



Memorandum

July 21, 2017

To: Amanda Armbruster (MDEQ) Ref. No.: 007878

From: ^{J.E.P.} John-eric Pardys/kf/169

cc: Dave Favero (RACER)

Subject: Nodular Clay Characterization

In accordance with the Risk-Based Disposal Work Plan for PCB-Impacted Material (Work Plan) (GHD 2015), which was approved by MDEQ on March 31, 2016 and by USEPA on July 15, 2016, the proposed source of clay for the 1-foot cover over the former plant slab at RACER's Saginaw Malleable Iron Industrial Land (Site) was RACER's Saginaw Nodular Industrial Land property. The source of the clay was from the excavation of native clay to construct the former General Motors Corporation (GMC) and now GM LLC Landfill (immediately north of the clay pile) which was completed in the 1970s. The historical use of the of the GM Landfill area (prior to the construction of the landfill) was a combination of vacant parcels, residential properties, and parts of "right of ways" as identified in the Description of Current Conditions Report (EMCON, 1995) (Attachment A).

There is no information that any activity has taken place on the clay pile since it was placed in the 1970s.

Due to the proposed use for the Site (recreational), a review of historical information for the clay fill pile was completed and provided to MDEQ on May 3, 2017 to provide background for the acceptability of the clay as cover, which is summarized below.

Review of Historical Information

Samples of the clay fill were collected from one boring/monitoring well location (MW-07245) which was completed during Phase 1 of the RCRA Facility Investigation (RFI) in 1998. Figure 1 presents the location of MW-07245 and a copy of the boring/monitoring well log is provided in Attachment B. Soil samples were collected from MW-07245 at multiple depths and analyzed for VOCs, SVOCs, Metals, PCBs, Cyanide (total), Formaldehyde, Sulfide, Total Kjeldahl Nitrogen, and Total Solids. A summary of the soil sample results are presented in Table 1 which were compared to the DRAFT Michigan Part 201 Generic Soil Residential and Non-Residential Criteria (2016).

The following summarizes parameters that exceeded the criteria:

- Aluminum exceeded Residential and Non-Residential Drinking Water Protection Criteria (1 milligram per kilogram [mg/kg]) in all five clay fill samples at concentrations ranging from 6,030 to 8,270 mg/kg. Please note that the State Default Background concentration for Aluminum is 5,700 mg/kg and the clay



background concentration for Aluminum in the Michigan Background Soil Survey 2005 (Updated 2015) for the Saginaw Glacial Lobe Area is 6,994 mg/kg.

- Iron exceeded Residential and Non-Residential Drinking Water Protection Criteria (6 mg/kg) at two of five clay fill samples at concentrations of 11,400 mg/kg and 11,300 mg/kg. Please note that the State Default Background level for Iron is 11,250 mg/kg and the clay background concentration for Iron in the Michigan Background Soil Survey 2005 (Updated 2015) for the Saginaw Glacial Lobe Area is 11,920 mg/kg.
- Formaldehyde exceeded Groundwater/Surface water Interface Protection Criteria (3.6 mg/kg) in two of four clay fill samples at estimated concentrations of 12 mg/kg and 17 mg/kg.

In November 2013, 6 samples of the clay fill were collected and submitted to a geotechnical laboratory and tested for permeability, sieve, liquid limit, and plasticity index parameters as specified in 40 CFR 761.61(a)(7). The results of the analysis were compared to the required limits specified in 40 CFR 761.75(b)(1)(ii) through (b)(1)(v) and summarized in Attachment C, which indicated that most parameters met the limits. Please note that these results were previously provided with the Work Plan (GHD 2015).

MDEQ completed their review of the information provided on May 9, 2017 and requested that RACER conduct further sampling of the clay fill.

Additional Characterization of Clay Fill

At MDEQ's request, nine unbiased discrete soil samples were collected on May 12, 2017 of the clay source pile (4) and clay already in place on Site (5). Samples were submitted for analysis of formaldehyde, aluminum, arsenic, lead, iron, vanadium, and Polynuclear Aromatics (PNAs). A summary of the soil sample results are presented in Table 1 which were compared to the DRAFT Michigan Part 201 Generic Soil Residential and Non-Residential Criteria (2016). A copy of the analytical report is provided in Attachment D.

The following summarizes parameters that exceeded the criteria:

- Aluminum exceeded Residential and Non-Residential Drinking Water Protection Criteria (1 milligram per kilogram [mg/kg]) in all nine clay fill samples at concentrations ranging from 7,400 to 8,900 mg/kg. Please note that the State Default Background concentration for Aluminum is 5,700 mg/kg and the clay background concentration for Aluminum in the Michigan Background Soil Survey 2005 (Updated 2015) for the Saginaw Glacial Lobe Area is 6,994 mg/kg. The results are similar to the results of the 1998 samples. The Malleable Site will have a deed restriction prohibiting installation of wells or other devices for extracting or using groundwater.
- Iron exceeded Residential and Non-Residential Drinking Water Protection Criteria (6 mg/kg) at all nine clay fill samples at concentrations ranging from 12,000 to 13,000 mg/kg. Please note that the State Default Background level for Iron is 11,250 mg/kg and the clay background concentration for Iron in the Michigan Background Soil Survey 2005 (Updated 2015) for the Saginaw Glacial Lobe Area is 11,920 mg/kg. The results are similar to the results of the 1998 samples. The Malleable Site will have a deed restriction prohibiting installation of wells or other devices for extracting or using groundwater.

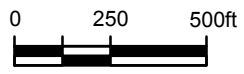


- There were no other exceedances of screening criteria.

Therefore, based on the historical source of the clay (combination of vacant parcels, residential properties, and parts of "right of ways") and the analytical results of the clay samples, the clay is suitable for use as cover material at the Site.

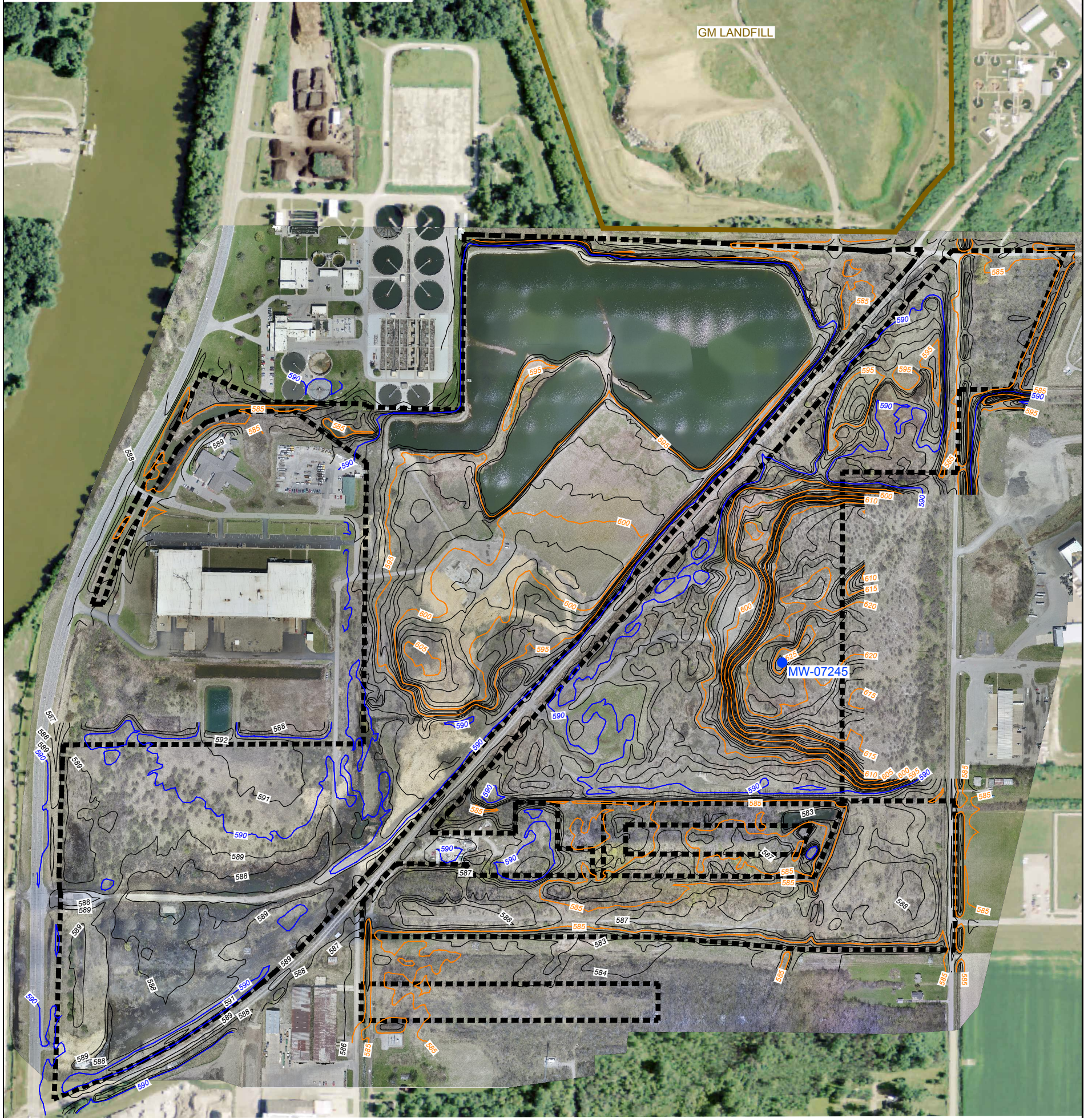
Please let us know if you have any questions.

Enclosures: Figure 1 – Clay Pile Historical Sample Location
Table 1 – Clay Pile Sample Analytical Results Summary
Attachment A – Excerpt from Description of Current Conditions Report
Attachment B – Boring/Monitoring Well Log – MW-07245
Attachment C – Geotechnical Sample Results
Attachment D – Analytical Laboratory Report for Additional Characterization of Clay Fill



LEGEND

- APPROXIMATE LIMITS OF RACER PROPERTY
- MINOR CONTOUR INTERVAL (1 FOOT)
- MAJOR CONTOUR INTERVAL (5 FEET)
- ESTIMATED FLOODPLAIN CONTOUR (590 FEET)
- MW-07245 ● MONITORING WELL LOCATION



- NOTES:
- CONTOURS CREATED USING 2011 SAGINAW BAY LIDAR DATASET AND GHD UAV LIDAR DATASET GENERATED ON MAY 3, 2016.
 - COORDINATE SYSTEM: MICHIGAN SOUTH NAD83 INTERNATIONAL FEET.
 - 2014 SAGINAW COUNTY NAIP PROVIDED BY USDA.

figure 1

CLAY PILE HISTORICAL SOIL SAMPLE LOCATION
REVITALIZING AUTO COMMUNITIES ENVIRONMENTAL RESPONSE (RACER)
Saginaw, Michigan



Table 1

Clay Pile Sample Analytical Results Summary
 Racetrack Saginaw Nodular Industrial Land
 Saginaw, Michigan

Location: Sample ID: Sample Date: Sample Depth: Approximate Elevation (ft AMSL) Description	MDEQ- 2016 Proposed Generic Cleanup Criteria: Residential and Nonresidential ⁽¹⁾									CL01	CL02	CL03	CL04	CL05	CL06	CL07
	Statewide Default Background	Direct Contact	Nonresidential Direct Contact	Particulate Soil Inhalation	Nonresidential Particulate Soil Inhalation	Groundwater Surface Water Interface Protection	Drinking Water Protection	Nonresidential Drinking Water Protection	S-7878-051217-SSH-CL01 5/12/2017 (0-6) in BGS - clay fill	S-7878-051217-SSH-CL02 5/12/2017 (0-6) in BGS - clay fill	S-7878-051217-SSH-CL03 5/12/2017 (0-6) in BGS - clay fill	S-7878-051217-SSH-CL04 5/12/2017 (0-6) in BGS - clay fill	S-7878-051217-SSH-CL05 5/12/2017 (0-6) in BGS - clay fill	S-7878-051217-SSH-CL06 5/12/2017 (0-6) in BGS - clay fill	S-7878-051217-SSH-CL07 5/12/2017 (0-6) in BGS - clay fill	
Parameters VOAs	Units	a (1)	b	c	d	e	f	g	h							
1,1,1,2-Tetrachloroethane	mg/kg	-	230	1300	170000	390000	-	0.56	2.8	-	-	-	-	-	-	-
1,1,1-Trichloroethane	mg/kg	-	100000	100000	260000000	370000000	1.8	4	4	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/kg	-	30	170	22000	49000	1.6	0.072	0.36	-	-	-	-	-	-	-
1,1,2-Trichloroethane	mg/kg	-	100	340	10	15	6.6	0.1	0.1	-	-	-	-	-	-	-
1,1-Dichloroethane	mg/kg	-	50000	100000	26000000	37000000	15	24	76	-	-	-	-	-	-	-
1,1-Dichloroethene	mg/kg	-	12000	43000	10000000	15000000	2.6	0.14	0.14	-	-	-	-	-	-	-
1,1-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	-	1.4	41	91	510	-	0.01	0.01	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	3	17	2100	4800	0.11	0.02	0.02	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	-	75000	100000	15000000	22000000	0.26	12	12	-	-	-	-	-	-	-
1,2-Dichloroethane	mg/kg	-	67	360	48000	110000	7.2	0.1	0.1	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/kg	-	170	920	200000	290000	4.6	0.1	0.1	-	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	-	500	1700	150000	220000	0.56	0.24	0.76	-	-	-	-	-	-	-
1,3-Dichloropropane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	-	470	2600	2600	6000	0.34	1.5	1.5	-	-	-	-	-	-	-
2,2-Dichloropropane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	39000	100000	250000000	240000000	44	48	220	-	-	-	-	-	-	-
2-Hexanone	mg/kg	-	1200	4300	1500000	2200000	-	2.5	2.5	-	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	-	12000	43000	150000000	140000000	-	6	19	-	-	-	-	-	-	-
Acetone	mg/kg	-	100000	100000	1600000000	2300000000	34	110	340	-	-	-	-	-	-	-
Acetonitrile	mg/kg	-	15000	51000	3100000	4400000	260	7.2	22	-	-	-	-	-	-	-
Acrolein	mg/kg	-	1000	3400	1000	1500	-	0.48	1.5	-	-	-	-	-	-	-
Acrylonitrile	mg/kg	-	11	61	18000	42000	0.1	0.1	0.14	-	-	-	-	-	-	-
Allyl chloride	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	mg/kg	-	110	430	160000	370000	4	0.1	0.1	-	-	-	-	-	-	-
Bromodichloromethane	mg/kg	-	98	530	70000	150000	-	1.6	1.6	-	-	-	-	-	-	-
Bromoform	mg/kg	-	770	4200	1100000	2600000	-	1.6	1.6	-	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/kg	-	5000	17000	510000	730000	0.2	2.4	7.6	-	-	-	-	-	-	-
Carbon disulfide	mg/kg	-	7300	55000	36000000	51000000	-	8.8	36	-	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	-	93	510	220000	510000	0.76	0.1	0.1	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	-	5000	17000	2600000	3700000	0.5	2	2	-	-	-	-	-	-	-
Chlorobromomethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	-	3000	17000	200000000	290000000	22	4.8	15	-	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/kg	-	2500	8500	54000	120000	7	1.6	1.6	-	-	-	-	-	-	-
Chloromethane (Methyl chloride)	mg/kg	-	1800	10000	4600000	6600000	-	4.4	22	-	-	-	-	-	-	-
Chloroprene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/kg	-	500	1700	410000	590000	12	1.4	1.4	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,4-Dichloro-2-butene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/kg	-	13	390	21000	120000	-	1.6	1.6	-	-	-	-	-	-	-
Dibromomethane	mg/kg	-	750	2600	200000	290000	-	0.36	1.1	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/kg	-	1200	4300	17000000	24000000	-	0.71	2.2	-	-	-	-	-	-	-
Ethyl methacrylate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	-	550	3000	500000	1100000	0.36	1.3	1.5	-	-	-	-	-	-	-
Iodomethane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
m&p-Xylenes	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl acrylonitrile	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl methacrylate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	mg/kg	-	550	5100	31000000	44000000	30	0.1	0.1	-	-	-	-	-	-	-
Naphthalene	mg/kg	-	25000	85000	37000	84000	0.55	29	95	-	-	-	-	-	-	-
o-Xylene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Propionitrile (ethyl cyanide)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	-	470	2600	2200000	5000000	1.6	2	2	-	-	-	-	-	-	-
Tetrachloroethene	mg/kg	-	1500	5100	2000000	2900000	1.2	0.1	0.1	-	-	-	-	-	-	-
Toluene	mg/kg	-	20000	67000	260000000	370000000	5.4	9.4	16	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/kg	-	5000	17000	4100000	5900000	30	2	2	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,4-Dichloro-2-butene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	mg/kg	-	33	250	98000	96000	4	0.1	0.1	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/kg	-	75000	100000	20000000	29000000	-	36	110	-	-	-	-	-	-	-
Vinyl acetate	mg/kg	-	58000	100000	10000000	15000000	-	70	300	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	-	2.3	24	120000	320000	0.26	0.04	0.04	-	-	-	-	-	-	-
Xylenes (total)	mg/kg	-	50000	100000	11000000	16000000	0.82	5.6	5.6	-	-	-	-	-	-	-

Table 1

Clay Pile Sample Analytical Results Summary
Racer Saginaw Nodular Industrial Land
Saginaw, Michigan

Location: Sample ID: Sample Date: Sample Depth: Approximate Elevation (ft AMSL) Description	MDEQ- 2016 Proposed Generic Cleanup Criteria: Residential and Nonresidential ⁽¹⁾									CL01	CL02	CL03	CL04	CL05	CL06	CL07
	Statewide Default Background	Direct Contact	Nonresidential Direct Contact	Particulate Soil Inhalation	Nonresidential Particulate Soil Inhalation	Groundwater Surface Water Interface Protection	Drinking Water Protection	Nonresidential Drinking Water Protection	S-7878-051217-SSH-CL01 5/12/2017 (0-6) in BGS	S-7878-051217-SSH-CL02 5/12/2017 (0-6) in BGS	S-7878-051217-SSH-CL03 5/12/2017 (0-6) in BGS	S-7878-051217-SSH-CL04 5/12/2017 (0-6) in BGS	S-7878-051217-SSH-CL05 5/12/2017 (0-6) in BGS	S-7878-051217-SSH-CL06 5/12/2017 (0-6) in BGS	S-7878-051217-SSH-CL07 5/12/2017 (0-6) in BGS	
Parameters	a (1)	b	c	d	e	f	g	h	clay fill	clay fill	clay fill	clay fill	clay fill	clay fill	clay fill	
Units																
SVOAs																
0,0,0-Triethylphosphorothioate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,2,4,5-Tetrachlorobenzene	mg/kg	-	460	330	51000	73000	0.33	2	0.79	-	-	-	-	-	-	
1,2,4-Trichlorobenzene	mg/kg	-	210	1100	100000	150000	4.4	3.1	3.1	-	-	-	-	-	-	
1,3,5-Trinitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,3-Dinitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,4-Naphthoquinone	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1-Naphthylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2,3,4,6-Tetrachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2,4,5-Trichlorophenol	mg/kg	-	7500	26000	18000000	26000000	-	10	33	-	-	-	-	-	-	
2,4,6-Trichlorophenol	mg/kg	-	550	3000	400000	920000	0.33	2.3	9.8	-	-	-	-	-	-	
2,4-Dichlorophenol	mg/kg	-	1300	9900	560000	810000	0.33	1.6	6.6	-	-	-	-	-	-	
2,4-Dimethylphenol	mg/kg	-	5000	17000	3600000	5100000	7.6	2.4	7.6	-	-	-	-	-	-	
2,4-Dinitrophenol	mg/kg	-	500	1700	360000	510000	0.38	0.33	0.76	-	-	-	-	-	-	
2,4-Dinitrotoluene	mg/kg	-	9.1	49	14000	32000	-	0.022	0.11	-	-	-	-	-	-	
2,6-Dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2,6-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2-Acetylaminofluorene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2-Chloronaphthalene	mg/kg	-	20000	68000	-	-	38	120	-	-	-	-	-	-	-	
2-Chlorophenol	mg/kg	-	530	4000	880000	860000	0.36	0.64	2.6	-	-	-	-	-	-	
2-Methylnaphthalene	mg/kg	-	1000	3400	510000	730000	1.5	1.9	6.1	0.21	0.0082	0.01	0.0098	0.0061 J	0.012	0.0079
2-Methylphenol	mg/kg	-	13000	99000	5100000	7300000	1	160	660	-	-	-	-	-	-	-
2-Naphthylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/kg	-	500	1700	2600	3700	-	0.33	0.76	-	-	-	-	-	-	-
2-Toluidine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/kg	-	14	74	3700	8400	2	2	2	-	-	-	-	-	-	-
3,3-Dimethylbenzidine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Methylcholanthrene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	-	100	340	100000	150000	-	0.83	0.83	-	-	-	-	-	-	-
4-Aminobiphenyl	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	-	6600	50000	-	-	0.28	8	34	-	-	-	-	-	-	-
4-Chloroaniline	mg/kg	-	30	170	-	-	-	0.06	0.19	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Dimethylaminoazobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5-Nitro-2-toluidine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7,12-Dimethylbenz(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/kg	-	15000	51000	11000000	15000000	6.1	58	180	0.0073 U	0.0076 U	0.0073 U	0.0074 U	0.0074 U	0.0072 U	0.0075 U
Acenaphthylene	mg/kg	-	15000	51000	11000000	15000000	-	58	180	0.0073 U	0.0076 U	0.0073 U	0.0074 U	0.0074 U	0.0072 U	0.0075 U
Acetophenone	mg/kg	-	53000	100000	160000000	150000000	-	64	260	-	-	-	-	-	-	-
Anthracene	mg/kg	-	75000	100000	51000000	73000000	-	23	23	0.0058 J	0.0076 U	0.0073 U	0.0074 U	0.0074 U	0.0072 U	0.0075 U
Benzo(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	0.0085	0.0076 U	0.0045 J	0.0045 J	0.0039 J	0.0045 J	0.0045 J
Benzo(a)pyrene	mg/kg	-	2.8	41	0.098	0.096	-	3.8	3.8	0.0058 J	0.0076 U	0.0073 U	0.0027 J	0.0074 U	0.008	0.0039 J
Benzo(b)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	0.0091	0.0038 J	0.0065 J	0.006 J	0.0066 J	0.011	0.0063 J
Benzo(g,h,i)perylene	mg/kg	-	710	2100	360000	510000	-	62	62	0.016	0.0098	0.012	0.013	0.013	0.019	0.014
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	0.0073 U	0.0076 U	0.0073 U	0.0074 U	0.0074 U	0.0069 J	0.0075 U
Benzyl alcohol	mg/kg	-	35000	100000	260000000	370000000	-	17	52	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/kg	-	5.5	30	3800	8700	0.1	0.1	0.1	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	690	3400	780000	1800000	54	23	23	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/kg	-	1300	9900	40000000	57000000	15	18	76	-	-	-	-	-	-	-
Chlorobenzilate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	-	-	-	-	-	-	-	-	0.026	0.0092	0.011	0.008	0.0097	0.015	0.0081
Diallylate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-	-	-	-	0.0073 U	0.0076 U	0.0073 U	0.0074 U	0.0074 U	0.0059 J	0.0075 U
Dibenzofuran	mg/kg	-	250	850	200000	290000	1.2	1.7	5.6	-	-	-	-	-	-	-
Diethyl phthalate	mg/kg	-	100000	100000	140000000	210000000	2.2	94	300	-	-	-	-	-	-	-
Dimethoate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	mg/kg	-	25000	85000	2600000	3700000	-	12	38	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/kg	-	440	3300	980000	960000	0.36	1	4.1	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/kg	-	4800	15000	24000000	34000000	-	99	99	-	-	-	-	-	-	-
Dinoseb	mg/kg	-	66	850	200000	290000	0.2	0.97	0.97	-	-	-	-	-	-	-
Diphenylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Disulfoton	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl methanesulfonate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 1

Clay Pile Sample Analytical Results Summary
Racer Saginaw Nodular Industrial Land
Saginaw, Michigan

Location: Sample ID: Sample Date: Sample Depth: Approximate Elevation (ft AMSL) Description	MDEQ- 2016 Proposed Generic Cleanup Criteria: Residential and Nonresidential ⁽¹⁾									CL01	CL02	CL03	CL04	CL05	CL06	CL07
	Statewide Default Background	Direct Contact	Nonresidential Direct Contact	Particulate Soil Inhalation	Nonresidential Particulate Soil Inhalation	Groundwater Surface Water Interface Protection	Drinking Water Protection	Nonresidential Drinking Water Protection	S-7878-051217-SSH-CL01 5/12/2017 (0-6) in BGS clay fill	S-7878-051217-SSH-CL02 5/12/2017 (0-6) in BGS clay fill	S-7878-051217-SSH-CL03 5/12/2017 (0-6) in BGS clay fill	S-7878-051217-SSH-CL04 5/12/2017 (0-6) in BGS clay fill	S-7878-051217-SSH-CL05 5/12/2017 (0-6) in BGS clay fill	S-7878-051217-SSH-CL06 5/12/2017 (0-6) in BGS clay fill	S-7878-051217-SSH-CL07 5/12/2017 (0-6) in BGS clay fill	
Parameters	Units	a (1)	b	c	d	e	f	g	h							
Ethyl parathion	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Famphur	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/kg	-	16000	49000	7200000	10000000	2.8	430	460	0.013	0.0042 J	0.0042 J	0.0048 J	0.0047 J	0.0096	0.0053 J
Fluorene	mg/kg	-	10000	34000	7200000	10000000	3.5	70	220	0.0073 U	0.0076 U	0.0073 U	0.0074 U	0.0074 U	0.0072 U	0.0017 J
Hexachlorobenzene	mg/kg	-	4	12	1800	2600	0.33	0.33	0.33	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	-	78	430	57000	130000	0.05	0.17	0.54	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/kg	-	2400	7400	10000	15000	-	2.4	2.4	-	-	-	-	-	-	-
Hexachloroethane	mg/kg	-	150	600	120000	290000	0.3	0.3	0.3	-	-	-	-	-	-	-
Hexachloropropene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-	-	-	-	0.0073 U	0.0076 U	0.0073 U	0.0074 U	0.0074 U	0.0078	0.0075 U
Isodrin	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Isophorone	mg/kg	-	6400	35000	4600000	11000000	26	15	76	-	-	-	-	-	-	-
Isosafrole	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kepon	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methapyrilene	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl methanesulfonate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl parathion	mg/kg	-	50	170	-	-	-	0.04	0.091	-	-	-	-	-	-	-
Naphthalene	mg/kg	-	25000	85000	37000	84000	0.55	29	95	0.059	0.0076 U	0.0048 J	0.0056 J	0.004 J	0.006 J	0.0043 J
Nitrobenzene	mg/kg	-	500	1700	31000	71000	3.6	0.33	0.76	-	-	-	-	-	-	-
N-Nitrosodiethylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodimethylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-butylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	-	0.87	4.7	620	1400	-	0.33	0.33	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/kg	-	1200	6800	-	-	-	13	64	-	-	-	-	-	-	-
N-Nitrosomethylethylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosopiperidine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosopyrrolidine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorobenzene	mg/kg	-	320	980	5100	7300	0.6	0.6	1.8	-	-	-	-	-	-	-
Pentachloronitrobenzene	mg/kg	-	750	2600	560000	810000	-	3.8	11	-	-	-	-	-	-	-
Pentachlorophenol	mg/kg	-	15	65	11000	26000	-	0.16	0.16	-	-	-	-	-	-	-
Phenacetin	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/kg	-	7500	26000	5100	7300	1.1	96	300	0.096	0.011	0.012	0.013	0.008	0.017	0.0094
Phenol	mg/kg	-	20000	100000	10000000	15000000	9	24	110	-	-	-	-	-	-	-
Phorate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
p-Phenylenediamine	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pronamide	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	-	12000	37000	5100000	7300000	-	240	240	0.024	0.0085	0.012	0.0093	0.0094	0.014	0.01
Safrole	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thionazin (O,O-diethyl-O-2-pyrazinyl phosphorothioate)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																
Aluminum	mg/kg	5700	100000	100000	280000	400000	-	1	1	7900 ^{gh}	8900 ^{gh}	8100 ^{gh}	7400 ^{gh}	7900 ^{gh}	8000 ^{gh}	8100 ^{gh}
Antimony	mg/kg	-	180	600	10000	15000	94	4.3	4.3	-	-	-	-	-	-	-
Arsenic	mg/kg	5.5	9	52	290	660	4.7	4.7	4.7	3.0	3.1	2.8	2.5	2.8	2.9	2.8
Barium	mg/kg	45	68000	100000	260000	370000	-	1300	1300	-	-	-	-	-	-	-
Beryllium	mg/kg	1	130	290	520	1200	-	51	51	-	-	-	-	-	-	-
Cadmium	mg/kg	2	59	220	690	1600	-	6	6	-	-	-	-	-	-	-
Calcium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/kg	10	190	740	140	320	2	0.5	0.5	-	-	-	-	-	-	-
Copper	mg/kg	14	620	2500	100000	150000	-	170	550	-	-	-	-	-	-	-
Iron	mg/kg	11250	100000	100000	-	-	-	6	6	12000 ^{gh}	13000 ^{gh}	12000 ^{gh}	12000 ^{gh}	13000 ^{gh}	12000 ^{gh}	12000 ^{gh}
Lead	mg/kg	11	190	330	7700	-	-	180	180	5.1	5.6	5.1	4.9	5.8	5.5	5.1
Manganese	mg/kg	360	12000	32000	15000	22000	-	1	1	-	-	-	-	-	-	-
Mercury	mg/kg	-	16	150	15000	22000	0.000026	0.04	0.04	-	-	-	-	-	-	-
Nickel	mg/kg	15	1500	4000	4600	6600	-	38	110	-	-	-	-	-	-	-
Selenium	mg/kg	0.61	3100	12000	1000000	1500000	0.42	4.2	4.2	-	-	-	-	-	-	-
Silver	mg/kg	-	250	670	150000	220000	0.1	0.8	2.6	-	-	-	-	-	-	-
Thallium	mg/kg	-	6.2	25	10000	15000	4.2	2.3	2.3	-	-	-	-	-	-	-
Tin	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	27	13	33	5100	7300	430	64	64	20	22	20	19	20	20	20
Zinc	mg/kg	39	100000	100000	-	-	-	1800	5000	-	-	-	-	-	-	-
PCBs																
Aroclor-1016 (PCB-1016)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1221 (PCB-1221)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1232 (PCB-1232)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1242 (PCB-1242)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1248 (PCB-1248)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1254 (PCB-1254)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor-1260 (PCB-1260)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCBs	mg/kg	-	1.9	20	12000	29000	0.5	1.2	1.2	-	-	-	-	-	-	-

Table 1

Clay Pile Sample Analytical Results Summary
 Racer Saginaw Nodular Industrial Land
 Saginaw, Michigan

Location: Sample ID: Sample Date: Sample Depth: Approximate Elevation (ft AMSL) Description	MDEQ- 2016 Proposed Generic Cleanup Criteria: Residential and Nonresidential ⁽¹⁾									CL01	CL02	CL03	CL04	CL05	CL06	CL07
	Statewide Default Background	Direct Contact	Nonresidential Direct Contact	Particulate Soil Inhalation	Nonresidential Particulate Soil Inhalation	Groundwater Surface Water Interface Protection	Drinking Water Protection	Nonresidential Drinking Water Protection	S-7878-051217-SSH-CL01 5/12/2017 (0-6) in BGS - clay fill	S-7878-051217-SSH-CL02 5/12/2017 (0-6) in BGS - clay fill	S-7878-051217-SSH-CL03 5/12/2017 (0-6) in BGS - clay fill	S-7878-051217-SSH-CL04 5/12/2017 (0-6) in BGS - clay fill	S-7878-051217-SSH-CL05 5/12/2017 (0-6) in BGS - clay fill	S-7878-051217-SSH-CL06 5/12/2017 (0-6) in BGS - clay fill	S-7878-051217-SSH-CL07 5/12/2017 (0-6) in BGS - clay fill	
Parameters	Units	a (1)	b	c	d	e	f	g	h							
Wet																
Cyanide (total)	mg/kg	-	52	820	41000	59000	0.84	32	32	-	-	-	-	-	-	-
Formaldehyde	mg/kg	-	50000	100000	7800	43000	3.6	24	76	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.1 U	2.2 U
Sulfide	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total kjeldahl nitrogen (TKN)	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total solids	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes:

U Not detected at the associated reporting limit.

J Estimated concentration.

UJ Not detected; associated reporting limit is estimated.

R Rejected.

sample location not associated with clay fill and therefore not included in review.

(1) For parameters with default background concentrations, data was first compared to the default background concentration, then if the data exceeded the default background concentration, the data was screened against the MDEQ - 2016 Proposed Generic Cleanup Criteria

Table 1

Clay Pile Sample Analytical Results Summary
Racer Saginaw Nodular Industrial Land
Saginaw, Michigan

Location: Sample ID: Sample Date: Sample Depth: Approximate Elevation (ft AMSL) Description	MDEQ- 2016 Proposed Generic Cleanup Criteria: Residential and Nonresidential ⁽¹⁾								CL08	CL09	MW-07245	MW-07245	MW-07245	MW-07245	MW-07245	MW-07245	MW-07245	MW-07245
	Statewide Default Background	Direct Contact	Nonresidential Direct Contact	Particulate Soil Inhalation	Nonresidential Particulate Soil Inhalation	Groundwater Surface Water Interface Protection	Drinking Water Protection	Nonresidential Drinking Water Protection	S-7878-051217-SSH-CL08 5/12/2017 (0-6) in BGS - clay fill	S-7878-051217-SSH-CL09 5/12/2017 (0-6) in BGS - clay fill	B10046 9/23/1998 (0-2) ft BGS 628.5 - 626.5 clay fill	B10047 9/23/1998 (4-6) ft BGS 624.4 - 622.4 clay fill	B10048 9/23/1998 (6-12) ft BGS 622.4 - 616.5 clay fill	B10048 9/23/1998 (6-12) ft BGS 622.4 - 616.5 clay fill (other)	B10049 9/23/1998 (26-30) ft BGS 602.5 - 598.5 clay fill	B10049-M 9/23/1998 (26-30) ft BGS 602.5 - 598.5 clay fill (other)	B10050 9/23/1998 (46-48) ft BGS 582.5 - 580.5 silty clay	
Parameters VOAs	Units	a (1)	b	c	d	e	f	g	h									
1,1,1,2-Tetrachloroethane	mg/kg	-	230	1300	170000	390000	-	0.56	2.8	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
1,1,1-Trichloroethane	mg/kg	-	100000	100000	260000000	370000000	1.8	4	4	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
1,1,2,2-Tetrachloroethane	mg/kg	-	30	170	22000	49000	1.6	0.072	0.36	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
1,1,2-Trichloroethane	mg/kg	-	100	340	10	15	6.6	0.1	0.1	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
1,1-Dichloroethane	mg/kg	-	50000	100000	26000000	37000000	15	24	76	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
1,1-Dichloroethene	mg/kg	-	12000	43000	10000000	15000000	2.6	0.14	0.14	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
1,1-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	-	1.4	41	91	510	-	0.01	0.01	-	-	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	0.02 U	0.1 U
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	3	17	2100	4800	0.11	0.02	0.02	-	-	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	0.02 U	0.1 U
1,2-Dichlorobenzene	mg/kg	-	75000	100000	15000000	22000000	0.26	12	12	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
1,2-Dichloroethane	mg/kg	-	67	360	48000	110000	7.2	0.1	0.1	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
1,2-Dichloropropane	mg/kg	-	170	920	200000	290000	4.6	0.1	0.1	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
1,3-Dichlorobenzene	mg/kg	-	500	1700	150000	220000	0.56	0.24	0.76	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
1,3-Dichloropropane	mg/kg	-	-	-	-	-	-	-	-	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
1,4-Dichlorobenzene	mg/kg	-	470	2600	2600	6000	0.34	1.5	1.5	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
2,2-Dichloropropane	mg/kg	-	-	-	-	-	-	-	-	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	39000	100000	250000000	240000000	44	48	220	-	-	R	R	R	1.1 U	R	R	R
2-Hexanone	mg/kg	-	1200	4300	1500000	2200000	-	2.5	2.5	-	-	1 U	1 U	1 U	1.1 U	1 U	0.02 U	1 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	-	12000	43000	150000000	140000000	-	6	19	-	-	R	R	R	1.1 U	R	0.02 U	R
Acetone	mg/kg	-	100000	100000	1600000000	2300000000	34	110	340	-	-	R	R	R	1.1 U	R	R	R
Acetonitrile	mg/kg	-	15000	51000	3100000	4400000	260	7.2	22	-	-	R	R	R	0.27 U	R	R	R
Acrolein	mg/kg	-	1000	3400	1000	1500	-	0.48	1.5	-	-	R	R	R	1.1 U	R	R	R
Acrylonitrile	mg/kg	-	11	61	18000	42000	0.1	0.1	0.14	-	-	1 U	1 U	1 U	1.1 U	1 U	0.02 U	R
Allyl chloride	mg/kg	-	-	-	-	-	-	-	-	-	-	0.25 U	0.25 U	0.25 U	0.27 U	0.25 U	0.02 U	0.25 U
Benzene	mg/kg	-	110	430	160000	370000	4	0.1	0.1	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
Bromodichloromethane	mg/kg	-	98	530	7000	150000	-	1.6	1.6	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
Bromoform	mg/kg	-	770	4200	1100000	2600000	-	1.6	1.6	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
Bromomethane (Methyl bromide)	mg/kg	-	5000	17000	510000	730000	0.2	2.4	7.6	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
Carbon disulfide	mg/kg	-	7300	55000	36000000	51000000	-	8.8	36	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
Carbon tetrachloride	mg/kg	-	93	510	220000	510000	0.76	0.1	0.1	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
Chlorobenzene	mg/kg	-	5000	17000	2600000	3700000	0.5	2	2	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
Chlorobromomethane	mg/kg	-	-	-	-	-	-	-	-	-	-	0.05 U	0.05 U	0.05 U	0.027 U	0.05 U	0.005 U	0.05 U
Chloroethane	mg/kg	-	3000	17000	200000000	290000000	22	4.8	15	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
Chloroform (Trichloromethane)	mg/kg	-	2500	8500	54000	120000	7	1.6	1.6	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
Chloromethane (Methyl chloride)	mg/kg	-	1800	10000	4600000	6600000	-	4.4	22	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
Chloroprene	mg/kg	-	-	-	-	-	-	-	-	-	-	0.5 U	0.5 U	0.5 U	0.55 U	0.5 U	0.02 U	0.5 U
cis-1,2-Dichloroethene	mg/kg	-	500	1700	410000	590000	12	1.4	1.4	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
cis-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
cis-1,4-Dichloro-2-butene	mg/kg	-	-	-	-	-	-	-	-	-	-	0.5 U	0.5 U	0.5 U	-	0.5 U	0.02 U	R
Dibromochloromethane	mg/kg	-	13	390	21000	120000	-	1.6	1.6	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
Dibromomethane	mg/kg	-	750	2600	200000	290000	-	0.36	1.1	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
Dichlorodifluoromethane (CFC-12)	mg/kg	-	1200	4300	17000000	24000000	-	0.71	2.2	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
Ethyl methacrylate	mg/kg	-	-	-	-	-	-	-	-	-	-	0.1 UJ	0.1 UJ	0.1 U	0.11 U	0.1 U	0.02 U	0.1 U
Ethylbenzene	mg/kg	-	550	3000	500000	1100000	0.36	1.3	1.5	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
Iodomethane	mg/kg	-	-	-	-	-	-	-	-	-	-	0.25 U	0.25 U	0.25 U	0.27 U	0.25 U	0.02 UJ	0.25 U
m&p-Xylenes	mg/kg	-	-	-	-	-	-	-	-	-	-	0.1 U	0.1 U	0.1 U	-	0.1 U	0.005 U	0.1 U
Methyl acrylonitrile	mg/kg	-	-	-	-	-	-	-	-	-	-	0.25 UJ	0.25 UJ	0.25 UJ	0.27 U	0.25 UJ	0.02 U	0.25 UJ
Methyl methacrylate	mg/kg	-	-	-	-	-	-	-	-	-	-	0.25 UJ	0.25 UJ	0.25 UJ	0.27 U	0.25 UJ	0.02 U	0.25 UJ
Methylene chloride	mg/kg	-	550	5100	31000000	44000000	30	0.1	0.1	-	-	0.25 U	0.25 U	0.25 U	0.27 U	0.25 U	0.01 U	0.2 U
Naphthalene	mg/kg	-	25000	85000	37000	84000	0.55	29	95	-	-	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	0.02 U	0.1 UJ
o-Xylene	mg/kg	-	-	-	-	-	-	-	-	-	-	0.05 U	0.05 U	0.05 U	-	0.05 U	0.005 U	0.05 U
Propionitrile (ethyl cyanide)	mg/kg	-	-	-	-	-	-	-	-	-	-	R	R	R	0.27 U	R	0.02 U	R
Styrene	mg/kg	-	470	2600	2200000	5000000	1.6	2	2	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
Tetrachloroethene	mg/kg	-	1500	5100	2000000	2900000	1.2	0.1	0.1	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
Toluene	mg/kg	-	20000	67000	260000000	370000000	5.4	9.4	16	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
trans-1,2-Dichloroethene	mg/kg	-	5000	17000	4100000	5900000	30	2	2	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
trans-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-	-	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
trans-1,4-Dichloro-2-butene	mg/kg	-	-	-	-	-	-	-	-	-	-	0.5 U	0.5 U	0.5 U	0.55 U	0.5 U	0.02 U	R
Trichloroethene	mg/kg	-	33	250	98000	96000	4	0.1	0.1	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
Trichlorofluoromethane (CFC-11)	mg/kg	-	75000	100000	20000000	29000000	-	36	110	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
Vinyl acetate	mg/kg	-	58000	100000	10000000	15000000	-	70	300	-	-	0.25 U	0.25 U	0.25 U	0.27 U	0.25 U	0.02 UJ	0.25 U
Vinyl chloride	mg/kg	-	2.3	24	120000	320000	0.26	0.04	0.04	-	-	0.05 U	0.05 U	0.05 U	0.055 U	0.05 U	0.005 U	0.05 U
Xylenes (total)	mg/kg	-	50000	100000	11000000	16000000	0.82	5.6	5.6	-	-	-	-	-	0.11 U	-	-	-

Table 1

Clay Pile Sample Analytical Results Summary
Racer Saginaw Nodular Industrial Land
Saginaw, Michigan

Location: Sample ID: Sample Date: Sample Depth: Approximate Elevation (ft AMSL) Description	MDEQ- 2016 Proposed Generic Cleanup Criteria: Residential and Nonresidential ⁽¹⁾									CL08	CL09	MW-07245	MW-07245	MW-07245	MW-07245	MW-07245	MW-07245	MW-07245	MW-07245
	Statewide Default Background	Direct Contact	Nonresidential Direct Contact	Particulate Soil Inhalation	Nonresidential Particulate Soil Inhalation	Groundwater Surface Water Interface Protection	Drinking Water Protection	Nonresidential Drinking Water Protection	S-7878-051217-SSH-CL08 5/12/2017 (0-6) in BGS clay fill	S-7878-051217-SSH-CL09 5/12/2017 (0-6) in BGS clay fill	B10046 9/23/1998 (0-2) ft BGS clay fill	B10047 9/23/1998 (4-6) ft BGS clay fill	B10048 9/23/1998 (6-12) ft BGS clay fill	B10048 9/23/1998 (6-12) ft BGS clay fill (other)	B10049 9/23/1998 (26-30) ft BGS clay fill	B10049-M 9/23/1998 (26-30) ft BGS clay fill (other)	B10050 9/23/1998 (46-48) ft BGS silty clay		
Parameters	Units	a (1)	b	c	d	e	f	g	h										
SVOAs																			
0,0,0-Triethylphosphorothioate	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
1,2,4,5-Tetrachlorobenzene	mg/kg	-	460	330	51000	73000	0.33	2	0.79	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
1,2,4-Trichlorobenzene	mg/kg	-	210	1100	100000	150000	4.4	3.1	3.1	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
1,3,5-Trinitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	2 U	2 U	2 U	2.2 U	2 U	-	2 U	
1,3-Dinitrobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
1,4-Naphthoquinone	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
1-Naphthylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 UJ	0.3 UJ	0.3 UJ	0.33 U	0.3 UJ	-	0.3 UJ	
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
2,3,4,6-Tetrachlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
2,4,5-Trichlorophenol	mg/kg	-	7500	26000	18000000	26000000	-	10	33	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
2,4,6-Trichlorophenol	mg/kg	-	550	3000	400000	920000	0.33	2.3	9.8	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
2,4-Dichlorophenol	mg/kg	-	1300	9900	560000	810000	0.33	1.6	6.6	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
2,4-Dimethylphenol	mg/kg	-	5000	17000	3600000	5100000	7.6	2.4	7.6	-	-	0.3 U	0.3 U	0.3 U	0.22 U	0.3 U	-	0.3 U	
2,4-Dinitrophenol	mg/kg	-	500	1700	360000	510000	0.38	0.33	0.76	-	-	2 U	2 U	2 U	2.2 U	2 U	-	2 U	
2,4-Dinitrotoluene	mg/kg	-	9.1	49	14000	32000	-	0.022	0.11	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
2,6-Dichlorophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
2,6-Dinitrotoluene	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
2-Acetylaminofluorene	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
2-Chloronaphthalene	mg/kg	-	20000	68000	-	-	-	38	120	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
2-Chlorophenol	mg/kg	-	530	4000	880000	860000	0.36	0.64	2.6	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
2-Methylnaphthalene	mg/kg	-	1000	3400	510000	730000	1.5	1.9	6.1	0.0039 J	0.016	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
2-Methylphenol	mg/kg	-	13000	99000	5100000	7300000	1	160	660	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
2-Naphthylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 UJ	0.3 UJ	0.3 UJ	0.33 U	0.3 UJ	-	0.3 UJ	
2-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-	2 U	2 U	2 U	2.2 U	2 U	-	2 U	
2-Nitrophenol	mg/kg	-	500	1700	2600	3700	-	0.33	0.76	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
2-Toluidine	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
3,4-Methylphenol	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
3,3'-Dichlorobenzidine	mg/kg	-	14	74	3700	8400	2	2	2	-	-	2 U	2 U	2 U	2.2 U	2 U	-	2 U	
3,3-Dimethylbenzidine	mg/kg	-	-	-	-	-	-	-	-	-	-	2 U	2 U	2 U	2.2 U	2 U	-	2 U	
3-Methylcholanthrene	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
3-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-	2 U	2 U	2 U	2.2 U	2 U	-	2 U	
4,6-Dinitro-2-methylphenol	mg/kg	-	100	340	100000	150000	-	0.83	0.83	-	-	2 U	2 U	2 U	2.2 U	2 U	-	2 U	
4-Aminobiphenyl	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
4-Bromophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
4-Chloro-3-methylphenol	mg/kg	-	6600	50000	-	-	0.28	8	34	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
4-Chloroaniline	mg/kg	-	30	170	-	-	-	0.06	0.19	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
4-Dimethylaminoazobenzene	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
4-Nitroaniline	mg/kg	-	-	-	-	-	-	-	-	-	-	2 U	2 U	2 U	2.2 U	2 U	-	2 U	
4-Nitrophenol	mg/kg	-	-	-	-	-	-	-	-	-	-	2 U	2 U	2 U	2.2 U	2 U	-	2 U	
5-Nitro-2-toluidine	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
7,12-Dimethylbenz(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Acenaphthene	mg/kg	-	15000	51000	11000000	15000000	6.1	58	180	0.0072 U	0.0069 U	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Acenaphthylene	mg/kg	-	15000	51000	11000000	15000000	-	58	180	0.0072 U	0.0069 U	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Acetophenone	mg/kg	-	53000	100000	160000000	150000000	-	64	260	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Anthracene	mg/kg	-	75000	100000	51000000	73000000	-	23	23	0.0072 U	0.0069 U	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Benzo(a)anthracene	mg/kg	-	-	-	-	-	-	-	-	0.0072 U	0.0069 U	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Benzo(a)pyrene	mg/kg	-	2.8	41	0.098	0.096	-	3.8	3.8	0.0072 U	0.0069 U	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Benzo(b)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	0.004 J	0.0049 J	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Benzo(g,h,i)perylene	mg/kg	-	710	2100	360000	510000	-	62	62	0.0097	0.011	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-	-	-	-	0.0072 U	0.0069 U	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Benzyl alcohol	mg/kg	-	35000	100000	260000000	370000000	-	17	52	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
bis(2-Chloroethyl)ether	mg/kg	-	5.5	30	3800	8700	0.1	0.1	0.1	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	690	3400	780000	1800000	54	23	23	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Butyl benzylphthalate (BBP)	mg/kg	-	1300	9900	40000000	57000000	15	18	76	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Chlorobenzilate	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Chrysene	mg/kg	-	-	-	-	-	-	-	-	0.0053 J	0.0051 J	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Diallate	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-	-	-	-	0.0072 U	0.0069 U	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Dibenzofuran	mg/kg	-	250	850	200000	290000	1.2	1.7	5.6	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Diethyl phthalate	mg/kg	-	100000	100000	140000000	210000000	2.2	94	300	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Dimethoate	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Dimethyl phthalate	mg/kg	-	25000	85000	2600000	3700000	-	12	38	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Di-n-butylphthalate (DBP)	mg/kg	-	440	3300	980000	960000	0.36	1	4.1	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Di-n-octyl phthalate (DnOP)	mg/kg	-	4800	15000	24000000	34000000	-	99	99	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Dinoseb	mg/kg	-	66	850	200000	290000	0.2	0.97	0.97	-	-	1 U	1 U	1 U	1.1 U	1 U	-	1 U	
Diphenylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Disulfoton	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	
Ethyl methanesulfonate	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	

Table 1

Clay Pile Sample Analytical Results Summary
Racer Saginaw Nodular Industrial Land
Saginaw, Michigan

Location: Sample ID: Sample Date: Sample Depth: Approximate Elevation (ft AMSL) Description	MDEQ- 2016 Proposed Generic Cleanup Criteria: Residential and Nonresidential ⁽¹⁾									CL08	CL09	MW-07245	MW-07245	MW-07245	MW-07245	MW-07245	MW-07245	MW-07245	MW-07245
	Statewide Default Background	Direct Contact	Nonresidential Direct Contact	Particulate Soil Inhalation	Nonresidential Particulate Soil Inhalation	Groundwater Surface Water Interface Protection	Drinking Water Protection	Nonresidential Drinking Water Protection	S-7878-051217-SSH-CL08 5/12/2017 (0-6) in BGS	S-7878-051217-SSH-CL09 5/12/2017 (0-6) in BGS	B10046 9/23/1998 (0-2) ft BGS	B10047 9/23/1998 (4-6) ft BGS	B10048 9/23/1998 (6-12) ft BGS	B10048 9/23/1998 (6-12) ft BGS	B10049 9/23/1998 (26-30) ft BGS	B10049-M 9/23/1998 (26-30) ft BGS	B10050 9/23/1998 (46-48) ft BGS		
Parameters	a (1)	b	c	d	e	f	g	h	clay fill	clay fill	clay fill	clay fill	clay fill (other)	clay fill	clay fill (other)	clay fill (other)	clay fill (other)	clay fill (other)	clay fill (other)
Units																			
Ethyl parathion	mg/kg	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	-	0.3 U	-	0.3 U	-	0.3 U
Famphur	mg/kg	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-	0.3 U
Fluoranthene	mg/kg	-	16000	49000	7200000	10000000	2.8	430	460	0.0072 U	0.0047 J	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
Fluorene	mg/kg	-	10000	34000	7200000	10000000	3.5	70	220	0.0072 U	0.0069 U	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
Hexachlorobenzene	mg/kg	-	4	12	1800	2600	0.33	0.33	0.33	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
Hexachlorobutadiene	mg/kg	-	78	430	57000	130000	0.05	0.17	0.54	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
Hexachlorocyclopentadiene	mg/kg	-	2400	7400	10000	15000	-	2.4	2.4	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
Hexachloroethane	mg/kg	-	150	600	120000	290000	0.3	0.3	0.3	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
Hexachloropropene	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-	-	-	-	0.0072 U	0.0069 U	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
Isodrin	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	-	0.3 U	-	0.3 U	-
Isophorone	mg/kg	-	6400	35000	4600000	11000000	26	15	76	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
Isosafrole	mg/kg	-	-	-	-	-	-	-	-	-	-	2 U	2 U	2 U	2.2 U	2 U	-	2 U	-
Kepone	mg/kg	-	-	-	-	-	-	-	-	-	-	4 U	4 U	4 U	-	4 U	-	4 U	-
Methapyrilene	mg/kg	-	-	-	-	-	-	-	-	-	-	4 U	4 U	4 U	4.4 U	4 U	-	4 U	-
Methyl methanesulfonate	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
Methyl parathion	mg/kg	-	50	170	-	-	-	0.04	0.091	-	-	0.3 U	0.3 U	0.3 U	-	0.3 U	-	0.3 U	-
Naphthalene	mg/kg	-	25000	85000	37000	84000	0.55	29	95	0.0072 U	0.0069 U	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
Nitrobenzene	mg/kg	-	500	1700	31000	71000	3.6	0.33	0.76	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
N-Nitrosodiethylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
N-Nitrosodimethylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	2 U	2 U	2 U	2.2 U	2 U	-	2 U	-
N-Nitrosodi-n-butylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
N-Nitrosodi-n-propylamine	mg/kg	-	0.87	4.7	620	1400	-	0.33	0.33	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
N-Nitrosodiphenylamine	mg/kg	-	1200	6800	-	-	-	13	64	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
N-Nitrosomethylethylamine	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
N-Nitrosopiperidine	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
N-Nitrosopyrrolidine	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
Pentachlorobenzene	mg/kg	-	320	980	5100	7300	0.6	0.6	1.8	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
Pentachloronitrobenzene	mg/kg	-	750	2600	560000	810000	-	3.8	11	-	-	2 U	2 U	2 U	2.2 U	2 U	-	2 U	-
Pentachlorophenol	mg/kg	-	15	65	11000	26000	-	0.16	0.16	-	-	2 U	2 U	2 U	2.2 U	2 U	-	2 U	-
Phenacetin	mg/kg	-	-	-	-	-	-	-	-	-	-	2 U	2 U	2 U	2.2 U	2 U	-	2 U	-
Phenanthrene	mg/kg	-	7500	26000	5100	7300	1.1	96	300	0.0055 J	0.007	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
Phenol	mg/kg	-	20000	100000	10000000	15000000	9	24	110	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
Phorate	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
p-Phenylenediamine	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 UJ	0.3 UJ	0.3 UJ	0.33 U	0.3 UJ	-	R	-
Pronamide	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
Pyrene	mg/kg	-	12000	37000	5100000	7300000	-	240	240	0.0066 J	0.0076	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
Safrole	mg/kg	-	-	-	-	-	-	-	-	-	-	0.3 U	0.3 U	0.3 U	0.33 U	0.3 U	-	0.3 U	-
Thionazin (O,O-diethyl-O-2-pyrazinyl phosphorothioate)	mg/kg	-	-	-	-	-	-	-	-	-	-	2 U	2 U	2 U	-	2 U	-	2 U	-
Metals																			
Aluminum	mg/kg	5700	100000	100000	280000	400000	-	1	1	8000 ^{gh}	8000 ^{gh}	6540 ^{gh}	8270 ^{gh}	6570 ^{gh}	6030 ^{gh}	7780 ^{gh}	-	14800 ^{gh}	-
Antimony	mg/kg	-	180	600	10000	15000	94	4.3	4.3	-	-	10 U	10 U	10 U	11 UJ	10 U	-	10 U	-
Arsenic	mg/kg	5.5	9	52	290	660	4.7	4.7	4.7	2.5	2.9	3	3	3	3.1	3	-	2	-
Barium	mg/kg	45	68000	100000	260000	370000	-	1300	1300	-	-	47	54	46	46.6	52	-	77	-
Beryllium	mg/kg	1	130	290	520	1200	-	51	51	-	-	1 U	1 U	1 U	1.1 U	1 U	-	1 U	-
Cadmium	mg/kg	2	59	220	690	1600	-	6	6	-	-	1 U	1 U	1 U	1.1 U	1 U	-	1 U	-
Calcium	mg/kg	-	-	-	-	-	-	-	-	-	-	86300	82200	81400	83600	96900	-	7260	-
Chromium	mg/kg	-	-	-	-	-	-	-	-	-	-	15 J	16 J	12 J	16.1 J	21 J	-	24	-
Cobalt	mg/kg	10	190	740	140	320	2	0.5	0.5	-	-	5	5	4	5	4	-	7	-
Copper	mg/kg	14	620	2500	100000	150000	-	170	550	-	-	12	12	11	12.1 J	12	-	28	-
Iron	mg/kg	11250	100000	100000	-	-	-	6	6	12000 ^{gh}	12000 ^{gh}	10900	11400 ^{gh}	10500	10100	11300 ^{gh}	-	15200 ^{gh}	-
Lead	mg/kg	11	190	330	7700	-	-	180	180	5.1	5.6	9 J	6 J	6 J	4.7 J	6 J	-	13	-
Manganese	mg/kg	360	12000	32000	15000	22000	-	1	1	-	-	252	225	209	306	252	-	157	-
Mercury	mg/kg	-	16	150	15000	22000	0.000026	0.04	0.04	-	-	0.2 U	0.2 U	0.2 U	0.22 UJ	0.2 U	-	0.2 U	-
Nickel	mg/kg	15	1500	4000	4600	6600	-	38	110	-	-	13	10	13	13.4	13	-	23	-
Selenium	mg/kg	0.61	3100	12000	1000000	1500000	0.42	4.2	4.2	-	-	1 U	1 U	1 U	1.1 U	1 U	-	1 U	-
Silver	mg/kg	-	250	670	150000	220000	0.1	0.8	2.6	-	-	2 U	2 U	2 U	2.2 U	2 U	-	2 U	-
Thallium	mg/kg	-	6.2	25	10000	15000	4.2	2.3	2.3	-	-	1 U	1 U	1 U	1.1 U	1 U	-	1 U	-
Tin	mg/kg	-	-	-	-	-	-	-	-	-	-	10 U	10 U	10 U	11 U	10 U	-	10 U	-
Vanadium	mg/kg	27	13	33	5100	7300	430	64	64	20	20	16	21	17	15.5	20	-	29 ^b	-
Zinc	mg/kg	39	100000	100000	-	-	-	1800	5000	-	-	90 J	34 J	23 J	46.6	31 J	-	49	-
PCBs																			
Aroclor-1016 (PCB-1016)	mg/kg	-	-	-	-	-	-	-	-	-	-	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	-	0.1 U	-
Aroclor-1221 (PCB-1221)	mg/kg	-	-	-	-	-	-	-	-	-	-	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	-	0.1 U	-
Aroclor-1232 (PCB-1232)	mg/kg	-	-	-	-	-	-	-	-	-	-	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	-	0.1 U	-
Aroclor-1242 (PCB-1242)	mg/kg	-	-	-	-	-	-	-	-	-	-	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	-	0.1 U	-
Aroclor-1248 (PCB-1248)	mg/kg	-	-	-	-	-	-	-	-	-	-	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	-	0.1 U	-
Aroclor-1254 (PCB-1254)	mg/kg	-	-	-	-	-	-	-	-	-	-	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	-	0.1 U	-
Aroclor-1260 (PCB-1260)	mg/kg	-	-	-	-	-	-	-	-	-	-	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	-	0.1 U	-
Total PCBs	mg/kg	-	1.9	20	12000	29000	0.5	1.2	1.2	-	-	0.1 U	0.1 U	0.1 U	-	0.1 U	-	0.1 U	-

Table 1
Clay Pile Sample Analytical Results Summary
Racer Saginaw Nodular Industrial Land
Saginaw, Michigan

Location: Sample ID: Sample Date: Sample Depth: Approximate Elevation (ft AMSL) Description	MDEQ- 2016 Proposed Generic Cleanup Criteria: Residential and Nonresidential ⁽¹⁾										CL08	CL09	MW-07245	MW-07245	MW-07245	MW-07245	MW-07245	MW-07245	MW-07245
	Statewide Default Background	Direct Contact	Nonresidential Direct Contact	Particulate Soil Inhalation	Nonresidential Particulate Soil Inhalation	Groundwater Surface Water Interface Protection	Drinking Water Protection	Nonresidential Drinking Water Protection	S-7878-051217-SSH-CL08 5/12/2017 (0-6) in BGS	S-7878-051217-SSH-CL09 5/12/2017 (0-6) in BGS	B10046 9/23/1998 (0-2) ft BGS 628.5 - 626.5 clay fill	B10047 9/23/1998 (4-6) ft BGS 624.4 - 622.4 clay fill	B10048 9/23/1998 (6-12) ft BGS 622.4 - 616.5 clay fill	B10048 9/23/1998 (6-12) ft BGS 622.4 - 616.5 clay fill (other)	B10049 9/23/1998 (26-30) ft BGS 602.5 - 598.5 clay fill	B10049-M 9/23/1998 (26-30) ft BGS 602.5 - 598.5 clay fill (other)	B10050 9/23/1998 (46-48) ft BGS 582.5 - 580.5 silty clay		
Parameters	Units	a (1)	b	c	d	e	f	g	h										
Wet																			
Cyanide (total)	mg/kg	-	52	820	41000	59000	0.84	32	32	-	-	1 U	2 U	2 U	0.55 U	1 U	-	2 U	
Formaldehyde	mg/kg	-	50000	100000	7800	43000	3.6	24	76	2.2 U	2.0 U	10 UJ	12 J ^f	10 UJ	-	17 J ^f	-	14 J ^f	
Sulfide	mg/kg	-	-	-	-	-	-	-	-	-	-	0.4 U	1.3	0.4 U	-	0.7 J	-	4.4	
Total kjeldahl nitrogen (TKN)	mg/kg	-	-	-	-	-	-	-	-	-	-	123 J	138 J	212 J	-	111 J	-	1200 J	
Total solids	mg/kg	-	-	-	-	-	-	-	-	-	-	962000	913000	895000	909000	893000	902000	822000	

Footnotes:

- U Not detected at the associated reporting limit.
- J Estimated concentration.
- UJ Not detected; associated reporting limit is estimated.
- R Rejected.

sample location not associated with clay fill and therefore not included in review.

(1) For parameters with default background concentrations, data was first compared to the default background concentration, then if the data exceeded the default background concentration, the data was screened against the MDEQ - 2016 Proposed Generic Cleanup Criteria

Attachment A

DESCRIPTION OF CURRENT CONDITIONS

GM Saginaw Casting Complex RFI
Revision: 0
Date: July 1995
Section: 2.0
Page: 6 of 31

Due to the trend towards lighter weight cars and front-wheel drive, fewer iron castings were being used, especially rear drive differential carriers and cases (typically made of nodular iron). GM was unsuccessful in its attempt to find another use for this plant, and it is currently being dismantled. The Michigan Department of Natural Resources (MDNR) is overseeing aspects of dismantling. A facility map of the Former Nodular Iron Plant is provided as **Figure 2.9**.

WASTEWATER TREATMENT SYSTEM AND LANDFILL

In approximately 1965 the portion of the property currently containing the wastewater treatment system, the settling basins, and the on-site landfill was purchased from the City of Saginaw, who had acquired it in several pieces (reportedly over 140 individual parcels) from various property owners. Some of the parcels were vacant, some formerly contained houses, and some were parts of right-of-ways established earlier, but no longer necessary. There was no evidence of any industrial facilities previously located on any of the acquired parcels. The wastewater treatment system and landfill commenced operations circa 1978 and have continued since then. The wastewater treatment plant was renovated and improved in 1988. Historical evidence (the same as listed for the Former Nodular Iron Plant parcel above) indicates that this parcel was primarily comprised of undeveloped land prior to GM's purchase, although some parcels were inhabited.

OTHER AREAS OF THE PROPERTY

The remainder of the property is southeast of the diagonal (southwest/northeast) Chesapeake and Ohio Railroad easement (formerly the Flint, Pere and Marquette Railroad company right-of-way).

A small building was formerly located at the northeast of this triangular parcel identified as the Downes School building. During GM's ownership of this building, it was used exclusively as a warehouse for storage of landscaping and earthmoving equipment. This building was demolished in 1988, and since that time has been a vacant field used for bulk sand and recyclable materials staging.

One final note involves the "Chevrolet Property", an independent parcel acquired by GM in the mid-1960's but never developed or utilized for any industrial purposes. This is a non-contiguous parcel comprised of an open, grassy field, located on the east side of Diekmann Street, southeast of the Former Nodular Iron Plant (see **Figure 2.2**).

2.1.2 Facility and Adjoining Property Ownership

Based on information obtained from the City of Saginaw and Buena Vista Township, detailed maps and information regarding the Facility and the adjoining property owners have been prepared and are included in **Appendix 2.3**, in accordance with Task I.A.1.b of Attachment II of the Order. The property ownership map in **Appendix 2.3** also identifies applicable easements and rights-of-way in accordance with I.A.1.d of Attachment II. The approximate current property boundary of the Facility is also indicated on **Figure 2.2** and subsequent site plans.

Attachment B



Boring/Well No.: MW-07245

Project Name: Phase 1A Investigation	Location: Saginaw Metal Casting Operations-Saginaw, MI
Project Number: 84068-063.009	Ground Elevation: 628.54'
Client: General Motors Corporation	Datum: NAVD '88
Contractor: CET	Easting:
Logged By: CHC	Northing:
Drilled By: CET	Drilling Method: Hollow Stem Auger
Date(s): 09/23/98 - 09/23/98	Total Depth: 48.00'
Depth to First Encountered Groundwater: 40.00'	Borehole Diameter: 8.00in
Well Casing: type: SS dia: 2.00in fm: -2.0' to: 35.98'	Remarks: Top of Casing Elevation: 630.54'
Screens: type: Slotted size: 0.010in dia: 2.00in fm: 35.98' to: 45.74'	

Depth (ft)	Recovery	Sample No.	n-value	Graphic Log	Material Description	Water Level	VOCs ⁽¹⁾	VOC Peak Area (VS) ⁽²⁾	VOC Peaks ⁽²⁾
19		B10046	19		Silty Clay (CL) Fill, brown, trace sand and gravel, slightly moist, very stiff				
27			27				2.5 ppm		
12		B10047	12						
5									
27		B10048	27				5.7 ppm		
10									
4			4						
4			4						
15			10						
			13						
					● 17.5': Limestone fragment				



Boring/Well No.: MW-07245

Project Name: Phase 1A Investigation	Location: Saginaw Metal Casting Operations--Saginaw, MI
Project Number: 84068-063.009	Ground Elevation: 628.54'
Client: General Motors Corporation	Datum: NAVD '88
Contractor: CET	Easting:
Logged By: CHC	Northing:
Drilled By: CET	Drilling Method: Hollow Stem Auger
Date(s): 09/23/98 - 09/23/98	Total Depth: 48.00'
Depth to First Encountered Groundwater: 40.00'	Borehole Diameter: 8.00in
Well Casing: type: SS dia: 2.00in fm: -2.0' to: 35.98'	Remarks: Top of Casing Elevation: 630.54'
Screens: type: Slotted size: 0.010in dia: 2.00in fm: 35.98' to: 45.74'	

Depth (ft)	Recovery	Sample No.	n-value	Graphic Log	Material Description	Water Level	VOCs ⁽¹⁾	VOC Peak Area (VS) ⁽²⁾	VOC Peaks ⁽³⁾
23					Silty Clay (CL) Fill, continued				
5									
7									
25		810049	12						
30			5				4.7 ppm		
35			6						
			5						
			13						
			8						



Project Name: Phase 1A Investigation	Location: Saginaw Metal Casting Operations-Saginaw, MI
Project Number: 84068-063.009	Ground Elevation: 628.54'
Client: General Motors Corporation	Datum: NAVD '88
Contractor: CET	Easting:
Logged By: CHC	Northing:
Drilled By: CET	Drilling Method: Hollow Stem Auger
Date(s): 09/23/98 - 09/23/98	Total Depth: 48.00'
Depth to First Encountered Groundwater: 40.00'	Borehole Diameter: 8.00in
Well Casing: type: SS dia: 2.00in fm: -2.0' to: 35.98'	Remarks: Top of Casing Elevation: 630.54'
Screens: type: Slotted size: 0.010in dia: 2.00in fm: 35.98' to: 45.74'	

Depth (ft)	Recovery	Sample No.	n-value	Graphic Log	Material Description		Water Level	VOCs ⁽¹⁾	VOC Peak Area (VS) ⁽²⁾	VOC Peaks ⁽²⁾
45		810050	5		Silty Foundry Sand (SM), black, slightly dense to very dense, wet					
50			77		Silty Clay (CL), brown with grey mottling, trace sand and gravel, stiff, moist			4.3 ppm		
55			56							
			14		<ul style="list-style-type: none"> • END OF BORING @ 48' • TARGET DEPTH REACHED • SHALLOW WELL INSTALLED 					

Attachment C

**TABLE 2.1
SUMMARY OF GEOTECHNICAL LABORATORY TEST RESULTS
FROM SAGINAW NODULAR INDUSTRIAL LAND CLAY PILE
MALLEABLE IRON INDUSTRIAL LANDS
SAGINAW, MICHIGAN**

Sample ID (As Received)	Date Sample Received	Sample Number	Laboratory Number	Particle Size Distribution					As Received Moisture Content (%)	Atterberg Limits (%)			Standard Proctor			Remolded Permeability			
				% Gravel	% Sand	% Silt	% Passing NO. 200 Mesh	% Clay (<0.002 mm)		Liquid Limit (LL)	Plastic Limit (%)	Plasticity Index (%)	Maximum Dry Density (kg/m ³)	Maximum Dry Density (lbs/ft ³)	Optimum Moisture (%)	Maximum Dry Density (lbs/ft ³)	Compaction (%)	Moisture Content (%)	Permeability (cm/sec)
<i>Clay Liner Specifications</i>				-	-	-	>30	-	-	>30	-	>15	-	-	-	-	-	-	1.0E-07
CL1	7-Nov-13	1	WLA 344-1	4	29	38	67	29	12	29	12	17	1914	119	13.2	113	95	14.8	1.4E-08
CL2	7-Nov-13	2	WLA 344-2	2	31	39	67	28	11	28	11	17	1942	121	12.6	115	95	14.6	2.4E-08
CL3	7-Nov-13	3	WLA 344-3	4	37	36	59	23	21	28	12	16	1885	118	13.0	112	95	15.3	2.2E-08
CL4	7-Nov-13	4	WLA 344-4	5	37	35	58	23	11	21	10	11	1919	120	13.1	114	95	15.0	2.6E-08
CL5	7-Nov-13	5	WLA 344-5	4	38	36	58	22	12	21	11	10	1948	122	11.8	116	96	14.2	1.9E-08
CL6	7-Nov-13	6	WLA 344-6	2	29	40	69	29	13	24	12	12	1911	119	13.1	113	95	14.4	2.9E-08
Average Value:				4	34	37	63	26	13	25	11	14	1920	120	12.8	114	95	14.7	2.2E-08

Attachment D

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton

4101 Shuffel Street NW

North Canton, OH 44720

Tel: (330)497-9396

TestAmerica Job ID: 240-79525-1

Client Project/Site: 7878, RACER SMI

For:

GHD Services Inc.

14496 Sheldon Road, Suite 200

Plymouth, Michigan 48170

Attn: Ms. Ruth Mickle



Authorized for release by:

5/19/2017 4:16:07 PM

Denise Heckler, Project Manager II

(330)966-9477

denise.heckler@testamericainc.com



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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Job ID: 240-79525-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative 240-79525-1

Comments

No additional comments.

Receipt

The samples were received on 5/13/2017 1:35 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.3° C.

GC/MS Semi VOA

Method(s) 8270C: The response for internal standard Naphthalene-d12 was outside of acceptance limits for the following sample: S-7878-051217-SSH-CL09 (240-79525-9). The sample shows evidence of matrix interference.

Method(s) 8270C: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base surrogate to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: S-7878-051217-SSH-CL09 (240-79525-9). These results have been reported and qualified.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	ISTD response or retention time outside acceptable limits
X	Surrogate is outside control limits

HPLC/IC

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Sample Summary

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-79525-1	S-7878-051217-SSH-CL01	Solid	05/12/17 09:45	05/13/17 13:35
240-79525-2	S-7878-051217-SSH-CL02	Solid	05/12/17 09:55	05/13/17 13:35
240-79525-3	S-7878-051217-SSH-CL03	Solid	05/12/17 10:05	05/13/17 13:35
240-79525-4	S-7878-051217-SSH-CL04	Solid	05/12/17 10:15	05/13/17 13:35
240-79525-5	S-7878-051217-SSH-CL05	Solid	05/12/17 11:10	05/13/17 13:35
240-79525-6	S-7878-051217-SSH-CL06	Solid	05/12/17 11:20	05/13/17 13:35
240-79525-7	S-7878-051217-SSH-CL07	Solid	05/12/17 11:30	05/13/17 13:35
240-79525-8	S-7878-051217-SSH-CL08	Solid	05/12/17 11:40	05/13/17 13:35
240-79525-9	S-7878-051217-SSH-CL09	Solid	05/12/17 11:50	05/13/17 13:35

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Detection Summary

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Client Sample ID: S-7878-051217-SSH-CL01

Lab Sample ID: 240-79525-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	8.5		7.3	0.69	ug/Kg	1	☒	8270C	Total/NA
Benzo[a]pyrene	5.8	J	7.3	0.70	ug/Kg	1	☒	8270C	Total/NA
Benzo[b]fluoranthene	9.1		7.3	0.65	ug/Kg	1	☒	8270C	Total/NA
Benzo[g,h,i]perylene	16		7.3	0.38	ug/Kg	1	☒	8270C	Total/NA
Anthracene	5.8	J	7.3	0.86	ug/Kg	1	☒	8270C	Total/NA
Chrysene	26		7.3	1.2	ug/Kg	1	☒	8270C	Total/NA
Fluoranthene	13		7.3	0.60	ug/Kg	1	☒	8270C	Total/NA
Phenanthrene	96		7.3	0.80	ug/Kg	1	☒	8270C	Total/NA
Pyrene	24		7.3	0.48	ug/Kg	1	☒	8270C	Total/NA
Naphthalene	59		7.3	0.90	ug/Kg	1	☒	8270C	Total/NA
2-Methylnaphthalene	210		7.3	0.55	ug/Kg	1	☒	8270C	Total/NA
Formaldehyde	1.2	J B	2.2	0.28	mg/Kg	1	☒	8315A	Total/NA
Aluminum	7900	B	9.1	0.56	mg/Kg	2	☒	6020	Total/NA
Arsenic	3.0		0.91	0.024	mg/Kg	2	☒	6020	Total/NA
Iron	12000	B	18	2.9	mg/Kg	2	☒	6020	Total/NA
Lead	5.1		0.18	0.041	mg/Kg	2	☒	6020	Total/NA
Vanadium	20		0.91	0.034	mg/Kg	2	☒	6020	Total/NA

Client Sample ID: S-7878-051217-SSH-CL02

Lab Sample ID: 240-79525-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[b]fluoranthene	3.8	J	7.6	0.67	ug/Kg	1	☒	8270C	Total/NA
Benzo[g,h,i]perylene	9.8		7.6	0.40	ug/Kg	1	☒	8270C	Total/NA
Chrysene	9.2		7.6	1.2	ug/Kg	1	☒	8270C	Total/NA
Fluoranthene	4.2	J	7.6	0.62	ug/Kg	1	☒	8270C	Total/NA
Phenanthrene	11		7.6	0.83	ug/Kg	1	☒	8270C	Total/NA
Pyrene	8.5		7.6	0.50	ug/Kg	1	☒	8270C	Total/NA
2-Methylnaphthalene	8.2		7.6	0.57	ug/Kg	1	☒	8270C	Total/NA
Formaldehyde	1.5	J B	2.2	0.28	mg/Kg	1	☒	8315A	Total/NA
Aluminum	8900	B	10	0.62	mg/Kg	2	☒	6020	Total/NA
Arsenic	3.1		1.0	0.026	mg/Kg	2	☒	6020	Total/NA
Iron	13000	B	20	3.2	mg/Kg	2	☒	6020	Total/NA
Lead	5.6		0.20	0.045	mg/Kg	2	☒	6020	Total/NA
Vanadium	22		1.0	0.037	mg/Kg	2	☒	6020	Total/NA

Client Sample ID: S-7878-051217-SSH-CL03

Lab Sample ID: 240-79525-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	4.5	J	7.3	0.69	ug/Kg	1	☒	8270C	Total/NA
Benzo[b]fluoranthene	6.5	J	7.3	0.65	ug/Kg	1	☒	8270C	Total/NA
Benzo[g,h,i]perylene	12		7.3	0.39	ug/Kg	1	☒	8270C	Total/NA
Chrysene	11		7.3	1.2	ug/Kg	1	☒	8270C	Total/NA
Fluoranthene	4.2	J	7.3	0.61	ug/Kg	1	☒	8270C	Total/NA
Phenanthrene	12		7.3	0.80	ug/Kg	1	☒	8270C	Total/NA
Pyrene	12		7.3	0.48	ug/Kg	1	☒	8270C	Total/NA
Naphthalene	4.8	J	7.3	0.90	ug/Kg	1	☒	8270C	Total/NA
2-Methylnaphthalene	10		7.3	0.55	ug/Kg	1	☒	8270C	Total/NA
Formaldehyde	2.0	J B	2.2	0.28	mg/Kg	1	☒	8315A	Total/NA
Aluminum	8100	B	8.9	0.55	mg/Kg	2	☒	6020	Total/NA
Arsenic	2.8		0.89	0.023	mg/Kg	2	☒	6020	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Client Sample ID: S-7878-051217-SSH-CL03 (Continued)

Lab Sample ID: 240-79525-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	12000	B	18	2.8	mg/Kg	2	☼	6020	Total/NA
Lead	5.1		0.18	0.040	mg/Kg	2	☼	6020	Total/NA
Vanadium	20		0.89	0.033	mg/Kg	2	☼	6020	Total/NA

Client Sample ID: S-7878-051217-SSH-CL04

Lab Sample ID: 240-79525-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	4.5	J	7.4	0.70	ug/Kg	1	☼	8270C	Total/NA
Benzo[a]pyrene	2.7	J	7.4	0.71	ug/Kg	1	☼	8270C	Total/NA
Benzo[b]fluoranthene	6.0	J	7.4	0.66	ug/Kg	1	☼	8270C	Total/NA
Benzo[g,h,i]perylene	13		7.4	0.39	ug/Kg	1	☼	8270C	Total/NA
Chrysene	8.0		7.4	1.2	ug/Kg	1	☼	8270C	Total/NA
Fluoranthene	4.8	J	7.4	0.61	ug/Kg	1	☼	8270C	Total/NA
Phenanthrene	13		7.4	0.81	ug/Kg	1	☼	8270C	Total/NA
Pyrene	9.3		7.4	0.49	ug/Kg	1	☼	8270C	Total/NA
Naphthalene	5.6	J	7.4	0.91	ug/Kg	1	☼	8270C	Total/NA
2-Methylnaphthalene	9.8		7.4	0.56	ug/Kg	1	☼	8270C	Total/NA
Formaldehyde	1.6	J B	2.2	0.28	mg/Kg	1	☼	8315A	Total/NA
Aluminum	7400	B	9.9	0.61	mg/Kg	2	☼	6020	Total/NA
Arsenic	2.5		0.99	0.026	mg/Kg	2	☼	6020	Total/NA
Iron	12000	B	20	3.2	mg/Kg	2	☼	6020	Total/NA
Lead	4.9		0.20	0.044	mg/Kg	2	☼	6020	Total/NA
Vanadium	19		0.99	0.037	mg/Kg	2	☼	6020	Total/NA

Client Sample ID: S-7878-051217-SSH-CL05

Lab Sample ID: 240-79525-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	3.9	J	7.4	0.70	ug/Kg	1	☼	8270C	Total/NA
Benzo[b]fluoranthene	6.6	J	7.4	0.66	ug/Kg	1	☼	8270C	Total/NA
Benzo[g,h,i]perylene	13		7.4	0.39	ug/Kg	1	☼	8270C	Total/NA
Chrysene	9.7		7.4	1.2	ug/Kg	1	☼	8270C	Total/NA
Fluoranthene	4.7	J	7.4	0.61	ug/Kg	1	☼	8270C	Total/NA
Phenanthrene	8.0		7.4	0.81	ug/Kg	1	☼	8270C	Total/NA
Pyrene	9.4		7.4	0.49	ug/Kg	1	☼	8270C	Total/NA
Naphthalene	4.0	J	7.4	0.91	ug/Kg	1	☼	8270C	Total/NA
2-Methylnaphthalene	6.1	J	7.4	0.56	ug/Kg	1	☼	8270C	Total/NA
Formaldehyde	1.9	J B	2.2	0.28	mg/Kg	1	☼	8315A	Total/NA
Aluminum	7900	B	9.7	0.60	mg/Kg	2	☼	6020	Total/NA
Arsenic	2.8		0.97	0.025	mg/Kg	2	☼	6020	Total/NA
Iron	13000	B	19	3.1	mg/Kg	2	☼	6020	Total/NA
Lead	5.8		0.19	0.044	mg/Kg	2	☼	6020	Total/NA
Vanadium	20		0.97	0.036	mg/Kg	2	☼	6020	Total/NA

Client Sample ID: S-7878-051217-SSH-CL06

Lab Sample ID: 240-79525-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	9.0		7.2	0.68	ug/Kg	1	☼	8270C	Total/NA
Benzo[a]pyrene	8.0		7.2	0.69	ug/Kg	1	☼	8270C	Total/NA
Benzo[b]fluoranthene	11		7.2	0.63	ug/Kg	1	☼	8270C	Total/NA
Benzo[g,h,i]perylene	19		7.2	0.38	ug/Kg	1	☼	8270C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Client Sample ID: S-7878-051217-SSH-CL06 (Continued)

Lab Sample ID: 240-79525-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[k]fluoranthene	6.9	J	7.2	0.73	ug/Kg	1	☼	8270C	Total/NA
Chrysene	15		7.2	1.2	ug/Kg	1	☼	8270C	Total/NA
Dibenz(a,h)anthracene	5.9	J	7.2	0.71	ug/Kg	1	☼	8270C	Total/NA
Fluoranthene	9.6		7.2	0.59	ug/Kg	1	☼	8270C	Total/NA
Indeno[1,2,3-cd]pyrene	7.8		7.2	0.38	ug/Kg	1	☼	8270C	Total/NA
Phenanthrene	17		7.2	0.78	ug/Kg	1	☼	8270C	Total/NA
Pyrene	14		7.2	0.47	ug/Kg	1	☼	8270C	Total/NA
Naphthalene	6.0	J	7.2	0.88	ug/Kg	1	☼	8270C	Total/NA
2-Methylnaphthalene	12		7.2	0.54	ug/Kg	1	☼	8270C	Total/NA
Formaldehyde	1.7	J B	2.1	0.27	mg/Kg	1	☼	8315A	Total/NA
Aluminum	8000	B	11	0.66	mg/Kg	2	☼	6020	Total/NA
Arsenic	2.9		1.1	0.028	mg/Kg	2	☼	6020	Total/NA
Iron	12000	B	21	3.4	mg/Kg	2	☼	6020	Total/NA
Lead	5.5		0.21	0.048	mg/Kg	2	☼	6020	Total/NA
Vanadium	20		1.1	0.039	mg/Kg	2	☼	6020	Total/NA

Client Sample ID: S-7878-051217-SSH-CL07

Lab Sample ID: 240-79525-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	4.5	J	7.5	0.71	ug/Kg	1	☼	8270C	Total/NA
Benzo[a]pyrene	3.9	J	7.5	0.72	ug/Kg	1	☼	8270C	Total/NA
Benzo[b]fluoranthene	6.3	J	7.5	0.66	ug/Kg	1	☼	8270C	Total/NA
Benzo[g,h,i]perylene	14		7.5	0.39	ug/Kg	1	☼	8270C	Total/NA
Chrysene	8.1		7.5	1.2	ug/Kg	1	☼	8270C	Total/NA
Fluoranthene	5.3	J	7.5	0.62	ug/Kg	1	☼	8270C	Total/NA
Fluorene	1.7	J	7.5	0.59	ug/Kg	1	☼	8270C	Total/NA
Phenanthrene	9.4		7.5	0.82	ug/Kg	1	☼	8270C	Total/NA
Pyrene	10		7.5	0.49	ug/Kg	1	☼	8270C	Total/NA
Naphthalene	4.3	J	7.5	0.92	ug/Kg	1	☼	8270C	Total/NA
2-Methylnaphthalene	7.9		7.5	0.56	ug/Kg	1	☼	8270C	Total/NA
Formaldehyde	2.0	J B	2.2	0.28	mg/Kg	1	☼	8315A	Total/NA
Aluminum	8100	B	9.9	0.61	mg/Kg	2	☼	6020	Total/NA
Arsenic	2.8		0.99	0.026	mg/Kg	2	☼	6020	Total/NA
Iron	12000	B	20	3.2	mg/Kg	2	☼	6020	Total/NA
Lead	5.1		0.20	0.044	mg/Kg	2	☼	6020	Total/NA
Vanadium	20		0.99	0.037	mg/Kg	2	☼	6020	Total/NA

Client Sample ID: S-7878-051217-SSH-CL08

Lab Sample ID: 240-79525-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[b]fluoranthene	4.0	J	7.2	0.64	ug/Kg	1	☼	8270C	Total/NA
Benzo[g,h,i]perylene	9.7		7.2	0.38	ug/Kg	1	☼	8270C	Total/NA
Chrysene	5.3	J	7.2	1.2	ug/Kg	1	☼	8270C	Total/NA
Phenanthrene	5.5	J	7.2	0.79	ug/Kg	1	☼	8270C	Total/NA
Pyrene	6.6	J	7.2	0.48	ug/Kg	1	☼	8270C	Total/NA
2-Methylnaphthalene	3.9	J	7.2	0.54	ug/Kg	1	☼	8270C	Total/NA
Formaldehyde	1.6	J B	2.2	0.27	mg/Kg	1	☼	8315A	Total/NA
Aluminum	8000	B	11	0.66	mg/Kg	2	☼	6020	Total/NA
Arsenic	2.5		1.1	0.028	mg/Kg	2	☼	6020	Total/NA
Iron	12000	B	21	3.4	mg/Kg	2	☼	6020	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Client Sample ID: S-7878-051217-SSH-CL08 (Continued)

Lab Sample ID: 240-79525-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	5.1		0.21	0.048	mg/Kg	2	☼	6020	Total/NA
Vanadium	20		1.1	0.039	mg/Kg	2	☼	6020	Total/NA

Client Sample ID: S-7878-051217-SSH-CL09

Lab Sample ID: 240-79525-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[b]fluoranthene	4.9	J	6.9	0.61	ug/Kg	1	☼	8270C	Total/NA
Benzo[g,h,i]perylene	11		6.9	0.36	ug/Kg	1	☼	8270C	Total/NA
Chrysene	5.1	J	6.9	1.1	ug/Kg	1	☼	8270C	Total/NA
Fluoranthene	4.7	J	6.9	0.57	ug/Kg	1	☼	8270C	Total/NA
Phenanthrene	7.0		6.9	0.75	ug/Kg	1	☼	8270C	Total/NA
Pyrene	7.6		6.9	0.45	ug/Kg	1	☼	8270C	Total/NA
2-Methylnaphthalene	16	*	6.9	0.51	ug/Kg	1	☼	8270C	Total/NA
Formaldehyde	1.9	J B	2.0	0.26	mg/Kg	1	☼	8315A	Total/NA
Aluminum	8000	B	9.6	0.59	mg/Kg	2	☼	6020	Total/NA
Arsenic	2.9		0.96	0.025	mg/Kg	2	☼	6020	Total/NA
Iron	12000	B	19	3.1	mg/Kg	2	☼	6020	Total/NA
Lead	5.6		0.19	0.043	mg/Kg	2	☼	6020	Total/NA
Vanadium	20		0.96	0.035	mg/Kg	2	☼	6020	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Method Summary

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method	Method Description	Protocol	Laboratory
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CAN
8315A	Carbonyl Compounds by HPLC	SW846	TAL CAN
6020	Metals (ICP/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-7878-051217-SSH-CL01

Date Collected: 05/12/17 09:45

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-1

Matrix: Solid

Percent Solids: 89.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	8.5		7.3	0.69	ug/Kg	☼	05/15/17 09:36	05/19/17 09:36	1
Benzo[a]pyrene	5.8	J	7.3	0.70	ug/Kg	☼	05/15/17 09:36	05/19/17 09:36	1
Benzo[b]fluoranthene	9.1		7.3	0.65	ug/Kg	☼	05/15/17 09:36	05/19/17 09:36	1
Benzo[g,h,i]perylene	16		7.3	0.38	ug/Kg	☼	05/15/17 09:36	05/19/17 09:36	1
Benzo[k]fluoranthene	7.3	U	7.3	0.75	ug/Kg	☼	05/15/17 09:36	05/19/17 09:36	1
Anthracene	5.8	J	7.3	0.86	ug/Kg	☼	05/15/17 09:36	05/19/17 09:36	1
Chrysene	26		7.3	1.2	ug/Kg	☼	05/15/17 09:36	05/19/17 09:36	1
Dibenz(a,h)anthracene	7.3	U	7.3	0.73	ug/Kg	☼	05/15/17 09:36	05/19/17 09:36	1
Fluoranthene	13		7.3	0.60	ug/Kg	☼	05/15/17 09:36	05/19/17 09:36	1
Fluorene	7.3	U	7.3	0.58	ug/Kg	☼	05/15/17 09:36	05/19/17 09:36	1
Indeno[1,2,3-cd]pyrene	7.3	U	7.3	0.38	ug/Kg	☼	05/15/17 09:36	05/19/17 09:36	1
Phenanthrene	96		7.3	0.80	ug/Kg	☼	05/15/17 09:36	05/19/17 09:36	1
Pyrene	24		7.3	0.48	ug/Kg	☼	05/15/17 09:36	05/19/17 09:36	1
Acenaphthene	7.3	U	7.3	0.84	ug/Kg	☼	05/15/17 09:36	05/19/17 09:36	1
Acenaphthylene	7.3	U	7.3	0.38	ug/Kg	☼	05/15/17 09:36	05/19/17 09:36	1
Naphthalene	59		7.3	0.90	ug/Kg	☼	05/15/17 09:36	05/19/17 09:36	1
2-Methylnaphthalene	210		7.3	0.55	ug/Kg	☼	05/15/17 09:36	05/19/17 09:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	73		39 - 120				05/15/17 09:36	05/19/17 09:36	1
2-Fluorophenol (Surr)	76		33 - 120				05/15/17 09:36	05/19/17 09:36	1
2,4,6-Tribromophenol (Surr)	68		10 - 120				05/15/17 09:36	05/19/17 09:36	1
Nitrobenzene-d5 (Surr)	75		32 - 120				05/15/17 09:36	05/19/17 09:36	1
Phenol-d5 (Surr)	77		32 - 120				05/15/17 09:36	05/19/17 09:36	1
Terphenyl-d14 (Surr)	96		47 - 120				05/15/17 09:36	05/19/17 09:36	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-7878-051217-SSH-CL02

Date Collected: 05/12/17 09:55

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-2

Matrix: Solid

Percent Solids: 89.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	7.6	U	7.6	0.71	ug/Kg	☼	05/15/17 09:36	05/18/17 17:53	1
Benzo[a]pyrene	7.6	U	7.6	0.73	ug/Kg	☼	05/15/17 09:36	05/18/17 17:53	1
Benzo[b]fluoranthene	3.8	J	7.6	0.67	ug/Kg	☼	05/15/17 09:36	05/18/17 17:53	1
Benzo[g,h,i]perylene	9.8		7.6	0.40	ug/Kg	☼	05/15/17 09:36	05/18/17 17:53	1
Benzo[k]fluoranthene	7.6	U	7.6	0.77	ug/Kg	☼	05/15/17 09:36	05/18/17 17:53	1
Anthracene	7.6	U	7.6	0.88	ug/Kg	☼	05/15/17 09:36	05/18/17 17:53	1
Chrysene	9.2		7.6	1.2	ug/Kg	☼	05/15/17 09:36	05/18/17 17:53	1
Dibenz(a,h)anthracene	7.6	U	7.6	0.75	ug/Kg	☼	05/15/17 09:36	05/18/17 17:53	1
Fluoranthene	4.2	J	7.6	0.62	ug/Kg	☼	05/15/17 09:36	05/18/17 17:53	1
Fluorene	7.6	U	7.6	0.60	ug/Kg	☼	05/15/17 09:36	05/18/17 17:53	1
Indeno[1,2,3-cd]pyrene	7.6	U	7.6	0.40	ug/Kg	☼	05/15/17 09:36	05/18/17 17:53	1
Phenanthrene	11		7.6	0.83	ug/Kg	☼	05/15/17 09:36	05/18/17 17:53	1
Pyrene	8.5		7.6	0.50	ug/Kg	☼	05/15/17 09:36	05/18/17 17:53	1
Acenaphthene	7.6	U	7.6	0.86	ug/Kg	☼	05/15/17 09:36	05/18/17 17:53	1
Acenaphthylene	7.6	U	7.6	0.40	ug/Kg	☼	05/15/17 09:36	05/18/17 17:53	1
Naphthalene	7.6	U	7.6	0.93	ug/Kg	☼	05/15/17 09:36	05/18/17 17:53	1
2-Methylnaphthalene	8.2		7.6	0.57	ug/Kg	☼	05/15/17 09:36	05/18/17 17:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	72		39 - 120	05/15/17 09:36	05/18/17 17:53	1
2-Fluorophenol (Surr)	77		33 - 120	05/15/17 09:36	05/18/17 17:53	1
2,4,6-Tribromophenol (Surr)	46		10 - 120	05/15/17 09:36	05/18/17 17:53	1
Nitrobenzene-d5 (Surr)	70		32 - 120	05/15/17 09:36	05/18/17 17:53	1
Phenol-d5 (Surr)	76		32 - 120	05/15/17 09:36	05/18/17 17:53	1
Terphenyl-d14 (Surr)	87		47 - 120	05/15/17 09:36	05/18/17 17:53	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-7878-051217-SSH-CL03

Date Collected: 05/12/17 10:05

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-3

Matrix: Solid

Percent Solids: 90.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	4.5	J	7.3	0.69	ug/Kg	☼	05/15/17 09:36	05/19/17 10:01	1
Benzo[a]pyrene	7.3	U	7.3	0.71	ug/Kg	☼	05/15/17 09:36	05/19/17 10:01	1
Benzo[b]fluoranthene	6.5	J	7.3	0.65	ug/Kg	☼	05/15/17 09:36	05/19/17 10:01	1
Benzo[g,h,i]perylene	12		7.3	0.39	ug/Kg	☼	05/15/17 09:36	05/19/17 10:01	1
Benzo[k]fluoranthene	7.3	U	7.3	0.75	ug/Kg	☼	05/15/17 09:36	05/19/17 10:01	1
Anthracene	7.3	U	7.3	0.86	ug/Kg	☼	05/15/17 09:36	05/19/17 10:01	1
Chrysene	11		7.3	1.2	ug/Kg	☼	05/15/17 09:36	05/19/17 10:01	1
Dibenz(a,h)anthracene	7.3	U	7.3	0.73	ug/Kg	☼	05/15/17 09:36	05/19/17 10:01	1
Fluoranthene	4.2	J	7.3	0.61	ug/Kg	☼	05/15/17 09:36	05/19/17 10:01	1
Fluorene	7.3	U	7.3	0.58	ug/Kg	☼	05/15/17 09:36	05/19/17 10:01	1
Indeno[1,2,3-cd]pyrene	7.3	U	7.3	0.39	ug/Kg	☼	05/15/17 09:36	05/19/17 10:01	1
Phenanthrene	12		7.3	0.80	ug/Kg	☼	05/15/17 09:36	05/19/17 10:01	1
Pyrene	12		7.3	0.48	ug/Kg	☼	05/15/17 09:36	05/19/17 10:01	1
Acenaphthene	7.3	U	7.3	0.84	ug/Kg	☼	05/15/17 09:36	05/19/17 10:01	1
Acenaphthylene	7.3	U	7.3	0.39	ug/Kg	☼	05/15/17 09:36	05/19/17 10:01	1
Naphthalene	4.8	J	7.3	0.90	ug/Kg	☼	05/15/17 09:36	05/19/17 10:01	1
2-Methylnaphthalene	10		7.3	0.55	ug/Kg	☼	05/15/17 09:36	05/19/17 10:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	78		39 - 120	05/15/17 09:36	05/19/17 10:01	1
2-Fluorophenol (Surr)	83		33 - 120	05/15/17 09:36	05/19/17 10:01	1
2,4,6-Tribromophenol (Surr)	50		10 - 120	05/15/17 09:36	05/19/17 10:01	1
Nitrobenzene-d5 (Surr)	75		32 - 120	05/15/17 09:36	05/19/17 10:01	1
Phenol-d5 (Surr)	83		32 - 120	05/15/17 09:36	05/19/17 10:01	1
Terphenyl-d14 (Surr)	95		47 - 120	05/15/17 09:36	05/19/17 10:01	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-7878-051217-SSH-CL04

Date Collected: 05/12/17 10:15

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-4

Matrix: Solid

Percent Solids: 90.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	4.5	J	7.4	0.70	ug/Kg	☼	05/15/17 09:36	05/18/17 18:18	1
Benzo[a]pyrene	2.7	J	7.4	0.71	ug/Kg	☼	05/15/17 09:36	05/18/17 18:18	1
Benzo[b]fluoranthene	6.0	J	7.4	0.66	ug/Kg	☼	05/15/17 09:36	05/18/17 18:18	1
Benzo[g,h,i]perylene	13		7.4	0.39	ug/Kg	☼	05/15/17 09:36	05/18/17 18:18	1
Benzo[k]fluoranthene	7.4	U	7.4	0.76	ug/Kg	☼	05/15/17 09:36	05/18/17 18:18	1
Anthracene	7.4	U	7.4	0.87	ug/Kg	☼	05/15/17 09:36	05/18/17 18:18	1
Chrysene	8.0		7.4	1.2	ug/Kg	☼	05/15/17 09:36	05/18/17 18:18	1
Dibenz(a,h)anthracene	7.4	U	7.4	0.74	ug/Kg	☼	05/15/17 09:36	05/18/17 18:18	1
Fluoranthene	4.8	J	7.4	0.61	ug/Kg	☼	05/15/17 09:36	05/18/17 18:18	1
Fluorene	7.4	U	7.4	0.59	ug/Kg	☼	05/15/17 09:36	05/18/17 18:18	1
Indeno[1,2,3-cd]pyrene	7.4	U	7.4	0.39	ug/Kg	☼	05/15/17 09:36	05/18/17 18:18	1
Phenanthrene	13		7.4	0.81	ug/Kg	☼	05/15/17 09:36	05/18/17 18:18	1
Pyrene	9.3		7.4	0.49	ug/Kg	☼	05/15/17 09:36	05/18/17 18:18	1
Acenaphthene	7.4	U	7.4	0.85	ug/Kg	☼	05/15/17 09:36	05/18/17 18:18	1
Acenaphthylene	7.4	U	7.4	0.39	ug/Kg	☼	05/15/17 09:36	05/18/17 18:18	1
Naphthalene	5.6	J	7.4	0.91	ug/Kg	☼	05/15/17 09:36	05/18/17 18:18	1
2-Methylnaphthalene	9.8		7.4	0.56	ug/Kg	☼	05/15/17 09:36	05/18/17 18:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	68		39 - 120	05/15/17 09:36	05/18/17 18:18	1
2-Fluorophenol (Surr)	74		33 - 120	05/15/17 09:36	05/18/17 18:18	1
2,4,6-Tribromophenol (Surr)	39		10 - 120	05/15/17 09:36	05/18/17 18:18	1
Nitrobenzene-d5 (Surr)	66		32 - 120	05/15/17 09:36	05/18/17 18:18	1
Phenol-d5 (Surr)	74		32 - 120	05/15/17 09:36	05/18/17 18:18	1
Terphenyl-d14 (Surr)	85		47 - 120	05/15/17 09:36	05/18/17 18:18	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-7878-051217-SSH-CL05

Date Collected: 05/12/17 11:10

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-5

Matrix: Solid

Percent Solids: 90.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	3.9	J	7.4	0.70	ug/Kg	☼	05/15/17 09:36	05/18/17 18:44	1
Benzo[a]pyrene	7.4	U	7.4	0.71	ug/Kg	☼	05/15/17 09:36	05/18/17 18:44	1
Benzo[b]fluoranthene	6.6	J	7.4	0.66	ug/Kg	☼	05/15/17 09:36	05/18/17 18:44	1
Benzo[g,h,i]perylene	13		7.4	0.39	ug/Kg	☼	05/15/17 09:36	05/18/17 18:44	1
Benzo[k]fluoranthene	7.4	U	7.4	0.76	ug/Kg	☼	05/15/17 09:36	05/18/17 18:44	1
Anthracene	7.4	U	7.4	0.87	ug/Kg	☼	05/15/17 09:36	05/18/17 18:44	1
Chrysene	9.7		7.4	1.2	ug/Kg	☼	05/15/17 09:36	05/18/17 18:44	1
Dibenz(a,h)anthracene	7.4	U	7.4	0.73	ug/Kg	☼	05/15/17 09:36	05/18/17 18:44	1
Fluoranthene	4.7	J	7.4	0.61	ug/Kg	☼	05/15/17 09:36	05/18/17 18:44	1
Fluorene	7.4	U	7.4	0.59	ug/Kg	☼	05/15/17 09:36	05/18/17 18:44	1
Indeno[1,2,3-cd]pyrene	7.4	U	7.4	0.39	ug/Kg	☼	05/15/17 09:36	05/18/17 18:44	1
Phenanthrene	8.0		7.4	0.81	ug/Kg	☼	05/15/17 09:36	05/18/17 18:44	1
Pyrene	9.4		7.4	0.49	ug/Kg	☼	05/15/17 09:36	05/18/17 18:44	1
Acenaphthene	7.4	U	7.4	0.84	ug/Kg	☼	05/15/17 09:36	05/18/17 18:44	1
Acenaphthylene	7.4	U	7.4	0.39	ug/Kg	☼	05/15/17 09:36	05/18/17 18:44	1
Naphthalene	4.0	J	7.4	0.91	ug/Kg	☼	05/15/17 09:36	05/18/17 18:44	1
2-Methylnaphthalene	6.1	J	7.4	0.56	ug/Kg	☼	05/15/17 09:36	05/18/17 18:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	75		39 - 120	05/15/17 09:36	05/18/17 18:44	1
2-Fluorophenol (Surr)	78		33 - 120	05/15/17 09:36	05/18/17 18:44	1
2,4,6-Tribromophenol (Surr)	40		10 - 120	05/15/17 09:36	05/18/17 18:44	1
Nitrobenzene-d5 (Surr)	70		32 - 120	05/15/17 09:36	05/18/17 18:44	1
Phenol-d5 (Surr)	78		32 - 120	05/15/17 09:36	05/18/17 18:44	1
Terphenyl-d14 (Surr)	89		47 - 120	05/15/17 09:36	05/18/17 18:44	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-7878-051217-SSH-CL06

Date Collected: 05/12/17 11:20

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-6

Matrix: Solid

Percent Solids: 93.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	9.0		7.2	0.68	ug/Kg	☼	05/15/17 09:36	05/19/17 11:41	1
Benzo[a]pyrene	8.0		7.2	0.69	ug/Kg	☼	05/15/17 09:36	05/19/17 11:41	1
Benzo[b]fluoranthene	11		7.2	0.63	ug/Kg	☼	05/15/17 09:36	05/19/17 11:41	1
Benzo[g,h,i]perylene	19		7.2	0.38	ug/Kg	☼	05/15/17 09:36	05/19/17 11:41	1
Benzo[k]fluoranthene	6.9	J	7.2	0.73	ug/Kg	☼	05/15/17 09:36	05/19/17 11:41	1
Anthracene	7.2	U	7.2	0.84	ug/Kg	☼	05/15/17 09:36	05/19/17 11:41	1
Chrysene	15		7.2	1.2	ug/Kg	☼	05/15/17 09:36	05/19/17 11:41	1
Dibenz(a,h)anthracene	5.9	J	7.2	0.71	ug/Kg	☼	05/15/17 09:36	05/19/17 11:41	1
Fluoranthene	9.6		7.2	0.59	ug/Kg	☼	05/15/17 09:36	05/19/17 11:41	1
Fluorene	7.2	U	7.2	0.57	ug/Kg	☼	05/15/17 09:36	05/19/17 11:41	1
Indeno[1,2,3-cd]pyrene	7.8		7.2	0.38	ug/Kg	☼	05/15/17 09:36	05/19/17 11:41	1
Phenanthrene	17		7.2	0.78	ug/Kg	☼	05/15/17 09:36	05/19/17 11:41	1
Pyrene	14		7.2	0.47	ug/Kg	☼	05/15/17 09:36	05/19/17 11:41	1
Acenaphthene	7.2	U	7.2	0.82	ug/Kg	☼	05/15/17 09:36	05/19/17 11:41	1
Acenaphthylene	7.2	U	7.2	0.38	ug/Kg	☼	05/15/17 09:36	05/19/17 11:41	1
Naphthalene	6.0	J	7.2	0.88	ug/Kg	☼	05/15/17 09:36	05/19/17 11:41	1
2-Methylnaphthalene	12		7.2	0.54	ug/Kg	☼	05/15/17 09:36	05/19/17 11:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	75		39 - 120	05/15/17 09:36	05/19/17 11:41	1
2-Fluorophenol (Surr)	81		33 - 120	05/15/17 09:36	05/19/17 11:41	1
2,4,6-Tribromophenol (Surr)	65		10 - 120	05/15/17 09:36	05/19/17 11:41	1
Nitrobenzene-d5 (Surr)	72		32 - 120	05/15/17 09:36	05/19/17 11:41	1
Phenol-d5 (Surr)	81		32 - 120	05/15/17 09:36	05/19/17 11:41	1
Terphenyl-d14 (Surr)	96		47 - 120	05/15/17 09:36	05/19/17 11:41	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-7878-051217-SSH-CL07

Date Collected: 05/12/17 11:30

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-7

Matrix: Solid

Percent Solids: 90.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	4.5	J	7.5	0.71	ug/Kg	☼	05/15/17 09:36	05/19/17 10:26	1
Benzo[a]pyrene	3.9	J	7.5	0.72	ug/Kg	☼	05/15/17 09:36	05/19/17 10:26	1
Benzo[b]fluoranthene	6.3	J	7.5	0.66	ug/Kg	☼	05/15/17 09:36	05/19/17 10:26	1
Benzo[g,h,i]perylene	14		7.5	0.39	ug/Kg	☼	05/15/17 09:36	05/19/17 10:26	1
Benzo[k]fluoranthene	7.5	U	7.5	0.76	ug/Kg	☼	05/15/17 09:36	05/19/17 10:26	1
Anthracene	7.5	U	7.5	0.87	ug/Kg	☼	05/15/17 09:36	05/19/17 10:26	1
Chrysene	8.1		7.5	1.2	ug/Kg	☼	05/15/17 09:36	05/19/17 10:26	1
Dibenz(a,h)anthracene	7.5	U	7.5	0.74	ug/Kg	☼	05/15/17 09:36	05/19/17 10:26	1
Fluoranthene	5.3	J	7.5	0.62	ug/Kg	☼	05/15/17 09:36	05/19/17 10:26	1
Fluorene	1.7	J	7.5	0.59	ug/Kg	☼	05/15/17 09:36	05/19/17 10:26	1
Indeno[1,2,3-cd]pyrene	7.5	U	7.5	0.39	ug/Kg	☼	05/15/17 09:36	05/19/17 10:26	1
Phenanthrene	9.4		7.5	0.82	ug/Kg	☼	05/15/17 09:36	05/19/17 10:26	1
Pyrene	10		7.5	0.49	ug/Kg	☼	05/15/17 09:36	05/19/17 10:26	1
Acenaphthene	7.5	U	7.5	0.85	ug/Kg	☼	05/15/17 09:36	05/19/17 10:26	1
Acenaphthylene	7.5	U	7.5	0.39	ug/Kg	☼	05/15/17 09:36	05/19/17 10:26	1
Naphthalene	4.3	J	7.5	0.92	ug/Kg	☼	05/15/17 09:36	05/19/17 10:26	1
2-Methylnaphthalene	7.9		7.5	0.56	ug/Kg	☼	05/15/17 09:36	05/19/17 10:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	66		39 - 120	05/15/17 09:36	05/19/17 10:26	1
2-Fluorophenol (Surr)	72		33 - 120	05/15/17 09:36	05/19/17 10:26	1
2,4,6-Tribromophenol (Surr)	46		10 - 120	05/15/17 09:36	05/19/17 10:26	1
Nitrobenzene-d5 (Surr)	65		32 - 120	05/15/17 09:36	05/19/17 10:26	1
Phenol-d5 (Surr)	71		32 - 120	05/15/17 09:36	05/19/17 10:26	1
Terphenyl-d14 (Surr)	89		47 - 120	05/15/17 09:36	05/19/17 10:26	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-7878-051217-SSH-CL08

Date Collected: 05/12/17 11:40

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-8

Matrix: Solid

Percent Solids: 91.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	7.2	U	7.2	0.68	ug/Kg	☼	05/15/17 09:36	05/19/17 10:51	1
Benzo[a]pyrene	7.2	U	7.2	0.70	ug/Kg	☼	05/15/17 09:36	05/19/17 10:51	1
Benzo[b]fluoranthene	4.0	J	7.2	0.64	ug/Kg	☼	05/15/17 09:36	05/19/17 10:51	1
Benzo[g,h,i]perylene	9.7		7.2	0.38	ug/Kg	☼	05/15/17 09:36	05/19/17 10:51	1
Benzo[k]fluoranthene	7.2	U	7.2	0.74	ug/Kg	☼	05/15/17 09:36	05/19/17 10:51	1
Anthracene	7.2	U	7.2	0.85	ug/Kg	☼	05/15/17 09:36	05/19/17 10:51	1
Chrysene	5.3	J	7.2	1.2	ug/Kg	☼	05/15/17 09:36	05/19/17 10:51	1
Dibenz(a,h)anthracene	7.2	U	7.2	0.72	ug/Kg	☼	05/15/17 09:36	05/19/17 10:51	1
Fluoranthene	7.2	U	7.2	0.60	ug/Kg	☼	05/15/17 09:36	05/19/17 10:51	1
Fluorene	7.2	U	7.2	0.58	ug/Kg	☼	05/15/17 09:36	05/19/17 10:51	1
Indeno[1,2,3-cd]pyrene	7.2	U	7.2	0.38	ug/Kg	☼	05/15/17 09:36	05/19/17 10:51	1
Phenanthrene	5.5	J	7.2	0.79	ug/Kg	☼	05/15/17 09:36	05/19/17 10:51	1
Pyrene	6.6	J	7.2	0.48	ug/Kg	☼	05/15/17 09:36	05/19/17 10:51	1
Acenaphthene	7.2	U	7.2	0.83	ug/Kg	☼	05/15/17 09:36	05/19/17 10:51	1
Acenaphthylene	7.2	U	7.2	0.38	ug/Kg	☼	05/15/17 09:36	05/19/17 10:51	1
Naphthalene	7.2	U	7.2	0.89	ug/Kg	☼	05/15/17 09:36	05/19/17 10:51	1
2-Methylnaphthalene	3.9	J	7.2	0.54	ug/Kg	☼	05/15/17 09:36	05/19/17 10:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	70		39 - 120	05/15/17 09:36	05/19/17 10:51	1
2-Fluorophenol (Surr)	75		33 - 120	05/15/17 09:36	05/19/17 10:51	1
2,4,6-Tribromophenol (Surr)	39		10 - 120	05/15/17 09:36	05/19/17 10:51	1
Nitrobenzene-d5 (Surr)	66		32 - 120	05/15/17 09:36	05/19/17 10:51	1
Phenol-d5 (Surr)	76		32 - 120	05/15/17 09:36	05/19/17 10:51	1
Terphenyl-d14 (Surr)	89		47 - 120	05/15/17 09:36	05/19/17 10:51	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-7878-051217-SSH-CL09

Date Collected: 05/12/17 11:50

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-9

Matrix: Solid

Percent Solids: 97.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	6.9	U	6.9	0.65	ug/Kg	☼	05/15/17 09:36	05/19/17 11:16	1
Benzo[a]pyrene	6.9	U	6.9	0.66	ug/Kg	☼	05/15/17 09:36	05/19/17 11:16	1
Benzo[b]fluoranthene	4.9	J	6.9	0.61	ug/Kg	☼	05/15/17 09:36	05/19/17 11:16	1
Benzo[g,h,i]perylene	11		6.9	0.36	ug/Kg	☼	05/15/17 09:36	05/19/17 11:16	1
Benzo[k]fluoranthene	6.9	U	6.9	0.70	ug/Kg	☼	05/15/17 09:36	05/19/17 11:16	1
Anthracene	6.9	U	6.9	0.80	ug/Kg	☼	05/15/17 09:36	05/19/17 11:16	1
Chrysene	5.1	J	6.9	1.1	ug/Kg	☼	05/15/17 09:36	05/19/17 11:16	1
Dibenz(a,h)anthracene	6.9	U	6.9	0.68	ug/Kg	☼	05/15/17 09:36	05/19/17 11:16	1
Fluoranthene	4.7	J	6.9	0.57	ug/Kg	☼	05/15/17 09:36	05/19/17 11:16	1
Fluorene	6.9	U	6.9	0.55	ug/Kg	☼	05/15/17 09:36	05/19/17 11:16	1
Indeno[1,2,3-cd]pyrene	6.9	U	6.9	0.36	ug/Kg	☼	05/15/17 09:36	05/19/17 11:16	1
Phenanthrene	7.0		6.9	0.75	ug/Kg	☼	05/15/17 09:36	05/19/17 11:16	1
Pyrene	7.6		6.9	0.45	ug/Kg	☼	05/15/17 09:36	05/19/17 11:16	1
Acenaphthene	6.9	U	6.9	0.78	ug/Kg	☼	05/15/17 09:36	05/19/17 11:16	1
Acenaphthylene	6.9	U	6.9	0.36	ug/Kg	☼	05/15/17 09:36	05/19/17 11:16	1
Naphthalene	6.9	U *	6.9	0.84	ug/Kg	☼	05/15/17 09:36	05/19/17 11:16	1
2-Methylnaphthalene	16	*	6.9	0.51	ug/Kg	☼	05/15/17 09:36	05/19/17 11:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	61		39 - 120	05/15/17 09:36	05/19/17 11:16	1
2-Fluorophenol (Surr)	51		33 - 120	05/15/17 09:36	05/19/17 11:16	1
2,4,6-Tribromophenol (Surr)	58		10 - 120	05/15/17 09:36	05/19/17 11:16	1
Nitrobenzene-d5 (Surr)	31	X *	32 - 120	05/15/17 09:36	05/19/17 11:16	1
Phenol-d5 (Surr)	81		32 - 120	05/15/17 09:36	05/19/17 11:16	1
Terphenyl-d14 (Surr)	85		47 - 120	05/15/17 09:36	05/19/17 11:16	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 8315A - Carbonyl Compounds by HPLC

Client Sample ID: S-7878-051217-SSH-CL01

Date Collected: 05/12/17 09:45

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-1

Matrix: Solid

Percent Solids: 89.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Formaldehyde	1.2	J B	2.2	0.28	mg/Kg	☼	05/17/17 10:49	05/18/17 16:22	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 8315A - Carbonyl Compounds by HPLC

Client Sample ID: S-7878-051217-SSH-CL02

Date Collected: 05/12/17 09:55

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-2

Matrix: Solid

Percent Solids: 89.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Formaldehyde	1.5	J B	2.2	0.28	mg/Kg	☼	05/17/17 10:49	05/18/17 16:31	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 8315A - Carbonyl Compounds by HPLC

Client Sample ID: S-7878-051217-SSH-CL03

Date Collected: 05/12/17 10:05

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-3

Matrix: Solid

Percent Solids: 90.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Formaldehyde	2.0	J B	2.2	0.28	mg/Kg	☼	05/17/17 10:49	05/18/17 16:39	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 8315A - Carbonyl Compounds by HPLC

Client Sample ID: S-7878-051217-SSH-CL04

Date Collected: 05/12/17 10:15

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-4

Matrix: Solid

Percent Solids: 90.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Formaldehyde	1.6	J B	2.2	0.28	mg/Kg	☼	05/17/17 10:49	05/18/17 16:47	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 8315A - Carbonyl Compounds by HPLC

Client Sample ID: S-7878-051217-SSH-CL05

Date Collected: 05/12/17 11:10

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-5

Matrix: Solid

Percent Solids: 90.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Formaldehyde	1.9	J B	2.2	0.28	mg/Kg	☼	05/17/17 10:49	05/18/17 16:55	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 8315A - Carbonyl Compounds by HPLC

Client Sample ID: S-7878-051217-SSH-CL06

Date Collected: 05/12/17 11:20

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-6

Matrix: Solid

Percent Solids: 93.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Formaldehyde	1.7	J B	2.1	0.27	mg/Kg	☼	05/17/17 10:49	05/18/17 17:03	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 8315A - Carbonyl Compounds by HPLC

Client Sample ID: S-7878-051217-SSH-CL07

Date Collected: 05/12/17 11:30

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-7

Matrix: Solid

Percent Solids: 90.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Formaldehyde	2.0	J B	2.2	0.28	mg/Kg	☼	05/17/17 10:49	05/18/17 17:11	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 8315A - Carbonyl Compounds by HPLC

Client Sample ID: S-7878-051217-SSH-CL08

Date Collected: 05/12/17 11:40

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-8

Matrix: Solid

Percent Solids: 91.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Formaldehyde	1.6	J B	2.2	0.27	mg/Kg	☼	05/17/17 10:49	05/18/17 17:19	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 8315A - Carbonyl Compounds by HPLC

Client Sample ID: S-7878-051217-SSH-CL09

Date Collected: 05/12/17 11:50

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-9

Matrix: Solid

Percent Solids: 97.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Formaldehyde	1.9	J B	2.0	0.26	mg/Kg	☼	05/17/17 10:49	05/18/17 17:36	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-7878-051217-SSH-CL01

Date Collected: 05/12/17 09:45

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-1

Matrix: Solid

Percent Solids: 89.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	7900	B	9.1	0.56	mg/Kg	☼	05/15/17 13:24	05/18/17 11:51	2
Arsenic	3.0		0.91	0.024	mg/Kg	☼	05/15/17 13:24	05/18/17 11:51	2
Iron	12000	B	18	2.9	mg/Kg	☼	05/15/17 13:24	05/18/17 11:51	2
Lead	5.1		0.18	0.041	mg/Kg	☼	05/15/17 13:24	05/18/17 11:51	2
Vanadium	20		0.91	0.034	mg/Kg	☼	05/15/17 13:24	05/18/17 11:51	2

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-7878-051217-SSH-CL02

Date Collected: 05/12/17 09:55

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-2

Matrix: Solid

Percent Solids: 89.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	8900	B	10	0.62	mg/Kg	☼	05/15/17 13:24	05/18/17 12:20	2
Arsenic	3.1		1.0	0.026	mg/Kg	☼	05/15/17 13:24	05/18/17 12:20	2
Iron	13000	B	20	3.2	mg/Kg	☼	05/15/17 13:24	05/18/17 12:20	2
Lead	5.6		0.20	0.045	mg/Kg	☼	05/15/17 13:24	05/18/17 12:20	2
Vanadium	22		1.0	0.037	mg/Kg	☼	05/15/17 13:24	05/18/17 12:20	2

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-7878-051217-SSH-CL03

Date Collected: 05/12/17 10:05

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-3

Matrix: Solid

Percent Solids: 90.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	8100	B	8.9	0.55	mg/Kg	☼	05/15/17 13:24	05/18/17 12:24	2
Arsenic	2.8		0.89	0.023	mg/Kg	☼	05/15/17 13:24	05/18/17 12:24	2
Iron	12000	B	18	2.8	mg/Kg	☼	05/15/17 13:24	05/18/17 12:24	2
Lead	5.1		0.18	0.040	mg/Kg	☼	05/15/17 13:24	05/18/17 12:24	2
Vanadium	20		0.89	0.033	mg/Kg	☼	05/15/17 13:24	05/18/17 12:24	2

Client Sample Results

Client: GHD Services Inc.
 Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-7878-051217-SSH-CL04

Date Collected: 05/12/17 10:15

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-4

Matrix: Solid

Percent Solids: 90.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	7400	B	9.9	0.61	mg/Kg	☼	05/15/17 13:24	05/18/17 12:28	2
Arsenic	2.5		0.99	0.026	mg/Kg	☼	05/15/17 13:24	05/18/17 12:28	2
Iron	12000	B	20	3.2	mg/Kg	☼	05/15/17 13:24	05/18/17 12:28	2
Lead	4.9		0.20	0.044	mg/Kg	☼	05/15/17 13:24	05/18/17 12:28	2
Vanadium	19		0.99	0.037	mg/Kg	☼	05/15/17 13:24	05/18/17 12:28	2

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-7878-051217-SSH-CL05

Date Collected: 05/12/17 11:10

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-5

Matrix: Solid

Percent Solids: 90.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	7900	B	9.7	0.60	mg/Kg	☼	05/15/17 13:24	05/18/17 12:32	2
Arsenic	2.8		0.97	0.025	mg/Kg	☼	05/15/17 13:24	05/18/17 12:32	2
Iron	13000	B	19	3.1	mg/Kg	☼	05/15/17 13:24	05/18/17 12:32	2
Lead	5.8		0.19	0.044	mg/Kg	☼	05/15/17 13:24	05/18/17 12:32	2
Vanadium	20		0.97	0.036	mg/Kg	☼	05/15/17 13:24	05/18/17 12:32	2

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-7878-051217-SSH-CL06

Date Collected: 05/12/17 11:20

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-6

Matrix: Solid

Percent Solids: 93.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	8000	B	11	0.66	mg/Kg	☼	05/15/17 13:24	05/18/17 12:37	2
Arsenic	2.9		1.1	0.028	mg/Kg	☼	05/15/17 13:24	05/18/17 12:37	2
Iron	12000	B	21	3.4	mg/Kg	☼	05/15/17 13:24	05/18/17 12:37	2
Lead	5.5		0.21	0.048	mg/Kg	☼	05/15/17 13:24	05/18/17 12:37	2
Vanadium	20		1.1	0.039	mg/Kg	☼	05/15/17 13:24	05/18/17 12:37	2

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-7878-051217-SSH-CL07

Date Collected: 05/12/17 11:30

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-7

Matrix: Solid

Percent Solids: 90.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	8100	B	9.9	0.61	mg/Kg	☼	05/15/17 13:24	05/18/17 12:41	2
Arsenic	2.8		0.99	0.026	mg/Kg	☼	05/15/17 13:24	05/18/17 12:41	2
Iron	12000	B	20	3.2	mg/Kg	☼	05/15/17 13:24	05/18/17 12:41	2
Lead	5.1		0.20	0.044	mg/Kg	☼	05/15/17 13:24	05/18/17 12:41	2
Vanadium	20		0.99	0.037	mg/Kg	☼	05/15/17 13:24	05/18/17 12:41	2

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-7878-051217-SSH-CL08

Date Collected: 05/12/17 11:40

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-8

Matrix: Solid

Percent Solids: 91.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	8000	B	11	0.66	mg/Kg	☼	05/15/17 13:24	05/18/17 12:45	2
Arsenic	2.5		1.1	0.028	mg/Kg	☼	05/15/17 13:24	05/18/17 12:45	2
Iron	12000	B	21	3.4	mg/Kg	☼	05/15/17 13:24	05/18/17 12:45	2
Lead	5.1		0.21	0.048	mg/Kg	☼	05/15/17 13:24	05/18/17 12:45	2
Vanadium	20		1.1	0.039	mg/Kg	☼	05/15/17 13:24	05/18/17 12:45	2

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-7878-051217-SSH-CL09

Date Collected: 05/12/17 11:50

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-9

Matrix: Solid

Percent Solids: 97.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	8000	B	9.6	0.59	mg/Kg	☼	05/16/17 11:40	05/18/17 15:49	2
Arsenic	2.9		0.96	0.025	mg/Kg	☼	05/16/17 11:40	05/18/17 15:49	2
Iron	12000	B	19	3.1	mg/Kg	☼	05/16/17 11:40	05/18/17 15:49	2
Lead	5.6		0.19	0.043	mg/Kg	☼	05/16/17 11:40	05/18/17 15:49	2
Vanadium	20		0.96	0.035	mg/Kg	☼	05/16/17 11:40	05/18/17 15:49	2

Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

General Chemistry

Client Sample ID: S-7878-051217-SSH-CL01

Date Collected: 05/12/17 09:45

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-1

Matrix: Solid

Percent Solids: 89.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.7		0.1	0.1	%			05/15/17 10:00	1
Percent Moisture	10.3		0.1	0.1	%			05/15/17 10:00	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

General Chemistry

Client Sample ID: S-7878-051217-SSH-CL02

Date Collected: 05/12/17 09:55

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-2

Matrix: Solid

Percent Solids: 89.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.2		0.1	0.1	%			05/15/17 10:00	1
Percent Moisture	10.8		0.1	0.1	%			05/15/17 10:00	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

General Chemistry

Client Sample ID: S-7878-051217-SSH-CL03

Date Collected: 05/12/17 10:05

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-3

Matrix: Solid

Percent Solids: 90.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.7		0.1	0.1	%			05/15/17 10:00	1
Percent Moisture	9.3		0.1	0.1	%			05/15/17 10:00	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

General Chemistry

Client Sample ID: S-7878-051217-SSH-CL04

Date Collected: 05/12/17 10:15

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-4

Matrix: Solid

Percent Solids: 90.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.4		0.1	0.1	%			05/15/17 10:00	1
Percent Moisture	9.6		0.1	0.1	%			05/15/17 10:00	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

General Chemistry

Client Sample ID: S-7878-051217-SSH-CL05

Date Collected: 05/12/17 11:10

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-5

Matrix: Solid

Percent Solids: 90.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.7		0.1	0.1	%			05/15/17 10:00	1
Percent Moisture	9.3		0.1	0.1	%			05/15/17 10:00	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

General Chemistry

Client Sample ID: S-7878-051217-SSH-CL06

Date Collected: 05/12/17 11:20

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-6

Matrix: Solid

Percent Solids: 93.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	93.5		0.1	0.1	%			05/15/17 10:00	1
Percent Moisture	6.5		0.1	0.1	%			05/15/17 10:00	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

General Chemistry

Client Sample ID: S-7878-051217-SSH-CL07

Date Collected: 05/12/17 11:30

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-7

Matrix: Solid

Percent Solids: 90.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.3		0.1	0.1	%			05/15/17 10:00	1
Percent Moisture	9.7		0.1	0.1	%			05/15/17 10:00	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

General Chemistry

Client Sample ID: S-7878-051217-SSH-CL08

Date Collected: 05/12/17 11:40

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-8

Matrix: Solid

Percent Solids: 91.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.2		0.1	0.1	%			05/15/17 10:00	1
Percent Moisture	8.8		0.1	0.1	%			05/15/17 10:00	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

General Chemistry

Client Sample ID: S-7878-051217-SSH-CL09

Date Collected: 05/12/17 11:50

Date Received: 05/13/17 13:35

Lab Sample ID: 240-79525-9

Matrix: Solid

Percent Solids: 97.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	97.4		0.1	0.1	%			05/15/17 10:00	1
Percent Moisture	2.6		0.1	0.1	%			05/15/17 10:00	1

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QC Association Summary

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

GC/MS Semi VOA

Prep Batch: 278923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-79525-1	S-7878-051217-SSH-CL01	Total/NA	Solid	3540C	
240-79525-2	S-7878-051217-SSH-CL02	Total/NA	Solid	3540C	
240-79525-3	S-7878-051217-SSH-CL03	Total/NA	Solid	3540C	
240-79525-4	S-7878-051217-SSH-CL04	Total/NA	Solid	3540C	
240-79525-5	S-7878-051217-SSH-CL05	Total/NA	Solid	3540C	
240-79525-6	S-7878-051217-SSH-CL06	Total/NA	Solid	3540C	
240-79525-7	S-7878-051217-SSH-CL07	Total/NA	Solid	3540C	
240-79525-8	S-7878-051217-SSH-CL08	Total/NA	Solid	3540C	
240-79525-9	S-7878-051217-SSH-CL09	Total/NA	Solid	3540C	
MB 240-278923/20-A	Method Blank	Total/NA	Solid	3540C	
LCS 240-278923/21-A	Lab Control Sample	Total/NA	Solid	3540C	

Analysis Batch: 279213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-278923/20-A	Method Blank	Total/NA	Solid	8270C	278923
LCS 240-278923/21-A	Lab Control Sample	Total/NA	Solid	8270C	278923

Analysis Batch: 279411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-79525-2	S-7878-051217-SSH-CL02	Total/NA	Solid	8270C	278923
240-79525-4	S-7878-051217-SSH-CL04	Total/NA	Solid	8270C	278923
240-79525-5	S-7878-051217-SSH-CL05	Total/NA	Solid	8270C	278923

Analysis Batch: 279597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-79525-1	S-7878-051217-SSH-CL01	Total/NA	Solid	8270C	278923
240-79525-3	S-7878-051217-SSH-CL03	Total/NA	Solid	8270C	278923
240-79525-6	S-7878-051217-SSH-CL06	Total/NA	Solid	8270C	278923
240-79525-7	S-7878-051217-SSH-CL07	Total/NA	Solid	8270C	278923
240-79525-8	S-7878-051217-SSH-CL08	Total/NA	Solid	8270C	278923
240-79525-9	S-7878-051217-SSH-CL09	Total/NA	Solid	8270C	278923

HPLC/IC

Leach Batch: 279110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-79525-1	S-7878-051217-SSH-CL01	Total/NA	Solid	8315A	
240-79525-2	S-7878-051217-SSH-CL02	Total/NA	Solid	8315A	
240-79525-3	S-7878-051217-SSH-CL03	Total/NA	Solid	8315A	
240-79525-4	S-7878-051217-SSH-CL04	Total/NA	Solid	8315A	
240-79525-5	S-7878-051217-SSH-CL05	Total/NA	Solid	8315A	
240-79525-6	S-7878-051217-SSH-CL06	Total/NA	Solid	8315A	
240-79525-7	S-7878-051217-SSH-CL07	Total/NA	Solid	8315A	
240-79525-8	S-7878-051217-SSH-CL08	Total/NA	Solid	8315A	
240-79525-9	S-7878-051217-SSH-CL09	Total/NA	Solid	8315A	
MB 240-279110/1-B	Method Blank	Total/NA	Solid	8315A	
LCS 240-279110/2-B	Lab Control Sample	Total/NA	Solid	8315A	
240-79525-9 MS	S-7878-051217-SSH-CL09	Total/NA	Solid	8315A	
240-79525-9 MSD	S-7878-051217-SSH-CL09	Total/NA	Solid	8315A	

TestAmerica Canton

QC Association Summary

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

HPLC/IC (Continued)

Prep Batch: 279281

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-79525-1	S-7878-051217-SSH-CL01	Total/NA	Solid	8315A_W_Prep	279110
240-79525-2	S-7878-051217-SSH-CL02	Total/NA	Solid	8315A_W_Prep	279110
240-79525-3	S-7878-051217-SSH-CL03	Total/NA	Solid	8315A_W_Prep	279110
240-79525-4	S-7878-051217-SSH-CL04	Total/NA	Solid	8315A_W_Prep	279110
240-79525-5	S-7878-051217-SSH-CL05	Total/NA	Solid	8315A_W_Prep	279110
240-79525-6	S-7878-051217-SSH-CL06	Total/NA	Solid	8315A_W_Prep	279110
240-79525-7	S-7878-051217-SSH-CL07	Total/NA	Solid	8315A_W_Prep	279110
240-79525-8	S-7878-051217-SSH-CL08	Total/NA	Solid	8315A_W_Prep	279110
240-79525-9	S-7878-051217-SSH-CL09	Total/NA	Solid	8315A_W_Prep	279110
MB 240-279110/1-B	Method Blank	Total/NA	Solid	8315A_W_Prep	279110
LCS 240-279110/2-B	Lab Control Sample	Total/NA	Solid	8315A_W_Prep	279110
240-79525-9 MS	S-7878-051217-SSH-CL09	Total/NA	Solid	8315A_W_Prep	279110
240-79525-9 MSD	S-7878-051217-SSH-CL09	Total/NA	Solid	8315A_W_Prep	279110

Analysis Batch: 279550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-79525-1	S-7878-051217-SSH-CL01	Total/NA	Solid	8315A	279281
240-79525-2	S-7878-051217-SSH-CL02	Total/NA	Solid	8315A	279281
240-79525-3	S-7878-051217-SSH-CL03	Total/NA	Solid	8315A	279281
240-79525-4	S-7878-051217-SSH-CL04	Total/NA	Solid	8315A	279281
240-79525-5	S-7878-051217-SSH-CL05	Total/NA	Solid	8315A	279281
240-79525-6	S-7878-051217-SSH-CL06	Total/NA	Solid	8315A	279281
240-79525-7	S-7878-051217-SSH-CL07	Total/NA	Solid	8315A	279281
240-79525-8	S-7878-051217-SSH-CL08	Total/NA	Solid	8315A	279281
240-79525-9	S-7878-051217-SSH-CL09	Total/NA	Solid	8315A	279281
MB 240-279110/1-B	Method Blank	Total/NA	Solid	8315A	279281
LCS 240-279110/2-B	Lab Control Sample	Total/NA	Solid	8315A	279281
240-79525-9 MS	S-7878-051217-SSH-CL09	Total/NA	Solid	8315A	279281
240-79525-9 MSD	S-7878-051217-SSH-CL09	Total/NA	Solid	8315A	279281

Metals

Prep Batch: 278985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-79525-1	S-7878-051217-SSH-CL01	Total/NA	Solid	3050B	
240-79525-2	S-7878-051217-SSH-CL02	Total/NA	Solid	3050B	
240-79525-3	S-7878-051217-SSH-CL03	Total/NA	Solid	3050B	
240-79525-4	S-7878-051217-SSH-CL04	Total/NA	Solid	3050B	
240-79525-5	S-7878-051217-SSH-CL05	Total/NA	Solid	3050B	
240-79525-6	S-7878-051217-SSH-CL06	Total/NA	Solid	3050B	
240-79525-7	S-7878-051217-SSH-CL07	Total/NA	Solid	3050B	
240-79525-8	S-7878-051217-SSH-CL08	Total/NA	Solid	3050B	
MB 240-278985/1-A ^2	Method Blank	Total/NA	Solid	3050B	
LCS 240-278985/2-A ^2	Lab Control Sample	Total/NA	Solid	3050B	
240-79525-1 MS	S-7878-051217-SSH-CL01	Total/NA	Solid	3050B	
240-79525-1 MSD	S-7878-051217-SSH-CL01	Total/NA	Solid	3050B	

Prep Batch: 279117

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-79525-9	S-7878-051217-SSH-CL09	Total/NA	Solid	3050B	

TestAmerica Canton

QC Association Summary

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Metals (Continued)

Prep Batch: 279117 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-279117/1-A ^2	Method Blank	Total/NA	Solid	3050B	
LCS 240-279117/3-A ^2	Lab Control Sample	Total/NA	Solid	3050B	

Analysis Batch: 279520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-79525-1	S-7878-051217-SSH-CL01	Total/NA	Solid	6020	278985
240-79525-2	S-7878-051217-SSH-CL02	Total/NA	Solid	6020	278985
240-79525-3	S-7878-051217-SSH-CL03	Total/NA	Solid	6020	278985
240-79525-4	S-7878-051217-SSH-CL04	Total/NA	Solid	6020	278985
240-79525-5	S-7878-051217-SSH-CL05	Total/NA	Solid	6020	278985
240-79525-6	S-7878-051217-SSH-CL06	Total/NA	Solid	6020	278985
240-79525-7	S-7878-051217-SSH-CL07	Total/NA	Solid	6020	278985
240-79525-8	S-7878-051217-SSH-CL08	Total/NA	Solid	6020	278985
MB 240-278985/1-A ^2	Method Blank	Total/NA	Solid	6020	278985
LCS 240-278985/2-A ^2	Lab Control Sample	Total/NA	Solid	6020	278985
240-79525-1 MS	S-7878-051217-SSH-CL01	Total/NA	Solid	6020	278985
240-79525-1 MSD	S-7878-051217-SSH-CL01	Total/NA	Solid	6020	278985

Analysis Batch: 279619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-79525-9	S-7878-051217-SSH-CL09	Total/NA	Solid	6020	279117
MB 240-279117/1-A ^2	Method Blank	Total/NA	Solid	6020	279117
LCS 240-279117/3-A ^2	Lab Control Sample	Total/NA	Solid	6020	279117

General Chemistry

Analysis Batch: 278930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-79525-1	S-7878-051217-SSH-CL01	Total/NA	Solid	Moisture	
240-79525-2	S-7878-051217-SSH-CL02	Total/NA	Solid	Moisture	
240-79525-3	S-7878-051217-SSH-CL03	Total/NA	Solid	Moisture	
240-79525-4	S-7878-051217-SSH-CL04	Total/NA	Solid	Moisture	
240-79525-5	S-7878-051217-SSH-CL05	Total/NA	Solid	Moisture	
240-79525-6	S-7878-051217-SSH-CL06	Total/NA	Solid	Moisture	
240-79525-7	S-7878-051217-SSH-CL07	Total/NA	Solid	Moisture	
240-79525-8	S-7878-051217-SSH-CL08	Total/NA	Solid	Moisture	
240-79525-9	S-7878-051217-SSH-CL09	Total/NA	Solid	Moisture	
240-79525-1 DU	S-7878-051217-SSH-CL01	Total/NA	Solid	Moisture	
240-79525-8 DU	S-7878-051217-SSH-CL08	Total/NA	Solid	Moisture	

QC Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-278923/20-A

Matrix: Solid

Analysis Batch: 279213

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 278923

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	6.7	U	6.7	0.63	ug/Kg		05/15/17 09:36	05/17/17 11:46	1
Benzo[a]pyrene	6.7	U	6.7	0.64	ug/Kg		05/15/17 09:36	05/17/17 11:46	1
Benzo[b]fluoranthene	6.7	U	6.7	0.59	ug/Kg		05/15/17 09:36	05/17/17 11:46	1
Benzo[g,h,i]perylene	6.7	U	6.7	0.35	ug/Kg		05/15/17 09:36	05/17/17 11:46	1
Benzo[k]fluoranthene	6.7	U	6.7	0.68	ug/Kg		05/15/17 09:36	05/17/17 11:46	1
Anthracene	6.7	U	6.7	0.78	ug/Kg		05/15/17 09:36	05/17/17 11:46	1
Chrysene	6.7	U	6.7	1.1	ug/Kg		05/15/17 09:36	05/17/17 11:46	1
Dibenz(a,h)anthracene	6.7	U	6.7	0.66	ug/Kg		05/15/17 09:36	05/17/17 11:46	1
Fluoranthene	6.7	U	6.7	0.55	ug/Kg		05/15/17 09:36	05/17/17 11:46	1
Fluorene	6.7	U	6.7	0.53	ug/Kg		05/15/17 09:36	05/17/17 11:46	1
Indeno[1,2,3-cd]pyrene	6.7	U	6.7	0.35	ug/Kg		05/15/17 09:36	05/17/17 11:46	1
Phenanthrene	6.7	U	6.7	0.73	ug/Kg		05/15/17 09:36	05/17/17 11:46	1
Pyrene	6.7	U	6.7	0.44	ug/Kg		05/15/17 09:36	05/17/17 11:46	1
Acenaphthene	6.7	U	6.7	0.76	ug/Kg		05/15/17 09:36	05/17/17 11:46	1
Acenaphthylene	6.7	U	6.7	0.35	ug/Kg		05/15/17 09:36	05/17/17 11:46	1
Naphthalene	6.7	U	6.7	0.82	ug/Kg		05/15/17 09:36	05/17/17 11:46	1
2-Methylnaphthalene	6.7	U	6.7	0.50	ug/Kg		05/15/17 09:36	05/17/17 11:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	82		39 - 120	05/15/17 09:36	05/17/17 11:46	1
2-Fluorophenol (Surr)	83		33 - 120	05/15/17 09:36	05/17/17 11:46	1
2,4,6-Tribromophenol (Surr)	58		10 - 120	05/15/17 09:36	05/17/17 11:46	1
Nitrobenzene-d5 (Surr)	81		32 - 120	05/15/17 09:36	05/17/17 11:46	1
Phenol-d5 (Surr)	84		32 - 120	05/15/17 09:36	05/17/17 11:46	1
Terphenyl-d14 (Surr)	101		47 - 120	05/15/17 09:36	05/17/17 11:46	1

Lab Sample ID: LCS 240-278923/21-A

Matrix: Solid

Analysis Batch: 279213

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 278923

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	667	539		ug/Kg		81	60 - 120
Benzo[a]pyrene	667	559		ug/Kg		84	61 - 120
Benzo[b]fluoranthene	667	556		ug/Kg		83	60 - 120
Benzo[g,h,i]perylene	667	659		ug/Kg		99	60 - 120
Benzo[k]fluoranthene	667	580		ug/Kg		87	61 - 120
Anthracene	667	537		ug/Kg		81	59 - 120
Chrysene	667	552		ug/Kg		83	62 - 120
Dibenz(a,h)anthracene	667	634		ug/Kg		95	59 - 120
Fluoranthene	667	565		ug/Kg		85	57 - 120
Fluorene	667	521		ug/Kg		78	56 - 120
Indeno[1,2,3-cd]pyrene	667	641		ug/Kg		96	62 - 120
Phenanthrene	667	517		ug/Kg		78	58 - 120
Pyrene	667	581		ug/Kg		87	57 - 120
Acenaphthene	667	509		ug/Kg		76	55 - 120
Acenaphthylene	667	472		ug/Kg		71	54 - 120
Naphthalene	667	494		ug/Kg		74	53 - 120
2-Methylnaphthalene	667	499		ug/Kg		75	53 - 120

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl (Surr)	79		39 - 120
2-Fluorophenol (Surr)	81		33 - 120
2,4,6-Tribromophenol (Surr)	83		10 - 120
Nitrobenzene-d5 (Surr)	84		32 - 120
Phenol-d5 (Surr)	81		32 - 120
Terphenyl-d14 (Surr)	95		47 - 120

Method: 8315A - Carbonyl Compounds by HPLC

Lab Sample ID: MB 240-279110/1-B
Matrix: Solid
Analysis Batch: 279550

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 279281

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Formaldehyde	0.558	J	2.0	0.25	mg/Kg		05/17/17 10:49	05/18/17 16:06	1

Lab Sample ID: LCS 240-279110/2-B
Matrix: Solid
Analysis Batch: 279550

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 279281

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits

Lab Sample ID: 240-79525-9 MS
Matrix: Solid
Analysis Batch: 279550

Client Sample ID: S-7878-051217-SSH-CL09
Prep Type: Total/NA
Prep Batch: 279281

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits

Lab Sample ID: 240-79525-9 MSD
Matrix: Solid
Analysis Batch: 279550

Client Sample ID: S-7878-051217-SSH-CL09
Prep Type: Total/NA
Prep Batch: 279281

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 240-278985/1-A ^2
Matrix: Solid
Analysis Batch: 279520

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 278985

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aluminum	2.45	J	10	0.62	mg/Kg		05/15/17 13:24	05/18/17 11:42	2
Arsenic	1.0	U	1.0	0.026	mg/Kg		05/15/17 13:24	05/18/17 11:42	2
Iron	3.53	J	20	3.2	mg/Kg		05/15/17 13:24	05/18/17 11:42	2
Lead	0.20	U	0.20	0.045	mg/Kg		05/15/17 13:24	05/18/17 11:42	2
Vanadium	1.0	U	1.0	0.037	mg/Kg		05/15/17 13:24	05/18/17 11:42	2

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-278985/2-A ^2
Matrix: Solid
Analysis Batch: 279520

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 278985
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aluminum	1000	974		mg/Kg		97	80 - 120
Arsenic	100	88.0		mg/Kg		88	80 - 120
Iron	1000	1030		mg/Kg		103	80 - 120
Lead	100	106		mg/Kg		106	80 - 120
Vanadium	100	96.9		mg/Kg		97	80 - 120

Lab Sample ID: 240-79525-1 MS
Matrix: Solid
Analysis Batch: 279520

Client Sample ID: S-7878-051217-SSH-CL01
Prep Type: Total/NA
Prep Batch: 278985
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Aluminum	7900	B	1080	11000	4	mg/Kg	☼	284	75 - 125
Arsenic	3.0		108	98.3		mg/Kg	☼	88	75 - 125
Iron	12000	B	1080	14400	4	mg/Kg	☼	208	75 - 125
Lead	5.1		108	117		mg/Kg	☼	103	75 - 125
Vanadium	20		108	128		mg/Kg	☼	100	75 - 125

Lab Sample ID: 240-79525-1 MSD
Matrix: Solid
Analysis Batch: 279520

Client Sample ID: S-7878-051217-SSH-CL01
Prep Type: Total/NA
Prep Batch: 278985
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Aluminum	7900	B	1080	10300	4	mg/Kg	☼	224	75 - 125	6	20
Arsenic	3.0		108	98.3		mg/Kg	☼	88	75 - 125	0	20
Iron	12000	B	1080	14300	4	mg/Kg	☼	201	75 - 125	1	20
Lead	5.1		108	119		mg/Kg	☼	106	75 - 125	2	20
Vanadium	20		108	131		mg/Kg	☼	103	75 - 125	2	20

Lab Sample ID: MB 240-279117/1-A ^2
Matrix: Solid
Analysis Batch: 279619

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 279117

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1.62	J	10	0.62	mg/Kg		05/16/17 11:40	05/18/17 15:40	2
Arsenic	1.0	U	1.0	0.026	mg/Kg		05/16/17 11:40	05/18/17 15:40	2
Iron	3.20	J	20	3.2	mg/Kg		05/16/17 11:40	05/18/17 15:40	2
Lead	0.20	U	0.20	0.045	mg/Kg		05/16/17 11:40	05/18/17 15:40	2
Vanadium	1.0	U	1.0	0.037	mg/Kg		05/16/17 11:40	05/18/17 15:40	2

Lab Sample ID: LCS 240-279117/3-A ^2
Matrix: Solid
Analysis Batch: 279619

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 279117
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aluminum	1000	953		mg/Kg		95	80 - 120
Arsenic	100	86.6		mg/Kg		87	80 - 120
Iron	1000	993		mg/Kg		99	80 - 120
Lead	100	106		mg/Kg		106	80 - 120
Vanadium	100	94.6		mg/Kg		95	80 - 120

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: Moisture - Percent Moisture

Lab Sample ID: 240-79525-1 DU
Matrix: Solid
Analysis Batch: 278930

Client Sample ID: S-7878-051217-SSH-CL01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	89.7		89.1		%		0.7	20
Percent Moisture	10.3		10.9		%		6	20

Lab Sample ID: 240-79525-8 DU
Matrix: Solid
Analysis Batch: 278930

Client Sample ID: S-7878-051217-SSH-CL08
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	91.2		90.8		%		0.4	20
Percent Moisture	8.8		9.2		%		4	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (39-120)	2FP (33-120)	TBP (10-120)	NBZ (32-120)	PHL (32-120)	TPH (47-120)
240-79525-1	S-7878-051217-SSH-CL01	73	76	68	75	77	96
240-79525-2	S-7878-051217-SSH-CL02	72	77	46	70	76	87
240-79525-3	S-7878-051217-SSH-CL03	78	83	50	75	83	95
240-79525-4	S-7878-051217-SSH-CL04	68	74	39	66	74	85
240-79525-5	S-7878-051217-SSH-CL05	75	78	40	70	78	89
240-79525-6	S-7878-051217-SSH-CL06	75	81	65	72	81	96
240-79525-7	S-7878-051217-SSH-CL07	66	72	46	65	71	89
240-79525-8	S-7878-051217-SSH-CL08	70	75	39	66	76	89
240-79525-9	S-7878-051217-SSH-CL09	61	51	58	31 X *	81	85
LCS 240-278923/21-A	Lab Control Sample	79	81	83	84	81	95
MB 240-278923/20-A	Method Blank	82	83	58	81	84	101

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Client Sample ID: S-7878-051217-SSH-CL01

Lab Sample ID: 240-79525-1

Date Collected: 05/12/17 09:45

Matrix: Solid

Date Received: 05/13/17 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	278930	05/15/17 10:00	LKG	TAL CAN

Client Sample ID: S-7878-051217-SSH-CL01

Lab Sample ID: 240-79525-1

Date Collected: 05/12/17 09:45

Matrix: Solid

Date Received: 05/13/17 13:35

Percent Solids: 89.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			278923	05/15/17 09:36	JT	TAL CAN
Total/NA	Analysis	8270C		1	279597	05/19/17 09:36	MRU	TAL CAN
Total/NA	Leach	8315A			279110	05/16/17 15:00	DRJ	TAL CAN
Total/NA	Prep	8315A_W_Prep			279281	05/17/17 10:49	CS	TAL CAN
Total/NA	Analysis	8315A		1	279550	05/18/17 16:22	KMG	TAL CAN
Total/NA	Prep	3050B			278985	05/15/17 13:24	DEE	TAL CAN
Total/NA	Analysis	6020		2	279520	05/18/17 11:51	AS1	TAL CAN

Client Sample ID: S-7878-051217-SSH-CL02

Lab Sample ID: 240-79525-2

Date Collected: 05/12/17 09:55

Matrix: Solid

Date Received: 05/13/17 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	278930	05/15/17 10:00	LKG	TAL CAN

Client Sample ID: S-7878-051217-SSH-CL02

Lab Sample ID: 240-79525-2

Date Collected: 05/12/17 09:55

Matrix: Solid

Date Received: 05/13/17 13:35

Percent Solids: 89.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			278923	05/15/17 09:36	JT	TAL CAN
Total/NA	Analysis	8270C		1	279411	05/18/17 17:53	MRU	TAL CAN
Total/NA	Leach	8315A			279110	05/16/17 15:00	DRJ	TAL CAN
Total/NA	Prep	8315A_W_Prep			279281	05/17/17 10:49	CS	TAL CAN
Total/NA	Analysis	8315A		1	279550	05/18/17 16:31	KMG	TAL CAN
Total/NA	Prep	3050B			278985	05/15/17 13:24	DEE	TAL CAN
Total/NA	Analysis	6020		2	279520	05/18/17 12:20	AS1	TAL CAN

Client Sample ID: S-7878-051217-SSH-CL03

Lab Sample ID: 240-79525-3

Date Collected: 05/12/17 10:05

Matrix: Solid

Date Received: 05/13/17 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	278930	05/15/17 10:00	LKG	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Client Sample ID: S-7878-051217-SSH-CL03

Lab Sample ID: 240-79525-3

Date Collected: 05/12/17 10:05

Matrix: Solid

Date Received: 05/13/17 13:35

Percent Solids: 90.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			278923	05/15/17 09:36	JT	TAL CAN
Total/NA	Analysis	8270C		1	279597	05/19/17 10:01	MRU	TAL CAN
Total/NA	Leach	8315A			279110	05/16/17 15:00	DRJ	TAL CAN
Total/NA	Prep	8315A_W_Prep			279281	05/17/17 10:49	CS	TAL CAN
Total/NA	Analysis	8315A		1	279550	05/18/17 16:39	KMG	TAL CAN
Total/NA	Prep	3050B			278985	05/15/17 13:24	DEE	TAL CAN
Total/NA	Analysis	6020		2	279520	05/18/17 12:24	AS1	TAL CAN

Client Sample ID: S-7878-051217-SSH-CL04

Lab Sample ID: 240-79525-4

Date Collected: 05/12/17 10:15

Matrix: Solid

Date Received: 05/13/17 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	278930	05/15/17 10:00	LKG	TAL CAN

Client Sample ID: S-7878-051217-SSH-CL04

Lab Sample ID: 240-79525-4

Date Collected: 05/12/17 10:15

Matrix: Solid

Date Received: 05/13/17 13:35

Percent Solids: 90.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			278923	05/15/17 09:36	JT	TAL CAN
Total/NA	Analysis	8270C		1	279411	05/18/17 18:18	MRU	TAL CAN
Total/NA	Leach	8315A			279110	05/16/17 15:00	DRJ	TAL CAN
Total/NA	Prep	8315A_W_Prep			279281	05/17/17 10:49	CS	TAL CAN
Total/NA	Analysis	8315A		1	279550	05/18/17 16:47	KMG	TAL CAN
Total/NA	Prep	3050B			278985	05/15/17 13:24	DEE	TAL CAN
Total/NA	Analysis	6020		2	279520	05/18/17 12:28	AS1	TAL CAN

Client Sample ID: S-7878-051217-SSH-CL05

Lab Sample ID: 240-79525-5

Date Collected: 05/12/17 11:10

Matrix: Solid

Date Received: 05/13/17 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	278930	05/15/17 10:00	LKG	TAL CAN

Client Sample ID: S-7878-051217-SSH-CL05

Lab Sample ID: 240-79525-5

Date Collected: 05/12/17 11:10

Matrix: Solid

Date Received: 05/13/17 13:35

Percent Solids: 90.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			278923	05/15/17 09:36	JT	TAL CAN
Total/NA	Analysis	8270C		1	279411	05/18/17 18:44	MRU	TAL CAN
Total/NA	Leach	8315A			279110	05/16/17 15:00	DRJ	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Client Sample ID: S-7878-051217-SSH-CL05

Lab Sample ID: 240-79525-5

Date Collected: 05/12/17 11:10

Matrix: Solid

Date Received: 05/13/17 13:35

Percent Solids: 90.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8315A_W_Prep			279281	05/17/17 10:49	CS	TAL CAN
Total/NA	Analysis	8315A		1	279550	05/18/17 16:55	KMG	TAL CAN
Total/NA	Prep	3050B			278985	05/15/17 13:24	DEE	TAL CAN
Total/NA	Analysis	6020		2	279520	05/18/17 12:32	AS1	TAL CAN

Client Sample ID: S-7878-051217-SSH-CL06

Lab Sample ID: 240-79525-6

Date Collected: 05/12/17 11:20

Matrix: Solid

Date Received: 05/13/17 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	278930	05/15/17 10:00	LKG	TAL CAN

Client Sample ID: S-7878-051217-SSH-CL06

Lab Sample ID: 240-79525-6

Date Collected: 05/12/17 11:20

Matrix: Solid

Date Received: 05/13/17 13:35

Percent Solids: 93.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			278923	05/15/17 09:36	JT	TAL CAN
Total/NA	Analysis	8270C		1	279597	05/19/17 11:41	MRU	TAL CAN
Total/NA	Leach	8315A			279110	05/16/17 15:00	DRJ	TAL CAN
Total/NA	Prep	8315A_W_Prep			279281	05/17/17 10:49	CS	TAL CAN
Total/NA	Analysis	8315A		1	279550	05/18/17 17:03	KMG	TAL CAN
Total/NA	Prep	3050B			278985	05/15/17 13:24	DEE	TAL CAN
Total/NA	Analysis	6020		2	279520	05/18/17 12:37	AS1	TAL CAN

Client Sample ID: S-7878-051217-SSH-CL07

Lab Sample ID: 240-79525-7

Date Collected: 05/12/17 11:30

Matrix: Solid

Date Received: 05/13/17 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	278930	05/15/17 10:00	LKG	TAL CAN

Client Sample ID: S-7878-051217-SSH-CL07

Lab Sample ID: 240-79525-7

Date Collected: 05/12/17 11:30

Matrix: Solid

Date Received: 05/13/17 13:35

Percent Solids: 90.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			278923	05/15/17 09:36	JT	TAL CAN
Total/NA	Analysis	8270C		1	279597	05/19/17 10:26	MRU	TAL CAN
Total/NA	Leach	8315A			279110	05/16/17 15:00	DRJ	TAL CAN
Total/NA	Prep	8315A_W_Prep			279281	05/17/17 10:49	CS	TAL CAN
Total/NA	Analysis	8315A		1	279550	05/18/17 17:11	KMG	TAL CAN
Total/NA	Prep	3050B			278985	05/15/17 13:24	DEE	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Client Sample ID: S-7878-051217-SSH-CL07

Lab Sample ID: 240-79525-7

Date Collected: 05/12/17 11:30

Matrix: Solid

Date Received: 05/13/17 13:35

Percent Solids: 90.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	6020		2	279520	05/18/17 12:41	AS1	TAL CAN

Client Sample ID: S-7878-051217-SSH-CL08

Lab Sample ID: 240-79525-8

Date Collected: 05/12/17 11:40

Matrix: Solid

Date Received: 05/13/17 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	278930	05/15/17 10:00	LKG	TAL CAN

Client Sample ID: S-7878-051217-SSH-CL08

Lab Sample ID: 240-79525-8

Date Collected: 05/12/17 11:40

Matrix: Solid

Date Received: 05/13/17 13:35

Percent Solids: 91.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			278923	05/15/17 09:36	JT	TAL CAN
Total/NA	Analysis	8270C		1	279597	05/19/17 10:51	MRU	TAL CAN
Total/NA	Leach	8315A			279110	05/16/17 15:00	DRJ	TAL CAN
Total/NA	Prep	8315A_W_Prep			279281	05/17/17 10:49	CS	TAL CAN
Total/NA	Analysis	8315A		1	279550	05/18/17 17:19	KMG	TAL CAN
Total/NA	Prep	3050B			278985	05/15/17 13:24	DEE	TAL CAN
Total/NA	Analysis	6020		2	279520	05/18/17 12:45	AS1	TAL CAN

Client Sample ID: S-7878-051217-SSH-CL09

Lab Sample ID: 240-79525-9

Date Collected: 05/12/17 11:50

Matrix: Solid

Date Received: 05/13/17 13:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	278930	05/15/17 10:00	LKG	TAL CAN

Client Sample ID: S-7878-051217-SSH-CL09

Lab Sample ID: 240-79525-9

Date Collected: 05/12/17 11:50

Matrix: Solid

Date Received: 05/13/17 13:35

Percent Solids: 97.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			278923	05/15/17 09:36	JT	TAL CAN
Total/NA	Analysis	8270C		1	279597	05/19/17 11:16	MRU	TAL CAN
Total/NA	Leach	8315A			279110	05/16/17 15:00	DRJ	TAL CAN
Total/NA	Prep	8315A_W_Prep			279281	05/17/17 10:49	CS	TAL CAN
Total/NA	Analysis	8315A		1	279550	05/18/17 17:36	KMG	TAL CAN
Total/NA	Prep	3050B			279117	05/16/17 11:40	DEE	TAL CAN
Total/NA	Analysis	6020		2	279619	05/18/17 15:49	AS1	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: 7878, RACER SMI

TestAmerica Job ID: 240-79525-1

Laboratory: TestAmerica Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-18
Connecticut	State Program	1	PH-0590	12-31-17
Florida	NELAP	4	E87225	06-30-17 *
Illinois	NELAP	5	200004	07-31-17 *
Kansas	NELAP	7	E-10336	01-31-18
Kentucky (UST)	State Program	4	58	02-23-18
Kentucky (WW)	State Program	4	98016	12-31-17
Minnesota	NELAP	5	039-999-348	12-31-17
Minnesota (Petrofund)	State Program	1	3506	07-31-17 *
Nevada	State Program	9	OH-000482008A	07-31-17 *
New Jersey	NELAP	2	OH001	06-30-17 *
New York	NELAP	2	10975	03-31-18
Ohio VAP	State Program	5	CL0024	09-14-17
Oregon	NELAP	10	4062	02-23-18
Pennsylvania	NELAP	3	68-00340	08-31-17 *
Texas	NELAP	6	T104704517-15-5	08-31-17 *
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-17
Washington	State Program	10	C971	01-12-18
West Virginia DEP	State Program	3	210	12-31-17
Wisconsin	State Program	5	999518190	08-31-17 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Canton Sample Receipt Form/Narrative

Login #: 79525

Canton Facility

Client GHD

Site Name

Cooler unpacked by:

POP

Cooler Received on 5-13-17

Opened on 5-13-17

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

- 1. Cooler temperature upon receipt
IR GUN# IR-8 (CF -0.3 °C) Observed Cooler Temp. 2.6 °C Corrected Cooler Temp. 2.3 °C
IR GUN #36 (CF +0.8 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C
2. Were custody seals on the outside of the cooler(s)? If Yes Quantity (Yes No
-Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA
-Were custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
If yes, Questions 11-15 have been checked at the originating laboratory.
11. Were sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC697954
12. Were VOAs on the COC? Yes No
13. Were air bubbles >6 mm in any VOA vials? Larger than this. Yes No NA
14. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # Yes No
15. Was a LL Hg or Me Hg trip blank present? Yes No

Contacted PM Date by via Verbal Voice Mail Other

Concerning

16. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

17. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.
Sample(s) were received in a broken container.
Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

18. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.
Time preserved: Preservative(s) added/Lot number(s):