Applicable*		*55.4-196*		*11/18/15*	B5K1810	*8260*	*V*

Lab Work Order # 1511104

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

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ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-17 7.5-8'

Lab ID: 1511104-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	**% Total Solids**	**90.1**	0.1	%	1	11/19/15	B5K1919	2540 B	

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

Client ID: GP-15-18 9.25-9.5'

Lab ID: 1511104-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
71-55-6	1,1,1-Trichloroethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
79-00-5	1,1,2-Trichloroethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
75-34-3	1,1-Dichloroethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
75-35-4	1,1-Dichloroethylene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
96-18-4	1,2,3-Trichloropropane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
106-93-4	1,2-Dibromoethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
95-50-1	1,2-Dichlorobenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
107-06-2	1,2-Dichloroethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
78-87-5	1,2-Dichloropropane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
541-73-1	1,3-Dichlorobenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
106-46-7	1,4-Dichlorobenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
78-93-3	2-Butanone (MEK)	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
591-78-6	2-Hexanone	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
91-57-6	2-Methylnaphthalene	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	X
67-64-1	2-Propanone (acetone)	ND	1200	ug/kg dry	50	11/18/15	B5K1810	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
107-13-1	Acrylonitrile	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
71-43-2	Benzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
108-86-1	Bromobenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
74-97-5	Bromochloromethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
75-27-4	Bromodichloromethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
75-25-2	Bromoform	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
74-83-9	Bromomethane	ND	240	ug/kg dry	50	11/18/15	B5K1810	8260	
75-15-0	Carbon disulfide	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
56-23-5	Carbon tetrachloride	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
108-90-7	Chlorobenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
75-00-3	Chloroethane	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
67-66-3	Chloroform	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
74-87-3	Chloromethane	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
110-82-7	Cyclohexane	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
124-48-1	Dibromochloromethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	

STATE OF MICHIGAN
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ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-18 9.25-9.5'

Lab ID: 1511104-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
75-71-8	Dichlorodifluoromethane	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
60-29-7	Diethyl ether	ND	240	ug/kg dry	50	11/18/15	B5K1810	8260	
108-20-3	Diisopropyl Ether	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
100-41-4	Ethylbenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
637-92-3	Ethyltertiarybutylether	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
67-72-1	Hexachloroethane	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
98-82-8	Isopropylbenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
1330-20-7	m & p - Xylene	ND	120	ug/kg dry	50	11/18/15	B5K1810	8260	
74-88-4	Methyl iodide	ND	370	ug/kg dry	50	11/18/15	B5K1810	8260	Y37
75-09-2	Methylene chloride	ND	120	ug/kg dry	50	11/18/15	B5K1810	8260	
1634-04-4	Methyltertiarybutylether	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
91-20-3	Naphthalene	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	X
104-51-8	n-Butylbenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
103-65-1	n-Propylbenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
95-47-6	o-Xylene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
99-87-6	p-Isopropyl toluene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
135-98-8	sec-Butylbenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
100-42-5	Styrene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
98-06-6	tert-Butylbenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
75-65-0	tertiary Butyl Alcohol	ND	3000	ug/kg dry	50	11/18/15	B5K1810	8260	
994-05-8	tertiaryAmylmethylether	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
127-18-4	Tetrachloroethylene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
109-99-9	Tetrahydrofuran	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
108-88-3	Toluene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
79-01-6	Trichloroethylene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
75-69-4	Trichlorofluoromethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
75-01-4	Vinyl chloride	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
Surrogate: Bromofluorobenzene			*114 %*	*40.3-194*		*11/18/15*	B5K1810	*8260*	
Surrogate: Dibromofluoromethane			*130 %*	*52.1-217*		*11/18/15*	B5K1810	*8260*	
Surrogate: Toluene-d8			*127 %*	*55.4-196*		*11/18/15*	B5K1810	*8260*	

STATE OF MICHIGAN
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ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-18 9.25-9.5'

Lab ID: 1511104-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	**% Total Solids**	**93.4**	0.1	%	1	11/19/15	B5K1919	2540 B	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-19 9.5-9.75'

Lab ID: 1511104-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
71-55-6	1,1,1-Trichloroethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
79-00-5	1,1,2-Trichloroethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-34-3	1,1-Dichloroethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-35-4	1,1-Dichloroethylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
96-18-4	1,2,3-Trichloropropane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
106-93-4	1,2-Dibromoethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
95-50-1	1,2-Dichlorobenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
107-06-2	1,2-Dichloroethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
78-87-5	1,2-Dichloropropane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
541-73-1	1,3-Dichlorobenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
106-46-7	1,4-Dichlorobenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
78-93-3	2-Butanone (MEK)	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
591-78-6	2-Hexanone	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
91-57-6	2-Methylnaphthalene	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	X
67-64-1	2-Propanone (acetone)	ND	1300	ug/kg dry	50	11/18/15	B5K1810	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
107-13-1	Acrylonitrile	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
71-43-2	Benzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
108-86-1	Bromobenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
74-97-5	Bromochloromethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-27-4	Bromodichloromethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-25-2	Bromoform	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
74-83-9	Bromomethane	ND	250	ug/kg dry	50	11/18/15	B5K1810	8260	
75-15-0	Carbon disulfide	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
56-23-5	Carbon tetrachloride	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
108-90-7	Chlorobenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-00-3	Chloroethane	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
67-66-3	Chloroform	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
74-87-3	Chloromethane	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
110-82-7	Cyclohexane	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
124-48-1	Dibromochloromethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	

STATE OF MICHIGAN
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ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-19 9.5-9.75'

Lab ID: 1511104-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-71-8	Dichlorodifluoromethane	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
60-29-7	Diethyl ether	ND	250	ug/kg dry	50	11/18/15	B5K1810	8260	
108-20-3	Diisopropyl Ether	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
100-41-4	Ethylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
637-92-3	Ethyltertiarybutylether	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
67-72-1	Hexachloroethane	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
98-82-8	Isopropylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
1330-20-7	m & p - Xylene	ND	130	ug/kg dry	50	11/18/15	B5K1810	8260	
74-88-4	Methyl iodide	ND	380	ug/kg dry	50	11/18/15	B5K1810	8260	Y37
75-09-2	Methylene chloride	ND	130	ug/kg dry	50	11/18/15	B5K1810	8260	
1634-04-4	Methyltertiarybutylether	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
91-20-3	Naphthalene	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	X
104-51-8	n-Butylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
103-65-1	n-Propylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
95-47-6	o-Xylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
99-87-6	p-Isopropyl toluene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
135-98-8	sec-Butylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
100-42-5	Styrene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
98-06-6	tert-Butylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-65-0	tertiary Butyl Alcohol	ND	3200	ug/kg dry	50	11/18/15	B5K1810	8260	
994-05-8	tertiaryAmylmethylether	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
127-18-4	Tetrachloroethylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
109-99-9	Tetrahydrofuran	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
108-88-3	Toluene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
79-01-6	Trichloroethylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-69-4	Trichlorofluoromethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-01-4	Vinyl chloride	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
Surrogate: Bromofluorobenzene			*105 %*	*40.3-194*		*11/18/15*	B5K1810	*8260*	
Surrogate: Dibromofluoromethane			*120 %*	*52.1-217*		*11/18/15*	B5K1810	*8260*	
Surrogate: Toluene-d8			*116 %*	*55.4-196*		*11/18/15*	B5K1810	*8260*	

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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: GP-15-19 9.5-9.75'

Lab ID: 1511104-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	**% Total Solids**	**92.5**	0.1	%	1	11/19/15	B5K1919	2540 B	

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TEL: (517) 335-9800
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Client ID: GP-15-20 9-9.5'

Lab ID: 1511104-05

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									**See note Y11**
630-20-6	1,1,1,2-Tetrachloroethane	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
71-55-6	1,1,1-Trichloroethane	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
79-00-5	1,1,2-Trichloroethane	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
75-34-3	1,1-Dichloroethane	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
75-35-4	1,1-Dichloroethylene	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	6200	ug/kg dry	1000	11/19/15	B5K1912	8260	
96-18-4	1,2,3-Trichloropropane	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
526-73-8	**1,2,3-Trimethylbenzene**	**20000**	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	6200	ug/kg dry	1000	11/19/15	B5K1912	8260	
95-63-6	**1,2,4-Trimethylbenzene**	**96000**	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	6200	ug/kg dry	1000	11/19/15	B5K1912	8260	
106-93-4	1,2-Dibromoethane	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
95-50-1	1,2-Dichlorobenzene	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
107-06-2	1,2-Dichloroethane	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
78-87-5	1,2-Dichloropropane	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
108-67-8	**1,3,5-Trimethylbenzene**	**28000**	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
541-73-1	1,3-Dichlorobenzene	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
106-46-7	1,4-Dichlorobenzene	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
78-93-3	2-Butanone (MEK)	ND	6200	ug/kg dry	1000	11/19/15	B5K1912	8260	
591-78-6	2-Hexanone	ND	6200	ug/kg dry	1000	11/19/15	B5K1912	8260	
91-57-6	2-Methylnaphthalene	ND	6200	ug/kg dry	1000	11/19/15	B5K1912	8260	X
67-64-1	2-Propanone (acetone)	ND	25000	ug/kg dry	1000	11/19/15	B5K1912	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	6200	ug/kg dry	1000	11/19/15	B5K1912	8260	
107-13-1	Acrylonitrile	ND	6200	ug/kg dry	1000	11/19/15	B5K1912	8260	
71-43-2	Benzene	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
108-86-1	Bromobenzene	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
74-97-5	Bromochloromethane	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
75-27-4	Bromodichloromethane	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
75-25-2	Bromoform	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
74-83-9	Bromomethane	ND	5000	ug/kg dry	1000	11/19/15	B5K1912	8260	
75-15-0	Carbon disulfide	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
56-23-5	Carbon tetrachloride	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
108-90-7	Chlorobenzene	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
75-00-3	Chloroethane	ND	6200	ug/kg dry	1000	11/19/15	B5K1912	8260	
67-66-3	Chloroform	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
74-87-3	Chloromethane	ND	6200	ug/kg dry	1000	11/19/15	B5K1912	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
110-82-7	Cyclohexane	ND	6200	ug/kg dry	1000	11/19/15	B5K1912	8260	
124-48-1	Dibromochloromethane	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	

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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: GP-15-20 9-9.5'

Lab ID: 1511104-05

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									**See note Y11**
74-95-3	Dibromomethane	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
75-71-8	Dichlorodifluoromethane	ND	6200	ug/kg dry	1000	11/19/15	B5K1912	8260	
60-29-7	Diethyl ether	ND	5000	ug/kg dry	1000	11/19/15	B5K1912	8260	
108-20-3	Diisopropyl Ether	ND	6200	ug/kg dry	1000	11/19/15	B5K1912	8260	
100-41-4	**Ethylbenzene**	**18000**	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
637-92-3	Ethyltertiarybutylether	ND	6200	ug/kg dry	1000	11/19/15	B5K1912	8260	
67-72-1	Hexachloroethane	ND	6200	ug/kg dry	1000	11/19/15	B5K1912	8260	
98-82-8	**Isopropylbenzene**	**2800**	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
1330-20-7	**m & p - Xylene**	**99000**	2500	ug/kg dry	1000	11/19/15	B5K1912	8260	
74-88-4	Methyl iodide	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
75-09-2	Methylene chloride	ND	2500	ug/kg dry	1000	11/19/15	B5K1912	8260	
1634-04-4	Methyltertiarybutylether	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
91-20-3	**Naphthalene**	**6400**	6200	ug/kg dry	1000	11/19/15	B5K1912	8260	X
104-51-8	n-Butylbenzene	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
103-65-1	**n-Propylbenzene**	**12000**	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
95-47-6	**o-Xylene**	**8600**	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
99-87-6	p-Isopropyl toluene	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
135-98-8	sec-Butylbenzene	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
100-42-5	Styrene	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
98-06-6	tert-Butylbenzene	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
75-65-0	tertiary Butyl Alcohol	ND	62000	ug/kg dry	1000	11/19/15	B5K1912	8260	
994-05-8	tertiaryAmylmethylether	ND	6200	ug/kg dry	1000	11/19/15	B5K1912	8260	
127-18-4	Tetrachloroethylene	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
109-99-9	Tetrahydrofuran	ND	6200	ug/kg dry	1000	11/19/15	B5K1912	8260	
108-88-3	Toluene	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	6200	ug/kg dry	1000	11/19/15	B5K1912	8260	
79-01-6	Trichloroethylene	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
75-69-4	Trichlorofluoromethane	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
75-01-4	Vinyl chloride	ND	1200	ug/kg dry	1000	11/19/15	B5K1912	8260	
Surrogate: Bromofluorobenzene		*Not Applicable*		*40.3-194*		*11/19/15*	B5K1912	*8260*	*V*
Surrogate: Dibromofluoromethane		*Not Applicable*		*52.1-217*		*11/19/15*	B5K1912	*8260*	*V*
Surrogate: Toluene-d8		*Not Applicable*		*55.4-196*		*11/19/15*	B5K1912	*8260*	*V*

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TEL: (517) 335-9800
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Client ID: GP-15-20 9-9.5'

Lab ID: 1511104-05

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	**% Total Solids**	**93.1**	0.1	%	1	11/19/15	B5K1919	2540 B	

STATE OF MICHIGAN
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MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-15 9-9.5'
Lab ID: 1511104-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
71-55-6	1,1,1-Trichloroethane	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
79-00-5	1,1,2-Trichloroethane	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
75-34-3	1,1-Dichloroethane	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
75-35-4	1,1-Dichloroethylene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
96-18-4	1,2,3-Trichloropropane	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
106-93-4	1,2-Dibromoethane	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
95-50-1	1,2-Dichlorobenzene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
107-06-2	1,2-Dichloroethane	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
78-87-5	1,2-Dichloropropane	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
541-73-1	1,3-Dichlorobenzene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
106-46-7	1,4-Dichlorobenzene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
78-93-3	2-Butanone (MEK)	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
591-78-6	2-Hexanone	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
91-57-6	2-Methylnaphthalene	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	X
67-64-1	2-Propanone (acetone)	ND	1300	ug/kg dry	50	11/18/15	B5K1810	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
107-13-1	Acrylonitrile	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
71-43-2	Benzene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
108-86-1	Bromobenzene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
74-97-5	Bromochloromethane	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
75-27-4	Bromodichloromethane	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
75-25-2	Bromoform	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
74-83-9	Bromomethane	ND	270	ug/kg dry	50	11/18/15	B5K1810	8260	
75-15-0	Carbon disulfide	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
56-23-5	Carbon tetrachloride	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
108-90-7	Chlorobenzene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
75-00-3	Chloroethane	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
67-66-3	Chloroform	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
74-87-3	Chloromethane	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
110-82-7	Cyclohexane	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
124-48-1	Dibromochloromethane	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-15 9-9.5'

Lab ID: 1511104-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
75-71-8	Dichlorodifluoromethane	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
60-29-7	Diethyl ether	ND	270	ug/kg dry	50	11/18/15	B5K1810	8260	
108-20-3	Diisopropyl Ether	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
100-41-4	Ethylbenzene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
637-92-3	Ethyltertiarybutylether	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
67-72-1	Hexachloroethane	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
98-82-8	Isopropylbenzene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
1330-20-7	m & p - Xylene	ND	130	ug/kg dry	50	11/18/15	B5K1810	8260	
74-88-4	Methyl iodide	ND	400	ug/kg dry	50	11/18/15	B5K1810	8260	Y37
75-09-2	Methylene chloride	ND	130	ug/kg dry	50	11/18/15	B5K1810	8260	
1634-04-4	Methyltertiarybutylether	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
91-20-3	Naphthalene	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	X
104-51-8	n-Butylbenzene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
103-65-1	n-Propylbenzene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
95-47-6	o-Xylene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
99-87-6	p-Isopropyl toluene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
135-98-8	sec-Butylbenzene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
100-42-5	Styrene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
98-06-6	tert-Butylbenzene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
75-65-0	tertiary Butyl Alcohol	ND	3300	ug/kg dry	50	11/18/15	B5K1810	8260	
994-05-8	tertiaryAmylmethylether	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
127-18-4	Tetrachloroethylene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
109-99-9	Tetrahydrofuran	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
108-88-3	Toluene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
79-01-6	Trichloroethylene	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
75-69-4	Trichlorofluoromethane	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
75-01-4	Vinyl chloride	ND	67	ug/kg dry	50	11/18/15	B5K1810	8260	
Surrogate: Bromofluorobenzene			*117 %*	*40.3-194*		*11/18/15*	B5K1810	*8260*	
Surrogate: Dibromofluoromethane			*135 %*	*52.1-217*		*11/18/15*	B5K1810	*8260*	
Surrogate: Toluene-d8			*127 %*	*55.4-196*		*11/18/15*	B5K1810	*8260*	

STATE OF MICHIGAN
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ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-15 9-9.5'

Lab ID: 1511104-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	**% Total Solids**	**89.4**	0.1	%	1	11/19/15	B5K1919	2540 B	

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

Client ID: GP-15-6 5-5.5'

Lab ID: 1511104-07

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
71-55-6	1,1,1-Trichloroethane	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
79-00-5	1,1,2-Trichloroethane	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
75-34-3	1,1-Dichloroethane	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
75-35-4	1,1-Dichloroethylene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
96-18-4	1,2,3-Trichloropropane	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
106-93-4	1,2-Dibromoethane	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
95-50-1	1,2-Dichlorobenzene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
107-06-2	1,2-Dichloroethane	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
78-87-5	1,2-Dichloropropane	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
541-73-1	1,3-Dichlorobenzene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
106-46-7	1,4-Dichlorobenzene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
78-93-3	2-Butanone (MEK)	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
591-78-6	2-Hexanone	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
91-57-6	2-Methylnaphthalene	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	X
67-64-1	2-Propanone (acetone)	ND	1300	ug/kg dry	50	11/18/15	B5K1810	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
107-13-1	Acrylonitrile	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
71-43-2	Benzene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
108-86-1	Bromobenzene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
74-97-5	Bromochloromethane	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
75-27-4	Bromodichloromethane	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
75-25-2	Bromoform	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
74-83-9	Bromomethane	ND	260	ug/kg dry	50	11/18/15	B5K1810	8260	
75-15-0	Carbon disulfide	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
56-23-5	Carbon tetrachloride	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
108-90-7	Chlorobenzene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
75-00-3	Chloroethane	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
67-66-3	Chloroform	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
74-87-3	Chloromethane	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
110-82-7	Cyclohexane	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
124-48-1	Dibromochloromethane	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	

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ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-6 5-5.5'

Lab ID: 1511104-07

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
75-71-8	Dichlorodifluoromethane	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
60-29-7	Diethyl ether	ND	260	ug/kg dry	50	11/18/15	B5K1810	8260	
108-20-3	Diisopropyl Ether	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
100-41-4	Ethylbenzene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
637-92-3	Ethyltertiarybutylether	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
67-72-1	Hexachloroethane	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
98-82-8	Isopropylbenzene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
1330-20-7	m & p - Xylene	ND	130	ug/kg dry	50	11/18/15	B5K1810	8260	
74-88-4	Methyl iodide	ND	390	ug/kg dry	50	11/18/15	B5K1810	8260	Y37
75-09-2	Methylene chloride	ND	130	ug/kg dry	50	11/18/15	B5K1810	8260	
1634-04-4	Methyltertiarybutylether	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
91-20-3	Naphthalene	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	X
104-51-8	n-Butylbenzene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
103-65-1	n-Propylbenzene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
95-47-6	o-Xylene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
99-87-6	p-Isopropyl toluene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
135-98-8	sec-Butylbenzene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
100-42-5	Styrene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
98-06-6	tert-Butylbenzene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
75-65-0	tertiary Butyl Alcohol	ND	3300	ug/kg dry	50	11/18/15	B5K1810	8260	
994-05-8	tertiaryAmylmethylether	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
127-18-4	Tetrachloroethylene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
109-99-9	Tetrahydrofuran	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
108-88-3	Toluene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	330	ug/kg dry	50	11/18/15	B5K1810	8260	
79-01-6	Trichloroethylene	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
75-69-4	Trichlorofluoromethane	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
75-01-4	Vinyl chloride	ND	66	ug/kg dry	50	11/18/15	B5K1810	8260	
Surrogate: Bromofluorobenzene			*114 %*	*40.3-194*		*11/18/15*	B5K1810	*8260*	
Surrogate: Dibromofluoromethane			*125 %*	*52.1-217*		*11/18/15*	B5K1810	*8260*	
Surrogate: Toluene-d8			*125 %*	*55.4-196*		*11/18/15*	B5K1810	*8260*	

STATE OF MICHIGAN
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ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-6 5-5.5'

Lab ID: 1511104-07

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	**% Total Solids**	**89.6**	0.1	%	1	11/19/15	B5K1919	2540 B	

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P.O. Box 30270
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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: GP-15-7 4.5-5'

Lab ID: 1511104-08

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									**See note Y11**
630-20-6	1,1,1,2-Tetrachloroethane	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
71-55-6	1,1,1-Trichloroethane	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
79-00-5	1,1,2-Trichloroethane	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
75-34-3	1,1-Dichloroethane	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
75-35-4	1,1-Dichloroethylene	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	3700	ug/kg dry	500	11/19/15	B5K1912	8260	
96-18-4	1,2,3-Trichloropropane	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
526-73-8	**1,2,3-Trimethylbenzene**	**15000**	750	ug/kg dry	500	11/19/15	B5K1912	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	3700	ug/kg dry	500	11/19/15	B5K1912	8260	
95-63-6	**1,2,4-Trimethylbenzene**	**35000**	750	ug/kg dry	500	11/19/15	B5K1912	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	3700	ug/kg dry	500	11/19/15	B5K1912	8260	
106-93-4	1,2-Dibromoethane	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
95-50-1	1,2-Dichlorobenzene	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
107-06-2	1,2-Dichloroethane	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
78-87-5	1,2-Dichloropropane	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
108-67-8	**1,3,5-Trimethylbenzene**	**15000**	750	ug/kg dry	500	11/19/15	B5K1912	8260	
541-73-1	1,3-Dichlorobenzene	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
106-46-7	1,4-Dichlorobenzene	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
78-93-3	2-Butanone (MEK)	ND	3700	ug/kg dry	500	11/19/15	B5K1912	8260	
591-78-6	2-Hexanone	ND	3700	ug/kg dry	500	11/19/15	B5K1912	8260	
91-57-6	2-Methylnaphthalene	ND	3700	ug/kg dry	500	11/19/15	B5K1912	8260	X
67-64-1	2-Propanone (acetone)	ND	15000	ug/kg dry	500	11/19/15	B5K1912	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	3700	ug/kg dry	500	11/19/15	B5K1912	8260	
107-13-1	Acrylonitrile	ND	3700	ug/kg dry	500	11/19/15	B5K1912	8260	
71-43-2	Benzene	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
108-86-1	Bromobenzene	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
74-97-5	Bromochloromethane	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
75-27-4	Bromodichloromethane	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
75-25-2	Bromoform	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
74-83-9	Bromomethane	ND	3000	ug/kg dry	500	11/19/15	B5K1912	8260	
75-15-0	Carbon disulfide	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
56-23-5	Carbon tetrachloride	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
108-90-7	Chlorobenzene	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
75-00-3	Chloroethane	ND	3700	ug/kg dry	500	11/19/15	B5K1912	8260	
67-66-3	Chloroform	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
74-87-3	Chloromethane	ND	3700	ug/kg dry	500	11/19/15	B5K1912	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
110-82-7	Cyclohexane	ND	3700	ug/kg dry	500	11/19/15	B5K1912	8260	
124-48-1	Dibromochloromethane	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	

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ENVIRONMENTAL LABORATORY

P.O. Box 30270
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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: GP-15-7 4.5-5'

Lab ID: 1511104-08

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									**See note Y11**
74-95-3	Dibromomethane	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
75-71-8	Dichlorodifluoromethane	ND	3700	ug/kg dry	500	11/19/15	B5K1912	8260	
60-29-7	Diethyl ether	ND	3000	ug/kg dry	500	11/19/15	B5K1912	8260	
108-20-3	Diisopropyl Ether	ND	3700	ug/kg dry	500	11/19/15	B5K1912	8260	
100-41-4	**Ethylbenzene**	**2000**	750	ug/kg dry	500	11/19/15	B5K1912	8260	
637-92-3	Ethyltertiarybutylether	ND	3700	ug/kg dry	500	11/19/15	B5K1912	8260	
67-72-1	Hexachloroethane	ND	3700	ug/kg dry	500	11/19/15	B5K1912	8260	
98-82-8	**Isopropylbenzene**	**990**	750	ug/kg dry	500	11/19/15	B5K1912	8260	
1330-20-7	**m & p - Xylene**	**19000**	1500	ug/kg dry	500	11/19/15	B5K1912	8260	
74-88-4	Methyl iodide	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
75-09-2	Methylene chloride	ND	1500	ug/kg dry	500	11/19/15	B5K1912	8260	
1634-04-4	Methyltertiarybutylether	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
91-20-3	Naphthalene	ND	3700	ug/kg dry	500	11/19/15	B5K1912	8260	X
104-51-8	n-Butylbenzene	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
103-65-1	**n-Propylbenzene**	**1500**	750	ug/kg dry	500	11/19/15	B5K1912	8260	
95-47-6	**o-Xylene**	**2600**	750	ug/kg dry	500	11/19/15	B5K1912	8260	
99-87-6	**p-Isopropyl toluene**	**3800**	750	ug/kg dry	500	11/19/15	B5K1912	8260	
135-98-8	sec-Butylbenzene	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
100-42-5	Styrene	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
98-06-6	tert-Butylbenzene	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
75-65-0	tertiary Butyl Alcohol	ND	37000	ug/kg dry	500	11/19/15	B5K1912	8260	
994-05-8	tertiaryAmylmethylether	ND	3700	ug/kg dry	500	11/19/15	B5K1912	8260	
127-18-4	Tetrachloroethylene	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
109-99-9	Tetrahydrofuran	ND	3700	ug/kg dry	500	11/19/15	B5K1912	8260	
108-88-3	Toluene	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	3700	ug/kg dry	500	11/19/15	B5K1912	8260	
79-01-6	Trichloroethylene	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
75-69-4	Trichlorofluoromethane	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
75-01-4	Vinyl chloride	ND	750	ug/kg dry	500	11/19/15	B5K1912	8260	
Surrogate: Bromofluorobenzene		*Not Applicable*	*40.3-194*			*11/19/15*	B5K1912	*8260*	*V*
Surrogate: Dibromofluoromethane		*Not Applicable*	*52.1-217*			*11/19/15*	B5K1912	*8260*	*V*
Surrogate: Toluene-d8		*Not Applicable*	*55.4-196*			*11/19/15*	B5K1912	*8260*	*V*

Lab Work Order # 1511104

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-7 4.5-5'

Lab ID: 1511104-08

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	**% Total Solids**	**84.1**	0.1	%	1	11/19/15	B5K1919	2540 B	

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ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-8 5-5.25'

Lab ID: 1511104-09

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
71-55-6	1,1,1-Trichloroethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
79-00-5	1,1,2-Trichloroethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
75-34-3	1,1-Dichloroethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
75-35-4	1,1-Dichloroethylene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	360	ug/kg dry	50	11/18/15	B5K1810	8260	
96-18-4	1,2,3-Trichloropropane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	360	ug/kg dry	50	11/18/15	B5K1810	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	360	ug/kg dry	50	11/18/15	B5K1810	8260	
106-93-4	1,2-Dibromoethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
95-50-1	1,2-Dichlorobenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
107-06-2	1,2-Dichloroethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
78-87-5	1,2-Dichloropropane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
541-73-1	1,3-Dichlorobenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
106-46-7	1,4-Dichlorobenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
78-93-3	2-Butanone (MEK)	ND	360	ug/kg dry	50	11/18/15	B5K1810	8260	
591-78-6	2-Hexanone	ND	360	ug/kg dry	50	11/18/15	B5K1810	8260	
91-57-6	2-Methylnaphthalene	ND	360	ug/kg dry	50	11/18/15	B5K1810	8260	X
67-64-1	2-Propanone (acetone)	ND	1400	ug/kg dry	50	11/18/15	B5K1810	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	360	ug/kg dry	50	11/18/15	B5K1810	8260	
107-13-1	Acrylonitrile	ND	360	ug/kg dry	50	11/18/15	B5K1810	8260	
71-43-2	Benzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
108-86-1	Bromobenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
74-97-5	Bromochloromethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
75-27-4	Bromodichloromethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
75-25-2	Bromoform	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
74-83-9	Bromomethane	ND	280	ug/kg dry	50	11/18/15	B5K1810	8260	
75-15-0	Carbon disulfide	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
56-23-5	Carbon tetrachloride	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
108-90-7	Chlorobenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
75-00-3	Chloroethane	ND	360	ug/kg dry	50	11/18/15	B5K1810	8260	
67-66-3	Chloroform	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
74-87-3	Chloromethane	ND	360	ug/kg dry	50	11/18/15	B5K1810	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
110-82-7	Cyclohexane	ND	360	ug/kg dry	50	11/18/15	B5K1810	8260	
124-48-1	Dibromochloromethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	

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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: GP-15-8 5-5.25'

Lab ID: 1511104-09

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
75-71-8	Dichlorodifluoromethane	ND	360	ug/kg dry	50	11/18/15	B5K1810	8260	
60-29-7	Diethyl ether	ND	280	ug/kg dry	50	11/18/15	B5K1810	8260	
108-20-3	Diisopropyl Ether	ND	360	ug/kg dry	50	11/18/15	B5K1810	8260	
100-41-4	Ethylbenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
637-92-3	Ethyltertiarybutylether	ND	360	ug/kg dry	50	11/18/15	B5K1810	8260	
67-72-1	Hexachloroethane	ND	360	ug/kg dry	50	11/18/15	B5K1810	8260	
98-82-8	Isopropylbenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
1330-20-7	m & p - Xylene	ND	140	ug/kg dry	50	11/18/15	B5K1810	8260	
74-88-4	Methyl iodide	ND	430	ug/kg dry	50	11/18/15	B5K1810	8260	Y37
75-09-2	Methylene chloride	ND	140	ug/kg dry	50	11/18/15	B5K1810	8260	
1634-04-4	Methyltertiarybutylether	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
91-20-3	Naphthalene	ND	360	ug/kg dry	50	11/18/15	B5K1810	8260	X
104-51-8	n-Butylbenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
103-65-1	n-Propylbenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
95-47-6	o-Xylene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
99-87-6	p-Isopropyl toluene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
135-98-8	sec-Butylbenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
100-42-5	Styrene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
98-06-6	tert-Butylbenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
75-65-0	tertiary Butyl Alcohol	ND	3600	ug/kg dry	50	11/18/15	B5K1810	8260	
994-05-8	tertiaryAmylmethylether	ND	360	ug/kg dry	50	11/18/15	B5K1810	8260	
127-18-4	Tetrachloroethylene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
109-99-9	Tetrahydrofuran	ND	360	ug/kg dry	50	11/18/15	B5K1810	8260	
108-88-3	Toluene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	360	ug/kg dry	50	11/18/15	B5K1810	8260	
79-01-6	Trichloroethylene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
75-69-4	Trichlorofluoromethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
75-01-4	Vinyl chloride	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
Surrogate: Bromofluorobenzene			*93.8 %*	*40.3-194*		*11/18/15*	B5K1810	*8260*	
Surrogate: Dibromofluoromethane			*105 %*	*52.1-217*		*11/18/15*	B5K1810	*8260*	
Surrogate: Toluene-d8			*101 %*	*55.4-196*		*11/18/15*	B5K1810	*8260*	

STATE OF MICHIGAN
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ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-8 5-5.25'

Lab ID: 1511104-09

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	**% Total Solids**	**86.2**	0.1	%	1	11/19/15	B5K1920	2540 B	

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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: GP-15-9 8-8.25'

Lab ID: 1511104-10

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									**See note Y11, Y20**
630-20-6	1,1,1,2-Tetrachloroethane	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
71-55-6	1,1,1-Trichloroethane	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
79-00-5	1,1,2-Trichloroethane	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
75-34-3	1,1-Dichloroethane	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
75-35-4	1,1-Dichloroethylene	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	1500	ug/kg dry	200	11/19/15	B5K1912	8260	
96-18-4	1,2,3-Trichloropropane	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
526-73-8	**1,2,3-Trimethylbenzene**	**2200**	290	ug/kg dry	200	11/19/15	B5K1912	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	1500	ug/kg dry	200	11/19/15	B5K1912	8260	
95-63-6	**1,2,4-Trimethylbenzene**	**4100**	290	ug/kg dry	200	11/19/15	B5K1912	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1500	ug/kg dry	200	11/19/15	B5K1912	8260	
106-93-4	1,2-Dibromoethane	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
95-50-1	1,2-Dichlorobenzene	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
107-06-2	1,2-Dichloroethane	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
78-87-5	1,2-Dichloropropane	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
108-67-8	**1,3,5-Trimethylbenzene**	**710**	290	ug/kg dry	200	11/19/15	B5K1912	8260	
541-73-1	1,3-Dichlorobenzene	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
106-46-7	1,4-Dichlorobenzene	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
78-93-3	2-Butanone (MEK)	ND	1500	ug/kg dry	200	11/19/15	B5K1912	8260	
591-78-6	2-Hexanone	ND	1500	ug/kg dry	200	11/19/15	B5K1912	8260	
91-57-6	**2-Methylnaphthalene**	**3600**	1500	ug/kg dry	200	11/19/15	B5K1912	8260	X
67-64-1	2-Propanone (acetone)	ND	5900	ug/kg dry	200	11/19/15	B5K1912	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	1500	ug/kg dry	200	11/19/15	B5K1912	8260	
107-13-1	Acrylonitrile	ND	1500	ug/kg dry	200	11/19/15	B5K1912	8260	
71-43-2	Benzene	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
108-86-1	Bromobenzene	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
74-97-5	Bromochloromethane	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
75-27-4	Bromodichloromethane	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
75-25-2	Bromoform	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
74-83-9	Bromomethane	ND	1200	ug/kg dry	200	11/19/15	B5K1912	8260	
75-15-0	Carbon disulfide	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
56-23-5	Carbon tetrachloride	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
108-90-7	Chlorobenzene	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
75-00-3	Chloroethane	ND	1500	ug/kg dry	200	11/19/15	B5K1912	8260	
67-66-3	Chloroform	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
74-87-3	Chloromethane	ND	1500	ug/kg dry	200	11/19/15	B5K1912	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
110-82-7	Cyclohexane	ND	1500	ug/kg dry	200	11/19/15	B5K1912	8260	
124-48-1	Dibromochloromethane	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	

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ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-9 8-8.25'

Lab ID: 1511104-10

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									**See note Y11, Y20**
74-95-3	Dibromomethane	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
75-71-8	Dichlorodifluoromethane	ND	1500	ug/kg dry	200	11/19/15	B5K1912	8260	
60-29-7	Diethyl ether	ND	1200	ug/kg dry	200	11/19/15	B5K1912	8260	
108-20-3	Diisopropyl Ether	ND	1500	ug/kg dry	200	11/19/15	B5K1912	8260	
100-41-4	Ethylbenzene	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
637-92-3	Ethyltertiarybutylether	ND	1500	ug/kg dry	200	11/19/15	B5K1912	8260	
67-72-1	Hexachloroethane	ND	1500	ug/kg dry	200	11/19/15	B5K1912	8260	
98-82-8	Isopropylbenzene	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
1330-20-7	m & p - Xylene	ND	590	ug/kg dry	200	11/19/15	B5K1912	8260	
74-88-4	Methyl iodide	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
75-09-2	Methylene chloride	ND	590	ug/kg dry	200	11/19/15	B5K1912	8260	
1634-04-4	Methyltertiarybutylether	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
91-20-3	Naphthalene	ND	1500	ug/kg dry	200	11/19/15	B5K1912	8260	X
104-51-8	**n-Butylbenzene**	**1500**	290	ug/kg dry	200	11/19/15	B5K1912	8260	
103-65-1	**n-Propylbenzene**	**340**	290	ug/kg dry	200	11/19/15	B5K1912	8260	
95-47-6	o-Xylene	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
99-87-6	**p-Isopropyl toluene**	**1100**	290	ug/kg dry	200	11/19/15	B5K1912	8260	
135-98-8	**sec-Butylbenzene**	**830**	290	ug/kg dry	200	11/19/15	B5K1912	8260	
100-42-5	Styrene	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
98-06-6	tert-Butylbenzene	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
75-65-0	tertiary Butyl Alcohol	ND	15000	ug/kg dry	200	11/19/15	B5K1912	8260	
994-05-8	tertiaryAmylmethylether	ND	1500	ug/kg dry	200	11/19/15	B5K1912	8260	
127-18-4	Tetrachloroethylene	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
109-99-9	Tetrahydrofuran	ND	1500	ug/kg dry	200	11/19/15	B5K1912	8260	
108-88-3	Toluene	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	1500	ug/kg dry	200	11/19/15	B5K1912	8260	
79-01-6	Trichloroethylene	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
75-69-4	Trichlorofluoromethane	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
75-01-4	Vinyl chloride	ND	290	ug/kg dry	200	11/19/15	B5K1912	8260	
Surrogate: Bromofluorobenzene		*Not Applicable*	*40.3-194*			*11/19/15*	B5K1912	*8260*	*V*
Surrogate: Dibromofluoromethane		*Not Applicable*	*52.1-217*			*11/19/15*	B5K1912	*8260*	*V*
Surrogate: Toluene-d8		*Not Applicable*	*55.4-196*			*11/19/15*	B5K1912	*8260*	*V*

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-9 8-8.25'

Lab ID: 1511104-10

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	**% Total Solids**	**84.1**	0.1	%	1	11/19/15	B5K1920	2540 B	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: HA-15-1 7.5-8'

Lab ID: 1511104-11

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
71-55-6	1,1,1-Trichloroethane	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
79-00-5	1,1,2-Trichloroethane	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
75-34-3	1,1-Dichloroethane	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
75-35-4	1,1-Dichloroethylene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	390	ug/kg dry	50	11/18/15	B5K1810	8260	
96-18-4	1,2,3-Trichloropropane	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	390	ug/kg dry	50	11/18/15	B5K1810	8260	
95-63-6	**1,2,4-Trimethylbenzene**	**82**	77	ug/kg dry	50	11/18/15	B5K1810	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	390	ug/kg dry	50	11/18/15	B5K1810	8260	
106-93-4	1,2-Dibromoethane	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
95-50-1	1,2-Dichlorobenzene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
107-06-2	1,2-Dichloroethane	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
78-87-5	1,2-Dichloropropane	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
541-73-1	1,3-Dichlorobenzene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
106-46-7	1,4-Dichlorobenzene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
78-93-3	2-Butanone (MEK)	ND	390	ug/kg dry	50	11/18/15	B5K1810	8260	
591-78-6	2-Hexanone	ND	390	ug/kg dry	50	11/18/15	B5K1810	8260	
91-57-6	2-Methylnaphthalene	ND	390	ug/kg dry	50	11/18/15	B5K1810	8260	X
67-64-1	2-Propanone (acetone)	ND	1500	ug/kg dry	50	11/18/15	B5K1810	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	390	ug/kg dry	50	11/18/15	B5K1810	8260	
107-13-1	Acrylonitrile	ND	390	ug/kg dry	50	11/18/15	B5K1810	8260	
71-43-2	Benzene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
108-86-1	Bromobenzene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
74-97-5	Bromochloromethane	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
75-27-4	Bromodichloromethane	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
75-25-2	Bromoform	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
74-83-9	Bromomethane	ND	310	ug/kg dry	50	11/18/15	B5K1810	8260	
75-15-0	Carbon disulfide	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
56-23-5	Carbon tetrachloride	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
108-90-7	Chlorobenzene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
75-00-3	Chloroethane	ND	390	ug/kg dry	50	11/18/15	B5K1810	8260	
67-66-3	Chloroform	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
74-87-3	Chloromethane	ND	390	ug/kg dry	50	11/18/15	B5K1810	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
110-82-7	Cyclohexane	ND	390	ug/kg dry	50	11/18/15	B5K1810	8260	
124-48-1	Dibromochloromethane	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	

STATE OF MICHIGAN
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ENVIRONMENTAL LABORATORY

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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: HA-15-1 7.5-8'

Lab ID: 1511104-11

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
75-71-8	Dichlorodifluoromethane	ND	390	ug/kg dry	50	11/18/15	B5K1810	8260	
60-29-7	Diethyl ether	ND	310	ug/kg dry	50	11/18/15	B5K1810	8260	
108-20-3	Diisopropyl Ether	ND	390	ug/kg dry	50	11/18/15	B5K1810	8260	
100-41-4	Ethylbenzene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
637-92-3	Ethyltertiarybutylether	ND	390	ug/kg dry	50	11/18/15	B5K1810	8260	
67-72-1	Hexachloroethane	ND	390	ug/kg dry	50	11/18/15	B5K1810	8260	
98-82-8	Isopropylbenzene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
1330-20-7	m & p - Xylene	ND	150	ug/kg dry	50	11/18/15	B5K1810	8260	
74-88-4	Methyl iodide	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
75-09-2	Methylene chloride	ND	150	ug/kg dry	50	11/18/15	B5K1810	8260	
1634-04-4	Methyltertiarybutylether	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
91-20-3	Naphthalene	ND	390	ug/kg dry	50	11/18/15	B5K1810	8260	X
104-51-8	n-Butylbenzene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
103-65-1	n-Propylbenzene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
95-47-6	o-Xylene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
99-87-6	p-Isopropyl toluene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
135-98-8	sec-Butylbenzene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
100-42-5	Styrene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
98-06-6	tert-Butylbenzene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
75-65-0	tertiary Butyl Alcohol	ND	3900	ug/kg dry	50	11/18/15	B5K1810	8260	
994-05-8	tertiaryAmylmethylether	ND	390	ug/kg dry	50	11/18/15	B5K1810	8260	
127-18-4	Tetrachloroethylene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
109-99-9	Tetrahydrofuran	ND	390	ug/kg dry	50	11/18/15	B5K1810	8260	
108-88-3	Toluene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	390	ug/kg dry	50	11/18/15	B5K1810	8260	
79-01-6	Trichloroethylene	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
75-69-4	Trichlorofluoromethane	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
75-01-4	Vinyl chloride	ND	77	ug/kg dry	50	11/18/15	B5K1810	8260	
Surrogate: Bromofluorobenzene			*98.2 %*	*40.3-194*		*11/18/15*	B5K1810	*8260*	
Surrogate: Dibromofluoromethane			*112 %*	*52.1-217*		*11/18/15*	B5K1810	*8260*	
Surrogate: Toluene-d8			*108 %*	*55.4-196*		*11/18/15*	B5K1810	*8260*	

STATE OF MICHIGAN
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ENVIRONMENTAL LABORATORY

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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: HA-15-1 7.5-8'

Lab ID: 1511104-11

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	**% Total Solids**	**84.9**	0.1	%	1	11/19/15	B5K1920	2540 B	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-10 8.5-9'

Lab ID: 1511104-12

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
71-55-6	1,1,1-Trichloroethane	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
79-00-5	1,1,2-Trichloroethane	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
75-34-3	1,1-Dichloroethane	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
75-35-4	1,1-Dichloroethylene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
96-18-4	1,2,3-Trichloropropane	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
106-93-4	1,2-Dibromoethane	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
95-50-1	1,2-Dichlorobenzene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
107-06-2	1,2-Dichloroethane	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
78-87-5	1,2-Dichloropropane	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
541-73-1	1,3-Dichlorobenzene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
106-46-7	1,4-Dichlorobenzene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
78-93-3	2-Butanone (MEK)	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
591-78-6	2-Hexanone	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
91-57-6	2-Methylnaphthalene	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	X
67-64-1	2-Propanone (acetone)	ND	1400	ug/kg dry	50	11/18/15	B5K1810	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
107-13-1	Acrylonitrile	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
71-43-2	Benzene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
108-86-1	Bromobenzene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
74-97-5	Bromochloromethane	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
75-27-4	Bromodichloromethane	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
75-25-2	Bromoform	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
74-83-9	Bromomethane	ND	280	ug/kg dry	50	11/18/15	B5K1810	8260	
75-15-0	Carbon disulfide	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
56-23-5	Carbon tetrachloride	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
108-90-7	Chlorobenzene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
75-00-3	Chloroethane	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
67-66-3	Chloroform	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
74-87-3	Chloromethane	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
110-82-7	Cyclohexane	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
124-48-1	Dibromochloromethane	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-10 8.5-9'

Lab ID: 1511104-12

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
75-71-8	Dichlorodifluoromethane	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
60-29-7	Diethyl ether	ND	280	ug/kg dry	50	11/18/15	B5K1810	8260	
108-20-3	Diisopropyl Ether	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
100-41-4	Ethylbenzene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
637-92-3	Ethyltertiarybutylether	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
67-72-1	Hexachloroethane	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
98-82-8	Isopropylbenzene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
1330-20-7	m & p - Xylene	ND	140	ug/kg dry	50	11/18/15	B5K1810	8260	
74-88-4	Methyl iodide	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
75-09-2	Methylene chloride	ND	140	ug/kg dry	50	11/18/15	B5K1810	8260	
1634-04-4	Methyltertiarybutylether	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
91-20-3	Naphthalene	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	X
104-51-8	n-Butylbenzene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
103-65-1	n-Propylbenzene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
95-47-6	o-Xylene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
99-87-6	p-Isopropyl toluene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
135-98-8	sec-Butylbenzene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
100-42-5	Styrene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
98-06-6	tert-Butylbenzene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
75-65-0	tertiary Butyl Alcohol	ND	3500	ug/kg dry	50	11/18/15	B5K1810	8260	
994-05-8	tertiaryAmylmethylether	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
127-18-4	Tetrachloroethylene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
109-99-9	Tetrahydrofuran	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
108-88-3	Toluene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
79-01-6	Trichloroethylene	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
75-69-4	Trichlorofluoromethane	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
75-01-4	Vinyl chloride	ND	69	ug/kg dry	50	11/18/15	B5K1810	8260	
Surrogate: Bromofluorobenzene			*102 %*	*40.3-194*		*11/18/15*	B5K1810	*8260*	
Surrogate: Dibromofluoromethane			*112 %*	*52.1-217*		*11/18/15*	B5K1810	*8260*	
Surrogate: Toluene-d8			*111 %*	*55.4-196*		*11/18/15*	B5K1810	*8260*	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

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ENVIRONMENTAL LABORATORY

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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: GP-15-10 8.5-9'

Lab ID: 1511104-12

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	**% Total Solids**	**86.1**	0.1	%	1	11/19/15	B5K1920	2540 B	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-11 9-9.5'

Lab ID: 1511104-13

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
71-55-6	1,1,1-Trichloroethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
79-00-5	1,1,2-Trichloroethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-34-3	1,1-Dichloroethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-35-4	1,1-Dichloroethylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	310	ug/kg dry	50	11/18/15	B5K1810	8260	
96-18-4	1,2,3-Trichloropropane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	310	ug/kg dry	50	11/18/15	B5K1810	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	310	ug/kg dry	50	11/18/15	B5K1810	8260	
106-93-4	1,2-Dibromoethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
95-50-1	1,2-Dichlorobenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
107-06-2	1,2-Dichloroethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
78-87-5	1,2-Dichloropropane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
541-73-1	1,3-Dichlorobenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
106-46-7	1,4-Dichlorobenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
78-93-3	2-Butanone (MEK)	ND	310	ug/kg dry	50	11/18/15	B5K1810	8260	
591-78-6	2-Hexanone	ND	310	ug/kg dry	50	11/18/15	B5K1810	8260	
91-57-6	2-Methylnaphthalene	ND	310	ug/kg dry	50	11/18/15	B5K1810	8260	X
67-64-1	2-Propanone (acetone)	ND	1300	ug/kg dry	50	11/18/15	B5K1810	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	310	ug/kg dry	50	11/18/15	B5K1810	8260	
107-13-1	Acrylonitrile	ND	310	ug/kg dry	50	11/18/15	B5K1810	8260	
71-43-2	Benzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
108-86-1	Bromobenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
74-97-5	Bromochloromethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-27-4	Bromodichloromethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-25-2	Bromoform	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
74-83-9	Bromomethane	ND	250	ug/kg dry	50	11/18/15	B5K1810	8260	
75-15-0	Carbon disulfide	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
56-23-5	Carbon tetrachloride	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
108-90-7	Chlorobenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-00-3	Chloroethane	ND	310	ug/kg dry	50	11/18/15	B5K1810	8260	
67-66-3	Chloroform	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
74-87-3	Chloromethane	ND	310	ug/kg dry	50	11/18/15	B5K1810	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
110-82-7	Cyclohexane	ND	310	ug/kg dry	50	11/18/15	B5K1810	8260	
124-48-1	Dibromochloromethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	

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TEL: (517) 335-9800
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Client ID: GP-15-11 9-9.5'

Lab ID: 1511104-13

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-71-8	Dichlorodifluoromethane	ND	310	ug/kg dry	50	11/18/15	B5K1810	8260	
60-29-7	Diethyl ether	ND	250	ug/kg dry	50	11/18/15	B5K1810	8260	
108-20-3	Diisopropyl Ether	ND	310	ug/kg dry	50	11/18/15	B5K1810	8260	
100-41-4	Ethylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
637-92-3	Ethyltertiarybutylether	ND	310	ug/kg dry	50	11/18/15	B5K1810	8260	
67-72-1	Hexachloroethane	ND	310	ug/kg dry	50	11/18/15	B5K1810	8260	
98-82-8	Isopropylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
1330-20-7	m & p - Xylene	ND	130	ug/kg dry	50	11/18/15	B5K1810	8260	
74-88-4	Methyl iodide	ND	380	ug/kg dry	50	11/18/15	B5K1810	8260	Y37
75-09-2	Methylene chloride	ND	130	ug/kg dry	50	11/18/15	B5K1810	8260	
1634-04-4	Methyltertiarybutylether	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
91-20-3	Naphthalene	ND	310	ug/kg dry	50	11/18/15	B5K1810	8260	X
104-51-8	n-Butylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
103-65-1	n-Propylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
95-47-6	o-Xylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
99-87-6	p-Isopropyl toluene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
135-98-8	sec-Butylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
100-42-5	Styrene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
98-06-6	tert-Butylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-65-0	tertiary Butyl Alcohol	ND	3100	ug/kg dry	50	11/18/15	B5K1810	8260	
994-05-8	tertiaryAmylmethylether	ND	310	ug/kg dry	50	11/18/15	B5K1810	8260	
127-18-4	Tetrachloroethylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
109-99-9	Tetrahydrofuran	ND	310	ug/kg dry	50	11/18/15	B5K1810	8260	
108-88-3	Toluene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	310	ug/kg dry	50	11/18/15	B5K1810	8260	
79-01-6	Trichloroethylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-69-4	Trichlorofluoromethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-01-4	Vinyl chloride	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
Surrogate: Bromofluorobenzene			*103 %*	*40.3-194*		*11/18/15*	B5K1810	*8260*	
Surrogate: Dibromofluoromethane			*117 %*	*52.1-217*		*11/18/15*	B5K1810	*8260*	
Surrogate: Toluene-d8			*114 %*	*55.4-196*		*11/18/15*	B5K1810	*8260*	

STATE OF MICHIGAN
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ENVIRONMENTAL LABORATORY

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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: GP-15-11 9-9.5'

Lab ID: 1511104-13

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	**% Total Solids**	**91.9**	0.1	%	1	11/19/15	B5K1920	2540 B	

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ENVIRONMENTAL LABORATORY

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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: GP-15-12 6-6.5'

Lab ID: 1511104-14

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
71-55-6	1,1,1-Trichloroethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
79-00-5	1,1,2-Trichloroethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-34-3	1,1-Dichloroethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-35-4	1,1-Dichloroethylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
96-18-4	1,2,3-Trichloropropane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
106-93-4	1,2-Dibromoethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
95-50-1	1,2-Dichlorobenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
107-06-2	1,2-Dichloroethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
78-87-5	1,2-Dichloropropane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
541-73-1	1,3-Dichlorobenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
106-46-7	1,4-Dichlorobenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
78-93-3	2-Butanone (MEK)	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
591-78-6	2-Hexanone	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
91-57-6	2-Methylnaphthalene	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	X
67-64-1	2-Propanone (acetone)	ND	1300	ug/kg dry	50	11/18/15	B5K1810	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
107-13-1	Acrylonitrile	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
71-43-2	Benzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
108-86-1	Bromobenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
74-97-5	Bromochloromethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-27-4	Bromodichloromethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-25-2	Bromoform	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
74-83-9	Bromomethane	ND	250	ug/kg dry	50	11/18/15	B5K1810	8260	
75-15-0	Carbon disulfide	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
56-23-5	Carbon tetrachloride	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
108-90-7	Chlorobenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-00-3	Chloroethane	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
67-66-3	Chloroform	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
74-87-3	Chloromethane	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
110-82-7	Cyclohexane	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
124-48-1	Dibromochloromethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

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ENVIRONMENTAL LABORATORY

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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: GP-15-12 6-6.5'

Lab ID: 1511104-14

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-71-8	Dichlorodifluoromethane	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
60-29-7	Diethyl ether	ND	250	ug/kg dry	50	11/18/15	B5K1810	8260	
108-20-3	Diisopropyl Ether	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
100-41-4	Ethylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
637-92-3	Ethyltertiarybutylether	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
67-72-1	Hexachloroethane	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
98-82-8	Isopropylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
1330-20-7	m & p - Xylene	ND	130	ug/kg dry	50	11/18/15	B5K1810	8260	
74-88-4	Methyl iodide	ND	380	ug/kg dry	50	11/18/15	B5K1810	8260	Y37
75-09-2	Methylene chloride	ND	130	ug/kg dry	50	11/18/15	B5K1810	8260	
1634-04-4	Methyltertiarybutylether	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
91-20-3	Naphthalene	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	X
104-51-8	n-Butylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
103-65-1	n-Propylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
95-47-6	o-Xylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
99-87-6	p-Isopropyl toluene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
135-98-8	sec-Butylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
100-42-5	Styrene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
98-06-6	tert-Butylbenzene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-65-0	tertiary Butyl Alcohol	ND	3200	ug/kg dry	50	11/18/15	B5K1810	8260	
994-05-8	tertiaryAmylmethylether	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
127-18-4	Tetrachloroethylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
109-99-9	Tetrahydrofuran	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
108-88-3	Toluene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	320	ug/kg dry	50	11/18/15	B5K1810	8260	
79-01-6	Trichloroethylene	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-69-4	Trichlorofluoromethane	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
75-01-4	Vinyl chloride	ND	63	ug/kg dry	50	11/18/15	B5K1810	8260	
Surrogate: Bromofluorobenzene			*105 %*	*40.3-194*		*11/18/15*	B5K1810	*8260*	
Surrogate: Dibromofluoromethane			*117 %*	*52.1-217*		*11/18/15*	B5K1810	*8260*	
Surrogate: Toluene-d8			*114 %*	*55.4-196*		*11/18/15*	B5K1810	*8260*	

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ENVIRONMENTAL LABORATORY

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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: GP-15-12 6-6.5'

Lab ID: 1511104-14

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	**% Total Solids**	**92.8**	0.1	%	1	11/19/15	B5K1920	2540 B	

STATE OF MICHIGAN
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MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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TEL: (517) 335-9800
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Client ID: GP-15-13 9-9.5'

Lab ID: 1511104-15

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
71-55-6	1,1,1-Trichloroethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
79-00-5	1,1,2-Trichloroethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
75-34-3	1,1-Dichloroethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
75-35-4	1,1-Dichloroethylene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
96-18-4	1,2,3-Trichloropropane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
106-93-4	1,2-Dibromoethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
95-50-1	1,2-Dichlorobenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
107-06-2	1,2-Dichloroethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
78-87-5	1,2-Dichloropropane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
541-73-1	1,3-Dichlorobenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
106-46-7	1,4-Dichlorobenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
78-93-3	2-Butanone (MEK)	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
591-78-6	2-Hexanone	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
91-57-6	2-Methylnaphthalene	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	X
67-64-1	2-Propanone (acetone)	ND	1400	ug/kg dry	50	11/18/15	B5K1810	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
107-13-1	Acrylonitrile	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
71-43-2	Benzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
108-86-1	Bromobenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
74-97-5	Bromochloromethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
75-27-4	Bromodichloromethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
75-25-2	Bromoform	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
74-83-9	Bromomethane	ND	280	ug/kg dry	50	11/18/15	B5K1810	8260	
75-15-0	Carbon disulfide	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
56-23-5	Carbon tetrachloride	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
108-90-7	Chlorobenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
75-00-3	Chloroethane	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
67-66-3	Chloroform	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
74-87-3	Chloromethane	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
110-82-7	Cyclohexane	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
124-48-1	Dibromochloromethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-13 9-9.5'

Lab ID: 1511104-15

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
75-71-8	Dichlorodifluoromethane	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
60-29-7	Diethyl ether	ND	280	ug/kg dry	50	11/18/15	B5K1810	8260	
108-20-3	Diisopropyl Ether	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
100-41-4	Ethylbenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
637-92-3	Ethyltertiarybutylether	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
67-72-1	Hexachloroethane	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
98-82-8	Isopropylbenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
1330-20-7	m & p - Xylene	ND	140	ug/kg dry	50	11/18/15	B5K1810	8260	
74-88-4	Methyl iodide	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
75-09-2	Methylene chloride	ND	140	ug/kg dry	50	11/18/15	B5K1810	8260	
1634-04-4	Methyltertiarybutylether	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
91-20-3	Naphthalene	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	X
104-51-8	n-Butylbenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
103-65-1	n-Propylbenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
95-47-6	o-Xylene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
99-87-6	p-Isopropyl toluene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
135-98-8	sec-Butylbenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
100-42-5	Styrene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
98-06-6	tert-Butylbenzene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
75-65-0	tertiary Butyl Alcohol	ND	3500	ug/kg dry	50	11/18/15	B5K1810	8260	
994-05-8	tertiaryAmylmethylether	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
127-18-4	Tetrachloroethylene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
109-99-9	Tetrahydrofuran	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
108-88-3	Toluene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	350	ug/kg dry	50	11/18/15	B5K1810	8260	
79-01-6	Trichloroethylene	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
75-69-4	Trichlorofluoromethane	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
75-01-4	Vinyl chloride	ND	71	ug/kg dry	50	11/18/15	B5K1810	8260	
Surrogate: Bromofluorobenzene			*87.0 %*	*40.3-194*		*11/18/15*	B5K1810	*8260*	
Surrogate: Dibromofluoromethane			*101 %*	*52.1-217*		*11/18/15*	B5K1810	*8260*	
Surrogate: Toluene-d8			*98.5 %*	*55.4-196*		*11/18/15*	B5K1810	*8260*	

STATE OF MICHIGAN
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ENVIRONMENTAL LABORATORY

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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: GP-15-13 9-9.5'

Lab ID: 1511104-15

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	**% Total Solids**	**84.6**	0.1	%	1	11/19/15	B5K1920	2540 B	

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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: GP-15-14 9.5-10'

Lab ID: 1511104-16

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									**See note Y11**
630-20-6	1,1,1,2-Tetrachloroethane	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
71-55-6	1,1,1-Trichloroethane	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
79-00-5	1,1,2-Trichloroethane	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
75-34-3	1,1-Dichloroethane	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
75-35-4	1,1-Dichloroethylene	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	2800	ug/kg dry	400	11/18/15	B5K1810	8260	
96-18-4	1,2,3-Trichloropropane	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
526-73-8	**1,2,3-Trimethylbenzene**	**120000**	11000	ug/kg dry	8000	11/19/15	B5K1810	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	2800	ug/kg dry	400	11/18/15	B5K1810	8260	
95-63-6	**1,2,4-Trimethylbenzene**	**620000**	11000	ug/kg dry	8000	11/19/15	B5K1810	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2800	ug/kg dry	400	11/18/15	B5K1810	8260	
106-93-4	1,2-Dibromoethane	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
95-50-1	1,2-Dichlorobenzene	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
107-06-2	1,2-Dichloroethane	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
78-87-5	1,2-Dichloropropane	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
108-67-8	**1,3,5-Trimethylbenzene**	**180000**	11000	ug/kg dry	8000	11/19/15	B5K1810	8260	
541-73-1	1,3-Dichlorobenzene	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
106-46-7	1,4-Dichlorobenzene	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
78-93-3	2-Butanone (MEK)	ND	2800	ug/kg dry	400	11/18/15	B5K1810	8260	
591-78-6	2-Hexanone	ND	2800	ug/kg dry	400	11/18/15	B5K1810	8260	
91-57-6	**2-Methylnaphthalene**	**19000**	2800	ug/kg dry	400	11/18/15	B5K1810	8260	X
67-64-1	2-Propanone (acetone)	ND	11000	ug/kg dry	400	11/18/15	B5K1810	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2800	ug/kg dry	400	11/18/15	B5K1810	8260	
107-13-1	Acrylonitrile	ND	2800	ug/kg dry	400	11/18/15	B5K1810	8260	
71-43-2	**Benzene**	**39000**	570	ug/kg dry	400	11/18/15	B5K1810	8260	
108-86-1	Bromobenzene	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
74-97-5	Bromochloromethane	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
75-27-4	Bromodichloromethane	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
75-25-2	Bromoform	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
74-83-9	Bromomethane	ND	2300	ug/kg dry	400	11/18/15	B5K1810	8260	
75-15-0	Carbon disulfide	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
56-23-5	Carbon tetrachloride	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
108-90-7	Chlorobenzene	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
75-00-3	Chloroethane	ND	2800	ug/kg dry	400	11/18/15	B5K1810	8260	
67-66-3	Chloroform	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
74-87-3	Chloromethane	ND	2800	ug/kg dry	400	11/18/15	B5K1810	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
110-82-7	**Cyclohexane**	**28000**	2800	ug/kg dry	400	11/18/15	B5K1810	8260	

STATE OF MICHIGAN
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ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-14 9.5-10'

Lab ID: 1511104-16

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									**See note Y11**
124-48-1	Dibromochloromethane	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
74-95-3	Dibromomethane	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
75-71-8	Dichlorodifluoromethane	ND	2800	ug/kg dry	400	11/18/15	B5K1810	8260	
60-29-7	Diethyl ether	ND	2300	ug/kg dry	400	11/18/15	B5K1810	8260	
108-20-3	Diisopropyl Ether	ND	2800	ug/kg dry	400	11/18/15	B5K1810	8260	
100-41-4	**Ethylbenzene**	**510000**	11000	ug/kg dry	8000	11/19/15	B5K1810	8260	
637-92-3	Ethyltertiarybutylether	ND	2800	ug/kg dry	400	11/18/15	B5K1810	8260	
67-72-1	Hexachloroethane	ND	2800	ug/kg dry	400	11/18/15	B5K1810	8260	
98-82-8	**Isopropylbenzene**	**28000**	570	ug/kg dry	400	11/18/15	B5K1810	8260	
1330-20-7	**m & p - Xylene**	**2000000**	23000	ug/kg dry	8000	11/19/15	B5K1810	8260	
74-88-4	Methyl iodide	ND	3400	ug/kg dry	400	11/18/15	B5K1810	8260	Y37
75-09-2	Methylene chloride	ND	1100	ug/kg dry	400	11/18/15	B5K1810	8260	
1634-04-4	Methyltertiarybutylether	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
91-20-3	**Naphthalene**	**36000**	2800	ug/kg dry	400	11/18/15	B5K1810	8260	X
104-51-8	n-Butylbenzene	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
103-65-1	**n-Propylbenzene**	**100000**	570	ug/kg dry	400	11/18/15	B5K1810	8260	
95-47-6	**o-Xylene**	**450000**	11000	ug/kg dry	8000	11/19/15	B5K1810	8260	
99-87-6	**p-Isopropyl toluene**	**3600**	570	ug/kg dry	400	11/18/15	B5K1810	8260	
135-98-8	**sec-Butylbenzene**	**5900**	570	ug/kg dry	400	11/18/15	B5K1810	8260	
100-42-5	Styrene	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
98-06-6	tert-Butylbenzene	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
75-65-0	tertiary Butyl Alcohol	ND	28000	ug/kg dry	400	11/18/15	B5K1810	8260	
994-05-8	tertiaryAmylmethylether	ND	2800	ug/kg dry	400	11/18/15	B5K1810	8260	
127-18-4	Tetrachloroethylene	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
109-99-9	Tetrahydrofuran	ND	2800	ug/kg dry	400	11/18/15	B5K1810	8260	
108-88-3	**Toluene**	**320000**	11000	ug/kg dry	8000	11/19/15	B5K1810	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	2800	ug/kg dry	400	11/18/15	B5K1810	8260	
79-01-6	Trichloroethylene	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
75-69-4	Trichlorofluoromethane	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
75-01-4	Vinyl chloride	ND	570	ug/kg dry	400	11/18/15	B5K1810	8260	
Surrogate: Bromofluorobenzene		*Not Applicable*		*40.3-194*		*11/18/15*	B5K1810	*8260*	*V*
Surrogate: Dibromofluoromethane		*Not Applicable*		*52.1-217*		*11/18/15*	B5K1810	*8260*	*V*
Surrogate: Toluene-d8		*Not Applicable*		*55.4-196*		*11/18/15*	B5K1810	*8260*	*V*

STATE OF MICHIGAN
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ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-14 9.5-10'

Lab ID: 1511104-16

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	**% Total Solids**	**87.9**	0.1	%	1	11/19/15	B5K1920	2540 B	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-1 10.5-11'

Lab ID: 1511104-17

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
71-55-6	1,1,1-Trichloroethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
79-00-5	1,1,2-Trichloroethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
75-34-3	1,1-Dichloroethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
75-35-4	1,1-Dichloroethylene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
96-18-4	1,2,3-Trichloropropane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
95-63-6	**1,2,4-Trimethylbenzene**	**59**	61	ug/kg dry	50	11/18/15	B5K1810	8260	T
96-12-8	1,2-Dibromo-3-chloropropane	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
106-93-4	1,2-Dibromoethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
95-50-1	1,2-Dichlorobenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
107-06-2	1,2-Dichloroethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
78-87-5	1,2-Dichloropropane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
541-73-1	1,3-Dichlorobenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
106-46-7	1,4-Dichlorobenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
78-93-3	2-Butanone (MEK)	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
591-78-6	2-Hexanone	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
91-57-6	2-Methylnaphthalene	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	X
67-64-1	2-Propanone (acetone)	ND	1200	ug/kg dry	50	11/18/15	B5K1810	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
107-13-1	Acrylonitrile	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
71-43-2	Benzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
108-86-1	Bromobenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
74-97-5	Bromochloromethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
75-27-4	Bromodichloromethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
75-25-2	Bromoform	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
74-83-9	Bromomethane	ND	240	ug/kg dry	50	11/18/15	B5K1810	8260	
75-15-0	Carbon disulfide	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
56-23-5	Carbon tetrachloride	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
108-90-7	Chlorobenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
75-00-3	Chloroethane	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
67-66-3	Chloroform	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
74-87-3	Chloromethane	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
110-82-7	Cyclohexane	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
124-48-1	Dibromochloromethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-1 10.5-11'

Lab ID: 1511104-17

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
75-71-8	Dichlorodifluoromethane	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
60-29-7	Diethyl ether	ND	240	ug/kg dry	50	11/18/15	B5K1810	8260	
108-20-3	Diisopropyl Ether	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
100-41-4	Ethylbenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
637-92-3	Ethyltertiarybutylether	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
67-72-1	Hexachloroethane	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
98-82-8	Isopropylbenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
1330-20-7	m & p - Xylene	ND	120	ug/kg dry	50	11/18/15	B5K1810	8260	
74-88-4	Methyl iodide	ND	360	ug/kg dry	50	11/18/15	B5K1810	8260	Y37
75-09-2	Methylene chloride	ND	120	ug/kg dry	50	11/18/15	B5K1810	8260	
1634-04-4	Methyltertiarybutylether	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
91-20-3	Naphthalene	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	X
104-51-8	n-Butylbenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
103-65-1	n-Propylbenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
95-47-6	o-Xylene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
99-87-6	p-Isopropyl toluene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
135-98-8	sec-Butylbenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
100-42-5	Styrene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
98-06-6	tert-Butylbenzene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
75-65-0	tertiary Butyl Alcohol	ND	3000	ug/kg dry	50	11/18/15	B5K1810	8260	
994-05-8	tertiaryAmylmethylether	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
127-18-4	Tetrachloroethylene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
109-99-9	Tetrahydrofuran	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
108-88-3	Toluene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	300	ug/kg dry	50	11/18/15	B5K1810	8260	
79-01-6	Trichloroethylene	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
75-69-4	Trichlorofluoromethane	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
75-01-4	Vinyl chloride	ND	61	ug/kg dry	50	11/18/15	B5K1810	8260	
Surrogate: Bromofluorobenzene			*93.5 %*	*40.3-194*		*11/18/15*	B5K1810	*8260*	
Surrogate: Dibromofluoromethane			*106 %*	*52.1-217*		*11/18/15*	B5K1810	*8260*	
Surrogate: Toluene-d8			*104 %*	*55.4-196*		*11/18/15*	B5K1810	*8260*	

STATE OF MICHIGAN
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ENVIRONMENTAL LABORATORY

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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: GP-15-1 10.5-11'

Lab ID: 1511104-17

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	**% Total Solids**	**93.9**	0.1	%	1	11/19/15	B5K1920	2540 B	

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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: GP-15-2 9.5-10'

Lab ID: 1511104-18

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
71-55-6	1,1,1-Trichloroethane	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
79-00-5	1,1,2-Trichloroethane	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
75-34-3	1,1-Dichloroethane	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
75-35-4	1,1-Dichloroethylene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	350	ug/kg dry	50	11/19/15	B5K1811	8260	
96-18-4	1,2,3-Trichloropropane	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	350	ug/kg dry	50	11/19/15	B5K1811	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	350	ug/kg dry	50	11/19/15	B5K1811	8260	
106-93-4	1,2-Dibromoethane	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
95-50-1	1,2-Dichlorobenzene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
107-06-2	1,2-Dichloroethane	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
78-87-5	1,2-Dichloropropane	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
541-73-1	1,3-Dichlorobenzene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
106-46-7	1,4-Dichlorobenzene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
78-93-3	2-Butanone (MEK)	ND	350	ug/kg dry	50	11/19/15	B5K1811	8260	
591-78-6	2-Hexanone	ND	350	ug/kg dry	50	11/19/15	B5K1811	8260	
91-57-6	2-Methylnaphthalene	ND	350	ug/kg dry	50	11/19/15	B5K1811	8260	X
67-64-1	2-Propanone (acetone)	ND	1400	ug/kg dry	50	11/19/15	B5K1811	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	350	ug/kg dry	50	11/19/15	B5K1811	8260	
107-13-1	Acrylonitrile	ND	350	ug/kg dry	50	11/19/15	B5K1811	8260	
71-43-2	Benzene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
108-86-1	Bromobenzene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
74-97-5	Bromochloromethane	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
75-27-4	Bromodichloromethane	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
75-25-2	Bromoform	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
74-83-9	Bromomethane	ND	280	ug/kg dry	50	11/19/15	B5K1811	8260	
75-15-0	Carbon disulfide	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
56-23-5	Carbon tetrachloride	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
108-90-7	Chlorobenzene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
75-00-3	Chloroethane	ND	350	ug/kg dry	50	11/19/15	B5K1811	8260	
67-66-3	Chloroform	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
74-87-3	Chloromethane	ND	350	ug/kg dry	50	11/19/15	B5K1811	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
110-82-7	Cyclohexane	ND	350	ug/kg dry	50	11/19/15	B5K1811	8260	
124-48-1	Dibromochloromethane	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	

STATE OF MICHIGAN
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ENVIRONMENTAL LABORATORY

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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: GP-15-2 9.5-10'

Lab ID: 1511104-18

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
75-71-8	Dichlorodifluoromethane	ND	350	ug/kg dry	50	11/19/15	B5K1811	8260	
60-29-7	Diethyl ether	ND	280	ug/kg dry	50	11/19/15	B5K1811	8260	
108-20-3	Diisopropyl Ether	ND	350	ug/kg dry	50	11/19/15	B5K1811	8260	
100-41-4	Ethylbenzene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
637-92-3	Ethyltertiarybutylether	ND	350	ug/kg dry	50	11/19/15	B5K1811	8260	
67-72-1	Hexachloroethane	ND	350	ug/kg dry	50	11/19/15	B5K1811	8260	
98-82-8	Isopropylbenzene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
1330-20-7	m & p - Xylene	ND	140	ug/kg dry	50	11/19/15	B5K1811	8260	
74-88-4	Methyl iodide	ND	410	ug/kg dry	50	11/19/15	B5K1811	8260	Y37
75-09-2	Methylene chloride	ND	140	ug/kg dry	50	11/19/15	B5K1811	8260	
1634-04-4	Methyltertiarybutylether	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
91-20-3	Naphthalene	ND	350	ug/kg dry	50	11/19/15	B5K1811	8260	X
104-51-8	n-Butylbenzene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
103-65-1	n-Propylbenzene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
95-47-6	o-Xylene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
99-87-6	p-Isopropyl toluene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
135-98-8	sec-Butylbenzene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
100-42-5	Styrene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
98-06-6	tert-Butylbenzene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
75-65-0	tertiary Butyl Alcohol	ND	3500	ug/kg dry	50	11/19/15	B5K1811	8260	
994-05-8	tertiaryAmylmethylether	ND	350	ug/kg dry	50	11/19/15	B5K1811	8260	
127-18-4	Tetrachloroethylene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
109-99-9	Tetrahydrofuran	ND	350	ug/kg dry	50	11/19/15	B5K1811	8260	
108-88-3	Toluene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	350	ug/kg dry	50	11/19/15	B5K1811	8260	A05
79-01-6	Trichloroethylene	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
75-69-4	Trichlorofluoromethane	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
75-01-4	Vinyl chloride	ND	69	ug/kg dry	50	11/19/15	B5K1811	8260	
Surrogate: Bromofluorobenzene			*106 %*	*40.3-194*		*11/19/15*	B5K1811	*8260*	
Surrogate: Dibromofluoromethane			*121 %*	*52.1-217*		*11/19/15*	B5K1811	*8260*	
Surrogate: Toluene-d8			*117 %*	*55.4-196*		*11/19/15*	B5K1811	*8260*	

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ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-2 9.5-10'

Lab ID: 1511104-18

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	**% Total Solids**	**87.8**	0.1	%	1	11/19/15	B5K1920	2540 B	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-3 9.8-10'

Lab ID: 1511104-19

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
71-55-6	1,1,1-Trichloroethane	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
79-00-5	1,1,2-Trichloroethane	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
75-34-3	1,1-Dichloroethane	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
75-35-4	1,1-Dichloroethylene	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	330	ug/kg dry	50	11/19/15	B5K1912	8260	
96-18-4	1,2,3-Trichloropropane	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
526-73-8	**1,2,3-Trimethylbenzene**	**920**	66	ug/kg dry	50	11/19/15	B5K1912	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	330	ug/kg dry	50	11/19/15	B5K1912	8260	
95-63-6	**1,2,4-Trimethylbenzene**	**4300**	66	ug/kg dry	50	11/19/15	B5K1912	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	330	ug/kg dry	50	11/19/15	B5K1912	8260	
106-93-4	1,2-Dibromoethane	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
95-50-1	1,2-Dichlorobenzene	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
107-06-2	1,2-Dichloroethane	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
78-87-5	1,2-Dichloropropane	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
108-67-8	**1,3,5-Trimethylbenzene**	**640**	66	ug/kg dry	50	11/19/15	B5K1912	8260	
541-73-1	1,3-Dichlorobenzene	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
106-46-7	1,4-Dichlorobenzene	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
78-93-3	2-Butanone (MEK)	ND	330	ug/kg dry	50	11/19/15	B5K1912	8260	
591-78-6	2-Hexanone	ND	330	ug/kg dry	50	11/19/15	B5K1912	8260	
91-57-6	**2-Methylnaphthalene**	**1300**	330	ug/kg dry	50	11/19/15	B5K1912	8260	X
67-64-1	2-Propanone (acetone)	ND	1300	ug/kg dry	50	11/19/15	B5K1912	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	330	ug/kg dry	50	11/19/15	B5K1912	8260	
107-13-1	Acrylonitrile	ND	330	ug/kg dry	50	11/19/15	B5K1912	8260	
71-43-2	**Benzene**	**670**	66	ug/kg dry	50	11/19/15	B5K1912	8260	
108-86-1	Bromobenzene	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
74-97-5	Bromochloromethane	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
75-27-4	Bromodichloromethane	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
75-25-2	Bromoform	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
74-83-9	Bromomethane	ND	260	ug/kg dry	50	11/19/15	B5K1912	8260	
75-15-0	Carbon disulfide	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
56-23-5	Carbon tetrachloride	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
108-90-7	Chlorobenzene	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
75-00-3	Chloroethane	ND	330	ug/kg dry	50	11/19/15	B5K1912	8260	
67-66-3	Chloroform	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
74-87-3	Chloromethane	ND	330	ug/kg dry	50	11/19/15	B5K1912	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
110-82-7	Cyclohexane	ND	330	ug/kg dry	50	11/19/15	B5K1912	8260	
124-48-1	Dibromochloromethane	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-3 9.8-10'

Lab ID: 1511104-19

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
75-71-8	Dichlorodifluoromethane	ND	330	ug/kg dry	50	11/19/15	B5K1912	8260	
60-29-7	Diethyl ether	ND	260	ug/kg dry	50	11/19/15	B5K1912	8260	
108-20-3	Diisopropyl Ether	ND	330	ug/kg dry	50	11/19/15	B5K1912	8260	
100-41-4	**Ethylbenzene**	**1600**	66	ug/kg dry	50	11/19/15	B5K1912	8260	
637-92-3	Ethyltertiarybutylether	ND	330	ug/kg dry	50	11/19/15	B5K1912	8260	
67-72-1	Hexachloroethane	ND	330	ug/kg dry	50	11/19/15	B5K1912	8260	
98-82-8	**Isopropylbenzene**	**160**	66	ug/kg dry	50	11/19/15	B5K1912	8260	
1330-20-7	**m & p - Xylene**	**3100**	130	ug/kg dry	50	11/19/15	B5K1912	8260	
74-88-4	Methyl iodide	ND	390	ug/kg dry	50	11/19/15	B5K1912	8260	Y37
75-09-2	Methylene chloride	ND	130	ug/kg dry	50	11/19/15	B5K1912	8260	
1634-04-4	Methyltertiarybutylether	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
91-20-3	**Naphthalene**	**1500**	330	ug/kg dry	50	11/19/15	B5K1912	8260	X
104-51-8	n-Butylbenzene	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
103-65-1	**n-Propylbenzene**	**690**	66	ug/kg dry	50	11/19/15	B5K1912	8260	
95-47-6	**o-Xylene**	**100**	66	ug/kg dry	50	11/19/15	B5K1912	8260	
99-87-6	p-Isopropyl toluene	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
135-98-8	**sec-Butylbenzene**	**85**	66	ug/kg dry	50	11/19/15	B5K1912	8260	
100-42-5	Styrene	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
98-06-6	tert-Butylbenzene	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
75-65-0	tertiary Butyl Alcohol	ND	3300	ug/kg dry	50	11/19/15	B5K1912	8260	
994-05-8	tertiaryAmylmethylether	ND	330	ug/kg dry	50	11/19/15	B5K1912	8260	
127-18-4	Tetrachloroethylene	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
109-99-9	Tetrahydrofuran	ND	330	ug/kg dry	50	11/19/15	B5K1912	8260	
108-88-3	**Toluene**	**140**	66	ug/kg dry	50	11/19/15	B5K1912	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	330	ug/kg dry	50	11/19/15	B5K1912	8260	
79-01-6	Trichloroethylene	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
75-69-4	Trichlorofluoromethane	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
75-01-4	Vinyl chloride	ND	66	ug/kg dry	50	11/19/15	B5K1912	8260	
Surrogate: Bromofluorobenzene			*100 %*	*40.3-194*		*11/19/15*	B5K1912	*8260*	
Surrogate: Dibromofluoromethane			*112 %*	*52.1-217*		*11/19/15*	B5K1912	*8260*	
Surrogate: Toluene-d8			*111 %*	*55.4-196*		*11/19/15*	B5K1912	*8260*	

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TEL: (517) 335-9800
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Client ID: GP-15-3 9.8-10'

Lab ID: 1511104-19

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	**% Total Solids**	**89.8**	0.1	%	1	11/19/15	B5K1920	2540 B	

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TEL: (517) 335-9800
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Client ID: GP-15-4 5.5-6'

Lab ID: 1511104-20

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									**See note Y11**
630-20-6	1,1,1,2-Tetrachloroethane	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
71-55-6	1,1,1-Trichloroethane	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
79-00-5	1,1,2-Trichloroethane	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
75-34-3	1,1-Dichloroethane	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
75-35-4	1,1-Dichloroethylene	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	310	ug/kg dry	50	11/19/15	B5K1811	8260	
96-18-4	1,2,3-Trichloropropane	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
526-73-8	**1,2,3-Trimethylbenzene**	**3700**	62	ug/kg dry	50	11/19/15	B5K1811	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	310	ug/kg dry	50	11/19/15	B5K1811	8260	
95-63-6	**1,2,4-Trimethylbenzene**	**20000**	500	ug/kg dry	400	11/19/15	B5K1811	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	310	ug/kg dry	50	11/19/15	B5K1811	8260	
106-93-4	1,2-Dibromoethane	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
95-50-1	1,2-Dichlorobenzene	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
107-06-2	1,2-Dichloroethane	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
78-87-5	1,2-Dichloropropane	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
108-67-8	**1,3,5-Trimethylbenzene**	**3600**	62	ug/kg dry	50	11/19/15	B5K1811	8260	
541-73-1	1,3-Dichlorobenzene	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
106-46-7	1,4-Dichlorobenzene	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
78-93-3	2-Butanone (MEK)	ND	310	ug/kg dry	50	11/19/15	B5K1811	8260	
591-78-6	2-Hexanone	ND	310	ug/kg dry	50	11/19/15	B5K1811	8260	
91-57-6	**2-Methylnaphthalene**	**2600**	310	ug/kg dry	50	11/19/15	B5K1811	8260	X
67-64-1	2-Propanone (acetone)	ND	1200	ug/kg dry	50	11/19/15	B5K1811	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	310	ug/kg dry	50	11/19/15	B5K1811	8260	
107-13-1	Acrylonitrile	ND	310	ug/kg dry	50	11/19/15	B5K1811	8260	
71-43-2	Benzene	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
108-86-1	Bromobenzene	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
74-97-5	Bromochloromethane	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
75-27-4	Bromodichloromethane	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
75-25-2	Bromoform	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
74-83-9	Bromomethane	ND	250	ug/kg dry	50	11/19/15	B5K1811	8260	
75-15-0	Carbon disulfide	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
56-23-5	Carbon tetrachloride	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
108-90-7	Chlorobenzene	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
75-00-3	Chloroethane	ND	310	ug/kg dry	50	11/19/15	B5K1811	8260	
67-66-3	Chloroform	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
74-87-3	Chloromethane	ND	310	ug/kg dry	50	11/19/15	B5K1811	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
110-82-7	Cyclohexane	ND	310	ug/kg dry	50	11/19/15	B5K1811	8260	
124-48-1	Dibromochloromethane	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	

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TEL: (517) 335-9800
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Client ID: GP-15-4 5.5-6'

Lab ID: 1511104-20

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									**See note Y11**
74-95-3	Dibromomethane	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
75-71-8	Dichlorodifluoromethane	ND	310	ug/kg dry	50	11/19/15	B5K1811	8260	
60-29-7	Diethyl ether	ND	250	ug/kg dry	50	11/19/15	B5K1811	8260	
108-20-3	Diisopropyl Ether	ND	310	ug/kg dry	50	11/19/15	B5K1811	8260	
100-41-4	**Ethylbenzene**	**890**	62	ug/kg dry	50	11/19/15	B5K1811	8260	
637-92-3	Ethyltertiarybutylether	ND	310	ug/kg dry	50	11/19/15	B5K1811	8260	
67-72-1	Hexachloroethane	ND	310	ug/kg dry	50	11/19/15	B5K1811	8260	
98-82-8	**Isopropylbenzene**	**430**	62	ug/kg dry	50	11/19/15	B5K1811	8260	
1330-20-7	**m & p - Xylene**	**3500**	120	ug/kg dry	50	11/19/15	B5K1811	8260	
74-88-4	Methyl iodide	ND	370	ug/kg dry	50	11/19/15	B5K1811	8260	Y37
75-09-2	Methylene chloride	ND	120	ug/kg dry	50	11/19/15	B5K1811	8260	
1634-04-4	Methyltertiarybutylether	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
91-20-3	**Naphthalene**	**1200**	310	ug/kg dry	50	11/19/15	B5K1811	8260	X
104-51-8	n-Butylbenzene	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
103-65-1	**n-Propylbenzene**	**2200**	62	ug/kg dry	50	11/19/15	B5K1811	8260	
95-47-6	**o-Xylene**	**350**	62	ug/kg dry	50	11/19/15	B5K1811	8260	
99-87-6	**p-Isopropyl toluene**	**290**	62	ug/kg dry	50	11/19/15	B5K1811	8260	
135-98-8	**sec-Butylbenzene**	**420**	62	ug/kg dry	50	11/19/15	B5K1811	8260	
100-42-5	Styrene	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
98-06-6	tert-Butylbenzene	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
75-65-0	tertiary Butyl Alcohol	ND	3100	ug/kg dry	50	11/19/15	B5K1811	8260	
994-05-8	tertiaryAmylmethylether	ND	310	ug/kg dry	50	11/19/15	B5K1811	8260	
127-18-4	Tetrachloroethylene	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
109-99-9	Tetrahydrofuran	ND	310	ug/kg dry	50	11/19/15	B5K1811	8260	
108-88-3	Toluene	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	310	ug/kg dry	50	11/19/15	B5K1811	8260	A05
79-01-6	Trichloroethylene	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
75-69-4	Trichlorofluoromethane	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
75-01-4	Vinyl chloride	ND	62	ug/kg dry	50	11/19/15	B5K1811	8260	
Surrogate: Bromofluorobenzene			*106 %*	*40.3-194*		*11/19/15*	B5K1811	*8260*	
Surrogate: Dibromofluoromethane			*120 %*	*52.1-217*		*11/19/15*	B5K1811	*8260*	
Surrogate: Toluene-d8			*114 %*	*55.4-196*		*11/19/15*	B5K1811	*8260*	

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TEL: (517) 335-9800
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Client ID: GP-15-4 5.5-6'

Lab ID: 1511104-20

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	**% Total Solids**	**90.0**	0.1	%	1	11/19/15	B5K1920	2540 B	

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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: GP-15-5 6-6.5

Lab ID: 1511104-21

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
71-55-6	1,1,1-Trichloroethane	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
79-00-5	1,1,2-Trichloroethane	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
75-34-3	1,1-Dichloroethane	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
75-35-4	1,1-Dichloroethylene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	380	ug/kg dry	50	11/20/15	B5K2003	8260	
96-18-4	1,2,3-Trichloropropane	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	380	ug/kg dry	50	11/20/15	B5K2003	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	380	ug/kg dry	50	11/20/15	B5K2003	8260	
106-93-4	1,2-Dibromoethane	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
95-50-1	1,2-Dichlorobenzene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
107-06-2	1,2-Dichloroethane	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
78-87-5	1,2-Dichloropropane	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
541-73-1	1,3-Dichlorobenzene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
106-46-7	1,4-Dichlorobenzene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
78-93-3	2-Butanone (MEK)	ND	380	ug/kg dry	50	11/20/15	B5K2003	8260	
591-78-6	2-Hexanone	ND	380	ug/kg dry	50	11/20/15	B5K2003	8260	
91-57-6	2-Methylnaphthalene	ND	380	ug/kg dry	50	11/20/15	B5K2003	8260	X
67-64-1	2-Propanone (acetone)	ND	1500	ug/kg dry	50	11/20/15	B5K2003	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	380	ug/kg dry	50	11/20/15	B5K2003	8260	
107-13-1	Acrylonitrile	ND	380	ug/kg dry	50	11/20/15	B5K2003	8260	
71-43-2	Benzene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
108-86-1	Bromobenzene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
74-97-5	Bromochloromethane	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
75-27-4	Bromodichloromethane	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
75-25-2	Bromoform	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
74-83-9	Bromomethane	ND	300	ug/kg dry	50	11/20/15	B5K2003	8260	
75-15-0	Carbon disulfide	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
56-23-5	Carbon tetrachloride	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
108-90-7	Chlorobenzene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
75-00-3	Chloroethane	ND	380	ug/kg dry	50	11/20/15	B5K2003	8260	
67-66-3	Chloroform	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
74-87-3	Chloromethane	ND	380	ug/kg dry	50	11/20/15	B5K2003	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
110-82-7	Cyclohexane	ND	380	ug/kg dry	50	11/20/15	B5K2003	8260	
124-48-1	Dibromochloromethane	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	

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Client ID: GP-15-5 6-6.5

Lab ID: 1511104-21

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
75-71-8	Dichlorodifluoromethane	ND	380	ug/kg dry	50	11/20/15	B5K2003	8260	
60-29-7	Diethyl ether	ND	300	ug/kg dry	50	11/20/15	B5K2003	8260	
108-20-3	Diisopropyl Ether	ND	380	ug/kg dry	50	11/20/15	B5K2003	8260	
100-41-4	Ethylbenzene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
637-92-3	Ethyltertiarybutylether	ND	380	ug/kg dry	50	11/20/15	B5K2003	8260	
67-72-1	Hexachloroethane	ND	380	ug/kg dry	50	11/20/15	B5K2003	8260	
98-82-8	Isopropylbenzene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
1330-20-7	m & p - Xylene	ND	150	ug/kg dry	50	11/20/15	B5K2003	8260	
74-88-4	Methyl iodide	ND	450	ug/kg dry	50	11/20/15	B5K2003	8260	Y37
75-09-2	Methylene chloride	ND	150	ug/kg dry	50	11/20/15	B5K2003	8260	
1634-04-4	Methyltertiarybutylether	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
91-20-3	Naphthalene	ND	380	ug/kg dry	50	11/20/15	B5K2003	8260	X
104-51-8	n-Butylbenzene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
103-65-1	n-Propylbenzene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
95-47-6	o-Xylene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
99-87-6	p-Isopropyl toluene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
135-98-8	sec-Butylbenzene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
100-42-5	Styrene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
98-06-6	tert-Butylbenzene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
75-65-0	tertiary Butyl Alcohol	ND	3800	ug/kg dry	50	11/20/15	B5K2003	8260	
994-05-8	tertiaryAmylmethylether	ND	380	ug/kg dry	50	11/20/15	B5K2003	8260	
127-18-4	Tetrachloroethylene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
109-99-9	Tetrahydrofuran	ND	380	ug/kg dry	50	11/20/15	B5K2003	8260	
108-88-3	Toluene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	380	ug/kg dry	50	11/20/15	B5K2003	8260	
79-01-6	Trichloroethylene	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
75-69-4	Trichlorofluoromethane	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
75-01-4	Vinyl chloride	ND	76	ug/kg dry	50	11/20/15	B5K2003	8260	
Surrogate: Bromofluorobenzene			*89.4 %*	*40.3-194*		*11/20/15*	B5K2003	*8260*	
Surrogate: Dibromofluoromethane			*102 %*	*52.1-217*		*11/20/15*	B5K2003	*8260*	
Surrogate: Toluene-d8			*96.9 %*	*55.4-196*		*11/20/15*	B5K2003	*8260*	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-5 6-6.5

Lab ID: 1511104-21

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	**% Total Solids**	**83.7**	0.1	%	1	11/19/15	B5K1920	2540 B	

DEQ

MICHIGAN DEPT. OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY
ANALYSIS REQUEST SHEET

White

LAB WORK ORDER # 15 111 04

MATRIX ~~WATER~~ SOIL

SITE CODE NUMBER	SITE NAME	ACCEPT HT CODES? Y / N If yes which parameters?
550570-00	City of Linden Benzene Contamination	

DIVISION	DISTRICT/OFFICE	MDEQ PROJECT MANAGER	E-MAIL ADDRESS	PHONE
MDEQ-RRD Lansing District		Marjorie Frisch	FrischM1@michigan.gov	

PRIMARY CONTACT PERSON	CONTRACT FIRM NAME (if applicable)	PHONE	AY:	INDEX:	PCA:
Craig Simon	ECT, Inc.	517-775-2564	PROJECT:		PH:

OVERFLOW LAB (Required)		E-MAIL ADDRESSES TO SEND ADDITIONAL REPORTS TO:
1ST CHOICE:	2ND CHOICE:	1.) csimon@ectinc.com
COLLECTED BY: Jason Bartholomew	PHONE: 517-272-9200	2.) jbartholomew@ectinc.com

****** SAFETY INFORMATION REQUIRED ******
SEE BACK OF FORM

	LAB USE ONLY	FIELD ID (Sample Identification)	SAMPLE COLLECTED DATE MM/DD/YY	SAMPLE COLLECTED TIME MILITARY	GPS COORDINATES LATITUDE	GPS COORDINATES LONGITUDE	COMMENTS
1	AB 01	GP-15-16 9.25-9.5'	11/12/15	1320			
2	AB ~~03~~	~~GP-15-17 7.5~~					
3	AB 02	GP-15-17 7.5-8'	11/12/15	1345			
4	AB 03	GP-15-18 9.25-9.5'	11/12/15	1400			
5	AB 04	GP-15-19 9.5-9.75'	11/12/15	1420			
6	AB 05	GP-15-20 9-9.5'	11/12/15	1445			
7	AB						
8	AB						
9	AB						
10	AB						

ORGANIC

VOA VOLATILES (8260)

Full List	(1) 2 (3 4 5 6) 7 8 9 10
BTEX/MTBE/TMB only	1 2 3 4 5 6 7 8 9 10
Chlorinated only	1 2 3 4 5 6 7 8 9 10
GRO	1 2 3 4 5 6 7 8 9 10
1,4 Dioxane	1 2 3 4 5 6 7 8 9 10

METH METHANE, ETHENE, ETHANE (Modified 8015)

Methane, ethane, ethene	1 2 3 4 5 6 7 8 9 10

ON PESTICIDES/PCBS (8081/8082)

Pesticides & PCBs	1 2 3 4 5 6 7 8 9 10
Pesticides only	1 2 3 4 5 6 7 8 9 10
PCBs only	1 2 3 4 5 6 7 8 9 10
Toxaphene	1 2 3 4 5 6 7 8 9 10
Specialty Pesticides	1 2 3 4 5 6 7 8 9 10

BNA BASE NEUTRAL & ACIDS (8270)

BNAs	1 2 3 4 5 6 7 8 9 10
Benzidines	1 2 3 4 5 6 7 8 9 10
PNAs only	1 2 3 4 5 6 7 8 9 10
BNs only	1 2 3 4 5 6 7 8 9 10
ACIDs only	1 2 3 4 5 6 7 8 9 10

ORGANIC SPECIAL REQUESTS

Library Search - Volatiles	1 2 3 4 5 6 7 8 9 10
Library Search - Semi-Vols	1 2 3 4 5 6 7 8 9 10
FingerPrint	1 2 3 4 5 6 7 8 9 10
DRO/ORO (8015)	1 2 3 4 5 6 7 8 9 10

GENERAL CHEMISTRY

GN	NO_2, O-Phos	1 2 3 4 5 6 7 8 9 10
	NO_3 Calc (NO_2+NO_3, NO_2)	1 2 3 4 5 6 7 8 9 10
	Residue SS	1 2 3 4 5 6 7 8 9 10
	Residue TDS	1 2 3 4 5 6 7 8 9 10
	BOD Tot 5 day	1 2 3 4 5 6 7 8 9 10
	BOD Carb 5 day	1 2 3 4 5 6 7 8 9 10
	Turbidity	1 2 3 4 5 6 7 8 9 10
CA	Chlorophyll	1 2 3 4 5 6 7 8 9 10
GA	COD	1 2 3 4 5 6 7 8 9 10
	TOC	1 2 3 4 5 6 7 8 9 10
	NO_3 + NO_2, NH_3	1 2 3 4 5 6 7 8 9 10
	KJEL N, Tot P	1 2 3 4 5 6 7 8 9 10
S	Sulfide	1 2 3 4 5 6 7 8 9 10
GP	Phenolics	1 2 3 4 5 6 7 8 9 10
GB	Total CN	1 2 3 4 5 6 7 8 9 10
	Amenable CN	1 2 3 4 5 6 7 8 9 10
GCN	Available CN	1 2 3 4 5 6 7 8 9 10

INORGANIC

MN	pH, Conductance	1 2 3 4 5 6 7 8 9 10
	Cl, SO_4, Total Alk	1 2 3 4 5 6 7 8 9 10
	HCO_3, CO_3	1 2 3 4 5 6 7 8 9 10
	Cr^{+6}	1 2 3 4 5 6 7 8 9 10
OG	Oil & Grease	1 2 3 4 5 6 7 8 9 10

INORGANIC

MA - Total Metals

MICH TEN METALS (As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn)	1 2 3 4 5 6 7 8 9 10
OP MEMO 2 METALS (Sb,As,Ba,Be,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Tl,V,Zn)	1 2 3 4 5 6 7 8 9 10
↓Circle Metal and Corresponding Sample No. Below↓	
Al Sb As Ba Be B Cd Cr Co Cu Fe Pb Li Mn Hg Mo Ni Se Ag Sr Tl Ti V Zn	1 2 3 4 5 6 7 8 9 10
Ca Mg K Na	1 2 3 4 5 6 7 8 9 10
Hardness Calc (Ca Mg)	1 2 3 4 5 6 7 8 9 10
LL Hg Low Level Mercury	1 2 3 4 5 6 7 8 9 10

MAD or MD - Dissolved Metals

Lab Filtration	1 2 3 4 5 6 7 8 9 10
MICH TEN METALS (As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn)	1 2 3 4 5 6 7 8 9 10
OP MEMO 2 Metals (Sb,As,Ba,Be,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Tl,V,Zn)	1 2 3 4 5 6 7 8 9 10
↓Circle Metal and Corresponding Sample No. Below↓	
Al Sb As Ba Be B Cd Cr Co Cu Fe Pb Li Mn Hg Mo Ni Se Ag Sr Tl Ti V Zn	1 2 3 4 5 6 7 8 9 10
Ca Mg K Na	1 2 3 4 5 6 7 8 9 10
Hardness Calc (Ca Mg)	1 2 3 4 5 6 7 8 9 10
LL Hg Low Level Mercury	1 2 3 4 5 6 7 8 9 10

Chain-of-Custody

	RELEASED BY / ORGANIZATION	RECEIVED BY / ORGANIZATION	DATE	TIME
Print Name & Organization	CRAIG J SIMON / ECT	Jason Bartholomew / ECT	11/12/15	1645
Signature				
Print Name & Organization	Jason Bartholomew / ECT	ECT storage	11/12/15	1910
Signature				
Print Name & Organization	John Foran (ECT	Melissa Smith	11/13/15	1310
Signature				

Revised January 2010

DEQ

MICHIGAN DEPT. OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY
ANALYSIS REQUEST SHEET

White

Page 1 of 1 Soil 2/3

LAB WORK ORDER # 151164

MATRIX=~~WATER~~

SITE CODE NUMBER	SITE NAME	ACCEPT HT CODES? Y / N (If yes which parameters?)
550570-00	City of Linden Benzene Contamination	

DIVISION	DISTRICT/OFFICE	MDEQ PROJECT MANAGER	E-MAIL ADDRESS	PHONE
MDEQ-RRD Lansing District		Marjorie Frisch	FrischM1@michigan.gov	

PRIMARY CONTACT PERSON	CONTRACT FIRM NAME (if applicable)	PHONE	AY:	INDEX:	PCA:
Craig Simon	ECT, Inc.	517-775-2564	PROJECT:		PH:

OVERFLOW LAB (Required)

1ST CHOICE: 2ND CHOICE:

E-MAIL ADDRESSES TO SEND ADDITIONAL REPORTS TO:

1.) csimon@ectinc.com

2.) jbartholomew@ectinc.com

COLLECTED BY: Jason Bartholomew PHONE: 517-272-9200

****** SAFETY INFORMATION REQUIRED ******

SEE BACK OF FORM

LAB USE ONLY		FIELD ID (Sample Identification)	SAMPLE COLLECTED DATE MM/DD/YY	SAMPLE COLLECTED TIME MILITARY	GPS COORDINATES LATITUDE	GPS COORDINATES LONGITUDE	COMMENTS
1	AB 06	GP-15-15 9-9.5'	11/11/15	1650			
2	AB						
3	AB						
4	AB						
5	AB						
6	AB						
7	AB						
8	AB						
9	AB						
10	AB						

ORGANIC

VOA VOLATILES (8260)

Full List	(1) 2 3 4 5 6 7 8 9 10
BTEX/MTBE/TMB only	1 2 3 4 5 6 7 8 9 10
Chlorinated only	1 2 3 4 5 6 7 8 9 10
GRO	1 2 3 4 5 6 7 8 9 10
1,4 Dioxane	1 2 3 4 5 6 7 8 9 10

METH METHANE, ETHENE, ETHANE (Modified 8015)

Methane, ethane, ethene	1 2 3 4 5 6 7 8 9 10

ON PESTICIDES/PCBS (8081/8082)

Pesticides & PCBs	1 2 3 4 5 6 7 8 9 10
Pesticides only	1 2 3 4 5 6 7 8 9 10
PCBs only	1 2 3 4 5 6 7 8 9 10
Toxaphene	1 2 3 4 5 6 7 8 9 10
Specialty Pesticides	1 2 3 4 5 6 7 8 9 10

BNA BASE NEUTRAL & ACIDS (8270)

BNAs	1 2 3 4 5 6 7 8 9 10
Benzidines	1 2 3 4 5 6 7 8 9 10
PNAs only	1 2 3 4 5 6 7 8 9 10
BNs only	1 2 3 4 5 6 7 8 9 10
ACIDs only	1 2 3 4 5 6 7 8 9 10

ORGANIC SPECIAL REQUESTS

Library Search - Volatiles	1 2 3 4 5 6 7 8 9 10
Library Search - Semi-Vols	1 2 3 4 5 6 7 8 9 10
FingerPrint	1 2 3 4 5 6 7 8 9 10
DRO/ORO (8015)	1 2 3 4 5 6 7 8 9 10

GENERAL CHEMISTRY

GN	NO_2, O-Phos	1 2 3 4 5 6 7 8 9 10
	NO_3 Calc (NO_3+NO_3, NO_2)	1 2 3 4 5 6 7 8 9 10
	Residue SS	1 2 3 4 5 6 7 8 9 10
	Residue TDS	1 2 3 4 5 6 7 8 9 10
	BOD Tot 5 day	1 2 3 4 5 6 7 8 9 10
	BOD Carb 5 day	1 2 3 4 5 6 7 8 9 10
	Turbidity	1 2 3 4 5 6 7 8 9 10
CA	Chlorophyll	1 2 3 4 5 6 7 8 9 10
GA	COD	1 2 3 4 5 6 7 8 9 10
	TOC	1 2 3 4 5 6 7 8 9 10
	NO_3 + NO_2, NH_3	1 2 3 4 5 6 7 8 9 10
	KJEL N, Tot P	1 2 3 4 5 6 7 8 9 10
S	Sulfide	1 2 3 4 5 6 7 8 9 10
GP	Phenolics	1 2 3 4 5 6 7 8 9 10
GB	Total CN	1 2 3 4 5 6 7 8 9 10
	Amenable CN	1 2 3 4 5 6 7 8 9 10
GCN	Available CN	1 2 3 4 5 6 7 8 9 10

INORGANIC

MN	pH, Conductance	1 2 3 4 5 6 7 8 9 10
	Cl, SO_4, Total Alk	1 2 3 4 5 6 7 8 9 10
	HCO_3 / CO_3	1 2 3 4 5 6 7 8 9 10
	Cr^{+6}	1 2 3 4 5 6 7 8 9 10
OG	Oil & Grease	1 2 3 4 5 6 7 8 9 10

INORGANIC

MA - Total Metals

MICH TEN METALS (As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn)	1 2 3 4 5 6 7 8 9 10
OP MEMO 2 METALS (Sb,As,Ba,Be,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Tl,V,Zn)	1 2 3 4 5 6 7 8 9 10
↓Circle Metal and Corresponding Sample No. Below↓	
Al Sb As Ba Be B Cd Cr Co Cu Fe Pb Li Mn Hg Mo Ni Se Ag Sr Tl Ti V Zn	1 2 3 4 5 6 7 8 9 10
Ca Mg K Na	1 2 3 4 5 6 7 8 9 10
Hardness Calc (Ca Mg)	1 2 3 4 5 6 7 8 9 10
LL Hg Low Level Mercury	1 2 3 4 5 6 7 8 9 10

MAD or MD - Dissolved Metals

Lab Filtration	1 2 3 4 5 6 7 8 9 10
MICH TEN METALS (As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn)	1 2 3 4 5 6 7 8 9 10
OP MEMO 2 Metals (Sb,As,Ba,Be,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Tl,V,Zn)	1 2 3 4 5 6 7 8 9 10
↓Circle Metal and Corresponding Sample No. Below↓	
Al Sb As Ba Be B Cd Cr Co Cu Fe Pb Li Mn Hg Mo Ni Se Ag Sr Tl Ti V Zn	1 2 3 4 5 6 7 8 9 10
Ca Mg K Na	1 2 3 4 5 6 7 8 9 10
Hardness Calc (Ca Mg)	1 2 3 4 5 6 7 8 9 10
LL Hg Low Level Mercury	1 2 3 4 5 6 7 8 9 10

Chain-of-Custody

	RELEASED BY / ORGANIZATION	RECEIVED BY / ORGANIZATION	DATE	TIME
Print Name & Organization	Craig J Simon / ECT	Jason Bartholomew / ECT	11/11/15	1700
Signature				
Print Name & Organization	Jason Bartholomew / ECT	ECT storage	11/11/15	1845
Signature				
Print Name & Organization	John Fuson (ECT)	Michael Smith OCC	11/13/15	1310
Signature				

DEQ

MICHIGAN DEPT. OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY
ANALYSIS REQUEST SHEET

White

LAB WORK ORDER # 15 11104

MATRIX ~~WATER~~ SOIL

SITE CODE NUMBER	SITE NAME	ACCEPT HT CODES? Y / N (If yes which parameters?)
550570-00	City of Linden Benzene Contamination	

DIVISION	DISTRICT/OFFICE	MDEQ PROJECT MANAGER	E-MAIL ADDRESS	PHONE
MDEQ-RRD Lansing District		Marjorie Frisch	FrischM1@michigan.gov	

PRIMARY CONTACT PERSON	CONTRACT FIRM NAME (if applicable)	PHONE	AY:	INDEX:	PCA:
Craig Simon	ECT, Inc.	517-775-2564	PROJECT:		PH:

OVERFLOW LAB (Required)
1ST CHOICE: 2ND CHOICE:

E-MAIL ADDRESSES TO SEND ADDITIONAL REPORTS TO:
1.) csimon@ectinc.com
2.) jbartholomew@ectinc.com

COLLECTED BY: Jason Bartholomew PHONE: 517-272-9200

****** SAFETY INFORMATION REQUIRED ******
SEE BACK OF FORM

LAB USE ONLY		FIELD ID (Sample Identification)	SAMPLE COLLECTED DATE MM/DD/YY	SAMPLE COLLECTED TIME MILITARY	GPS COORDINATES LATITUDE	GPS COORDINATES LONGITUDE	COMMENTS
1	AB 07	GP-15-6 5-5.5'	11/11/15	1000			
2	AB 08	GP-15-7 4.5-5'	11/11/15	1050			
3	AB 09	GP-15-8 5-5.25'	11/11/15	1120			
4	AB 10	GP-15-9 8-8.25'	11/11/15	1150			
5	AB 11	HA-15-1 7.5-8'	11/11/15	1130			
6	AB 12	GP-15-10 8.5-9'	11/11/15	1340			
7	AB 13	GP-15-11 9-9.5'	11/11/15	1410			
8	AB 14	GP-15-12 6-6.5'	11/11/15	1445			
9	AB 15	GP-15-13 9-9.5'	11/11/15	1510			
10	AB 16	GP-15-14 9.5-10'	11/11/15	1605			GASOLINE IMPACT

ORGANIC

VOA VOLATILES (8260)
- Full List 1 2 3 4 5 6 7 8 9 10
- BTEX/MTBE/TMB only 1 2 3 4 5 6 7 8 9 10
- Chlorinated only 1 2 3 4 5 6 7 8 9 10
- GRO 1 2 3 4 5 6 7 8 9 10
- 1,4 Dioxane 1 2 3 4 5 6 7 8 9 10

METH METHANE, ETHENE, ETHANE (Modified 8015)
- Methane, ethane, ethene 1 2 3 4 5 6 7 8 9 10

ON PESTICIDES/PCBS (8081/8082)
- Pesticides & PCBs 1 2 3 4 5 6 7 8 9 10
- Pesticides only 1 2 3 4 5 6 7 8 9 10
- PCBs only 1 2 3 4 5 6 7 8 9 10
- Toxaphene 1 2 3 4 5 6 7 8 9 10
- Specialty Pesticides 1 2 3 4 5 6 7 8 9 10

BNA BASE NEUTRAL & ACIDS (8270)
- BNAs 1 2 3 4 5 6 7 8 9 10
- Benzidines 1 2 3 4 5 6 7 8 9 10
- PNAs only 1 2 3 4 5 6 7 8 9 10
- BNs only 1 2 3 4 5 6 7 8 9 10
- ACIDs only 1 2 3 4 5 6 7 8 9 10

ORGANIC SPECIAL REQUESTS
- Library Search - Volatiles 1 2 3 4 5 6 7 8 9 10
- Library Search - Semi-Vols 1 2 3 4 5 6 7 8 9 10
- FingerPrint 1 2 3 4 5 6 7 8 9 10
- DRO/ORO (8015) 1 2 3 4 5 6 7 8 9 10

GENERAL CHEMISTRY

- GN NO_2, O-Phos 1 2 3 4 5 6 7 8 9 10
- NO_3 Calc (NO_2+NO_3, NO_2) 1 2 3 4 5 6 7 8 9 10
- Residue SS 1 2 3 4 5 6 7 8 9 10
- Residue TDS 1 2 3 4 5 6 7 8 9 10
- BOD Tot 5 day 1 2 3 4 5 6 7 8 9 10
- BOD Carb 5 day 1 2 3 4 5 6 7 8 9 10
- Turbidity 1 2 3 4 5 6 7 8 9 10
- CA Chlorophyll 1 2 3 4 5 6 7 8 9 10
- GA COD 1 2 3 4 5 6 7 8 9 10
- TOC 1 2 3 4 5 6 7 8 9 10
- NO_3 + NO_2, NH_3 1 2 3 4 5 6 7 8 9 10
- KJEL N, Tot P 1 2 3 4 5 6 7 8 9 10
- S Sulfide 1 2 3 4 5 6 7 8 9 10
- GP Phenolics 1 2 3 4 5 6 7 8 9 10
- GB Total CN 1 2 3 4 5 6 7 8 9 10
- Amenable CN 1 2 3 4 5 6 7 8 9 10
- GCN Available CN 1 2 3 4 5 6 7 8 9 10

INORGANIC
- MN pH, Conductance 1 2 3 4 5 6 7 8 9 10
- Cl, SO_4, Total Alk 1 2 3 4 5 6 7 8 9 10
- HCO_3, CO_3 1 2 3 4 5 6 7 8 9 10
- Cr^{+6} 1 2 3 4 5 6 7 8 9 10
- OG Oil & Grease 1 2 3 4 5 6 7 8 9 10

INORGANIC

MA - Total Metals
- MICH TEN METALS 1 2 3 4 5 6 7 8 9 10
  (As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn)
- OP MEMO 2 METALS 1 2 3 4 5 6 7 8 9 10
  (Sb,As,Ba,Be,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Tl,V,Zn)
  ↓Circle Metal and Corresponding Sample No. Below↓
- Al Sb As Ba Be B Cd Cr 1 2 3 4 5 6 7 8 9 10
  Co Cu Fe Pb Li Mn Hg Mo
  Ni Se Ag Sr Tl Ti V Zn
- Ca Mg K Na 1 2 3 4 5 6 7 8 9 10
- Hardness Calc (Ca Mg) 1 2 3 4 5 6 7 8 9 10
- LL Hg
  Low Level Mercury 1 2 3 4 5 6 7 8 9 10

MAD or MD - Dissolved Metals
- Lab Filtration 1 2 3 4 5 6 7 8 9 10
- MICH TEN METALS 1 2 3 4 5 6 7 8 9 10
  (As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn)
- OP MEMO 2 Metals 1 2 3 4 5 6 7 8 9 10
  (Sb,As,Ba,Be,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Tl,V,Zn)
  ↓Circle Metal and Corresponding Sample No. Below↓
- Al Sb As Ba Be B Cd Cr 1 2 3 4 5 6 7 8 9 10
  Co Cu Fe Pb Li Mn Hg Mo
  Ni Se Ag Sr Tl Ti V Zn
- Ca Mg K Na 1 2 3 4 5 6 7 8 9 10
- Hardness Calc (Ca Mg) 1 2 3 4 5 6 7 8 9 10
- LL Hg
  Low Level Mercury 1 2 3 4 5 6 7 8 9 10

Chain-of-Custody

RELEASED BY / ORGANIZATION	RECEIVED BY / ORGANIZATION	DATE	TIME
Print Name & Organization: CRAIG J SIMON / ECT Signature:	Print Name & Organization: Jason Bartholomew Signature:	11/11/15	1500 ~~1845~~ 11/11/15
Print Name & Organization: Jason Bartholomew / ECT Signature:	Print Name & Organization: ECT storage Signature:	11/11/15	1845
Print Name & Organization: John Tran ECT Signature:	Print Name & Organization: Melissa Smith Signature:	11/13/15	1310

Revised January 2010

DEQ

MICHIGAN DEPT. OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY
ANALYSIS REQUEST SHEET

White

Page 1 of 1

5017

LAB WORK ORDER # 15111041

MATRIX ~~WATER~~

SITE CODE NUMBER	SITE NAME	ACCEPT HT CODES? Y / N (If yes which parameters?)
550570-00	City of Linden Benzene Contamination	

DIVISION	DISTRICT/OFFICE	MDEQ PROJECT MANAGER	E-MAIL ADDRESS	PHONE
MDEQ-RRD Lansing District		Marjorie Frisch	FrischM1@michigan.gov	

PRIMARY CONTACT PERSON	CONTRACT FIRM NAME (if applicable)	PHONE	AY:	INDEX:	PCA:
Craig Simon	ECT, Inc.	517-775-2564	PROJECT:		PH:

OVERFLOW LAB (Required)		E-MAIL ADDRESSES TO SEND ADDITIONAL REPORTS TO:
1ST CHOICE:	2ND CHOICE:	1.) csimon@ectinc.com
COLLECTED BY: ~~Jason Bartholomew~~ Craig Simon	PHONE: 517-272-9200	2.) jbartholomew@ectinc.com

****** SAFETY INFORMATION REQUIRED ******

SEE BACK OF FORM

	LAB USE ONLY	FIELD ID (Sample Identification)	SAMPLE COLLECTED DATE MM/DD/YY	SAMPLE COLLECTED TIME MILITARY	GPS COORDINATES LATITUDE	GPS COORDINATES LONGITUDE	COMMENTS
1	AB 17	GP-15-1 10.5-11'	11/10/15	1030			
2	AB 18	GP-15-2 9.5-10'	11/10/15	1155			
3	AB 19	GP-15-3 9.8-10'	11/10/15	1355			
4	AB 20	GP-15-4 5.5-6'	11/10/15	1510			
5	AB 21	GP-15-5 6-6.5'	11/10/15	1625			
6	AB						
7	AB						
8	AB						
9	AB						
10	AB						

ORGANIC

VOA VOLATILES (8260)

Full List	1 2 3 4 5 6 7 8 9 10
BTEX/MTBE/TMB only	1 2 3 4 5 6 7 8 9 10
Chlorinated only	1 2 3 4 5 6 7 8 9 10
GRO	1 2 3 4 5 6 7 8 9 10
1,4 Dioxane	1 2 3 4 5 6 7 8 9 10

METH METHANE, ETHENE, ETHANE (Modified 8015)

Methane, ethane, ethene	1 2 3 4 5 6 7 8 9 10

ON PESTICIDES/PCBS (8081/8082)

Pesticides & PCBs	1 2 3 4 5 6 7 8 9 10
Pesticides only	1 2 3 4 5 6 7 8 9 10
PCBs only	1 2 3 4 5 6 7 8 9 10
Toxaphene	1 2 3 4 5 6 7 8 9 10
Specialty Pesticides	1 2 3 4 5 6 7 8 9 10

BNA BASE NEUTRAL & ACIDS (8270)

BNAs	1 2 3 4 5 6 7 8 9 10
Benzidines	1 2 3 4 5 6 7 8 9 10
PNAs only	1 2 3 4 5 6 7 8 9 10
BNs only	1 2 3 4 5 6 7 8 9 10
ACIDs only	1 2 3 4 5 6 7 8 9 10

ORGANIC SPECIAL REQUESTS

Library Search - Volatiles	1 2 3 4 5 6 7 8 9 10
Library Search - Semi-Vols	1 2 3 4 5 6 7 8 9 10
FingerPrint	1 2 3 4 5 6 7 8 9 10
DRO/ORO (8015)	1 2 3 4 5 6 7 8 9 10

GENERAL CHEMISTRY

GN NO_2, O-Phos	1 2 3 4 5 6 7 8 9 10
NO_3 Calc (NO_2+NO_3, NO_2)	1 2 3 4 5 6 7 8 9 10
Residue SS	1 2 3 4 5 6 7 8 9 10
Residue TDS	1 2 3 4 5 6 7 8 9 10
BOD Tot 5 day	1 2 3 4 5 6 7 8 9 10
BOD Carb 5 day	1 2 3 4 5 6 7 8 9 10
Turbidity	1 2 3 4 5 6 7 8 9 10
CA Chlorophyll	1 2 3 4 5 6 7 8 9 10
GA COD	1 2 3 4 5 6 7 8 9 10
TOC	1 2 3 4 5 6 7 8 9 10
NO_3 + NO_2, NH_3	1 2 3 4 5 6 7 8 9 10
KJEL N, Tot P	1 2 3 4 5 6 7 8 9 10
S Sulfide	1 2 3 4 5 6 7 8 9 10
GP Phenolics	1 2 3 4 5 6 7 8 9 10
GB Total CN	1 2 3 4 5 6 7 8 9 10
Amenable CN	1 2 3 4 5 6 7 8 9 10
GCN Available CN	1 2 3 4 5 6 7 8 9 10

INORGANIC

MN pH, Conductance	1 2 3 4 5 6 7 8 9 10
Cl, SO_4, Total Alk	1 2 3 4 5 6 7 8 9 10
HCO_3, CO_3	1 2 3 4 5 6 7 8 9 10
Cr^{+6}	1 2 3 4 5 6 7 8 9 10
OG Oil & Grease	1 2 3 4 5 6 7 8 9 10

INORGANIC

MA - Total Metals

MICH TEN METALS (As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn)	1 2 3 4 5 6 7 8 9 10
OP MEMO 2 METALS (Sb,As,Ba,Be,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Tl,V,Zn)	1 2 3 4 5 6 7 8 9 10

↓Circle Metal and Corresponding Sample No. Below↓

Al Sb As Ba Be B Cd Cr Co Cu Fe Pb Li Mn Hg Mo Ni Se Ag Sr Tl Ti V Zn	1 2 3 4 5 6 7 8 9 10
Ca Mg K Na	1 2 3 4 5 6 7 8 9 10
Hardness Calc (Ca Mg)	1 2 3 4 5 6 7 8 9 10
LL Hg Low Level Mercury	1 2 3 4 5 6 7 8 9 10

MAD or MD - Dissolved Metals

Lab Filtration	1 2 3 4 5 6 7 8 9 10
MICH TEN METALS (As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn)	1 2 3 4 5 6 7 8 9 10
OP MEMO 2 Metals (Sb,As,Ba,Be,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Tl,V,Zn)	1 2 3 4 5 6 7 8 9 10

↓Circle Metal and Corresponding Sample No. Below↓

Al Sb As Ba Be B Cd Cr Co Cu Fe Pb Li Mn Hg Mo Ni Se Ag Sr Tl Ti V Zn	1 2 3 4 5 6 7 8 9 10
Ca Mg K Na	1 2 3 4 5 6 7 8 9 10
Hardness Calc (Ca Mg)	1 2 3 4 5 6 7 8 9 10
LL Hg Low Level Mercury	1 2 3 4 5 6 7 8 9 10

Chain-of-Custody

	RELEASED BY / ORGANIZATION	RECEIVED BY / ORGANIZATION	DATE	TIME
	Print Name & Organization: Craig J Simon / ECT Signature:	Print Name & Organization: Jason Bartholomew / ECT Signature:	11/10/15	1645
	Print Name & Organization: Jason Bartholomew / ECT Signature:	Print Name & Organization: ECT storage Signature:	11/10/15	1800
	Print Name & Organization: John Foran (ECT) Signature:	Print Name & Organization: Melissa Smith Signature:	11/13/15	1310

Revised January 2010

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

08 December 2015

Work Order: 1511105

Price: $1,280.00

Marjorie Frisch
MDEQ-RRD-LANSING
525 W. Allegan Street
Lansing, MI 48909

RE: CITY OF LINDEN BROAD&BRIDGE ST BENZENE (

I certify that the analyses performed by the MDEQ Environmental Laboratory were conducted by methods approved by the U.S. Environmental Protection Agency and other appropriate regulatory agencies.

Sincerely,

George Krisztian
Laboratory Director

STATE OF MICHIGAN
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MDEQ-RRD-LANSING	Project: CITY OF LINDEN BROAD&BRIDGE ST BENZENE CONTAMIN.	
525 W. Allegan Street	Site Code: 550570-00	**Reported:**
Lansing MI, 48909	Project Manager: Marjorie Frisch	12/08/2015

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
HA-15-1	1511105-01	Water	11/11/2015	11/13/2015	
GP-15-13	1511105-02	Water	11/11/2015	11/13/2015	
GP-15-1	1511105-03	Water	11/10/2015	11/13/2015	
GP-15-2	1511105-04	Water	11/10/2015	11/13/2015	
Influent	1511105-05	Water	11/12/2015	11/13/2015	
Middle	1511105-06	Water	11/12/2015	11/13/2015	
Effluent	1511105-07	Water	11/12/2015	11/13/2015	
Walmar Storm Outfall	1511105-08	Water	11/12/2015	11/13/2015	
GP-15-15	1511105-09	Water	11/12/2015	11/13/2015	
GP-15-17	1511105-10	Water	11/12/2015	11/13/2015	
GP-15-19	1511105-11	Water	11/12/2015	11/13/2015	
GP-15-20	1511105-12	Water	11/12/2015	11/13/2015	

Notes and Definitions

X	Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200 °C. 2-Methylnaphthalene & naphthalene have boiling points above 200 °C and are better suited to analysis by methods 8270 & 625 as semivolatile organics.
A11	Result is estimated due to high initial verification standard criteria failure.
ND	Indicates compound analyzed for but not detected
RL	Reporting Limit
NA	Not Applicable

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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: HA-15-1

Lab ID: 1511105-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
526-73-8	1,2,3-Trimethylbenzene	ND	10	ug/L	10	11/18/15	B5K1805	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	10	ug/L	10	11/18/15	B5K1805	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	10	ug/L	10	11/18/15	B5K1805	8260	
71-43-2	**Benzene**	**2000**	50	ug/L	50	11/19/15	B5K1805	8260	
100-41-4	Ethylbenzene	ND	10	ug/L	10	11/18/15	B5K1805	8260	
1330-20-7	m & p - Xylene	ND	20	ug/L	10	11/18/15	B5K1805	8260	
1634-04-4	Methyltertiarybutylether	ND	10	ug/L	10	11/18/15	B5K1805	8260	
95-47-6	o-Xylene	ND	10	ug/L	10	11/18/15	B5K1805	8260	
108-88-3	Toluene	ND	10	ug/L	10	11/18/15	B5K1805	8260	
Surrogate: Bromofluorobenzene			*101 %*	*85-115*		*11/18/15*	B5K1805	*8260*	
Surrogate: Dibromofluoromethane			*107 %*	*82.7-115*		*11/18/15*	B5K1805	*8260*	
Surrogate: Toluene-d8			*102 %*	*85-115*		*11/18/15*	B5K1805	*8260*	
Inorganics-Metals									
7439-92-1	**Lead**	**9.5**	1.0	ug/L	1	12/04/15	B5L0203	6020/200.8	

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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: GP-15-13

Lab ID: 1511105-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	11/19/15	B5K1903	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
Surrogate: Bromofluorobenzene			*104 %*	*85-115*		*11/19/15*	B5K1903	*8260*	
Surrogate: Dibromofluoromethane			*105 %*	*82.7-115*		*11/19/15*	B5K1903	*8260*	
Surrogate: Toluene-d8			*102 %*	*85-115*		*11/19/15*	B5K1903	*8260*	
Inorganics-Metals									
7439-92-1	Lead	ND	1.0	ug/L	1	12/04/15	B5L0203	6020/200.8	

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TEL: (517) 335-9800
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Client ID: GP-15-1

Lab ID: 1511105-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	11/19/15	B5K1903	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
Surrogate: Bromofluorobenzene			*99.1 %*	*85-115*		*11/19/15*	B5K1903	*8260*	
Surrogate: Dibromofluoromethane			*104 %*	*82.7-115*		*11/19/15*	B5K1903	*8260*	
Surrogate: Toluene-d8			*104 %*	*85-115*		*11/19/15*	B5K1903	*8260*	

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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: GP-15-2

Lab ID: 1511105-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
526-73-8	**1,2,3-Trimethylbenzene**	**10**	10	ug/L	10	11/18/15	B5K1805	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	10	ug/L	10	11/18/15	B5K1805	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	10	ug/L	10	11/18/15	B5K1805	8260	
71-43-2	**Benzene**	**2600**	50	ug/L	50	11/19/15	B5K1805	8260	
100-41-4	Ethylbenzene	ND	10	ug/L	10	11/18/15	B5K1805	8260	
1330-20-7	m & p - Xylene	ND	20	ug/L	10	11/18/15	B5K1805	8260	
1634-04-4	**Methyltertiarybutylether**	**15**	10	ug/L	10	11/18/15	B5K1805	8260	
95-47-6	o-Xylene	ND	10	ug/L	10	11/18/15	B5K1805	8260	
108-88-3	Toluene	ND	10	ug/L	10	11/18/15	B5K1805	8260	
Surrogate: Bromofluorobenzene			*100 %*	*85-115*		*11/18/15*	B5K1805	*8260*	
Surrogate: Dibromofluoromethane			*108 %*	*82.7-115*		*11/18/15*	B5K1805	*8260*	
Surrogate: Toluene-d8			*103 %*	*85-115*		*11/18/15*	B5K1805	*8260*	
Inorganics-Metals									
7439-92-1	**Lead**	**3.1**	1.0	ug/L	1	12/04/15	B5L0203	6020/200.8	

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Client ID: Influent

Lab ID: 1511105-05

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	11/19/15	B5K1903	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
71-43-2	**Benzene**	**4.3**	1.0	ug/L	1	11/19/15	B5K1903	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	

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TEL: (517) 335-9800
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Client ID: Influent

Lab ID: 1511105-05

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	11/19/15	B5K1903	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
1634-04-4	**Methyltertiarybutylether**	**1.2**	1.0	ug/L	1	11/19/15	B5K1903	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	11/19/15	B5K1903	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
Surrogate: Bromofluorobenzene			*100 %*	*85-115*		*11/19/15*	B5K1903	*8260*	
Surrogate: Dibromofluoromethane			*104 %*	*82.7-115*		*11/19/15*	B5K1903	*8260*	
Surrogate: Toluene-d8			*102 %*	*85-115*		*11/19/15*	B5K1903	*8260*	

Lab Work Order # 1511105

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: Middle

Lab ID: 1511105-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	11/18/15	B5K1805	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: Middle

Lab ID: 1511105-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	11/18/15	B5K1805	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	11/18/15	B5K1805	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
Surrogate: Bromofluorobenzene			*103 %*	*85-115*		*11/18/15*	B5K1805	*8260*	
Surrogate: Dibromofluoromethane			*104 %*	*82.7-115*		*11/18/15*	B5K1805	*8260*	
Surrogate: Toluene-d8			*102 %*	*85-115*		*11/18/15*	B5K1805	*8260*	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: Effluent

Lab ID: 1511105-07

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	11/18/15	B5K1805	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: Effluent

Lab ID: 1511105-07

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	11/18/15	B5K1805	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	11/18/15	B5K1805	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	11/18/15	B5K1805	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	11/18/15	B5K1805	8260	
Surrogate: Bromofluorobenzene			*103 %*	*85-115*		*11/18/15*	B5K1805	*8260*	
Surrogate: Dibromofluoromethane			*105 %*	*82.7-115*		*11/18/15*	B5K1805	*8260*	
Surrogate: Toluene-d8			*103 %*	*85-115*		*11/18/15*	B5K1805	*8260*	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: Walmar Storm Outfall

Lab ID: 1511105-08

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	11/19/15	B5K1903	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: Walmar Storm Outfall

Lab ID: 1511105-08

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	11/19/15	B5K1903	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	11/19/15	B5K1903	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	11/19/15	B5K1903	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
Surrogate: Bromofluorobenzene			*102 %*	*85-115*		*11/19/15*	B5K1903	*8260*	
Surrogate: Dibromofluoromethane			*105 %*	*82.7-115*		*11/19/15*	B5K1903	*8260*	
Surrogate: Toluene-d8			*104 %*	*85-115*		*11/19/15*	B5K1903	*8260*	

Lab Work Order # 1511105

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: ~~GP-15-15~~ GP-15-14 CJS 1/10/16

Lab ID: 1511105-09

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
526-73-8	**1,2,3-Trimethylbenzene**	320	10	ug/L	10	11/19/15	B5K1806	8260	
95-63-6	**1,2,4-Trimethylbenzene**	1200	10	ug/L	10	11/19/15	B5K1806	8260	
108-67-8	**1,3,5-Trimethylbenzene**	250	10	ug/L	10	11/19/15	B5K1806	8260	
71-43-2	**Benzene**	80	10	ug/L	10	11/19/15	B5K1806	8260	
100-41-4	**Ethylbenzene**	2600	50	ug/L	50	11/19/15	B5K1806	8260	
1330-20-7	**m & p - Xylene**	5600	100	ug/L	50	11/19/15	B5K1806	8260	
1634-04-4	Methyltertiarybutylether	ND	10	ug/L	10	11/19/15	B5K1806	8260	
95-47-6	**o-Xylene**	25	10	ug/L	10	11/19/15	B5K1806	8260	
108-88-3	**Toluene**	27	10	ug/L	10	11/19/15	B5K1806	8260	
Surrogate: Bromofluorobenzene			*98.9 %*	*85-115*		*11/19/15*	B5K1806	*8260*	
Surrogate: Dibromofluoromethane			*106 %*	*82.7-115*		*11/19/15*	B5K1806	*8260*	
Surrogate: Toluene-d8			*104 %*	*85-115*		*11/19/15*	B5K1806	*8260*	
Inorganics-Metals									
7439-92-1	**Lead**	4.3	1.0	ug/L	1	12/04/15	B5L0203	6020/200.8	

Lab Work Order # 1511105

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-17

Lab ID: 1511105-10

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
526-73-8	**1,2,3-Trimethylbenzene**	**2.4**	1.0	ug/L	1	11/19/15	B5K1903	8260	
95-63-6	**1,2,4-Trimethylbenzene**	**9.0**	1.0	ug/L	1	11/19/15	B5K1903	8260	
108-67-8	**1,3,5-Trimethylbenzene**	**2.9**	1.0	ug/L	1	11/19/15	B5K1903	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
100-41-4	**Ethylbenzene**	**1.1**	1.0	ug/L	1	11/19/15	B5K1903	8260	
1330-20-7	**m & p - Xylene**	**7.8**	2.0	ug/L	1	11/19/15	B5K1903	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
95-47-6	**o-Xylene**	**1.2**	1.0	ug/L	1	11/19/15	B5K1903	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
Surrogate: Bromofluorobenzene			*101 %*	*85-115*		*11/19/15*	B5K1903	*8260*	
Surrogate: Dibromofluoromethane			*106 %*	*82.7-115*		*11/19/15*	B5K1903	*8260*	
Surrogate: Toluene-d8			*104 %*	*85-115*		*11/19/15*	B5K1903	*8260*	
Inorganics-Metals									
7439-92-1	**Lead**	**2.0**	1.0	ug/L	1	12/04/15	B5L0203	6020/200.8	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-19

Lab ID: 1511105-11

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
71-43-2	**Benzene**	**1.8**	1.0	ug/L	1	11/19/15	B5K1903	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	11/19/15	B5K1903	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	11/19/15	B5K1903	8260	
108-88-3	**Toluene**	**1.8**	1.0	ug/L	1	11/19/15	B5K1903	8260	
Surrogate: Bromofluorobenzene			*102 %*	*85-115*		*11/19/15*	B5K1903	*8260*	
Surrogate: Dibromofluoromethane			*104 %*	*82.7-115*		*11/19/15*	B5K1903	*8260*	
Surrogate: Toluene-d8			*103 %*	*85-115*		*11/19/15*	B5K1903	*8260*	
Inorganics-Metals									
7439-92-1	**Lead**	**350**	10	ug/L	10	12/04/15	B5L0203	6020/200.8	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: GP-15-20

Lab ID: 1511105-12

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
526-73-8	**1,2,3-Trimethylbenzene**	**170**	10	ug/L	10	11/19/15	B5K1806	8260	
95-63-6	**1,2,4-Trimethylbenzene**	**790**	10	ug/L	10	11/19/15	B5K1806	8260	
108-67-8	**1,3,5-Trimethylbenzene**	**180**	10	ug/L	10	11/19/15	B5K1806	8260	
71-43-2	Benzene	ND	10	ug/L	10	11/19/15	B5K1806	8260	
100-41-4	**Ethylbenzene**	**650**	10	ug/L	10	11/19/15	B5K1806	8260	
1330-20-7	**m & p - Xylene**	**2300**	20	ug/L	10	11/19/15	B5K1806	8260	
1634-04-4	Methyltertiarybutylether	ND	10	ug/L	10	11/19/15	B5K1806	8260	
95-47-6	**o-Xylene**	**48**	10	ug/L	10	11/19/15	B5K1806	8260	
108-88-3	Toluene	ND	10	ug/L	10	11/19/15	B5K1806	8260	
Surrogate: Bromofluorobenzene			*99.4 %*	*85-115*		*11/19/15*	B5K1806	*8260*	
Surrogate: Dibromofluoromethane			*105 %*	*82.7-115*		*11/19/15*	B5K1806	*8260*	
Surrogate: Toluene-d8			*101 %*	*85-115*		*11/19/15*	B5K1806	*8260*	
Inorganics-Metals									
7439-92-1	**Lead**	**12**	1.0	ug/L	1	12/04/15	B5L0203	6020/200.8	

DEQ

MICHIGAN DEPT. OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY
ANALYSIS REQUEST SHEET

White

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LAB WORK ORDER # 1511105

MATRIX=WATER

SITE CODE NUMBER	SITE NAME	ACCEPT HT CODES? Y / N If yes which parameters?
550570-00	City of Linden Benzene Contamination	

DIVISION	DISTRICT/OFFICE	MDEQ PROJECT MANAGER	E-MAIL ADDRESS	PHONE
MDEQ-RRD Lansing District		Marjorie Frisch	FrischM1@michigan.gov	

PRIMARY CONTACT PERSON	CONTRACT FIRM NAME (if applicable)	PHONE	AY:	INDEX:	PCA:
Craig Simon	ECT, Inc.	517-775-2564	PROJECT:		PH:

OVERFLOW LAB (Required)

1ST CHOICE: 2ND CHOICE:

E-MAIL ADDRESSES TO SEND ADDITIONAL REPORTS TO:

1.) csimon@ectinc.com

2.) jbartholomew@ectinc.com

COLLECTED BY: Jason Bartholomew PHONE: 517-272-9200

****** SAFETY INFORMATION REQUIRED ******

SEE BACK OF FORM

LAB USE ONLY		FIELD ID (Sample Identification)	SAMPLE COLLECTED DATE MM/DD/YY	SAMPLE COLLECTED TIME MILITARY	GPS COORDINATES LATITUDE	GPS COORDINATES LONGITUDE	COMMENTS
1	AB 01	HA-15-1	11/11/15	1500			
2	AB 02	GP-15-13	11/11/15	1645			
3	AB						
4	AB						
5	AB						
6	AB						
7	AB						
8	AB						
9	AB						
10	AB						

ORGANIC

VOA VOLATILES (8260)

Full List	1 2 3 4 5 6 7 8 9 10
BTEX/MTBE/TMB only	1 2 3 4 5 6 7 8 9 10
Chlorinated only	1 2 3 4 5 6 7 8 9 10
GRO	1 2 3 4 5 6 7 8 9 10
1,4 Dioxane	1 2 3 4 5 6 7 8 9 10

METH METHANE, ETHENE, ETHANE (Modified 8015)

Methane, ethane, ethene	1 2 3 4 5 6 7 8 9 10

ON PESTICIDES/PCBS (8081/8082)

Pesticides & PCBs	1 2 3 4 5 6 7 8 9 10
Pesticides only	1 2 3 4 5 6 7 8 9 10
PCBs only	1 2 3 4 5 6 7 8 9 10
Toxaphene	1 2 3 4 5 6 7 8 9 10
Specialty Pesticides	1 2 3 4 5 6 7 8 9 10

BNA BASE NEUTRAL & ACIDS (8270)

BNAs	1 2 3 4 5 6 7 8 9 10
Benzidines	1 2 3 4 5 6 7 8 9 10
PNAs only	1 2 3 4 5 6 7 8 9 10
BNs only	1 2 3 4 5 6 7 8 9 10
ACIDs only	1 2 3 4 5 6 7 8 9 10

ORGANIC SPECIAL REQUESTS

Library Search - Volatiles	1 2 3 4 5 6 7 8 9 10
Library Search - Semi-Vols	1 2 3 4 5 6 7 8 9 10
FingerPrint	1 2 3 4 5 6 7 8 9 10
DRO/ORO (8015)	1 2 3 4 5 6 7 8 9 10

GENERAL CHEMISTRY

GN	NO_2, O-Phos	1 2 3 4 5 6 7 8 9 10
	NO_3 Calc (NO_2+NO_3, NO_3)	1 2 3 4 5 6 7 8 9 10
	Residue SS	1 2 3 4 5 6 7 8 9 10
	Residue TDS	1 2 3 4 5 6 7 8 9 10
	BOD Tot 5 day	1 2 3 4 5 6 7 8 9 10
	BOD Carb 5 day	1 2 3 4 5 6 7 8 9 10
	Turbidity	1 2 3 4 5 6 7 8 9 10
CA	Chlorophyll	1 2 3 4 5 6 7 8 9 10
GA	COD	1 2 3 4 5 6 7 8 9 10
	TOC	1 2 3 4 5 6 7 8 9 10
	NO_3 + NO_2, NH_3	1 2 3 4 5 6 7 8 9 10
	KJEL N, Tot P	1 2 3 4 5 6 7 8 9 10
S	Sulfide	1 2 3 4 5 6 7 8 9 10
GP	Phenolics	1 2 3 4 5 6 7 8 9 10
GB	Total CN	1 2 3 4 5 6 7 8 9 10
	Amenable CN	1 2 3 4 5 6 7 8 9 10
GCN	Available CN	1 2 3 4 5 6 7 8 9 10

INORGANIC

MN	pH, Conductance	1 2 3 4 5 6 7 8 9 10
	Cl, SO_4, Total Alk	1 2 3 4 5 6 7 8 9 10
	HCO_3, CO_3	1 2 3 4 5 6 7 8 9 10
	Cr^{+6}	1 2 3 4 5 6 7 8 9 10
OG	Oil & Grease	1 2 3 4 5 6 7 8 9 10

INORGANIC

MA - Total Metals

MICH TEN METALS (As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn)	1 2 3 4 5 6 7 8 9 10
OP MEMO 2 METALS (Sb,As,Ba,Be,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Tl,V,Zn)	1 2 3 4 5 6 7 8 9 10

↓Circle Metal and Corresponding Sample No. Below↓

Al Sb As Ba Be B Cd Cr Co Cu Fe Pb Li Mn Hg Mo Ni Se Ag Sr Tl Ti V Zn	1 2 3 4 5 6 7 8 9 10
Ca Mg K Na	1 2 3 4 5 6 7 8 9 10
Hardness Calc (Ca Mg)	1 2 3 4 5 6 7 8 9 10

LL Hg

Low Level Mercury	1 2 3 4 5 6 7 8 9 10

MAD or MD - Dissolved Metals

Lab Filtration	1 2 3 4 5 6 7 8 9 10
MICH TEN METALS (As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn)	1 2 3 4 5 6 7 8 9 10
OP MEMO 2 Metals (Sb,As,Ba,Be,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Tl,V,Zn)	1 2 3 4 5 6 7 8 9 10

↓Circle Metal and Corresponding Sample No. Below↓

Al Sb As Ba Be B Cd Cr Co Cu Fe Pb Li Mn Hg Mo Ni Se Ag Sr Tl Ti V Zn	1 2 3 4 5 6 7 8 9 10
Ca Mg K Na	1 2 3 4 5 6 7 8 9 10
Hardness Calc (Ca Mg)	1 2 3 4 5 6 7 8 9 10

LL Hg

Low Level Mercury	1 2 3 4 5 6 7 8 9 10

Chain-of-Custody

	RELEASED BY / ORGANIZATION	RECEIVED BY / ORGANIZATION	DATE	TIME
Print Name & Organization	Jason Bartholomew / ECT	ECT storage	11/11/15	1845
Signature				
Print Name & Organization	ECT STORAGE	John Foran	11/13/15	12:00
Signature				
Print Name & Organization	John Foran (ECT)	Melissa Smith		
Signature			11/13/15	1341

DEQ

MICHIGAN DEPT. OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY
ANALYSIS REQUEST SHEET

White

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LAB WORK ORDER # 1511105

MATRIX=WATER 2/3

SITE CODE NUMBER	SITE NAME	ACCEPT HT CODES? Y / N (If yes which parameters?)
550570-00	City of Linden Benzene Contamination	

DIVISION	DISTRICT/OFFICE	MDEQ PROJECT MANAGER	E-MAIL ADDRESS	PHONE
MDEQ-RRD Lansing District		Marjorie Frisch	FrischM1@michigan.gov	

PRIMARY CONTACT PERSON	CONTRACT FIRM NAME (if applicable)	PHONE	AY:	INDEX:	PCA:
Craig Simon	ECT, Inc.	517-775-2564	PROJECT:		PH:

OVERFLOW LAB (Required)

1ST CHOICE: 2ND CHOICE:

E-MAIL ADDRESSES TO SEND ADDITIONAL REPORTS TO:

1.) csimon@ectinc.com

2.) jbartholomew@ectinc.com

COLLECTED BY: Jason Bartholomew PHONE: 517-272-9200

****** SAFETY INFORMATION REQUIRED ******

SEE BACK OF FORM

LAB USE ONLY		FIELD ID (Sample Identification)	SAMPLE COLLECTED DATE MM/DD/YY	SAMPLE COLLECTED TIME MILITARY	GPS COORDINATES LATITUDE	GPS COORDINATES LONGITUDE	COMMENTS
1	AB 03	EP-15-1	11/10/15	1430			
2	AB 04	EP-15-2	↓	1600			
3	AB						
4	AB						
5	AB						
6	AB						
7	AB						
8	AB						
9	AB						
10	AB						

ORGANIC

VOA VOLATILES (8260)

Full List	1 2 3 4 5 6 7 8 9 10
BTEX/MTBE/TMB only	1 2 3 4 5 6 7 8 9 10
Chlorinated only	1 2 3 4 5 6 7 8 9 10
GRO	1 2 3 4 5 6 7 8 9 10
1,4 Dioxane	1 2 3 4 5 6 7 8 9 10

METH METHANE, ETHENE, ETHANE (Modified 8015)

Methane, ethane, ethene	1 2 3 4 5 6 7 8 9 10

ON PESTICIDES/PCBS (8081/8082)

Pesticides & PCBs	1 2 3 4 5 6 7 8 9 10
Pesticides only	1 2 3 4 5 6 7 8 9 10
PCBs only	1 2 3 4 5 6 7 8 9 10
Toxaphene	1 2 3 4 5 6 7 8 9 10
Specialty Pesticides	1 2 3 4 5 6 7 8 9 10

BNA BASE NEUTRAL & ACIDS (8270)

BNAs	1 2 3 4 5 6 7 8 9 10
Benzidines	1 2 3 4 5 6 7 8 9 10
PNAs only	1 2 3 4 5 6 7 8 9 10
BNs only	1 2 3 4 5 6 7 8 9 10
ACIDs only	1 2 3 4 5 6 7 8 9 10

ORGANIC SPECIAL REQUESTS

Library Search - Volatiles	1 2 3 4 5 6 7 8 9 10
Library Search - Semi-Vols	1 2 3 4 5 6 7 8 9 10
FingerPrint	1 2 3 4 5 6 7 8 9 10
DRO/ORO (8015)	1 2 3 4 5 6 7 8 9 10

GENERAL CHEMISTRY

GN	NO_2, O-Phos	1 2 3 4 5 6 7 8 9 10
	NO_3 Calc (NO_2+NO_3, NO_2)	1 2 3 4 5 6 7 8 9 10
	Residue SS	1 2 3 4 5 6 7 8 9 10
	Residue TDS	1 2 3 4 5 6 7 8 9 10
	BOD Tot 5 day	1 2 3 4 5 6 7 8 9 10
	BOD Carb 5 day	1 2 3 4 5 6 7 8 9 10
	Turbidity	1 2 3 4 5 6 7 8 9 10
CA	Chlorophyll	1 2 3 4 5 6 7 8 9 10
GA	COD	1 2 3 4 5 6 7 8 9 10
	TOC	1 2 3 4 5 6 7 8 9 10
	NO_3 + NO_2, NH_3	1 2 3 4 5 6 7 8 9 10
	KJEL N, Tot P	1 2 3 4 5 6 7 8 9 10
S	Sulfide	1 2 3 4 5 6 7 8 9 10
GP	Phenolics	1 2 3 4 5 6 7 8 9 10
GB	Total CN	1 2 3 4 5 6 7 8 9 10
	Amenable CN	1 2 3 4 5 6 7 8 9 10
GCN	Available CN	1 2 3 4 5 6 7 8 9 10

INORGANIC

MN	pH, Conductance	1 2 3 4 5 6 7 8 9 10
	Cl, SO_4, Total Alk	1 2 3 4 5 6 7 8 9 10
	HCO_3, CO_3	1 2 3 4 5 6 7 8 9 10
	Cr^{+6}	1 2 3 4 5 6 7 8 9 10
OG	Oil & Grease	1 2 3 4 5 6 7 8 9 10

INORGANIC

MA - Total Metals

MICH TEN METALS (As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn)	1 2 3 4 5 6 7 8 9 10
OP MEMO 2 METALS (Sb,As,Ba,Be,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Tl,V,Zn)	1 2 3 4 5 6 7 8 9 10

↓Circle Metal and Corresponding Sample No. Below↓

Al Sb As Ba Be B Cd Cr	1 2 3 4 5 6 7 8 9 10
Co Cu Fe Pb Li Mn Hg Mo	
Ni Se Ag Sr Tl Ti V Zn	
Ca Mg K Na	1 2 3 4 5 6 7 8 9 10
Hardness Calc (Ca Mg)	1 2 3 4 5 6 7 8 9 10
LL Hg Low Level Mercury	1 2 3 4 5 6 7 8 9 10

MAD or MD - Dissolved Metals

Lab Filtration	1 2 3 4 5 6 7 8 9 10
MICH TEN METALS (As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn)	1 2 3 4 5 6 7 8 9 10
OP MEMO 2 Metals (Sb,As,Ba,Be,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Tl,V,Zn)	1 2 3 4 5 6 7 8 9 10

↓Circle Metal and Corresponding Sample No. Below↓

Al Sb As Ba Be B Cd Cr	1 2 3 4 5 6 7 8 9 10
Co Cu Fe Pb Li Mn Hg Mo	
Ni Se Ag Sr Tl Ti V Zn	
Ca Mg K Na	1 2 3 4 5 6 7 8 9 10
Hardness Calc (Ca Mg)	1 2 3 4 5 6 7 8 9 10
LL Hg Low Level Mercury	1 2 3 4 5 6 7 8 9 10

Chain-of-Custody

RELEASED BY / ORGANIZATION	RECEIVED BY / ORGANIZATION	DATE	TIME
Print Name & Organization: Jason Bartholomew / ECT Signature: [signature]	Print Name & Organization: ECT Storage Signature:	11/10/15	1800
Print Name & Organization: John Foran / ECT Signature: [signature]	Print Name & Organization: John Foran (ECT) Signature: [signature]	11/13/15	12:00
Print Name & Organization: John Foran (ECT) Signature: [signature]	Print Name & Organization: Melissa Smith Signature: [signature]	11/13/15	1311

DEQ

MICHIGAN DEPT. OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY
ANALYSIS REQUEST SHEET

White

Page ~~1~~ of ~~1~~ 3|3

LAB WORK ORDER # 1511165

MATRIX=WATER

SITE CODE NUMBER: 550570-00	SITE NAME: City of Linden Benzene Contamination		ACCEPT HT CODES? Y / N (If yes which parameters?)
DIVISION: MDEQ-RRD Lansing District	DISTRICT/OFFICE	MDEQ PROJECT MANAGER: Marjorie Frisch	E-MAIL ADDRESS: FrischMJ@michigan.gov — PHONE
PRIMARY CONTACT PERSON: Craig Simon	CONTRACT FIRM NAME (If applicable): ECT, Inc.	PHONE: 517-775-2564	AY: INDEX: PCA: PROJECT: PH:
1ST CHOICE:	OVERFLOW LAB (Required) 2ND CHOICE:		E-MAIL ADDRESSES TO SEND ADDITIONAL REPORTS TO: 1.) csimon@ectinc.com 2.) jbartholomew@ectinc.com
COLLECTED BY: Jason Bartholomew		PHONE: 517-272-9200	

****** SAFETY INFORMATION REQUIRED ******
SEE BACK OF FORM

LAB USE ONLY		FIELD ID (Sample Identification)	SAMPLE COLLECTED DATE MM/DD/YY	SAMPLE COLLECTED TIME MILITARY	GPS COORDINATES LATITUDE	GPS COORDINATES LONGITUDE	COMMENTS
1	AB 05	Influent	11/12/2015	1045			
2	AB 06	Middle	11/12/2015	1050			
3	AB 07	Effluent	11/12/2015	1055			
4	AB 08	Walmar Storm Outfall	11/12/2015	1350			
5	AB 09	~~GP-15-15~~ GP-15-14 CJS 11/13/15	11/12/2015	1415			pb
6	AB 10	GP-15-17	11/12/2015	1535			
7	AB 11	GP-15-19	11/12/2015	1600			
8	AB 12	GP-15-20	11/12/2015	1650			
9	AB						
10	AB						

ORGANIC

VOA VOLATILES (8260)

Full List	1 2 3 4 [5 6 7 8] 9 10
BTEX/MTBE/TMB only	1 2 3 4 [5 6 7 8] 9 10
Chlorinated only	1 2 3 4 5 6 7 8 9 10
GRO	1 2 3 4 5 6 7 8 9 10
1,4 Dioxane	1 2 3 4 5 6 7 8 9 10

METH METHANE, ETHENE, ETHANE (Modified 8015)

Methane, ethane, ethene	1 2 3 4 5 6 7 8 9 10

ON PESTICIDES/PCBS (8081/8082)

Pesticides & PCBs	1 2 3 4 5 6 7 8 9 10
Pesticides only	1 2 3 4 5 6 7 8 9 10
PCBs only	1 2 3 4 5 6 7 8 9 10
Toxaphene	1 2 3 4 5 6 7 8 9 10
Specialty Pesticides	1 2 3 4 5 6 7 8 9 10

BNA BASE NEUTRAL & ACIDS (8270)

HNAs	1 2 3 4 5 6 7 8 9 10
Benzidines	1 2 3 4 5 6 7 8 9 10
PNAs only	1 2 3 4 5 6 7 8 9 10
BNs only	1 2 3 4 5 6 7 8 9 10
ACIDs only	1 2 3 4 5 6 7 8 9 10

ORGANIC SPECIAL REQUESTS

Library Search - Volatiles	1 2 3 4 5 6 7 8 9 10
Library Search - Semi-Vols	1 2 3 4 5 6 7 8 9 10
FingerPrint	1 2 3 4 5 6 7 8 9 10
DRO/ORO (8015)	1 2 3 4 5 6 7 8 9 10

GENERAL CHEMISTRY

GN	NO_2, O-Phos	1 2 3 4 5 6 7 8 9 10
	NO_2 Calc (NO_2+NO_3, NO_3)	1 2 3 4 5 6 7 8 9 10
	Residue SS	1 2 3 4 5 6 7 8 9 10
	Residue TDS	1 2 3 4 5 6 7 8 9 10
	BOD Tot 5 day	1 2 3 4 5 6 7 8 9 10
	BOD Carb 5 day	1 2 3 4 5 6 7 8 9 10
	Turbidity	1 2 3 4 5 6 7 8 9 10
CA	Chlorophyll	1 2 3 4 5 6 7 8 9 10
GA	COD	1 2 3 4 5 6 7 8 9 10
	TOC	1 2 3 4 5 6 7 8 9 10
	NO_3 + NO_2, NH_3	1 2 3 4 5 6 7 8 9 10
	KJEL N, Tot P	1 2 3 4 5 6 7 8 9 10
S	Sulfide	1 2 3 4 5 6 7 8 9 10
GP	Phenolics	1 2 3 4 5 6 7 8 9 10
GB	Total CN	1 2 3 4 5 6 7 8 9 10
	Amenable CN	1 2 3 4 5 6 7 8 9 10
GCN	Available CN	1 2 3 4 5 6 7 8 9 10

INORGANIC

MN	pH, Conductance	1 2 3 4 5 6 7 8 9 10
	Cl, SO_4, Total Alk	1 2 3 4 5 6 7 8 9 10
	HCO_3, CO_3	1 2 3 4 5 6 7 8 9 10
	Cr^{+6}	1 2 3 4 5 6 7 8 9 10
OG	Oil & Grease	1 2 3 4 5 6 7 8 9 10

INORGANIC

MA - Total Metals

MICH TEN METALS (As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn)	1 2 3 4 5 6 7 8 9 10
OP MEMO 2 METALS (Sb,As,Ba,Be,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Tl,V,Zn)	1 2 3 4 5 6 7 8 9 10

[Circle Metal and Corresponding Sample No. Below]

Al Sb As Ba Be B Cd Cr Co Cu Fe [Pb] Li Mn Hg Mo Ni Se Ag Sr Tl Ti V Zn	1 2 3 4 [5] [6 7 8] 9 10
Ca Mg K Na	1 2 3 4 5 6 7 8 9 10
Hardness Calc (Ca Mg)	1 2 3 4 5 6 7 8 9 10
LL Hg Low Level Mercury	1 2 3 4 5 6 7 8 9 10

MAD or MD - Dissolved Metals

Lab Filtration	1 2 3 4 5 6 7 8 9 10
MICH TEN METALS (As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn)	1 2 3 4 5 6 7 8 9 10
OP MEMO 2 Metals (Sb,As,Ba,Be,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Tl,V,Zn)	1 2 3 4 5 6 7 8 9 10

[Circle Metal and Corresponding Sample No. Below]

Al Sb As Ba Be B Cd Cr Co Cu Fe Pb Li Mn Hg Mo Ni Se Ag Sr Tl Ti V Zn	1 2 3 4 5 6 7 8 9 10
Ca Mg K Na	1 2 3 4 5 6 7 8 9 10
Hardness Calc (Ca Mg)	1 2 3 4 5 6 7 8 9 10
LL Hg Low Level Mercury	1 2 3 4 5 6 7 8 9 10

Chain-of-Custody

	RELEASED BY / ORGANIZATION	RECEIVED BY / ORGANIZATION	DATE	TIME
Print Name & Organization	Jason Bartholomew / ECT	ECT Storage	11/12/2015	1910
Signature	[signature]	[signature]		
Print Name & Organization	ECT STORAGE	John Foran (ECT)	11/13/15	12:00
Signature		[signature]		
Print Name & Organization	John Foran	Melissa Smith		
Signature	[signature]	[signature]	11/13/15	1311

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

11 December 2015

Work Order: 1511168

Price: $250.00

Marjorie Frisch
MDEQ-RRD-LANSING
525 W. Allegan Street
Lansing, MI 48909

RE: CITY OF LINDEN BROAD&BRIDGE ST BENZENE (

I certify that the analyses performed by the MDEQ Environmental Laboratory were conducted by methods approved by the U.S. Environmental Protection Agency and other appropriate regulatory agencies.

Sincerely,

George Krisztian
Laboratory Director

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

MDEQ-RRD-LANSING	Project: CITY OF LINDEN BROAD&BRIDGE ST BENZENE CONTAMIN.	
525 W. Allegan Street	Site Code: 550570-00	**Reported:**
Lansing MI, 48909	Project Manager: Marjorie Frisch	12/11/2015

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
MW-15-1	1511168-01	Water	11/18/2015	11/19/2015	
MW-15-2	1511168-02	Water	11/18/2015	11/19/2015	

Notes and Definitions

X	Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200 °C. 2-Methylnaphthalene & naphthalene have boiling points above 200 °C and are better suited to analysis by methods 8270 & 625 as semivolatile organics.
O	Result(s) and reporting limit(s) are estimated due to analysis from an open vial.
A11	Result is estimated due to high initial verification standard criteria failure.
A07	Result(s) and reporting limit(s) are estimated due to poor precision.
A05	Result and reporting limit are estimated dne to low continuing calibration standard criteria failure.
A03	Result(s) and reporting limit(s) are estimated due to low matrix spike recovery.
ND	Indicates compound analyzed for bnt not detected
RL	Reporting Limit
NA	Not Applicable

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: MW-15-1

Lab ID: 1511168-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	11/24/15	B5K2403	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
71-43-2	**Benzene**	**250**	5.0	ug/L	5	11/25/15	B5K2403	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	A05
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	A07
67-66-3	Chloroform	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: MW-15-1

Lab ID: 1511168-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
98-82-8	**Isopropylbenzene**	**1.6**	1.0	ug/L	1	11/24/15	B5K2403	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	11/24/15	B5K2403	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	A05
75-09-2	Methylene chloride	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
1634-04-4	**Methyltertiarybutylether**	**2.2**	1.0	ug/L	1	11/24/15	B5K2403	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
103-65-1	**n-Propylbenzene**	**1.4**	1.0	ug/L	1	11/24/15	B5K2403	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	11/24/15	B5K2403	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
Surrogate: Bromofluorobenzene			*97.1 %*	*85-115*		*11/24/15*	B5K2403	*8260*	
Surrogate: Dibromofluoromethane			*88.8 %*	*82.7-115*		*11/24/15*	B5K2403	*8260*	
Surrogate: Toluene-d8			*95.6 %*	*85-115*		*11/24/15*	B5K2403	*8260*	

Lab Work Order # 1511168

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: MW-15-1

Lab ID: 1511168-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-Metals									
7439-92-1	Lead	ND	1.0	ug/L	1	12/08/15	B5L0403	6020/200.8	

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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: MW-15-2

Lab ID: 1511168-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
526-73-8	**1,2,3-Trimethylbenzene**	**51**	1.0	ug/L	1	11/24/15	B5K2403	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
95-63-6	**1,2,4-Trimethylbenzene**	**160**	1.0	ug/L	1	11/24/15	B5K2403	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
108-67-8	**1,3,5-Trimethylbenzene**	**47**	1.0	ug/L	1	11/24/15	B5K2403	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
78-93-3	**2-Butanone (MEK)**	**22**	5.0	ug/L	1	11/24/15	B5K2403	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	X
67-64-1	**2-Propanone (acetone)**	**78**	20	ug/L	1	11/24/15	B5K2403	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
71-43-2	**Benzene**	**790**	10	ug/L	10	11/25/15	B5K2403	8260	O
108-86-1	Bromobenzene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	A05
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	A07
67-66-3	Chloroform	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
110-82-7	**Cyclohexane**	**21**	5.0	ug/L	1	11/24/15	B5K2403	8260	

STATE OF MICHIGAN
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ENVIRONMENTAL LABORATORY

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

Client ID: MW-15-2

Lab ID: 1511168-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
74-95-3	Dibromomethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
100-41-4	**Ethylbenzene**	**91**	1.0	ug/L	1	11/24/15	B5K2403	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
98-82-8	**Isopropylbenzene**	**7.4**	1.0	ug/L	1	11/24/15	B5K2403	8260	
1330-20-7	**m & p - Xylene**	**340**	20	ug/L	10	11/25/15	B5K2403	8260	O
74-88-4	Methyl iodide	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	A05
75-09-2	Methylene chloride	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
1634-04-4	**Methyltertiarybutylether**	**17**	1.0	ug/L	1	11/24/15	B5K2403	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
103-65-1	**n-Propylbenzene**	**4.8**	1.0	ug/L	1	11/24/15	B5K2403	8260	
95-47-6	**o-Xylene**	**93**	1.0	ug/L	1	11/24/15	B5K2403	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
135-98-8	**sec-Butylbenzene**	**1.8**	1.0	ug/L	1	11/24/15	B5K2403	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	11/24/15	B5K2403	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
108-88-3	**Toluene**	**52**	1.0	ug/L	1	11/24/15	B5K2403	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	11/24/15	B5K2403	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	11/24/15	B5K2403	8260	
Surrogate: Bromofluorobenzene			*89.9 %*	*85-115*		*11/24/15*	B5K2403	*8260*	
Surrogate: Dibromofluoromethane			*94.2 %*	*82.7-115*		*11/24/15*	B5K2403	*8260*	
Surrogate: Toluene-d8			*94.5 %*	*85-115*		*11/24/15*	B5K2403	*8260*	

DEQ

MICHIGAN DEPT. OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY
ANALYSIS REQUEST SHEET

White

LAB WORK ORDER # 1511168

MATRIX=WATER

SITE CODE NUMBER	SITE NAME	ACCEPT HT CODES? Y / N (If yes which parameters?)
550570-00	City of Linden Benzene Contamination	

DIVISION	DISTRICT/OFFICE	MDEQ PROJECT MANAGER	E-MAIL ADDRESS	PHONE
MDEQ-RRD Lansing District		Marjorie Frisch	FrischM1@michigan.gov	

PRIMARY CONTACT PERSON	CONTRACT FIRM NAME (if applicable)	PHONE	AY:	INDEX:	PCA:
Craig Simon	ECT, Inc.	517-775-2564	PROJECT:		PH:

OVERFLOW LAB (Required)		E-MAIL ADDRESSES TO SEND ADDITIONAL REPORTS TO:
1ST CHOICE:	2ND CHOICE:	1.) csimon@ectinc.com
COLLECTED BY: Jason Bartholomew	PHONE: 517-272-9200	2.) jbartholomew@ectinc.com

****** SAFETY INFORMATION REQUIRED ******
SEE BACK OF FORM

LAB USE ONLY		FIELD ID (Sample Identification)	SAMPLE COLLECTED DATE MM/DD/YY	SAMPLE COLLECTED TIME MILITARY	GPS COORDINATES LATITUDE	GPS COORDINATES LONGITUDE	COMMENTS
1	AB 01	MW-15-1	11/18/15	1110			
2	AB 02	MW-15-2	11/18/15	1445			only 1 VOA
3	AB						
4	AB						
5	AB						
6	AB						
7	AB						
8	AB						
9	AB						
10	AB						

ORGANIC

VOA VOLATILES (8260)
- Full List 1 2 3 4 5 6 7 8 9 10
- BTEX/MTBE/TMB only 1 2 3 4 5 6 7 8 9 10
- Chlorinated only 1 2 3 4 5 6 7 8 9 10
- GRO 1 2 3 4 5 6 7 8 9 10
- 1,4 Dioxane 1 2 3 4 5 6 7 8 9 10

METH METHANE, ETHENE, ETHANE (Modified 8015)
- Methane, ethane, ethene 1 2 3 4 5 6 7 8 9 10

ON PESTICIDES/PCBS (8081/8082)
- Pesticides & PCBs 1 2 3 4 5 6 7 8 9 10
- Pesticides only 1 2 3 4 5 6 7 8 9 10
- PCBs only 1 2 3 4 5 6 7 8 9 10
- Toxaphene 1 2 3 4 5 6 7 8 9 10
- Specialty Pesticides 1 2 3 4 5 6 7 8 9 10

BNA BASE NEUTRAL & ACIDS (8270)
- BNAs 1 2 3 4 5 6 7 8 9 10
- Benzidines 1 2 3 4 5 6 7 8 9 10
- PNAs only 1 2 3 4 5 6 7 8 9 10
- BNs only 1 2 3 4 5 6 7 8 9 10
- ACIDs only 1 2 3 4 5 6 7 8 9 10

ORGANIC SPECIAL REQUESTS
- Library Search - Volatiles 1 2 3 4 5 6 7 8 9 10
- Library Search - Semi-Vols 1 2 3 4 5 6 7 8 9 10
- FingerPrint 1 2 3 4 5 6 7 8 9 10
- DRO/ORO (8015) 1 2 3 4 5 6 7 8 9 10

GENERAL CHEMISTRY

- GN NO_2, O-Phos 1 2 3 4 5 6 7 8 9 10
- NO_3 Calc (NO_2+NO_3, NO_2) 1 2 3 4 5 6 7 8 9 10
- Residue SS 1 2 3 4 5 6 7 8 9 10
- Residue TDS 1 2 3 4 5 6 7 8 9 10
- BOD Tot 5 day 1 2 3 4 5 6 7 8 9 10
- BOD Carb 5 day 1 2 3 4 5 6 7 8 9 10
- Turbidity 1 2 3 4 5 6 7 8 9 10
- CA Chlorophyll 1 2 3 4 5 6 7 8 9 10
- GA COD 1 2 3 4 5 6 7 8 9 10
- TOC 1 2 3 4 5 6 7 8 9 10
- NO_3 + NO_2, NH_3 1 2 3 4 5 6 7 8 9 10
- KJEL N, Tot P 1 2 3 4 5 6 7 8 9 10
- S Sulfide 1 2 3 4 5 6 7 8 9 10
- GP Phenolics 1 2 3 4 5 6 7 8 9 10
- GB Total CN 1 2 3 4 5 6 7 8 9 10
- Amenable CN 1 2 3 4 5 6 7 8 9 10
- GCN Available CN 1 2 3 4 5 6 7 8 9 10

INORGANIC
- MN pH, Conductance 1 2 3 4 5 6 7 8 9 10
- Cl, SO_4, Total Alk 1 2 3 4 5 6 7 8 9 10
- HCO_3/CO_3 1 2 3 4 5 6 7 8 9 10
- Cr^{+6} 1 2 3 4 5 6 7 8 9 10

- OG Oil & Grease 1 2 3 4 5 6 7 8 9 10

INORGANIC

MA - Total Metals
- MICH TEN METALS 1 2 3 4 5 6 7 8 9 10
  (As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn)
- OP MEMO 2 METALS 1 2 3 4 5 6 7 8 9 10
  (Sb,As,Ba,Be,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Tl,V,Zn)

↓Circle Metal and Corresponding Sample No. Below↓

Al Sb As Ba Be B Cd Cr
Co Cu Fe Pb Li Mn Hg Mo
Ni Se Ag Sr Tl Ti V Zn 1 2 3 4 5 6 7 8 9 10
- Ca Mg K Na 1 2 3 4 5 6 7 8 9 10
- Hardness Calc (Ca Mg) 1 2 3 4 5 6 7 8 9 10

LL Hg
- Low Level Mercury 1 2 3 4 5 6 7 8 9 10

MAD or MD - Dissolved Metals
- Lab Filtration 1 2 3 4 5 6 7 8 9 10
- MICH TEN METALS 1 2 3 4 5 6 7 8 9 10
  (As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn)
- OP MEMO 2 Metals 1 2 3 4 5 6 7 8 9 10
  (Sb,As,Ba,Be,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Tl,V,Zn)

↓Circle Metal and Corresponding Sample No. Below↓

Al Sb As Ba Be B Cd Cr
Co Cu Fe Pb Li Mn Hg Mo
Ni Se Ag Sr Tl Ti V Zn 1 2 3 4 5 6 7 8 9 10
- Ca Mg K Na 1 2 3 4 5 6 7 8 9 10
- Hardness Calc (Ca Mg) 1 2 3 4 5 6 7 8 9 10

LL Hg
- Low Level Mercury 1 2 3 4 5 6 7 8 9 10

Chain-of-Custody

	RELEASED BY / ORGANIZATION	RECEIVED BY / ORGANIZATION	DATE	TIME
Print Name & Organization	Jason Bartholomew / ECT	ECT storage	11/18/15	1645
Signature				
Print Name & Organization	ECT STORAGE	John Foran	11/19/15	11:00
Signature				
Print Name & Organization	John Foran	Joshua Pung MDEQ	11/19/15	1153
Signature				

Revised January 2013