



August 13, 2014

Mr. Randall Rothe
Michigan Department of Environmental Quality
2100 West M-32
Gaylord, Michigan 49735

Re: Expanded Triage Program (ETP) – Limited Site Investigation
Creekside, LLC
5860 Ford Road
Ann Arbor, Washtenaw County, Michigan
Facility ID: #5-0005414

Dear Mr. Rothe:

The Mannik & Smith Group Inc. (MSG) has been retained by the Michigan Department of Technology, Management and Budget (DTMB) to provide limited site investigation services on behalf of the Department of Environmental Quality (DEQ) under their Expanded Triage Program (ETP). This report summarizes MSG's limited site investigation activities conducted at the Creekside, LLC site, located at 5860 Ford Road in Ann Arbor, Washtenaw County, Michigan (*Figure 1, Site Location Map*).

These activities were performed in general accordance with our 2014 Environmental Expanded Triage Work Plan for the Jackson Michigan District. The findings of this report are valid as of the report date, subject to the Limitations presented in *Attachment A, Triage Site Investigation Limitations*.

On April 22, 2014, MSG conducted a geophysical survey at the site within an area defined by Terry Hiske, DEQ's State Project Manager (SPM). Prior to the geophysical survey, MSG contacted MISS-DIG for utility marking at the site. When available, MSG also reviewed utility maps and discussed utility information with the site owners/occupants. The geophysical survey consisted of a ground penetrating radar (GPR) survey and an electromagnetic (EM) survey. The GPR survey was conducted using a Geophysical Survey Systems, Inc. (GSSI) SIR-3000 GPR Data Acquisition System using a 400 Megahertz (MHz) antenna mounted on a wheeled cart. The EM survey was conducted using a Fisher TW-6 pipe and utility locator or similar EM equipment. Anomalies were marked in the field and surveyed with a hand-held GPS unit with subfoot accuracy. GPR penetration depth was approximately eight (8) feet below ground level (bgl). MSG identified the following geophysical features at the site.

- Gas line in the Plymouth Rd. right-of-way was staked by MISS-DIG previously; no new MISS-DIG stakes observed.
- Two (2) major GPR disturbed soil anomalies corresponding to the suspect former UST cavity and former building location.
- Four (4) EM point anomalies interpreted as buried metal.

Results of the geophysical survey and utility information are shown on *Figure 2, Site Schematic* and described in the daily field logs included in *Attachment B, Daily Field Logs*.



TECHNICAL SKILL.
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DTMB0138.Report.docx

2365 Haggerty Road South, Canton, Michigan 48188 Tel: 734.397.3100 Fax: 734.397.3131 www.MannikSmithGroup.com

On June 16, 2014, MSG advanced a total of ten (10) soil borings using direct-push techniques. Soil borings were advanced to a maximum depth of 21 feet bgl. Soil profiles were continuously collected from ground surface to boring terminus and field screened with a calibrated photoionization detector (PID). Soils encountered generally consisted of sand with alternating intervals of clay to approximately nineteen (19) feet bgl, underlain by gravel. Groundwater was encountered between 13.5 and 19.5 feet bgl at soil boring locations SB-1 through SB-4, and SB-7 through SB-9. However, due to insufficient sample volume/recharge capacity, groundwater samples were unable to be collected at soil boring locations SB-1, SB-2, SB-4, and SB-7. Indications of petroleum impact (elevated PID readings and/or petroleum-like odor) were observed at soil boring locations SB-5, SB-9, and SB-10. A petroleum-like odor was observed at soil boring locations SB-5 and SB-9 at approximately twenty (20) feet bgl. PID field screenings of the soil profiles ranged from less than 1 parts per million (ppm) to a maximum of 273.6 ppm (SB-9). Soil boring locations are depicted on Figure 2. Daily field logs are included in Attachment B. Soil boring logs are presented in *Attachment C, Soil Boring Logs*. Photographs of the site activities are included in *Attachment D, Photolog*.

Samples for laboratory analysis were selected using the following prioritized field indicators.

1. Samples with visible staining, petroleum droplets, sheen, petroleum odors.
2. Samples with PID readings above 1,000 parts per million (ppm).
3. Samples with PID readings between 500 ppm and 999 ppm.
4. Samples with PID readings between 100 ppm and 499 ppm.
5. Samples with PID readings between 1 ppm and 99 ppm.
6. Soil sample from immediately above the water table (vadose) or soil sample from boring terminus (if no groundwater is encountered) and nearest the source area for saturated soil/groundwater samples.

Below is a summary of samples submitted for laboratory analysis.

Sample Selection Summary

Sample ID	Soil Boring	Sample Type	Sample Depth (ft)	Field Indicator
SB-1 (19') S	SB-1	Soil	19	Boring Terminus
SB-2 (18') S	SB-2	Soil	18	Boring Terminus
SB-3 (18.5') S	SB-3	Soil	18.5	Above Water Table
SB-3 (19'-21') W	SB-3	Groundwater	19-21	Groundwater
SB-4 (20') S	SB-4	Soil	20	Boring Terminus
SB-5 (21') S	SB-5	Soil	21	PID = 70.1 ppm, Petroleum-Like Odor
DUP-1S	SB-5	Soil	21	PID = 70.1 ppm, Petroleum-Like Odor
SB-6 (21') S	SB-6	Soil	21	PID = 7.1 ppm
SB-7 (5') S	SB-7	Soil	5	PID = 3.2 ppm
SB-8 (18') S	SB-8	Soil	18	Above Water Table
SB-8 (19'-21') W	SB-8	Groundwater	19-21	Groundwater

Sample ID	Soil Boring	Sample Type	Sample Depth (ft)	Field Indicator
SB-9 (21') S	SB-9	Soil	21	PID = 273.6 ppm, Petroleum-Like Odor
SB-9 (21') W	SB-9	Groundwater	21	Groundwater, Petroleum-Like Odor
DUP-1W	SB-9	Groundwater	21	Groundwater, Petroleum-Like Odor
SB-10 (21') S	SB-10	Soil	21	PID = 131.5 ppm

MSG collected ten (10) vadose zone soil samples and three (3) groundwater samples. In addition, one duplicate soil and one duplicate groundwater sample was collected for quality assurance/quality control (QA/QC) purposes. Laboratory reports are to be provided directly to the SPM by the laboratory and are not included within this report. A copy of the chain of custody is included in *Attachment E, Laboratory Chain of Custody*.

Soil samples were preserved in the field using USEPA Method 5035 and submitted to the MDEQ Laboratory in Lansing, Michigan for analysis of volatile organic compounds (VOCs) using USEPA Method 8260.

MSG collected groundwater samples from selected borings using a peristaltic pump. Groundwater samples were preserved with hydrochloric acid and submitted to the MDEQ Laboratory for analysis of VOCs using USEPA Method 8260.

MSG appreciates the opportunity to provide these professional services to the DTMB and DEQ and we look forward to continued opportunities with the State.

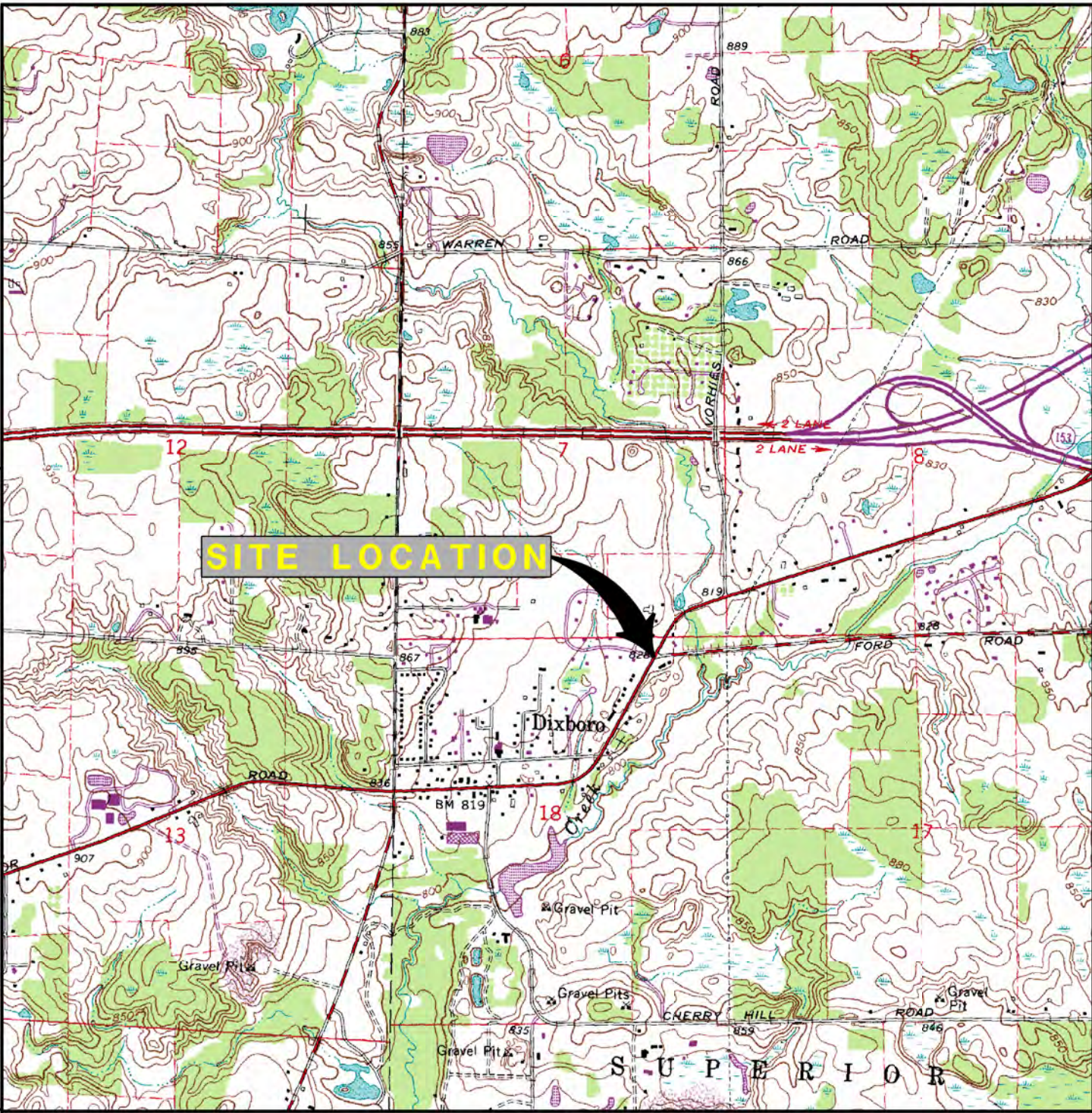
Sincerely,



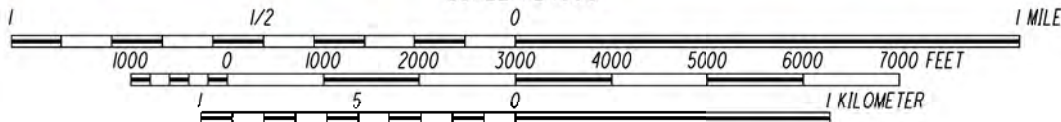
Walter J. Bolt, CPG
Project Manager/Program Manager

FIGURES





SCALE 1:24000



CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929



QUADRANGLE LOCATION

NOTE: MAP ADAPTED FROM USGS TOPOGRAPHIC, ANN ARBOR EAST QUADRANGLE,
(MICHIGAN 7.5 MINUTE SERIES) MAPS DATED 1965 / PHOTO EDITED 1983.

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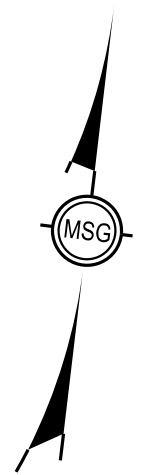
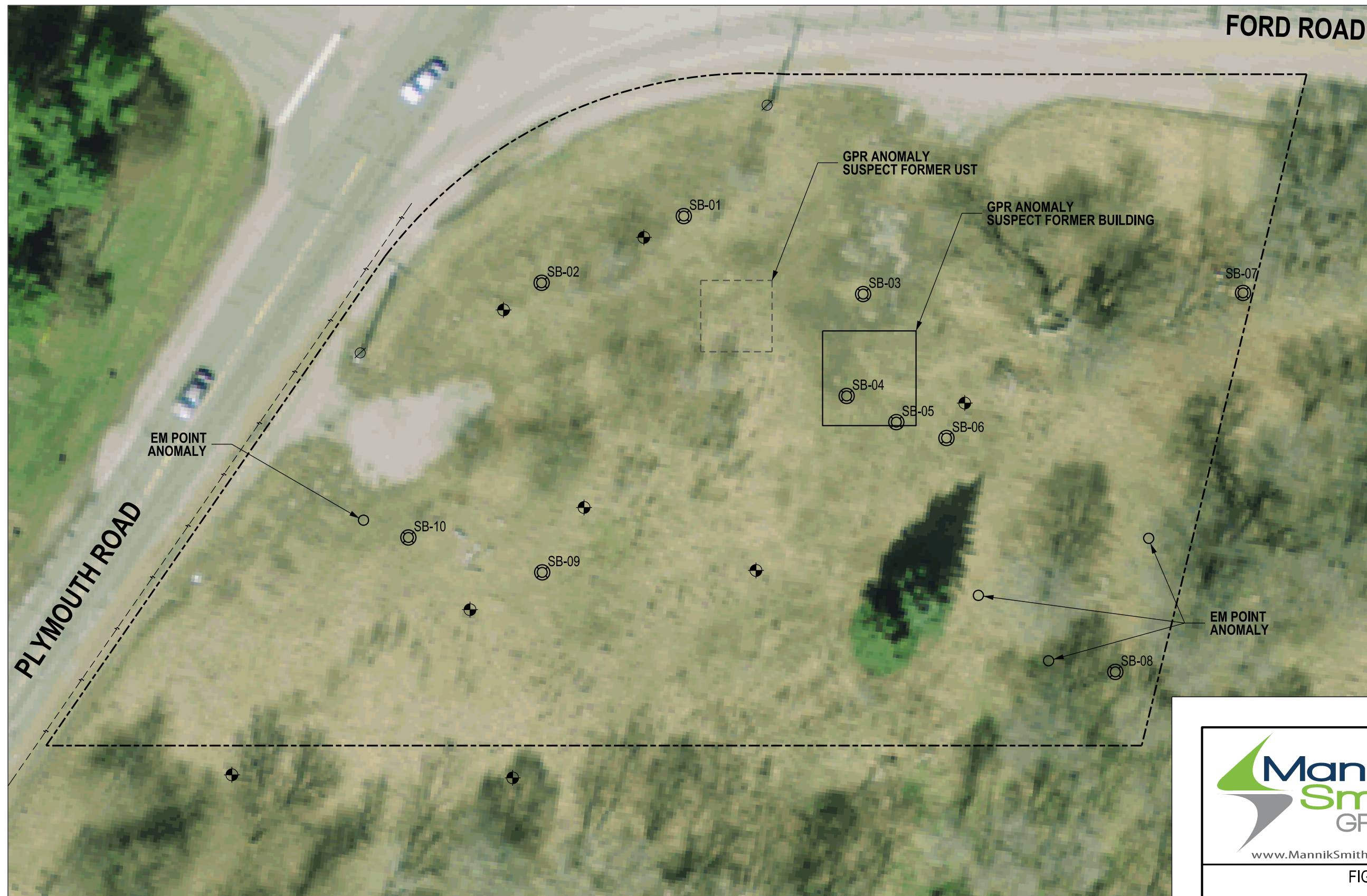
FIGURE 1

SITE LOCATION MAP
CREEKSIDE, L.L.C.

5860 FORD ROAD, ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

DATE 3/21/14	DRAWN BY CJB	DESIGNED BY BLR	PROJECT NO. DTMB0138
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7/28/2014 1:11:45 PM
 W:\Projects\Projects A-E\DTMB0106\ADMINISTRATION\Triage - General\Jackson District\DTMB0138\CAD\BASE\DTMB0138_FIG2_AERIAL.dgn



NOTE: GPR/EM SURVEY ONLY CONDUCTED TO CLEAR PROPOSED SOIL BORING LOCATIONS PER REQUEST OF STATE PROJECT MANAGER.

LEGEND

UTILITIES MARKED BY MISS DIG
 ---+--- GAS LINE

----- APPROXIMATE GEOPHYSICAL SURVEY AREA
 - - - - - FORMER UST CAVITY
 ⊙ TRIAGE SOIL BORING

⊕ MONITORING WELL
 ⊗ UTILITY POLE
 ○ EM POINT ANOMALY

GRAPHIC SCALE
 0' 15' 30' 60'
 SCALE: 1" = 30'

FIGURE 2
SITE SCHEMATIC
 Creekside, L.L.C.
 5860 Ford Road
 Ann Arbor, Washtenaw County, Michigan

DATE 7/28/2014	DRAWN BY CJB	DESIGNED BY BLR	PROJECT NO. DTMB0138
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ATTACHMENT A

TRIAGE SITE INVESTIGATION LIMITATIONS



TRIAGE SITE INVESTIGATION LIMITATIONS

This Limited Site Investigation Report and related documentation are site-specific, which means they pertain to the environmental conditions of the site only. This investigation is bound by authorized project scope of work under this contract.

The Mannik & Smith Group, Inc. (MSG) performed its services associated with the Limited Site Investigation in conformance with the care and skill ordinarily used by other reputable environmental consulting firms practicing under similar conditions, at the same time, and in the same or similar locality. In preparing this report, MSG relied upon site background information provided by the DEQ State Project Manager who was responsible for determining geophysical survey boundaries and selecting soil boring locations. Geophysical and drilling services have inherent limitations associated with the equipment, subsurface conditions, and accessibility. MSG makes no representation or warranty regarding the accuracy or completeness of this information gathered through outside sources or subcontracted services. No warranty, guarantee, or certification of any kind, expressed or implied, at common law or created by statute, is extended, made, or intended by rendering these environmental consulting services or by furnishing this written report. Environmental conditions and regulations are subject to constant change and reinterpretation. One should not assume that any onsite conditions and/or regulatory statutes or rules will remain constant after MSG has completed the scope of work for this project. Furthermore, because the facts stated in these reports are subject to professional interpretation, differing conclusions could be reached by other environmental professionals.

Contaminants may be hidden in subsurface material, covered by pavement, vegetation, or other substances. Additionally, contamination may not be present in predictable locations. MSG has prepared a logical assessment program to reduce the client's risk of discovering unknown contamination. This risk may be reduced by more extensive exploration on the site. Even with additional exploration, it is not possible to completely eliminate the risk of discovering contamination on site. It cannot be assumed that samples collected and conditions observed are representative of an area that has not been sampled and/or tested.

Some environmental investigations may be undertaken to satisfy "due diligence", "all appropriate inquiry," or other regulatory requirements provided in federal, state, or local law. Although MSG strives to investigate a site in accordance with the scope of work as defined by written agreement, it cannot warrant that the work undertaken for this report will satisfy "due diligence", "all appropriate inquiry," or any other similar standard under any federal, state, or local law.

Due to changing environmental regulatory conditions and potential on-site activities after the completion of the limited site investigation, the client may rely upon the conclusions within this report for a period of six months from the report's issuance date.

ATTACHMENT B

DAILY FIELD LOGS





TRIAGE GEOPHYSICAL FIELD REPORT

Client: Michigan Department of Environmental Quality (MDEQ/MDTMB)
Project: 5860 Ford Rd – Creekside LLC Site

MSG Personnel: RD
MSG Job No.: DTMB0138

Date: <u>4/22/14</u>	Day: <u>Tuesday</u>	Temperature: <u>40°F</u>	a.m. <u>-</u>	p.m. <u>-</u>
MSG CQA Personnel: <u>RD</u>		Cloud Cover: <u>Partly</u>	a.m. <u>-</u>	p.m. <u>-</u>
Client Personnel: <u>Terry Hiske - MDEQ</u>		Precipitation: <u>None</u>	a.m. <u>-</u>	p.m. <u>-</u>
MSG Hours On-Site: <u>3.25 hrs</u>				

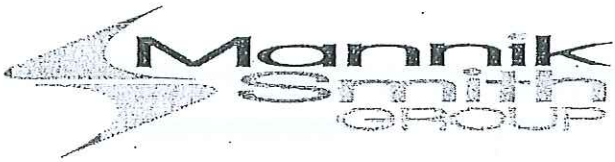
Contractors Information		
Contractor: MSG	No. Men and Type:	Equipment Type: SIR 3000 GPR Unit/Fisher TW-6 Pipe and Utility Locator

Summary of Work Performed:
<ol style="list-style-type: none"> MSG arrived onsite @ 8:00 AM Conducted Ground Penetrating Radar Survey and EM Survey of area selected by DEQ PM. Prepared site sketch of survey area, prominent features, identifiable utility markings and anomalous locations.

Field Notes:
<ul style="list-style-type: none"> There were no new MISS-DIG stakes, only old flags in the ROW of Plymouth Rd indicating the presence of a gas line. GPR revealed two (2) anomalies (disturbed soils), corresponding to suspect former UST and former building location. EM survey revealed four (4) minor point anomalies. GPR penetration depth approximately eight (8) feet bgs. Collected GPS data.

Supporting Documentation								
Photograph Taken	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Samples Collected	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Field Book Notes	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
			COC Attached	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			

Problem Identification and Corrective Measures			
Resolved?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	If no, why not:



DAILY FIELD REPORT

Client: MDTMB
 Project: SWEET Creekside LLC
 Project No: DTMB 0138

Date: 6/16/14
 Report No.: DTMB6135
 Day: MONDAY

MSG Personnel: <u>JCH/AGB/RJS</u>	Project Manager: _____
MSG Hours On-Site: <u>8.5</u>	Temp: <u>5</u> (AM) <u>80</u> (PM) <u>90</u>
	Weather: <u>Sunny</u> (AM) _____ (PM) _____
	Precip: _____ (AM) _____ (PM) _____

Work Performed or in Progress/Comments/Other Observations:

- MSG advanced 10 MC/DS soil borings from ~ 0 ' to 26 ' BGS.
- MSG collected 10 soil samples from select soil borings and depths.
- MSG collected 0 saturated soil samples.
- MSG collected 3 water samples from select borings.
- MSG collected 1 duplicate soil and 1 duplicate water samples.
- GPS coordinates were collected at each soil boring location and select landmarks.
- All soil borings were backfilled with generated cuttings and hydrated bentonite chips.
- Site conditions were restored to original and/or better condition.


CONTRACTORS INFORMATION

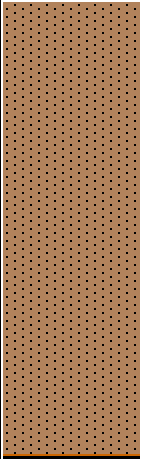


Contractor:	Personnel & Type:	Equipment Type & Hours:
MSG	Geoprobe Operator	Geoprobe 6622 DT
MSG	Geologist	
Subcontractor:	Personnel & Type:	Equipment Type & Hours:

ATTACHMENT C


SOIL BORING LOGS



 <p>Mannik Smith GROUP TECHNICAL SKILL. CREATIVE SPIRIT.</p>	Site: <input type="text" value="Creekside, LLC."/>	BORING/WELL: <input type="text" value="SB-1"/>
	Address: <input type="text" value="5860 Ford Road, Ann Arbor, Michigan"/>	
	County: <input type="text" value="Washtenaw"/>	Date: <input type="text" value="6/16/2014"/>
	Township: <input type="text" value="Superior"/>	Driller: <input type="text" value="RJS"/>
	Town: <input type="text" value="02S"/> Range: <input type="text" value="07E"/> Sec. #: <input type="text" value="18"/>	Logged by: <input type="text" value="JCH"/>
Location: <input type="text" value="57ft, 7in NE of W Telephone Pole"/>	Drill Method: <input type="text" value="Geoprobe – Direct Push"/>	Total Depth: <input type="text" value="21 ft bgl"/>


Well Const.	Annulus seal	Lithology	Lithologic Description	Depth bgl	Sample		Field Results PID and visual/olfactory		
					Type	ID			
N/A			Ground Surface – Topsoil	0 0.6					
	SC		SAND, brown, trace Gravel, dry	0.6 1 2 3 4 5 6 7 8 9 10 11 12 13			0.0 ppm @ 1' 0.0 ppm @ 3' 0.0 ppm @ 5' 0.0 ppm @ 6' 0.0 ppm @ 8' 0.0 ppm @ 10' 0.0 ppm @ 11' 0.0 ppm @ 13'		
			Becomes fine-grained at 6 ft bgl						
			Becomes moist at 10 feet bgl						
			Becomes wet at 13.5 feet bgl			▼13.5			
				CLAY, brown, Sandy, moist		13.5 13.7			
					SAND, brown, fine-grained, trace Gravel, moist		13.7 14 15 16 17 18		0.0 ppm @ 15' 0.0 ppm @ 16' 0.0 ppm @ 18'
			Becomes wet at 19 ft bgl			▼19			
				CLAY, brown, Silty, moist		19 19.2	Soil	SB-1 (19')S	
					GRAVEL, grey, Sandy, dry		19.2 20 21		0.0 ppm @ 20' 0.0 ppm @ 21'
					TD in GRAVEL at 21 ft				

Elev. Datum: NGVD		Lat: 42° 19' 1.6346" N	
Grd. Elev: N/A T.O.C.: N/A		Long: 83° 38' 52.9432" W	
SWL: 13.5ft bgl, 19ft bgl Well Depth: N/A		Datum: Michigan GeoRef	
Casing Type N/A		Northing: 653059.9	
Screen Type: N/A (Insufficient groundwater for sampling)		Easting: 2275889.05	
Annulus sealed by: SC = Soil Cuttings 21-0			
Sheet # 1 of 1			

 <p>Mannik Smith GROUP TECHNICAL SKILL. CREATIVE SPIRIT.</p>	Site	Creekside, LLC.	BORING/WELL:	SB-2	
	Address	5860 Ford Road, Ann Arbor, Michigan			
	County:	Washtenaw	Date:	6/16/2014	
	Township:	Superior	Driller:	RJS	
	Town: 02S Range: 07E Sec. #: 18		Logged by:	JCH	
Location	41ft, 1in SW of N Telephone Pole	Drill Method:	Geoprobe – Direct Push	Total Depth:	21 ft bgl


Well Const.	Annulus seal	Lithology	Lithologic Description	Depth bgl	Sample		Field Results PID and visual/olfactory
					Type	ID	
N/A	SC		Ground Surface – Topsoil	0			
				0.3			
			SAND, brown, fine-grained, Gravelly, dry	0.3			0.0 ppm @ 1'
				1			
				2			0.0 ppm @ 3'
				3			
				4			
				5			0.0 ppm @ 5'
				6			0.0 ppm @ 6'
				7			
				8			0.0 ppm @ 8'
				9			
				10			0.0 ppm @ 10'
				11			0.0 ppm @ 11'
		12					
		13			0.0 ppm @ 13'		
			Becomes wet at 13.8 ft bgl	▼13.8			
				14			
			CLAY, brown, Silty, moist	14			
				14.2			
			SAND, brown, fine grained, trace Gravel, dry	14.2			
				15		0.0 ppm @ 15'	
				16		0.0 ppm @ 16'	
				17			
			Becomes Clayey, moist at 18ft bgl	18	Soil		
				18.5		0.0 ppm @ 18'	
				18.5			
			CLAY, brown, Silty, moist	18.5			
				18.7			
			GRAVEL, brown, Sandy	18.7			
				19			
				20		0.0 ppm @ 20'	
				21		0.0 ppm @ 21'	
			TD in GRAVEL at 21 ft				

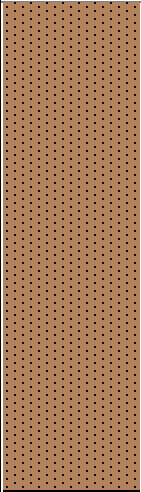
Elev. Datum: NGVD		Lat: 42° 19' 1.3952" N	
Grd. Elev: N/A	T.O.C.: NA	Long: 83° 38' 53.4716" W	
SWL: 13.8ft bgl Well Depth: N/A		Datum: Michigan GeoRef	
Casing Type N/A		Northing: 653034.57	
Screen Type: N/A (Insufficient groundwater for sampling)		Easting: 2275850.07	
Annulus sealed by: SC = Soil Cuttings 21-0			

 <p>Mannik Smith GROUP TECHNICAL SKILL. CREATIVE SPIRIT.</p>	Site	Creekside, LLC.	BORING/WELL:	SB-3	
	Address	5860 Ford Road, Ann Arbor, Michigan			
	County:	Washtenaw	Date:	6/16/2014	
	Township:	Superior	Driller:	RJS	
	Town: 02S Range: 07E Sec. #: 18		Logged by:	JCH	
Location	62ft, 9in SE of N Telephone Pole	Drill Method:	Geoprobe – Direct Push	Total Depth:	21 ft bgl


Well Const.	Annulus seal	Lithology	Lithologic Description	Depth bgl	Sample		Field Results PID and visual/olfactory
					Type	ID	
N/A	SC		Ground Surface – Topsoil	0 0.3			
			SAND, brown, fine grained, Gravelly, dry	0.3 1 2 3 3.5			0.0 ppm @ 1' 0.0 ppm @ 3'
			CLAY, brown, Silty, dry	3.5 4 5 6 6.5			0.0 ppm @ 5' 0.0 ppm @ 6'
			SAND, brown, fine grained, Gravelly, dry	6.5 7 8			0.0 ppm @ 8'
			Becomes grey at 9.5ft bgl	9 10			0.0 ppm @ 10'
			Becomes brown at 11ft bgl	11 12 13 13.5			0.0 ppm @ 11' 0.0 ppm @ 13'
			CLAY, brown, silty, moist Sand seam from 14-14.2ft bgl	13.5 14 15			0.0 ppm @ 15'
			SAND, brown, fine grained, moist.	15 16 17 18	Soil Water	SB-3 (18.5')S SB-3 (19'-21')W	0.0 ppm @ 16'
			Becomes wet at 19ft bgl	▼19 20 21			0.0 ppm @ 18'
							0.0 ppm @ 20' 0.0 ppm @ 21'
				TD in SAND at 21 ft			

Elev. Datum: NGVD	Lat: 42° 19' 1.4649" N
Grd. Elev: N/A T.O.C.: N/A	Long: 83° 38' 52.2069" W
SWL: 19ft bgl Well Depth: 21ft bgl	Datum: Michigan GeoRef
Casing Type: N/A	Northing: 653044.29
Screen Type: 2-foot long Mill Screen (7-Slot)	Easting: 2275944.81
Annulus sealed by: SC = Soil Cuttings 21-0	
Sheet # 1 of 1	

 <p>Mannik Smith GROUP TECHNICAL SKILL. CREATIVE SPIRIT.</p>	Site	Creekside, LLC.	BORING/WELL:	SB-4	
	Address	5860 Ford Road, Ann Arbor, Michigan			
	County:	Washtenaw	Date:	6/16/2014	
	Township:	Superior	Driller:	RJS	
	Town: 02S Range: 07E Sec. #: 18		Logged by:	JCH	
Location	30ft, 7in SW of SB-3	Drill Method:	Geoprobe – Direct Push	Total Depth:	21 ft bgl


Well Const.	Annulus seal	Lithology	Lithologic Description	Depth bgl	Sample		Field Results PID and visual/olfactory	
					Type	ID		
N/A			Ground Surface – Topsoil	0 0.3				
	SC		SAND, brown, fine grained, Gravelly, dry	0.3 1 2 3 4 5 6 7 8 9 10 11 12 13			0.0 ppm @ 1' 0.0 ppm @ 3' 0.0 ppm @ 5' 0.0 ppm @ 6' 0.0 ppm @ 8' 0.0 ppm @ 10' 0.0 ppm @ 11' 0.0 ppm @ 13'	
			Becomes wet at 13.8 ft bgl	▼13.8				
				CLAY, brown, Silty, moist	14 14.2			
				SAND, brown, trace Clay, dry	14.2 15 16 17 18 19 19.7			0.0 ppm @ 15' 0.0 ppm @ 16' 0.0 ppm @ 18'
				Becomes Gravelly, moist at 19.5ft bgl	19 19.7			
				CLAY, brown, Silty, dry	19.7 20 21	Soil	SB-4 (20')S	0.0 ppm @ 20' 0.0 ppm @ 21'
				TD in CLAY at 21 ft				

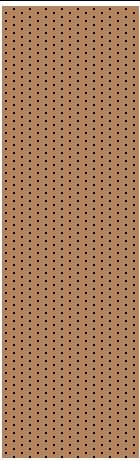

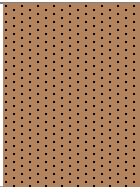


Elev. Datum: NGVD	Lat: 42° 19' 1.1632" N
Grd. Elev: N/A T.O.C.: N/A	Long: 83° 38' 52.2277" W
SWL: 13.8ft bgl Well Depth: N/A	Datum: Michigan GeoRef
Casing Type: N/A	Northing: 653013.73
Screen Type: N/A (Insufficient groundwater for sampling)	Easting: 2275944.12
Annulus sealed by: SC = Soil Cuttings 21-0	

 <p>Mannik Smith GROUP TECHNICAL SKILL. CREATIVE SPIRIT.</p>	Site	Creekside, LLC.	BORING/WELL:	SB-5	
	Address	5860 Ford Road, Ann Arbor, Michigan			
	County:	Washtenaw	Date:	6/16/2014	
	Township:	Superior	Driller:	RJS	
	Town: 02S Range: 07E Sec. #: 18		Logged by:	JCH	
Location	19ft SE of SB-4	Drill Method:	Geoprobe – Direct Push	Total Depth:	21 ft bgl


Well Const.	Annulus seal	Lithology	Lithologic Description	Depth bgl	Sample		Field Results PID and visual/olfactory
					Type	ID	
N/A			Ground Surface – Topsoil	0 0.4			
	SC		SAND, grey, Gravelly, dry	0.4			0.0 ppm @ 1'
			Becomes fine to coarse grained and Gravelly at 3ft bgl	1 2 3 4			0.0 ppm @ 2'
			Becomes less Gravelly at 6ft bgl	5 6 7 8 9			0.0 ppm @ 5' 0.8 ppm @ 6' 0.0 ppm @ 8'
			Becomes grey/black, Gravelly from 11-11.5ft bgl	10 11 12 13 14			0.0 ppm @ 10' 0.0 ppm @ 11' 1.0 ppm @ 13'
			CLAY, brown, Silty, dry	14 14.2			
			SAND, brown, Clayey, dry	14.2			0.0 ppm @ 15'
			Becomes gravelly at 15ft bgl	15 16 17			0.6 ppm @ 17'
			GRAVEL, grey/black, Sandy, dry	17 17.2			
			SAND, brown, Clayey, dry	17.2 18 19			
			CLAY, brown, Silty, dry	19 19.3			
			GRAVEL, grey, dry, petroleum-like odor	19.3 20 21	Soil Soil	SB-5 (21')S DUP-1S	0.0 ppm @ 20' 70.1 ppm @ 21'
				TD in GRAVEL at 21 ft			

Elev. Datum: NGVD	Lat: 42° 19' 1.1029" N
Grd. Elev: N/A T.O.C.: N/A	Long: 83° 38' 52.0216" W
SWL: N/A Well Depth: N/A	Datum: Michigan GeoRef
Casing Type N/A	Northing: 653008.07
Screen Type: N/A	Easting: 2275959.76
Annulus sealed by: SC = Soil Cuttings 21-0	
Sheet # 1 of 1	

 <p>Mannik Smith GROUP TECHNICAL SKILL. CREATIVE SPIRIT.</p>	Site	Creekside, LLC.	BORING/WELL:	SB-6	
	Address	5860 Ford Road, Ann Arbor, Michigan			
	County:	Washtenaw	Date:	6/16/2014	
	Township:	Superior	Driller:	RJS	
	Town: 02S Range: 07E Sec. #: 18		Logged by:	JCH	
Location	15ft, 7in SE of SB-5	Drill Method:	Geoprobe – Direct Push	Total Depth:	21 ft bgl


Well Const.	Annulus seal	Lithology	Lithologic Description	Depth bgl	Sample		Field Results PID and visual/olfactory	
					Type	ID		
N/A			Ground Surface – Topsoil	0 0.3				
	SC		SAND, brown, Gravelly, trace Clay, dry	0.3 1 2 3 4 5 6 7 8 9 10 11 12			0.0 ppm @ 1' 0.0 ppm @ 3' 0.0 ppm @ 5' 0.0 ppm @ 6' 0.0 ppm @ 8' 0.0 ppm @ 10' 0.0 ppm @ 11'	
			Becomes Clayey, moist at 13ft bgl	13 14			0.0 ppm @ 13'	
				CLAY, brown, Silty, dry	14 14.2			
				SAND, brown, Clayey, dry Becomes fine-grained, less Clayey at 16ft bgl	14.2 15 16 17 18 18.5			0.0 ppm @ 15' 0.0 ppm @ 16' 0.0 ppm @ 18'
				CLAY, brown, Silty, dry	18.5 19 19.5			
				GRAVEL, grey, Sandy, dry	19.5 20 21	Soil	SB-6 (21')S	0.0 ppm @ 20' 7.1 ppm @ 21'
					TD in GRAVEL at 21 ft			

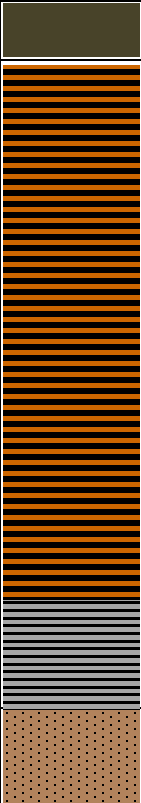
Elev. Datum: NGVD		Lat: 42° 19' 1.0726" N	
Grd. Elev: N/A T.O.C.: N/A		Long: 83° 38' 51.8183" W	
SWL: N/A Well Depth: N/A		Datum: Michigan GeoRef	
Casing Type N/A		Northing: 653005.43	
Screen Type: N/A		Easting: 2275975.11	
Annulus sealed by: SC = Soil Cuttings 21-0			
Sheet # 1 of 1			


 <p>Mannik Smith GROUP TECHNICAL SKILL. CREATIVE SPIRIT.</p>	Site	Creekside, LLC.	BORING/WELL:	SB-7	
	Address	5860 Ford Road, Ann Arbor, Michigan			
	County:	Washtenaw	Date:	6/16/2014	
	Township:	Superior	Driller:	RJS	
	Town: 02S Range: 07E Sec. #: 18		Logged by:	JCH	
Location	74ft from Ford Road	Drill Method:	Geoprobe – Direct Push	Total Depth:	21 ft bgl

Well Const.	Annulus seal	Lithology	Lithologic Description	Depth bgl	Sample		Field Results PID and visual/olfactory		
					Type	ID			
N/A			Ground Surface – Topsoil	0 0.2					
	SC		CLAY, brown, Silty, dry	0.2 1 2 3 4 5 6 7	Soil	SB-7 (5')S	0.0 ppm @ 1' 0.0 ppm @ 3' 3.2 ppm @ 5' 0.0 ppm @ 6'		
			SAND, brown, dry	7 7.3					0.0 ppm @ 7'
			PEAT, moist	7.3 7.5					
			SAND, brown, dry	7.5 8					
			CLAY, brown, Silty, dry	8 9 10					
			SAND, brown, trace Gravel, dry	10 11 12					0.0 ppm @ 10' 0.0 ppm @ 11'
			CLAY, brown, Silty, dry Becomes Sandy at 12.5ft bgl	12 13 14			0.0 ppm @ 13'		
			Becomes moist at 15ft bgl	15 16 17 18			0.0 ppm @ 15' 0.0 ppm @ 16'		
			SAND, brown, fine to coarse grained, wet	▼18 19 20 21			0.0 ppm @ 18' 0.0 ppm @ 20' 0.0 ppm @ 21'		
				TD in SAND at 21 ft					

Elev. Datum: NGVD		Lat: 42° 19' 1.5895" N	
Grd. Elev: N/A	T.O.C.: N/A	Long: 83° 38' 50.7188" W	
SWL: 18ft bgl	Well Depth: N/A	Datum: Michigan GeoRef	
Casing Type N/A		Northing: 653060.05	
Screen Type: N/A (Insufficient groundwater for sampling)		Easting: 2276056.18	
Annulus sealed by: SC = Soil Cuttings 21-0			
Sheet # 1 of 1			


 <p>Mannik Smith GROUP TECHNICAL SKILL. CREATIVE SPIRIT.</p>	Site: <input type="text" value="Creekside, LLC."/>	BORING/WELL: <input type="text" value="SB-8"/>
	Address: <input type="text" value="5860 Ford Road, Ann Arbor, Michigan"/>	
	County: <input type="text" value="Washtenaw"/>	Date: <input type="text" value="6/16/2014"/>
	Township: <input type="text" value="Superior"/>	Driller: <input type="text" value="RJS"/>
Town: <input type="text" value="02S"/> Range: <input type="text" value="07E"/> Sec. #: <input type="text" value="18"/>	Logged by: <input type="text" value="JCH"/>	Drill Method: <input type="text" value="Geoprobe – Direct Push"/>
Location: <input type="text" value="85ft, 5in SE of SB-6"/>	Total Depth: <input type="text" value="21 ft bgl"/>	

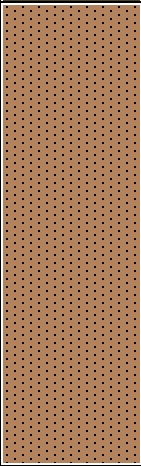
Well Const.	Annulus seal	Lithology	Lithologic Description	Depth bgl	Sample		Field Results PID and visual/olfactory				
					Type	ID					
N/A			Ground Surface – Brown Topsoil	0 0.2							
	SC		CLAY, brown, Silty, trace Gravel, dry	0.2 1 2 3 4 5 6 7 8 9	Soil	SB-8 (18')S	0.0 ppm @ 1' 0.0 ppm @ 3' 0.0 ppm @ 5' 0.0 ppm @ 6' 0.0 ppm @ 8'				
			Concrete fragments from 10-10.5ft bgl Becomes Sandy at 10.5ft bgl	10 11 12 13 14			0.0 ppm @ 10' 0.0 ppm @ 11' 0.0 ppm @ 13'				
			Becomes moist at 15ft bgl Becomes grey, Silty at 17ft bgl	15 16 17 18 19			0.0 ppm @ 15' 0.0 ppm @ 16' 0.0 ppm @ 18'				
			SAND, brown, fine grained, wet	19.5 20 21			Water SB-8 (19'-21') W 0.0 ppm @ 20' 0.0 ppm @ 21'				
							TD in SAND at 21 ft				
Elev. Datum: NGVD							Lat: 42° 19' 0.4462" N				
Grd. Elev: N/A T.O.C.: N/A							Long: 83° 38' 51.0564" W				
SWL: 19.5ft bgl Well Depth: 21ft bgl							Datum: Michigan GeoRef				
Casing Type N/A							Northing: 652943.69				
Screen Type: 2-foot long Mill Screen (7-Slot)							Easting: 2276034.09				
Annulus sealed by: SC = Soil Cuttings 21-0											
							Sheet # 1 of 1				

 <p>Mannik Smith GROUP TECHNICAL SKILL. CREATIVE SPIRIT.</p>	Site	Creekside, LLC.	BORING/WELL:	SB-9	
	Address	5860 Ford Road, Ann Arbor, Michigan			
	County:	Washtenaw	Date:	6/16/2014	
	Township:	Superior	Driller:	RJS	
	Town: 02S Range: 07E Sec. #: 18		Logged by:	JCH	
Location	49ft, 6in SE of SB-10	Drill Method:	Geoprobe – Direct Push	Total Depth:	21 ft bgl

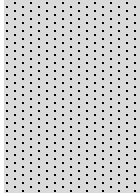
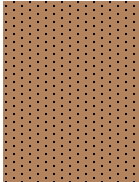
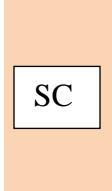
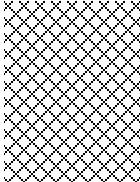


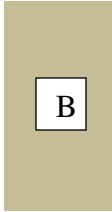

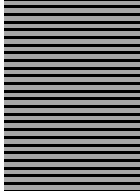
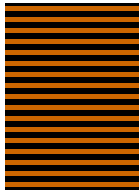
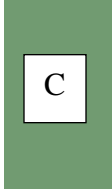
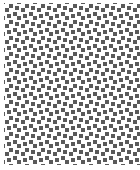
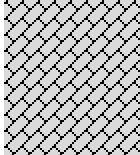
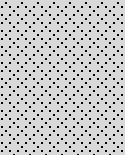

Well Const.	Annulus seal	Lithology	Lithologic Description	Depth bgl	Sample		Field Results PID and visual/olfactory
					Type	ID	
N/A	SC		Ground Surface – Topsoil	0			
				0.2			
			SAND, brown, fine grained, Gravelly, dry	0.2			0.0 ppm @ 1'
				1			
				2			0.0 ppm @ 3'
				3			
				4			
				5			0.0 ppm @ 5'
				6			0.0 ppm @ 6'
				7			
				8			0.0 ppm @ 8'
			Becomes grey, less Gravelly at 9ft bgl	9			
				10			0.0 ppm @ 10'
				11			0.0 ppm @ 11'
				12			
				13			
			CLAY, brown, Silty, dry	13			0.0 ppm @ 13'
				14			
			SAND, grey, fine grained, dry	14			7.7 ppm @ 15'
				15			0.0 ppm @ 16'
				16			110.4 ppm @ 17'
			17				
			18				
		SILT, grey, Gravelly, petroleum-like odor, moist	18			205.3 ppm @ 18'	
			19				
		CLAY, brown, Silty, petroleum-like odor, moist	19				
			19.5				
		GRAVEL, grey, petroleum-like odor, wet	▼19.5	Soil	SB-9 (21')S	41.7 ppm @ 20'	
			20	Water	SB-9 (21') W	273.6 ppm @ 21'	
			21	Water	DUP-1W		
			TD in GRAVEL at 21 ft				

Elev. Datum: NGVD		Lat: 42° 19' 0.5531" N
Grd. Elev: N/A	T.O.C.: N/A	Long: 83° 38' 53.3447" W
SWL: 19.5ft bgl	Well Depth: 21ft bgl	Datum: Michigan GeoRef
Casing Type N/A		Northing: 652949.65
Screen Type: 2-foot long Mill Screen (7-Slot)		Easting: 2275862
Annulus sealed by: SC = Soil Cuttings 21-0		

 <p>Mannik Smith GROUP TECHNICAL SKILL. CREATIVE SPIRIT.</p>	Site: <input type="text" value="Creekside, LLC."/>	BORING/WELL: <input type="text" value="SB-10"/>
	Address: <input type="text" value="5860 Ford Road, Ann Arbor, Michigan"/>	
	County: <input type="text" value="Washtenaw"/>	Date: <input type="text" value="6/16/2014"/>
	Township: <input type="text" value="Superior"/>	Driller: <input type="text" value="RJS"/>
Town: <input type="text" value="02S"/> Range: <input type="text" value="07E"/> Sec. #: <input type="text" value="18"/>	Logged by: <input type="text" value="JCH"/>	Drill Method: <input type="text" value="Geoprobe – Direct Push"/>
Location: <input type="text" value="56ft, 5in SE of W Telephone Pole"/>	Total Depth: <input type="text" value="21 ft bgl"/>	

Well Const.	Annulus seal	Lithology	Lithologic Description	Depth bgl	Sample		Field Results PID and visual/olfactory		
					Type	ID			
N/A			Ground Surface – Topsoil	0 0.3					
	SC		SAND, brown, trace Gravel, dry	0.3 1 2 3 4 5 6 7 8 9 10 11 12 13 13.5			3.5 ppm @ 1' 0.6 ppm @ 3' 0.0 ppm @ 5' 0.0 ppm @ 6' 0.0 ppm @ 8' 0.0 ppm @ 10' 0.0 ppm @ 11' 0.0 ppm @ 13'		
				CLAY, brown, Silty, dry	13.5 14 15				
				SAND, brown, trace-little Clay, dry	15 16 17 18 19			0.0 ppm @ 15' 0.0 ppm @ 16' 0.0 ppm @ 18'	
				GRAVEL, grey, moist	19 20 21	Soil	SB-10 (21')S	0.0 ppm @ 20' 131.5 ppm @ 21'	
					TD in GRAVEL at 21 ft				
Elev. Datum: NGVD					Lat: 42° 19' 0.6119" N				
Grd. Elev: N/A T.O.C.: N/A					Long: 83° 38' 53.8842" W				
SWL: N/A Well Depth: N/A					Datum: Michigan GeoRef				
Casing Type: N/A					Northing: 652954.45				
Screen Type: N/A					Easting: 2275821.33				
Annulus sealed by: SC = Soil Cuttings 21-0									
							Sheet # 1 of 1		

Patterns:

 <p>Sand, grey</p>	 <p>Sand, brown</p>	 <p>Soil collapse</p>	 <p>Base Aggregate</p>		
 <p>Silt, grey</p>	 <p>Silt, brown</p>	 <p>bentonite</p>	 <p>Top Soil</p>		
 <p>Clay, grey</p>	 <p>Clay, brown</p>	 <p>cement</p>	 <p>Gravel</p>		
 <p>Bedrock, limestone</p>	 <p>Bedrock, sandstone</p>	 <p>Asphalt, peat, shale</p>			

ATTACHMENT D

PHOTOLOG





Photo 1: Site looking east. Photo taken by R. Danigier 4/22/2014.



Photo 2: GPR anomaly (suspect gas utility). Photo taken by R. Danigier 4/22/2014.



Photo 3: GPR Anomaly (suspect former UST cavity). Photo taken by R. Danigier 4/22/2014.



Photo 4: Advancing soil boring. Photo taken by J. Hale 6/16/2014.



Photo 5: Site looking soueast. Photo taken by J. Hale 6/16/2014



Photo 6: Preparing the drill rig. Photo taken by J. Hale 6/16/2014

ATTACHMENT E
LABORATORY CHAIN OF CUSTODY



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
 ENVIRONMENTAL LABORATORY
 ANALYSIS REQUEST SHEET

LAB ORDER #		SITE NAME			MATRIX=SEDIMENT/SOIL/SOLIDS	
01099999		SWET - Creekside, LLC			ACCEPT HT CODES? YES / NO If yes, which parameters?	
DIVISION	DISTRICT/OFFICE	MDEQ PROJECT MANAGER		E-MAIL ADDRESS	PHONE	
RRD	Gaylord Office	Randy	Rothe	rother@michigan.gov	9897053416	
PRIMARY CONTACT PERSON		CONTRACT FIRM NAME (if applicable)		PHONE	AY: 13 INDEX: 44213 PCA: 30822	
Brent Ritchie				(734) 397-3100	PROJECT: 550518 PH: 00	
IST CHOICE: ALS		OVERFLOW LAB (Required)		E-MAIL ADDRESSES TO SEND ADDITIONAL REPORTS TO:		
		2ND CHOICE: Test America		1.) Hisket@michigan.gov		
COLLECTED BY: JCH		PHONE: (734) 397-3100		2.) Wbolt@manknsmithgroup.com		

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

LAB USE ONLY	FIELD ID (Sample Identification)	SAMPLE COLLECTED		GPS COORDINATES		COMMENT
		DATE MM/DD/YY	TIME MILITARY	LATITUDE	LONGITUDE	
1	AC SB-1 (19') S	6/16/14	0855			PID=0.0
2	AC SB-2 (18') S	6/16/14	0920			PID=0.0
3	AC SB-3 (18.5') S	6/16/14	0950			PID=0.0
4	AC SB-4 (20') S	6/16/14	1025			PID=0.0
5	AC SB-5 (21') S	6/16/14	1100			PID=70.1
6	AC DUP-1S	6/16/14				
7	AC SB-6 (21') S	6/16/14	1140			PID=7.1
8	AC SB-7 (5') S	6/16/14	1210			PID=3.2
9	AC SB-8 (18') S	6/16/14	1240			PID=0.0
10	AC SB-9 (21') S	6/16/14	1310			PID=215.6

ORGANIC

INORGANIC

VOA VOLATILES *(MeOH/8260) VOC - Full List 1 2 3 4 5 6 7 8 9 10 BTEX/MTBE/TMB only 1 2 3 4 5 6 7 8 9 10 Chlorinated only 1 2 3 4 5 6 7 8 9 10 GRO 1 2 3 4 5 6 7 8 9 10 1,4 Dioxane 1 2 3 4 5 6 7 8 9 10 OS PESTICIDES/PCBS (8081/8082) Pesticides & PCBs 1 2 3 4 5 6 7 8 9 10 Pesticides only 1 2 3 4 5 6 7 8 9 10 Specialty Pesticides 1 2 3 4 5 6 7 8 9 10 Toxaphene 1 2 3 4 5 6 7 8 9 10 PCBs only 1 2 3 4 5 6 7 8 9 10 BNA BASE NEUTRAL & ACIDS (8270) BNAs 1 2 3 4 5 6 7 8 9 10 PNAs only 1 2 3 4 5 6 7 8 9 10 BNs only 1 2 3 4 5 6 7 8 9 10	ORGANIC SPECIAL REQUESTS Library Search - Volatiles 1 2 3 4 5 6 7 8 9 10 Library Search - Semi-Vols 1 2 3 4 5 6 7 8 9 10 Fingerprint 1 2 3 4 5 6 7 8 9 10 DRO/ORO (8015) 1 2 3 4 5 6 7 8 9 10 Low Level PNA 1 2 3 4 5 6 7 8 9 10 GENERAL CHEMISTRY GS COD 1 2 3 4 5 6 7 8 9 10 TOC 1 2 3 4 5 6 7 8 9 10 KJEL N, Tot. P 1 2 3 4 5 6 7 8 9 10 Total CN 1 2 3 4 5 6 7 8 9 10 Available Cyanide 1 2 3 4 5 6 7 8 9 10 Other _____ 1 2 3 4 5 6 7 8 9 10	MICH TEN METALS 1 2 3 4 5 6 7 8 9 10 (As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn) OP MEMO 2 Metals 1 2 3 4 5 6 7 8 9 10 (Sb, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Ti, V, Zn) [Circle Requested Metal and Corresponding Sample No.] Al Sb As Ba Be Cd Cr 1 2 3 4 5 6 7 8 9 10 Co Cu Fe Pb Li Mn Hg Mo Ni Se Ag Sr Ti Ti V Zn Ca Mg K Na 1 2 3 4 5 6 7 8 9 10 Low Level Mercury 1 2 3 4 5 6 7 8 9 10 % Total Solids 1 2 3 4 5 6 7 8 9 10
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Chain-of-Custody	RELEASED BY / ORGANIZATION		RECEIVED BY / ORGANIZATION		DATE	TIME
	Print Name & Organization	Signature	Print Name & Organization	Signature		
	Janett Hale MSG		MSG fridge			
	Print Name & Organization	Signature	Print Name & Organization	Signature	6/19/14	1500
MSG fridge		WPS				
Print Name & Organization	Signature	Print Name & Organization	Signature			

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
 ENVIRONMENTAL LABORATORY
 ANALYSIS REQUEST SHEET

LAB ORDER #		MATRIX=SEDIMENT/SOIL/SOLIDS		
SITE CODE NUMBER 01099999		SITE NAME SWET - Creekside, LLC		ACCEPT HT CODES? YES / NO If yes, which parameters?
DIVISION RRD	DISTRICT/OFFICE Gaylord Office	MDEQ PROJECT MANAGER Randy Rothe		E-MAIL ADDRESS rother@michigan.gov
PHONE 9897053416				
PRIMARY CONTACT PERSON Brent Ritchie		CONTRACT FIRM NAME (if applicable)	PHONE (734) 397-3100	AY: 13 INDEX: 44213 PCA: 30822 PROJECT: 550518 PH: 00
IST CHOICE: ALS		OVERFLOW LAB (Required) 2ND CHOICE: Test America		E-MAIL ADDRESSES TO SEND ADDITIONAL REPORTS TO:
COLLECTED BY: JCH		PHONE: (734) 397-3100		1.) Hisket@michigan.gov 2.) Wbolt@mannaiksmithgroup.com

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

LAB USE ONLY	FIELD ID (Sample Identification)	SAMPLE COLLECTED		GPS COORDINATES		COMMENT
		DATE MM/DD/YY	TIME MILITARY	LATITUDE	LONGITUDE	
1	AC SB-10(21)S	6/16/14	1340			PID=131.5
2	AC Tap					
3	AC					
4	AC					
5	AC					
6	AC					
7	AC					
8	AC					
9	AC					
10	AC					

ORGANIC

INORGANIC

- VOA VOLATILES *(MeOH/8260)
 VOC - Full List 0 1 2 3 4 5 6 7 8 9 10
 BTEX/MTBE/TMB only 1 2 3 4 5 6 7 8 9 10
 Chlorinated only 1 2 3 4 5 6 7 8 9 10
 GRO 1 2 3 4 5 6 7 8 9 10
 1,4 Dioxane 1 2 3 4 5 6 7 8 9 10
- OS PESTICIDES/PCBS (8081/8082)
 Pesticides & PCBs 1 2 3 4 5 6 7 8 9 10
 Pesticides only 1 2 3 4 5 6 7 8 9 10
 Specialty Pesticides 1 2 3 4 5 6 7 8 9 10
 Toxaphene 1 2 3 4 5 6 7 8 9 10
 PCBs only 1 2 3 4 5 6 7 8 9 10
- BNA BASE NEUTRAL & ACIDS (8270)
 BNAs 1 2 3 4 5 6 7 8 9 10
 PNAs only 1 2 3 4 5 6 7 8 9 10
 BNs only 1 2 3 4 5 6 7 8 9 10

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

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

- GENERAL CHEMISTRY
- GS
 COD 1 2 3 4 5 6 7 8 9 10
 TOC 1 2 3 4 5 6 7 8 9 10
 KJEL N, Tot. P 1 2 3 4 5 6 7 8 9 10
 Total CN 1 2 3 4 5 6 7 8 9 10
 Available Cyanide 1 2 3 4 5 6 7 8 9 10

- ↓ Circle Requested Metal and Corresponding Sample No. ↓
 Al Sb As Ba Be Cd Cr 1 2 3 4 5 6 7 8 9 10
 Co Cu Fe Pb Li Mn Hg
 Mo Ni Se Ag Sr Ti Ti
 V Zn
 Ca Mg K Na 1 2 3 4 5 6 7 8 9 10
 Low Level Mercury 1 2 3 4 5 6 7 8 9 10
 % Total Solids 1 2 3 4 5 6 7 8 9 10

Other _____ 1 2 3 4 5 6 7 8 9 10

Chain-of-Custody	RELEASED BY / ORGANIZATION		RECEIVED BY / ORGANIZATION		DATE	TIME
	Print Name & Organization	Jarrett Hale	Print Name & Organization	MSG Fridge	6/16/14	4:30
	Signature	[Signature]	Signature			
	Print Name & Organization	MSG Fridge	Print Name & Organization	OPS	6/19/14	1500
Signature	[Signature]	Signature				
Print Name & Organization		Print Name & Organization				
Signature		Signature				

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
 ENVIRONMENTAL LABORATORY
 ANALYSIS REQUEST SHEET

LAB WORK ORDER #		SITE NAME		MATRIX=WATER	
SITE CODE NUMBER 01099999		SWET - Creekside, LLC		ACCEPT HT CODES? Y / N If yes which parameters?	
DIVISION RRD	DISTRICT/OFFICE Gaylord Office	MDEQ PROJECT MANAGER Randy Rothe	E-MAIL ADDRESS rother@michigan.gov		PHONE 9897053416
PRIMARY CONTACT PERSON			CONTRACT FIRM NAME (if applicable)		PHONE
					AY: 14 INDEX: 44213 PCA: 30822
					PROJECT: 550518 PH: 00
OVERFLOW LAB (Required)			E-MAIL ADDRESSES TO SEND ADDITIONAL REPORTS TO:		
1ST CHOICE: ALS		2ND CHOICE: Test America		1.) Hisket@michigan.gov	
COLLECTED BY: <u>JCH</u>		PHONE: <u>(754) 397-3100</u>		2.) Wbolt@manna-smithgroup.com	

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

LAB USE ONLY	FIELD ID (Sample Identification)	SAMPLE COLLECTED		GPS COORDINATES		COMMENTS
		DATE MM/DD/YY	TIME MILITARY	LATITUDE	LONGITUDE	
1 AC	SB-3(19-21)w	6/16/14	1420			
2 AC	Trip Blank	5/13/14				
3 AC	SB-9(21)w	6/16/14	1400			
4 AC	SB-8(19-21)w	6/16/14	1440			
5 AC	DUP-1w	6/16/14				
6 AC						
7 AC						
8 AC						
9 AC						
10 AC						

ORGANIC	GENERAL CHEMISTRY	INORGANIC
VOA VOLATILES (8260) Full List 1 2 3 4 5 6 7 8 9 10 BTEX/MTBE/TMB only 1 2 3 4 5 6 7 8 9 10 Chlorinated only 1 2 3 4 5 6 7 8 9 10 GRO 1 2 3 4 5 6 7 8 9 10 1,4 Dioxane 1 2 3 4 5 6 7 8 9 10 METH METHANE, ETHANE, ETHENE (Modified 8015) Methane, ethane, ethene 1 2 3 4 5 6 7 8 9 10 ON PESTICIDES/PCBS (8081/8082) Pesticides & PCBs 1 2 3 4 5 6 7 8 9 10 Pesticides only 1 2 3 4 5 6 7 8 9 10 PCBs only 1 2 3 4 5 6 7 8 9 10 Toxaphene 1 2 3 4 5 6 7 8 9 10 Specialty Pesticides 1 2 3 4 5 6 7 8 9 10 BNA BASE NEUTRAL & ACIDS (8270) BNAs 1 2 3 4 5 6 7 8 9 10 Benzidines 1 2 3 4 5 6 7 8 9 10 PNAs only 1 2 3 4 5 6 7 8 9 10 BNs only 1 2 3 4 5 6 7 8 9 10 ACIDs only 1 2 3 4 5 6 7 8 9 10 ORGANIC SPECIAL REQUESTS Library Search - Volatiles 1 2 3 4 5 6 7 8 9 10 Library Search - Semi-Vols 1 2 3 4 5 6 7 8 9 10 FingerPrint 1 2 3 4 5 6 7 8 9 10 DRO/ORO (8015) 1 2 3 4 5 6 7 8 9 10	GN NO₂, O-Phos 1 2 3 4 5 6 7 8 9 10 NO₃ Calc (NO₂+NO₃, NO₂) 1 2 3 4 5 6 7 8 9 10 Residue SS 1 2 3 4 5 6 7 8 9 10 Residue TDS 1 2 3 4 5 6 7 8 9 10 Turbidity 1 2 3 4 5 6 7 8 9 10 CA Chlorophyll 1 2 3 4 5 6 7 8 9 10 GA COD 1 2 3 4 5 6 7 8 9 10 TOC 1 2 3 4 5 6 7 8 9 10 NO ₃ + NO ₂ , NH ₃ 1 2 3 4 5 6 7 8 9 10 KJEL N, Tot P 1 2 3 4 5 6 7 8 9 10 GB Total CN 1 2 3 4 5 6 7 8 9 10 Amenable CN 1 2 3 4 5 6 7 8 9 10 GCN Available CN 1 2 3 4 5 6 7 8 9 10 INORGANIC MN pH, Conductance 1 2 3 4 5 6 7 8 9 10 Cl, SO ₄ , Total Alk 1 2 3 4 5 6 7 8 9 10 HCO ₃ , CO ₃ -Alk 1 2 3 4 5 6 7 8 9 10 Cr ⁶⁺ 1 2 3 4 5 6 7 8 9 10	MA - Total Metals 1 2 3 4 5 6 7 8 9 10 MICH TEN METALS 1 2 3 4 5 6 7 8 9 10 (As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn) OP MEMO 2 METALS 1 2 3 4 5 6 7 8 9 10 (Sb, As, Ba, Be, Cd, Cr, Cu, Co, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn) ↓Circle Metal and Corresponding Sample No. Below↓ Al Sb As Ba Be B Cd Cr 1 2 3 4 5 6 7 8 9 10 Co Cu Fe Pb Li Mn Hg Mo Ni Se Ag Sr Ti V Zn Ca Mg K Na 1 2 3 4 5 6 7 8 9 10 Hardness Calc (Ca Mg) 1 2 3 4 5 6 7 8 9 10 LL Hg 1 2 3 4 5 6 7 8 9 10 Low Level Mercury 1 2 3 4 5 6 7 8 9 10 MAD or MD - Dissolved Metals Lab Filtration 1 2 3 4 5 6 7 8 9 10 MICH TEN METALS 1 2 3 4 5 6 7 8 9 10 (As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn) OP MEMO 2 Metals 1 2 3 4 5 6 7 8 9 10 (Sb, As, Ba, Be, Cd, Cr, Cu, Co, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn) ↓Circle Metal and Corresponding Sample No. Below↓ Al Sb As Ba Be B Cd Cr 1 2 3 4 5 6 7 8 9 10 Co Cu Fe Pb Li Mn Hg Mo Ni Se Ag Sr Ti V Zn Ca Mg K Na 1 2 3 4 5 6 7 8 9 10 Hardness Calc (Ca Mg) 1 2 3 4 5 6 7 8 9 10 LL Hg 1 2 3 4 5 6 7 8 9 10 Low Level Mercury 1 2 3 4 5 6 7 8 9 10

Chain-of-Custody	RECEIVED BY / ORGANIZATION		DATE	TIME
	Print Name & Organization	Signature		
	Print Name & Organization	Signature		
	Signature			
Print Name & Organization	Signature			
Print Name & Organization	Signature			
Signature				
Print Name & Organization	Signature			
Print Name & Organization	Signature			
Signature				