



Rose & Westra
A Division of GZA



MEMORANDUM

To: Abby Hendershott, MDEQ

From: Lori Powers, Rose & Westra, a Division of GZA GeoEnvironmental, Inc.

Date: April 30, 2019

File No.: 16.0062335.52 Task 002

Re: Wolverine World Wide, Inc. (Wolverine) – House Street Disposal Area
Monthly Progress Report

This MDEQ Monthly Progress Report (MPR) is being submitted on behalf of Wolverine. This MDEQ MPR is completed as agreed upon in Mr. John Byl's July 9, 2018 letter entitled *Response to May 29 Correspondence regarding Tannery Meeting Summary and Action Items*.

This progress report also includes information to supplement the April 15, 2019 U.S. EPA MPR (attached).

INVESTIGATION ACTIONS

Additional access for drilling at PMW-24 was obtained and access is anticipated at PMW -23 soon. Drilling at these locations will likely begin in the next reporting period.

Additionally, access has been gained for all locations identified in the February 28, 2019 letter from MDEQ to WWW. These are identified as PMW-27 through PMW-32.

Drilling was completed at location PMW-32. The boring log, gamma ray logging information, and vertical aquifer profiling data is being compiled. R&W/GZA will evaluate this information with MDEQ to determine depths for setting wells. The sonic drilling at this location will resume on May 6.

R&W/GZA did not complete any other additional investigative tasks during this reporting period.

ANALYTICAL DATA RECEIVED

Analytical data received from the Quarter 1 sampling of the permanent on-Site and off-Site monitoring wells is summarized in the attached tables. The wells were sampled and analyzed for the same constituents established for the EPA RAWP.

The following table is a short summary of the analytical results.





Constituent	No. of Exceedances	Part 201 GRCC/RML Exceeded
Volatile Organic Compounds	None	Not Applicable
bis(2-ethylhexyl)phthalate	1	GRCC for drinking water (DW) and groundwater to surface water interface protection (GSIP)
Aluminum	12	DW GRCC; aesthetic criterion
Iron	30	DW GRCC; aesthetic criterion
Boron	1	DW GRCC
Vanadium	2	DW GRCC
Cyanide – Total	3	GSIP GRCC
Nitrate-Nitrate – N + Ammonia - N	1	DW GRCC
Unionized Ammonia	1	GSIP GRCC
Chloride	1	DW GRCC; aesthetic criterion
Sulfate	10	DW GRCC; aesthetic criterion
PFOS	12	GSIP GRCC
PFOA + PFOS	10	DW GRCC

The analytical data for these samples will be submitted to the MDEQ through AECOM.

MAPPING

No changes have occurred to the Site investigation map since the last update. The permanent monitoring well map is included for reference.



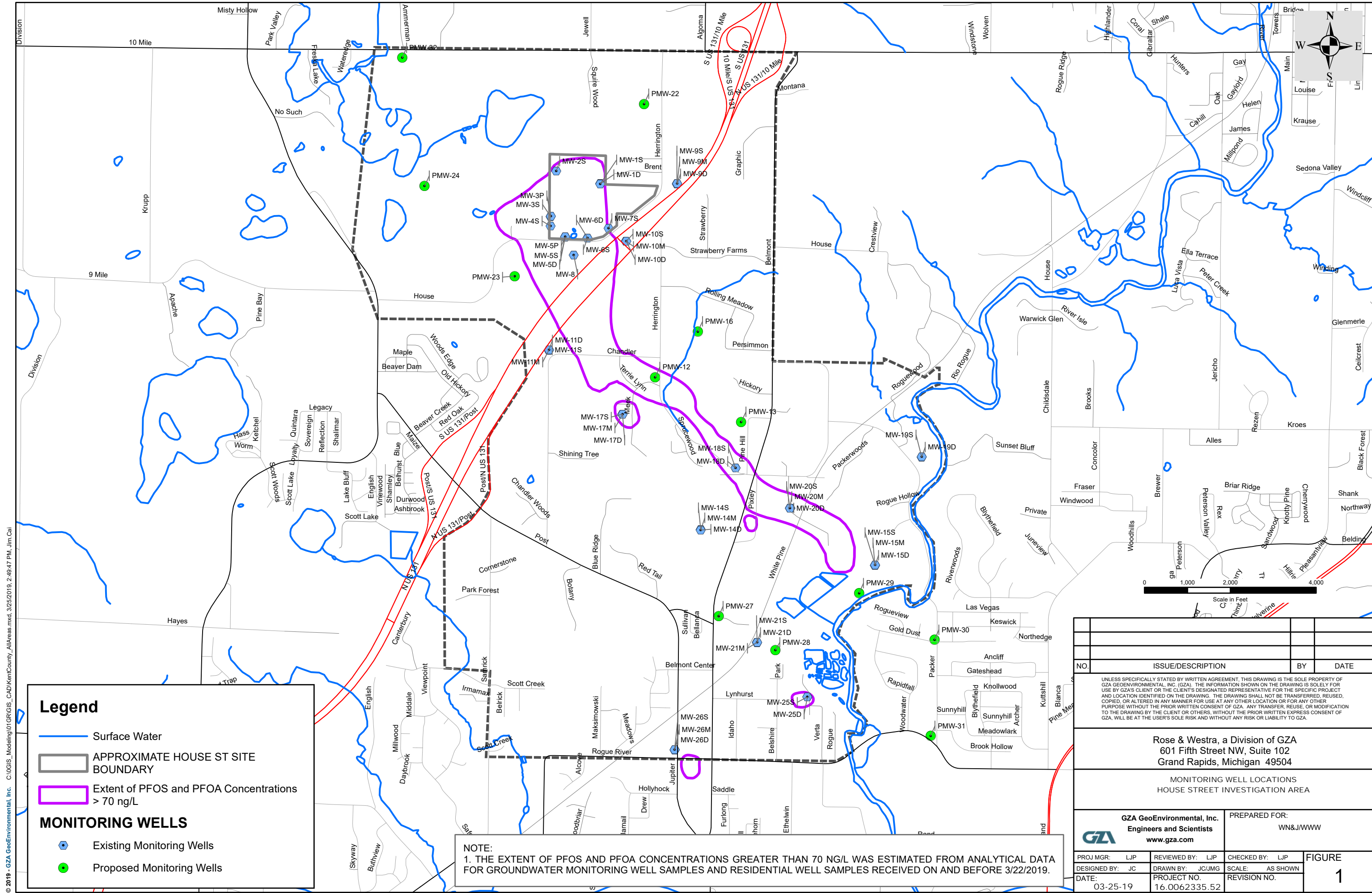
ANTICIPATED ACTIONS AND SCHEDULE FOR NEXT REPORTING PERIOD

Drilling at off-site locations, both with sonic and hollow-stem auger methods will continue through the next reporting period. Additionally, R&W/GZA anticipates completing another round of static water levels in all permanent monitoring wells. Upon completion, sampling will also be conducted. This task will not likely be fully completed during the next reporting period.

R&W/GZA will continue to make efforts to gain access to drilling locations PMW-22, PMW-12, PMW-13, and PMW-16.

No work is anticipated on-Site during the next reporting period. However, the final report for the on-Site investigation is due to the EPA on May 11, 2019.

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Legend

- Surface Water
- APPROXIMATE HOUSE ST SITE BOUNDARY
- Extent of PFOS and PFOA Concentrations > 70 ng/L

MONITORING WELLS

- Existing Monitoring Wells
- Proposed Monitoring Wells

NOTE:
 1. THE EXTENT OF PFOS AND PFOA CONCENTRATIONS GREATER THAN 70 NG/L WAS ESTIMATED FROM ANALYTICAL DATA FOR GROUNDWATER MONITORING WELL SAMPLES AND RESIDENTIAL WELL SAMPLES RECEIVED ON AND BEFORE 3/22/2019.

NO.	ISSUE/DESCRIPTION	BY	DATE
<p>UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.</p>			
<p>Rose & Westra, a Division of GZA 601 Fifth Street NW, Suite 102 Grand Rapids, Michigan 49504</p>			
<p>MONITORING WELL LOCATIONS HOUSE STREET INVESTIGATION AREA</p>			
<p>GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com</p>		<p>PREPARED FOR: WN&J/WWW</p>	
<p>PROJ MGR: LJP DESIGNED BY: JC DATE: 03-25-19</p>	<p>REVIEWED BY: LJP DRAWN BY: JC/JMG PROJECT NO. 16.0062335.52</p>	<p>CHECKED BY: LJP SCALE: AS SHOWN REVISION NO.</p>	<p>FIGURE 1</p>

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TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - VOCS
1855 House Street NE
Plainfield Township, Kent County, MI

Table with 20 columns: Sample Location, Part 201 Generic Groundwater Cleanup Criteria - Drinking Water, Part 201 Generic Groundwater Cleanup Criteria - Groundwater Surface Water Interface, Part 201 Generic Residential Groundwater Cleanup Criteria - Groundwater Volatilization to Indoor Air Inhalation, MDEQ Residential Recommended Volatilization to Indoor Air Interim Action Screening Level - Groundwater, U.S. EPA Residential Tap Water Regional Removal Management Levels, and 18 monitoring wells (HS-MW-9M to HS-MW-15M). Rows include parameters like Acetone, Benzene, Bromodichloromethane, Bromoform, Methyl ethyl ketone, Bromomethane, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Chloroethane, Chloroform, Chloromethane, Cyclohexane, 1,2-Dibromo-3-chloropropane, Dibromochloromethane, 1,2-Dibromoethane, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Dichlorodifluoromethane, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethylene, cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene, 1,2-Dichloropropane, cis-1,3-Dichloropropene, trans-1,3-Dichloropropene, 1,3-Dichloropropene, Ethylbenzene, 2-Hexanone, Isopropyl benzene, Methyl acetate, Methyl tertiary butyl ether, Methyl isobutyl ketone, Methylcyclohexane, Methylene Chloride, Styrene, 1,1,2,2-Tetrachloroethane, Tetrachloroethylene, Toluene, 1,1,2-Trichloro-1,2,2-trifluoroethane, 1,2,4-Trichlorobenzene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, Trichlorofluoromethane, Vinyl Chloride, Xylenes (Total), m+p - Xylenes, o-Xylene, and Trihalomethanes.

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - VOCS
1855 House Street NE
Plainfield Township, Kent County, MI

Sample Location	Part 201 Generic Residential Groundwater Cleanup Criteria – Drinking Water ²	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface ²	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Volatilization to Indoor Air Inhalation ²	MDEQ Residential Recommended Volatilization to Indoor Air Interim Action Screening Level - Groundwater ³	U.S. EPA Residential Tap Water Regional Removal Management Levels ⁴	HS-MW-25S	HS-MW-25D	HS-MW-26S	HS-MW-26M	HS-MW-26D
Sample Name						HS-MW-25S	HS-MW-25D	HS-MW-26S	HS-MW-26M	HS-MW-26D
Well Screen Interval (Feet below ground surface)						49.6 - 54.6	65 - 70	25 - 30	60 - 65	78 - 83
Laboratory Sample ID(s)						UC02020-008	UC02020-009	UC02020-001	UC02020-002	UC02020-003
Sample Date						03/01/2019	03/01/2019	02/28/2019	02/28/2019	02/28/2019
Parameter (µg/L)										
Acetone	730	1,700	1,000,000,000 (D,S)	12,000,000	42,000	3.1 [J]	2.7 [J]	2.8 [J]	3 [J]	6.1 [J]
Benzene	5.0 (A)	200	5,600	14	46	<1	<1	<1	<1	<1
Bromodichloromethane	80 (A,W)	ID	4,800	NCL	13	<1	<1	<1	1.4	1.4
Bromoform	80 (A,W)	ID	470,000	NCL	330	<1	<1	<1	<1	<1
Methyl ethyl ketone (2-Butanone)	13,000	2,200	240,000,000 (S)	NCL	17,000	<10	<10	<10	<10	<10
Bromomethane (Methyl bromide)	10	5.0 (M)	4,000	NCL	23	<2	<2	<2	<2	<2
Carbon disulfide	800	ID	250,000	NCL	2,400	<1	<1	<1	<1	<1
Carbon tetrachloride	5.0 (A)	38	370	NCL	46	<1	<1	<1	<1	<1
Chlorobenzene	100 (A)	25	210,000	540	230	<1	<1	<1	<1	<1
Chloroethane	430	1,100	5,700,000 (S)	6,700	63,000	<2	<2	<2	<2	<2
Chloroform	80 (A,W)	350	28,000	7.6	22	<1	<1	<1	4.9	7.2
Chloromethane (Methyl chloride)	260	ID	8,600	160	560	<1	<1	<1	<1	<1
Cyclohexane	NCL	NCL	NCL	NCL	38,000	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane (DBCP)	0.20 (A)	ID	220	NCL	0.033	<1	<1	<1	<1	<1
Dibromochloromethane	80 (A,W)	ID	14,000	NCL	87	<1	<1	<1	0.49 [J]	0.56 [J]
1,2-Dibromoethane (Ethylene dibromide)	0.05 (A)	5.7	2,400	NCL	0.75	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	600 (A)	13	160,000 (S)	NCL	910	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	6.6	28	18,000	52	NCL	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	75 (A)	17	16,000	120	48	<1	<1	<1	<1	<1
Dichlorodifluoromethane	1,700	ID	220,000	NCL	590	<2	<2	<2	<2	<2
1,1-Dichloroethane	880	740	1,000,000	67	280	<1	<1	<1	<1	<1
1,2-Dichloroethane	5.0 (A)	360	9,600	NCL	17	<1	<1	<1	<1	<1
1,1-Dichloroethylene	7.0 (A)	130	200	170	850	<1	<1	<1	<1	<1
cis-1,2-Dichloroethylene	70 (A)	620	93,000	48	110	<1	<1	<1	<1	<1
trans-1,2-Dichloroethylene	100 (A)	1,500	85,000	650	1,100	<1	<1	<1	<1	<1
1,2-Dichloropropane	5.0 (A)	230	16,000	NCL	25	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	NCL	NCL	NCL	NCL	NCL	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	NCL	NCL	NCL	NCL	NCL	<1	<1	<1	<1	<1
1,3-Dichloropropene (Calculated: cis + trans)	8.5	9.0	3,900	NCL	47	ND	ND	ND	ND	ND
Ethylbenzene	74 (E)	18	110,000	45	150	<1	<1	<1	<1	<1
2-Hexanone	1,000	ID	4,200,000	NCL	110	<10	<10	<10	<10	<10
Isopropyl benzene	800	28	56,000 (S)	NCL	1,400	<1	<1	<1	<1	<1
Methyl acetate	NCL	NCL	NCL	NCL	60,000	<1	<1	<1	<1	<1
Methyl tertiary butyl ether (MTBE)	40 (E)	7,100	47,000,000 (S)	4,000	1,400	<1	<1	<1	<1	<1
Methyl isobutyl ketone	1,800	ID	20,000,000 (S)	NCL	19,000	<10	<10	<10	<10	<10
Methylcyclohexane	NCL	NCL	NCL	NCL	NCL	<5	<5	<5	<5	<5
Methylene Chloride	5.0 (A)	1,500	220,000	3,900	320	<1	<1	0.46 [J]	<1	<1
Styrene	100 (A)	80	170,000	NCL	3,600	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	8.5	78	12,000	NCL	7.6	<1	<1	<1	<1	<1
Tetrachloroethylene	5.0 (A)	60	25,000	96	120	<1	<1	<1	<1	<1
Toluene	790 (E)	270	530,000 (S)	23,000	3,300	<1	<1	<1	<1	<1
1,1,2-Trichloro-1,2,2-trifluoroethane	170,000 (S)	32	170,000 (S)	NCL	31,000	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	70 (A)	99	300,000 (S)	95	12	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	200 (A)	89	660,000	8,600	24,000	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5.0 (A)	330	17,000	NCL	1.2	<1	<1	<1	<1	<1
Trichloroethylene	5.0 (A)	200	2,200	6.1	8.5	<1	<1	<1	<1	<1
Trichlorofluoromethane	2,600	NA	1,100,000 (S)	NCL	15,000	<1	<1	<1	<1	<1
Vinyl Chloride	2.0 (A)	13	1,100	0.96 (M)	1.9	<1	<1	<1	<1	<1
Xylenes (Total)	280 (E)	49	190,000 (S)	1,200	580	<1	<1	<1	<1	<1
m+p - Xylenes	NCL	NCL	NCL	NCL	NCL	<1	<1	<1	<1	<1
o-Xylene	NCL	NCL	NCL	NCL	580	<1	<1	<1	<1	<1
Trihalomethanes (Calculation: Bromodichloromethane + Bromoform + Chloroform + Dibromochloromethane)	80 (W)	NCL	NCL	NCL	NCL	ND	ND	ND	6.8	9.2

TABLE 2
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - SVOCS
1855 House Street NE
Plainfield Township, Kent County, MI

Sample Location	Part 201 Generic Residential Groundwater Cleanup Criteria – Drinking Water ²	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface ²	Part 201 Generic Residential Groundwater Cleanup Criteria – Groundwater Volatilization to Indoor Air Inhalation ²	MDEQ Residential Recommended Volatilization to Indoor Air Interim Action Screening Level – Groundwater ³	U.S. EPA Residential Tap Water Regional Removal Management Levels ⁴	HS-MW-1S	HS-MW-1D	HS-MW-2	HS-MW-3S	HS-MW-3S DUP	HS-MW-4	HS-MW-5S	HS-MW-5D	HS-MW-6S	HS-MW-6D	HS-MW-7S	HS-MW-7S DUP	HS-MW-8	HS-MW-9S
Sample Name						HS-MW-1S	HS-MW-1D	HS-MW-2	HS-MW-3S	HS-MW-3S DUP	HS-MW-4	HS-MW-5S	HS-MW-5D	HS-MW-6S	HS-MW-6D	HS-MW-7S	HS-MW-7S DUP	HS-MW-8	HS-MW-9S
Well Screen Interval (Feet below ground surface)						68.4 - 73.1	170.1 - 174.7	78.5 - 83.1	69.7 - 74.6	69.7 - 74.6	71.1 - 75.7	61.9 - 66.6	188 - 198	57.1 - 61.8	155 - 160	70.1 - 74.7	70.1 - 74.7	27.7 - 32.7	26 - 31
Laboratory Sample ID(s)						UC16019-002	UC16019-001	UC16019-003	UC16019-005	UC16019-006	UC16019-015	UC16019-012	UC16019-013	UC21029-007	UC21029-008	UC23028-001	UC23028-002	UC23028-003	UC21029-004
Sample Date						03/11/2019	03/11/2019	03/11/2019	03/13/2019	03/13/2019	03/15/2019	03/14/2019	03/14/2019	03/20/2019	03/20/2019	03/21/2019	03/21/2019	03/21/2019	03/19/2019
Parameter (µg/L)																			
Acenaphthene	1,300	38	4,200 (S)	NCL	1,600	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Acenaphthylene	52	ID	3,900 (S)	NCL	NCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Acetophenone	1,500	ID	6,100,000 (S)	NCL	5,800	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Anthracene	43 (S)	ID	43 (S)	NCL	5,300	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Atrazine	3.0 (A)	7.3	NLV	NCL	30	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Benzidine	0.30 (M)	0.30 (M)	NLV	NCL	0.011	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Benzo[a]anthracene	2.1	ID	NLV	NCL	3.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.11 [J]	0.06 [J]	<0.2	<0.2
Benzo[a]pyrene	5.0 (A)	ID	NLV	NCL	2.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo[b]fluoranthene (3,4-Benzofluoranthene)	1.5 (S,AA)	ID	ID	NCL	25	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.12 [J]	0.19 [J]	<0.2	<0.2
Benzo[g,h,i]perylene	1.0 (M)	ID	NLV	NCL	NCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.072 [J]	0.054 [J]	<0.2	<0.2
Benzo[k]fluoranthene	1.0 (M)	NA	NLV	NCL	250	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.049 [J]	0.062 [J]	<0.2	<0.2
Butyl benzyl phthalate	1,200	67	NLV	NCL	1,600	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Caprolactam	5,800	NA	NLV	NCL	30,000	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	2.9	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
Carbazole	85	10 (M)	NLV	NCL	NCL	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
p-Chloro-m-cresol	150	7.4	NLV	NCL	4,300	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
bis(2-chloroethyl)ether	2.0	1.0 (M)	38,000	NCL	1.4	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
2-Chloronaphthalene	1,800	NA	ID	NCL	2,200	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
2-Chlorophenol	45	18	490,000	NCL	270	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Chrysene	1.6 (S)	ID	ID	NCL	2,500	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.074 [J]	0.055 [J]	<0.2	<0.2
Dibenzo[a,h]anthracene	2.0 (M)	ID	NLV	NCL	2.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dibenzofuran	ID	4.0	10,000 (S)	NCL	24	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
3,3'-Dichlorobenzidine	1.1	0.30 (M)	NLV	NCL	13	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
2,4-Dichlorophenol	73	11	NLV	NCL	140	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
Diethyl phthalate	5,500	110	NLV	NCL	45,000	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Dimethyl phthalate	73,000	NA	NLV	NCL	NCL	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
2,4-Dimethylphenol	370	380	NLV	NCL	1,100	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Di-n-butyl phthalate	880	9.7	NLV	NCL	2,700	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
4,6-Dinitro-o-cresol	20 (M)	NA	NLV	NCL	4.5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
2,4-Dinitrotoluene	7.7	NA	NLV	NCL	24	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
Di-n-octyl phthalate	130	ID	NLV	NCL	600	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Azobenzene	23	ID	6,400 (S)	NCL	12	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
bis(2-Ethylhexyl)phthalate	6.0 (A)	14	NLV	NCL	560	0.55 [BJ]	0.55 [BJ]	<4	<4	0.51 [BJ]	0.51 [BJ]	0.51 [BJ]	<4	<4	<4	<4	1.1 [J]	<4	<4
Fluoranthene	210 (S)	1.6	210 (S)	NCL	2,400	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.14 [J]	<0.2	<0.2	<0.2
Fluorene	880	12	2,000 (S)	NCL	880	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Hexachlorobenzene	1.0 (A)	0.2 (M)	440	NCL	0.98	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Hexachlorobutadiene	15	0.053	1,600	NCL	14	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Hexachlorocyclopentadiene	50 (A)	ID	130	NCL	1.2	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hexachloroethane	7.3	6.7	27,000	NCL	19	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Indeno[1,2,3-cd]pyrene	2.0 (M)	ID	NLV	NCL	25	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.058 [J]	0.058 [J]	<0.2	<0.2
Isophorone	770	1,300	NLV	NCL	7,800	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
2-Methylnaphthalene	260	19	25,000 (S)	NCL	110	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
2-Methylphenol	NCL	NCL	NCL	NCL	2,800	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
4-Methylphenol	NCL	NCL	NCL	NCL	5,600	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
Naphthalene	520	11	31,000 (S)	NCL	17	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nitrobenzene	3.4	180	280,000	NCL	14	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
2-Nitrophenol	20	ID	NLV	NCL	NCL	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
n-Nitroso-di-n-propylamine	5.0 (M)	NA	NLV	NCL	1.1	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
n-Nitrosodiphenylamine	270	NA	NLV	NCL	1,200	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Pentachlorophenol	1.0 (A)	1.8 (G)	NLV	NCL	4.1	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Phenanthrene	52	2.0 (M)	1,000 (S)	NCL	NCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenol	4,400	450	NLV	NCL	17,000	&													

TABLE 2
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - SVOCS
1855 House Street NE
Plainfield Township, Kent County, MI

Sample Location	Part 201 Generic Residential Groundwater Cleanup Criteria – Drinking Water ²	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface ²	Part 201 Generic Residential Groundwater Cleanup Criteria – Groundwater Volatilization to Indoor Air Inhalation ²	MDEQ Residential Recommended Volatilization to Indoor Air Interim Action Screening Level – Groundwater ³	U.S. EPA Residential Tap Water Regional Removal Management Levels ⁴	HS-MW-9M	HS-MW-9D	HS-MW-10S	HS-MW-10M	HS-MW-10D	HS-MW-11S	HS-MW-11M	HS-MW-11D	HS-MW-14S	HS-MW-14M	HS-MW-14D	HS-MW-14D DUP	HS-MW-15S	HS-MW-15M
Sample Name						HS-MW-9M	HS-MW-9D	HS-MW-10S	HS-MW-10M	HS-MW-10D	HS-MW-11S	HS-MW-11M	HS-MW-11D	HS-MW-14S	HS-MW-14M	HS-MW-14D	HS-MW-14D DUP	HS-MW-15S	HS-MW-15M
Well Screen Interval (Feet below ground surface)						126 - 131	203 - 208	49 - 59	125 - 130	185 - 190	21 - 31	95 - 100	150 - 155	13 - 23	68 - 73	107 - 112	107 - 112	7 - 17	45 - 50
Laboratory Sample ID(s)						UC21029-005	UC21029-006	UC21029-001	UC21029-002	UC21029-003	UC16019-009	UC16019-010	UC16019-011	UB28086-008	UB28086-007	UB28086-009	UB28086-010	UB28086-004	UB28086-005
Sample Date	03/19/2019	03/19/2019	03/18/2019	03/18/2019	03/18/2019	03/14/2019	03/14/2019	03/14/2019	02/26/2019	02/26/2019	02/26/2019	02/26/2019	02/27/2019	02/27/2019					
Parameter (µg/L)																			
Acenaphthene	1,300	38	4,200 (S)	NCL	1,600	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Acenaphthylene	52	ID	3,900 (S)	NCL	NCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Acetophenone	1,500	ID	6,100,000 (S)	NCL	5,800	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Anthracene	43 (S)	ID	43 (S)	NCL	5,300	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Atrazine	3.0 (A)	7.3	NLV	NCL	30	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Benzidine	0.30 (M)	0.30 (M)	NLV	NCL	0.011	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Benzo[a]anthracene	2.1	ID	NLV	NCL	3.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo[a]pyrene	5.0 (A)	ID	NLV	NCL	2.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo[b]fluoranthene (3,4-Benzofluoranthene)	1.5 (S,AA)	ID	ID	NCL	25	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo[g,h,i]perylene	1.0 (M)	ID	NLV	NCL	NCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo[k]fluoranthene	1.0 (M)	NA	NLV	NCL	250	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Butyl benzyl phthalate	1,200	67	NLV	NCL	1,600	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Caprolactam	5,800	NA	NLV	NCL	30,000	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
Carbazole	85	10 (M)	NLV	NCL	NCL	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
p-Chloro-m-cresol	150	7.4	NLV	NCL	4,300	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
bis(2-chloroethyl)ether	2.0	1.0 (M)	38,000	NCL	1.4	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
2-Chloronaphthalene	1,800	NA	ID	NCL	2,200	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
2-Chlorophenol	45	18	490,000	NCL	270	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Chrysene	1.6 (S)	ID	ID	NCL	2,500	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dibenzo[a,h]anthracene	2.0 (M)	ID	NLV	NCL	2.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dibenzofuran	ID	4.0	10,000 (S)	NCL	24	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
3,3'-Dichlorobenzidine	1.1	0.30 (M)	NLV	NCL	13	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
2,4-Dichlorophenol	73	11	NLV	NCL	140	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
Diethyl phthalate	5,500	110	NLV	NCL	45,000	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Dimethyl phthalate	73,000	NA	NLV	NCL	NCL	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
2,4-Dimethylphenol	370	380	NLV	NCL	1,100	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Di-n-butyl phthalate	880	9.7	NLV	NCL	2,700	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	0.56 [J]	<0.8	0.51 [J]	<0.8
4,6-Dinitro-o-cresol	20 (M)	NA	NLV	NCL	4.5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
2,4-Dinitrotoluene	7.7	NA	NLV	NCL	24	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
Di-n-octyl phthalate	130	ID	NLV	NCL	600	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Azobenzene	23	ID	6,400 (S)	NCL	12	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
bis(2-Ethylhexyl)phthalate	6.0 (A)	14	NLV	NCL	560	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Fluoranthene	210 (S)	1.6	210 (S)	NCL	2,400	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Fluorene	880	12	2,000 (S)	NCL	880	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Hexachlorobenzene	1.0 (A)	0.2 (M)	440	NCL	0.98	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Hexachlorobutadiene	15	0.053	1,600	NCL	14	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Hexachlorocyclopentadiene	50 (A)	ID	130	NCL	1.2	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hexachloroethane	7.3	6.7	27,000	NCL	19	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Indeno[1,2,3-cd]pyrene	2.0 (M)	ID	NLV	NCL	25	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Isophorone	770	1,300	NLV	NCL	7,800	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
2-Methylnaphthalene	260	19	25,000 (S)	NCL	110	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
2-Methylphenol	NCL	NCL	NCL	NCL	2,800	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
4-Methylphenol	NCL	NCL	NCL	NCL	5,600	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
Naphthalene	520	11	31,000 (S)	NCL	17	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nitrobenzene	3.4	180	280,000	NCL	14	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
2-Nitrophenol	20	ID	NLV	NCL	NCL	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
n-Nitroso-di-n-propylamine	5.0 (M)	NA	NLV	NCL	1.1	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
n-Nitrosodiphenylamine	270	NA	NLV	NCL	1,200	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Pentachlorophenol	1.0 (A)	1.8 (G)	NLV	NCL	4.1	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Phenanthrene	52	2.0 (M)	1,000 (S)	NCL	NCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenol	4,400	450	NLV	NCL	17,000	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Pyrene	140 (S)	ID	140 (S)	NCL	360	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
2,4,5-Trichlorophenol	730	NA	NLV	NCL	3,500	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
2,4,6-Trichlorophenol	120	5.0	NLV	NCL	36	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8

TABLE 2
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1855 House Street NE
Plainfield Township, Kent County, MI

Sample Location	Part 201 Generic Residential Groundwater Cleanup Criteria – Drinking Water ²	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface ²	Part 201 Generic Residential Groundwater Cleanup Criteria – Groundwater Volatilization to Indoor Air Inhalation ²	MDEQ Residential Recommended Volatilization to Indoor Air Interim Action Screening Level – Groundwater ³	U.S. EPA Residential Tap Water Regional Removal Management Levels ⁴	HS-MW-15D	HS-MW-17S	HS-MW-17M	HS-MW-17M	HS-MW-17D	HS-MW-17D	HS-MW-18S	HS-MW-18D	HS-MW-19S	HS-MW-19D	HS-MW-20S	HS-MW-20M	HS-MW-20M	HS-MW-20D	
Sample Name						HS-MW-15D	HS-MW-17S	HS-MW-17M	HS-MW-17M	HS-MW-17D	HS-MW-17D	HS-MW-18S	HS-MW-18D	HS-MW-19S	HS-MW-19D	HS-MW-20S	HS-MW-20M	HS-MW-20M	HS-MW-20D	
Well Screen Interval (Feet below ground surface)						108 - 118	103 - 108	163 - 168	163 - 168	213 - 218	213 - 218	13 - 23	138 - 143	58 - 61	85 - 95	60 - 65	100 - 105	100 - 105	124.5 - 129.5	
Laboratory Sample ID(s)						UB28086-006	UC09042-003	UC09042-005	UC09042-005 RE	UC09042-006	UC09042-006 RE	UC02020-007	UC02020-006	UC02020-004	UC02020-005	UC06036-001	UC09042-001	UC09042-001 RE	UC09042-002	
Sample Date						02/27/2019	03/06/2019	03/07/2019	03/07/2019	03/07/2019	03/07/2019	03/01/2019	03/01/2019	02/28/2019	02/28/2019	03/04/2019	03/06/2019	03/06/2019	03/06/2019	
Parameter (µg/L)																				
Acenaphthene	1,300	38	4,200 (S)	NCL	1,600	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Acenaphthylene	52	ID	3,900 (S)	NCL	NCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Acetophenone	1,500	ID	6,100,000 (S)	NCL	5,800	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
Anthracene	43 (S)	ID	43 (S)	NCL	5,300	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Atrazine	3.0 (A)	7.3	NLV	NCL	30	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
Benzidine	0.30 (M)	0.30 (M)	NLV	NCL	0.011	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	
Benzo[a]anthracene	2.1	ID	NLV	NCL	3.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Benzo[a]pyrene	5.0 (A)	ID	NLV	NCL	2.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Benzo[b]fluoranthene (3,4-Benzofluoranthene)	1.5 (S,AA)	ID	ID	NCL	25	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Benzo[g,h,i]perylene	1.0 (M)	ID	NLV	NCL	NCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Benzo[k]fluoranthene	1.0 (M)	NA	NLV	NCL	250	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Butyl benzyl phthalate	1,200	67	NLV	NCL	1,600	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
Caprolactam	5,800	NA	NLV	NCL	30,000	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	
Carbazole	85	10 (M)	NLV	NCL	NCL	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
p-Chloro-m-cresol	150	7.4	NLV	NCL	4,300	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
bis(2-chloroethyl)ether	2.0	1.0 (M)	38,000	NCL	1.4	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
2-Chloronaphthalene	1,800	NA	ID	NCL	2,200	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
2-Chlorophenol	45	18	490,000	NCL	270	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
Chrysene	1.6 (S)	ID	ID	NCL	2,500	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Dibenzo[a,h]anthracene	2.0 (M)	ID	NLV	NCL	2.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Dibenzofuran	ID	4.0	10,000 (S)	NCL	24	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
3,3'-Dichlorobenzidine	1.1	0.30 (M)	NLV	NCL	13	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	
2,4-Dichlorophenol	73	11	NLV	NCL	140	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	
Diethyl phthalate	5,500	110	NLV	NCL	45,000	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
Dimethyl phthalate	73,000	NA	NLV	NCL	NCL	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
2,4-Dimethylphenol	370	380	NLV	NCL	1,100	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
Di-n-butyl phthalate	880	9.7	NLV	NCL	2,700	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
4,6-Dinitro-o-cresol	20 (M)	NA	NLV	NCL	4.5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	
2,4-Dinitrotoluene	7.7	NA	NLV	NCL	24	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	
Di-n-octyl phthalate	130	ID	NLV	NCL	600	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
Azobenzene	23	ID	6,400 (S)	NCL	12	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
bis(2-Ethylhexyl)phthalate	6.0 (A)	14	NLV	NCL	560	<4	0.5 [J]	1.7 [J]	<4	10	16 [H]	<4	2.2 [J]	<4	<4	<4	0.5 [J]	<4	0.51 [J]	
Fluoranthene	210 (S)	1.6	210 (S)	NCL	2,400	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Fluorene	880	12	2,000 (S)	NCL	880	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Hexachlorobenzene	1.0 (A)	0.2 (M)	440	NCL	0.98	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
Hexachlorobutadiene	15	0.053	1,600	NCL	14	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
Hexachlorocyclopentadiene	50 (A)	ID	130	NCL	1.2	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	
Hexachloroethane	7.3	6.7	27,000	NCL	19	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
Indeno[1,2,3-cd]pyrene	2.0 (M)	ID	NLV	NCL	25	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Isophorone	770	1,300	NLV	NCL	7,800	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
2-Methylnaphthalene	260	19	25,000 (S)	NCL	110	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
2-Methylphenol	NCL	NCL	NCL	NCL	2,800	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
4-Methylphenol	NCL	NCL	NCL	NCL	5,600	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	
Naphthalene	520	11	31,000 (S)	NCL	17	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Nitrobenzene	3.4	180	280,000	NCL	14	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
2-Nitrophenol	20	ID	NLV	NCL	NCL	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	
n-Nitroso-di-n-propylamine	5.0 (M)	NA	NLV	NCL	1.1	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
n-Nitrosodiphenylamine	270	NA	NLV	NCL	1,200	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
Pentachlorophenol	1.0 (A)	1.8 (G)	NLV	NCL	4.1	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	
Phenanthrene	52	2.0 (M)	1,000 (S)	NCL	NCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Phenol	4,400	450	NLV	NCL	17,000	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
Pyrene	140 (S)	ID	140 (S)	NCL	360	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
2,4,5-Trichlorophenol	730	NA	NLV	NCL	3,500	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
2,4,6-Trichlorophenol	120	5.0	NLV	NCL	36	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	

TABLE 2
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - SVOCs
1855 House Street NE
Plainfield Township, Kent County, MI

Sample Location	Part 201 Generic Residential Groundwater Cleanup Criteria – Drinking Water ²	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface ²	Part 201 Generic Residential Groundwater Cleanup Criteria – Groundwater Volatilization to Indoor Air Inhalation ²	MDEQ Residential Recommended Volatilization to Indoor Air Interim Action Screening Level - Groundwater ³	U.S. EPA Residential Tap Water Regional Removal Management Levels ⁴	HS-MW-20D	HS-MW-21S	HS-MW-21M	HS-MW-21D	HS-MW-25S	HS-MW-25D	HS-MW-26S	HS-MW-26M	HS-MW-26D
Sample Name						HS-MW-20D	HS-MW-21S	HS-MW-21M	HS-MW-21D	HS-MW-25S	HS-MW-25D	HS-MW-26S	HS-MW-26M	HS-MW-26D
Well Screen Interval (Feet below ground surface)						124.5 - 129.5	10 - 20	59 - 64	75.8 - 85.8	49.6 - 54.6	65 - 70	25 - 30	60 - 65	78 - 83
Laboratory Sample ID(s)						UC09042-002 RE	UB28086-001	UB28086-002	UB28086-003	UC02020-008	UC02020-009	UC02020-001	UC02020-002	UC02020-003
Sample Date						03/06/2019	02/27/2019	02/27/2019	02/27/2019	03/01/2019	03/01/2019	02/28/2019	02/28/2019	02/28/2019
Parameter (µg/L)														
Acenaphthene	1,300	38	4,200 (S)	NCL	1,600	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Acenaphthylene	52	ID	3,900 (S)	NCL	NCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Acetophenone	1,500	ID	6,100,000 (S)	NCL	5,800	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	0.61 [J]
Anthracene	43 (S)	ID	43 (S)	NCL	5,300	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Atrazine	3.0 (A)	7.3	NLV	NCL	30	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Benzidine	0.30 (M)	0.30 (M)	NLV	NCL	0.011	<20	<20	<20	<20	<20	<20	<20	<20	<20
Benzo[a]anthracene	2.1	ID	NLV	NCL	3.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo[a]pyrene	5.0 (A)	ID	NLV	NCL	2.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo[b]fluoranthene (3,4-Benzofluoranthene)	1.5 (S,AA)	ID	ID	NCL	25	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo[g,h,i]perylene	1.0 (M)	ID	NLV	NCL	NCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo[k]fluoranthene	1.0 (M)	NA	NLV	NCL	250	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Butyl benzyl phthalate	1,200	67	NLV	NCL	1,600	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Caprolactam	5,800	NA	NLV	NCL	30,000	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	2.7
Carbazole	85	10 (M)	NLV	NCL	NCL	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
p-Chloro-m-cresol	150	7.4	NLV	NCL	4,300	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
bis(2-chloroethyl)ether	2.0	1.0 (M)	38,000	NCL	1.4	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
2-Chloronaphthalene	1,800	NA	ID	NCL	2,200	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
2-Chlorophenol	45	18	490,000	NCL	270	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Chrysene	1.6 (S)	ID	ID	NCL	2,500	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dibenzo[a,h]anthracene	2.0 (M)	ID	NLV	NCL	2.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dibenzofuran	ID	4.0	10,000 (S)	NCL	24	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
3,3'-Dichlorobenzidine	1.1	0.30 (M)	NLV	NCL	13	<4	<4	<4	<4	<4	<4	<4	<4	<4
2,4-Dichlorophenol	73	11	NLV	NCL	140	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
Diethyl phthalate	5,500	110	NLV	NCL	45,000	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Dimethyl phthalate	73,000	NA	NLV	NCL	NCL	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
2,4-Dimethylphenol	370	380	NLV	NCL	1,100	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Di-n-butyl phthalate	880	9.7	NLV	NCL	2,700	<0.8	0.58 [J]	<0.8	0.71 [J]	<0.8	<0.8	<0.8	<0.8	<0.8
4,6-Dinitro-o-cresol	20 (M)	NA	NLV	NCL	4.5	<4	<4	<4	<4	<4	<4	<4	<4	<4
2,4-Dinitrotoluene	7.7	NA	NLV	NCL	24	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
Di-n-octyl phthalate	130	ID	NLV	NCL	600	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Azobenzene	23	ID	6,400 (S)	NCL	12	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
bis(2-Ethylhexyl)phthalate	6.0 (A)	14	NLV	NCL	560	<4	<4	<4	<4	<4	<4	<4	<4	<4
Fluoranthene	210 (S)	1.6	210 (S)	NCL	2,400	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Fluorene	880	12	2,000 (S)	NCL	880	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Hexachlorobenzene	1.0 (A)	0.2 (M)	440	NCL	0.98	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Hexachlorobutadiene	15	0.053	1,600	NCL	14	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Hexachlorocyclopentadiene	50 (A)	ID	130	NCL	1.2	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hexachloroethane	7.3	6.7	27,000	NCL	19	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Indeno[1,2,3-cd]pyrene	2.0 (M)	ID	NLV	NCL	25	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Isophorone	770	1,300	NLV	NCL	7,800	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
2-Methylnaphthalene	260	19	25,000 (S)	NCL	110	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
2-Methylphenol	NCL	NCL	NCL	NCL	2,800	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
4-Methylphenol	NCL	NCL	NCL	NCL	5,600	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
Naphthalene	520	11	31,000 (S)	NCL	17	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nitrobenzene	3.4	180	280,000	NCL	14	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
2-Nitrophenol	20	ID	NLV	NCL	NCL	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
n-Nitroso-di-n-propylamine	5.0 (M)	NA	NLV	NCL	1.1	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
n-Nitrosodiphenylamine	270	NA	NLV	NCL	1,200	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Pentachlorophenol	1.0 (A)	1.8 (G)	NLV	NCL	4.1	<4	<4	<4	<4	<4	<4	<4	<4	<4
Phenanthrene	52	2.0 (M)	1,000 (S)	NCL	NCL	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenol	4,400	450	NLV	NCL	17,000	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Pyrene	140 (S)	ID	140 (S)	NCL	360	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
2,4,5-Trichlorophenol	730	NA	NLV	NCL	3,500	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
2,4,6-Trichlorophenol	120	5.0	NLV	NCL	36	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8

TABLE 3
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - METALS
 1855 House Street NE
 Plainfield Township, Kent County, MI

Sample Location	Part 201 Generic Residential Groundwater Cleanup Criteria – Drinking Water ²	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface ²	Part 201 Generic Residential Groundwater Cleanup Criteria – Groundwater Volatilization to Indoor Air Inhalation ²	MDEQ Residential Recommended Volatilization to Indoor Air Interim Action Screening Level - Groundwater ³	U.S. EPA Residential Tap Water Regional Removal Management Levels ⁴	HS-MW-1S	HS-MW-1D	HS-MW-2	HS-MW-3S	HS-MW-3S	HS-MW-3S	HS-MW-3S	HS-MW-4	HS-MW-5S	HS-MW-5D	HS-MW-6S	HS-MW-6D	HS-MW-7S	HS-MW-7S
Sample Name						HS-MW-1S	HS-MW-1D	HS-MW-2	HS-MW-3S	HS-MW-3S	HS-MW-3S DUP	HS-MW-3S DUP	HS-MW-4	HS-MW-5S	HS-MW-5D	HS-MW-6S	HS-MW-6D	HS-MW-7S	HS-MW-7S DUP
Well Screen Interval (Feet below ground surface)						68.4 - 73.1	170.1 - 174.7	78.5 - 83.1	69.7 - 74.6	69.7 - 74.6	69.7 - 74.6	69.7 - 74.6	71.1 - 75.7	61.9 - 66.6	188 - 198	57.1 - 61.8	155 - 160	70.1 - 74.7	70.1 - 74.7
Laboratory Sample ID(s)						UC16019-002 & 1903547-02B	UC16019-001 & 1903547-01B	UC16019-003 & 1903547-03B	UC16019-005	1903547-12A	UC16019-006	1903547-13A	UC16019-015 & 1903547-11B	UC16019-012 & 1903547-07B	UC16019-013 & 1903547-08B	UC21029-007 & 1903985-07B	UC21029-008 & 1903985-08B	UC23028-001 & 1903985-09B	UC23028-002
Sample Date	03/11/2019	03/11/2019	03/11/2019	03/13/2019	03/15/2019	03/13/2019	03/15/2019	03/15/2019	03/15/2019	03/14/2019	03/14/2019	03/20/2019	03/20/2019	03/21/2019	03/21/2019				
Parameter (µg/L)																			
Aluminum	50 (V)	NA	NLV	NCL	60,000	26 [J]	62	67	<40		15 [J]		11 [J]	33 [J]	21 [J]	28 [J]	62	14 [J]	16 [J]
Antimony	6.0 (A)	130	NLV	NCL	23	<2	<2	<2	<2		<2		<2	<2	<2	<2	<2	<2	<2
Arsenic	10 (A)	10	NLV	NCL	5.2	<2	<2	<2	<2		<2		<2	<2	7	<2	3.5	<2	<2
Barium	2,000 (A)	1,000 (G)	NLV	NCL	11,000	41	91	49	74		75		66	83	28	79	28	58	58
Beryllium	4.0 (A)	25 (G)	NLV	NCL	74	<0.4	<0.4	<0.4	<0.4		<0.4		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Boron (Boron and Borates only)	500 (F)	7,200	NLV	NCL	12,000	20 [J]	31 [J]	29 [J]	23 [J]		22 [J]		18 [J]	270	29 [J]	25 [J]	55	14 [BJ]	14 [BJ]
Cadmium	5.0 (A)	2.5 (G)	NLV	NCL	NCL	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium (Total)	NCL	NCL	NCL	NCL	NCL	1.3 [J]	1.6 [J]	1.6 [J]	1.3 [J]		1.3 [J]		1.9 [J]	3.1 [J]	4.8 [J]	2.6 [BJ]	1.8 [BJ]	<5	<5
Trivalent Chromium (Calculated: Total - Hexavalent)	100 (A)	120 (G)	NLV	NCL	67,000	1.3	1.6	1.6	NC	NC	NC	NC	1.9	3.1	4.8	2.6	1.8	ND	NC
Hexavalent Chromium	100 (A)	11	NLV	NCL	3.5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Cobalt	40	100	NLV	NCL	18	<5	<5	<5	<5		<5		<5	<5	<5	<5	<5	<5	<5
Copper	1,000 (E)	18 (G)	NLV	NCL	2,400	<5	<5	<5	<5		<5		<5	1.6 [J]	<5	1.9 [J]	<5	<5	<5
Iron	300 (E)	NA	NLV	NCL	42,000	210	350	390	270		280		560	820	1,400	450	1,500	420	400
Lead	4.0 (L)	14 (G)	NLV	NCL	15	<1	<1	0.25 [J]	<1		<1		<1	<1	<1	<1	<1	<1	<1
Magnesium	400,000	NA	NLV	NCL	NCL	31,000	33,000	34,000	40,000		39,000		34,000	41,000	26,000	31,000	23,000	37,000	36,000
Mercury	2.0 (A)	0.0013	56 (S)	1.4	1.9	<0.2	<0.2	<0.2	<0.2		<0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Molybdenum	73	3,200	NLV	NCL	300	<10	<10	<10	<10		<10		<10	<10	2.5 [J]	<10	<10	<10	<10
Nickel	100 (A)	100 (G)	NLV	NCL	1,200	1.3 [J]	1.7 [J]	1.4 [J]	1.6 [J]		1.6 [J]		1.5 [J]	2.1 [J]	2.4 [J]	1.6 [J]	2.3 [J]	1.3 [J]	1.4 [J]
Selenium	50 (A)	5.0	NLV	NCL	300	<5	<5	<5	<5		<5		<5	<5	<5	<5	<5	<5	<5
Silver	34	0.2 (M)	NLV	NCL	280	<1	<1	<1	<1		<1		<1	<1	<1	<1	<1	<1	<1
Sodium	NCL	NCL	NCL	NCL	NCL	6,100	86,000	6,200	3,200		3,200		4,000	160,000	12,000	15,000	20,000	7,200	7,100
Thallium	2.0 (A)	3.7	NLV	NCL	0.60	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Titanium	NCL	NCL	NCL	NCL	NCL	<5	2.3 [J]	2.5 [J]	<5		<5		2 [J]	2.4 [J]	2.2 [J]	1.7 [J]	3.7 [J]	2.5 [J]	2.7 [J]
Vanadium	4.5	27	NLV	NCL	260	<5	<5	<5	<5		<5		<5	<5	<5	<5	<5	<5	<5
Zinc	2,400	230 (G)	NLV	NCL	18,000	<10	7.5 [J]	<10	<10		<10		<10	<10	<10	33	4.9 [J]	8.7 [J]	5.4 [J]

TABLE 3
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - METALS
1855 House Street NE
Plainfield Township, Kent County, MI

Sample Location	Part 201 Generic Residential Groundwater Cleanup Criteria – Drinking Water ²	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface ²	Part 201 Generic Residential Groundwater Cleanup Criteria – Groundwater Volatilization to Indoor Air Inhalation ²	MDEQ Residential Recommended Volatilization to Indoor Air Interim Action Screening Level - Groundwater ³	U.S. EPA Residential Tap Water Regional Removal Management Levels ⁴	HS-MW-8	HS-MW-8	HS-MW-9S	HS-MW-9M	HS-MW-9D	HS-MW-10S	HS-MW-10M	HS-MW-10D	HS-MW-11S	HS-MW-11M	HS-MW-11D	HS-MW-14S	HS-MW-14M	HS-MW-14D
Sample Name						HS-MW-8	HS-MW-8 DUP	HS-MW-9S	HS-MW-9M	HS-MW-9D	HS-MW-10S	HS-MW-10M	HS-MW-10D	HS-MW-11S	HS-MW-11M	HS-MW-11D	HS-MW-14S	HS-MW-14M	HS-MW-14D
Well Screen Interval (Feet below ground surface)						27.7 - 32.7	27.7 - 32.7	26 - 31	126 - 131	203 - 208	49 - 59	125 - 130	185 - 190	21 - 31	95 - 100	150 - 155	13 - 23	68 - 73	107 - 112
Laboratory Sample ID(s)						UC23028-003 & 1903985-10B	1903985-11B	UC21029-004 & 1903985-06B	UC21029-005 & 1903985-05B	UC21029-006 & 1903985-04B	UC21029-001 & 1903985-01B	UC21029-002 & 1903985-02B	UC21029-003 & 1903985-03B	UC16019-009 & 1903547-04B	UC16019-010 & 1903547-05B	UC16019-011 & 1903547-06B	UB28086-008 & 19021325-01B	UB28086-007 & 19021325-02B	UB28086-009 & 19021325-03B
Sample Date	03/21/2019	03/21/2019	03/19/2019	03/19/2019	03/19/2019	03/18/2019	03/18/2019	03/18/2019	03/14/2019	03/14/2019	03/14/2019	02/26/2019	02/26/2019	02/26/2019					
Parameter (µg/L)																			
Aluminum	50 (V)	NA	NLV	NCL	60,000	<40		<40	28 [J]	130	13 [J]	16 [J]	940	11 [J]	<40	13 [J]	10 [J]	<40	<40
Antimony	6.0 (A)	130	NLV	NCL	23	<2		<2	<2	<2	<2	<2	<2	0.51 [J]	<2	<2	<2	<2	<2
Arsenic	10 (A)	10	NLV	NCL	5.2	<2		<2	<2	<2	<2	<2	1.7 [J]	<2	<2	1.4 [J]	<2	<2	<2
Barium	2,000 (A)	1,000 (G)	NLV	NCL	11,000	14		32	82	99	60	120	35	37	39	66	94	150	14
Beryllium	4.0 (A)	25 (G)	NLV	NCL	74	<0.4		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Boron (Boron and Borates only)	500 (F)	7,200	NLV	NCL	12,000	23 [BJ]		22 [J]	18 [J]	29 [J]	28 [J]	25 [J]	80	17 [J]	20 [J]	13 [J]	22 [J]	23 [J]	24 [J]
Cadmium	5.0 (A)	2.5 (G)	NLV	NCL	NCL	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium (Total)	NCL	NCL	NCL	NCL	NCL	<5		1.6 [BJ]	<5	1.5 [BJ]	<5	1.6 [BJ]	3.8 [BJ]	<5	1.5 [J]	<5	<5	<5	<5
Trivalent Chromium (Calculated: Total - Hexavalent)	100 (A)	120 (G)	NLV	NCL	67,000	ND	NC	1.6	ND	1.5	ND	1.6	3.8	ND	1.5	ND	ND	ND	ND
Hexavalent Chromium	100 (A)	11	NLV	NCL	3.5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Cobalt	40	100	NLV	NCL	18	<5		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Copper	1,000 (E)	18 (G)	NLV	NCL	2,400	<5		<5	<5	<5	<5	<5	2 [J]	<5	<5	<5	<5	<5	<5
Iron	300 (E)	NA	NLV	NCL	42,000	220		330	720	930	380	560	4,700	210	370	640	210	990	620
Lead	4.0 (L)	14 (G)	NLV	NCL	15	<1		<1	<1	<1	<1	<1	0.78 [J]	<1	<1	<1	<1	<1	<1
Magnesium	400,000	NA	NLV	NCL	NCL	17,000		29,000	27,000	26,000	24,000	30,000	25,000	27,000	27,000	26,000	29,000	29,000	30,000
Mercury	2.0 (A)	0.0013	56 (S)	1.4	1.9	<0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Molybdenum	73	3,200	NLV	NCL	300	<10		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Nickel	100 (A)	100 (G)	NLV	NCL	1,200	<5		<5	1.3 [J]	1.5 [J]	1.3 [J]	1.8 [J]	3.3 [J]	2.1 [J]	<5	<5	<5	<5	2.7 [J]
Selenium	50 (A)	5.0	NLV	NCL	300	<5		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	34	0.2 (M)	NLV	NCL	280	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sodium	NCL	NCL	NCL	NCL	NCL	9,000		33,000	5,100	13,000	15,000	240,000	8,000	65,000	4,400	3,100	39,000	33,000	33,000
Thallium	2.0 (A)	3.7	NLV	NCL	0.60	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Titanium	NCL	NCL	NCL	NCL	NCL	1.6 [J]		<5	2 [J]	5.6	1.4 [J]	1.7 [J]	43	<5	1.4 [J]	1.4 [J]	<5	<5	<5
Vanadium	4.5	27	NLV	NCL	260	<5		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Zinc	2,400	230 (G)	NLV	NCL	18,000	<10		<10	<10	6.2 [J]	<10	<10	4.4 [J]	<10	<10	<10	<10	<10	7.7 [J]

TABLE 3
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - METALS
 1855 House Street NE
 Plainfield Township, Kent County, MI

Sample Location	Part 201 Generic Residential Groundwater Cleanup Criteria – Drinking Water ²	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface ²	Part 201 Generic Residential Groundwater Cleanup Criteria – Groundwater Volatilization to Indoor Air Inhalation ²	MDEQ Residential Recommended Volatilization to Indoor Air Interim Action Screening Level - Groundwater ³	U.S. EPA Residential Tap Water Regional Removal Management Levels ⁴	HS-MW-14D	HS-MW-15S	HS-MW-15M	HS-MW-15D	HS-MW-17S	HS-MW-17M	HS-MW-17D	HS-MW-18S	HS-MW-18D	HS-MW-19S	HS-MW-19D	HS-MW-20S	HS-MW-20M	HS-MW-20D
Sample Name						HS-MW-14D DUP	HS-MW-15S	HS-MW-15M	HS-MW-15D	HS-MW-17S	HS-MW-17M	HS-MW-17D	HS-MW-18S	HS-MW-18D	HS-MW-19S	HS-MW-19D	MW-20S	HS-MW-20M	HS-MW-20D
Well Screen Interval (Feet below ground surface)						107 - 112	7 - 17	45 - 50	108 - 118	103 - 108	163 - 168	213 - 218	13 - 23	138 - 143	58 - 61	85 - 95	60 - 65	100 - 105	124.5 - 129.5
Laboratory Sample ID(s)						UB28086-010 & 19021325-04B	UB28086-004 & 19021325-08B	UB28086-005 & 19021325-09B	UB28086-006 & 19021325-10B	UC09042-003 & 1903165-06B	UC09042-005 & 1903165-07B	UC09042-006 & 1903165-08B	UC02020-007 & 19021325-17B	UC02020-006 & 19021325-16B	UC02020-004 & 19021325-14B	UC02020-005 & 19021325-15B	UC06036-001 & 1903165-01B	UC09042-001 & 1903165-04B	UC09042-002 & 1903165-05B
Sample Date	02/26/2019	02/27/2019	02/27/2019	02/27/2019	03/06/2019	03/07/2019	03/07/2019	03/01/2019	03/01/2019	02/28/2019	02/28/2019	03/04/2019	03/06/2019	03/06/2019					
Parameter (µg/L)																			
Aluminum	50 (V)	NA	NLV	NCL	60,000	<40	18 [J]	<40	48	<40	<40	1,700	15 [J]	12 [J]	810	400	89	<40	860
Antimony	6.0 (A)	130	NLV	NCL	23	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic	10 (A)	10	NLV	NCL	5.2	<2	<2	1.3 [J]	2.1	<2	<2	<2	<2	5.5	<2	<2	<2	<2	<2
Barium	2,000 (A)	1,000 (G)	NLV	NCL	11,000	15	32	33	14	42	56	150	14	9.9	350	30	68	60	71
Beryllium	4.0 (A)	25 (G)	NLV	NCL	74	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Boron (Boron and Borates only)	500 (F)	7,200	NLV	NCL	12,000	23 [J]	19 [J]	57	1,900	22 [J]	18 [J]	20 [J]	21 [J]	78	37 [J]	25 [J]	15 [J]	27 [J]	25 [J]
Cadmium	5.0 (A)	2.5 (G)	NLV	NCL	NCL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium (Total)	NCL	NCL	NCL	NCL	NCL	<5	<5	<5	<5	<5	<5	8.8	<5	<5	2.9 [J]	2.5 [J]	<5	<5	3.3 [J]
Trivalent Chromium (Calculated: Total - Hexavalent)	100 (A)	120 (G)	NLV	NCL	67,000	ND	ND	ND	ND	ND	ND	8.8	ND	ND	2.9	2.5	ND	ND	3.3
Hexavalent Chromium	100 (A)	11	NLV	NCL	3.5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Cobalt	40	100	NLV	NCL	18	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Copper	1,000 (E)	18 (G)	NLV	NCL	2,400	<5	<5	<5	<5	<5	<5	4.5 [J]	<5	<5	1.9 [J]	<5	<5	<5	1.5 [J]
Iron	300 (E)	NA	NLV	NCL	42,000	590	270	1,800	2,600	190	200	4,400	69	3,600	2,600	4,500	210	220	2,300
Lead	4.0 (L)	14 (G)	NLV	NCL	15	<1	<1	<1	<1	<1	<1	2.1	<1	<1	0.69 [J]	0.43 [J]	0.25 [J]	<1	0.68 [J]
Magnesium	400,000	NA	NLV	NCL	NCL	29,000	24,000	27,000	68,000	26,000	21,000	36,000	11,000	27,000	17,000	44,000	27,000	26,000	26,000
Mercury	2.0 (A)	0.0013	56 (S)	1.4	1.9	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Molybdenum	73	3,200	NLV	NCL	300	<10	<10	<10	3.7 [J]	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Nickel	100 (A)	100 (G)	NLV	NCL	1,200	2.6 [J]	<5	<5	2.7 [J]	<5	<5	4.2 [J]	<5	2.1 [J]	2.1 [J]	2.2 [J]	<5	<5	2.4 [J]
Selenium	50 (A)	5.0	NLV	NCL	300	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver	34	0.2 (M)	NLV	NCL	280	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sodium	NCL	NCL	NCL	NCL	NCL	32,000	15,000	12,000	82,000	68,000	4,900	40,000	16,000	11,000	13,000	7,700	16,000	32,000	27,000
Thallium	2.0 (A)	3.7	NLV	NCL	0.60	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Titanium	NCL	NCL	NCL	NCL	NCL	<5	<5	<5	2.6 [J]	<5	<5	64	<5	<5	24	12	1.4 [J]	<5	34
Vanadium	4.5	27	NLV	NCL	260	<5	<5	<5	<5	<5	<5	4 [J]	<5	<5	<5	<5	<5	<5	<5
Zinc	2,400	230 (G)	NLV	NCL	18,000	14	<10	<10	<10	20	<10	160	<10	<10	4.3 [J]	<10	<10	<10	7.4 [J]

TABLE 3
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - METALS
1855 House Street NE
Plainfield Township, Kent County, MI

Sample Location	Part 201 Generic Residential Groundwater Cleanup Criteria – Drinking Water ²	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface ²	Part 201 Generic Residential Groundwater Cleanup Criteria – Groundwater Volatilization to Indoor Air Inhalation ²	MDEQ Residential Recommended Volatilization to Indoor Air Interim Action Screening Level – Groundwater ³	U.S. EPA Residential Tap Water Regional Removal Management Levels ⁴	HS-MW-21S	HS-MW-21M	HS-MW-21D	HS-MW-25S	HS-MW-25D	HS-MW-26S	HS-MW-26M	HS-MW-26D
Sample Name						HS-MW-21S	HS-MW-21M	HS-MW-21D	HS-MW-25S	HS-MW-25D	HS-MW-26S	HS-MW-26M	HS-MW-26D
Well Screen Interval (Feet below ground surface)						10 - 20	59 - 64	75.8 - 85.8	49.6 - 54.6	65 - 70	25 - 30	60 - 65	78 - 83
Laboratory Sample ID(s)						UB28086-001 & 19021325-05B	UB28086-002 & 19021325-06B	UB28086-003 & 19021325-07B	UC02020-008 & 19021325-18B	UC02020-009 & 19021325-19B	UC02020-001 & 19021325-11B	UC02020-002 & 19021325-12B	UC02020-003 & 19021325-13B
Sample Date						02/27/2019	02/27/2019	02/27/2019	03/01/2019	03/01/2019	02/28/2019	02/28/2019	02/28/2019
Parameter (µg/L)													
Aluminum	50 (V)	NA	NLV	NCL	60,000	<40	12 [J]	32 [J]	28 [J]	60	25 [J]	21 [J]	69
Antimony	6.0 (A)	130	NLV	NCL	23	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic	10 (A)	10	NLV	NCL	5.2	<2	<2	<2	2.4	<2	4.9	<2	<2
Barium	2,000 (A)	1,000 (G)	NLV	NCL	11,000	69	15	14	35	99	140	160	55
Beryllium	4.0 (A)	25 (G)	NLV	NCL	74	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Boron (Boron and Borates only)	500 (F)	7,200	NLV	NCL	12,000	28 [J]	25 [J]	26 [J]	55	47 [J]	31 [J]	52	13 [J]
Cadmium	5.0 (A)	2.5 (G)	NLV	NCL	NCL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium (Total)	NCL	NCL	NCL	NCL	NCL	<5	<5	<5	2.2 [J]	<5	<5	<5	5.7
Trivalent Chromium (Calculated: Total - Hexavalent)	100 (A)	120 (G)	NLV	NCL	67,000	ND	ND	ND	2.2	ND	ND	ND	0.4
Hexavalent Chromium	100 (A)	11	NLV	NCL	3.5	<5	<5	<5	<5	<5	<5	<5	5.3
Cobalt	40	100	NLV	NCL	18	<5	<5	<5	<5	<5	<5	<5	<5
Copper	1,000 (E)	18 (G)	NLV	NCL	2,400	<5	<5	<5	<5	<5	<5	<5	<5
Iron	300 (E)	NA	NLV	NCL	42,000	190	2,000	3,800	140	200	150	120	470
Lead	4.0 (L)	14 (G)	NLV	NCL	15	<1	<1	<1	<1	<1	<1	<1	<1
Magnesium	400,000	NA	NLV	NCL	NCL	24,000	23,000	26,000	27,000	28,000	17,000	20,000	130 [J]
Mercury	2.0 (A)	0.0013	56 (S)	1.4	1.9	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Molybdenum	73	3,200	NLV	NCL	300	<10	<10	<10	5.7 [J]	<10	19	3.4 [J]	73
Nickel	100 (A)	100 (G)	NLV	NCL	1,200	1.3 [J]	1.6 [J]	1.9 [J]	<5	1.3 [J]	<5	2.4 [J]	1.8 [J]
Selenium	50 (A)	5.0	NLV	NCL	300	<5	<5	<5	<5	<5	<5	<5	<5
Silver	34	0.2 (M)	NLV	NCL	280	<1	<1	<1	<1	<1	<1	<1	<1
Sodium	NCL	NCL	NCL	NCL	NCL	48,000	4,400	6,700	44,000	30,000	40,000	51,000	11,000
Thallium	2.0 (A)	3.7	NLV	NCL	0.60	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Titanium	NCL	NCL	NCL	NCL	NCL	<5	<5	2 [J]	<5	2.2 [J]	<5	<5	<5
Vanadium	4.5	27	NLV	NCL	260	<5	<5	<5	5.2	<5	<5	<5	9.7
Zinc	2,400	230 (G)	NLV	NCL	18,000	<10	<10	<10	<10	<10	<10	<10	<10

TABLE 4
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - INORGANICS/GENERAL CHEMISTRY
1855 House Street NE
Plainfield Township, Kent County, MI

Sample Location	Part 201 Generic Residential Groundwater Cleanup Criteria – Drinking Water ²	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface ²	Part 201 Generic Residential Groundwater Cleanup Criteria – Groundwater Volatilization to Indoor Air Inhalation ²	MDEQ Residential Recommended Volatilization to Indoor Air Interim Action Screening Level – Groundwater ³	U.S. EPA Residential Tap Water Regional Removal Management Levels ⁴	HS-MW-1S	HS-MW-1D	HS-MW-2	HS-MW-3S	HS-MW-3S	HS-MW-4	HS-MW-5S	HS-MW-5D	HS-MW-6S	HS-MW-6D	HS-MW-7S	HS-MW-7S	HS-MW-8	HS-MW-8
Sample Name						HS-MW-1S	HS-MW-1D	HS-MW-2	HS-MW-3S	HS-MW-3S DUP	HS-MW-4	HS-MW-5S	HS-MW-5D	HS-MW-6S	HS-MW-6D	HS-MW-7S	HS-MW-7S DUP	HS-MW-8	HS-MW-8 DUP
Well Screen Interval (Feet below ground surface)						68.4 - 73.1	170.1 - 174.7	78.5 - 83.1	69.7 - 74.6	69.7 - 74.6	71.1 - 75.7	61.9 - 66.6	188 - 198	57.1 - 61.8	155 - 160	70.1 - 74.7	70.1 - 74.7	27.7 - 32.7	27.7 - 32.7
Laboratory Sample ID(s)						UC16019-002 & 1903547-02A/C	UC16019-001 & 1903547-01A/C	UC16019-003 & 1903547-03A/C	UC16019-005 & 1903547-09A/B	UC16019-006 & 1903547-10A/B	UC16019-015 & 1903547-11A/C	UC16019-012 & 1903547-07A/C	UC16019-013 & 1903547-08A/C	UC21029-007 & 1903985-07A/C	UC21029-008 & 1903985-08A/C	UC23028-001 & 1903985-09A/C	UC23028-002	UC23028-003 & 1903985-10A/C	1903985-11A/C
Sample Date	03/11/2019	03/11/2019	03/11/2019	03/13/2019	03/13/2019	03/15/2019	03/14/2019	03/14/2019	03/20/2019	03/20/2019	03/21/2019	03/21/2019	03/21/2019	03/21/2019					
Parameter (µg/L)																			
Acetic Acid	4,200	8,800 (G)	NLV	NCL	NCL	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000
Formic acid	10,000	ID	7,700,000	NCL	1.9	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000
Cyanide - Total	200	5.2	NLV	NCL	4.4	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Cyanide, Available	200 (A)	5.2	NLV	NCL	NCL	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	2.9	<2
Hardness (total)	NCL	NCL	NCL	NCL	NCL	350,000	370,000	390,000	540,000	520,000	420,000	520,000	400,000	390,000	490,000	400,000	400,000	400,000	220,000
Ammonia - N (gas diffusion)	NCL	NCL	NCL	NCL	NCL	<100	<100	<100	<100	<100	<100	<100	160	<100	140	<100	<100	<100	<100
Nitrate-Nitrite - N	NCL	NCL	NCL	NCL	NCL	2,800 [B]	2,700 [B]	2,100 [B]	3,400 [B]	3,500 [B]	2,400 [B]	23,000 [B]	150 [B]	980 [B]	12 [B]	2,100 [B]	2,000 [B]	1,300 [B]	
Nitrate-Nitrite - N + Ammonia - N (Calculated)	10,000 (N)	NCL	NCL	NCL	NCL	2,800	2,700	2,100	3,400	3,500	2,400	23,000	310	980	150	2,100	2,000	1,300	
Unionized Ammonia (Calculated based on pH 8.0, 20°C)	NCL	29 (CC)	NCL	250,000	NCL	ND	ND	ND	ND	ND	ND	ND	6.1	ND	5.3	ND	ND	ND	ND
Chloride	250,000 (E)	NCL (FF)	NLV	NCL	NCL	11,000	200,000	18,000	2,100	2,100	2,000	110,000	38,000	47,000	66,000	31,000	31,000	29,000	
Phosphorus (Total)	63,000	1,000 (EE)	NLV	NCL	NCL	24 [J]	<50	<50	<50	5.8 [J]	<50	13 [J]	15 [J]	6.8 [J]	33 [J]	10 [J]	9.2 [J]	10 [J]	
Sulfate	250,000 (E)	NA	NLV	NCL	NCL	12,000	26,000	17,000	27,000	27,000	22,000	100,000	180,000	21,000	230,000	18,000	18,000	11,000	
Sulfide	NCL	NCL	NCL	NCL	NCL	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000

TABLE 4
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - INORGANICS/GENERAL CHEMISTRY
1855 House Street NE
Plainfield Township, Kent County, MI

Sample Location	Part 201 Generic Residential Groundwater Cleanup Criteria – Drinking Water ²	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface ²	Part 201 Generic Residential Groundwater Cleanup Criteria – Groundwater Volatilization to Indoor Air Inhalation ²	MDEQ Residential Recommended Volatilization to Indoor Air Interim Action Screening Level – Groundwater ³	U.S. EPA Residential Tap Water Regional Removal Management Levels ⁴	HS-MW-9S	HS-MW-9M	HS-MW-9D	HS-MW-10S	HS-MW-10M	HS-MW-10D	HS-MW-11S	HS-MW-11M	HS-MW-11D	HS-MW-14S	HS-MW-14D	HS-MW-14D DUP	HS-MW-14M	HS-MW-15S
Sample Name						HS-MW-9S	HS-MW-9M	HS-MW-9D	HS-MW-10S	HS-MW-10M	HS-MW-10D	HS-MW-11S	HS-MW-11M	HS-MW-11D	HS-MW-14S	HS-MW-14D	HS-MW-14D DUP	HS-MW-14M	HS-MW-15S
Well Screen Interval (Feet below ground surface)						26 - 31	126 - 131	203 - 208	49 - 59	125 - 130	185 - 190	21 - 31	95 - 100	150 - 155	13 - 23	107 - 112	107 - 112	68 - 73	7 - 17
Laboratory Sample ID(s)						UC21029-004 & 1903985-06A/C	UC21029-005 & 1903985-05A/C	UC21029-006 & 1903985-04A/C	UC21029-001 & 1903985-01A/C	UC21029-002 & 1903985-02A/C	UC21029-003 & 1903985-03A/C	UC16019-009 & 1903547-04A/C	UC16019-010 & 1903547-05A/C	UC16019-011 & 1903547-06A/C	UB28086-008 & 19021325-01A/C	UB28086-009 & 19021325-03A/C	UB28086-010 & 19021325-04A/C	UB28086-007 & 19021325-02A/C	UB28086-004 & 19021325-08A/C
Sample Date	03/19/2019	03/19/2019	03/19/2019	03/18/2019	03/18/2019	03/18/2019	03/14/2019	03/14/2019	03/14/2019	02/26/2019	02/26/2019	02/26/2019	02/26/2019	02/27/2019					
Parameter (µg/L)																			
Acetic Acid	4,200	8,800 (G)	NLV	NCL	NCL	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000
Formic acid	10,000	ID	7,700,000	NCL	1.9	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000
Cyanide - Total	200	5.2	NLV	NCL	4.4	<10	<10	11	<10	12	11	<10	<10	<10	<10	<10	<10	<10	<10
Cyanide, Available	200 (A)	5.2	NLV	NCL	NCL	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Hardness (total)	NCL	NCL	NCL	NCL	NCL	350,000	320,000	340,000	320,000	440,000	520,000	360,000	260,000	270,000	340,000	850,000	790,000	380,000	290,000
Ammonia - N (gas diffusion)	NCL	NCL	NCL	NCL	NCL	<100	150	430	<100	<100	350	110	<100	55 [J]	<100	<100	<100	<100	<100
Nitrate-Nitrite - N	NCL	NCL	NCL	NCL	NCL	2,400 [B]	14 [BJ]	2.4 [BJ]	1,600 [B]	1,100 [B]	14 [BJ]	1,700 [B]	970 [B]	18 [BJ]	1,900 [B]	<20	9.4 [BJ]	6.1 [BJ]	390 [B]
Nitrate-Nitrite - N + Ammonia - N (Calculated)	10,000 (N)	NCL	NCL	NCL	NCL	2,400	160	430	1,600	1,100	360	1,800	970	73	1,900	ND	9.4	6.1	390
Unionized Ammonia (Calculated based on pH 8.0, 20°C)	NCL	29 (CC)	NCL	250,000	NCL	ND	5.7	16	ND	ND	13	4.2	ND	2.1	ND	ND	ND	ND	ND
Chloride	250,000 (E)	NCL (FF)	NLV	NCL	NCL	71,000	23,000	69,000	38,000	440,000	3,900	150,000	14,000	9,300	94,000	100,000	100,000	81,000	37,000
Phosphorus (Total)	63,000	1,000 (EE)	NLV	NCL	NCL	22 [J]	19 [J]	55	5.7 [J]	19 [J]	55	8.5 [J]	<50	8.3 [J]	<50	<50	<50	6.8 [J]	<50
Sulfate	250,000 (E)	NA	NLV	NCL	NCL	15,000	24,000	45,000	5,400	25,000	270,000	8,400	20,000	58,000	34,000 [B]	540,000	540,000	44,000 [B]	28,000 [B]
Sulfide	NCL	NCL	NCL	NCL	NCL	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	1,100	<1,000

TABLE 4
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - INORGANICS/GENERAL CHEMISTRY
1855 House Street NE
Plainfield Township, Kent County, MI

Sample Location	Part 201 Generic Residential Groundwater Cleanup Criteria – Drinking Water ²	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface ²	Part 201 Generic Residential Groundwater Cleanup Criteria – Groundwater Volatilization to Indoor Air Inhalation ²	MDEQ Residential Recommended Volatilization to Indoor Air Interim Action Screening Level – Groundwater ³	U.S. EPA Residential Tap Water Regional Removal Management Levels ⁴	HS-MW-15M	HS-MW-15D	HS-MW-17S	HS-MW-17M	HS-MW-17D	HS-MW-18S	HS-MW-18D	HS-MW-19S	HS-MW-19D	HS-MW-20S	HS-MW-20M	HS-MW-20D	HS-MW-21S	HS-MW-21M	
Sample Name						HS-MW-15M	HS-MW-15D	HS-MW-17S	HS-MW-17M	HS-MW-17D	HS-MW-18S	HS-MW-18D	HS-MW-19S	HS-MW-19D	MW-20S	HS-MW-20M	HS-MW-20D	HS-MW-21S	HS-MW-21M	
Well Screen Interval (Feet below ground surface)						45 - 50	108 - 118	103 - 108	163 - 168	213 - 218	13 - 23	138 - 143	58 - 61	85 - 95	60 - 65	100 - 105	124.5 - 129.5	10 - 20	59 - 64	
Laboratory Sample ID(s)						UB28086-005 & 19021325-09A/C	UB28086-006 & 19021325-10A/C	UC09042-003 & 1903165-06A/C	UC09042-005 & 1903165-07A/C	UC09042-006 & 1903165-08A/C	UC02020-007 & 19021325-17A/C	UC02020-006 & 19021325-16A/C	UC02020-004 & 19021325-14A/C	UC02020-005 & 19021325-15A/C	UC06036-001 & 1903165-01A/C	UC09042-001 & 1903165-04A/C	UC09042-002 & 1903165-05A/C	UC09042-002 & 19021325-05A/C	UB28086-001 & 19021325-05A/C	UB28086-002 & 19021325-06A/C
Sample Date						02/27/2019	02/27/2019	03/06/2019	03/07/2019	03/07/2019	03/01/2019	03/01/2019	02/28/2019	02/28/2019	03/04/2019	03/06/2019	03/06/2019	02/27/2019	02/27/2019	
Parameter (µg/L)																				
Acetic Acid	4,200	8,800 (G)	NLV	NCL	NCL	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000
Formic acid	10,000	ID	7,700,000	NCL	1.9	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000
Cyanide - Total	200	5.2	NLV	NCL	4.4	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Cyanide, Available	200 (A)	5.2	NLV	NCL	NCL	<2	<2	<2	3	<2	<2	<2	<2	<2	3.3	4.6	<2	<2	<2	<2
Hardness (total)	NCL	NCL	NCL	NCL	NCL	550,000	1,700,000	360,000	260,000	450,000	120,000	1,100,000	260,000	910,000	320,000	330,000	570,000	340,000	740,000	
Ammonia - N (gas diffusion)	NCL	NCL	NCL	NCL	NCL	69 [J]	1,400	<100	<100	42 [J]	<100	220	420	230	110	<100	150	<100	130	
Nitrate-Nitrite - N	NCL	NCL	NCL	NCL	NCL	13 [BJ]	9.2 [BJ]	7,300	670	11 [J]	1,300	<20	10 [J]	11 [J]	950	1,300	18 [J]	1,300 [B]	16 [BJ]	
Nitrate-Nitrite - N + Ammonia - N (Calculated)	10,000 (N)	NCL	NCL	NCL	NCL	82	1,400	7,300	670	53	1,300	220	430	240	1,100	1,300	170	1,300	150	
Unionized Ammonia (Calculated based on pH 8.0, 20°C)	NCL	29 (CC)	NCL	250,000	NCL	2.6	53	ND	ND	1.6	ND	8.4	16	8.8	4.2	ND	5.7	ND	5.0	
Chloride	250,000 (E)	NCL (FF)	NLV	NCL	NCL	40,000	31,000	160,000	13,000	85,000	25,000	44,000	8,300	30,000	62,000	77,000	65,000	93,000	5,900	
Phosphorus (Total)	63,000	1,000 (EE)	NLV	NCL	NCL	37 [J]	13 [J]	<50	5.2 [J]	27 [J]	30 [J]	11 [J]	90	35 [J]	13 [J]	8.2 [J]	38 [J]	11 [J]	17 [J]	
Sulfate	250,000 (E)	NA	NLV	NCL	NCL	290,000	1,900,000	12,000	30,000	55,000	7,900	810,000	4,700	590,000	30,000	23,000	110,000	51,000 [B]	490,000	
Sulfide	NCL	NCL	NCL	NCL	NCL	1,500	1,200	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	1,400	

TABLE 4
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - INORGANICS/GENERAL CHEMISTRY
1855 House Street NE
Plainfield Township, Kent County, MI

Sample Location	Part 201 Generic Residential Groundwater Cleanup Criteria – Drinking Water ²	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface ²	Part 201 Generic Residential Groundwater Cleanup Criteria – Groundwater Volatilization to Indoor Air Inhalation ²	MDEQ Residential Recommended Volatilization to Indoor Air Interim Action Screening Level – Groundwater ³	U.S. EPA Residential Tap Water Regional Removal Management Levels ⁴	HS-MW-21D	HS-MW-25S	HS-MW-25D	HS-MW-26S	HS-MW-26M	HS-MW-26D
Sample Name						HS-MW-21D	HS-MW-25S	HS-MW-25D	HS-MW-26S	HS-MW-26M	HS-MW-26D
Well Screen Interval (Feet below ground surface)						75.8 - 85.8	49.6 - 54.6	65 - 70	25 - 30	60 - 65	78 - 83
Laboratory Sample ID(s)						UB28086-003 & 19021325-07A/C	UC02020-008 & 19021325-18A/C	UC02020-009 & 19021325-19A/C	UC02020-001 & 19021325-11A/C	UC02020-002 & 19021325-12A/C	UC02020-003 & 19021325-13A/C
Sample Date						02/27/2019	03/01/2019	03/01/2019	02/28/2019	02/28/2019	02/28/2019
Parameter (µg/L)											
Acetic Acid	4,200	8,800 (G)	NLV	NCL	NCL	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000
Formic acid	10,000	ID	7,700,000	NCL	1.9	<25,000	<25,000	<25,000	<25,000	<25,000	<25,000
Cyanide - Total	200	5.2	NLV	NCL	4.4	<10	<10	<10	<10	<10	<10
Cyanide, Available	200 (A)	5.2	NLV	NCL	NCL	<2	<2	<2	<2	<2	<2
Hardness (total)	NCL	NCL	NCL	NCL	NCL	910,000	290,000	320,000	190,000	240,000	670,000
Ammonia - N (gas diffusion)	NCL	NCL	NCL	NCL	NCL	210	210	<100	1,500	<100	130
Nitrate-Nitrite - N	NCL	NCL	NCL	NCL	NCL	6 [B]	5,000	3,900	9.2 [J]	1,200	210
Nitrate-Nitrite - N + Ammonia - N (Calculated)	10,000 (N)	NCL	NCL	NCL	NCL	220	5,200	3,900	1,500	1,200	340
Unionized Ammonia (Calculated based on pH 8.0, 20°C)	NCL	29 (CC)	NCL	250,000	NCL	8.0	8.0	ND	57	ND	5.0
Chloride	250,000 (E)	NCL (FF)	NLV	NCL	NCL	4,200	60,000	61,000	31,000	110,000	24,000
Phosphorus (Total)	63,000	1,000 (EE)	NLV	NCL	NCL	220	7.2 [J]	6.4 [J]	14 [J]	<50	9.9 [J]
Sulfate	250,000 (E)	NA	NLV	NCL	NCL	750,000	30,000	43,000	50,000	56,000	560,000
Sulfide	NCL	NCL	NCL	NCL	NCL	1,300	<1,000	<1,000	<1,000	1,200	<1,000

TABLE 5
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - PFAS
1855 House Street NE
Plainfield Township, Kent County, MI

Sample Location	Part 201 Generic Residential Groundwater Cleanup Criteria – Drinking Water ²	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface ²	Part 201 Generic Residential Groundwater Cleanup Criteria – Groundwater Volatilization to Indoor Air Inhalation ²	MDEQ Residential Recommended Volatilization to Indoor Air Interim Action Screening Level – Groundwater ³	U.S. EPA Residential Tap Water Regional Removal Management Levels ⁴	HS-MW-1S	HS-MW-1D	HS-MW-2	HS-MW-3S	HS-MW-3S	HS-MW-4	HS-MW-5S	HS-MW-5D	HS-MW-6S	HS-MW-6D	HS-MW-7S	HS-MW-7S	HS-MW-8	HS-MW-9S
Sample Name						HS-MW-1S	HS-MW-1D	HS-MW-2	HS-MW-3S	HS-MW-3S DUP	HS-MW-4	HS-MW-5S	HS-MW-5D	HS-MW-6S	HS-MW-6D	HS-MW-7S	HS-MW-7S DUP	HS-MW-8	HS-MW-9S
Well Screen Interval (Feet below ground surface)						68.4 - 73.1	170.1 - 174.7	78.5 - 83.1	69.7 - 74.6	69.7 - 74.6	71.1 - 75.7	61.9 - 66.6	188 - 198	57.1 - 61.8	155 - 160	70.1 - 74.7	70.1 - 74.7	27.7 - 32.7	26 - 31
Laboratory Sample ID(s)						UC16019-002	UC16019-001	UC16019-003	UC16019-005	UC16019-006	UC16019-015	UC16019-012	UC16019-013	UC21029-007	UC21029-008	UC23028-001	UC23028-002	UC23028-003	UC21029-004
Sample Date	03/11/2019	03/11/2019	03/11/2019	03/13/2019	03/13/2019	03/15/2019	03/14/2019	03/14/2019	03/20/2019	03/20/2019	03/21/2019	03/21/2019	03/21/2019	03/19/2019					
Parameter (µg/L)																			
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	NCL	NCL	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.078	<0.0035	<0.0036	<0.0035	<0.0035	<0.0035	<0.0036	<0.0036
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	NCL	NCL	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.078	<0.0035	<0.0036	<0.0035	<0.0035	<0.0035	<0.0036	<0.0036
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	NCL	NCL	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.078	<0.0035	<0.0036	<0.0035	<0.0035	<0.0035	<0.0036	<0.0036
N-Methyl perfluorooctane sulfonamide (MeFOSA)	NCL	NCL	NCL	NCL	NCL	<0.007	<0.0071	<0.0071	<0.007	<0.007	<0.007	<0.16	<0.0071	<0.0073	<0.007	<0.0071	<0.007	<0.0072	<0.0073
Perfluorobutane sulfonic acid (PFBS)	NCL	NCL	NCL	NCL	1,200	0.0057	0.0056	0.079	0.38	0.39	0.058	1.9	<0.0035	0.047	<0.0035	0.0051	0.0053	0.026	<0.0036
Perfluorodecane sulfonic acid (PFDS)	NCL	NCL	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.078	<0.0035	<0.0036	<0.0035	<0.0035	<0.0035	<0.0036	<0.0036
Perfluoroheptane sulfonic acid (PFHpS)	NCL	NCL	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	0.034	0.04	0.56	1.7	<0.0035	<0.0036	<0.0035	<0.0035	<0.0035	0.078	<0.0036
Perfluoro-1-nonanesulfonate (PFNS)	NCL	NCL	NCL	NCL	NCL	<0.007	<0.0071	<0.0071	<0.007	<0.007	<0.007	<0.16	<0.0071	<0.0073	<0.007	<0.0071	<0.007	<0.0072	<0.0073
Perfluorooctane sulfonamide (FOSA)	NCL	NCL	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.078	<0.0035	<0.0036	<0.0035	<0.0035	<0.0035	<0.0036	<0.0036
Perfluoro-1-pentanesulfonate (PFPeS)	NCL	NCL	NCL	NCL	NCL	<0.0035	<0.0035	0.097	0.68	0.6	0.18	3.1	<0.0035	0.061	<0.0035	<0.0035	<0.0035	0.044	<0.0036
Perfluorohexane sulfonic acid (PFHxS)	NCL	NCL	NCL	NCL	NCL	0.04	<0.0035	0.046	1.5	1.3	3	7.5	<0.0035	0.085	<0.0035	0.011	0.0099	0.15	<0.0036
Perfluorobutanoic acid (PFBA)	NCL	NCL	NCL	NCL	NCL	<0.0035	<0.0035	0.0095	0.093	0.09	0.095	0.56	<0.0035	0.0046	<0.0035	<0.0035	<0.0035	0.066	<0.0036
Perfluorodecanoic acid (PFDA)	NCL	NCL	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.078	<0.0035	<0.0036	<0.0035	<0.0035	<0.0035	<0.0036	<0.0036
Perfluorododecanoic acid (PFDoDA)	NCL	NCL	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.078	<0.0035	<0.0036	<0.0035	<0.0035	<0.0035	<0.0036	<0.0036
Perfluoroheptanoic acid (PFHpA)	NCL	NCL	NCL	NCL	NCL	<0.0035	<0.0035	0.023	0.14	0.15	0.19	1.6	<0.0035	0.015	<0.0035	<0.0035	<0.0035	0.037	<0.0036
Perfluorohexanoic acid (PFHxA)	NCL	NCL	NCL	NCL	NCL	0.0053	<0.0035	0.053	0.35	0.33	0.22	1.5	<0.0035	0.031	<0.0035	<0.0035	<0.0035	0.016	<0.0036
Perfluorononanoic acid (PFNA)	NCL	NCL	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.078	<0.0035	<0.0036	<0.0035	<0.0035	<0.0035	<0.0036	<0.0036
Perfluorooctanoic acid (PFOA)	0.07 (JJ)	12	NCL	NCL	NCL	0.0095	0.0091	0.0088	0.69	0.63	1.5	8.5	<0.0018	0.044	<0.0018	0.0029	0.003	0.38	<0.0018
Perfluorooctane sulfonic acid (PFOS)	0.07 (JJ)	0.012	NCL	NCL	NCL	0.0046	0.0042	<0.0035	0.032	0.032	4.5	42	0.0053	0.0087	<0.0035	<0.0035	<0.0035	0.14	<0.0036
PFOA + PFOS (Calculated)	0.07	NCL	NCL	NCL	NCL	0.014	0.013	0.0088	0.72	0.66	6	51	0.0053	0.053	ND	0.0029	0.003	0.52	ND
Perfluoropentanoic acid (PFPeA)	NCL	NCL	NCL	NCL	NCL	<0.0035	<0.0035	0.012	0.11	0.11	0.094	0.65	<0.0035	0.0078	<0.0035	<0.0035	<0.0035	0.0055	<0.0036
Perfluorotetradecanoic acid (PFTeDA)	NCL	NCL	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.078	<0.0035	<0.0036	<0.0035	<0.0035	<0.0035	<0.0036	<0.0036
Perfluorotridecanoic acid (PFTrDA)	NCL	NCL	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.078	<0.0035	<0.0036	<0.0035	<0.0035	<0.0035	<0.0036	<0.0036
Perfluoroundecanoic acid (PFUnDA)	NCL	NCL	NCL	NCL	NCL	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.078	<0.0035	<0.0036	<0.0035	<0.0035	<0.0035	<0.0036	<0.0036
Total PFAS (Calculated)	NCL	NCL	NCL	NCL	NCL	0.065	0.019	0.33	4	3.7	10	69	0.0053	0.3	ND	0.019	0.018	0.88	ND

TABLE 5
 SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - PFAS
 1855 House Street NE
 Plainfield Township, Kent County, MI

Sample Location	Part 201 Generic Residential Groundwater Cleanup Criteria – Drinking Water ²	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface ²	Part 201 Generic Residential Groundwater Cleanup Criteria – Groundwater Volatilization to Indoor Air Inhalation ²	MDEQ Residential Recommended Volatilization to Indoor Air Interim Action Screening Level – Groundwater ³	U.S. EPA Residential Tap Water Regional Removal Management Levels ⁴	HS-MW-9M	HS-MW-9D	HS-MW-10S	HS-MW-10M	HS-MW-10D	HS-MW-11S	HS-MW-11M	HS-MW-11D	HS-MW-14S	HS-MW-14M	HS-MW-14D	HS-MW-14D DUP	HS-MW-15S	HS-MW-15M	
Sample Name						HS-MW-9M	HS-MW-9D	HS-MW-10S	HS-MW-10M	HS-MW-10D	HS-MW-11S	HS-MW-11M	HS-MW-11D	HS-MW-14S	HS-MW-14M	HS-MW-14D	HS-MW-14D DUP	HS-MW-15S	HS-MW-15M	
Well Screen Interval (Feet below ground surface)						126 - 131	203 - 208	49 - 59	125 - 130	185 - 190	21 - 31	95 - 100	150 - 155	13 - 23	68 - 73	107 - 112	107 - 112	7 - 17	45 - 50	
Laboratory Sample ID(s)						UC21029-005	UC21029-006	UC21029-001	UC21029-002	UC21029-003	UC16019-009	UC16019-010	UC16019-011	UB27031-002	UB27031-001	UB27031-003	UB27031-004	UB28086-004	UB28086-005	
Sample Date						03/19/2019	03/19/2019	03/18/2019	03/18/2019	03/18/2019	03/14/2019	03/14/2019	03/14/2019	02/26/2019	02/26/2019	02/26/2019	02/26/2019	02/27/2019	02/27/2019	
Parameter (µg/L)																				
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	NCL	NCL	NCL	NCL	NCL	<0.0036	<0.0035	<0.0035	<0.0035	<0.0038	<0.0036	<0.0036	<0.0038	<0.0036	<0.0036	<0.0037	<0.0036	<0.0037	<0.0037	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	NCL	NCL	NCL	NCL	NCL	<0.0036	<0.0035	<0.0035	<0.0035	<0.0038	<0.0036	<0.0036	<0.0038	<0.0036	<0.0036	<0.0037	<0.0036	<0.0037	<0.0037	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	NCL	NCL	NCL	NCL	NCL	<0.0036	<0.0035	<0.0035	<0.0035	<0.0038	<0.0036	<0.0036	<0.0038	<0.0036	<0.0036	<0.0037	<0.0036	<0.0037	<0.0037	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	NCL	NCL	NCL	NCL	NCL	<0.0071	<0.007	<0.007	<0.007	<0.0075	<0.0072	<0.0072	<0.0076	<0.0071	<0.0071	<0.0075	<0.0073	<0.0074	<0.0074	
Perfluorobutane sulfonic acid (PFBS)	NCL	NCL	NCL	NCL	1,200	<0.0036	<0.0035	<0.0035	0.0085	<0.0038	<0.0036	0.014	<0.0038	<0.0036	<0.0036	<0.0037	<0.0036	0.0073	<0.0037	
Perfluorodecane sulfonic acid (PFDS)	NCL	NCL	NCL	NCL	NCL	<0.0036	<0.0035	<0.0035	<0.0035	<0.0038	<0.0036	<0.0036	<0.0038	<0.0036	<0.0036	<0.0037	<0.0036	<0.0037	<0.0037	
Perfluoroheptane sulfonic acid (PFHpS)	NCL	NCL	NCL	NCL	NCL	<0.0036	<0.0035	0.0047	<0.0035	<0.0038	<0.0036	<0.0036	<0.0038	<0.0036	<0.0036	<0.0037	<0.0036	<0.0037	<0.0037	
Perfluoro-1-nonanesulfonate (PFNS)	NCL	NCL	NCL	NCL	NCL	<0.0071	<0.007	<0.007	<0.007	<0.0075	<0.0072	<0.0072	<0.0076	<0.0071	<0.0071	<0.0075	<0.0073	<0.0074	<0.0074	
Perfluorooctane sulfonamide (FOSA)	NCL	NCL	NCL	NCL	NCL	<0.0036	<0.0035	<0.0035	<0.0035	<0.0038	<0.0036	<0.0036	<0.0038	<0.0036	<0.0036	<0.0037	<0.0036	<0.0037	<0.0037	
Perfluoro-1-pentanesulfonate (PFPeS)	NCL	NCL	NCL	NCL	NCL	<0.0036	<0.0035	<0.0035	<0.0035	<0.0038	<0.0036	<0.0036	<0.0038	<0.0036	<0.0036	<0.0037	<0.0036	<0.0037	<0.0037	
Perfluorohexane sulfonic acid (PFHxS)	NCL	NCL	NCL	NCL	NCL	<0.0036	<0.0035	0.006	0.0048	<0.0038	<0.0036	<0.0036	<0.0038	<0.0036	<0.0036	<0.0037	<0.0036	<0.0037	<0.0037	
Perfluorobutanoic acid (PFBA)	NCL	NCL	NCL	NCL	NCL	<0.0036	<0.0035	<0.0035	<0.0035	<0.0038	<0.0036	<0.0036	<0.0038	<0.0036	<0.0036	<0.0037	<0.0036	<0.0037	<0.0037	
Perfluorodecanoic acid (PFDA)	NCL	NCL	NCL	NCL	NCL	<0.0036	<0.0035	<0.0035	<0.0035	<0.0038	<0.0036	<0.0036	<0.0038	<0.0036	<0.0036	<0.0037	<0.0036	<0.0037	<0.0037	
Perfluorododecanoic acid (PFDoDA)	NCL	NCL	NCL	NCL	NCL	<0.0036	<0.0035	<0.0035	<0.0035	<0.0038	<0.0036	<0.0036	<0.0038	<0.0036	<0.0036	<0.0037	<0.0036	<0.0037	<0.0037	
Perfluoroheptanoic acid (PFHpA)	NCL	NCL	NCL	NCL	NCL	<0.0036	<0.0035	<0.0035	<0.0035	<0.0038	<0.0036	<0.0036	<0.0038	<0.0036	<0.0036	<0.0037	<0.0036	<0.0037	<0.0037	
Perfluorohexanoic acid (PFHxA)	NCL	NCL	NCL	NCL	NCL	<0.0036	<0.0035	<0.0035	<0.0035	<0.0038	<0.0036	<0.0036	<0.0038	<0.0036	<0.0036	<0.0037	<0.0036	<0.0037	<0.0037	
Perfluorononanoic acid (PFNA)	NCL	NCL	NCL	NCL	NCL	<0.0036	<0.0035	<0.0035	<0.0035	<0.0038	<0.0036	<0.0036	<0.0038	<0.0036	<0.0036	<0.0037	<0.0036	<0.0037	<0.0037	
Perfluorooctanoic acid (PFOA)	0.07 (JJ)	12	NCL	NCL	NCL	<0.0018	<0.0017	0.012	0.0084	<0.0019	0.0024	<0.0018	<0.0019	<0.0018	<0.0018	<0.0019	<0.0018	<0.0018	<0.0018	
Perfluorooctane sulfonic acid (PFOS)	0.07 (JJ)	0.012	NCL	NCL	NCL	<0.0036	<0.0035	0.04	0.013	<0.0038	<0.0036	<0.0036	<0.0038	<0.0036	<0.0036	<0.0037	<0.0036	<0.0037	<0.0037	
PFOA + PFOS (Calculated)	0.07	NCL	NCL	NCL	NCL	ND	ND	0.052	0.021	ND	0.0024	ND	ND	ND	ND	ND	ND	ND	ND	
Perfluoropentanoic acid (PFPeA)	NCL	NCL	NCL	NCL	NCL	<0.0036	<0.0035	<0.0035	<0.0035	<0.0038	<0.0036	<0.0036	<0.0038	<0.0036	<0.0036	<0.0037	<0.0036	<0.0037	<0.0037	
Perfluorotetradecanoic acid (PFTeDA)	NCL	NCL	NCL	NCL	NCL	<0.0036	<0.0035	<0.0035	<0.0035	<0.0038	<0.0036	<0.0036	<0.0038	<0.0036	<0.0036	<0.0037	<0.0036	<0.0037	<0.0037	
Perfluorotridecanoic acid (PFTrDA)	NCL	NCL	NCL	NCL	NCL	<0.0036	<0.0035	<0.0035	<0.0035	<0.0038	<0.0036	<0.0036	<0.0038	<0.0036	<0.0036	<0.0037	<0.0036	<0.0037	<0.0037	
Perfluoroundecanoic acid (PFUnDA)	NCL	NCL	NCL	NCL	NCL	<0.0036	<0.0035	<0.0035	<0.0035	<0.0038	<0.0036	<0.0036	<0.0038	<0.0036	<0.0036	<0.0037	<0.0036	<0.0037	<0.0037	
Total PFAS (Calculated)	NCL	NCL	NCL	NCL	NCL	ND	ND	0.063	0.035	ND	0.0024	0.014	ND	ND	ND	ND	ND	0.0073	ND	

TABLE 5
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - PFAS
1855 House Street NE
Plainfield Township, Kent County, MI

Sample Location	Part 201 Generic Residential Groundwater Cleanup Criteria – Drinking Water ²	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface ²	Part 201 Generic Residential Groundwater Cleanup Criteria – Groundwater Volatilization to Indoor Air Inhalation ²	MDEQ Residential Recommended Volatilization to Indoor Air Interim Action Screening Level – Groundwater ³	U.S. EPA Residential Tap Water Regional Removal Management Levels ⁴	HS-MW-15D	HS-MW-17S	HS-MW-17M	HS-MW-17D	HS-MW-18S	HS-MW-18D	HS-MW-19S	HS-MW-19D	HS-MW-20S	HS-MW-20M	HS-MW-20D	HS-MW-21S	HS-MW-21M	HS-MW-21D
Sample Name						HS-MW-15D	HS-MW-17S	HS-MW-17M	HS-MW-17D	HS-MW-18S	HS-MW-18D	HS-MW-19S	HS-MW-19D	MW-20S	HS-MW-20M	HS-MW-20D	HS-MW-21S	HS-MW-21M	HS-MW-21D
Well Screen Interval (Feet below ground surface)						108 - 118	103 - 108	163 - 168	213 - 218	13 - 23	138 - 143	58 - 61	85 - 95	60 - 65	100 - 105	124.5 - 129.5	10 - 20	59 - 64	75.8 - 85.8
Laboratory Sample ID(s)						UB28086-006	UC09042-003	UC09042-005	UC09042-006	UC02020-007	UC02020-006	UC02020-004	UC02020-005	UC06036-001	UC09042-001	UC09042-002	UB28086-001	UB28086-002	UB28086-003
Sample Date	02/27/2019	03/06/2019	03/07/2019	03/07/2019	03/01/2019	03/01/2019	02/28/2019	02/28/2019	03/04/2019	03/06/2019	03/06/2019	02/27/2019	02/27/2019	02/27/2019					
Parameter (µg/L)																			
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0035	<0.0037	<0.0035	<0.0037	<0.0037	<0.004	<0.0035	<0.0036	<0.0037	<0.0035	<0.0037	<0.0037	<0.0036
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0035	<0.0037	<0.0035	<0.0037	<0.0037	<0.004	<0.0035	<0.0036	<0.0037	<0.0035	<0.0037	<0.0037	<0.0036
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0035	<0.0037	<0.0035	<0.0037	<0.0037	<0.004	<0.0035	<0.0036	<0.0037	<0.0035	<0.0037	<0.0037	<0.0036
N-Methyl perfluorooctane sulfonamide (MeFOSA)	NCL	NCL	NCL	NCL	NCL	<0.0075	<0.0071	<0.0074	<0.007	<0.0074	<0.0073	<0.0081	<0.007	<0.0071	<0.0074	<0.0071	<0.0073	<0.0075	<0.0072
Perfluorobutane sulfonic acid (PFBS)	NCL	NCL	NCL	NCL	1,200	<0.0037	0.014	0.004	0.43	0.0037	0.029	<0.004	<0.0035	0.015	0.071	0.16	<0.0037	<0.0037	<0.0036
Perfluorodecane sulfonic acid (PFDS)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0035	<0.0037	<0.0035	<0.0037	<0.0037	<0.004	<0.0035	<0.0036	<0.0037	<0.0035	<0.0037	<0.0037	<0.0036
Perfluoroheptane sulfonic acid (PFHpS)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0035	<0.0037	0.022	<0.0037	<0.0037	<0.004	<0.0035	<0.0036	0.0095	<0.0035	<0.0037	<0.0037	<0.0036
Perfluoro-1-nonanesulfonate (PFNS)	NCL	NCL	NCL	NCL	NCL	<0.0075	<0.0071	<0.0074	<0.007	<0.0074	<0.0073	<0.0081	<0.007	<0.0071	<0.0074	<0.0071	<0.0073	<0.0075	<0.0072
Perfluorooctane sulfonamide (FOSA)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0035	<0.0037	<0.0035	<0.0037	<0.0037	<0.004	<0.0035	<0.0036	<0.0037	<0.0035	<0.0037	<0.0037	<0.0036
Perfluoro-1-pentanesulfonate (PFPeS)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0035	<0.0037	0.56	<0.0037	0.015	<0.004	<0.0035	0.013	0.083	0.097	<0.0037	<0.0037	<0.0036
Perfluorohexane sulfonic acid (PFHxS)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0035	<0.0037	0.96	<0.0037	0.0074	<0.004	<0.0035	0.014	0.16	0.042	<0.0037	<0.0037	<0.0036
Perfluorobutanoic acid (PFBA)	NCL	NCL	NCL	NCL	NCL	<0.0037	0.0041	<0.0037	0.11	<0.0037	0.018	<0.004	<0.0035	0.0042	0.015	0.047	<0.0037	<0.0037	<0.0036
Perfluorodecanoic acid (PFDA)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0035	<0.0037	<0.0035	<0.0037	<0.0037	<0.004	<0.0035	<0.0036	<0.0037	<0.0035	<0.0037	<0.0037	<0.0036
Perfluorododecanoic acid (PFDoDA)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0035	<0.0037	<0.0035	<0.0037	<0.0037	<0.004	<0.0035	<0.0036	<0.0037	<0.0035	<0.0037	<0.0037	<0.0036
Perfluoroheptanoic acid (PFHpA)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0035	<0.0037	0.3	<0.0037	0.011	<0.004	<0.0035	0.0056	0.043	0.07	<0.0037	<0.0037	<0.0036
Perfluorohexanoic acid (PFHxA)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0035	<0.0037	0.27	<0.0037	0.022	<0.004	<0.0035	0.0068	0.038	0.088	<0.0037	<0.0037	<0.0036
Perfluorononanoic acid (PFNA)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0035	<0.0037	<0.0035	<0.0037	<0.0037	<0.004	<0.0035	<0.0036	<0.0037	<0.0035	<0.0037	<0.0037	<0.0036
Perfluorooctanoic acid (PFOA)	0.07 (JJ)	12	NCL	NCL	NCL	<0.0019	<0.0018	<0.0019	1	<0.0019	0.014	<0.002	<0.0018	0.016	0.16	0.09	0.0028	<0.0019	<0.0018
Perfluorooctane sulfonic acid (PFOS)	0.07 (JJ)	0.012	NCL	NCL	NCL	<0.0037	<0.0035	<0.0037	0.06	<0.0037	<0.0037	<0.004	<0.0035	<0.0036	0.04	<0.0035	<0.0037	<0.0037	<0.0036
PFOA + PFOS (Calculated)	0.07	NCL	NCL	NCL	NCL	ND	ND	ND	1.1	ND	0.014	ND	ND	0.016	0.2	0.09	0.0028	ND	ND
Perfluoropentanoic acid (PFPeA)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0035	<0.0037	0.12	<0.0037	0.015	<0.004	<0.0035	<0.0036	0.017	0.045	<0.0037	<0.0037	<0.0036
Perfluorotetradecanoic acid (PFTeDA)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0035	<0.0037	<0.0035	<0.0037	<0.0037	<0.004	<0.0035	<0.0036	<0.0037	<0.0035	<0.0037	<0.0037	<0.0036
Perfluorotridecanoic acid (PFTriDA)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0035	<0.0037	<0.0035	<0.0037	<0.0037	<0.004	<0.0035	<0.0036	<0.0037	<0.0035	<0.0037	<0.0037	<0.0036
Perfluoroundecanoic acid (PFUnDA)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0035	<0.0037	<0.0035	<0.0037	<0.0037	<0.004	<0.0035	<0.0036	<0.0037	<0.0035	<0.0037	<0.0037	<0.0036
Total PFAS (Calculated)	NCL	NCL	NCL	NCL	NCL	ND	0.018	0.004	3.8	0.0037	0.13	ND	ND	0.075	0.64	0.64	0.0028	ND	ND

TABLE 5
SUMMARY OF GROUNDWATER SAMPLE ANALYSIS - PFAS
1855 House Street NE
Plainfield Township, Kent County, MI

Sample Location	Part 201 Generic Residential Groundwater Cleanup Criteria – Drinking Water ²	Part 201 Generic Groundwater Cleanup Criteria – Groundwater Surface Water Interface ²	Part 201 Generic Residential Groundwater Cleanup Criteria – Groundwater Volatilization to Indoor Air Inhalation ²	MDEQ Residential Recommended Volatilization to Indoor Air Interim Action Screening Level – Groundwater ³	U.S. EPA Residential Tap Water Regional Removal Management Levels ⁴	HS-MW-25S	HS-MW-25D	HS-MW-26S	HS-MW-26M	HS-MW-26D
Sample Name						HS-MW-25S	HS-MW-25D	HS-MW-26S	HS-MW-26M	HS-MW-26D
Well Screen Interval (Feet below ground surface)						49.6 - 54.6	65 - 70	25 - 30	60 - 65	78 - 83
Laboratory Sample ID(s)						UC02020-008	UC02020-009	UC02020-001	UC02020-002	UC02020-003
Sample Date						03/01/2019	03/01/2019	02/28/2019	02/28/2019	02/28/2019
Parameter (µg/L)										
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0036	<0.0036	<0.0038	<0.0037
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0036	<0.0036	<0.0038	<0.0037
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0036	<0.0036	<0.0038	<0.0037
N-Methyl perfluorooctane sulfonamide (MeFOSA)	NCL	NCL	NCL	NCL	NCL	<0.0073	<0.0072	<0.0073	<0.0076	<0.0074
Perfluorobutane sulfonic acid (PFBS)	NCL	NCL	NCL	NCL	1,200	0.017	0.016	<0.0036	0.0044	<0.0037
Perfluorodecane sulfonic acid (PFDS)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0036	<0.0036	<0.0038	<0.0037
Perfluoroheptane sulfonic acid (PFHpS)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0036	<0.0036	<0.0038	<0.0037
Perfluoro-1-nonanesulfonate (PFNS)	NCL	NCL	NCL	NCL	NCL	<0.0073	<0.0072	<0.0073	<0.0076	<0.0074
Perfluorooctane sulfonamide (FOSA)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0036	<0.0036	<0.0038	<0.0037
Perfluoro-1-pentanesulfonate (PFPeS)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0036	<0.0036	<0.0038	<0.0037
Perfluorohexane sulfonic acid (PFHxS)	NCL	NCL	NCL	NCL	NCL	0.0083	0.008	<0.0036	<0.0038	<0.0037
Perfluorobutanoic acid (PFBA)	NCL	NCL	NCL	NCL	NCL	0.0046	0.0054	<0.0036	<0.0038	<0.0037
Perfluorodecanoic acid (PFDA)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0036	<0.0036	<0.0038	<0.0037
Perfluorododecanoic acid (PFDoDA)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0036	<0.0036	<0.0038	<0.0037
Perfluoroheptanoic acid (PFHpA)	NCL	NCL	NCL	NCL	NCL	0.004	0.0056	<0.0036	<0.0038	<0.0037
Perfluorohexanoic acid (PFHxA)	NCL	NCL	NCL	NCL	NCL	0.0089	0.011	<0.0036	<0.0038	<0.0037
Perfluorononanoic acid (PFNA)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0036	<0.0036	<0.0038	<0.0037
Perfluorooctanoic acid (PFOA)	0.07 (JJ)	12	NCL	NCL	NCL	0.012	0.016	<0.0018	0.006	0.0022
Perfluorooctane sulfonic acid (PFOS)	0.07 (JJ)	0.012	NCL	NCL	NCL	0.11	0.072	<0.0036	0.014	<0.0037
PFOA + PFOS (Calculated)	0.07	NCL	NCL	NCL	NCL	0.12	0.088	ND	0.02	0.0022
Perfluoropentanoic acid (PFPeA)	NCL	NCL	NCL	NCL	NCL	0.007	0.0091	<0.0036	<0.0038	<0.0037
Perfluorotetradecanoic acid (PFTeDA)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0036	<0.0036	<0.0038	<0.0037
Perfluorotridecanoic acid (PFTrDA)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0036	<0.0036	<0.0038	<0.0037
Perfluoroundecanoic acid (PFUnDA)	NCL	NCL	NCL	NCL	NCL	<0.0037	<0.0036	<0.0036	<0.0038	<0.0037
Total PFAS (Calculated)	NCL	NCL	NCL	NCL	NCL	0.17	0.14	ND	0.024	0.0022

NOTES:

- Concentration and criteria units are micrograms per Liter ($\mu\text{g/L}$) or parts per billion (ppb). Calculated criteria and concentrations are rounded to two significant digits. "ND" indicates the parameters used in the calculation were not detected. "NC" indicates not calculated.
- Michigan Part 201 Groundwater Cleanup Criteria are based on "Table 1, Groundwater: Residential and Nonresidential Part 201 Generic Cleanup Criteria and Screening Levels/Part 213 Tier I Risk Based Screening Levels," Michigan Administrative Code, Cleanup Criteria Requirements for Response Activity, Rules 299.44 and 299.49, effective December 30, 2013; updated June 25, 2018.
Abbreviations Include:
"ID" indicates insufficient data to develop criterion.
"NA" indicates a criterion or value is not available or, in the case of background, not applicable.
"NCL" indicates no criterion listed in MDEQ Table 1.
"NLV" indicates the substance is not likely to volatilize under most conditions.
Footnotes Include:
(A) - The criterion is the State of Michigan drinking water standard.
(D) - The calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or $1.0\text{E}+9$ ppb.
(E) - Criterion is the aesthetic drinking water value.
(F) - Criterion is based on adverse impacts to plant life and phytotoxicity.
(G) - Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water.
MDEQ's Footnote (G) GSI/GSIPC Calculation spreadsheet was utilized to calculate GSI criterion presented. The Rogue River is the receiving surface water for the Site. Hardness (220 mg CaCO₃/L) and pH (7.5 standard units) used in the calculations were the lowest (most-conservative) of the calculated mean and median of the Rogue River surface water samples collected in Rockford, MI at the former tannery (TA-SW-01, TA-SW-02, TA-SW-03, TA-SW-05, and TA-SW-07) rounded to two significant digits and water hardness or pH for the Rogue River near Rockford published in United States Geological Survey Circular 323, "Water Resources of the Grand Rapids Area, Michigan," Table 1, 1954.
(L) - Criteria for lead are derived using a biologically based model. The generic residential drinking water criterion of $4\mu\text{g/L}$ is linked to the generic residential soil direct contact criterion of 400 mg/kg.
(M) - Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.
(N) - The concentrations of all potential sources of nitrate-nitrogen (e.g., ammonia-N, nitrite-N, nitrate-N) in groundwater that is used as a source of drinking water shall not, when added together, exceed the nitrate drinking water criterion of 10,000 $\mu\text{g/L}$.
(P) - Amenable cyanide methods or method OIA-1677 shall be used to quantify cyanide concentrations for compliance with all groundwater criteria.
(S) - Criterion defaults to the hazardous substance-specific water solubility limit.
(V) - Criterion is the aesthetic drinking water value.
(W) - Concentrations of trihalomethanes in groundwater shall be added together to determine compliance with the Michigan drinking water standard of $80\mu\text{g/L}$.
(AA) - Use 10,000 $\mu\text{g/L}$ where groundwater enters a structure through the use of a water well, sump or other device. Use 28,000 $\mu\text{g/L}$ for all other uses.
(CC) - The generic GSI criteria are based on the toxicity of unionized ammonia (NH₃); the criteria are 29 $\mu\text{g/L}$ and 53 $\mu\text{g/L}$ for cold water and warm water surface water, respectively. As a result, the GSI criterion shall be compared to the percent of the total ammonia concentration in the groundwater that will become NH₃ in the surface water. This percent NH₃ is a function of the pH and temperature of the receiving surface water and was estimated using the table of this footnote titled "Percent NH₃ in Aqueous Ammonia Solutions for 0-30°C and pH 6-10." This approach uses a default temperature of 68°F and 85°F for cold water and warm water surface water, respectively. The percent conversion factor in the table for cold water (20°C or 68°F) and pH (8.0 standard units) is 3.82%.
(EE) - The applicable GSI criteria for phosphorus is 1,000 $\mu\text{g/L}$.
(FF) - The chloride GSI criteria shall not apply for surface waters of the state that are not designated as a public water supply source.
(JJ) - Compliance with the drinking water criteria shall require comparing the sum of the PFOA and PFOS groundwater concentrations to the drinking water criterion of 0.07 $\mu\text{g/L}$.
- MDEQ Residential Groundwater Recommended Volatilization to Indoor Air Interim Action Screening Levels (RIASLs) for were based on MDEQ's Toxics Steering Group's "Media-Specific Interim Action Screening Levels," published in August 2017. The MDEQ published the RIASLs in August 2017, and recently removed the RIASLs from the MDEQ website. The MDEQ is reportedly evaluating the RIASLs for appropriate use and applicability. These are included for reference.
Abbreviations Include:
"NCL" indicates no value listed in the Media-Specific Interim Action Screening Levels table.
Footnotes Include:
(M) - Site-specific criterion may be below target detection limits (TDL).
- U.S. EPA Residential Tap Water Regional Removal Management Levels (RMLs) were based on "Generic RML Tables," updated November 2018.
- Bold, italic number with thick line border or italic parameter name indicates that parameter was detected above the Michigan Part 201 Groundwater Cleanup Criteria or Media-Specific Interim Action Screening Levels. U.S. EPA RMLs are provided for reference only and results detected above the EPA RMLs are not bolded or italicized.
- Abbreviations include:
"< RL" indicates the parameter was analyzed for but not detected above the method detection limit; RL = Reporting Limit.
"DUP" indicates a duplicate sample.
"B" indicates the parameter was also detected in the method blank.
"J" indicates the parameter was detected at a concentration greater than the limit of quantitation (LOQ) but less than the detection limit (DL) and the result is estimated.
- Sample names presented are from Shealy Environmental Services, Inc. laboratory reports. Sample names presented in ALS Environmental lab reports may have minor differences based on laboratory interpretation of the chains of custody.
- Well screen interval presented is the top of the well screen to the bottom of the well screen in feet below ground surface.