March 26, 2021

Mr. Steven Moeller, P.G.
Engineering Geologist 1
New York State Dept. of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue
Buffalo, New York 14203-2999

Re: **Tecumseh Redevelopment Inc. - Lackawanna, New York Site**
EPA ID# NYD002134880
Hazardous Waste Management Units (HWMUs) 1A, 1B and 2
Revised 2020 Annual Groundwater Quality Monitoring Report

Dear Mr. Moeller:

On behalf of Tecumseh Redevelopment Inc. (Tecumseh), TurnKey Environmental Restoration, LLC (TurnKey) has prepared this revised letter report to transmit the results of the 2020 annual groundwater monitoring event conducted at Hazardous Waste Management Unit No. 1 (HWMU-1A and HWMU-1B) and Hazardous Waste Management Unit No. 2 (HWMU-2) at the Tecumseh Site in Lackawanna, New York (see Figure 1). The original report was submitted on January 25, 2021 and this revised report reflects the changes requested during our phone conversation today.

TurnKey conducted the groundwater monitoring at HWMUs-1A, -1B and 2 on November 2 and 3, 2020. The groundwater monitoring network wells are shown on Figures 2 and 3. Table 1 lists the site-specific constituents of concern (SSCOC[1]) that have been previously detected at concentrations above their respective NYSDEC Class GA Groundwater Quality Standard/Guidance Values (GWQS/GVs) at a minimum of one location for each HWMU. A summary of field activities and findings for each HWMU is presented below.

PURPOSE

The activities conducted during the November 2020 groundwater monitoring event were performed in general accordance with the Groundwater Monitoring, Sampling and Analysis Plan for HWMU-1 and HWMU-2, Tecumseh Redevelopment, Inc., December 2017.

This annual report includes a detailed discussion of current groundwater quality compared to historical data for HWMU-1A, -1B and -2. Tables and graphs are provided to summarize groundwater elevations, analytical data, and illustrate trends in groundwater quality and flow patterns.

[1] SSCOCs as presented in the December 2017 Groundwater Monitoring, Sampling and Analysis Plan for HWMU-1 and HWMU-2 with added parameters 1,2,4-trimethylbenzene (HWMU-1B) and total phenolic compounds (all units).

GROUNDWATER ELEVATIONS & FLOW

On November 2, 2020, groundwater elevations were measured in 21 monitoring wells and four piezometers around HWMU-1A/1B and seven monitoring wells around HWMU-2. Table 2 summarizes the depth to water and calculated groundwater elevation for each monitored location. The Lake Erie elevation presented in Table 2 was obtained from the National Oceanic and Atmospheric Administration/National Ocean Service's (NOAA/NOS) Center for Operational Oceanographic Products and Services (CO-OPS) website; Great Lakes Water Level Data Inventory for Station Number 9063020 Buffalo, Lake Erie, New York. The lake elevation used is the average lake elevation for the 24-hour period preceding the groundwater elevation measurements.

Groundwater elevation data for the current monitoring event are generally consistent with historical data. Attachment 1 includes historical elevation data and elevation versus time plots for each monitoring well and Lake Erie, showing seasonal fluctuations throughout each monitored year. Groundwater and Lake Erie elevations are generally trending upward.

Figures 2 and 3 are isopotential maps representing the shallow groundwater within HWMU-1 and HWMU-2 using the November 2, 2020 groundwater elevations. As indicated, the shallow groundwater migrates toward Lake Erie with a localized mound flowing radially outward from HWMU-1B, which is consistent with historic flow patterns at the Site. The groundwater mounding, which is upwards of five feet beneath HWMU-1B, is due to the destruction of the temporary 30-mil reinforced polyvinyl chloride cover in 2005. Tecumseh proposed constructing a low-permeability geosynthetic/soil cover system over HWMU-1B as the final remedy in the 2019 Corrective Measures Study (CMS) Report. Groundwater flow direction continues west toward Lake Erie.

RESULTS OF NOVEMBER 2020 GROUNDWATER MONITORING

Table 3 (HWMU-1) and Table 4 (HWMU-2) summarize the field-measured parameters and analytical results for the November 2020 groundwater monitoring event. Concentrations in groundwater that exceed NYSDEC Class GA GWQS/GVs are highlighted in yellow. Well MWS-11A was used as the upgradient network monitoring sampling location at HWMU-2 due to Well MW-2U1 being historically dry. Attachment 2A includes the groundwater field forms. Attachment 2B includes the analytical data package. The purge water from wells sampled with pH readings greater than 12 were neutralized using dilute muriatic acid until a pH in the range of 9.0 to 10.0 was achieved prior to discharge to the ground surface.

GROUNDWATER QUALITY TRENDS

A comparison of the 2020 analytical results to historical concentrations for each HWMU indicates detections of similar parameters at similar concentrations with limited exceptions. Attachment 3 includes concentration versus time plots by HWMU for the SSCOCs identified in Table 1 along with trend lines for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted. Concentrations reported below MDLs (i.e., non-detect) are not plotted. The long-term and short-term trends are presented below and provide a qualitative assessment of the long-term and short-term groundwater quality in each HWMU. The 2020 groundwater samples were analyzed for phenolic compounds via EPA Method 8270 instead of total recoverable phenolics (TRP) via EPA Method 9066 as discussed and agreed with the Department. It was

recently discovered that some of the historical TRP data that was previously presented was actually the sum of phenolic compounds data. Attachment 3 includes plots of the sum of phenolic compounds using that historical data with recent data.

HWMU-1A TRENDS

- **Benzene:** Concentrations for this parameter in groundwater are above the GWQS of 1 ug/L in in all four wells, with the highest concentration at the upgradient Well MW-1U1 indicating an upgradient source. The long-term trend is decreasing in all wells.
- **Toluene:** Concentrations for this parameter have been below the GWQS of 5 ug/L in Wells MW-1D2, MW-1D3 and MW-1D4 since 2015. The only well that has been above the GWQS since 2015 and historically the highest concentration is MW-1U1, indicating an upgradient source. The long-term concentration trend in groundwater is decreasing for all wells except MW-1D2 that has been historically below the GWQS.
- **Total Xylenes:** The long-term concentration trend in groundwater is decreasing and approaching the GWQS of 5 ug/L in all four wells. The concentration in Wells MW-1D3 and MW-1D4 are below the GWQS in 2020. The concentrations in Wells MW-1D2 and MW-1U1 are above the GWQS in 2020.
- **1,2,4- and 1,3,5-Trimethylbenzene:** Analysis for these parameters began in 2010 (Wells MW-1D2, MW-1D3 and MW-1D4) and 2013 (Well MW-1U1), with detections above GWQS only observed in Well MW-1D2. The long-term concentration trend for these parameters in groundwater is decreasing for MW-1D2 with concentrations fluctuating above and below the GWQS of 5 ug/L.
- **Naphthalene:** Concentrations in Wells MW-1D3 and MW-1D4 have been at or below the GWQS for this parameter since 2014. Concentrations in Well MW-1D2 are the highest of the four wells and have historically been above the GWQS of 10 ug/L. The long-term concentration trend is decreasing for all wells except MW-1D3 that has a neutral trend which is often and is currently below the GWQS.
- **Sum of Phenolic Compounds:** The groundwater concentration for the sum of phenolic compounds at all four wells exceeded the GWQS of 1 ug/L. The long-term trends in groundwater are increasing but there is not yet enough data to provide a definitive trend for the recent data. The highest concentration of total phenolic compounds for 2020 was observed in Well MW-1D3 (15.23 ug/L, estimated) located on the downgradient side near the center of the unit. Well MW-1D3 also had the greatest concentration decrease of all the four wells compared to 2019 data.

In general, the SSCOC concentrations in all wells are trending downward and approaching the GWQSs with a few exceptions with wells having neutral trend near the GWQS and a few with slight increasing trends but are below the GWQS. Phenolic compounds were detected in all four monitoring wells in 2020 above the GWQS but there is not enough data to provide a trend for the recent data yet.

HWMU-1B TRENDS

- **Benzene:** Groundwater concentrations for this parameter are currently above the GWQS of 1 ug/L in Wells MW-1U1, MW-1D1, MW-1D7, MW-1D8, and MWN-12 with the highest concentration in upgradient Well MW-1U1 indicating an upgradient source. The long-term trend is decreasing in Wells MW-1U1, MW-1D7, MW-1D8, and MWN-12 but increasing in Well MW-1D1 and MW-1D6. However, the concentrations in MW-1D1 have been decreasing since 2015 and concentrations for MW-1D6 are hovering close to the GWQS.
- **Ethylbenzene:** Groundwater concentrations for this parameter have always been below the GWQS of 5 ug/L in all wells except MW-1D1. The long-term concentration trend is increasing in Well MW-1D1; however, concentrations have been decreasing since 2016 and dropped below the GWQS in 2019.
- **Toluene:** Groundwater concentrations for this parameter have been below the GWQS of 5 ug/L since 2019 in all wells except MW-1U1. The long-term trend is decreasing in Wells MW-1U1 and MW-1D8 but increasing in Well MW-1D1, however concentrations have been decreasing since 2017. Wells MW-1D6, MW-1D7 and MWN-12 have never been detected above GWQS.
- **Total Xylenes:** Groundwater concentrations for this parameter have been at or below the GWQS of 5 ug/L since 2019 in wells MW-1D1 and MWN-12. The long-term trend is decreasing in Wells MW-1U1 and MW-1D8 but increasing in Well MW-1D1 although, it is currently below the GWQS. Wells MW-1D6 and MWN-12 have never been detected above GWQS. Well MW-1D7 has no plotted data because it has historically been non-detect.
- **Trichloroethene (TCE):** Groundwater concentrations for this parameter have been below the GWQS of 5 ug/L since 2018 in all wells. The long-term trend is decreasing in Wells MW-1D1 and MW-1D7, the remaining wells have historically been non-detect.
- **Cis-1,2-Dichloroethene (DCE):** Groundwater concentrations for this parameter historically have been non-detect or below the GWQS of 5 ug/L in all wells except MW-1D7. The long-term concentration trend in Well MW-1D7 is decreasing; the concentration in 2020 was at 10 ug/L.
- **Trans-1,2-DCE:** Groundwater concentrations for this parameter historically have been non-detect in all wells except MW-1D7. The long-term concentration trend in Well MW-1D7 is increasing; the concentration in 2020 was at 22 ug/L.
- **Vinyl Chloride:** Groundwater concentrations for this parameter historically have been non-detect in all wells except MW-1D7. Concentrations in Well MW-1D7 show a long-term increasing trend above the GWQS of 2 ug/L, which is indicative of TCE degradation; however, the concentration in 2020 was at 3.4 ug/L.
- **Benzo(a)anthracene:** Historically, groundwater concentrations for this parameter in Wells MW-1D6, MW-1U1 and MWN-12 have been above the GWQS of 0.002 ug/L; however, the long-term trend is decreasing, with the last detection observed in 2016 for Well MW-1D6. Since 2017 the results for all wells have been non-detect, although the

MDL is higher than the GWQS due to analytical method limitations. Wells MW-1D1 and MW-1D7 have no plotted data because they have historically been non-detect.

- **Bis(2-ethylhexyl)phthalate (DEHP):** Groundwater concentrations for this parameter have been below the GWQS of 5 ug/L since 2019 in all wells. The long-term trend is decreasing in Wells MW-1D1, MW-1D7, and MW-1D8 but increasing in Well MWN-12 although, it is currently below the GWQS. Well MW-1U1 has never been detected and MW-1D6 has only been detected below the GWQS.
- **Chrysene:** Historically, groundwater concentrations for this parameter in Wells MW-1D6, MW-1U1 and MWN-12 have been above the GWQS of 0.002 ug/L; however, the long-term trend is decreasing, with the last detection observed in 2016 for Well MW-1D6. Since 2017 the results for all wells have been non-detect, although the MDL is higher than the GWQS due to analytical method limitations.
- **Naphthalene:** Groundwater concentrations for this parameter have historically been below the GWQS of 10 ug/L in Well MW-1D7. Concentrations in Wells MW-1D8, MW-1U1 and MWN-12 have an overall decreasing trend but are currently above the GWQS in 2020. Concentrations in Well MW-1D1 have an overall increasing trend however, concentrations have been decreasing since 2015 but are currently above GWQS. Concentrations in Well MW-1D6 have an overall increasing trend but are currently below GWQS.
- **1,2,4-Trimethylbenzene:** Although not identified as a SSCOC, 1,2,4-trimethylbenzene has exceeded its GWQS of 5 ug/L in downgradient Well MW-1D1 from 2013 to 2018; however, the long-term trend is decreasing and is currently below the GWQS. Concentrations in all wells except MW-1D1 have been historically below the GWQS of 5 ug/L.
- **Sum of Phenolic Compounds:** The groundwater concentration for the sum of phenolic compounds at Well MW-1D8 has been below the GWQS of 1 ug/L the last two years. The concentration for the sum of phenolic compounds at Wells MW-1D1, MW-1D6, MW-1D7, MW1U1, and MWN-12 currently exceed the GWQS of 1 ug/L, but there is not yet enough data to provide a definitive trend for the recent data. The highest concentration for the sum of phenolic compounds for 2020 was observed in Well MWN-12 (5.08 ug/L, estimated) located on the upgradient side of the unit.

In general, the SSCOC concentrations in many wells are trending downward and approaching the GWQSs with a few wells having neutral or increasing trends but typically near the GWQS. Phenolic compounds were detected in all six of the monitoring wells in 2020, five of the six wells were above the GWQS but there is not yet enough data to provide a trend for recent data. The preferred final remedy presented in the 2019 CMS Report is construction of a low-permeability geosynthetic/soil cover system over HWMU-1B, which would significantly mitigate potential leaching of contaminants from the Unit to the groundwater and subsequently improve localized groundwater quality.

HWMU-2 TRENDS

- **Benzene:** Groundwater concentrations of this parameter in Well MW-2D2 have been historically below the GWQS of 1 ug/L. Concentrations in Wells MW-2D3, MW-2D4 and MWS-11A have an overall decreasing trend but are currently above the GWQS in 2020 with the highest concentration at MW-2D3 (6.9 ug/L, estimated).
- **Ethylbenzene:** Groundwater concentrations of this parameter in Well MW-2D3 trended and has remained below the GWQS of 5 ug/L since 2015. Concentrations in the remaining wells have not exceeded the GWQS.
- **Toluene:** Groundwater concentrations of this parameter in Well MW-2D3 trended and has remained below the GWQS of 5 ug/L since 2014. Concentrations in the remaining wells have not exceeded the GWQS.
- **Total Xylenes:** Groundwater concentrations of this parameter in Well MW-2D3 are currently below the GWQS of 5 ug/L with an overall decreasing trend. Concentrations in Well MW-2D4 has an overall decreasing trend that has gone below the GWQS in 2008. The concentration observed in upgradient Well MWS-11A has an overall increasing trend that is hovering around the GWQS but is currently above the GWQS. Concentrations in the remaining well has not exceeded the GWQS.
- **1,2,4-Trimethylbenzene:** This parameter was first detected in Well MW-2D3 in 2011 at a concentration slightly above the GWQS of 5 ug/L. Since 2014, concentrations in Well MW-2D3 have decreased and subsequently dropped below the GWQS in 2017. Concentrations in the remaining wells have not exceeded the GWQS.
- **Chrysene:** Historically, groundwater concentrations of this parameter in Wells MW-2D3 have been above the GWQS of 0.002 ug/L; however, the long-term trend is decreasing, with the last detection observed in 2013. In 2017, chrysene was detected in upgradient Well MWS-11A at a concentration above the GWQS. Since 2018 the results for all wells have been non-detect, although the MDL is higher than the GWQS due to analytical method limitations.
- **Naphthalene:** Groundwater concentrations of this parameter in Well MW-2D2 have been historically below the GWQS of 1 ug/L. Concentrations in Well MW-2D4 trended below the GWQS in 2008. Concentrations in Wells MW-2D3, MW-2D4 and MWS-11A have an overall decreasing trend with Wells MW-2D3 and MWS-11A the only wells above the GWQS currently.
- **Sum of Phenolic Compounds:** The sum of Phenolic compounds have not been detected above GWQS in Wells MW-2D2 and MW-2D4. Upgradient Well MWS-11A had the highest concentration for the sum of phenolic compounds (27.2 ug/L, estimated) but there is not yet enough data to provide a definitive trend. Concentrations in Well MW-2D3 have an overall decreasing trend with concentrations currently above the GWQS.

In general, the SSCOC concentrations in all downgradient wells are trending downward with concentrations in MW-2D3 being greater than MW-2D2 and MW-2D4. In upgradient Well MWS-11A, concentrations of benzene, xylene, naphthalene, total phenolic compounds, and possibly chrysene are above GWQS. We have observed that the SSCOC concentrations have

been similar in upgradient Well MWS-11A and downgradient Well MW-2D3, indicating that HWMU 2 is not significantly impacting groundwater concentrations.

NYSDEC EQuIS Deliverables

On November 30, 2020, TurnKey submitted the analytical data in Electronic Data Deliverable (EDD) format to NYSDEC on behalf of Tecumseh using the NYSDEC database software application EQuIS™. TurnKey received confirmation on December 10, 2020 that the submittal was successfully uploaded and available for use within the NYSDEC system.

Cover System Inspection

On September 20,2020, an inspection of the cover system over HWMU-1A was completed, as requested by NYSDEC in its December 11, 2018 CMS Report comment letter. The cover system is intact with a good stand of vegetation and no signs of erosion or breach by vectors. Attachment 4 includes the Field Inspection Report and photographs.

Planned Activities

The next groundwater monitoring event for HWMU-1 and HWMU-2 is tentatively scheduled for August 2021. The next HWMU-1A cover system inspection will be performed concurrent with the groundwater monitoring.

Please contact us if you have any questions or require additional information.

Sincerely,
TurnKey Environmental Restoration, LLC

Brock Greene
Senior Project Environmental Scientist

Att.
ec: Stan Radon (NYSDEC Region 9)
Keith Nagel (Tecumseh Redevelopment)
Paul Werthman (TurnKey)

File: 0071-020-240

TABLES

TABLE 1

SUMMARY OF SITE-SPECIFIC CONSTITUENTS OF CONCERN

Hazardous Waste Management Units HWMU-1 & HWMU-2
Tecumseh Redevelopment Inc.
Lackawanna, New York

Parameter	HWMU 1A	HWMU 1B	HWMU 2
Site-Specific Volatile Organic Compounds (SS-VOCs)-Method 8260C (CP-51 compounds in blue)			
Benzene	X	X	X
cis-1,2-Dichloroethene		X	
trans-1,2-Dichloroethene		X	
Ethylbenzene		X	X
Toluene	X	X	X
Trichloroethene		X	
1,2,4-Trimethylbenzene	X	X	X
1,3,5-Trimethylbenzene	X		
Vinyl chloride		X	
Xylenes, Total	X	X	X
TCL List Semi-Volatile Organic Compounds (SS-SVOCs)-Method 8270D			
Benzo(a)anthracene		X	
Bis(2-ethylhexyl) phthalate		X	
Chrysene		X	X
Naphthalene	X	X	X
Phenolic Compounds	X	X	X

Notes:

1. Parameter lists were modified in September 2009 with NYSDEC approval.

TABLE 2

SUMMARY OF GROUNDWATER ELEVATIONS
November 2, 2020

2020 Annual Event
Hazardous Waste Management Units HWMU-1 & HWMU-2
Tecumseh Redevelopment Inc.
Lackawanna, New York

Location	TOR Elevation [1]	DTW (fbTOR)	GWE [1]
HWMU-1A & 1B MONITORING WELLS (25)			
MW-1D1	610.59	32.47	578.12
MW-1D2	614.46	40.70	573.76
MW-1D3	612.69	38.86	573.83
MW-1D4	612.52	38.55	573.97
MW-1D5	613.49	39.58	573.91
MW-1D6	610.94	36.87	574.07
MW-1D7	611.26	36.30	574.96
MW-1D8	610.74	35.64	575.10
MW-1U1	613.18	39.25	573.93
MWN-03	611.96	37.79	574.17
MWN-04	623.45	49.35	574.10
MWN-05A	622.84	48.91	573.93
MWN-12	608.59	34.94	573.65
MWN-13A	607.32	33.21	574.11
MWN-28A	595.76	21.58	574.18
MWN-29A	596.19	22.16	574.03
MWN-35A	608.71	34.38	574.33
MWN-36A	598.42	24.04	574.38
MWN-42A	579.37	5.40	573.97
P-4S	610.85	37.14	573.71
P-5S	616.71	42.93	573.78
P-6S	618.92	45.31	573.61
P-7S	610.59	37.04	573.55
WT8-01	612.49	38.55	573.94
WT8-02	645.62	72.00	573.62
HWMU-2 MONITORING WELLS (8)			
MW-2D2	632.60	56.90	575.70
MW-2D3	635.52	59.87	575.65
MW-2D4	629.60	53.89	575.71
MW-2U1	629.69	DRY	DRY
MWS-09	630.82	55.60	575.22
MWS-11A	639.86	64.53	575.33
MWS-15	627.43	51.94	575.49
MWS-26A	625.61	50.44	575.17
LAKE ERIE			
Lake Erie [2]	NA	NA	574.5

Notes:

1. Top of Riser (TOR) elevation and Groundwater Elevation (GWE) are measured in feet referenced to NAVD 88 Datum.
2. Source: NOAA Tides & Currents Web Page - Buffalo, NY Station ID 9063020
3. Product was not observed in any of these wells during this monitoring event.

Acronyms:

fbTOR = feet below top of riser or casing
NA = Not applicable

TABLE 3

SUMMARY OF HWMU-1 GROUNDWATER ANALYTICAL RESULTS

2020 Annual Event
Hazardous Waste Management Units HWMU-1A & HWMU-1B
Tecumseh Redevelopment Inc.
Lackawanna, New York

Parameter[1]	GWQS[2]	Monitoring Well and HWMU Location																	
		MW-1D1 (HWMU-1B)		**MW-1D2** (HWMU-1A)		**MW-1D3** (HWMU-1A)		**MW-1D4** (HWMU-1A)		**MW-1D6** (HWMU-1B)		**MW-1D7** (HWMU-1B)		**MW-1D8** (HWMU-1B)		**MWN-12** (HWMU-1B)		**MW-1U1** (HWMU-1A/1B)	
Field Measurements[3]:																			
Sample No.	**--**	*Initial*	*Final*	*Initial*	*Final*	*Initial*	*Final*	*Initial*	*Final*	*Initial*	*Final*	*Initial*	*Final*	*Initial*	*Final*	*Initial*	*Final*	*Initial*	*Final*
pH (units)	**6.5 - 8.5**	**11.95**	**12.11**	**12.32**	**12.29**	**12.24**	**12.32**	**12.28**	**12.31**	**11.27**	**11.49**	**9.81**	8.31	**9.84**	**10.81**	**12.55**	**12.62**	**12.46**	**12.47**
Temperature (^{o}C)	**NA**	12.3	13.3	11.1	11.5	11.6	12.1	11.1	11.9	12.2	13.5	12.0	13.7	12.0	13.7	11.3	13.0	9.6	11.6
Sp. Conductance (uS)	**NA**	4130	3636	2303	2061	2533	2418	2406	2422	2624	3246	3835	4163	2427	2461	4914	4186	2647	2489
Turbidity (NTU)	**NA**	17.70	3.71	42.70	2.97	18.5	4.6	7.24	1.85	43.60	3.75	21.40	1.92	34.90	2.05	12.70	1.73	8.83	4.04
DO (ppm)	**NA**	2.97	2.95	--	--	1.32	1.41	0.87	1.02	2.60	5.42	2.88	1.51	--	--	1.94	--	--	--
Eh (mV)	**NA**	-30	-97	-220	-222	-253	-263	-249	-256	-37	-117	-62	-163	-209	-211	-178	-221	-206	-217
Total Volume purged (gallons)	**NA**	18		16		16		11		3.75		10		5.5		9		22	
Appearance and Odor	**NA**	Clear, no odor	Clear, no odor	Clear, no odor	Clear, no odor	Clear, slight odor	Clear, no odor	Clear, slight odor	Clear, no odor	Clear, no odor	Clear, no odor	Clear, slight odor	Clear, no odor	Clear, slight odor	Clear, no odor	Clear, no odor	Clear, no odor	Clear, no odor	Clear, no odor
Volatile Organic Compounds (ug/L):																			
Acetone	**50***	ND		--		--		--		ND		ND		ND		3.9 J		ND	
4-Isopropyltoluene	**5**	ND		ND		ND		ND		ND		ND		0.44 J		ND		ND	
Benzene	**1**	**1.3**		**3.1**		**4.6**		**5.1**		ND		**8.8**		**1.4**		**2.1**		**42**	
Carbon Disulfide	**--**	0.3 J		--		--		--		ND		ND		ND		0.21 J		ND	
1,1-Dichloroethane	**5**	ND		--		--		--		ND		ND		ND		ND		ND	
1,2-Dichloroethane	**0.6**	ND		--		--		--		ND		ND		ND		ND		ND	
cis-1,2-Dichloroethene	**5**	ND		--		--		--		ND		**10**		ND		ND		ND	
trans-1,2-Dichloroethene	**5**	ND		--		--		--		ND		**22**		ND		ND		ND	
Ethylbenzene	**5**	1.3		ND		ND		ND		ND		ND		0.84 J		ND		ND	
Isopropylbenzene	**5**	ND		ND		ND		ND		ND		ND		ND		ND		ND	
Methylene Chloride	**5**	ND		--		--		--		ND		ND		ND		ND		ND	
Methlycyclohexane	**--**	ND		--		--		--		ND		ND		ND		ND		ND	
N-Propylbenzene	**5**	ND		ND		ND		ND		ND		ND		ND		ND		ND	
Styrene	**5**	ND		--		--		--		ND		ND		1.6		ND		ND	
Toluene	**5**	1.2		1.5		1.6		1.7		ND		ND		3.1		0.72 J		**6.8**	
Trichloroethene	**5**	0.93 J		--		--		--		ND		0.74 J		ND		ND		ND	
1,2,4-Trimethylbenzene	**5**	2.0		**6.3**		ND		ND		ND		ND		3.4		ND		ND	
1,3,5-Trimethylbenzene	**5**	ND		3.8		0.88 J		0.91 J		ND		ND		4.4		ND		0.93 J	
Vinyl Chloride	**2**	ND		--		--		--		ND		**3.4**		ND		ND		ND	
m-Xylene & p Xylene	**5**	1.3 J		3.2		1.6 J		1.7 J		ND		ND		4.4		0.67 J		4.3	
o-Xylene	**5**	2.7		2.4		1.8		2		ND		ND		3.3		ND		3.9	
Xylenes, Total	**5**	4		**5.6**		3.4		3.7		ND		ND		7.7		0.67 J		**8.2**	

TABLE 3

SUMMARY OF HWMU-1 GROUNDWATER ANALYTICAL RESULTS

2020 Annual Event
Hazardous Waste Management Units HWMU-1A & HWMU-1B
Tecumseh Redevelopment Inc.
Lackawanna, New York

Parameter[1]	GWQS[2]	Monitoring Well and HWMU Location								
		MW-1D1 (HWMU-1B)	**MW-1D2** (HWMU-1A)	**MW-1D3** (HWMU-1A)	**MW-1D4** (HWMU-1A)	**MW-1D6** (HWMU-1B)	**MW-1D7** (HWMU-1B)	**MW-1D8** (HWMU-1B)	**MWN-12** (HWMU-1B)	**MW-1U1** (HWMU-1A/1B)
Semi-Volatile Organic Compounds (ug/L):										
2-Methylphenol	**1****	ND	0.64 J	**1.2 J**	0.93 J	**1.2 J**	ND	ND	1 J	**1.1 J**
2-Methylnaphthalene	**--**	ND	53	2.2 J	1.8 J	0.65 J	ND	4 J	9.2	1.6 J
2,4-Dimethylphenol	**1****	ND	0.55 J	0.93 J	0.9 J	0.87 J	ND	0.6 J	0.84 J	1 J
4-Chloro-3-methylphenol	**--**	ND	ND	ND	ND	ND	1.1 J	ND	ND	ND
4-Methylphenol	**1****	0.73 J	**1.6 J**	**3.4 J**	**2.5 J**	**2.1 J**	ND	ND	**2.8 J**	**2.9 J**
Acenaphthene	**20***	ND	1.5 J	0.85 J	1.1 J	ND	0.9 J	0.47 J	3.6 J	0.9 J
Acenaphthylene	**--**	2.5 J	25	1.2 J	1.8 J	ND	ND	2.8 J	4 J	2.3 J
Acetophenone	**--**	ND	0.81 J	ND	ND	ND	ND	1.3 J	ND	ND
Anthracene	**50***	ND	1 J	0.32 J	ND	ND	0.3 J	ND	2.5 J	0.58 J
Benzaldehyde	**--**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Biphenyl	**5**	0.74 J	**5.9**	ND	0.67 J	ND	ND	0.67 J	2.3 J	ND
Bis(2-Ethylhexyl)phthalate	**5**	4.7 J	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	**--**	ND	2 J	1.6 J	2.1 J	2.1 J	ND	0.61 J	7.2	2.8 J
Dibenzofuran	**--**	1.4 J	8.7 J	1.3 J	1.4 J	0.92 J	ND	0.68 J	8.4 J	1.2 J
Di-n-octyl phthalate	**50***	ND	ND	ND	ND	ND	ND	ND	ND	1.1 J
Fluoranthene	**50***	ND	1.1 J	0.96 J	1.4 J	3.1 J	ND	ND	4.5 J	1.7 J
Fluorene	**50***	1.4 J	7	2.2 J	2.9 J	0.77 J	6.1	1 J	12	1.9 J
Naphthalene	**10***	**21**	**97 D**	6.6	6	3.5 J	ND	**21**	**50**	**26**
Phenanthrene	**50***	0.59 J	5.7	2.6 J	3.6 J	7.4	ND	ND	19	3.1 J
Phenol	**1****	0.52 J	**4.2 J**	**9.7**	ND	ND	ND	ND	0.44 J	ND
Pyrene	**50***	ND	0.7 J	0.63 J	0.89 J	1.4 J	ND	ND	2.9 J	1.6 J
Total Phenolic Compounds	**1****	***1.25 J***	***6.99 J***	***15.23 J***	***4.33 J***	***4.17 J***	*1.1 J*	*0.6 J*	***5.08 J***	***5 J***

Notes:

1. Only those VOCs and SVOCs detected above the method detection limit at a minimum of one sample location are reported in this table.
2. NYSDEC Class "GA" Groundwater Quality Standards/Guidance Values (GWQS/GV) per 6 NYCRR Part 703.
3. Field measurements were collected immediately before and after groundwater sample collection.
4. Method detection limits for benzo(a)anthracene (0.61 ug/L and chrysene (0.54 ug/L) are above the GWGV.

Acronyms:

J = Estimated Value
"--" = Not analyzed for this parameter
ND = Parameter was not detected above laboratory method detection limit.
" * " = The Guidance Value was used where a Standard has not been established.
" ** " = General GWQS of 1.0 ug/L for total phenolic compounds.

BOLD = exceeds GWQS/GV

TABLE 4

SUMMARY OF HWMU-2 GROUNDWATER ANALYTICAL RESULTS

2020 Annual Event
Hazardous Waste Management Unit HWMU-2
Tecumseh Redevelopment Inc.
Lackawanna, New York

Parameter [1]	GWQS [2]	Monitoring Well							
		MW-2D2		MW-2D3		MW-2D4		MWS-11A	
Field Measurements [3]:									
Sample No.	--	*Initial*	*Final*	*Initial*	*Final*	*Initial*	*Final*	*Initial*	*Final*
pH (units)	**6.5 - 8.5**	**9.66**	**9.47**	**10.88**	**11.20**	**10.13**	**9.13**	**12.04**	**12.18**
Temperature (^{o}C)	**NA**	15.8	16.1	14.9	15.6	15	14.8	14.6	14.1
Sp. Conductance (mS)	**NA**	959.9	951	1036	1046	910.4	888.9	2067	1996
Turbidity (NTU)	**NA**	9.92	2.37	14.9	3.97	10.4	5	17.1	8.51
DO (ppm)	**NA**	5.3	4.93	1.09	0.71	1.53	2.08	1.42	0.84
Eh (mV)	**NA**	-112	-58	-125	-220	-183	-97	-189	-252
Total Volume Purged (gallons)	--	13		12.5		15		16	
Appearance and Odor	**NA**	Clear No odor	Clear No odor	Clear No odor	Clear No odor	Clear Slight odor	Clear No odor	Clear Slight odor	Clear No odor
Volatile Organic Compounds (ug/L):									
Benzene	**1**	ND		**6.9**		**2.5 J**		**2.1**	
Toluene	**5**	ND		2.8 J		ND		2.2	
1,2,4-Trimethylbenzene	**5**	ND		ND		ND		2.1	
m-Xylene & p-Xylene	**5**	ND		3.5 J		ND		3.8 J	
o-Xylene	**5**	ND		ND		ND		1.9 J	
Xylenes, Total	**5**	ND		3.5 J		ND		**5.7 J**	
Semi-Volatile Organic Compounds (ug/L):									
Acenaphthene	**20***	ND		2.3 J		ND		4.9 J	
Acenaphthylene	--	ND		8.8		ND		9 J	
Anthracene	**50***	ND		1.9 J		ND		ND	
4-Methylphenol	**1****	ND		**2.3 J**		ND		**13 J**	
2-Methylnaphthalene	--	ND		5.7		ND		20 J	
2-Methylphenol	**1****	ND		**1.6 J**		ND		**6.7 J**	
2,4-Dimethylphenol	**1****	ND		**1.9 J**		ND		**4.4 J**	
Biphenyl	**5**	ND		1.8 J		ND		4 J	
Carbazole	--	ND		5.6		ND		6.4 J	
Dibenzofuran	--	ND		6.7 J		ND		9 J	
Fluoranthene	**50***	ND		2 J		ND		3 J	
Fluorene	**50***	ND		12		ND		7.8 J	
Naphthalene	**10***	ND		**29**		ND		**120**	
Phenanthrene	**50***	ND		17		ND		11 J	
Phenol	**1****	ND		ND		ND		**3.1 J**	
Pyrene	**50***	ND		1.1 J		ND		1.8 J	
Total Phenolic Compounds	**1****	ND		***5.8 J***		ND		***27.2 J***	

Notes:

1. Only those compounds detected above the method detection limit at a minimum of one sample location are reported in this table.
2. NYSDEC Class "GA" Groundwater Quality Standards (GWQS) as per 6 NYCRR Part 703.
3. Field measurements were collected immediately before and after groundwater sample collection.
4. Method detection limits for benzo(a)anthracene (0.61 ug/L and chrysene (0.54 ug/L) are above the GWQS/GV.

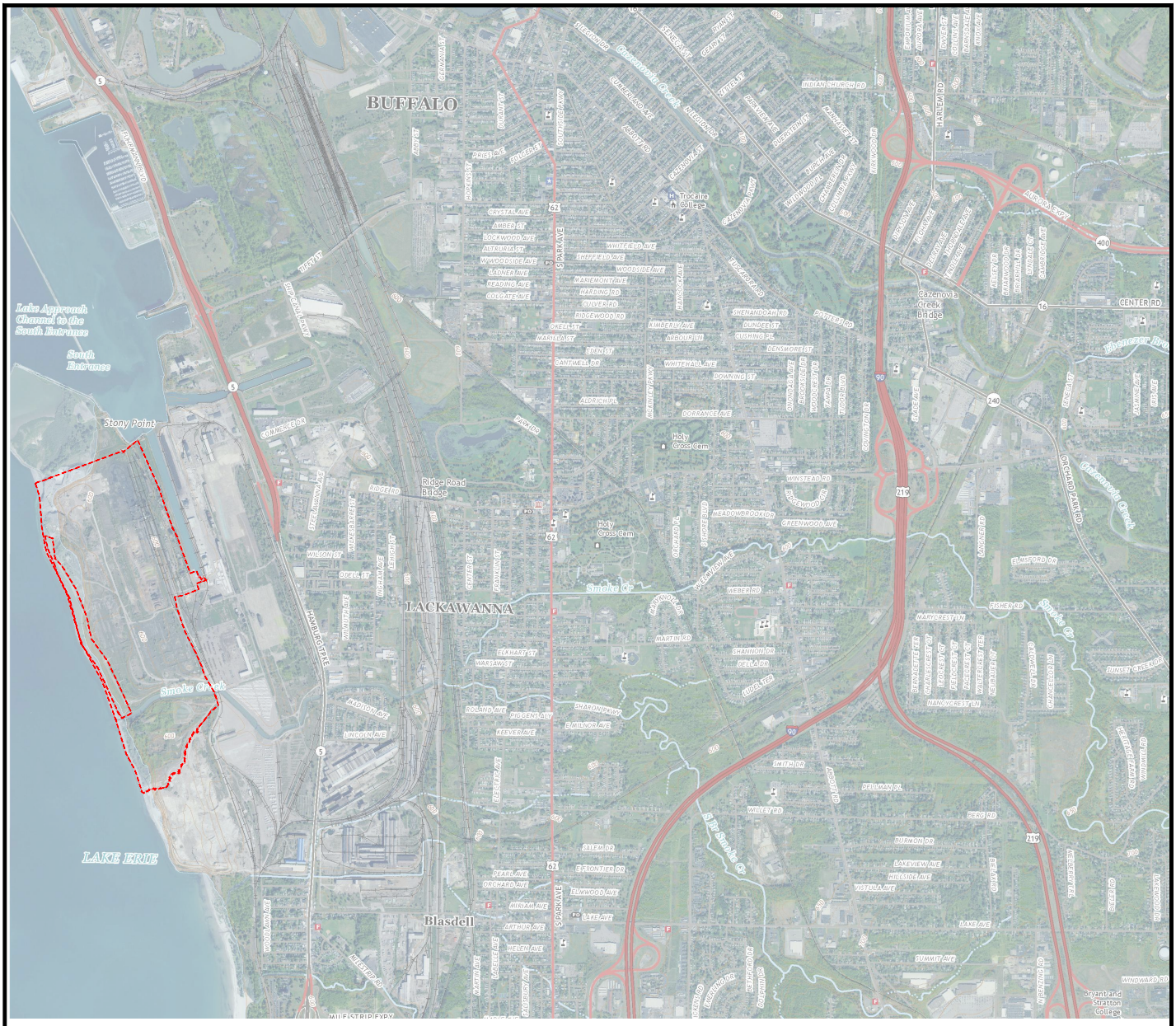
Acronyms:

J = Estimated value
ND = Indicates parameter was not detected above laboratory reporting limit.
" -- " = Not analyzed for this parameter or no GWQS/GV exists for this parameter.
" * " = The Guidance Value was used where a Standard has not been established.
" ** " = General GWQS of 1.0 ug/L for total phenolic compounds.

BOLD = exceeds GWQS/GV

FIGURES

FIGURE 1



BASEMAP PER USGS QUADRANGLE BUFFALO SOUTHEAST 2019

N

4,000' 0' 4,000' 8,000'

SCALE: 1 INCH = 4,000 FEET
SCALE IN FEET
(approximate)

LEGEND:

TECUMSEH REDEVELOPMENT CMS AREA

QUADRANGLE LOCATION

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0599

PROJECT NO.: 0071-020-240

DATE: OCTOBER 2020

DRAFTED BY: RFL

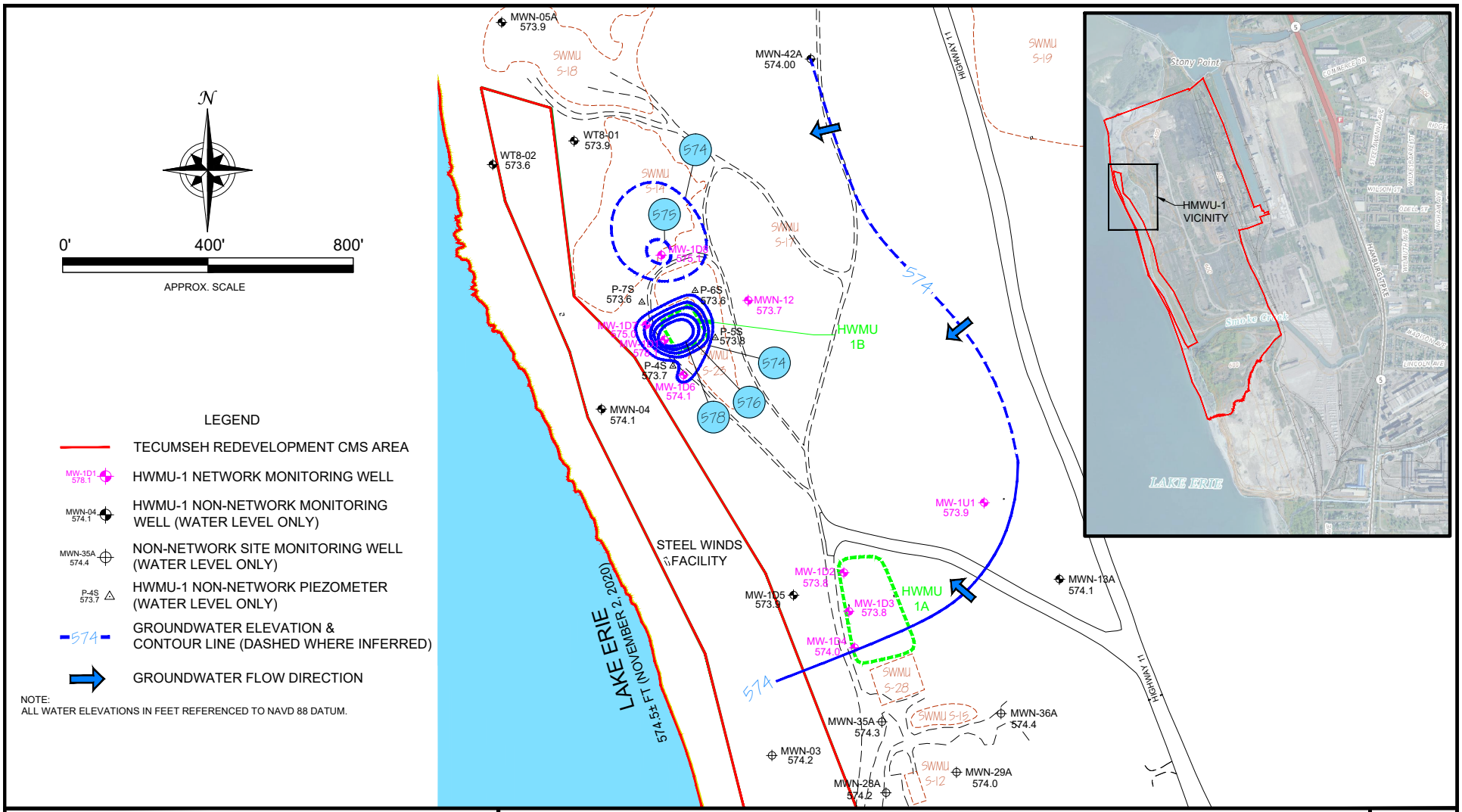
SITE LOCATION & VICINITY MAP

HWMU-1 & HWMU-2 ANNUAL GROUNDWATER MONITORING PROGRAM

FORMER BETHLEHEM STEEL LACKAWANNA COKE DIVISION SITE
LACKAWANNA, NEW YORK

PREPARED FOR

TECUMSEH REDEVELOPMENT INC.



TurnKey Environmental Restoration, LLC

2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

PROJECT NO.: 0071-020-240

DATE: DECEMBER 2020

DRAFTED BY: CMC

HWMU-1 SHALLOW GROUNDWATER ISOPOTENTIAL MAP November 2, 2020

HWMU-1 & HWMU-2 ANNUAL GROUNDWATER MONITORING PROGRAM

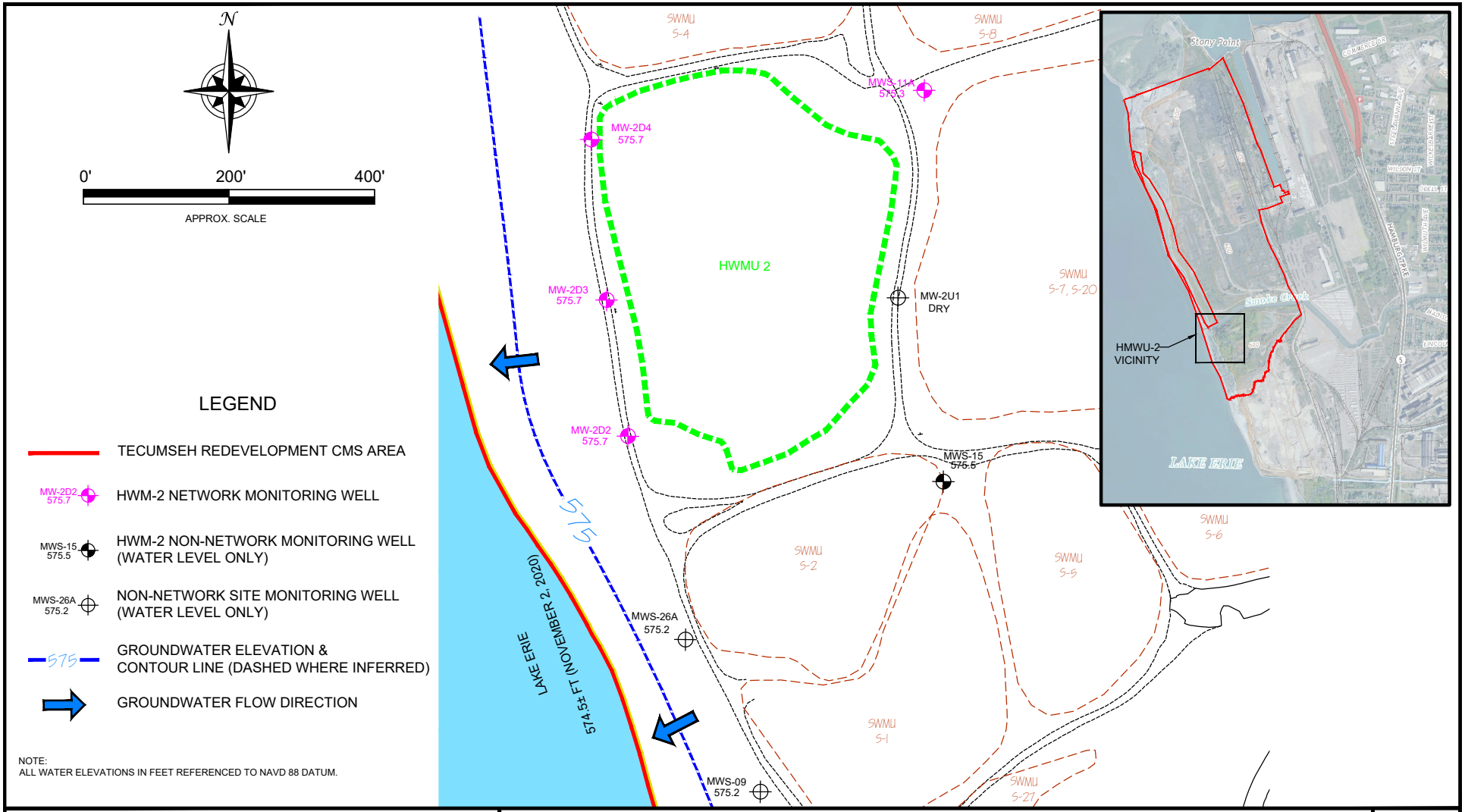
FORMER BETHLEHEM STEEL LACKAWANNA COKE DIVISION SITE
LACKAWANNA, NEW YORK

PREPARED FOR

TECUMSEH REDEVELOPMENT INC.

FIGURE 2

F:\CAD\TurnKey\Tecumseh Redevelopment\HWMU Groundwater Sampling\2020\Figure 3; HWMU-2 Shallow GW Isopotential Map - Jan 11, 2021.dwg, 1/25/2021 2:37:36 PM



TURNKEY ENVIRONMENTAL RESTORATION, LLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

PROJECT NO.: 0071-020-240

DATE: DECEMBER 2020

DRAFTED BY: CMC

HWMU-2 SHALLOW GROUNDWATER ISOPOTENTIAL MAP
November 2, 2020

HWMU-1 & HWMU-2 ANNUAL GROUNDWATER MONITORING PROGRAM

FORMER BETHLEHEM STEEL LACKAWANNA COKE DIVISION SITE
LACKAWANNA, NEW YORK

PREPARED FOR

TECUMSEH REDEVELOPMENT INC.

FIGURE 3

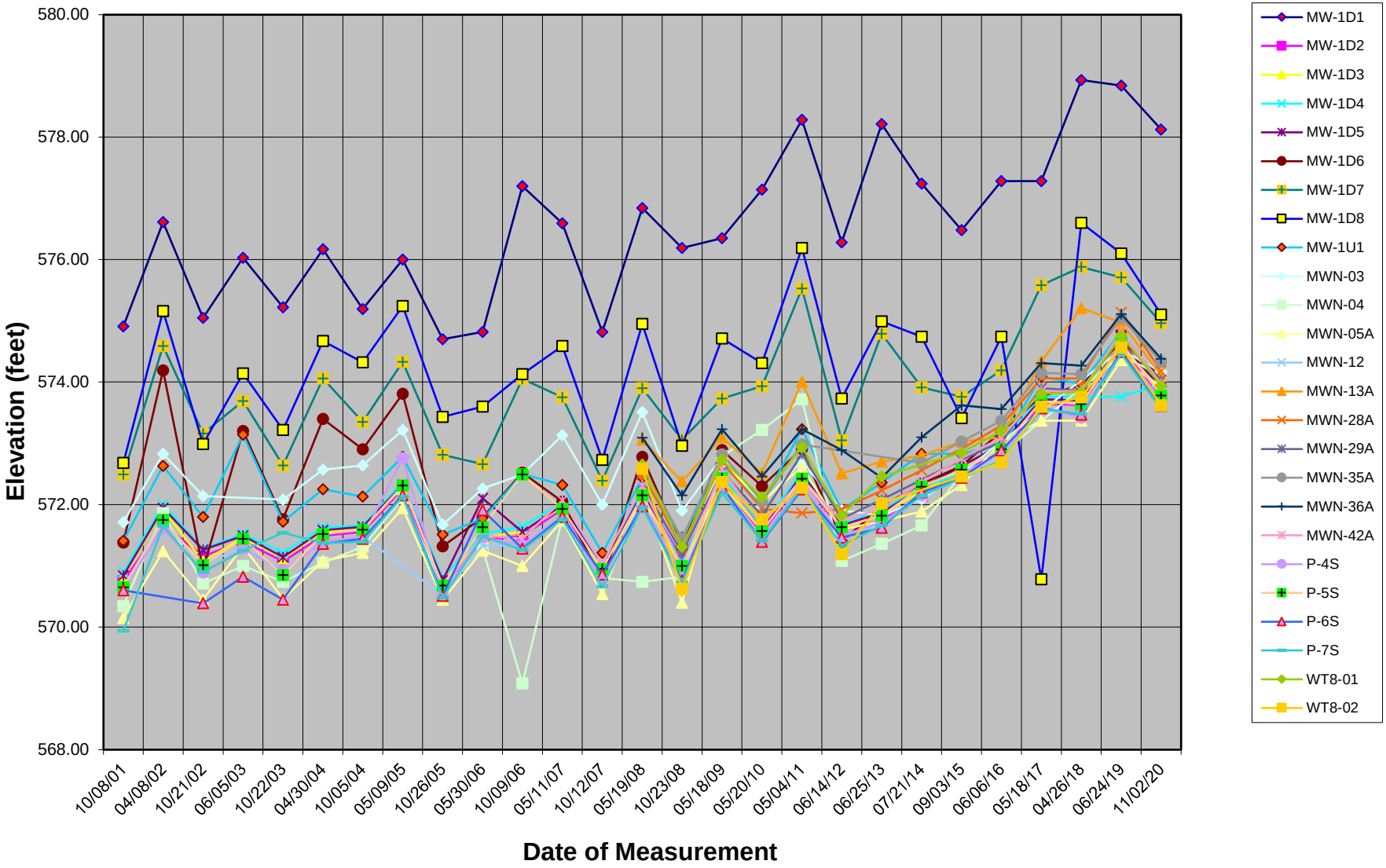
ATTACHMENT 1

HISTORICAL GROUNDWATER ELEVATION SUMMARY

ATTACHMENT 1

HISTORICAL GROUNDWATER ELEVATIONS
HWMU-1A & 1B

2001 to Present



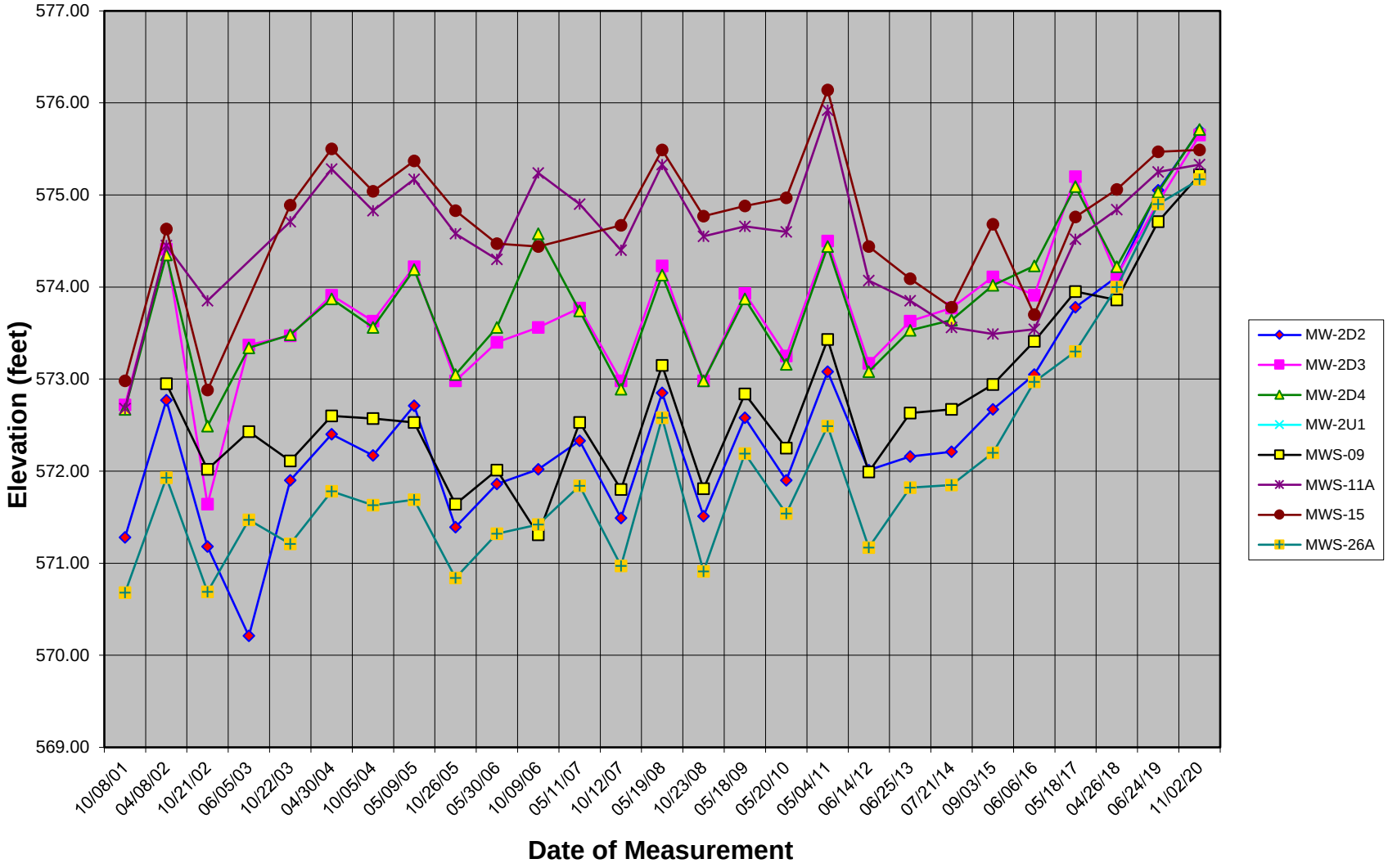
Note:

1. All water elevations in feet referenced to NAVD 88 Datum.

ATTACHMENT 1

HISTORICAL GROUNDWATER ELEVATIONS
HWMU-2

2001 to Present



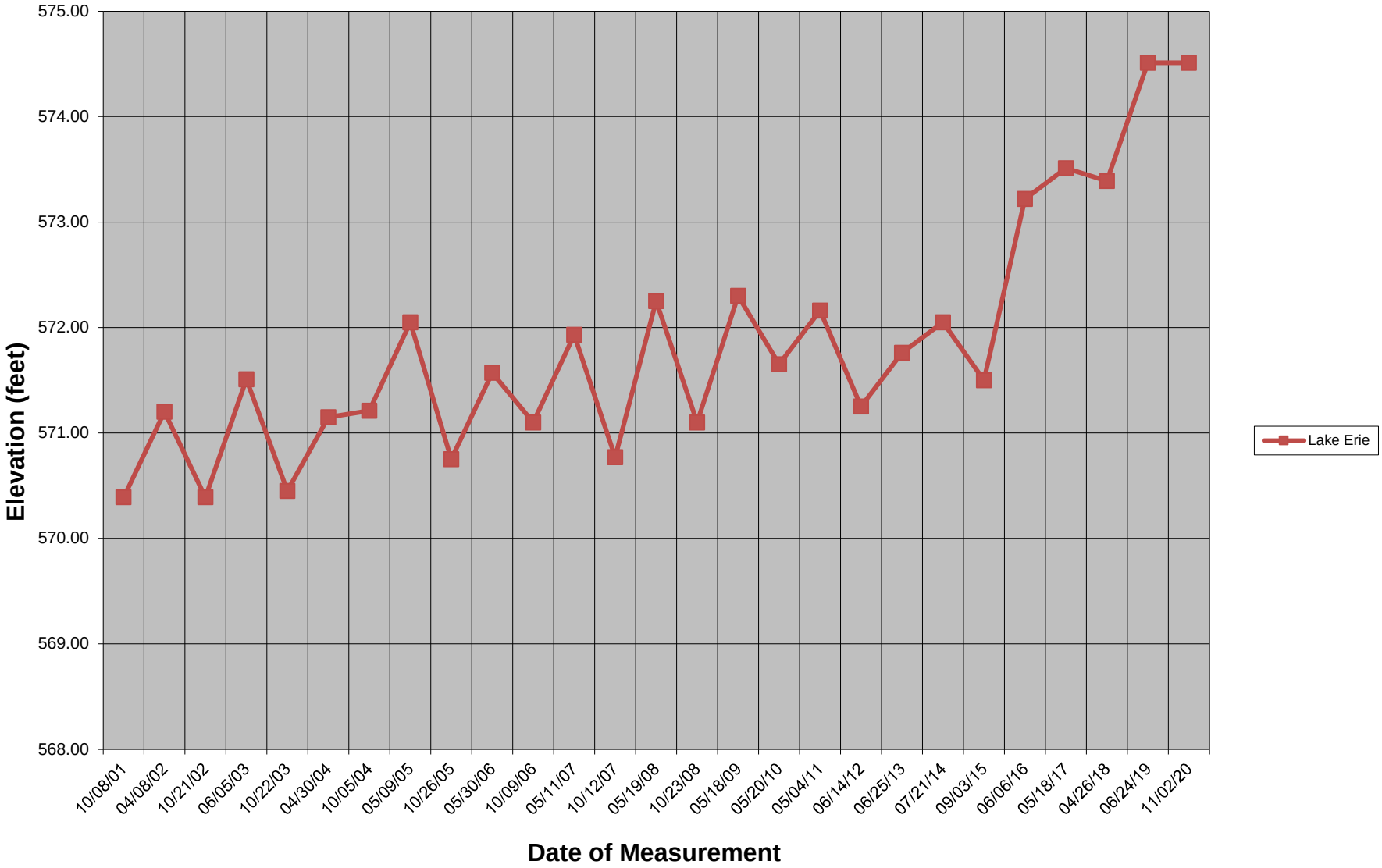
Note:

1. All water elevations in feet referenced to NAVD 88 Datum.

ATTACHMENT 1

HISTORICAL GROUNDWATER ELEVATIONS
LAKE ERIE

2001 to Present



Note:

1. All water elevations in feet referenced to NAVD 88 Datum.

ATTACHMENT 2A

GROUNDWATER FIELD FORMS AND CALIBRATION LOGS

GROUNDWATER FIELD FORM

Project Name: HWM-1A & B Groundwater Monitoring
Location: Tecumseh Redevelopment, Inc
Project No.: 0071-013-240
Date: 11/2/20.
Field Team: CCB

Well No.	MW-1D1	Diameter (inches):	4-inch	Sample Date / Time:	11/2/20 1735
Product Depth (fbTOR):	—	Water Column (ft):	12.48	DTW when sampled:	39.0
DTW (static) (fbTOR):	52.47	One Well Volume (gal):	8.11	Purpose: ☐ Development ☑ Sample ☐ Purge & Sample	
Total Depth (fbTOR):	44.95	Total Volume Purged (gal):	18.0	Purge Method: *Mini-Typhoon* Purge Rate:	

Time		Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
1422	0	Initial	0	11.95	12.3	4130	17.7	2.97	-30	Clear, no odor
1225	1	35.9	3.0	12.08	12.6	3657	8.37	1.57	-51	"
1227	2	36.9	5.0	12.12	13.2	3605	8.16	1.57	-73	"
1231	3	37.35	8.0	12.14	13.3	3520	5.38	2.21	-74	"
1234	4	38.15	10.0	12.17	13.3	3475	5.43	1.90	-83	"
1238	5	38.85	13.0	12.14	13.3	3575	4.76	2.43	-94	"
	6									
	7									
	8									
	9									
	10									
Sample Information:										
1235	S1	39.0	16.0	12.11	13.3	3636	3.71	2.95	-97	"
1245	S2	39.45	18.0	12.11	13.2	3678	3.92	3.29	-109	"

Well No.	MW-1D2	Diameter (inches):	4-inch	Sample Date / Time:	11/2/20 400
Product Depth (fbTOR):	—	Water Column (ft):	9.3	DTW when sampled:	41.4
DTW (static) (fbTOR):	40.70	One Well Volume (gal):	1.6	Purpose: ☐ Development ☑ Sample ☒ Purge & Sample	
Total Depth (fbTOR):	49.5	Total Volume Purged (gal):	16.0	Purge Method: *Mini-Monsoon* Purge Rate:	

Time		Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
1542	0	Initial	0	12.32	11.1	2303	42.7	—	-220	Clear / naptha odor.
1546	1	41.4	4.0	12.33	11.2	2296	22.7	—	-225	"
1550	2	41.4	6.5	12.33	10.8	2224	14.4	—	-224	"
1554	3	41.4	10.0	12.31	11.7	2220	8.37	—	-227	"
1558	4	41.4	14.0	12.31	11.4	2137	4.08	—	-223	"
	5									
	6									
	7									
	8									
	9									
	10									
Sample Information:										
400	S1	41.4	15.0	12.29	11.5	2061	2.97	—	-222	"
404	S2	41.4	15.5	12.32	10.2	2076	4.56	—	-211	"

REMARKS: DO died while sampling MW-1D2
Added acid to get pH below 10 before discharging to carbon bucket.

Note: All water level measurements are in feet, distance from top of riser.

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

PREPARED BY: CCB

GROUNDWATER FIELD FORM

Project Name: HWM-1A & B Groundwater Monitoring
Location: Tecumseh Redevelopment, Inc
Project No.: 0071-013-240

Date: 11/3/20
Field Team: CCB

Well No. MW-1D3
Product Depth (fbTOR): —
DTW (static) (fbTOR): 38.86
Total Depth (fbTOR): 48.10

Diameter (inches): 4-inch
Water Column (ft): 9.24
One Well Volume (gal): 6.0
Total Volume Purged (gal): 16.0

Sample Date / Time: 11/3/20 10:15
DTW when sampled: 38.30
Purpose: ☐ Development ☑ Sample ☒ Purge & Sample
Purge Method: *Mini-Monsoon* Purge Rate:

Time		Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
1008	0	Initial	0	12.24	11.6	2533	18.5	1.32	-253	Clear/slight odor
1004	1	38.25	3.0	12.28	11.9	2475	14.4	1.10	-264	"
1006	2	38.25	6.0	12.27	12.1	2451	10.3	1.01	-270	"
1010	3	38.25	9.0	12.31	12.1	2447	9.62	1.28	-272	"
1013	4	38.30	12.0	12.32	12.1	2433	7.95	1.61	-267	"
	5									
	6									
	7									
	8									
	9									
	10									
Sample Information:										
1015	S1	38.30	15.0	12.32	12.1	2418	4.64	1.41	-263	"
1018	S2	38.30	16.0	12.32	11.9	2310	3.67	—	-252	"

Well No. MW-1D4
Product Depth (fbTOR): —
DTW (static) (fbTOR): 38.55
Total Depth (fbTOR): 46.39

Diameter (inches): 4-inch
Water Column (ft): 7.84
One Well Volume (gal): 5.11
Total Volume Purged (gal): 11.0

Sample Date / Time: 11/3/20 1055
DTW when sampled: 37.85
Purpose: ☐ Development ☑ Sample ☒ Purge & Sample
Purge Method: *Mini-Monsoon* Purge Rate:

Time		Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
1041	0	Initial	0	12.28	11.1	2406	7.24	0.87	-249	Clear/slight odor
1044	1	37.85	3.5	12.32	12.0	2408	4.23	0.96	-268	"
1047	2	37.85	5.5	12.34	11.9	2403	2.70	0.87	-257	"
1050	3	37.85	8.0	12.35	11.7	2388	2.00	0.77	-252	"
	4									
	5									
	6									
	7									
	8									
	9									
	10									
Sample Information:										
1055	S1	37.85	10.5	12.31	11.9	2422	1.85	1.02	-256	"
1057	S2	37.85	11.0	12.35	11.8	2385	1.41	1.01	-248	"

REMARKS: Added acid to purge water to get pH below 10 before discharging to Chlor bucket

MW-1D3 - pump missing part - used other pump.

Note: All measurements are in feet, distance from top of riser.

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

PREPARED BY: CCB

GROUNDWATER FIELD FORM

Project Name: HWM-1A & B Groundwater Monitoring
Location: Tecumseh Redevelopment, Inc
Project No.: 0071-013-240
Date: 11/2/20 - 11/30/20
Field Team: CCB

Used peristaltic or bailer

Well No.	MW-1D6	Diameter (inches):	2-inch	Sample Date / Time:	11/3/20 920
Product Depth (fbTOR):	—	Water Column (ft):	5.28	DTW when sampled:	40.10 + pump
DTW (static) (fbTOR):	36.87	One Well Volume (gal):	0.86	Purpose: ☐ Development ☑ Sample ☑ Purge & Sample	
Total Depth (fbTOR):	42.15	Total Volume Purged (gal):	3.75	Purge Method: *Mini-Typhoon* Purge Rate:	

Time		Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
906	0	Initial	0	11.27	12.2	2624	43.6	2.60	-37	clear / no odor
908	1	Turn Pump	1.0	11.47	12.9	3163	28.5	5.88	-77	" "
911	2	" "	1.5	11.46	13.2	3271	12.3	5.35	-93	" "
914	3	" "	2.5	11.45	13.4	3246	5.41	5.37	-104	" "
	4									
	5									
	6									
	7									
	8									
	9									
	10									
Sample Information:										
920	S1	" "	3.25	11.99	13.5	3246	3.75	5.47	-117	" "
924	S2	" "	3.75	11.51	13.3	3250	2.88	5.46	-145	" "

Well No.	MW-1D7	Diameter (inches):	2-inch	Sample Date / Time:	11/2/20 1220
Product Depth (fbTOR):	—	Water Column (ft):	9.15	DTW when sampled:	36.90
DTW (static) (fbTOR):	36.30	One Well Volume (gal):	1.49	Purpose: ☐ Development ☑ Sample ☑ Purge & Sample	
Total Depth (fbTOR):	45.45	Total Volume Purged (gal):	10.0	Purge Method: *Mini-Typhoon* Purge Rate:	

Time		Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
1206	0	Initial	0	9.81	12.0	3835	21.4	2.88	-62	Clear / slight sulfuric odor
1208	1	36.85	1.25	9.22	12.9	3951	10.9	3.26	-85	" "
1210	2	36.92	3.0	8.84	13.1	4066	4.99	2.23	-118	" "
1212	3	36.90	4.5	8.63	13.4	4081	3.50	1.62	-139	" "
1214	4	36.90	6.0	8.48	13.5	4188	4.93	1.36	-152	" "
1217	5	36.96	7.0	8.40	13.5	4175	3.27	1.65	-158	" "
1219	6	36.90	8.0	8.34	13.5	4178	2.60	1.33	-161	" "
	7									
	8									
	9									
	10									
Sample Information:										
1220	S1	36.90	9.0	8.31	13.7	4163	1.92	1.51	-163	" "
1224	S2	36.90	10.0	8.30	13.3	4147	2.23	1.26	-167	" "

REMARKS: Added acid to purge water to get pH below 10 before discharging to drum bucket

Note: All measurements are in feet, distance from top of riser.

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

PREPARED BY: CCB

GROUNDWATER FIELD FORM

Project Name: HWM-1A & B Groundwater Monitoring
Location: Tecumseh Redevelopment, Inc
Project No.: 0071-013-240
Date: 11/2/20
Field Team: CCB.

DO died

Well No.	MW-1D8	Diameter (inches):	2 inch	Sample Date / Time:	11/2/20 1300
Product Depth (fbTOR):	—	Water Column (ft):	7.91	DTW when sampled:	36.50
DTW (static) (fbTOR):	35.64	One Well Volume (gal):	1.3	Purpose: ☐ Development ☑ Sample ☑ Purge & Sample	
Total Depth (fbTOR):	43.55	Total Volume Purged (gal):		Purge Method: *Mini-Typhoon* Purge Rate:	

Time		Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
1248	0	Initial	0	9.84	12.0	2427	34.9	—	-209	Clear/ slight no
1251	1	36.45	1.25	10.60	13.1	2380	7.82	1.60	-225	"
1254	2	36.50	2.25	10.75	13.5	2390	4.24	DO died	-211	" "
1256	3	36.50	3.5	10.79	13.5	2444	3.38		-212	"
	4									
	5									
	6									
	7									
	8									
	9									
	10									

Sample Information:

1300	S1	36.50	5.0	10.81	13.7	2461	2.05	—	-211	"
1302	S2	36.50	5.5	10.81	13.5	2524	1.21	—	-196	

Well No.	MW-1U1	Diameter (inches):	4-inch	Sample Date / Time:	11/2/20 1520
Product Depth (fbTOR):	—	Water Column (ft):	27.25	DTW when sampled:	39.25
DTW (static) (fbTOR):	39.25	One Well Volume (gal):	17.7	Purpose: ☐ Development ☑ Sample ☑ Purge & Sample	
Total Depth (fbTOR):	66.5	Total Volume Purged (gal):		Purge Method: *Mini-Monsoon* Purge Rate:	

Time		Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
14.56	0	Initial	0	12.46	9.6	2647	8.83	—	-206	Clear/no
1502	1	39.40	5.0	12.55	9.6	2616	9.49	—	-208	"
1507	2	39.35	10.0	12.49	10.8	2605	6.67	—	-216	"
1513	3	39.25	150	12.49	10.7	2541	4.70		-221	"
	4									
	5									
	6									
	7									
	8									
	9									
	10									

Sample Information:

DO died

1520	S1	39.25	20.0	12.47	11.6	2489	4.64	—	-217	"
1523	S2	39.25	22.0	12.45	11.6	2478	4.47	—	-220	

REMARKS: DO died during sampling
MW-1D8: Added acid to purge water to get pH below 10 before discharging to carbon bucket

Note: All measurements are in feet, distance from top of riser.

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

PREPARED BY: CCB

GROUNDWATER FIELD FORM

Project Name: HWM-1A & B Groundwater Monitoring
Location: Tecumseh Redevelopment, Inc
Project No.: 0071-013-240
Date: 11/2/20
Field Team: CCB

Well No.	MWN-12	Diameter (inches):	4-inch	Sample Date / Time:	11/2/20 1340
Product Depth (fbTOR):	—	Water Column (ft):	5.46	DTW when sampled:	35.25
DTW (static) (fbTOR):	34.94	One Well Volume (gal):	3.50	Purpose: ☐ Development	☑ Sample ☒ Purge & Sample
Total Depth (fbTOR):	40.40	Total Volume Purged (gal):	9.0	Purge Method: *Mini-Typhoon*	Purge Rate:

Time		Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
1325	0	Initial	0	12.55	11.3	4914	12.7	1.94	-178	clear/no odor
1328	1	35.20	2.25	12.61	12.5	4793	6.90	1.74	-189	" "
1331	2	35.20	3.75	12.63	12.7	4539	4.76	—	-202	" "
1334	3	35.25	5.5	12.62	12.8	4301	2.49	DO died	-211	" "
1336	4	35.25	7.0	12.61	13.0	4247	1.98	—	-214	" "
	5									
	6									
	7									
	8									
	9									
	10									
Sample Information:										
1340	S1	35.25	8.5	12.62	13.0	4186	1.73	—	-221	" "
1342	S2	32.25	9.0	12.62	12.6	4138	1.48	—	-221	" "

Well No.		Diameter (inches):		Sample Date / Time:	
Product Depth (fbTOR):		Water Column (ft):		DTW when sampled:	
DTW (static) (fbTOR):		One Well Volume (gal):		Purpose: ☐ Development	☐ Sample ☐ Purge & Sample
Total Depth (fbTOR):		Total Volume Purged (gal):		Purge Method:	Purge Rate:

Time		Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
	0	Initial								
	1									
	2									
	3									
	4									
	5									
	6									
	7									
	8									
	9									
	10									
Sample Information:										
	S1									
	S2									

REMARKS: Added acid to purge water to get pH below 10 before discharging to carbon bucket.

DO died

Note: All measurements are in feet, distance from top of riser.

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

PREPARED BY: CCB

GROUNDWATER FIELD FORM

Project Name: HWM-2 Groundwater Monitoring
Location: Tecumseh Redevelopment, Inc
Project No.: 0071-017-240
Date: 11/3/20
Field Team: CCB.

Well No.	MW-2D2	Diameter (inches):	4-inch	Sample Date / Time:	11/3/20	1220
Product Depth (fbTOR):	–	Water Column (ft):	8.3	DTW when sampled:	57.0	
DTW (static) (fbTOR):	56.90	One Well Volume (gal):	5.4	Purpose: ☐ Development	☑ Sample	☒ Purge & Sample
Total Depth (fbTOR):	65.20	Total Volume Purged (gal):	13.0	Purge Method: *Mini-Monsoon*	Purge Rate:	

Time		Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
1204	0	Initial	0	9.66	15.8	959.9	9.92	5.30	-112	clear/no odor
1207	1	57.0	2.5	9.55	16.1	954.7	6.13	5.23	-95	"
1210	2	57.0	5.0	9.55	16.3	952.6	5.25	4.93	-83	"
1214	3	57.0	8.0	9.49	16.1	953.1	3.89	5.06	-72	"
1218	4	57.0	11.0	9.49	16.1	951.3	2.86	4.86	-64.	"
	5									
	6									
	7									
	8									
	9									
	10									
Sample Information:										
1220	S1	57.0	12.5	9.47	16.1	951.0	2.37	4.93	-58	"
1222	S2	57.0	13.0	9.47	16.0	950.2	2.22	5.00	-54	"

Well No.	MW-2D3	Diameter (inches):	4-inch	Sample Date / Time:	11/3/20	1450.
Product Depth (fbTOR):	–	Water Column (ft):	7.33	DTW when sampled:	60.0	
DTW (static) (fbTOR):	59.87	One Well Volume (gal):	4.7	Purpose: ☐ Development	☑ Sample	☒ Purge & Sample
Total Depth (fbTOR):	67.2	Total Volume Purged (gal):	12.50	Purge Method: *Mini-Monsoon*	Purge Rate:	

Time		Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
1433	0	Initial	0	10.88	14.9	1036	14.9	1.09	-125	clear/no odor.
1435	1	60.0	2.5	11.05	15.4	1019	10.2	0.89	-175	"
1437	2	60.0	4.5	11.12	15.5	1031	8.29	0.96	-193	"
1440	3	60.0	7.0	11.15	15.5	1035	7.10	0.77	-204	"
1443	4	60.0	9.0	11.18	15.6	1044	6.47	0.65	-209	"
1447	5	60.0	11.0	11.19	15.7	1047	5.05	1.04	-214	"
	6									
	7									
	8									
	9									
	10									
Sample Information:										
1450	S1	60.0	12.0	11.20	15.6	1046	3.97	0.71	-220	"
1452	S2	60.6	12.50	11.21	15.4	1054	3.59	0.96	-219	"

REMARKS:

Note: All measurements are in feet, distance from top of riser.

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

PREPARED BY: CCB.

GROUNDWATER FIELD FORM

Project Name: HWM-2 Groundwater Monitoring
Location: Tecumseh Redevelopment, Inc
Project No.: 0071-017-240
Date: 11/3/20.
Field Team: CCB.

Well No.	MW-2D4	Diameter (inches):	4-inch	Sample Date / Time:	11/3/20	1400
Product Depth (fbTOR):	—	Water Column (ft):	8.71	DTW when sampled:	53.90	
DTW (static) (fbTOR):	53.89	One Well Volume (gal):	5.6	Purpose: ☐ Development ☑ Sample ☒ Purge & Sample		
Total Depth (fbTOR):	62.60	Total Volume Purged (gal):		Purge Method: *Mini-Monsoon* Purge Rate:		

Time		Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
1340	0	Initial	0	10.13	15.0	910.4	10.4	1.53	-183.	Clear/Slight odor
1343	1	53.9	3.0	9.57	14.9	911.5	18.3	1.67	-155	" "
1347	2	53.9	5.5	9.42	14.9	907.2	18.9	2.07	-138.	" "
1350	3	53.9	8.0	9.28	14.8	898.1	11.4	1.95	-122	" " NO odor
1354	4	53.9	10.5	9.23	14.8	894.6	8.55	2.18	-144	" "
1356	5	53.9	12.0	9.19	14.8	892.7	7.85	2.22	-109	" "
1358	6	53.9	13.0	9.14	14.8	889.6	6.17	2.26	-100	
	7									
	8									
	9									
	10									
Sample Information:										
1400	S1	53.9	14.0	9.13	14.8	888.9	5.00	2.08	-97	" "
1402	S2	53.9	15.0	9.15	14.8	886.5	4.30	2.02	-93	" "

Well No.	MWS-11A	Diameter (inches):	4"	Sample Date / Time:	11/3/20.	1325
Product Depth (fbTOR):	—	Water Column (ft):	9.25	DTW when sampled:	64.5	
DTW (static) (fbTOR):	64.53	One Well Volume (gal):	6.0	Purpose: ☐ Development ☑ Sample ☒ Purge & Sample		
Total Depth (fbTOR):	73.78	Total Volume Purged (gal):	16.0.	Purge Method: *Mini-Monsoon* Purge Rate:		

Time		Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
1310	0	Initial	0	12.04	14.6	2067	17.1	1.42	-189	Clear/Slight naph odor
1314	1	64.5	6.0	12.15	15.7	2016	16.4	0.70	-251	" "
1317	2	64.5	10.0	12.19	14.3	2023	11.4	0.85	-261	" "
1320	3	64.5	13.0	12.19	14.1	2010	9.59	0.92	-274	" "
	4									
	5									
	6									
	7									
	8									
	9									
	10									
Sample Information:						Sheen observed in purge bucket				
1325	S1	64.5	15.0	12.18	14.1	1996	8.51	0.84	-252	" "
1327	S2	64.5	16.0	12.16	14.2	1956	8.62	0.86	-262	" "

MWS-11A

REMARKS: Added acid to purge water to get pH below 10 before discharging to carbon bucket

Note: All measurements are in feet, distance from top of riser.

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

PREPARED BY: CCB.

TABLE 3

SUMMARY OF GROUNDWATER ELEVATIONS

(DATE)

Annual Event
Hazardous Waste Management Facilities HWMU-1 & HWMU-2
Tecumseh Redevelopment Inc.
Lackawanna, New York

Location	TOR Elevation [1] (fmsl)	DTP (if present) (fbTOR)	DTW (fbTOR)	Product Thickness (feet)	GWE [1] (fmsl)	Corrected GWE [2] (fmsl)
HWM-1A & 1B MONITORING WELLS (25)						
MW-1D1	610.59	—	32.47	0.00	610.59	610.59
MW-1D2	614.46	—	40.70	0.00	614.46	614.46
MW-1D3	612.69	—	38.86	0.00	612.69	612.69
MW-1D4	612.52	—	38.55	0.00	612.52	612.52
MW-1D5	613.49	—	39.58	0.00	613.49	613.49
MW-1D6	610.94	—	36.87	0.00	610.94	610.94
MW-1D7	611.26	—	36.38	0.00	611.26	611.26
MW-1D8	610.74	—	35.64	0.00	610.74	610.74
MW-1U1	613.18		39.25	0.00	613.18	613.18
MWN-03	611.96	—	37.79	0.00	611.96	611.96
MWN-04	623.45		49.35	0.00	623.45	623.45
MWN-05A	622.84	—	43.91	0.00	622.84	622.84
MWN-12	608.59	—	34.94	0.00	608.59	608.59
MWN-13A	607.32	—	33.21	0.00	607.32	607.32
MWN-28A	595.76	—	21.56	0.00	595.76	595.76
MWN-29A	596.19	—	22.16	0.00	596.19	596.19
MWN-35A	608.71	—	34.38	0.00	608.71	608.71
MWN-36A	598.42	—	24.04	0.00	598.42	598.42
MWN-42A	579.37	—	5.40	0.00	579.37	579.37
P-4S	610.85	—	37.14	0.00	610.85	610.85
P-5S	616.71	—	42.93	0.00	616.71	616.71
P-6S	618.92	—	45.31	0.00	618.92	618.92
P-7S	610.59	—	37.04	0.00	610.59	610.59
WT8-01	612.49	—	38.55	0.00	612.49	612.49
WT8-02	645.62	—	72.0	0.00	645.62	645.62
HWM-2 MONITORING WELLS (8)						
MW-2D2	632.11	—	56.90	0.00	632.11	632.11
MW-2D3	636.52		59.87	0.00	636.52	636.52
MW-2D4	630.44	—	53.89	0.00	630.44	630.44
MW-2U1	628.32	DRY	—	DRY	DRY	DRY
MWS-09	630.82	—	55.60	0.00	630.82	630.82
MWS-11A	639.56	—	64.53	0.00	639.56	639.56
MWS-15	627.09	—	51.94	0.00	627.09	627.09
MWS-26A	624.80	—	50.44	0.00	624.80	624.80
LAKE ERIE						
Lake Erie [3]	NA	NA	NA	NA		

Notes:

1. Top of Riser (TOR) elevation and Groundwater Elevation (GWE) is measured in feet; distance above mean sea level (fmsl).
2. Groundwater elevation (GWE) corrected based on the presence of free product (i.e., LNAPL), if applicable.
3. Source: NOAA Tides & Currents Web Page- Buffalo, NY Station ID 9063020
4. fbTOR = feet below top of riser or casing
5. fmsl = feet above mean sea level.
6. NM = not measured
7. NP = no product was present.

ATTACHMENT 2B

ANALYTICAL DATA PACKAGE

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-177559-1
Client Project/Site: Tecumseh - HWMU Groundwater

For:
Benchmark Env. Eng. & Science, PLLC
2558 Hamburg Turnpike
Suite 300
Buffalo, New York 14218

Attn: Ms. Caroline Bukowski

Authorized for release by:
11/13/2020 11:58:32 AM
Rebecca Jones, Project Management Assistant I
Rebecca.Jones@Eurofinset.com

Designee for

Brian Fischer, Manager of Project Management
(716)504-9835
Brian.Fischer@Eurofinset.com

Table of Contents

Definitions/Glossary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177559-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate recovery exceeds control limits

Glossary

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

Job ID: 480-177559-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative
480-177559-1

Comments
No additional comments.

Receipt
The samples were received on 11/3/2020 11:45 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.2º C.

GC/MS VOA
Method 8260C: The continuing calibration verification (CCV) associated with batch 480-557992 recovered above the upper control limit for 2-Butanone (MEK). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MW-1D1 (480-177559-1), MW-1D7 (480-177559-3), MW-1D8 (480-177559-4) and MWN-12 (480-177559-6).

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

GC/MS Semi VOA
Method 8270D: The continuing calibration verification (CCV) associated with batch 480-558368 recovered outside acceptance criteria, low biased, for Pentachlorophenol. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8270D: The laboratory control sample (LCS) for preparation batch 480-557881 and analytical batch 480-558368 recovered outside control limits for the following analytes: Atrazine. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: MW-1D7 (480-177559-3). These results have been reported and qualified.

Method 8270D: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-1D2 (480-177559-2). Elevated reporting limits (RLs) are provided.

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

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

Detection Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177559-1

Client Sample ID: MW-1D1 — Lab Sample ID: 480-177559-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	2.0		1.0	0.75	ug/L	1		8260C	Total/NA
Benzene	1.3		1.0	0.41	ug/L	1		8260C	Total/NA
Ethylbenzene	1.3		1.0	0.74	ug/L	1		8260C	Total/NA
m-Xylene & p-Xylene	1.3	J	2.0	0.66	ug/L	1		8260C	Total/NA
o-Xylene	2.7		1.0	0.76	ug/L	1		8260C	Total/NA
Toluene	1.2		1.0	0.51	ug/L	1		8260C	Total/NA
Xylenes, Total	4.0		2.0	0.66	ug/L	1		8260C	Total/NA
Carbon disulfide	0.30	J	1.0	0.19	ug/L	1		8260C	Total/NA
Trichloroethene	0.93	J	1.0	0.46	ug/L	1		8260C	Total/NA
4-Methylphenol	0.73	J	10	0.36	ug/L	1		8270D	Total/NA
Acenaphthylene	2.5	J	5.0	0.38	ug/L	1		8270D	Total/NA
Biphenyl	0.74	J	5.0	0.65	ug/L	1		8270D	Total/NA
Bis(2-ethylhexyl) phthalate	4.7	J	5.0	2.2	ug/L	1		8270D	Total/NA
Dibenzofuran	1.4	J	10	0.51	ug/L	1		8270D	Total/NA
Fluorene	1.4	J	5.0	0.36	ug/L	1		8270D	Total/NA
Naphthalene	21		5.0	0.76	ug/L	1		8270D	Total/NA
Phenanthrene	0.59	J	5.0	0.44	ug/L	1		8270D	Total/NA
Phenol	0.52	J	5.0	0.39	ug/L	1		8270D	Total/NA

Client Sample ID: MW-1D2 — Lab Sample ID: 480-177559-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	6.3		1.0	0.75	ug/L	1		8260C	Total/NA
1,3,5-Trimethylbenzene	3.8		1.0	0.77	ug/L	1		8260C	Total/NA
Benzene	3.1		1.0	0.41	ug/L	1		8260C	Total/NA
m-Xylene & p-Xylene	3.2		2.0	0.66	ug/L	1		8260C	Total/NA
o-Xylene	2.4		1.0	0.76	ug/L	1		8260C	Total/NA
Toluene	1.5		1.0	0.51	ug/L	1		8260C	Total/NA
Xylenes, Total	5.6		2.0	0.66	ug/L	1		8260C	Total/NA
2,4-Dimethylphenol	0.55	J	5.0	0.50	ug/L	1		8270D	Total/NA
2-Methylnaphthalene	53		5.0	0.60	ug/L	1		8270D	Total/NA
2-Methylphenol	0.64	J	5.0	0.40	ug/L	1		8270D	Total/NA
4-Methylphenol	1.6	J	10	0.36	ug/L	1		8270D	Total/NA
Acenaphthene	1.5	J	5.0	0.41	ug/L	1		8270D	Total/NA
Acenaphthylene	25		5.0	0.38	ug/L	1		8270D	Total/NA
Acetophenone	0.81	J	5.0	0.54	ug/L	1		8270D	Total/NA
Anthracene	1.0	J	5.0	0.28	ug/L	1		8270D	Total/NA
Biphenyl	5.9		5.0	0.65	ug/L	1		8270D	Total/NA
Carbazole	2.0	J	5.0	0.30	ug/L	1		8270D	Total/NA
Dibenzofuran	8.7	J	10	0.51	ug/L	1		8270D	Total/NA
Fluoranthene	1.1	J	5.0	0.40	ug/L	1		8270D	Total/NA
Fluorene	7.0		5.0	0.36	ug/L	1		8270D	Total/NA
Phenanthrene	5.7		5.0	0.44	ug/L	1		8270D	Total/NA
Phenol	4.2	J	5.0	0.39	ug/L	1		8270D	Total/NA
Pyrene	0.70	J	5.0	0.34	ug/L	1		8270D	Total/NA
Naphthalene - DL	97		25	3.8	ug/L	5		8270D	Total/NA

Client Sample ID: MW-1D7 — Lab Sample ID: 480-177559-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	8.8		1.0	0.41	ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	10		1.0	0.81	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-1D7 (Continued)
Lab Sample ID: 480-177559-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene	22		1.0	0.90	ug/L	1		8260C	Total/NA
Trichloroethene	0.74	J	1.0	0.46	ug/L	1		8260C	Total/NA
Vinyl chloride	3.4		1.0	0.90	ug/L	1		8260C	Total/NA
4-Chloro-3-methylphenol	1.1	J	5.0	0.45	ug/L	1		8270D	Total/NA
Acenaphthene	0.90	J	5.0	0.41	ug/L	1		8270D	Total/NA
Anthracene	0.30	J	5.0	0.28	ug/L	1		8270D	Total/NA
Fluorene	6.1		5.0	0.36	ug/L	1		8270D	Total/NA

Client Sample ID: MW-1D8
Lab Sample ID: 480-177559-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	3.4		1.0	0.75	ug/L	1		8260C	Total/NA
1,3,5-Trimethylbenzene	4.4		1.0	0.77	ug/L	1		8260C	Total/NA
4-Isopropyltoluene	0.44	J	1.0	0.31	ug/L	1		8260C	Total/NA
Benzene	1.4		1.0	0.41	ug/L	1		8260C	Total/NA
Ethylbenzene	0.84	J	1.0	0.74	ug/L	1		8260C	Total/NA
m-Xylene & p-Xylene	4.4		2.0	0.66	ug/L	1		8260C	Total/NA
o-Xylene	3.3		1.0	0.76	ug/L	1		8260C	Total/NA
Toluene	3.1		1.0	0.51	ug/L	1		8260C	Total/NA
Xylenes, Total	7.7		2.0	0.66	ug/L	1		8260C	Total/NA
Styrene	1.6		1.0	0.73	ug/L	1		8260C	Total/NA
2,4-Dimethylphenol	0.60	J	5.0	0.50	ug/L	1		8270D	Total/NA
2-Methylnaphthalene	4.0	J	5.0	0.60	ug/L	1		8270D	Total/NA
Acenaphthene	0.47	J	5.0	0.41	ug/L	1		8270D	Total/NA
Acenaphthylene	2.8	J	5.0	0.38	ug/L	1		8270D	Total/NA
Acetophenone	1.3	J	5.0	0.54	ug/L	1		8270D	Total/NA
Biphenyl	0.67	J	5.0	0.65	ug/L	1		8270D	Total/NA
Carbazole	0.61	J	5.0	0.30	ug/L	1		8270D	Total/NA
Dibenzofuran	0.68	J	10	0.51	ug/L	1		8270D	Total/NA
Fluorene	1.0	J	5.0	0.36	ug/L	1		8270D	Total/NA
Naphthalene	21		5.0	0.76	ug/L	1		8270D	Total/NA

Client Sample ID: MW-1U1
Lab Sample ID: 480-177559-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,3,5-Trimethylbenzene	0.93	J	1.0	0.77	ug/L	1		8260C	Total/NA
Benzene	42		1.0	0.41	ug/L	1		8260C	Total/NA
m-Xylene & p-Xylene	4.3		2.0	0.66	ug/L	1		8260C	Total/NA
o-Xylene	3.9		1.0	0.76	ug/L	1		8260C	Total/NA
Toluene	6.8		1.0	0.51	ug/L	1		8260C	Total/NA
Xylenes, Total	8.2		2.0	0.66	ug/L	1		8260C	Total/NA
2,4-Dimethylphenol	1.0	J	5.0	0.50	ug/L	1		8270D	Total/NA
2-Methylnaphthalene	1.6	J	5.0	0.60	ug/L	1		8270D	Total/NA
2-Methylphenol	1.1	J	5.0	0.40	ug/L	1		8270D	Total/NA
4-Methylphenol	2.9	J	10	0.36	ug/L	1		8270D	Total/NA
Acenaphthene	0.90	J	5.0	0.41	ug/L	1		8270D	Total/NA
Acenaphthylene	2.3	J	5.0	0.38	ug/L	1		8270D	Total/NA
Anthracene	0.58	J	5.0	0.28	ug/L	1		8270D	Total/NA
Carbazole	2.8	J	5.0	0.30	ug/L	1		8270D	Total/NA
Dibenzofuran	1.2	J	10	0.51	ug/L	1		8270D	Total/NA
Di-n-octyl phthalate	1.1	J	5.0	0.47	ug/L	1		8270D	Total/NA
Fluoranthene	1.7	J	5.0	0.40	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-1U1 (Continued)

Lab Sample ID: 480-177559-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluorene	1.9	J	5.0	0.36	ug/L	1		8270D	Total/NA
Naphthalene	26		5.0	0.76	ug/L	1		8270D	Total/NA
Phenanthrene	3.1	J	5.0	0.44	ug/L	1		8270D	Total/NA
Pyrene	1.6	J	5.0	0.34	ug/L	1		8270D	Total/NA

Client Sample ID: MWN-12

Lab Sample ID: 480-177559-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2.1		1.0	0.41	ug/L	1		8260C	Total/NA
m-Xylene & p-Xylene	0.67	J	2.0	0.66	ug/L	1		8260C	Total/NA
Toluene	0.72	J	1.0	0.51	ug/L	1		8260C	Total/NA
Xylenes, Total	0.67	J	2.0	0.66	ug/L	1		8260C	Total/NA
Acetone	3.9	J	10	3.0	ug/L	1		8260C	Total/NA
Carbon disulfide	0.21	J	1.0	0.19	ug/L	1		8260C	Total/NA
2,4-Dimethylphenol	0.84	J	5.0	0.50	ug/L	1		8270D	Total/NA
2-Methylnaphthalene	9.2		5.0	0.60	ug/L	1		8270D	Total/NA
2-Methylphenol	1.0	J	5.0	0.40	ug/L	1		8270D	Total/NA
4-Methylphenol	2.8	J	10	0.36	ug/L	1		8270D	Total/NA
Acenaphthene	3.6	J	5.0	0.41	ug/L	1		8270D	Total/NA
Acenaphthylene	4.0	J	5.0	0.38	ug/L	1		8270D	Total/NA
Anthracene	2.5	J	5.0	0.28	ug/L	1		8270D	Total/NA
Biphenyl	2.3	J	5.0	0.65	ug/L	1		8270D	Total/NA
Carbazole	7.2		5.0	0.30	ug/L	1		8270D	Total/NA
Dibenzofuran	8.4	J	10	0.51	ug/L	1		8270D	Total/NA
Fluoranthene	4.5	J	5.0	0.40	ug/L	1		8270D	Total/NA
Fluorene	12		5.0	0.36	ug/L	1		8270D	Total/NA
Naphthalene	50		5.0	0.76	ug/L	1		8270D	Total/NA
Phenanthrene	19		5.0	0.44	ug/L	1		8270D	Total/NA
Phenol	0.44	J	5.0	0.39	ug/L	1		8270D	Total/NA
Pyrene	2.9	J	5.0	0.34	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177559-1

Client Sample ID: MW-1D1
Date Collected: 11/02/20 11:35
Date Received: 11/03/20 11:45

Lab Sample ID: 480-177559-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/08/20 16:02	1
1,2,4-Trimethylbenzene	**2.0**		1.0	0.75	ug/L			11/08/20 16:02	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/08/20 16:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/08/20 16:02	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/08/20 16:02	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/08/20 16:02	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/08/20 16:02	1
4-Isopropyltoluene	ND		1.0	0.31	ug/L			11/08/20 16:02	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/08/20 16:02	1
Benzene	**1.3**		1.0	0.41	ug/L			11/08/20 16:02	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/08/20 16:02	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/08/20 16:02	1
Ethylbenzene	**1.3**		1.0	0.74	ug/L			11/08/20 16:02	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/08/20 16:02	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/08/20 16:02	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/08/20 16:02	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/08/20 16:02	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/08/20 16:02	1
m-Xylene & p-Xylene	**1.3**	**J**	2.0	0.66	ug/L			11/08/20 16:02	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/08/20 16:02	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/08/20 16:02	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/08/20 16:02	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/08/20 16:02	1
o-Xylene	**2.7**		1.0	0.76	ug/L			11/08/20 16:02	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/08/20 16:02	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/08/20 16:02	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/08/20 16:02	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/08/20 16:02	1
2-Hexanone	ND		5.0	1.2	ug/L			11/08/20 16:02	1
Toluene	**1.2**		1.0	0.51	ug/L			11/08/20 16:02	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/08/20 16:02	1
Xylenes, Total	**4.0**		2.0	0.66	ug/L			11/08/20 16:02	1
Acetone	ND		10	3.0	ug/L			11/08/20 16:02	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/08/20 16:02	1
Bromoform	ND		1.0	0.26	ug/L			11/08/20 16:02	1
Bromomethane	ND		1.0	0.69	ug/L			11/08/20 16:02	1
Carbon disulfide	**0.30**	**J**	1.0	0.19	ug/L			11/08/20 16:02	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/08/20 16:02	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/08/20 16:02	1
Chloroethane	ND		1.0	0.32	ug/L			11/08/20 16:02	1
Chloroform	ND		1.0	0.34	ug/L			11/08/20 16:02	1
Chloromethane	ND		1.0	0.35	ug/L			11/08/20 16:02	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/08/20 16:02	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/08/20 16:02	1
Cyclohexane	ND		1.0	0.18	ug/L			11/08/20 16:02	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/08/20 16:02	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/08/20 16:02	1
Methyl acetate	ND		2.5	1.3	ug/L			11/08/20 16:02	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/08/20 16:02	1

Client Sample ID: MW-1D1

Date Collected: 11/02/20 11:35
Date Received: 11/03/20 11:45

Lab Sample ID: 480-177559-1

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		1.0	0.44	ug/L			11/08/20 16:02	1
Styrene	ND		1.0	0.73	ug/L			11/08/20 16:02	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/08/20 16:02	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/08/20 16:02	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/08/20 16:02	1
Trichloroethene	**0.93**	**J**	1.0	0.46	ug/L			11/08/20 16:02	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/08/20 16:02	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/08/20 16:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*113*		*77 - 120*		*11/08/20 16:02*	*1*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*		*11/08/20 16:02*	*1*
Dibromofluoromethane (Surr)	*117*		*75 - 123*		*11/08/20 16:02*	*1*
Toluene-d8 (Surr)	*108*		*80 - 120*		*11/08/20 16:02*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		11/06/20 15:09	11/11/20 10:14	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		11/06/20 15:09	11/11/20 10:14	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		11/06/20 15:09	11/11/20 10:14	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		11/06/20 15:09	11/11/20 10:14	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		11/06/20 15:09	11/11/20 10:14	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		11/06/20 15:09	11/11/20 10:14	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 10:14	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		11/06/20 15:09	11/11/20 10:14	1
2-Chlorophenol	ND		5.0	0.53	ug/L		11/06/20 15:09	11/11/20 10:14	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		11/06/20 15:09	11/11/20 10:14	1
2-Methylphenol	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 10:14	1
2-Nitroaniline	ND		10	0.42	ug/L		11/06/20 15:09	11/11/20 10:14	1
2-Nitrophenol	ND		5.0	0.48	ug/L		11/06/20 15:09	11/11/20 10:14	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 10:14	1
3-Nitroaniline	ND		10	0.48	ug/L		11/06/20 15:09	11/11/20 10:14	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		11/06/20 15:09	11/11/20 10:14	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		11/06/20 15:09	11/11/20 10:14	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		11/06/20 15:09	11/11/20 10:14	1
4-Chloroaniline	ND		5.0	0.59	ug/L		11/06/20 15:09	11/11/20 10:14	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		11/06/20 15:09	11/11/20 10:14	1
4-Methylphenol	**0.73**	**J**	10	0.36	ug/L		11/06/20 15:09	11/11/20 10:14	1
4-Nitroaniline	ND		10	0.25	ug/L		11/06/20 15:09	11/11/20 10:14	1
4-Nitrophenol	ND		10	1.5	ug/L		11/06/20 15:09	11/11/20 10:14	1
Acenaphthene	ND		5.0	0.41	ug/L		11/06/20 15:09	11/11/20 10:14	1
Acenaphthylene	**2.5**	**J**	5.0	0.38	ug/L		11/06/20 15:09	11/11/20 10:14	1
Acetophenone	ND		5.0	0.54	ug/L		11/06/20 15:09	11/11/20 10:14	1
Anthracene	ND		5.0	0.28	ug/L		11/06/20 15:09	11/11/20 10:14	1
Atrazine	ND	*	5.0	0.46	ug/L		11/06/20 15:09	11/11/20 10:14	1
Benzaldehyde	ND		5.0	0.27	ug/L		11/06/20 15:09	11/11/20 10:14	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		11/06/20 15:09	11/11/20 10:14	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		11/06/20 15:09	11/11/20 10:14	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		11/06/20 15:09	11/11/20 10:14	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		11/06/20 15:09	11/11/20 10:14	1

Client Sample ID: MW-1D1
Lab Sample ID: 480-177559-1
Date Collected: 11/02/20 11:35
Matrix: Water
Date Received: 11/03/20 11:45

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		11/06/20 15:09	11/11/20 10:14	1
Biphenyl	**0.74**	**J**	5.0	0.65	ug/L		11/06/20 15:09	11/11/20 10:14	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		11/06/20 15:09	11/11/20 10:14	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		11/06/20 15:09	11/11/20 10:14	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 10:14	1
Bis(2-ethylhexyl) phthalate	**4.7**	**J**	5.0	2.2	ug/L		11/06/20 15:09	11/11/20 10:14	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		11/06/20 15:09	11/11/20 10:14	1
Caprolactam	ND		5.0	2.2	ug/L		11/06/20 15:09	11/11/20 10:14	1
Carbazole	ND		5.0	0.30	ug/L		11/06/20 15:09	11/11/20 10:14	1
Chrysene	ND		5.0	0.33	ug/L		11/06/20 15:09	11/11/20 10:14	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		11/06/20 15:09	11/11/20 10:14	1
Dibenzofuran	**1.4**	**J**	10	0.51	ug/L		11/06/20 15:09	11/11/20 10:14	1
Diethyl phthalate	ND		5.0	0.22	ug/L		11/06/20 15:09	11/11/20 10:14	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		11/06/20 15:09	11/11/20 10:14	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		11/06/20 15:09	11/11/20 10:14	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		11/06/20 15:09	11/11/20 10:14	1
Fluoranthene	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 10:14	1
Fluorene	**1.4**	**J**	5.0	0.36	ug/L		11/06/20 15:09	11/11/20 10:14	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		11/06/20 15:09	11/11/20 10:14	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		11/06/20 15:09	11/11/20 10:14	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		11/06/20 15:09	11/11/20 10:14	1
Hexachloroethane	ND		5.0	0.59	ug/L		11/06/20 15:09	11/11/20 10:14	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		11/06/20 15:09	11/11/20 10:14	1
Isophorone	ND		5.0	0.43	ug/L		11/06/20 15:09	11/11/20 10:14	1
Naphthalene	**21**		5.0	0.76	ug/L		11/06/20 15:09	11/11/20 10:14	1
Nitrobenzene	ND		5.0	0.29	ug/L		11/06/20 15:09	11/11/20 10:14	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		11/06/20 15:09	11/11/20 10:14	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		11/06/20 15:09	11/11/20 10:14	1
Pentachlorophenol	ND		10	2.2	ug/L		11/06/20 15:09	11/11/20 10:14	1
Phenanthrene	**0.59**	**J**	5.0	0.44	ug/L		11/06/20 15:09	11/11/20 10:14	1
Phenol	**0.52**	**J**	5.0	0.39	ug/L		11/06/20 15:09	11/11/20 10:14	1
Pyrene	ND		5.0	0.34	ug/L		11/06/20 15:09	11/11/20 10:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*109*		*41 - 120*	*11/06/20 15:09*	*11/11/20 10:14*	*1*
2-Fluorobiphenyl	*101*		*48 - 120*	*11/06/20 15:09*	*11/11/20 10:14*	*1*
2-Fluorophenol (Surr)	*69*		*35 - 120*	*11/06/20 15:09*	*11/11/20 10:14*	*1*
Nitrobenzene-d5 (Surr)	*95*		*46 - 120*	*11/06/20 15:09*	*11/11/20 10:14*	*1*
Phenol-d5 (Surr)	*49*		*22 - 120*	*11/06/20 15:09*	*11/11/20 10:14*	*1*
p-Terphenyl-d14 (Surr)	*93*		*60 - 148*	*11/06/20 15:09*	*11/11/20 10:14*	*1*

Client Sample ID: MW-1D2
Lab Sample ID: 480-177559-2
Date Collected: 11/02/20 04:00
Matrix: Water
Date Received: 11/03/20 11:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	**6.3**		1.0	0.75	ug/L			11/08/20 16:26	1
1,3,5-Trimethylbenzene	**3.8**		1.0	0.77	ug/L			11/08/20 16:26	1
4-Isopropyltoluene	ND		1.0	0.31	ug/L			11/08/20 16:26	1

Client Sample ID: MW-1D2
Lab Sample ID: 480-177559-2
Date Collected: 11/02/20 04:00
Matrix: Water
Date Received: 11/03/20 11:45

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**3.1**		1.0	0.41	ug/L			11/08/20 16:26	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/08/20 16:26	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/08/20 16:26	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/08/20 16:26	1
m-Xylene & p-Xylene	**3.2**		2.0	0.66	ug/L			11/08/20 16:26	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/08/20 16:26	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/08/20 16:26	1
o-Xylene	**2.4**		1.0	0.76	ug/L			11/08/20 16:26	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/08/20 16:26	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/08/20 16:26	1
Toluene	**1.5**		1.0	0.51	ug/L			11/08/20 16:26	1
Xylenes, Total	**5.6**		2.0	0.66	ug/L			11/08/20 16:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*117*		*77 - 120*		*11/08/20 16:26*	*1*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*		*11/08/20 16:26*	*1*
Dibromofluoromethane (Surr)	*118*		*75 - 123*		*11/08/20 16:26*	*1*
Toluene-d8 (Surr)	*107*		*80 - 120*		*11/08/20 16:26*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		11/06/20 15:09	11/11/20 10:42	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		11/06/20 15:09	11/11/20 10:42	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		11/06/20 15:09	11/11/20 10:42	1
2,4-Dimethylphenol	**0.55**	**J**	5.0	0.50	ug/L		11/06/20 15:09	11/11/20 10:42	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		11/06/20 15:09	11/11/20 10:42	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		11/06/20 15:09	11/11/20 10:42	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 10:42	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		11/06/20 15:09	11/11/20 10:42	1
2-Chlorophenol	ND		5.0	0.53	ug/L		11/06/20 15:09	11/11/20 10:42	1
2-Methylnaphthalene	**53**		5.0	0.60	ug/L		11/06/20 15:09	11/11/20 10:42	1
2-Methylphenol	**0.64**	**J**	5.0	0.40	ug/L		11/06/20 15:09	11/11/20 10:42	1
2-Nitroaniline	ND		10	0.42	ug/L		11/06/20 15:09	11/11/20 10:42	1
2-Nitrophenol	ND		5.0	0.48	ug/L		11/06/20 15:09	11/11/20 10:42	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 10:42	1
3-Nitroaniline	ND		10	0.48	ug/L		11/06/20 15:09	11/11/20 10:42	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		11/06/20 15:09	11/11/20 10:42	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		11/06/20 15:09	11/11/20 10:42	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		11/06/20 15:09	11/11/20 10:42	1
4-Chloroaniline	ND		5.0	0.59	ug/L		11/06/20 15:09	11/11/20 10:42	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		11/06/20 15:09	11/11/20 10:42	1
4-Methylphenol	**1.6**	**J**	10	0.36	ug/L		11/06/20 15:09	11/11/20 10:42	1
4-Nitroaniline	ND		10	0.25	ug/L		11/06/20 15:09	11/11/20 10:42	1
4-Nitrophenol	ND		10	1.5	ug/L		11/06/20 15:09	11/11/20 10:42	1
Acenaphthene	**1.5**	**J**	5.0	0.41	ug/L		11/06/20 15:09	11/11/20 10:42	1
Acenaphthylene	**25**		5.0	0.38	ug/L		11/06/20 15:09	11/11/20 10:42	1
Acetophenone	**0.81**	**J**	5.0	0.54	ug/L		11/06/20 15:09	11/11/20 10:42	1
Anthracene	**1.0**	**J**	5.0	0.28	ug/L		11/06/20 15:09	11/11/20 10:42	1
Atrazine	ND	*	5.0	0.46	ug/L		11/06/20 15:09	11/11/20 10:42	1
Benzaldehyde	ND		5.0	0.27	ug/L		11/06/20 15:09	11/11/20 10:42	1

Client Sample ID: MW-1D2
Date Collected: 11/02/20 04:00
Date Received: 11/03/20 11:45

Lab Sample ID: 480-177559-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		5.0	0.36	ug/L		11/06/20 15:09	11/11/20 10:42	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		11/06/20 15:09	11/11/20 10:42	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		11/06/20 15:09	11/11/20 10:42	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		11/06/20 15:09	11/11/20 10:42	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		11/06/20 15:09	11/11/20 10:42	1
Biphenyl	**5.9**		5.0	0.65	ug/L		11/06/20 15:09	11/11/20 10:42	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		11/06/20 15:09	11/11/20 10:42	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		11/06/20 15:09	11/11/20 10:42	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 10:42	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/06/20 15:09	11/11/20 10:42	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		11/06/20 15:09	11/11/20 10:42	1
Caprolactam	ND		5.0	2.2	ug/L		11/06/20 15:09	11/11/20 10:42	1
Carbazole	**2.0**	**J**	5.0	0.30	ug/L		11/06/20 15:09	11/11/20 10:42	1
Chrysene	ND		5.0	0.33	ug/L		11/06/20 15:09	11/11/20 10:42	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		11/06/20 15:09	11/11/20 10:42	1
Dibenzofuran	**8.7**	**J**	10	0.51	ug/L		11/06/20 15:09	11/11/20 10:42	1
Diethyl phthalate	ND		5.0	0.22	ug/L		11/06/20 15:09	11/11/20 10:42	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		11/06/20 15:09	11/11/20 10:42	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		11/06/20 15:09	11/11/20 10:42	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		11/06/20 15:09	11/11/20 10:42	1
Fluoranthene	**1.1**	**J**	5.0	0.40	ug/L		11/06/20 15:09	11/11/20 10:42	1
Fluorene	**7.0**		5.0	0.36	ug/L		11/06/20 15:09	11/11/20 10:42	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		11/06/20 15:09	11/11/20 10:42	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		11/06/20 15:09	11/11/20 10:42	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		11/06/20 15:09	11/11/20 10:42	1
Hexachloroethane	ND		5.0	0.59	ug/L		11/06/20 15:09	11/11/20 10:42	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		11/06/20 15:09	11/11/20 10:42	1
Isophorone	ND		5.0	0.43	ug/L		11/06/20 15:09	11/11/20 10:42	1
Nitrobenzene	ND		5.0	0.29	ug/L		11/06/20 15:09	11/11/20 10:42	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		11/06/20 15:09	11/11/20 10:42	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		11/06/20 15:09	11/11/20 10:42	1
Pentachlorophenol	ND		10	2.2	ug/L		11/06/20 15:09	11/11/20 10:42	1
Phenanthrene	**5.7**		5.0	0.44	ug/L		11/06/20 15:09	11/11/20 10:42	1
Phenol	**4.2**	**J**	5.0	0.39	ug/L		11/06/20 15:09	11/11/20 10:42	1
Pyrene	**0.70**	**J**	5.0	0.34	ug/L		11/06/20 15:09	11/11/20 10:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*105*		*41 - 120*	*11/06/20 15:09*	*11/11/20 10:42*	*1*
2-Fluorobiphenyl	*103*		*48 - 120*	*11/06/20 15:09*	*11/11/20 10:42*	*1*
2-Fluorophenol (Surr)	*68*		*35 - 120*	*11/06/20 15:09*	*11/11/20 10:42*	*1*
Nitrobenzene-d5 (Surr)	*92*		*46 - 120*	*11/06/20 15:09*	*11/11/20 10:42*	*1*
Phenol-d5 (Surr)	*47*		*22 - 120*	*11/06/20 15:09*	*11/11/20 10:42*	*1*
p-Terphenyl-d14 (Surr)	*96*		*60 - 148*	*11/06/20 15:09*	*11/11/20 10:42*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**97**		25	3.8	ug/L		11/06/20 15:09	11/11/20 22:06	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*100*		*41 - 120*	*11/06/20 15:09*	*11/11/20 22:06*	*5*

Client Sample ID: MW-1D2

Date Collected: 11/02/20 04:00
Date Received: 11/03/20 11:45

Lab Sample ID: 480-177559-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*100*		*48 - 120*	*11/06/20 15:09*	*11/11/20 22:06*	*5*
2-Fluorophenol (Surr)	*63*		*35 - 120*	*11/06/20 15:09*	*11/11/20 22:06*	*5*
Nitrobenzene-d5 (Surr)	*91*		*46 - 120*	*11/06/20 15:09*	*11/11/20 22:06*	*5*
Phenol-d5 (Surr)	*44*		*22 - 120*	*11/06/20 15:09*	*11/11/20 22:06*	*5*
p-Terphenyl-d14 (Surr)	*94*		*60 - 148*	*11/06/20 15:09*	*11/11/20 22:06*	*5*

Client Sample ID: MW-1D7

Date Collected: 11/02/20 12:00
Date Received: 11/03/20 11:45

Lab Sample ID: 480-177559-3

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/08/20 16:50	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/08/20 16:50	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/08/20 16:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/08/20 16:50	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/08/20 16:50	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/08/20 16:50	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/08/20 16:50	1
4-Isopropyltoluene	ND		1.0	0.31	ug/L			11/08/20 16:50	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/08/20 16:50	1
Benzene	**8.8**		1.0	0.41	ug/L			11/08/20 16:50	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/08/20 16:50	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/08/20 16:50	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/08/20 16:50	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/08/20 16:50	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/08/20 16:50	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/08/20 16:50	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/08/20 16:50	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/08/20 16:50	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/08/20 16:50	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/08/20 16:50	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/08/20 16:50	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/08/20 16:50	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/08/20 16:50	1
o-Xylene	ND		1.0	0.76	ug/L			11/08/20 16:50	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/08/20 16:50	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/08/20 16:50	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/08/20 16:50	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/08/20 16:50	1
2-Hexanone	ND		5.0	1.2	ug/L			11/08/20 16:50	1
Toluene	ND		1.0	0.51	ug/L			11/08/20 16:50	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/08/20 16:50	1
Xylenes, Total	ND		2.0	0.66	ug/L			11/08/20 16:50	1
Acetone	ND		10	3.0	ug/L			11/08/20 16:50	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/08/20 16:50	1
Bromoform	ND		1.0	0.26	ug/L			11/08/20 16:50	1
Bromomethane	ND		1.0	0.69	ug/L			11/08/20 16:50	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/08/20 16:50	1

Client Sample ID: MW-1D7
Lab Sample ID: 480-177559-3

Date Collected: 11/02/20 12:00
Matrix: Water
Date Received: 11/03/20 11:45

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/08/20 16:50	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/08/20 16:50	1
Chloroethane	ND		1.0	0.32	ug/L			11/08/20 16:50	1
Chloroform	ND		1.0	0.34	ug/L			11/08/20 16:50	1
Chloromethane	ND		1.0	0.35	ug/L			11/08/20 16:50	1
cis-1,2-Dichloroethene	**10**		1.0	0.81	ug/L			11/08/20 16:50	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/08/20 16:50	1
Cyclohexane	ND		1.0	0.18	ug/L			11/08/20 16:50	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/08/20 16:50	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/08/20 16:50	1
Methyl acetate	ND		2.5	1.3	ug/L			11/08/20 16:50	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/08/20 16:50	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/08/20 16:50	1
Styrene	ND		1.0	0.73	ug/L			11/08/20 16:50	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/08/20 16:50	1
trans-1,2-Dichloroethene	**22**		1.0	0.90	ug/L			11/08/20 16:50	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/08/20 16:50	1
Trichloroethene	**0.74**	**J**	1.0	0.46	ug/L			11/08/20 16:50	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/08/20 16:50	1
Vinyl chloride	**3.4**		1.0	0.90	ug/L			11/08/20 16:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*116*		*77 - 120*		*11/08/20 16:50*	*1*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*		*11/08/20 16:50*	*1*
Dibromofluoromethane (Surr)	*117*		*75 - 123*		*11/08/20 16:50*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*11/08/20 16:50*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		11/06/20 15:09	11/11/20 11:11	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		11/06/20 15:09	11/11/20 11:11	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		11/06/20 15:09	11/11/20 11:11	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		11/06/20 15:09	11/11/20 11:11	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		11/06/20 15:09	11/11/20 11:11	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		11/06/20 15:09	11/11/20 11:11	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 11:11	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		11/06/20 15:09	11/11/20 11:11	1
2-Chlorophenol	ND		5.0	0.53	ug/L		11/06/20 15:09	11/11/20 11:11	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		11/06/20 15:09	11/11/20 11:11	1
2-Methylphenol	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 11:11	1
2-Nitroaniline	ND		10	0.42	ug/L		11/06/20 15:09	11/11/20 11:11	1
2-Nitrophenol	ND		5.0	0.48	ug/L		11/06/20 15:09	11/11/20 11:11	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 11:11	1
3-Nitroaniline	ND		10	0.48	ug/L		11/06/20 15:09	11/11/20 11:11	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		11/06/20 15:09	11/11/20 11:11	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		11/06/20 15:09	11/11/20 11:11	1
4-Chloro-3-methylphenol	**1.1**	**J**	5.0	0.45	ug/L		11/06/20 15:09	11/11/20 11:11	1
4-Chloroaniline	ND		5.0	0.59	ug/L		11/06/20 15:09	11/11/20 11:11	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		11/06/20 15:09	11/11/20 11:11	1
4-Methylphenol	ND		10	0.36	ug/L		11/06/20 15:09	11/11/20 11:11	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177559-1

Client Sample ID: MW-1D7
Date Collected: 11/02/20 12:00
Date Received: 11/03/20 11:45

Lab Sample ID: 480-177559-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		10	0.25	ug/L		11/06/20 15:09	11/11/20 11:11	1
4-Nitrophenol	ND		10	1.5	ug/L		11/06/20 15:09	11/11/20 11:11	1
Acenaphthene	**0.90**	**J**	5.0	0.41	ug/L		11/06/20 15:09	11/11/20 11:11	1
Acenaphthylene	ND		5.0	0.38	ug/L		11/06/20 15:09	11/11/20 11:11	1
Acetophenone	ND		5.0	0.54	ug/L		11/06/20 15:09	11/11/20 11:11	1
Anthracene	**0.30**	**J**	5.0	0.28	ug/L		11/06/20 15:09	11/11/20 11:11	1
Atrazine	ND	*	5.0	0.46	ug/L		11/06/20 15:09	11/11/20 11:11	1
Benzaldehyde	ND		5.0	0.27	ug/L		11/06/20 15:09	11/11/20 11:11	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		11/06/20 15:09	11/11/20 11:11	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		11/06/20 15:09	11/11/20 11:11	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		11/06/20 15:09	11/11/20 11:11	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		11/06/20 15:09	11/11/20 11:11	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		11/06/20 15:09	11/11/20 11:11	1
Biphenyl	ND		5.0	0.65	ug/L		11/06/20 15:09	11/11/20 11:11	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		11/06/20 15:09	11/11/20 11:11	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		11/06/20 15:09	11/11/20 11:11	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 11:11	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/06/20 15:09	11/11/20 11:11	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		11/06/20 15:09	11/11/20 11:11	1
Caprolactam	ND		5.0	2.2	ug/L		11/06/20 15:09	11/11/20 11:11	1
Carbazole	ND		5.0	0.30	ug/L		11/06/20 15:09	11/11/20 11:11	1
Chrysene	ND		5.0	0.33	ug/L		11/06/20 15:09	11/11/20 11:11	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		11/06/20 15:09	11/11/20 11:11	1
Dibenzofuran	ND		10	0.51	ug/L		11/06/20 15:09	11/11/20 11:11	1
Diethyl phthalate	ND		5.0	0.22	ug/L		11/06/20 15:09	11/11/20 11:11	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		11/06/20 15:09	11/11/20 11:11	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		11/06/20 15:09	11/11/20 11:11	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		11/06/20 15:09	11/11/20 11:11	1
Fluoranthene	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 11:11	1
Fluorene	**6.1**		5.0	0.36	ug/L		11/06/20 15:09	11/11/20 11:11	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		11/06/20 15:09	11/11/20 11:11	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		11/06/20 15:09	11/11/20 11:11	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		11/06/20 15:09	11/11/20 11:11	1
Hexachloroethane	ND		5.0	0.59	ug/L		11/06/20 15:09	11/11/20 11:11	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		11/06/20 15:09	11/11/20 11:11	1
Isophorone	ND		5.0	0.43	ug/L		11/06/20 15:09	11/11/20 11:11	1
Naphthalene	ND		5.0	0.76	ug/L		11/06/20 15:09	11/11/20 11:11	1
Nitrobenzene	ND		5.0	0.29	ug/L		11/06/20 15:09	11/11/20 11:11	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		11/06/20 15:09	11/11/20 11:11	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		11/06/20 15:09	11/11/20 11:11	1
Pentachlorophenol	ND		10	2.2	ug/L		11/06/20 15:09	11/11/20 11:11	1
Phenanthrene	ND		5.0	0.44	ug/L		11/06/20 15:09	11/11/20 11:11	1
Phenol	ND		5.0	0.39	ug/L		11/06/20 15:09	11/11/20 11:11	1
Pyrene	ND		5.0	0.34	ug/L		11/06/20 15:09	11/11/20 11:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*109*		*41 - 120*	*11/06/20 15:09*	*11/11/20 11:11*	*1*
2-Fluorobiphenyl	*102*		*48 - 120*	*11/06/20 15:09*	*11/11/20 11:11*	*1*
2-Fluorophenol (Surr)	*67*		*35 - 120*	*11/06/20 15:09*	*11/11/20 11:11*	*1*
Nitrobenzene-d5 (Surr)	*93*		*46 - 120*	*11/06/20 15:09*	*11/11/20 11:11*	*1*

Client Sample ID: MW-1D7
Lab Sample ID: 480-177559-3
Date Collected: 11/02/20 12:00
Matrix: Water
Date Received: 11/03/20 11:45

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5 (Surr)	*46*		*22 - 120*	*11/06/20 15:09*	*11/11/20 11:11*	*1*
p-Terphenyl-d14 (Surr)	*54*	*X*	*60 - 148*	*11/06/20 15:09*	*11/11/20 11:11*	*1*

Client Sample ID: MW-1D8
Lab Sample ID: 480-177559-4
Date Collected: 11/02/20 13:00
Matrix: Water
Date Received: 11/03/20 11:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/08/20 17:14	1
1,2,4-Trimethylbenzene	**3.4**		1.0	0.75	ug/L			11/08/20 17:14	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/08/20 17:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/08/20 17:14	1
1,3,5-Trimethylbenzene	**4.4**		1.0	0.77	ug/L			11/08/20 17:14	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/08/20 17:14	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/08/20 17:14	1
4-Isopropyltoluene	**0.44**	**J**	1.0	0.31	ug/L			11/08/20 17:14	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/08/20 17:14	1
Benzene	**1.4**		1.0	0.41	ug/L			11/08/20 17:14	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/08/20 17:14	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/08/20 17:14	1
Ethylbenzene	**0.84**	**J**	1.0	0.74	ug/L			11/08/20 17:14	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/08/20 17:14	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/08/20 17:14	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/08/20 17:14	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/08/20 17:14	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/08/20 17:14	1
m-Xylene & p-Xylene	**4.4**		2.0	0.66	ug/L			11/08/20 17:14	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/08/20 17:14	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/08/20 17:14	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/08/20 17:14	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/08/20 17:14	1
o-Xylene	**3.3**		1.0	0.76	ug/L			11/08/20 17:14	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/08/20 17:14	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/08/20 17:14	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/08/20 17:14	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/08/20 17:14	1
2-Hexanone	ND		5.0	1.2	ug/L			11/08/20 17:14	1
Toluene	**3.1**		1.0	0.51	ug/L			11/08/20 17:14	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/08/20 17:14	1
Xylenes, Total	**7.7**		2.0	0.66	ug/L			11/08/20 17:14	1
Acetone	ND		10	3.0	ug/L			11/08/20 17:14	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/08/20 17:14	1
Bromoform	ND		1.0	0.26	ug/L			11/08/20 17:14	1
Bromomethane	ND		1.0	0.69	ug/L			11/08/20 17:14	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/08/20 17:14	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/08/20 17:14	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/08/20 17:14	1
Chloroethane	ND		1.0	0.32	ug/L			11/08/20 17:14	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177559-1

Client Sample ID: MW-1D8

Date Collected: 11/02/20 13:00
Date Received: 11/03/20 11:45

Lab Sample ID: 480-177559-4

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		1.0	0.34	ug/L			11/08/20 17:14	1
Chloromethane	ND		1.0	0.35	ug/L			11/08/20 17:14	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/08/20 17:14	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/08/20 17:14	1
Cyclohexane	ND		1.0	0.18	ug/L			11/08/20 17:14	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/08/20 17:14	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/08/20 17:14	1
Methyl acetate	ND		2.5	1.3	ug/L			11/08/20 17:14	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/08/20 17:14	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/08/20 17:14	1
Styrene	**1.6**		1.0	0.73	ug/L			11/08/20 17:14	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/08/20 17:14	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/08/20 17:14	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/08/20 17:14	1
Trichloroethene	ND		1.0	0.46	ug/L			11/08/20 17:14	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/08/20 17:14	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/08/20 17:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*116*		*77 - 120*		*11/08/20 17:14*	*1*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*		*11/08/20 17:14*	*1*
Dibromofluoromethane (Surr)	*116*		*75 - 123*		*11/08/20 17:14*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*11/08/20 17:14*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		11/06/20 15:09	11/11/20 11:39	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		11/06/20 15:09	11/11/20 11:39	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		11/06/20 15:09	11/11/20 11:39	1
2,4-Dimethylphenol	**0.60**	**J**	5.0	0.50	ug/L		11/06/20 15:09	11/11/20 11:39	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		11/06/20 15:09	11/11/20 11:39	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		11/06/20 15:09	11/11/20 11:39	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 11:39	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		11/06/20 15:09	11/11/20 11:39	1
2-Chlorophenol	ND		5.0	0.53	ug/L		11/06/20 15:09	11/11/20 11:39	1
2-Methylnaphthalene	**4.0**	**J**	5.0	0.60	ug/L		11/06/20 15:09	11/11/20 11:39	1
2-Methylphenol	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 11:39	1
2-Nitroaniline	ND		10	0.42	ug/L		11/06/20 15:09	11/11/20 11:39	1
2-Nitrophenol	ND		5.0	0.48	ug/L		11/06/20 15:09	11/11/20 11:39	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 11:39	1
3-Nitroaniline	ND		10	0.48	ug/L		11/06/20 15:09	11/11/20 11:39	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		11/06/20 15:09	11/11/20 11:39	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		11/06/20 15:09	11/11/20 11:39	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		11/06/20 15:09	11/11/20 11:39	1
4-Chloroaniline	ND		5.0	0.59	ug/L		11/06/20 15:09	11/11/20 11:39	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		11/06/20 15:09	11/11/20 11:39	1
4-Methylphenol	ND		10	0.36	ug/L		11/06/20 15:09	11/11/20 11:39	1
4-Nitroaniline	ND		10	0.25	ug/L		11/06/20 15:09	11/11/20 11:39	1
4-Nitrophenol	ND		10	1.5	ug/L		11/06/20 15:09	11/11/20 11:39	1
Acenaphthene	**0.47**	**J**	5.0	0.41	ug/L		11/06/20 15:09	11/11/20 11:39	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177559-1

Client Sample ID: MW-1D8
Date Collected: 11/02/20 13:00
Date Received: 11/03/20 11:45

Lab Sample ID: 480-177559-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	**2.8**	**J**	5.0	0.38	ug/L		11/06/20 15:09	11/11/20 11:39	1
Acetophenone	**1.3**	**J**	5.0	0.54	ug/L		11/06/20 15:09	11/11/20 11:39	1
Anthracene	ND		5.0	0.28	ug/L		11/06/20 15:09	11/11/20 11:39	1
Atrazine	ND	*	5.0	0.46	ug/L		11/06/20 15:09	11/11/20 11:39	1
Benzaldehyde	ND		5.0	0.27	ug/L		11/06/20 15:09	11/11/20 11:39	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		11/06/20 15:09	11/11/20 11:39	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		11/06/20 15:09	11/11/20 11:39	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		11/06/20 15:09	11/11/20 11:39	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		11/06/20 15:09	11/11/20 11:39	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		11/06/20 15:09	11/11/20 11:39	1
Biphenyl	**0.67**	**J**	5.0	0.65	ug/L		11/06/20 15:09	11/11/20 11:39	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		11/06/20 15:09	11/11/20 11:39	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		11/06/20 15:09	11/11/20 11:39	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 11:39	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/06/20 15:09	11/11/20 11:39	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		11/06/20 15:09	11/11/20 11:39	1
Caprolactam	ND		5.0	2.2	ug/L		11/06/20 15:09	11/11/20 11:39	1
Carbazole	**0.61**	**J**	5.0	0.30	ug/L		11/06/20 15:09	11/11/20 11:39	1
Chrysene	ND		5.0	0.33	ug/L		11/06/20 15:09	11/11/20 11:39	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		11/06/20 15:09	11/11/20 11:39	1
Dibenzofuran	**0.68**	**J**	10	0.51	ug/L		11/06/20 15:09	11/11/20 11:39	1
Diethyl phthalate	ND		5.0	0.22	ug/L		11/06/20 15:09	11/11/20 11:39	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		11/06/20 15:09	11/11/20 11:39	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		11/06/20 15:09	11/11/20 11:39	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		11/06/20 15:09	11/11/20 11:39	1
Fluoranthene	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 11:39	1
Fluorene	**1.0**	**J**	5.0	0.36	ug/L		11/06/20 15:09	11/11/20 11:39	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		11/06/20 15:09	11/11/20 11:39	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		11/06/20 15:09	11/11/20 11:39	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		11/06/20 15:09	11/11/20 11:39	1
Hexachloroethane	ND		5.0	0.59	ug/L		11/06/20 15:09	11/11/20 11:39	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		11/06/20 15:09	11/11/20 11:39	1
Isophorone	ND		5.0	0.43	ug/L		11/06/20 15:09	11/11/20 11:39	1
Naphthalene	**21**		5.0	0.76	ug/L		11/06/20 15:09	11/11/20 11:39	1
Nitrobenzene	ND		5.0	0.29	ug/L		11/06/20 15:09	11/11/20 11:39	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		11/06/20 15:09	11/11/20 11:39	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		11/06/20 15:09	11/11/20 11:39	1
Pentachlorophenol	ND		10	2.2	ug/L		11/06/20 15:09	11/11/20 11:39	1
Phenanthrene	ND		5.0	0.44	ug/L		11/06/20 15:09	11/11/20 11:39	1
Phenol	ND		5.0	0.39	ug/L		11/06/20 15:09	11/11/20 11:39	1
Pyrene	ND		5.0	0.34	ug/L		11/06/20 15:09	11/11/20 11:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*107*		*41 - 120*	*11/06/20 15:09*	*11/11/20 11:39*	*1*
2-Fluorobiphenyl	*103*		*48 - 120*	*11/06/20 15:09*	*11/11/20 11:39*	*1*
2-Fluorophenol (Surr)	*68*		*35 - 120*	*11/06/20 15:09*	*11/11/20 11:39*	*1*
Nitrobenzene-d5 (Surr)	*93*		*46 - 120*	*11/06/20 15:09*	*11/11/20 11:39*	*1*
Phenol-d5 (Surr)	*46*		*22 - 120*	*11/06/20 15:09*	*11/11/20 11:39*	*1*
p-Terphenyl-d14 (Surr)	*96*		*60 - 148*	*11/06/20 15:09*	*11/11/20 11:39*	*1*

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177559-1

Client Sample ID: MW-1U1

Date Collected: 11/02/20 15:20
Date Received: 11/03/20 11:45

Lab Sample ID: 480-177559-5

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/08/20 17:38	1
1,3,5-Trimethylbenzene	**0.93**	**J**	1.0	0.77	ug/L			11/08/20 17:38	1
4-Isopropyltoluene	ND		1.0	0.31	ug/L			11/08/20 17:38	1
Benzene	**42**		1.0	0.41	ug/L			11/08/20 17:38	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/08/20 17:38	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/08/20 17:38	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/08/20 17:38	1
m-Xylene & p-Xylene	**4.3**		2.0	0.66	ug/L			11/08/20 17:38	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/08/20 17:38	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/08/20 17:38	1
o-Xylene	**3.9**		1.0	0.76	ug/L			11/08/20 17:38	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/08/20 17:38	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/08/20 17:38	1
Toluene	**6.8**		1.0	0.51	ug/L			11/08/20 17:38	1
Xylenes, Total	**8.2**		2.0	0.66	ug/L			11/08/20 17:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*77 - 120*		*11/08/20 17:38*	*1*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*		*11/08/20 17:38*	*1*
Dibromofluoromethane (Surr)	*116*		*75 - 123*		*11/08/20 17:38*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*11/08/20 17:38*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		11/06/20 15:09	11/11/20 12:07	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		11/06/20 15:09	11/11/20 12:07	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		11/06/20 15:09	11/11/20 12:07	1
2,4-Dimethylphenol	**1.0**	**J**	5.0	0.50	ug/L		11/06/20 15:09	11/11/20 12:07	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		11/06/20 15:09	11/11/20 12:07	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		11/06/20 15:09	11/11/20 12:07	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 12:07	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		11/06/20 15:09	11/11/20 12:07	1
2-Chlorophenol	ND		5.0	0.53	ug/L		11/06/20 15:09	11/11/20 12:07	1
2-Methylnaphthalene	**1.6**	**J**	5.0	0.60	ug/L		11/06/20 15:09	11/11/20 12:07	1
2-Methylphenol	**1.1**	**J**	5.0	0.40	ug/L		11/06/20 15:09	11/11/20 12:07	1
2-Nitroaniline	ND		10	0.42	ug/L		11/06/20 15:09	11/11/20 12:07	1
2-Nitrophenol	ND		5.0	0.48	ug/L		11/06/20 15:09	11/11/20 12:07	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 12:07	1
3-Nitroaniline	ND		10	0.48	ug/L		11/06/20 15:09	11/11/20 12:07	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		11/06/20 15:09	11/11/20 12:07	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		11/06/20 15:09	11/11/20 12:07	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		11/06/20 15:09	11/11/20 12:07	1
4-Chloroaniline	ND		5.0	0.59	ug/L		11/06/20 15:09	11/11/20 12:07	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		11/06/20 15:09	11/11/20 12:07	1
4-Methylphenol	**2.9**	**J**	10	0.36	ug/L		11/06/20 15:09	11/11/20 12:07	1
4-Nitroaniline	ND		10	0.25	ug/L		11/06/20 15:09	11/11/20 12:07	1
4-Nitrophenol	ND		10	1.5	ug/L		11/06/20 15:09	11/11/20 12:07	1
Acenaphthene	**0.90**	**J**	5.0	0.41	ug/L		11/06/20 15:09	11/11/20 12:07	1
Acenaphthylene	**2.3**	**J**	5.0	0.38	ug/L		11/06/20 15:09	11/11/20 12:07	1
Acetophenone	ND		5.0	0.54	ug/L		11/06/20 15:09	11/11/20 12:07	1

Client Sample ID: MW-1U1

Date Collected: 11/02/20 15:20
Date Received: 11/03/20 11:45

Lab Sample ID: 480-177559-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	**0.58**	**J**	5.0	0.28	ug/L		11/06/20 15:09	11/11/20 12:07	1
Atrazine	ND	*	5.0	0.46	ug/L		11/06/20 15:09	11/11/20 12:07	1
Benzaldehyde	ND		5.0	0.27	ug/L		11/06/20 15:09	11/11/20 12:07	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		11/06/20 15:09	11/11/20 12:07	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		11/06/20 15:09	11/11/20 12:07	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		11/06/20 15:09	11/11/20 12:07	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		11/06/20 15:09	11/11/20 12:07	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		11/06/20 15:09	11/11/20 12:07	1
Biphenyl	ND		5.0	0.65	ug/L		11/06/20 15:09	11/11/20 12:07	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		11/06/20 15:09	11/11/20 12:07	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		11/06/20 15:09	11/11/20 12:07	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 12:07	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/06/20 15:09	11/11/20 12:07	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		11/06/20 15:09	11/11/20 12:07	1
Caprolactam	ND		5.0	2.2	ug/L		11/06/20 15:09	11/11/20 12:07	1
Carbazole	**2.8**	**J**	5.0	0.30	ug/L		11/06/20 15:09	11/11/20 12:07	1
Chrysene	ND		5.0	0.33	ug/L		11/06/20 15:09	11/11/20 12:07	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		11/06/20 15:09	11/11/20 12:07	1
Dibenzofuran	**1.2**	**J**	10	0.51	ug/L		11/06/20 15:09	11/11/20 12:07	1
Diethyl phthalate	ND		5.0	0.22	ug/L		11/06/20 15:09	11/11/20 12:07	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		11/06/20 15:09	11/11/20 12:07	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		11/06/20 15:09	11/11/20 12:07	1
Di-n-octyl phthalate	**1.1**	**J**	5.0	0.47	ug/L		11/06/20 15:09	11/11/20 12:07	1
Fluoranthene	**1.7**	**J**	5.0	0.40	ug/L		11/06/20 15:09	11/11/20 12:07	1
Fluorene	**1.9**	**J**	5.0	0.36	ug/L		11/06/20 15:09	11/11/20 12:07	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		11/06/20 15:09	11/11/20 12:07	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		11/06/20 15:09	11/11/20 12:07	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		11/06/20 15:09	11/11/20 12:07	1
Hexachloroethane	ND		5.0	0.59	ug/L		11/06/20 15:09	11/11/20 12:07	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		11/06/20 15:09	11/11/20 12:07	1
Isophorone	ND		5.0	0.43	ug/L		11/06/20 15:09	11/11/20 12:07	1
Naphthalene	**26**		5.0	0.76	ug/L		11/06/20 15:09	11/11/20 12:07	1
Nitrobenzene	ND		5.0	0.29	ug/L		11/06/20 15:09	11/11/20 12:07	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		11/06/20 15:09	11/11/20 12:07	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		11/06/20 15:09	11/11/20 12:07	1
Pentachlorophenol	ND		10	2.2	ug/L		11/06/20 15:09	11/11/20 12:07	1
Phenanthrene	**3.1**	**J**	5.0	0.44	ug/L		11/06/20 15:09	11/11/20 12:07	1
Phenol	ND		5.0	0.39	ug/L		11/06/20 15:09	11/11/20 12:07	1
Pyrene	**1.6**	**J**	5.0	0.34	ug/L		11/06/20 15:09	11/11/20 12:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*109*		*41 - 120*	*11/06/20 15:09*	*11/11/20 12:07*	*1*
2-Fluorobiphenyl	*100*		*48 - 120*	*11/06/20 15:09*	*11/11/20 12:07*	*1*
2-Fluorophenol (Surr)	*64*		*35 - 120*	*11/06/20 15:09*	*11/11/20 12:07*	*1*
Nitrobenzene-d5 (Surr)	*90*		*46 - 120*	*11/06/20 15:09*	*11/11/20 12:07*	*1*
Phenol-d5 (Surr)	*45*		*22 - 120*	*11/06/20 15:09*	*11/11/20 12:07*	*1*
p-Terphenyl-d14 (Surr)	*97*		*60 - 148*	*11/06/20 15:09*	*11/11/20 12:07*	*1*

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177559-1

Client Sample ID: MWN-12

Date Collected: 11/02/20 13:40
Date Received: 11/03/20 11:45

Lab Sample ID: 480-177559-6

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/08/20 18:02	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/08/20 18:02	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/08/20 18:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/08/20 18:02	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/08/20 18:02	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/08/20 18:02	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/08/20 18:02	1
4-Isopropyltoluene	ND		1.0	0.31	ug/L			11/08/20 18:02	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/08/20 18:02	1
Benzene	**2.1**		1.0	0.41	ug/L			11/08/20 18:02	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/08/20 18:02	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/08/20 18:02	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/08/20 18:02	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/08/20 18:02	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/08/20 18:02	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/08/20 18:02	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/08/20 18:02	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/08/20 18:02	1
m-Xylene & p-Xylene	**0.67**	**J**	2.0	0.66	ug/L			11/08/20 18:02	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/08/20 18:02	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/08/20 18:02	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/08/20 18:02	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/08/20 18:02	1
o-Xylene	ND		1.0	0.76	ug/L			11/08/20 18:02	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/08/20 18:02	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/08/20 18:02	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/08/20 18:02	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/08/20 18:02	1
2-Hexanone	ND		5.0	1.2	ug/L			11/08/20 18:02	1
Toluene	**0.72**	**J**	1.0	0.51	ug/L			11/08/20 18:02	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/08/20 18:02	1
Xylenes, Total	**0.67**	**J**	2.0	0.66	ug/L			11/08/20 18:02	1
Acetone	**3.9**	**J**	10	3.0	ug/L			11/08/20 18:02	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/08/20 18:02	1
Bromoform	ND		1.0	0.26	ug/L			11/08/20 18:02	1
Bromomethane	ND		1.0	0.69	ug/L			11/08/20 18:02	1
Carbon disulfide	**0.21**	**J**	1.0	0.19	ug/L			11/08/20 18:02	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/08/20 18:02	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/08/20 18:02	1
Chloroethane	ND		1.0	0.32	ug/L			11/08/20 18:02	1
Chloroform	ND		1.0	0.34	ug/L			11/08/20 18:02	1
Chloromethane	ND		1.0	0.35	ug/L			11/08/20 18:02	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/08/20 18:02	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/08/20 18:02	1
Cyclohexane	ND		1.0	0.18	ug/L			11/08/20 18:02	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/08/20 18:02	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/08/20 18:02	1
Methyl acetate	ND		2.5	1.3	ug/L			11/08/20 18:02	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/08/20 18:02	1

Client Sample ID: MWN-12
Date Collected: 11/02/20 13:40
Date Received: 11/03/20 11:45

Lab Sample ID: 480-177559-6
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		1.0	0.44	ug/L			11/08/20 18:02	1
Styrene	ND		1.0	0.73	ug/L			11/08/20 18:02	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/08/20 18:02	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/08/20 18:02	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/08/20 18:02	1
Trichloroethene	ND		1.0	0.46	ug/L			11/08/20 18:02	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/08/20 18:02	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/08/20 18:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*117*		*77 - 120*		*11/08/20 18:02*	*1*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*11/08/20 18:02*	*1*
Dibromofluoromethane (Surr)	*120*		*75 - 123*		*11/08/20 18:02*	*1*
Toluene-d8 (Surr)	*108*		*80 - 120*		*11/08/20 18:02*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		11/06/20 15:09	11/11/20 12:36	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		11/06/20 15:09	11/11/20 12:36	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		11/06/20 15:09	11/11/20 12:36	1
2,4-Dimethylphenol	**0.84**	**J**	5.0	0.50	ug/L		11/06/20 15:09	11/11/20 12:36	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		11/06/20 15:09	11/11/20 12:36	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		11/06/20 15:09	11/11/20 12:36	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 12:36	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		11/06/20 15:09	11/11/20 12:36	1
2-Chlorophenol	ND		5.0	0.53	ug/L		11/06/20 15:09	11/11/20 12:36	1
2-Methylnaphthalene	**9.2**		5.0	0.60	ug/L		11/06/20 15:09	11/11/20 12:36	1
2-Methylphenol	**1.0**	**J**	5.0	0.40	ug/L		11/06/20 15:09	11/11/20 12:36	1
2-Nitroaniline	ND		10	0.42	ug/L		11/06/20 15:09	11/11/20 12:36	1
2-Nitrophenol	ND		5.0	0.48	ug/L		11/06/20 15:09	11/11/20 12:36	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 12:36	1
3-Nitroaniline	ND		10	0.48	ug/L		11/06/20 15:09	11/11/20 12:36	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		11/06/20 15:09	11/11/20 12:36	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		11/06/20 15:09	11/11/20 12:36	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		11/06/20 15:09	11/11/20 12:36	1
4-Chloroaniline	ND		5.0	0.59	ug/L		11/06/20 15:09	11/11/20 12:36	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		11/06/20 15:09	11/11/20 12:36	1
4-Methylphenol	**2.8**	**J**	10	0.36	ug/L		11/06/20 15:09	11/11/20 12:36	1
4-Nitroaniline	ND		10	0.25	ug/L		11/06/20 15:09	11/11/20 12:36	1
4-Nitrophenol	ND		10	1.5	ug/L		11/06/20 15:09	11/11/20 12:36	1
Acenaphthene	**3.6**	**J**	5.0	0.41	ug/L		11/06/20 15:09	11/11/20 12:36	1
Acenaphthylene	**4.0**	**J**	5.0	0.38	ug/L		11/06/20 15:09	11/11/20 12:36	1
Acetophenone	ND		5.0	0.54	ug/L		11/06/20 15:09	11/11/20 12:36	1
Anthracene	**2.5**	**J**	5.0	0.28	ug/L		11/06/20 15:09	11/11/20 12:36	1
Atrazine	ND	*	5.0	0.46	ug/L		11/06/20 15:09	11/11/20 12:36	1
Benzaldehyde	ND		5.0	0.27	ug/L		11/06/20 15:09	11/11/20 12:36	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		11/06/20 15:09	11/11/20 12:36	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		11/06/20 15:09	11/11/20 12:36	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		11/06/20 15:09	11/11/20 12:36	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		11/06/20 15:09	11/11/20 12:36	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177559-1

Client Sample ID: MWN-12
Date Collected: 11/02/20 13:40
Date Received: 11/03/20 11:45

Lab Sample ID: 480-177559-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		11/06/20 15:09	11/11/20 12:36	1
Biphenyl	**2.3**	**J**	5.0	0.65	ug/L		11/06/20 15:09	11/11/20 12:36	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		11/06/20 15:09	11/11/20 12:36	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		11/06/20 15:09	11/11/20 12:36	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 12:36	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/06/20 15:09	11/11/20 12:36	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		11/06/20 15:09	11/11/20 12:36	1
Caprolactam	ND		5.0	2.2	ug/L		11/06/20 15:09	11/11/20 12:36	1
Carbazole	**7.2**		5.0	0.30	ug/L		11/06/20 15:09	11/11/20 12:36	1
Chrysene	ND		5.0	0.33	ug/L		11/06/20 15:09	11/11/20 12:36	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		11/06/20 15:09	11/11/20 12:36	1
Dibenzofuran	**8.4**	**J**	10	0.51	ug/L		11/06/20 15:09	11/11/20 12:36	1
Diethyl phthalate	ND		5.0	0.22	ug/L		11/06/20 15:09	11/11/20 12:36	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		11/06/20 15:09	11/11/20 12:36	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		11/06/20 15:09	11/11/20 12:36	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		11/06/20 15:09	11/11/20 12:36	1
Fluoranthene	**4.5**	**J**	5.0	0.40	ug/L		11/06/20 15:09	11/11/20 12:36	1
Fluorene	**12**		5.0	0.36	ug/L		11/06/20 15:09	11/11/20 12:36	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		11/06/20 15:09	11/11/20 12:36	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		11/06/20 15:09	11/11/20 12:36	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		11/06/20 15:09	11/11/20 12:36	1
Hexachloroethane	ND		5.0	0.59	ug/L		11/06/20 15:09	11/11/20 12:36	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		11/06/20 15:09	11/11/20 12:36	1
Isophorone	ND		5.0	0.43	ug/L		11/06/20 15:09	11/11/20 12:36	1
Naphthalene	**50**		5.0	0.76	ug/L		11/06/20 15:09	11/11/20 12:36	1
Nitrobenzene	ND		5.0	0.29	ug/L		11/06/20 15:09	11/11/20 12:36	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		11/06/20 15:09	11/11/20 12:36	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		11/06/20 15:09	11/11/20 12:36	1
Pentachlorophenol	ND		10	2.2	ug/L		11/06/20 15:09	11/11/20 12:36	1
Phenanthrene	**19**		5.0	0.44	ug/L		11/06/20 15:09	11/11/20 12:36	1
Phenol	**0.44**	**J**	5.0	0.39	ug/L		11/06/20 15:09	11/11/20 12:36	1
Pyrene	**2.9**	**J**	5.0	0.34	ug/L		11/06/20 15:09	11/11/20 12:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*109*		*41 - 120*	*11/06/20 15:09*	*11/11/20 12:36*	*1*
2-Fluorobiphenyl	*104*		*48 - 120*	*11/06/20 15:09*	*11/11/20 12:36*	*1*
2-Fluorophenol (Surr)	*77*		*35 - 120*	*11/06/20 15:09*	*11/11/20 12:36*	*1*
Nitrobenzene-d5 (Surr)	*95*		*46 - 120*	*11/06/20 15:09*	*11/11/20 12:36*	*1*
Phenol-d5 (Surr)	*57*		*22 - 120*	*11/06/20 15:09*	*11/11/20 12:36*	*1*
p-Terphenyl-d14 (Surr)	*101*		*60 - 148*	*11/06/20 15:09*	*11/11/20 12:36*	*1*

Surrogate Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177559-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(77-120)	(73-120)	(75-123)	(80-120)
480-177559-1	MW-1D1	113	107	117	108
480-177559-2	MW-1D2	117	107	118	107
480-177559-3	MW-1D7	116	105	117	106
480-177559-4	MW-1D8	116	105	116	106
480-177559-5	MW-1U1	112	105	116	106
480-177559-6	MWN-12	117	102	120	108
LCS 480-557992/5	Lab Control Sample	116	109	120	108
MB 480-557992/7	Method Blank	116	103	117	106

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPHd14
Lab Sample ID	Client Sample ID	(41-120)	(48-120)	(35-120)	(46-120)	(22-120)	(60-148)
480-177559-1	MW-1D1	109	101	69	95	49	93
480-177559-2	MW-1D2	105	103	68	92	47	96
480-177559-2 - DL	MW-1D2	100	100	63	91	44	94
480-177559-3	MW-1D7	109	102	67	93	46	54 X
480-177559-4	MW-1D8	107	103	68	93	46	96
480-177559-5	MW-1U1	109	100	64	90	45	97
480-177559-6	MWN-12	109	104	77	95	57	101
LCS 480-557881/2-A	Lab Control Sample	109	106	76	99	59	107
MB 480-557881/1-A	Method Blank	85	96	63	85	45	103

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-557992/7
Matrix: Water
Analysis Batch: 557992

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/08/20 11:26	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/08/20 11:26	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/08/20 11:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/08/20 11:26	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/08/20 11:26	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/08/20 11:26	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/08/20 11:26	1
4-Isopropyltoluene	ND		1.0	0.31	ug/L			11/08/20 11:26	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/08/20 11:26	1
Benzene	ND		1.0	0.41	ug/L			11/08/20 11:26	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/08/20 11:26	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/08/20 11:26	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/08/20 11:26	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/08/20 11:26	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/08/20 11:26	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/08/20 11:26	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/08/20 11:26	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/08/20 11:26	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/08/20 11:26	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/08/20 11:26	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/08/20 11:26	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/08/20 11:26	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/08/20 11:26	1
o-Xylene	ND		1.0	0.76	ug/L			11/08/20 11:26	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/08/20 11:26	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/08/20 11:26	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/08/20 11:26	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/08/20 11:26	1
2-Hexanone	ND		5.0	1.2	ug/L			11/08/20 11:26	1
Toluene	ND		1.0	0.51	ug/L			11/08/20 11:26	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/08/20 11:26	1
Xylenes, Total	ND		2.0	0.66	ug/L			11/08/20 11:26	1
Acetone	ND		10	3.0	ug/L			11/08/20 11:26	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/08/20 11:26	1
Bromoform	ND		1.0	0.26	ug/L			11/08/20 11:26	1
Bromomethane	ND		1.0	0.69	ug/L			11/08/20 11:26	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/08/20 11:26	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/08/20 11:26	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/08/20 11:26	1
Chloroethane	ND		1.0	0.32	ug/L			11/08/20 11:26	1
Chloroform	ND		1.0	0.34	ug/L			11/08/20 11:26	1
Chloromethane	ND		1.0	0.35	ug/L			11/08/20 11:26	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/08/20 11:26	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/08/20 11:26	1
Cyclohexane	ND		1.0	0.18	ug/L			11/08/20 11:26	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/08/20 11:26	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/08/20 11:26	1
Methyl acetate	ND		2.5	1.3	ug/L			11/08/20 11:26	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-557992/7
Matrix: Water
Analysis Batch: 557992

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	ND		1.0	0.16	ug/L			11/08/20 11:26	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/08/20 11:26	1
Styrene	ND		1.0	0.73	ug/L			11/08/20 11:26	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/08/20 11:26	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/08/20 11:26	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/08/20 11:26	1
Trichloroethene	ND		1.0	0.46	ug/L			11/08/20 11:26	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/08/20 11:26	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/08/20 11:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*116*		*77 - 120*		*11/08/20 11:26*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*11/08/20 11:26*	*1*
Dibromofluoromethane (Surr)	*117*		*75 - 123*		*11/08/20 11:26*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*11/08/20 11:26*	*1*

Lab Sample ID: LCS 480-557992/5
Matrix: Water
Analysis Batch: 557992

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	24.6		ug/L		99	73 - 126
1,2,4-Trimethylbenzene	25.0	23.2		ug/L		93	76 - 121
1,1,2,2-Tetrachloroethane	25.0	24.0		ug/L		96	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.6		ug/L		98	61 - 148
1,3,5-Trimethylbenzene	25.0	23.1		ug/L		93	77 - 121
1,1,2-Trichloroethane	25.0	24.6		ug/L		98	76 - 122
1,1-Dichloroethane	25.0	25.6		ug/L		102	77 - 120
4-Isopropyltoluene	25.0	23.1		ug/L		92	73 - 120
1,1-Dichloroethene	25.0	23.1		ug/L		92	66 - 127
Benzene	25.0	26.9		ug/L		107	71 - 124
1,2,4-Trichlorobenzene	25.0	23.2		ug/L		93	79 - 122
1,2-Dibromo-3-Chloropropane	25.0	19.8		ug/L		79	56 - 134
Ethylbenzene	25.0	23.4		ug/L		94	77 - 123
1,2-Dibromoethane	25.0	25.3		ug/L		101	77 - 120
Isopropylbenzene	25.0	22.9		ug/L		92	77 - 122
1,2-Dichlorobenzene	25.0	23.2		ug/L		93	80 - 124
Methyl tert-butyl ether	25.0	25.0		ug/L		100	77 - 120
1,2-Dichloroethane	25.0	26.3		ug/L		105	75 - 120
m-Xylene & p-Xylene	25.0	24.0		ug/L		96	76 - 122
n-Butylbenzene	25.0	22.9		ug/L		92	71 - 128
1,2-Dichloropropane	25.0	27.3		ug/L		109	76 - 120
N-Propylbenzene	25.0	23.2		ug/L		93	75 - 127
1,3-Dichlorobenzene	25.0	24.0		ug/L		96	77 - 120
o-Xylene	25.0	22.6		ug/L		90	76 - 122
1,4-Dichlorobenzene	25.0	23.7		ug/L		95	80 - 120
sec-Butylbenzene	25.0	22.9		ug/L		92	74 - 127
2-Butanone (MEK)	125	137		ug/L		110	57 - 140

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-557992/5
Matrix: Water
Analysis Batch: 557992

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
tert-Butylbenzene	25.0	23.6		ug/L		94	75 - 123
2-Hexanone	125	124		ug/L		99	65 - 127
Toluene	25.0	23.3		ug/L		93	80 - 122
4-Methyl-2-pentanone (MIBK)	125	119		ug/L		95	71 - 125
Acetone	125	115		ug/L		92	56 - 142
Bromodichloromethane	25.0	26.2		ug/L		105	80 - 122
Bromoform	25.0	21.6		ug/L		87	61 - 132
Bromomethane	25.0	21.1		ug/L		84	55 - 144
Carbon disulfide	25.0	22.9		ug/L		92	59 - 134
Carbon tetrachloride	25.0	23.2		ug/L		93	72 - 134
Chlorobenzene	25.0	24.5		ug/L		98	80 - 120
Chloroethane	25.0	20.3		ug/L		81	69 - 136
Chloroform	25.0	25.4		ug/L		101	73 - 127
Chloromethane	25.0	21.6		ug/L		86	68 - 124
cis-1,2-Dichloroethene	25.0	25.6		ug/L		102	74 - 124
cis-1,3-Dichloropropene	25.0	26.9		ug/L		108	74 - 124
Cyclohexane	25.0	25.2		ug/L		101	59 - 135
Dibromochloromethane	25.0	22.8		ug/L		91	75 - 125
Dichlorodifluoromethane	25.0	27.8		ug/L		111	59 - 135
Methyl acetate	50.0	53.9		ug/L		108	74 - 133
Methylcyclohexane	25.0	25.4		ug/L		102	68 - 134
Methylene Chloride	25.0	24.8		ug/L		99	75 - 124
Styrene	25.0	24.6		ug/L		99	80 - 120
Tetrachloroethene	25.0	24.6		ug/L		98	74 - 122
trans-1,2-Dichloroethene	25.0	26.3		ug/L		105	73 - 127
trans-1,3-Dichloropropene	25.0	23.6		ug/L		94	80 - 120
Trichloroethene	25.0	27.4		ug/L		110	74 - 123
Trichlorofluoromethane	25.0	22.9		ug/L		91	62 - 150
Vinyl chloride	25.0	21.2		ug/L		85	65 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*116*		*77 - 120*
4-Bromofluorobenzene (Surr)	*109*		*73 - 120*
Dibromofluoromethane (Surr)	*120*		*75 - 123*
Toluene-d8 (Surr)	*108*		*80 - 120*

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

Lab Sample ID: MB 480-557881/1-A
Matrix: Water
Analysis Batch: 558367

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 557881

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		11/06/20 15:09	11/11/20 03:10	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		11/06/20 15:09	11/11/20 03:10	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		11/06/20 15:09	11/11/20 03:10	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		11/06/20 15:09	11/11/20 03:10	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		11/06/20 15:09	11/11/20 03:10	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		11/06/20 15:09	11/11/20 03:10	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177559-1

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

Lab Sample ID: MB 480-557881/1-A
Matrix: Water
Analysis Batch: 558367

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 557881

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 03:10	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		11/06/20 15:09	11/11/20 03:10	1
2-Chlorophenol	ND		5.0	0.53	ug/L		11/06/20 15:09	11/11/20 03:10	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		11/06/20 15:09	11/11/20 03:10	1
2-Methylphenol	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 03:10	1
2-Nitroaniline	ND		10	0.42	ug/L		11/06/20 15:09	11/11/20 03:10	1
2-Nitrophenol	ND		5.0	0.48	ug/L		11/06/20 15:09	11/11/20 03:10	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 03:10	1
3-Nitroaniline	ND		10	0.48	ug/L		11/06/20 15:09	11/11/20 03:10	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		11/06/20 15:09	11/11/20 03:10	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		11/06/20 15:09	11/11/20 03:10	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		11/06/20 15:09	11/11/20 03:10	1
4-Chloroaniline	ND		5.0	0.59	ug/L		11/06/20 15:09	11/11/20 03:10	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		11/06/20 15:09	11/11/20 03:10	1
4-Methylphenol	ND		10	0.36	ug/L		11/06/20 15:09	11/11/20 03:10	1
4-Nitroaniline	ND		10	0.25	ug/L		11/06/20 15:09	11/11/20 03:10	1
4-Nitrophenol	ND		10	1.5	ug/L		11/06/20 15:09	11/11/20 03:10	1
Acenaphthene	ND		5.0	0.41	ug/L		11/06/20 15:09	11/11/20 03:10	1
Acenaphthylene	ND		5.0	0.38	ug/L		11/06/20 15:09	11/11/20 03:10	1
Acetophenone	ND		5.0	0.54	ug/L		11/06/20 15:09	11/11/20 03:10	1
Anthracene	ND		5.0	0.28	ug/L		11/06/20 15:09	11/11/20 03:10	1
Atrazine	ND		5.0	0.46	ug/L		11/06/20 15:09	11/11/20 03:10	1
Benzaldehyde	ND		5.0	0.27	ug/L		11/06/20 15:09	11/11/20 03:10	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		11/06/20 15:09	11/11/20 03:10	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		11/06/20 15:09	11/11/20 03:10	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		11/06/20 15:09	11/11/20 03:10	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		11/06/20 15:09	11/11/20 03:10	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		11/06/20 15:09	11/11/20 03:10	1
Biphenyl	ND		5.0	0.65	ug/L		11/06/20 15:09	11/11/20 03:10	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		11/06/20 15:09	11/11/20 03:10	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		11/06/20 15:09	11/11/20 03:10	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 03:10	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/06/20 15:09	11/11/20 03:10	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		11/06/20 15:09	11/11/20 03:10	1
Caprolactam	ND		5.0	2.2	ug/L		11/06/20 15:09	11/11/20 03:10	1
Carbazole	ND		5.0	0.30	ug/L		11/06/20 15:09	11/11/20 03:10	1
Chrysene	ND		5.0	0.33	ug/L		11/06/20 15:09	11/11/20 03:10	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		11/06/20 15:09	11/11/20 03:10	1
Dibenzofuran	ND		10	0.51	ug/L		11/06/20 15:09	11/11/20 03:10	1
Diethyl phthalate	ND		5.0	0.22	ug/L		11/06/20 15:09	11/11/20 03:10	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		11/06/20 15:09	11/11/20 03:10	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		11/06/20 15:09	11/11/20 03:10	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		11/06/20 15:09	11/11/20 03:10	1
Fluoranthene	ND		5.0	0.40	ug/L		11/06/20 15:09	11/11/20 03:10	1
Fluorene	ND		5.0	0.36	ug/L		11/06/20 15:09	11/11/20 03:10	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		11/06/20 15:09	11/11/20 03:10	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		11/06/20 15:09	11/11/20 03:10	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		11/06/20 15:09	11/11/20 03:10	1
Hexachloroethane	ND		5.0	0.59	ug/L		11/06/20 15:09	11/11/20 03:10	1

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

Lab Sample ID: MB 480-557881/1-A
Matrix: Water
Analysis Batch: 558367

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 557881

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		11/06/20 15:09	11/11/20 03:10	1
Isophorone	ND		5.0	0.43	ug/L		11/06/20 15:09	11/11/20 03:10	1
Naphthalene	ND		5.0	0.76	ug/L		11/06/20 15:09	11/11/20 03:10	1
Nitrobenzene	ND		5.0	0.29	ug/L		11/06/20 15:09	11/11/20 03:10	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		11/06/20 15:09	11/11/20 03:10	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		11/06/20 15:09	11/11/20 03:10	1
Pentachlorophenol	ND		10	2.2	ug/L		11/06/20 15:09	11/11/20 03:10	1
Phenanthrene	ND		5.0	0.44	ug/L		11/06/20 15:09	11/11/20 03:10	1
Phenol	ND		5.0	0.39	ug/L		11/06/20 15:09	11/11/20 03:10	1
Pyrene	ND		5.0	0.34	ug/L		11/06/20 15:09	11/11/20 03:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*85*		*41 - 120*	*11/06/20 15:09*	*11/11/20 03:10*	*1*
2-Fluorobiphenyl	*96*		*48 - 120*	*11/06/20 15:09*	*11/11/20 03:10*	*1*
2-Fluorophenol (Surr)	*63*		*35 - 120*	*11/06/20 15:09*	*11/11/20 03:10*	*1*
Nitrobenzene-d5 (Surr)	*85*		*46 - 120*	*11/06/20 15:09*	*11/11/20 03:10*	*1*
Phenol-d5 (Surr)	*45*		*22 - 120*	*11/06/20 15:09*	*11/11/20 03:10*	*1*
p-Terphenyl-d14 (Surr)	*103*		*60 - 148*	*11/06/20 15:09*	*11/11/20 03:10*	*1*

Lab Sample ID: LCS 480-557881/2-A
Matrix: Water
Analysis Batch: 558367

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 557881

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,5-Trichlorophenol	32.0	31.7		ug/L		99	65 - 126
2,4,6-Trichlorophenol	32.0	34.5		ug/L		108	64 - 120
2,4-Dichlorophenol	32.0	32.1		ug/L		100	63 - 120
2,4-Dimethylphenol	32.0	29.2		ug/L		91	47 - 120
2,4-Dinitrophenol	64.0	54.1		ug/L		85	31 - 137
2,4-Dinitrotoluene	32.0	34.4		ug/L		108	69 - 120
2,6-Dinitrotoluene	32.0	34.3		ug/L		107	68 - 120
2-Chloronaphthalene	32.0	30.4		ug/L		95	58 - 120
2-Chlorophenol	32.0	29.3		ug/L		91	48 - 120
2-Methylnaphthalene	32.0	29.7		ug/L		93	59 - 120
2-Methylphenol	32.0	28.0		ug/L		87	39 - 120
2-Nitroaniline	32.0	31.5		ug/L		98	54 - 127
2-Nitrophenol	32.0	32.8		ug/L		102	52 - 125
3,3'-Dichlorobenzidine	64.0	67.0		ug/L		105	49 - 135
3-Nitroaniline	32.0	29.6		ug/L		93	51 - 120
4,6-Dinitro-2-methylphenol	64.0	59.2		ug/L		92	46 - 136
4-Bromophenyl phenyl ether	32.0	31.6		ug/L		99	65 - 120
4-Chloro-3-methylphenol	32.0	31.3		ug/L		98	61 - 123
4-Chloroaniline	32.0	27.2		ug/L		85	30 - 120
4-Chlorophenyl phenyl ether	32.0	32.4		ug/L		101	62 - 120
4-Methylphenol	32.0	26.7		ug/L		83	29 - 131
4-Nitroaniline	32.0	31.9		ug/L		100	65 - 120
4-Nitrophenol	64.0	54.3		ug/L		85	45 - 120
Acenaphthene	32.0	30.6		ug/L		96	60 - 120

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

Lab Sample ID: LCS 480-557881/2-A
Matrix: Water
Analysis Batch: 558367

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 557881

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthylene	32.0	32.1		ug/L		100	63 - 120
Acetophenone	32.0	29.9		ug/L		93	45 - 120
Anthracene	32.0	30.7		ug/L		96	67 - 120
Atrazine	64.0	83.9	*	ug/L		131	71 - 130
Benzaldehyde	64.0	65.6		ug/L		103	10 - 140
Benzo[a]anthracene	32.0	30.3		ug/L		95	70 - 121
Benzo[a]pyrene	32.0	34.4		ug/L		107	60 - 123
Benzo[b]fluoranthene	32.0	36.3		ug/L		113	66 - 126
Benzo[g,h,i]perylene	32.0	34.0		ug/L		106	66 - 150
Benzo[k]fluoranthene	32.0	34.4		ug/L		107	65 - 124
Biphenyl	32.0	30.3		ug/L		95	59 - 120
bis (2-chloroisopropyl) ether	32.0	24.9		ug/L		78	21 - 136
Bis(2-chloroethoxy)methane	32.0	29.8		ug/L		93	50 - 128
Bis(2-chloroethyl)ether	32.0	27.4		ug/L		86	44 - 120
Bis(2-ethylhexyl) phthalate	32.0	30.7		ug/L		96	63 - 139
Butyl benzyl phthalate	32.0	30.8		ug/L		96	70 - 129
Caprolactam	64.0	23.2		ug/L		36	22 - 120
Carbazole	32.0	31.8		ug/L		99	66 - 123
Chrysene	32.0	28.9		ug/L		90	69 - 120
Dibenz(a,h)anthracene	32.0	34.0		ug/L		106	65 - 135
Dibenzofuran	32.0	31.5		ug/L		98	66 - 120
Diethyl phthalate	32.0	34.5		ug/L		108	59 - 127
Dimethyl phthalate	32.0	33.4		ug/L		105	68 - 120
Di-n-butyl phthalate	32.0	33.2		ug/L		104	69 - 131
Di-n-octyl phthalate	32.0	30.6		ug/L		96	63 - 140
Fluoranthene	32.0	32.4		ug/L		101	69 - 126
Fluorene	32.0	32.2		ug/L		101	66 - 120
Hexachlorobenzene	32.0	30.8		ug/L		96	61 - 120
Hexachlorobutadiene	32.0	27.1		ug/L		85	35 - 120
Hexachlorocyclopentadiene	32.0	22.7		ug/L		71	31 - 120
Hexachloroethane	32.0	26.6		ug/L		83	43 - 120
Indeno[1,2,3-cd]pyrene	32.0	33.9		ug/L		106	69 - 146
Isophorone	32.0	30.9		ug/L		97	55 - 120
Naphthalene	32.0	29.0		ug/L		91	57 - 120
Nitrobenzene	32.0	29.7		ug/L		93	53 - 123
N-Nitrosodi-n-propylamine	32.0	29.9		ug/L		94	32 - 140
N-Nitrosodiphenylamine	32.0	30.5		ug/L		95	61 - 120
Pentachlorophenol	64.0	43.0		ug/L		67	29 - 136
Phenanthrene	32.0	30.2		ug/L		94	68 - 120
Phenol	32.0	17.4		ug/L		54	17 - 120
Pyrene	32.0	30.2		ug/L		94	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*109*		*41 - 120*
2-Fluorobiphenyl	*106*		*48 - 120*
2-Fluorophenol (Surr)	*76*		*35 - 120*
Nitrobenzene-d5 (Surr)	*99*		*46 - 120*
Phenol-d5 (Surr)	*59*		*22 - 120*

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

Lab Sample ID: LCS 480-557881/2-A
Matrix: Water
Analysis Batch: 558367

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 557881

Surrogate	LCS %Recovery	LCS Qualifier	Limits
p-Terphenyl-d14 (Surr)	107		60 - 148

GC/MS VOA

Analysis Batch: 557992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-177559-1	MW-1D1	Total/NA	Water	8260C	
480-177559-2	MW-1D2	Total/NA	Water	8260C	
480-177559-3	MW-1D7	Total/NA	Water	8260C	
480-177559-4	MW-1D8	Total/NA	Water	8260C	
480-177559-5	MW-1U1	Total/NA	Water	8260C	
480-177559-6	MWN-12	Total/NA	Water	8260C	
MB 480-557992/7	Method Blank	Total/NA	Water	8260C	
LCS 480-557992/5	Lab Control Sample	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 557881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-177559-1	MW-1D1	Total/NA	Water	3510C	
480-177559-2	MW-1D2	Total/NA	Water	3510C	
480-177559-2 - DL	MW-1D2	Total/NA	Water	3510C	
480-177559-3	MW-1D7	Total/NA	Water	3510C	
480-177559-4	MW-1D8	Total/NA	Water	3510C	
480-177559-5	MW-1U1	Total/NA	Water	3510C	
480-177559-6	MWN-12	Total/NA	Water	3510C	
MB 480-557881/1-A	Method Blank	Total/NA	Water	3510C	
LCS 480-557881/2-A	Lab Control Sample	Total/NA	Water	3510C	

Analysis Batch: 558367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-557881/1-A	Method Blank	Total/NA	Water	8270D	557881
LCS 480-557881/2-A	Lab Control Sample	Total/NA	Water	8270D	557881

Analysis Batch: 558368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-177559-1	MW-1D1	Total/NA	Water	8270D	557881
480-177559-2	MW-1D2	Total/NA	Water	8270D	557881
480-177559-3	MW-1D7	Total/NA	Water	8270D	557881
480-177559-4	MW-1D8	Total/NA	Water	8270D	557881
480-177559-5	MW-1U1	Total/NA	Water	8270D	557881
480-177559-6	MWN-12	Total/NA	Water	8270D	557881

Analysis Batch: 558606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-177559-2 - DL	MW-1D2	Total/NA	Water	8270D	557881

Lab Chronicle

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177559-1

Client Sample ID: MW-1D1
Date Collected: 11/02/20 11:35
Date Received: 11/03/20 11:45

Lab Sample ID: 480-177559-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	557992	11/08/20 16:02	RJF	TAL BUF
Total/NA	Prep	3510C			557881	11/06/20 15:09	ATG	TAL BUF
Total/NA	Analysis	8270D		1	558368	11/11/20 10:14	PJQ	TAL BUF

Client Sample ID: MW-1D2
Date Collected: 11/02/20 04:00
Date Received: 11/03/20 11:45

Lab Sample ID: 480-177559-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	557992	11/08/20 16:26	RJF	TAL BUF
Total/NA	Prep	3510C			557881	11/06/20 15:09	ATG	TAL BUF
Total/NA	Analysis	8270D		1	558368	11/11/20 10:42	PJQ	TAL BUF
Total/NA	Prep	3510C	DL		557881	11/06/20 15:09	ATG	TAL BUF
Total/NA	Analysis	8270D	DL	5	558606	11/11/20 22:06	PJQ	TAL BUF

Client Sample ID: MW-1D7
Date Collected: 11/02/20 12:00
Date Received: 11/03/20 11:45

Lab Sample ID: 480-177559-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	557992	11/08/20 16:50	RJF	TAL BUF
Total/NA	Prep	3510C			557881	11/06/20 15:09	ATG	TAL BUF
Total/NA	Analysis	8270D		1	558368	11/11/20 11:11	PJQ	TAL BUF

Client Sample ID: MW-1D8
Date Collected: 11/02/20 13:00
Date Received: 11/03/20 11:45

Lab Sample ID: 480-177559-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	557992	11/08/20 17:14	RJF	TAL BUF
Total/NA	Prep	3510C			557881	11/06/20 15:09	ATG	TAL BUF
Total/NA	Analysis	8270D		1	558368	11/11/20 11:39	PJQ	TAL BUF

Client Sample ID: MW-1U1
Date Collected: 11/02/20 15:20
Date Received: 11/03/20 11:45

Lab Sample ID: 480-177559-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	557992	11/08/20 17:38	RJF	TAL BUF
Total/NA	Prep	3510C			557881	11/06/20 15:09	ATG	TAL BUF
Total/NA	Analysis	8270D		1	558368	11/11/20 12:07	PJQ	TAL BUF

Lab Chronicle

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177559-1

Client Sample ID: MWN-12

Date Collected: 11/02/20 13:40
Date Received: 11/03/20 11:45

Lab Sample ID: 480-177559-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	557992	11/08/20 18:02	RJF	TAL BUF
Total/NA	Prep	3510C			557881	11/06/20 15:09	ATG	TAL BUF
Total/NA	Analysis	8270D		1	558368	11/11/20 12:36	PJQ	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: Benchmark Env. Eng. & Science, PLLC
Job ID: 480-177559-1
Project/Site: Tecumseh - HWMU Groundwater

Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	04-01-21

Method Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177559-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL BUF
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL BUF
5030C	Purge and Trap	SW846	TAL BUF

Protocol References:

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

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177559-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-177559-1	MW-1D1	Water	11/02/20 11:35	11/03/20 11:45	
480-177559-2	MW-1D2	Water	11/02/20 04:00	11/03/20 11:45	
480-177559-3	MW-1D7	Water	11/02/20 12:00	11/03/20 11:45	
480-177559-4	MW-1D8	Water	11/02/20 13:00	11/03/20 11:45	
480-177559-5	MW-1U1	Water	11/02/20 15:20	11/03/20 11:45	
480-177559-6	MWN-12	Water	11/02/20 13:40	11/03/20 11:45	

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Caroline Bukowski	Lab PM: Fischer, Brian J	Carrier Tracking No(s):	COC No: 480-151163-33587.1
Client Contact: Ms. Caroline Bukowski	Phone: 716-856-0599	E-Mail: Brian.Fischer@Eurofinset.com		Page: Page 1 of 3
Company: Benchmark Env. Eng. & Science, PLLC				Job #:
Address: 2558 Hamburg Turnpike Suite 300	Due Date Requested:			
City: Buffalo	TAT Requested (days): Standard			
State, Zip: NY, 14218				
Phone: 716-225-3314(Tel)	PO #: Purchase Order Requested			
Email: cbukowski@bm-tk.com	WO #:			
Project Name: Tecumseh - HWMU Groundwater	Project #: 48022794			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C - (CP-51 (STARS) - naphthalene	8260C - TCL list	8270D - TCL SVOA	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	N		
MW-1D1	11/2/20	1135	G	Water			X	X	X		
~~MW-1D3~~ MW-1D2		400		Water			X		X		
MW-1D7		1220		Water			X	X	X		
MW-1D3		1300		Water			X	X	X		
MW-1U1		1520		Water			X		X		
MWN-12		1340		Water			X	X	X		
				Water							
				Water							
				Water							
				Water							
				Water							

480-177559 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

	Date/Time	Company		Date/Time	Company
Relinquished by:	11/3/20 1700	BMTK	Received by:	11/3/20 10:50	TAL
Relinquished by:	11/3/20 11:45	TAL	Received by:	11/03/20 1145	TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 3.2 # ICE

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Benchmark Env. Eng. & Science, PLLC

Job Number: 480-177559-1

Login Number: 177559
List Number: 1
Creator: Kolb, Chris M

List Source: Eurofins TestAmerica, Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	bmtk
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-177672-1
Client Project/Site: Tecumseh - HWMU Groundwater
Revision: 1

For:
Benchmark Env. Eng. & Science, PLLC
2558 Hamburg Turnpike
Suite 300
Buffalo, New York 14218

Attn: Ms. Caroline Bukowski

Authorized for release by:
11/23/2020 2:19:11 PM

Brian Fischer, Manager of Project Management
(716)504-9835
Brian.Fischer@Eurofinset.com

Table of Contents

Definitions/Glossary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177672-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate recovery exceeds control limits

Glossary

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

Job ID: 480-177672-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative
480-177672-1

Comments
No additional comments.

Receipt
The samples were received on 11/5/2020 11:05 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.3º C.

GC/MS VOA
Method 8260C: The following volatiles samples were diluted due to foaming at the time of purging during the original sample analysis: MW-1D6 (480-177672-3), MW-2D2 (480-177672-4), MW-2D3 (480-177672-5), MW-2D4 (480-177672-6) and MWS-11A (480-177672-7). Elevated reporting limits (RLs) are provided.

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

GC/MS Semi VOA
Method 8270D: The continuing calibration verification (CCV) analyzed in batch 480-559049 was outside the method criteria for the following analyte(s): 2,4,6-Tribromophenol (Surr). A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270D: The continuing calibration verification (CCV) associated with batch 480-559049 recovered above the upper control limit for Benzo[g,h,i]perylene, Dibenz(a,h)anthracene, Indeno[1,2,3-cd]pyrene, Hexachlorobutadiene and Hexachlorocyclopentadiene . The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MW-1D4 (480-177672-2), MW-1D6 (480-177672-3), MW-2D2 (480-177672-4) and MW-2D4 (480-177672-6).

Method 8270D: The continuing calibration verification (CCV) associated with batch 480-559049 recovered outside acceptance criteria, low biased, for bis (2-chloroisopropyl) ether and Carbazole. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: MW-1D4 (480-177672-2), MW-1D6 (480-177672-3), MW-2D2 (480-177672-4) and MW-2D4 (480-177672-6). These results have been reported and qualified.

Method 8270D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 480-558052 and analytical batch 480-559332 recovered outside control limits for the following analytes: Atrazine. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8270D: The continuing calibration verification (CCV) associated with batch 480-559332 recovered above the upper control limit for 4-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MW-1D3 (480-177672-1), MW-2D3 (480-177672-5) and MWS-11A (480-177672-7).

Method 8270D: The following sample was diluted due to the abundance of non-target analytes: MWS-11A (480-177672-7). Elevated reporting limits (RLs) are provided.

Method 8270D: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 480-558052 and analytical batch 480-559332 recovered outside control limits for the following surrogate: 2,4,6-Tribromophenol. This surrogate is biased high and no detections were found for associated analytes in the following affected samples: MW-1D3 (480-177672-1), MW-2D3 (480-177672-5) and MWS-11A (480-177672-7). Therefore, the data has been reported. MW-1D3 (480-177672-1), MW-2D3 (480-177672-5) and MWS-11A (480-177672-7)

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

Job ID: 480-177672-1 (Continued)

Laboratory: Eurofins TestAmerica, Buffalo (Continued)

Organic Prep
Method 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 480-558052.

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

Detection Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177672-1

Client Sample ID: MW-1D3 — Lab Sample ID: 480-177672-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,3,5-Trimethylbenzene	0.88	J	1.0	0.77	ug/L	1		8260C	Total/NA
Benzene	4.6		1.0	0.41	ug/L	1		8260C	Total/NA
m-Xylene & p-Xylene	1.6	J	2.0	0.66	ug/L	1		8260C	Total/NA
o-Xylene	1.8		1.0	0.76	ug/L	1		8260C	Total/NA
Toluene	1.6		1.0	0.51	ug/L	1		8260C	Total/NA
Xylenes, Total	3.4		2.0	0.66	ug/L	1		8260C	Total/NA
2,4-Dimethylphenol	0.93	J	5.0	0.50	ug/L	1		8270D	Total/NA
2-Methylnaphthalene	2.2	J	5.0	0.60	ug/L	1		8270D	Total/NA
2-Methylphenol	1.2	J	5.0	0.40	ug/L	1		8270D	Total/NA
4-Methylphenol	3.4	J	10	0.36	ug/L	1		8270D	Total/NA
Acenaphthene	0.85	J	5.0	0.41	ug/L	1		8270D	Total/NA
Acenaphthylene	1.2	J	5.0	0.38	ug/L	1		8270D	Total/NA
Anthracene	0.32	J	5.0	0.28	ug/L	1		8270D	Total/NA
Carbazole	1.6	J	5.0	0.30	ug/L	1		8270D	Total/NA
Dibenzofuran	1.3	J	10	0.51	ug/L	1		8270D	Total/NA
Fluoranthene	0.96	J	5.0	0.40	ug/L	1		8270D	Total/NA
Fluorene	2.2	J	5.0	0.36	ug/L	1		8270D	Total/NA
Naphthalene	6.6		5.0	0.76	ug/L	1		8270D	Total/NA
Phenanthrene	2.6	J	5.0	0.44	ug/L	1		8270D	Total/NA
Phenol	9.7		5.0	0.39	ug/L	1		8270D	Total/NA
Pyrene	0.63	J	5.0	0.34	ug/L	1		8270D	Total/NA

Client Sample ID: MW-1D4 — Lab Sample ID: 480-177672-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,3,5-Trimethylbenzene	0.91	J	1.0	0.77	ug/L	1		8260C	Total/NA
Benzene	5.1		1.0	0.41	ug/L	1		8260C	Total/NA
m-Xylene & p-Xylene	1.7	J	2.0	0.66	ug/L	1		8260C	Total/NA
o-Xylene	2.0		1.0	0.76	ug/L	1		8260C	Total/NA
Toluene	1.7		1.0	0.51	ug/L	1		8260C	Total/NA
Xylenes, Total	3.7		2.0	0.66	ug/L	1		8260C	Total/NA
2,4-Dimethylphenol	0.90	J	5.0	0.50	ug/L	1		8270D	Total/NA
2-Methylnaphthalene	1.8	J	5.0	0.60	ug/L	1		8270D	Total/NA
2-Methylphenol	0.93	J	5.0	0.40	ug/L	1		8270D	Total/NA
4-Methylphenol	2.5	J	10	0.36	ug/L	1		8270D	Total/NA
Acenaphthene	1.1	J	5.0	0.41	ug/L	1		8270D	Total/NA
Acenaphthylene	1.8	J	5.0	0.38	ug/L	1		8270D	Total/NA
Biphenyl	0.67	J	5.0	0.65	ug/L	1		8270D	Total/NA
Carbazole	2.1	J	5.0	0.30	ug/L	1		8270D	Total/NA
Dibenzofuran	1.4	J	10	0.51	ug/L	1		8270D	Total/NA
Fluoranthene	1.4	J	5.0	0.40	ug/L	1		8270D	Total/NA
Fluorene	2.9	J	5.0	0.36	ug/L	1		8270D	Total/NA
Naphthalene	6.0		5.0	0.76	ug/L	1		8270D	Total/NA
Phenanthrene	3.6	J	5.0	0.44	ug/L	1		8270D	Total/NA
Pyrene	0.89	J	5.0	0.34	ug/L	1		8270D	Total/NA

Client Sample ID: MW-1D6 — Lab Sample ID: 480-177672-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2,4-Dimethylphenol	0.87	J	5.0	0.50	ug/L	1		8270D	Total/NA
2-Methylnaphthalene	0.65	J	5.0	0.60	ug/L	1		8270D	Total/NA
2-Methylphenol	1.2	J	5.0	0.40	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Client Sample ID: MW-1D6 (Continued) — Lab Sample ID: 480-177672-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
4-Methylphenol	2.1	J	10	0.36	ug/L	1		8270D	Total/NA
Carbazole	2.1	J	5.0	0.30	ug/L	1		8270D	Total/NA
Dibenzofuran	0.92	J	10	0.51	ug/L	1		8270D	Total/NA
Fluoranthene	3.1	J	5.0	0.40	ug/L	1		8270D	Total/NA
Fluorene	0.77	J	5.0	0.36	ug/L	1		8270D	Total/NA
Naphthalene	3.5	J	5.0	0.76	ug/L	1		8270D	Total/NA
Phenanthrene	7.4		5.0	0.44	ug/L	1		8270D	Total/NA
Pyrene	1.4	J	5.0	0.34	ug/L	1		8270D	Total/NA

Client Sample ID: MW-2D2 — Lab Sample ID: 480-177672-4

No Detections.

Client Sample ID: MW-2D3 — Lab Sample ID: 480-177672-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	6.9		5.0	2.1	ug/L	5		8260C	Total/NA
m-Xylene & p-Xylene	3.5	J	10	3.3	ug/L	5		8260C	Total/NA
Toluene	2.8	J	5.0	2.6	ug/L	5		8260C	Total/NA
Xylenes, Total	3.5	J	10	3.3	ug/L	5		8260C	Total/NA
2,4-Dimethylphenol	1.9	J	5.0	0.50	ug/L	1		8270D	Total/NA
2-Methylnaphthalene	5.7		5.0	0.60	ug/L	1		8270D	Total/NA
2-Methylphenol	1.6	J	5.0	0.40	ug/L	1		8270D	Total/NA
4-Methylphenol	2.3	J	10	0.36	ug/L	1		8270D	Total/NA
Acenaphthene	2.2	J	5.0	0.41	ug/L	1		8270D	Total/NA
Acenaphthylene	8.8		5.0	0.38	ug/L	1		8270D	Total/NA
Anthracene	1.9	J	5.0	0.28	ug/L	1		8270D	Total/NA
Biphenyl	1.8	J	5.0	0.65	ug/L	1		8270D	Total/NA
Carbazole	5.6		5.0	0.30	ug/L	1		8270D	Total/NA
Dibenzofuran	6.7	J	10	0.51	ug/L	1		8270D	Total/NA
Fluoranthene	2.0	J	5.0	0.40	ug/L	1		8270D	Total/NA
Fluorene	12		5.0	0.36	ug/L	1		8270D	Total/NA
Naphthalene	29		5.0	0.76	ug/L	1		8270D	Total/NA
Phenanthrene	17		5.0	0.44	ug/L	1		8270D	Total/NA
Pyrene	1.1	J	5.0	0.34	ug/L	1		8270D	Total/NA

Client Sample ID: MW-2D4 — Lab Sample ID: 480-177672-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2.5	J	5.0	2.1	ug/L	5		8260C	Total/NA

Client Sample ID: MWS-11A — Lab Sample ID: 480-177672-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	2.1		2.0	1.5	ug/L	2		8260C	Total/NA
Benzene	2.1		2.0	0.82	ug/L	2		8260C	Total/NA
m-Xylene & p-Xylene	3.8	J	4.0	1.3	ug/L	2		8260C	Total/NA
o-Xylene	1.9	J	2.0	1.5	ug/L	2		8260C	Total/NA
Toluene	2.2		2.0	1.0	ug/L	2		8260C	Total/NA
Xylenes, Total	5.7		4.0	1.3	ug/L	2		8260C	Total/NA
2,4-Dimethylphenol	4.4	J	25	2.5	ug/L	5		8270D	Total/NA
2-Methylnaphthalene	20	J	25	3.0	ug/L	5		8270D	Total/NA
2-Methylphenol	6.7	J	25	2.0	ug/L	5		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MWS-11A (Continued)

Lab Sample ID: 480-177672-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
4-Methylphenol	13	J	50	1.8	ug/L	5		8270D	Total/NA
Acenaphthene	4.9	J	25	2.1	ug/L	5		8270D	Total/NA
Acenaphthylene	9.0	J	25	1.9	ug/L	5		8270D	Total/NA
Biphenyl	4.0	J	25	3.3	ug/L	5		8270D	Total/NA
Carbazole	6.4	J	25	1.5	ug/L	5		8270D	Total/NA
Dibenzofuran	9.0	J	50	2.6	ug/L	5		8270D	Total/NA
Fluoranthene	3.0	J	25	2.0	ug/L	5		8270D	Total/NA
Fluorene	7.8	J	25	1.8	ug/L	5		8270D	Total/NA
Naphthalene	120		25	3.8	ug/L	5		8270D	Total/NA
Phenanthrene	11	J	25	2.2	ug/L	5		8270D	Total/NA
Phenol	3.1	J	25	2.0	ug/L	5		8270D	Total/NA
Pyrene	1.8	J	25	1.7	ug/L	5		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177672-1

Client Sample ID: MW-1D3

Date Collected: 11/03/20 10:15
Date Received: 11/05/20 11:05

Lab Sample ID: 480-177672-1

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/09/20 22:45	1
1,3,5-Trimethylbenzene	**0.88**	**J**	1.0	0.77	ug/L			11/09/20 22:45	1
4-Isopropyltoluene	ND		1.0	0.31	ug/L			11/09/20 22:45	1
Benzene	**4.6**		1.0	0.41	ug/L			11/09/20 22:45	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/09/20 22:45	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/09/20 22:45	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/09/20 22:45	1
m-Xylene & p-Xylene	**1.6**	**J**	2.0	0.66	ug/L			11/09/20 22:45	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/09/20 22:45	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/09/20 22:45	1
o-Xylene	**1.8**		1.0	0.76	ug/L			11/09/20 22:45	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/09/20 22:45	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/09/20 22:45	1
Toluene	**1.6**		1.0	0.51	ug/L			11/09/20 22:45	1
Xylenes, Total	**3.4**		2.0	0.66	ug/L			11/09/20 22:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*77 - 120*		*11/09/20 22:45*	*1*
4-Bromofluorobenzene (Surr)	*108*		*73 - 120*		*11/09/20 22:45*	*1*
Dibromofluoromethane (Surr)	*116*		*75 - 123*		*11/09/20 22:45*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*11/09/20 22:45*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		11/09/20 07:23	11/16/20 21:17	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		11/09/20 07:23	11/16/20 21:17	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		11/09/20 07:23	11/16/20 21:17	1
2,4-Dimethylphenol	**0.93**	**J**	5.0	0.50	ug/L		11/09/20 07:23	11/16/20 21:17	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		11/09/20 07:23	11/16/20 21:17	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		11/09/20 07:23	11/16/20 21:17	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		11/09/20 07:23	11/16/20 21:17	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		11/09/20 07:23	11/16/20 21:17	1
2-Chlorophenol	ND		5.0	0.53	ug/L		11/09/20 07:23	11/16/20 21:17	1
2-Methylnaphthalene	**2.2**	**J**	5.0	0.60	ug/L		11/09/20 07:23	11/16/20 21:17	1
2-Methylphenol	**1.2**	**J**	5.0	0.40	ug/L		11/09/20 07:23	11/16/20 21:17	1
2-Nitroaniline	ND		10	0.42	ug/L		11/09/20 07:23	11/16/20 21:17	1
2-Nitrophenol	ND		5.0	0.48	ug/L		11/09/20 07:23	11/16/20 21:17	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		11/09/20 07:23	11/16/20 21:17	1
3-Nitroaniline	ND		10	0.48	ug/L		11/09/20 07:23	11/16/20 21:17	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		11/09/20 07:23	11/16/20 21:17	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		11/09/20 07:23	11/16/20 21:17	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		11/09/20 07:23	11/16/20 21:17	1
4-Chloroaniline	ND		5.0	0.59	ug/L		11/09/20 07:23	11/16/20 21:17	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		11/09/20 07:23	11/16/20 21:17	1
4-Methylphenol	**3.4**	**J**	10	0.36	ug/L		11/09/20 07:23	11/16/20 21:17	1
4-Nitroaniline	ND		10	0.25	ug/L		11/09/20 07:23	11/16/20 21:17	1
4-Nitrophenol	ND		10	1.5	ug/L		11/09/20 07:23	11/16/20 21:17	1
Acenaphthene	**0.85**	**J**	5.0	0.41	ug/L		11/09/20 07:23	11/16/20 21:17	1
Acenaphthylene	**1.2**	**J**	5.0	0.38	ug/L		11/09/20 07:23	11/16/20 21:17	1
Acetophenone	ND		5.0	0.54	ug/L		11/09/20 07:23	11/16/20 21:17	1

Client Sample ID: MW-1D3

Date Collected: 11/03/20 10:15
Date Received: 11/05/20 11:05

Lab Sample ID: 480-177672-1

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	**0.32**	**J**	5.0	0.28	ug/L		11/09/20 07:23	11/16/20 21:17	1
Atrazine	ND	*	5.0	0.46	ug/L		11/09/20 07:23	11/16/20 21:17	1
Benzaldehyde	ND		5.0	0.27	ug/L		11/09/20 07:23	11/16/20 21:17	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		11/09/20 07:23	11/16/20 21:17	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		11/09/20 07:23	11/16/20 21:17	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		11/09/20 07:23	11/16/20 21:17	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		11/09/20 07:23	11/16/20 21:17	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		11/09/20 07:23	11/16/20 21:17	1
Biphenyl	ND		5.0	0.65	ug/L		11/09/20 07:23	11/16/20 21:17	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		11/09/20 07:23	11/16/20 21:17	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		11/09/20 07:23	11/16/20 21:17	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		11/09/20 07:23	11/16/20 21:17	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/09/20 07:23	11/16/20 21:17	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		11/09/20 07:23	11/16/20 21:17	1
Caprolactam	ND		5.0	2.2	ug/L		11/09/20 07:23	11/16/20 21:17	1
Carbazole	**1.6**	**J**	5.0	0.30	ug/L		11/09/20 07:23	11/16/20 21:17	1
Chrysene	ND		5.0	0.33	ug/L		11/09/20 07:23	11/16/20 21:17	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		11/09/20 07:23	11/16/20 21:17	1
Dibenzofuran	**1.3**	**J**	10	0.51	ug/L		11/09/20 07:23	11/16/20 21:17	1
Diethyl phthalate	ND		5.0	0.22	ug/L		11/09/20 07:23	11/16/20 21:17	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		11/09/20 07:23	11/16/20 21:17	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		11/09/20 07:23	11/16/20 21:17	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		11/09/20 07:23	11/16/20 21:17	1
Fluoranthene	**0.96**	**J**	5.0	0.40	ug/L		11/09/20 07:23	11/16/20 21:17	1
Fluorene	**2.2**	**J**	5.0	0.36	ug/L		11/09/20 07:23	11/16/20 21:17	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		11/09/20 07:23	11/16/20 21:17	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		11/09/20 07:23	11/16/20 21:17	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		11/09/20 07:23	11/16/20 21:17	1
Hexachloroethane	ND		5.0	0.59	ug/L		11/09/20 07:23	11/16/20 21:17	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		11/09/20 07:23	11/16/20 21:17	1
Isophorone	ND		5.0	0.43	ug/L		11/09/20 07:23	11/16/20 21:17	1
Naphthalene	**6.6**		5.0	0.76	ug/L		11/09/20 07:23	11/16/20 21:17	1
Nitrobenzene	ND		5.0	0.29	ug/L		11/09/20 07:23	11/16/20 21:17	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		11/09/20 07:23	11/16/20 21:17	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		11/09/20 07:23	11/16/20 21:17	1
Pentachlorophenol	ND		10	2.2	ug/L		11/09/20 07:23	11/16/20 21:17	1
Phenanthrene	**2.6**	**J**	5.0	0.44	ug/L		11/09/20 07:23	11/16/20 21:17	1
Phenol	**9.7**		5.0	0.39	ug/L		11/09/20 07:23	11/16/20 21:17	1
Pyrene	**0.63**	**J**	5.0	0.34	ug/L		11/09/20 07:23	11/16/20 21:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*118*		*41 - 120*	*11/09/20 07:23*	*11/16/20 21:17*	*1*
2-Fluorobiphenyl	*115*		*48 - 120*	*11/09/20 07:23*	*11/16/20 21:17*	*1*
2-Fluorophenol (Surr)	*84*		*35 - 120*	*11/09/20 07:23*	*11/16/20 21:17*	*1*
Nitrobenzene-d5 (Surr)	*102*		*46 - 120*	*11/09/20 07:23*	*11/16/20 21:17*	*1*
Phenol-d5 (Surr)	*61*		*22 - 120*	*11/09/20 07:23*	*11/16/20 21:17*	*1*
p-Terphenyl-d14 (Surr)	*113*		*60 - 148*	*11/09/20 07:23*	*11/16/20 21:17*	*1*

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177672-1

Client Sample ID: MW-1D4

Date Collected: 11/03/20 10:55
Date Received: 11/05/20 11:05

Lab Sample ID: 480-177672-2

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/09/20 23:08	1
1,3,5-Trimethylbenzene	**0.91**	**J**	1.0	0.77	ug/L			11/09/20 23:08	1
4-Isopropyltoluene	ND		1.0	0.31	ug/L			11/09/20 23:08	1
Benzene	**5.1**		1.0	0.41	ug/L			11/09/20 23:08	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/09/20 23:08	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/09/20 23:08	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/09/20 23:08	1
m-Xylene & p-Xylene	**1.7**	**J**	2.0	0.66	ug/L			11/09/20 23:08	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/09/20 23:08	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/09/20 23:08	1
o-Xylene	**2.0**		1.0	0.76	ug/L			11/09/20 23:08	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/09/20 23:08	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/09/20 23:08	1
Toluene	**1.7**		1.0	0.51	ug/L			11/09/20 23:08	1
Xylenes, Total	**3.7**		2.0	0.66	ug/L			11/09/20 23:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*77 - 120*		*11/09/20 23:08*	*1*
4-Bromofluorobenzene (Surr)	*111*		*73 - 120*		*11/09/20 23:08*	*1*
Dibromofluoromethane (Surr)	*110*		*75 - 123*		*11/09/20 23:08*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*11/09/20 23:08*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		11/09/20 07:23	11/13/20 18:59	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		11/09/20 07:23	11/13/20 18:59	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		11/09/20 07:23	11/13/20 18:59	1
2,4-Dimethylphenol	**0.90**	**J**	5.0	0.50	ug/L		11/09/20 07:23	11/13/20 18:59	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		11/09/20 07:23	11/13/20 18:59	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		11/09/20 07:23	11/13/20 18:59	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		11/09/20 07:23	11/13/20 18:59	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		11/09/20 07:23	11/13/20 18:59	1
2-Chlorophenol	ND		5.0	0.53	ug/L		11/09/20 07:23	11/13/20 18:59	1
2-Methylnaphthalene	**1.8**	**J**	5.0	0.60	ug/L		11/09/20 07:23	11/13/20 18:59	1
2-Methylphenol	**0.93**	**J**	5.0	0.40	ug/L		11/09/20 07:23	11/13/20 18:59	1
2-Nitroaniline	ND		10	0.42	ug/L		11/09/20 07:23	11/13/20 18:59	1
2-Nitrophenol	ND		5.0	0.48	ug/L		11/09/20 07:23	11/13/20 18:59	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		11/09/20 07:23	11/13/20 18:59	1
3-Nitroaniline	ND		10	0.48	ug/L		11/09/20 07:23	11/13/20 18:59	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		11/09/20 07:23	11/13/20 18:59	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		11/09/20 07:23	11/13/20 18:59	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		11/09/20 07:23	11/13/20 18:59	1
4-Chloroaniline	ND		5.0	0.59	ug/L		11/09/20 07:23	11/13/20 18:59	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		11/09/20 07:23	11/13/20 18:59	1
4-Methylphenol	**2.5**	**J**	10	0.36	ug/L		11/09/20 07:23	11/13/20 18:59	1
4-Nitroaniline	ND		10	0.25	ug/L		11/09/20 07:23	11/13/20 18:59	1
4-Nitrophenol	ND		10	1.5	ug/L		11/09/20 07:23	11/13/20 18:59	1
Acenaphthene	**1.1**	**J**	5.0	0.41	ug/L		11/09/20 07:23	11/13/20 18:59	1
Acenaphthylene	**1.8**	**J**	5.0	0.38	ug/L		11/09/20 07:23	11/13/20 18:59	1
Acetophenone	ND		5.0	0.54	ug/L		11/09/20 07:23	11/13/20 18:59	1

Client Sample ID: MW-1D4

Date Collected: 11/03/20 10:55
Date Received: 11/05/20 11:05

Lab Sample ID: 480-177672-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		5.0	0.28	ug/L		11/09/20 07:23	11/13/20 18:59	1
Atrazine	ND	*	5.0	0.46	ug/L		11/09/20 07:23	11/13/20 18:59	1
Benzaldehyde	ND		5.0	0.27	ug/L		11/09/20 07:23	11/13/20 18:59	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		11/09/20 07:23	11/13/20 18:59	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		11/09/20 07:23	11/13/20 18:59	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		11/09/20 07:23	11/13/20 18:59	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		11/09/20 07:23	11/13/20 18:59	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		11/09/20 07:23	11/13/20 18:59	1
Biphenyl	**0.67**	**J**	5.0	0.65	ug/L		11/09/20 07:23	11/13/20 18:59	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		11/09/20 07:23	11/13/20 18:59	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		11/09/20 07:23	11/13/20 18:59	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		11/09/20 07:23	11/13/20 18:59	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/09/20 07:23	11/13/20 18:59	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		11/09/20 07:23	11/13/20 18:59	1
Caprolactam	ND		5.0	2.2	ug/L		11/09/20 07:23	11/13/20 18:59	1
Carbazole	**2.1**	**J**	5.0	0.30	ug/L		11/09/20 07:23	11/13/20 18:59	1
Chrysene	ND		5.0	0.33	ug/L		11/09/20 07:23	11/13/20 18:59	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		11/09/20 07:23	11/13/20 18:59	1
Dibenzofuran	**1.4**	**J**	10	0.51	ug/L		11/09/20 07:23	11/13/20 18:59	1
Diethyl phthalate	ND		5.0	0.22	ug/L		11/09/20 07:23	11/13/20 18:59	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		11/09/20 07:23	11/13/20 18:59	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		11/09/20 07:23	11/13/20 18:59	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		11/09/20 07:23	11/13/20 18:59	1
Fluoranthene	**1.4**	**J**	5.0	0.40	ug/L		11/09/20 07:23	11/13/20 18:59	1
Fluorene	**2.9**	**J**	5.0	0.36	ug/L		11/09/20 07:23	11/13/20 18:59	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		11/09/20 07:23	11/13/20 18:59	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		11/09/20 07:23	11/13/20 18:59	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		11/09/20 07:23	11/13/20 18:59	1
Hexachloroethane	ND		5.0	0.59	ug/L		11/09/20 07:23	11/13/20 18:59	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		11/09/20 07:23	11/13/20 18:59	1
Isophorone	ND		5.0	0.43	ug/L		11/09/20 07:23	11/13/20 18:59	1
Naphthalene	**6.0**		5.0	0.76	ug/L		11/09/20 07:23	11/13/20 18:59	1
Nitrobenzene	ND		5.0	0.29	ug/L		11/09/20 07:23	11/13/20 18:59	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		11/09/20 07:23	11/13/20 18:59	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		11/09/20 07:23	11/13/20 18:59	1
Pentachlorophenol	ND		10	2.2	ug/L		11/09/20 07:23	11/13/20 18:59	1
Phenanthrene	**3.6**	**J**	5.0	0.44	ug/L		11/09/20 07:23	11/13/20 18:59	1
Phenol	ND		5.0	0.39	ug/L		11/09/20 07:23	11/13/20 18:59	1
Pyrene	**0.89**	**J**	5.0	0.34	ug/L		11/09/20 07:23	11/13/20 18:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*142*	*X*	*41 - 120*	*11/09/20 07:23*	*11/13/20 18:59*	*1*
2-Fluorobiphenyl	*105*		*48 - 120*	*11/09/20 07:23*	*11/13/20 18:59*	*1*
2-Fluorophenol (Surr)	*71*		*35 - 120*	*11/09/20 07:23*	*11/13/20 18:59*	*1*
Nitrobenzene-d5 (Surr)	*104*		*46 - 120*	*11/09/20 07:23*	*11/13/20 18:59*	*1*
Phenol-d5 (Surr)	*53*		*22 - 120*	*11/09/20 07:23*	*11/13/20 18:59*	*1*
p-Terphenyl-d14 (Surr)	*100*		*60 - 148*	*11/09/20 07:23*	*11/13/20 18:59*	*1*

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177672-1

Client Sample ID: MW-1D6
Date Collected: 11/03/20 09:20
Date Received: 11/05/20 11:05

Lab Sample ID: 480-177672-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		2.0	1.6	ug/L			11/09/20 23:32	2
1,2,4-Trimethylbenzene	ND		2.0	1.5	ug/L			11/09/20 23:32	2
1,1,2,2-Tetrachloroethane	ND		2.0	0.42	ug/L			11/09/20 23:32	2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.62	ug/L			11/09/20 23:32	2
1,3,5-Trimethylbenzene	ND		2.0	1.5	ug/L			11/09/20 23:32	2
1,1,2-Trichloroethane	ND		2.0	0.46	ug/L			11/09/20 23:32	2
1,1-Dichloroethane	ND		2.0	0.76	ug/L			11/09/20 23:32	2
4-Isopropyltoluene	ND		2.0	0.62	ug/L			11/09/20 23:32	2
1,1-Dichloroethene	ND		2.0	0.58	ug/L			11/09/20 23:32	2
Benzene	ND		2.0	0.82	ug/L			11/09/20 23:32	2
1,2,4-Trichlorobenzene	ND		2.0	0.82	ug/L			11/09/20 23:32	2
1,2-Dibromo-3-Chloropropane	ND		2.0	0.78	ug/L			11/09/20 23:32	2
Ethylbenzene	ND		2.0	1.5	ug/L			11/09/20 23:32	2
1,2-Dibromoethane	ND		2.0	1.5	ug/L			11/09/20 23:32	2
Isopropylbenzene	ND		2.0	1.6	ug/L			11/09/20 23:32	2
1,2-Dichlorobenzene	ND		2.0	1.6	ug/L			11/09/20 23:32	2
Methyl tert-butyl ether	ND		2.0	0.32	ug/L			11/09/20 23:32	2
1,2-Dichloroethane	ND		2.0	0.42	ug/L			11/09/20 23:32	2
m-Xylene & p-Xylene	ND		4.0	1.3	ug/L			11/09/20 23:32	2
n-Butylbenzene	ND		2.0	1.3	ug/L			11/09/20 23:32	2
1,2-Dichloropropane	ND		2.0	1.4	ug/L			11/09/20 23:32	2
N-Propylbenzene	ND		2.0	1.4	ug/L			11/09/20 23:32	2
1,3-Dichlorobenzene	ND		2.0	1.6	ug/L			11/09/20 23:32	2
o-Xylene	ND		2.0	1.5	ug/L			11/09/20 23:32	2
1,4-Dichlorobenzene	ND		2.0	1.7	ug/L			11/09/20 23:32	2
sec-Butylbenzene	ND		2.0	1.5	ug/L			11/09/20 23:32	2
2-Butanone (MEK)	ND		20	2.6	ug/L			11/09/20 23:32	2
tert-Butylbenzene	ND		2.0	1.6	ug/L			11/09/20 23:32	2
2-Hexanone	ND		10	2.5	ug/L			11/09/20 23:32	2
Toluene	ND		2.0	1.0	ug/L			11/09/20 23:32	2
4-Methyl-2-pentanone (MIBK)	ND		10	4.2	ug/L			11/09/20 23:32	2
Xylenes, Total	ND		4.0	1.3	ug/L			11/09/20 23:32	2
Acetone	ND		20	6.0	ug/L			11/09/20 23:32	2
Benzene	ND		2.0	0.82	ug/L			11/09/20 23:32	2
Bromodichloromethane	ND		2.0	0.78	ug/L			11/09/20 23:32	2
Bromoform	ND		2.0	0.52	ug/L			11/09/20 23:32	2
Bromomethane	ND		2.0	1.4	ug/L			11/09/20 23:32	2
Carbon disulfide	ND		2.0	0.38	ug/L			11/09/20 23:32	2
Carbon tetrachloride	ND		2.0	0.54	ug/L			11/09/20 23:32	2
Chlorobenzene	ND		2.0	1.5	ug/L			11/09/20 23:32	2
Chloroethane	ND		2.0	0.64	ug/L			11/09/20 23:32	2
Chloroform	ND		2.0	0.68	ug/L			11/09/20 23:32	2
Chloromethane	ND		2.0	0.70	ug/L			11/09/20 23:32	2
cis-1,2-Dichloroethene	ND		2.0	1.6	ug/L			11/09/20 23:32	2
cis-1,3-Dichloropropene	ND		2.0	0.72	ug/L			11/09/20 23:32	2
Cyclohexane	ND		2.0	0.36	ug/L			11/09/20 23:32	2
Dibromochloromethane	ND		2.0	0.64	ug/L			11/09/20 23:32	2
Dichlorodifluoromethane	ND		2.0	1.4	ug/L			11/09/20 23:32	2
Ethylbenzene	ND		2.0	1.5	ug/L			11/09/20 23:32	2

Client Sample ID: MW-1D6
Lab Sample ID: 480-177672-3

Date Collected: 11/03/20 09:20
Matrix: Water
Date Received: 11/05/20 11:05

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		2.0	1.6	ug/L			11/09/20 23:32	2
Methyl acetate	ND		5.0	2.6	ug/L			11/09/20 23:32	2
Methyl tert-butyl ether	ND		2.0	0.32	ug/L			11/09/20 23:32	2
Methylcyclohexane	ND		2.0	0.32	ug/L			11/09/20 23:32	2
Methylene Chloride	ND		2.0	0.88	ug/L			11/09/20 23:32	2
Styrene	ND		2.0	1.5	ug/L			11/09/20 23:32	2
Tetrachloroethene	ND		2.0	0.72	ug/L			11/09/20 23:32	2
Toluene	ND		2.0	1.0	ug/L			11/09/20 23:32	2
trans-1,2-Dichloroethene	ND		2.0	1.8	ug/L			11/09/20 23:32	2
trans-1,3-Dichloropropene	ND		2.0	0.74	ug/L			11/09/20 23:32	2
Trichloroethene	ND		2.0	0.92	ug/L			11/09/20 23:32	2
Trichlorofluoromethane	ND		2.0	1.8	ug/L			11/09/20 23:32	2
Vinyl chloride	ND		2.0	1.8	ug/L			11/09/20 23:32	2
Xylenes, Total	ND		4.0	1.3	ug/L			11/09/20 23:32	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*77 - 120*		*11/09/20 23:32*	*2*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*		*11/09/20 23:32*	*2*
Dibromofluoromethane (Surr)	*113*		*75 - 123*		*11/09/20 23:32*	*2*
1,2-Dichloroethane-d4 (Surr)	*102*		*77 - 120*		*11/09/20 23:32*	*2*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*		*11/09/20 23:32*	*2*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/09/20 23:32*	*2*
Dibromofluoromethane (Surr)	*113*		*75 - 123*		*11/09/20 23:32*	*2*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/09/20 23:32*	*2*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		11/09/20 07:23	11/13/20 19:26	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		11/09/20 07:23	11/13/20 19:26	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		11/09/20 07:23	11/13/20 19:26	1
2,4-Dimethylphenol	**0.87**	**J**	5.0	0.50	ug/L		11/09/20 07:23	11/13/20 19:26	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		11/09/20 07:23	11/13/20 19:26	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		11/09/20 07:23	11/13/20 19:26	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		11/09/20 07:23	11/13/20 19:26	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		11/09/20 07:23	11/13/20 19:26	1
2-Chlorophenol	ND		5.0	0.53	ug/L		11/09/20 07:23	11/13/20 19:26	1
2-Methylnaphthalene	**0.65**	**J**	5.0	0.60	ug/L		11/09/20 07:23	11/13/20 19:26	1
2-Methylphenol	**1.2**	**J**	5.0	0.40	ug/L		11/09/20 07:23	11/13/20 19:26	1
2-Nitroaniline	ND		10	0.42	ug/L		11/09/20 07:23	11/13/20 19:26	1
2-Nitrophenol	ND		5.0	0.48	ug/L		11/09/20 07:23	11/13/20 19:26	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		11/09/20 07:23	11/13/20 19:26	1
3-Nitroaniline	ND		10	0.48	ug/L		11/09/20 07:23	11/13/20 19:26	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		11/09/20 07:23	11/13/20 19:26	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		11/09/20 07:23	11/13/20 19:26	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		11/09/20 07:23	11/13/20 19:26	1
4-Chloroaniline	ND		5.0	0.59	ug/L		11/09/20 07:23	11/13/20 19:26	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		11/09/20 07:23	11/13/20 19:26	1
4-Methylphenol	**2.1**	**J**	10	0.36	ug/L		11/09/20 07:23	11/13/20 19:26	1
4-Nitroaniline	ND		10	0.25	ug/L		11/09/20 07:23	11/13/20 19:26	1
4-Nitrophenol	ND		10	1.5	ug/L		11/09/20 07:23	11/13/20 19:26	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177672-1

Client Sample ID: MW-1D6
Date Collected: 11/03/20 09:20
Date Received: 11/05/20 11:05

Lab Sample ID: 480-177672-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		5.0	0.41	ug/L		11/09/20 07:23	11/13/20 19:26	1
Acenaphthylene	ND		5.0	0.38	ug/L		11/09/20 07:23	11/13/20 19:26	1
Acetophenone	ND		5.0	0.54	ug/L		11/09/20 07:23	11/13/20 19:26	1
Anthracene	ND		5.0	0.28	ug/L		11/09/20 07:23	11/13/20 19:26	1
Atrazine	ND	*	5.0	0.46	ug/L		11/09/20 07:23	11/13/20 19:26	1
Benzaldehyde	ND		5.0	0.27	ug/L		11/09/20 07:23	11/13/20 19:26	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		11/09/20 07:23	11/13/20 19:26	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		11/09/20 07:23	11/13/20 19:26	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		11/09/20 07:23	11/13/20 19:26	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		11/09/20 07:23	11/13/20 19:26	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		11/09/20 07:23	11/13/20 19:26	1
Biphenyl	ND		5.0	0.65	ug/L		11/09/20 07:23	11/13/20 19:26	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		11/09/20 07:23	11/13/20 19:26	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		11/09/20 07:23	11/13/20 19:26	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		11/09/20 07:23	11/13/20 19:26	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/09/20 07:23	11/13/20 19:26	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		11/09/20 07:23	11/13/20 19:26	1
Caprolactam	ND		5.0	2.2	ug/L		11/09/20 07:23	11/13/20 19:26	1
Carbazole	**2.1**	**J**	5.0	0.30	ug/L		11/09/20 07:23	11/13/20 19:26	1
Chrysene	ND		5.0	0.33	ug/L		11/09/20 07:23	11/13/20 19:26	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		11/09/20 07:23	11/13/20 19:26	1
Dibenzofuran	**0.92**	**J**	10	0.51	ug/L		11/09/20 07:23	11/13/20 19:26	1
Diethyl phthalate	ND		5.0	0.22	ug/L		11/09/20 07:23	11/13/20 19:26	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		11/09/20 07:23	11/13/20 19:26	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		11/09/20 07:23	11/13/20 19:26	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		11/09/20 07:23	11/13/20 19:26	1
Fluoranthene	**3.1**	**J**	5.0	0.40	ug/L		11/09/20 07:23	11/13/20 19:26	1
Fluorene	**0.77**	**J**	5.0	0.36	ug/L		11/09/20 07:23	11/13/20 19:26	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		11/09/20 07:23	11/13/20 19:26	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		11/09/20 07:23	11/13/20 19:26	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		11/09/20 07:23	11/13/20 19:26	1
Hexachloroethane	ND		5.0	0.59	ug/L		11/09/20 07:23	11/13/20 19:26	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		11/09/20 07:23	11/13/20 19:26	1
Isophorone	ND		5.0	0.43	ug/L		11/09/20 07:23	11/13/20 19:26	1
Naphthalene	**3.5**	**J**	5.0	0.76	ug/L		11/09/20 07:23	11/13/20 19:26	1
Nitrobenzene	ND		5.0	0.29	ug/L		11/09/20 07:23	11/13/20 19:26	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		11/09/20 07:23	11/13/20 19:26	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		11/09/20 07:23	11/13/20 19:26	1
Pentachlorophenol	ND		10	2.2	ug/L		11/09/20 07:23	11/13/20 19:26	1
Phenanthrene	**7.4**		5.0	0.44	ug/L		11/09/20 07:23	11/13/20 19:26	1
Phenol	ND		5.0	0.39	ug/L		11/09/20 07:23	11/13/20 19:26	1
Pyrene	**1.4**	**J**	5.0	0.34	ug/L		11/09/20 07:23	11/13/20 19:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*150*	*X*	*41 - 120*	*11/09/20 07:23*	*11/13/20 19:26*	*1*
2-Fluorobiphenyl	*110*		*48 - 120*	*11/09/20 07:23*	*11/13/20 19:26*	*1*
2-Fluorophenol (Surr)	*76*		*35 - 120*	*11/09/20 07:23*	*11/13/20 19:26*	*1*
Nitrobenzene-d5 (Surr)	*106*		*46 - 120*	*11/09/20 07:23*	*11/13/20 19:26*	*1*
Phenol-d5 (Surr)	*57*		*22 - 120*	*11/09/20 07:23*	*11/13/20 19:26*	*1*
p-Terphenyl-d14 (Surr)	*104*		*60 - 148*	*11/09/20 07:23*	*11/13/20 19:26*	*1*

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177672-1

Client Sample ID: MW-2D2

Date Collected: 11/03/20 12:20
Date Received: 11/05/20 11:05

Lab Sample ID: 480-177672-4

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		2.0	1.5	ug/L			11/09/20 23:55	2
1,3,5-Trimethylbenzene	ND		2.0	1.5	ug/L			11/09/20 23:55	2
4-Isopropyltoluene	ND		2.0	0.62	ug/L			11/09/20 23:55	2
Benzene	ND		2.0	0.82	ug/L			11/09/20 23:55	2
Ethylbenzene	ND		2.0	1.5	ug/L			11/09/20 23:55	2
Isopropylbenzene	ND		2.0	1.6	ug/L			11/09/20 23:55	2
Methyl tert-butyl ether	ND		2.0	0.32	ug/L			11/09/20 23:55	2
m-Xylene & p-Xylene	ND		4.0	1.3	ug/L			11/09/20 23:55	2
n-Butylbenzene	ND		2.0	1.3	ug/L			11/09/20 23:55	2
N-Propylbenzene	ND		2.0	1.4	ug/L			11/09/20 23:55	2
o-Xylene	ND		2.0	1.5	ug/L			11/09/20 23:55	2
sec-Butylbenzene	ND		2.0	1.5	ug/L			11/09/20 23:55	2
tert-Butylbenzene	ND		2.0	1.6	ug/L			11/09/20 23:55	2
Toluene	ND		2.0	1.0	ug/L			11/09/20 23:55	2
Xylenes, Total	ND		4.0	1.3	ug/L			11/09/20 23:55	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*77 - 120*		*11/09/20 23:55*	*2*
4-Bromofluorobenzene (Surr)	*106*		*73 - 120*		*11/09/20 23:55*	*2*
Dibromofluoromethane (Surr)	*112*		*75 - 123*		*11/09/20 23:55*	*2*
Toluene-d8 (Surr)	*101*		*80 - 120*		*11/09/20 23:55*	*2*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		11/09/20 07:23	11/13/20 19:54	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		11/09/20 07:23	11/13/20 19:54	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		11/09/20 07:23	11/13/20 19:54	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		11/09/20 07:23	11/13/20 19:54	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		11/09/20 07:23	11/13/20 19:54	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		11/09/20 07:23	11/13/20 19:54	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		11/09/20 07:23	11/13/20 19:54	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		11/09/20 07:23	11/13/20 19:54	1
2-Chlorophenol	ND		5.0	0.53	ug/L		11/09/20 07:23	11/13/20 19:54	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		11/09/20 07:23	11/13/20 19:54	1
2-Methylphenol	ND		5.0	0.40	ug/L		11/09/20 07:23	11/13/20 19:54	1
2-Nitroaniline	ND		10	0.42	ug/L		11/09/20 07:23	11/13/20 19:54	1
2-Nitrophenol	ND		5.0	0.48	ug/L		11/09/20 07:23	11/13/20 19:54	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		11/09/20 07:23	11/13/20 19:54	1
3-Nitroaniline	ND		10	0.48	ug/L		11/09/20 07:23	11/13/20 19:54	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		11/09/20 07:23	11/13/20 19:54	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		11/09/20 07:23	11/13/20 19:54	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		11/09/20 07:23	11/13/20 19:54	1
4-Chloroaniline	ND		5.0	0.59	ug/L		11/09/20 07:23	11/13/20 19:54	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		11/09/20 07:23	11/13/20 19:54	1
4-Methylphenol	ND		10	0.36	ug/L		11/09/20 07:23	11/13/20 19:54	1
4-Nitroaniline	ND		10	0.25	ug/L		11/09/20 07:23	11/13/20 19:54	1
4-Nitrophenol	ND		10	1.5	ug/L		11/09/20 07:23	11/13/20 19:54	1
Acenaphthene	ND		5.0	0.41	ug/L		11/09/20 07:23	11/13/20 19:54	1
Acenaphthylene	ND		5.0	0.38	ug/L		11/09/20 07:23	11/13/20 19:54	1
Acetophenone	ND		5.0	0.54	ug/L		11/09/20 07:23	11/13/20 19:54	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177672-1

Client Sample ID: MW-2D2
Date Collected: 11/03/20 12:20
Date Received: 11/05/20 11:05

Lab Sample ID: 480-177672-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		5.0	0.28	ug/L		11/09/20 07:23	11/13/20 19:54	1
Atrazine	ND	*	5.0	0.46	ug/L		11/09/20 07:23	11/13/20 19:54	1
Benzaldehyde	ND		5.0	0.27	ug/L		11/09/20 07:23	11/13/20 19:54	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		11/09/20 07:23	11/13/20 19:54	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		11/09/20 07:23	11/13/20 19:54	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		11/09/20 07:23	11/13/20 19:54	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		11/09/20 07:23	11/13/20 19:54	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		11/09/20 07:23	11/13/20 19:54	1
Biphenyl	ND		5.0	0.65	ug/L		11/09/20 07:23	11/13/20 19:54	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		11/09/20 07:23	11/13/20 19:54	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		11/09/20 07:23	11/13/20 19:54	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		11/09/20 07:23	11/13/20 19:54	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/09/20 07:23	11/13/20 19:54	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		11/09/20 07:23	11/13/20 19:54	1
Caprolactam	ND		5.0	2.2	ug/L		11/09/20 07:23	11/13/20 19:54	1
Carbazole	ND		5.0	0.30	ug/L		11/09/20 07:23	11/13/20 19:54	1
Chrysene	ND		5.0	0.33	ug/L		11/09/20 07:23	11/13/20 19:54	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		11/09/20 07:23	11/13/20 19:54	1
Dibenzofuran	ND		10	0.51	ug/L		11/09/20 07:23	11/13/20 19:54	1
Diethyl phthalate	ND		5.0	0.22	ug/L		11/09/20 07:23	11/13/20 19:54	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		11/09/20 07:23	11/13/20 19:54	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		11/09/20 07:23	11/13/20 19:54	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		11/09/20 07:23	11/13/20 19:54	1
Fluoranthene	ND		5.0	0.40	ug/L		11/09/20 07:23	11/13/20 19:54	1
Fluorene	ND		5.0	0.36	ug/L		11/09/20 07:23	11/13/20 19:54	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		11/09/20 07:23	11/13/20 19:54	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		11/09/20 07:23	11/13/20 19:54	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		11/09/20 07:23	11/13/20 19:54	1
Hexachloroethane	ND		5.0	0.59	ug/L		11/09/20 07:23	11/13/20 19:54	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		11/09/20 07:23	11/13/20 19:54	1
Isophorone	ND		5.0	0.43	ug/L		11/09/20 07:23	11/13/20 19:54	1
Naphthalene	ND		5.0	0.76	ug/L		11/09/20 07:23	11/13/20 19:54	1
Nitrobenzene	ND		5.0	0.29	ug/L		11/09/20 07:23	11/13/20 19:54	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		11/09/20 07:23	11/13/20 19:54	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		11/09/20 07:23	11/13/20 19:54	1
Pentachlorophenol	ND		10	2.2	ug/L		11/09/20 07:23	11/13/20 19:54	1
Phenanthrene	ND		5.0	0.44	ug/L		11/09/20 07:23	11/13/20 19:54	1
Phenol	ND		5.0	0.39	ug/L		11/09/20 07:23	11/13/20 19:54	1
Pyrene	ND		5.0	0.34	ug/L		11/09/20 07:23	11/13/20 19:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*142*	*X*	*41 - 120*	*11/09/20 07:23*	*11/13/20 19:54*	*1*
2-Fluorobiphenyl	*113*		*48 - 120*	*11/09/20 07:23*	*11/13/20 19:54*	*1*
2-Fluorophenol (Surr)	*76*		*35 - 120*	*11/09/20 07:23*	*11/13/20 19:54*	*1*
Nitrobenzene-d5 (Surr)	*109*		*46 - 120*	*11/09/20 07:23*	*11/13/20 19:54*	*1*
Phenol-d5 (Surr)	*56*		*22 - 120*	*11/09/20 07:23*	*11/13/20 19:54*	*1*
p-Terphenyl-d14 (Surr)	*95*		*60 - 148*	*11/09/20 07:23*	*11/13/20 19:54*	*1*

Client Sample ID: MW-2D3
Lab Sample ID: 480-177672-5

Date Collected: 11/03/20 14:50
Matrix: Water
Date Received: 11/05/20 11:05

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		5.0	3.8	ug/L			11/10/20 00:18	5
1,3,5-Trimethylbenzene	ND		5.0	3.9	ug/L			11/10/20 00:18	5
4-Isopropyltoluene	ND		5.0	1.6	ug/L			11/10/20 00:18	5
Benzene	**6.9**		5.0	2.1	ug/L			11/10/20 00:18	5
Ethylbenzene	ND		5.0	3.7	ug/L			11/10/20 00:18	5
Isopropylbenzene	ND		5.0	4.0	ug/L			11/10/20 00:18	5
Methyl tert-butyl ether	ND		5.0	0.80	ug/L			11/10/20 00:18	5
m-Xylene & p-Xylene	**3.5**	**J**	10	3.3	ug/L			11/10/20 00:18	5
n-Butylbenzene	ND		5.0	3.2	ug/L			11/10/20 00:18	5
N-Propylbenzene	ND		5.0	3.5	ug/L			11/10/20 00:18	5
o-Xylene	ND		5.0	3.8	ug/L			11/10/20 00:18	5
sec-Butylbenzene	ND		5.0	3.8	ug/L			11/10/20 00:18	5
tert-Butylbenzene	ND		5.0	4.1	ug/L			11/10/20 00:18	5
Toluene	**2.8**	**J**	5.0	2.6	ug/L			11/10/20 00:18	5
Xylenes, Total	**3.5**	**J**	10	3.3	ug/L			11/10/20 00:18	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*77 - 120*		*11/10/20 00:18*	*5*
4-Bromofluorobenzene (Surr)	*110*		*73 - 120*		*11/10/20 00:18*	*5*
Dibromofluoromethane (Surr)	*119*		*75 - 123*		*11/10/20 00:18*	*5*
Toluene-d8 (Surr)	*103*		*80 - 120*		*11/10/20 00:18*	*5*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		11/09/20 07:23	11/16/20 21:46	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		11/09/20 07:23	11/16/20 21:46	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		11/09/20 07:23	11/16/20 21:46	1
2,4-Dimethylphenol	**1.9**	**J**	5.0	0.50	ug/L		11/09/20 07:23	11/16/20 21:46	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		11/09/20 07:23	11/16/20 21:46	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		11/09/20 07:23	11/16/20 21:46	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		11/09/20 07:23	11/16/20 21:46	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		11/09/20 07:23	11/16/20 21:46	1
2-Chlorophenol	ND		5.0	0.53	ug/L		11/09/20 07:23	11/16/20 21:46	1
2-Methylnaphthalene	**5.7**		5.0	0.60	ug/L		11/09/20 07:23	11/16/20 21:46	1
2-Methylphenol	**1.6**	**J**	5.0	0.40	ug/L		11/09/20 07:23	11/16/20 21:46	1
2-Nitroaniline	ND		10	0.42	ug/L		11/09/20 07:23	11/16/20 21:46	1
2-Nitrophenol	ND		5.0	0.48	ug/L		11/09/20 07:23	11/16/20 21:46	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		11/09/20 07:23	11/16/20 21:46	1
3-Nitroaniline	ND		10	0.48	ug/L		11/09/20 07:23	11/16/20 21:46	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		11/09/20 07:23	11/16/20 21:46	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		11/09/20 07:23	11/16/20 21:46	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		11/09/20 07:23	11/16/20 21:46	1
4-Chloroaniline	ND		5.0	0.59	ug/L		11/09/20 07:23	11/16/20 21:46	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		11/09/20 07:23	11/16/20 21:46	1
4-Methylphenol	**2.3**	**J**	10	0.36	ug/L		11/09/20 07:23	11/16/20 21:46	1
4-Nitroaniline	ND		10	0.25	ug/L		11/09/20 07:23	11/16/20 21:46	1
4-Nitrophenol	ND		10	1.5	ug/L		11/09/20 07:23	11/16/20 21:46	1
Acenaphthene	**2.2**	**J**	5.0	0.41	ug/L		11/09/20 07:23	11/16/20 21:46	1
Acenaphthylene	**8.8**		5.0	0.38	ug/L		11/09/20 07:23	11/16/20 21:46	1
Acetophenone	ND		5.0	0.54	ug/L		11/09/20 07:23	11/16/20 21:46	1

Client Sample ID: MW-2D3

Date Collected: 11/03/20 14:50
Date Received: 11/05/20 11:05

Lab Sample ID: 480-177672-5

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	**1.9**	**J**	5.0	0.28	ug/L		11/09/20 07:23	11/16/20 21:46	1
Atrazine	ND	*	5.0	0.46	ug/L		11/09/20 07:23	11/16/20 21:46	1
Benzaldehyde	ND		5.0	0.27	ug/L		11/09/20 07:23	11/16/20 21:46	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		11/09/20 07:23	11/16/20 21:46	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		11/09/20 07:23	11/16/20 21:46	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		11/09/20 07:23	11/16/20 21:46	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		11/09/20 07:23	11/16/20 21:46	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		11/09/20 07:23	11/16/20 21:46	1
Biphenyl	**1.8**	**J**	5.0	0.65	ug/L		11/09/20 07:23	11/16/20 21:46	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		11/09/20 07:23	11/16/20 21:46	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		11/09/20 07:23	11/16/20 21:46	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		11/09/20 07:23	11/16/20 21:46	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/09/20 07:23	11/16/20 21:46	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		11/09/20 07:23	11/16/20 21:46	1
Caprolactam	ND		5.0	2.2	ug/L		11/09/20 07:23	11/16/20 21:46	1
Carbazole	**5.6**		5.0	0.30	ug/L		11/09/20 07:23	11/16/20 21:46	1
Chrysene	ND		5.0	0.33	ug/L		11/09/20 07:23	11/16/20 21:46	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		11/09/20 07:23	11/16/20 21:46	1
Dibenzofuran	**6.7**	**J**	10	0.51	ug/L		11/09/20 07:23	11/16/20 21:46	1
Diethyl phthalate	ND		5.0	0.22	ug/L		11/09/20 07:23	11/16/20 21:46	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		11/09/20 07:23	11/16/20 21:46	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		11/09/20 07:23	11/16/20 21:46	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		11/09/20 07:23	11/16/20 21:46	1
Fluoranthene	**2.0**	**J**	5.0	0.40	ug/L		11/09/20 07:23	11/16/20 21:46	1
Fluorene	**12**		5.0	0.36	ug/L		11/09/20 07:23	11/16/20 21:46	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		11/09/20 07:23	11/16/20 21:46	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		11/09/20 07:23	11/16/20 21:46	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		11/09/20 07:23	11/16/20 21:46	1
Hexachloroethane	ND		5.0	0.59	ug/L		11/09/20 07:23	11/16/20 21:46	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		11/09/20 07:23	11/16/20 21:46	1
Isophorone	ND		5.0	0.43	ug/L		11/09/20 07:23	11/16/20 21:46	1
Naphthalene	**29**		5.0	0.76	ug/L		11/09/20 07:23	11/16/20 21:46	1
Nitrobenzene	ND		5.0	0.29	ug/L		11/09/20 07:23	11/16/20 21:46	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		11/09/20 07:23	11/16/20 21:46	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		11/09/20 07:23	11/16/20 21:46	1
Pentachlorophenol	ND		10	2.2	ug/L		11/09/20 07:23	11/16/20 21:46	1
Phenanthrene	**17**		5.0	0.44	ug/L		11/09/20 07:23	11/16/20 21:46	1
Phenol	ND		5.0	0.39	ug/L		11/09/20 07:23	11/16/20 21:46	1
Pyrene	**1.1**	**J**	5.0	0.34	ug/L		11/09/20 07:23	11/16/20 21:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*111*		*41 - 120*	*11/09/20 07:23*	*11/16/20 21:46*	*1*
2-Fluorobiphenyl	*105*		*48 - 120*	*11/09/20 07:23*	*11/16/20 21:46*	*1*
2-Fluorophenol (Surr)	*75*		*35 - 120*	*11/09/20 07:23*	*11/16/20 21:46*	*1*
Nitrobenzene-d5 (Surr)	*92*		*46 - 120*	*11/09/20 07:23*	*11/16/20 21:46*	*1*
Phenol-d5 (Surr)	*55*		*22 - 120*	*11/09/20 07:23*	*11/16/20 21:46*	*1*
p-Terphenyl-d14 (Surr)	*101*		*60 - 148*	*11/09/20 07:23*	*11/16/20 21:46*	*1*

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177672-1

Client Sample ID: MW-2D4

Date Collected: 11/03/20 14:00
Date Received: 11/05/20 11:05

Lab Sample ID: 480-177672-6

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		5.0	3.8	ug/L			11/10/20 00:41	5
1,3,5-Trimethylbenzene	ND		5.0	3.9	ug/L			11/10/20 00:41	5
4-Isopropyltoluene	ND		5.0	1.6	ug/L			11/10/20 00:41	5
Benzene	**2.5**	**J**	5.0	2.1	ug/L			11/10/20 00:41	5
Ethylbenzene	ND		5.0	3.7	ug/L			11/10/20 00:41	5
Isopropylbenzene	ND		5.0	4.0	ug/L			11/10/20 00:41	5
Methyl tert-butyl ether	ND		5.0	0.80	ug/L			11/10/20 00:41	5
m-Xylene & p-Xylene	ND		10	3.3	ug/L			11/10/20 00:41	5
n-Butylbenzene	ND		5.0	3.2	ug/L			11/10/20 00:41	5
N-Propylbenzene	ND		5.0	3.5	ug/L			11/10/20 00:41	5
o-Xylene	ND		5.0	3.8	ug/L			11/10/20 00:41	5
sec-Butylbenzene	ND		5.0	3.8	ug/L			11/10/20 00:41	5
tert-Butylbenzene	ND		5.0	4.1	ug/L			11/10/20 00:41	5
Toluene	ND		5.0	2.6	ug/L			11/10/20 00:41	5
Xylenes, Total	ND		10	3.3	ug/L			11/10/20 00:41	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*77 - 120*		*11/10/20 00:41*	*5*
4-Bromofluorobenzene (Surr)	*110*		*73 - 120*		*11/10/20 00:41*	*5*
Dibromofluoromethane (Surr)	*116*		*75 - 123*		*11/10/20 00:41*	*5*
Toluene-d8 (Surr)	*104*		*80 - 120*		*11/10/20 00:41*	*5*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		11/09/20 07:23	11/13/20 20:48	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		11/09/20 07:23	11/13/20 20:48	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		11/09/20 07:23	11/13/20 20:48	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		11/09/20 07:23	11/13/20 20:48	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		11/09/20 07:23	11/13/20 20:48	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		11/09/20 07:23	11/13/20 20:48	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		11/09/20 07:23	11/13/20 20:48	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		11/09/20 07:23	11/13/20 20:48	1
2-Chlorophenol	ND		5.0	0.53	ug/L		11/09/20 07:23	11/13/20 20:48	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		11/09/20 07:23	11/13/20 20:48	1
2-Methylphenol	ND		5.0	0.40	ug/L		11/09/20 07:23	11/13/20 20:48	1
2-Nitroaniline	ND		10	0.42	ug/L		11/09/20 07:23	11/13/20 20:48	1
2-Nitrophenol	ND		5.0	0.48	ug/L		11/09/20 07:23	11/13/20 20:48	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		11/09/20 07:23	11/13/20 20:48	1
3-Nitroaniline	ND		10	0.48	ug/L		11/09/20 07:23	11/13/20 20:48	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		11/09/20 07:23	11/13/20 20:48	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		11/09/20 07:23	11/13/20 20:48	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		11/09/20 07:23	11/13/20 20:48	1
4-Chloroaniline	ND		5.0	0.59	ug/L		11/09/20 07:23	11/13/20 20:48	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		11/09/20 07:23	11/13/20 20:48	1
4-Methylphenol	ND		10	0.36	ug/L		11/09/20 07:23	11/13/20 20:48	1
4-Nitroaniline	ND		10	0.25	ug/L		11/09/20 07:23	11/13/20 20:48	1
4-Nitrophenol	ND		10	1.5	ug/L		11/09/20 07:23	11/13/20 20:48	1
Acenaphthene	ND		5.0	0.41	ug/L		11/09/20 07:23	11/13/20 20:48	1
Acenaphthylene	ND		5.0	0.38	ug/L		11/09/20 07:23	11/13/20 20:48	1
Acetophenone	ND		5.0	0.54	ug/L		11/09/20 07:23	11/13/20 20:48	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177672-1

Client Sample ID: MW-2D4
Date Collected: 11/03/20 14:00
Date Received: 11/05/20 11:05

Lab Sample ID: 480-177672-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		5.0	0.28	ug/L		11/09/20 07:23	11/13/20 20:48	1
Atrazine	ND	*	5.0	0.46	ug/L		11/09/20 07:23	11/13/20 20:48	1
Benzaldehyde	ND		5.0	0.27	ug/L		11/09/20 07:23	11/13/20 20:48	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		11/09/20 07:23	11/13/20 20:48	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		11/09/20 07:23	11/13/20 20:48	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		11/09/20 07:23	11/13/20 20:48	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		11/09/20 07:23	11/13/20 20:48	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		11/09/20 07:23	11/13/20 20:48	1
Biphenyl	ND		5.0	0.65	ug/L		11/09/20 07:23	11/13/20 20:48	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		11/09/20 07:23	11/13/20 20:48	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		11/09/20 07:23	11/13/20 20:48	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		11/09/20 07:23	11/13/20 20:48	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/09/20 07:23	11/13/20 20:48	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		11/09/20 07:23	11/13/20 20:48	1
Caprolactam	ND		5.0	2.2	ug/L		11/09/20 07:23	11/13/20 20:48	1
Carbazole	ND		5.0	0.30	ug/L		11/09/20 07:23	11/13/20 20:48	1
Chrysene	ND		5.0	0.33	ug/L		11/09/20 07:23	11/13/20 20:48	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		11/09/20 07:23	11/13/20 20:48	1
Dibenzofuran	ND		10	0.51	ug/L		11/09/20 07:23	11/13/20 20:48	1
Diethyl phthalate	ND		5.0	0.22	ug/L		11/09/20 07:23	11/13/20 20:48	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		11/09/20 07:23	11/13/20 20:48	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		11/09/20 07:23	11/13/20 20:48	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		11/09/20 07:23	11/13/20 20:48	1
Fluoranthene	ND		5.0	0.40	ug/L		11/09/20 07:23	11/13/20 20:48	1
Fluorene	ND		5.0	0.36	ug/L		11/09/20 07:23	11/13/20 20:48	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		11/09/20 07:23	11/13/20 20:48	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		11/09/20 07:23	11/13/20 20:48	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		11/09/20 07:23	11/13/20 20:48	1
Hexachloroethane	ND		5.0	0.59	ug/L		11/09/20 07:23	11/13/20 20:48	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		11/09/20 07:23	11/13/20 20:48	1
Isophorone	ND		5.0	0.43	ug/L		11/09/20 07:23	11/13/20 20:48	1
Naphthalene	ND		5.0	0.76	ug/L		11/09/20 07:23	11/13/20 20:48	1
Nitrobenzene	ND		5.0	0.29	ug/L		11/09/20 07:23	11/13/20 20:48	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		11/09/20 07:23	11/13/20 20:48	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		11/09/20 07:23	11/13/20 20:48	1
Pentachlorophenol	ND		10	2.2	ug/L		11/09/20 07:23	11/13/20 20:48	1
Phenanthrene	ND		5.0	0.44	ug/L		11/09/20 07:23	11/13/20 20:48	1
Phenol	ND		5.0	0.39	ug/L		11/09/20 07:23	11/13/20 20:48	1
Pyrene	ND		5.0	0.34	ug/L		11/09/20 07:23	11/13/20 20:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*134*	*X*	*41 - 120*	*11/09/20 07:23*	*11/13/20 20:48*	*1*
2-Fluorobiphenyl	*105*		*48 - 120*	*11/09/20 07:23*	*11/13/20 20:48*	*1*
2-Fluorophenol (Surr)	*73*		*35 - 120*	*11/09/20 07:23*	*11/13/20 20:48*	*1*
Nitrobenzene-d5 (Surr)	*102*		*46 - 120*	*11/09/20 07:23*	*11/13/20 20:48*	*1*
Phenol-d5 (Surr)	*53*		*22 - 120*	*11/09/20 07:23*	*11/13/20 20:48*	*1*
p-Terphenyl-d14 (Surr)	*76*		*60 - 148*	*11/09/20 07:23*	*11/13/20 20:48*	*1*

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177672-1

Client Sample ID: MWS-11A

Date Collected: 11/03/20 13:25
Date Received: 11/05/20 11:05

Lab Sample ID: 480-177672-7

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	**2.1**		2.0	1.5	ug/L			11/10/20 01:05	2
1,3,5-Trimethylbenzene	ND		2.0	1.5	ug/L			11/10/20 01:05	2
4-Isopropyltoluene	ND		2.0	0.62	ug/L			11/10/20 01:05	2
Benzene	**2.1**		2.0	0.82	ug/L			11/10/20 01:05	2
Ethylbenzene	ND		2.0	1.5	ug/L			11/10/20 01:05	2
Isopropylbenzene	ND		2.0	1.6	ug/L			11/10/20 01:05	2
Methyl tert-butyl ether	ND		2.0	0.32	ug/L			11/10/20 01:05	2
m-Xylene & p-Xylene	**3.8**	**J**	4.0	1.3	ug/L			11/10/20 01:05	2
n-Butylbenzene	ND		2.0	1.3	ug/L			11/10/20 01:05	2
N-Propylbenzene	ND		2.0	1.4	ug/L			11/10/20 01:05	2
o-Xylene	**1.9**	**J**	2.0	1.5	ug/L			11/10/20 01:05	2
sec-Butylbenzene	ND		2.0	1.5	ug/L			11/10/20 01:05	2
tert-Butylbenzene	ND		2.0	1.6	ug/L			11/10/20 01:05	2
Toluene	**2.2**		2.0	1.0	ug/L			11/10/20 01:05	2
Xylenes, Total	**5.7**		4.0	1.3	ug/L			11/10/20 01:05	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*77 - 120*		*11/10/20 01:05*	*2*
4-Bromofluorobenzene (Surr)	*111*		*73 - 120*		*11/10/20 01:05*	*2*
Dibromofluoromethane (Surr)	*115*		*75 - 123*		*11/10/20 01:05*	*2*
Toluene-d8 (Surr)	*101*		*80 - 120*		*11/10/20 01:05*	*2*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		25	2.4	ug/L		11/09/20 07:23	11/16/20 22:14	5
2,4,6-Trichlorophenol	ND		25	3.1	ug/L		11/09/20 07:23	11/16/20 22:14	5
2,4-Dichlorophenol	ND		25	2.6	ug/L		11/09/20 07:23	11/16/20 22:14	5
2,4-Dimethylphenol	**4.4**	**J**	25	2.5	ug/L		11/09/20 07:23	11/16/20 22:14	5
2,4-Dinitrophenol	ND		50	11	ug/L		11/09/20 07:23	11/16/20 22:14	5
2,4-Dinitrotoluene	ND		25	2.2	ug/L		11/09/20 07:23	11/16/20 22:14	5
2,6-Dinitrotoluene	ND		25	2.0	ug/L		11/09/20 07:23	11/16/20 22:14	5
2-Chloronaphthalene	ND		25	2.3	ug/L		11/09/20 07:23	11/16/20 22:14	5
2-Chlorophenol	ND		25	2.7	ug/L		11/09/20 07:23	11/16/20 22:14	5
2-Methylnaphthalene	**20**	**J**	25	3.0	ug/L		11/09/20 07:23	11/16/20 22:14	5
2-Methylphenol	**6.7**	**J**	25	2.0	ug/L		11/09/20 07:23	11/16/20 22:14	5
2-Nitroaniline	ND		50	2.1	ug/L		11/09/20 07:23	11/16/20 22:14	5
2-Nitrophenol	ND		25	2.4	ug/L		11/09/20 07:23	11/16/20 22:14	5
3,3'-Dichlorobenzidine	ND		25	2.0	ug/L		11/09/20 07:23	11/16/20 22:14	5
3-Nitroaniline	ND		50	2.4	ug/L		11/09/20 07:23	11/16/20 22:14	5
4,6-Dinitro-2-methylphenol	ND		50	11	ug/L		11/09/20 07:23	11/16/20 22:14	5
4-Bromophenyl phenyl ether	ND		25	2.3	ug/L		11/09/20 07:23	11/16/20 22:14	5
4-Chloro-3-methylphenol	ND		25	2.3	ug/L		11/09/20 07:23	11/16/20 22:14	5
4-Chloroaniline	ND		25	3.0	ug/L		11/09/20 07:23	11/16/20 22:14	5
4-Chlorophenyl phenyl ether	ND		25	1.8	ug/L		11/09/20 07:23	11/16/20 22:14	5
4-Methylphenol	**13**	**J**	50	1.8	ug/L		11/09/20 07:23	11/16/20 22:14	5
4-Nitroaniline	ND		50	1.3	ug/L		11/09/20 07:23	11/16/20 22:14	5
4-Nitrophenol	ND		50	7.6	ug/L		11/09/20 07:23	11/16/20 22:14	5
Acenaphthene	**4.9**	**J**	25	2.1	ug/L		11/09/20 07:23	11/16/20 22:14	5
Acenaphthylene	**9.0**	**J**	25	1.9	ug/L		11/09/20 07:23	11/16/20 22:14	5
Acetophenone	ND		25	2.7	ug/L		11/09/20 07:23	11/16/20 22:14	5

Client Sample ID: MWS-11A

Date Collected: 11/03/20 13:25
Date Received: 11/05/20 11:05

Lab Sample ID: 480-177672-7

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		25	1.4	ug/L		11/09/20 07:23	11/16/20 22:14	5
Atrazine	ND	*	25	2.3	ug/L		11/09/20 07:23	11/16/20 22:14	5
Benzaldehyde	ND		25	1.3	ug/L		11/09/20 07:23	11/16/20 22:14	5
Benzo[a]anthracene	ND		25	1.8	ug/L		11/09/20 07:23	11/16/20 22:14	5
Benzo[a]pyrene	ND		25	2.4	ug/L		11/09/20 07:23	11/16/20 22:14	5
Benzo[b]fluoranthene	ND		25	1.7	ug/L		11/09/20 07:23	11/16/20 22:14	5
Benzo[g,h,i]perylene	ND		25	1.8	ug/L		11/09/20 07:23	11/16/20 22:14	5
Benzo[k]fluoranthene	ND		25	3.7	ug/L		11/09/20 07:23	11/16/20 22:14	5
Biphenyl	**4.0**	**J**	25	3.3	ug/L		11/09/20 07:23	11/16/20 22:14	5
bis (2-chloroisopropyl) ether	ND		25	2.6	ug/L		11/09/20 07:23	11/16/20 22:14	5
Bis(2-chloroethoxy)methane	ND		25	1.8	ug/L		11/09/20 07:23	11/16/20 22:14	5
Bis(2-chloroethyl)ether	ND		25	2.0	ug/L		11/09/20 07:23	11/16/20 22:14	5
Bis(2-ethylhexyl) phthalate	ND		25	11	ug/L		11/09/20 07:23	11/16/20 22:14	5
Butyl benzyl phthalate	ND		25	5.0	ug/L		11/09/20 07:23	11/16/20 22:14	5
Caprolactam	ND		25	11	ug/L		11/09/20 07:23	11/16/20 22:14	5
Carbazole	**6.4**	**J**	25	1.5	ug/L		11/09/20 07:23	11/16/20 22:14	5
Chrysene	ND		25	1.7	ug/L		11/09/20 07:23	11/16/20 22:14	5
Dibenz(a,h)anthracene	ND		25	2.1	ug/L		11/09/20 07:23	11/16/20 22:14	5
Dibenzofuran	**9.0**	**J**	50	2.6	ug/L		11/09/20 07:23	11/16/20 22:14	5
Diethyl phthalate	ND		25	1.1	ug/L		11/09/20 07:23	11/16/20 22:14	5
Dimethyl phthalate	ND		25	1.8	ug/L		11/09/20 07:23	11/16/20 22:14	5
Di-n-butyl phthalate	ND		25	1.6	ug/L		11/09/20 07:23	11/16/20 22:14	5
Di-n-octyl phthalate	ND		25	2.4	ug/L		11/09/20 07:23	11/16/20 22:14	5
Fluoranthene	**3.0**	**J**	25	2.0	ug/L		11/09/20 07:23	11/16/20 22:14	5
Fluorene	**7.8**	**J**	25	1.8	ug/L		11/09/20 07:23	11/16/20 22:14	5
Hexachlorobenzene	ND		25	2.6	ug/L		11/09/20 07:23	11/16/20 22:14	5
Hexachlorobutadiene	ND		25	3.4	ug/L		11/09/20 07:23	11/16/20 22:14	5
Hexachlorocyclopentadiene	ND		25	3.0	ug/L		11/09/20 07:23	11/16/20 22:14	5
Hexachloroethane	ND		25	3.0	ug/L		11/09/20 07:23	11/16/20 22:14	5
Indeno[1,2,3-cd]pyrene	ND		25	2.4	ug/L		11/09/20 07:23	11/16/20 22:14	5
Isophorone	ND		25	2.2	ug/L		11/09/20 07:23	11/16/20 22:14	5
Naphthalene	**120**		25	3.8	ug/L		11/09/20 07:23	11/16/20 22:14	5
Nitrobenzene	ND		25	1.5	ug/L		11/09/20 07:23	11/16/20 22:14	5
N-Nitrosodi-n-propylamine	ND		25	2.7	ug/L		11/09/20 07:23	11/16/20 22:14	5
N-Nitrosodiphenylamine	ND		25	2.6	ug/L		11/09/20 07:23	11/16/20 22:14	5
Pentachlorophenol	ND		50	11	ug/L		11/09/20 07:23	11/16/20 22:14	5
Phenanthrene	**11**	**J**	25	2.2	ug/L		11/09/20 07:23	11/16/20 22:14	5
Phenol	**3.1**	**J**	25	2.0	ug/L		11/09/20 07:23	11/16/20 22:14	5
Pyrene	**1.8**	**J**	25	1.7	ug/L		11/09/20 07:23	11/16/20 22:14	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*96*		*41 - 120*	*11/09/20 07:23*	*11/16/20 22:14*	*5*
2-Fluorobiphenyl	*100*		*48 - 120*	*11/09/20 07:23*	*11/16/20 22:14*	*5*
2-Fluorophenol (Surr)	*71*		*35 - 120*	*11/09/20 07:23*	*11/16/20 22:14*	*5*
Nitrobenzene-d5 (Surr)	*88*		*46 - 120*	*11/09/20 07:23*	*11/16/20 22:14*	*5*
Phenol-d5 (Surr)	*50*		*22 - 120*	*11/09/20 07:23*	*11/16/20 22:14*	*5*
p-Terphenyl-d14 (Surr)	*94*		*60 - 148*	*11/09/20 07:23*	*11/16/20 22:14*	*5*

Surrogate Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177672-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
		DCA	DCA	BFB	BFB	DBFM	DBFM	TOL	TOL
Lab Sample ID	Client Sample ID	(77-120)	(77-120)	(73-120)	(73-120)	(75-123)	(75-123)	(80-120)	(80-120)
480-177672-1	MW-1D3	105	105	108	108	116	116	102	102
480-177672-2	MW-1D4	102	102	111	111	110	110	104	104
480-177672-3	MW-1D6	102	102	107	107	113	113	100	100
480-177672-4	MW-2D2	103	103	106	106	112	112	101	101
480-177672-5	MW-2D3	109	109	110	110	119	119	103	103
480-177672-6	MW-2D4	110	110	110	110	116	116	104	104
480-177672-7	MWS-11A	109	109	111	111	115	115	101	101
LCS 480-558155/6	Lab Control Sample	110	110	109	109	120	120	103	103
MB 480-558155/8	Method Blank	105	105	109	109	116	116	103	103

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
		TBP	FBP	2FP	NBZ	PHL	TPHd14		
Lab Sample ID	Client Sample ID	(41-120)	(48-120)	(35-120)	(46-120)	(22-120)	(60-148)		
480-177672-1	MW-1D3	118	115	84	102	61	113		
480-177672-2	MW-1D4	142 X	105	71	104	53	100		
480-177672-3	MW-1D6	150 X	110	76	106	57	104		
480-177672-4	MW-2D2	142 X	113	76	109	56	95		
480-177672-5	MW-2D3	111	105	75	92	55	101		
480-177672-6	MW-2D4	134 X	105	73	102	53	76		
480-177672-7	MWS-11A	96	100	71	88	50	94		
LCS 480-558052/2-A	Lab Control Sample	113	111	90	98	69	118		
LCSD 480-558052/3-A	Lab Control Sample Dup	124 X	113	91	102	71	120		
MB 480-558052/1-A	Method Blank	92	110	81	97	59	114		

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-558155/8
Matrix: Water
Analysis Batch: 558155

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			11/09/20 22:22	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			11/09/20 22:22	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			11/09/20 22:22	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			11/09/20 22:22	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			11/09/20 22:22	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/09/20 22:22	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			11/09/20 22:22	1
4-Isopropyltoluene	ND		1.0	0.31	ug/L			11/09/20 22:22	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			11/09/20 22:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			11/09/20 22:22	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			11/09/20 22:22	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			11/09/20 22:22	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			11/09/20 22:22	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			11/09/20 22:22	1
m-Xylene & p-Xylene	ND		2.0	0.66	ug/L			11/09/20 22:22	1
n-Butylbenzene	ND		1.0	0.64	ug/L			11/09/20 22:22	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			11/09/20 22:22	1
N-Propylbenzene	ND		1.0	0.69	ug/L			11/09/20 22:22	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			11/09/20 22:22	1
o-Xylene	ND		1.0	0.76	ug/L			11/09/20 22:22	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			11/09/20 22:22	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			11/09/20 22:22	1
2-Butanone (MEK)	ND		10	1.3	ug/L			11/09/20 22:22	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			11/09/20 22:22	1
2-Hexanone	ND		5.0	1.2	ug/L			11/09/20 22:22	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			11/09/20 22:22	1
Acetone	ND		10	3.0	ug/L			11/09/20 22:22	1
Benzene	ND		1.0	0.41	ug/L			11/09/20 22:22	1
Bromodichloromethane	ND		1.0	0.39	ug/L			11/09/20 22:22	1
Bromoform	ND		1.0	0.26	ug/L			11/09/20 22:22	1
Bromomethane	ND		1.0	0.69	ug/L			11/09/20 22:22	1
Carbon disulfide	ND		1.0	0.19	ug/L			11/09/20 22:22	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			11/09/20 22:22	1
Chlorobenzene	ND		1.0	0.75	ug/L			11/09/20 22:22	1
Chloroethane	ND		1.0	0.32	ug/L			11/09/20 22:22	1
Chloroform	ND		1.0	0.34	ug/L			11/09/20 22:22	1
Chloromethane	ND		1.0	0.35	ug/L			11/09/20 22:22	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			11/09/20 22:22	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			11/09/20 22:22	1
Cyclohexane	ND		1.0	0.18	ug/L			11/09/20 22:22	1
Dibromochloromethane	ND		1.0	0.32	ug/L			11/09/20 22:22	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			11/09/20 22:22	1
Ethylbenzene	ND		1.0	0.74	ug/L			11/09/20 22:22	1
Isopropylbenzene	ND		1.0	0.79	ug/L			11/09/20 22:22	1
Methyl acetate	ND		2.5	1.3	ug/L			11/09/20 22:22	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			11/09/20 22:22	1
Methylcyclohexane	ND		1.0	0.16	ug/L			11/09/20 22:22	1
Methylene Chloride	ND		1.0	0.44	ug/L			11/09/20 22:22	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-558155/8
Matrix: Water
Analysis Batch: 558155

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		1.0	0.73	ug/L			11/09/20 22:22	1
Tetrachloroethene	ND		1.0	0.36	ug/L			11/09/20 22:22	1
Toluene	ND		1.0	0.51	ug/L			11/09/20 22:22	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			11/09/20 22:22	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			11/09/20 22:22	1
Trichloroethene	ND		1.0	0.46	ug/L			11/09/20 22:22	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			11/09/20 22:22	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/09/20 22:22	1
Xylenes, Total	ND		2.0	0.66	ug/L			11/09/20 22:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*77 - 120*		*11/09/20 22:22*	*1*
4-Bromofluorobenzene (Surr)	*109*		*73 - 120*		*11/09/20 22:22*	*1*
Dibromofluoromethane (Surr)	*116*		*75 - 123*		*11/09/20 22:22*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*11/09/20 22:22*	*1*

Lab Sample ID: LCS 480-558155/6
Matrix: Water
Analysis Batch: 558155

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	29.6		ug/L		118	73 - 126
1,2,4-Trimethylbenzene	25.0	26.0		ug/L		104	76 - 121
1,1,2,2-Tetrachloroethane	25.0	25.4		ug/L		102	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	27.8		ug/L		111	61 - 148
1,3,5-Trimethylbenzene	25.0	25.7		ug/L		103	77 - 121
1,1,2-Trichloroethane	25.0	25.8		ug/L		103	76 - 122
1,1-Dichloroethane	25.0	26.1		ug/L		105	77 - 120
4-Isopropyltoluene	25.0	26.7		ug/L		107	73 - 120
1,1-Dichloroethene	25.0	28.8		ug/L		115	66 - 127
1,2,4-Trichlorobenzene	25.0	27.1		ug/L		108	79 - 122
1,2-Dibromo-3-Chloropropane	25.0	25.4		ug/L		102	56 - 134
1,2-Dibromoethane	25.0	25.8		ug/L		103	77 - 120
1,2-Dichlorobenzene	25.0	26.0		ug/L		104	80 - 124
1,2-Dichloroethane	25.0	27.2		ug/L		109	75 - 120
m-Xylene & p-Xylene	25.0	26.2		ug/L		105	76 - 122
n-Butylbenzene	25.0	25.3		ug/L		101	71 - 128
1,2-Dichloropropane	25.0	26.3		ug/L		105	76 - 120
N-Propylbenzene	25.0	24.2		ug/L		97	75 - 127
1,3-Dichlorobenzene	25.0	25.3		ug/L		101	77 - 120
o-Xylene	25.0	27.1		ug/L		108	76 - 122
1,4-Dichlorobenzene	25.0	25.2		ug/L		101	80 - 120
sec-Butylbenzene	25.0	25.6		ug/L		102	74 - 127
2-Butanone (MEK)	125	123		ug/L		98	57 - 140
tert-Butylbenzene	25.0	25.0		ug/L		100	75 - 123
2-Hexanone	125	118		ug/L		94	65 - 127
4-Methyl-2-pentanone (MIBK)	125	120		ug/L		96	71 - 125
Acetone	125	125		ug/L		100	56 - 142

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-558155/6
Matrix: Water
Analysis Batch: 558155

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	26.6		ug/L		106	71 - 124
Bromodichloromethane	25.0	26.5		ug/L		106	80 - 122
Bromoform	25.0	26.8		ug/L		107	61 - 132
Bromomethane	25.0	27.0		ug/L		108	55 - 144
Carbon disulfide	25.0	25.9		ug/L		103	59 - 134
Carbon tetrachloride	25.0	29.4		ug/L		117	72 - 134
Chlorobenzene	25.0	27.2		ug/L		109	80 - 120
Chloroethane	25.0	23.2		ug/L		93	69 - 136
Chloroform	25.0	26.9		ug/L		108	73 - 127
Chloromethane	25.0	22.3		ug/L		89	68 - 124
cis-1,2-Dichloroethene	25.0	27.8		ug/L		111	74 - 124
cis-1,3-Dichloropropene	25.0	25.7		ug/L		103	74 - 124
Cyclohexane	25.0	27.1		ug/L		108	59 - 135
Dibromochloromethane	25.0	28.1		ug/L		112	75 - 125
Dichlorodifluoromethane	25.0	24.3		ug/L		97	59 - 135
Ethylbenzene	25.0	26.3		ug/L		105	77 - 123
Isopropylbenzene	25.0	25.3		ug/L		101	77 - 122
Methyl acetate	50.0	50.5		ug/L		101	74 - 133
Methyl tert-butyl ether	25.0	27.9		ug/L		112	77 - 120
Methylcyclohexane	25.0	27.6		ug/L		110	68 - 134
Methylene Chloride	25.0	27.2		ug/L		109	75 - 124
Styrene	25.0	26.4		ug/L		106	80 - 120
Tetrachloroethene	25.0	28.6		ug/L		114	74 - 122
Toluene	25.0	26.3		ug/L		105	80 - 122
trans-1,2-Dichloroethene	25.0	29.5		ug/L		118	73 - 127
trans-1,3-Dichloropropene	25.0	25.6		ug/L		102	80 - 120
Trichloroethene	25.0	26.0		ug/L		104	74 - 123
Trichlorofluoromethane	25.0	29.6		ug/L		119	62 - 150
Vinyl chloride	25.0	23.5		ug/L		94	65 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*110*		*77 - 120*
4-Bromofluorobenzene (Surr)	*109*		*73 - 120*
Dibromofluoromethane (Surr)	*120*		*75 - 123*
Toluene-d8 (Surr)	*103*		*80 - 120*

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

Lab Sample ID: MB 480-558052/1-A
Matrix: Water
Analysis Batch: 559332

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 558052

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		11/09/20 07:23	11/16/20 19:52	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		11/09/20 07:23	11/16/20 19:52	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		11/09/20 07:23	11/16/20 19:52	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		11/09/20 07:23	11/16/20 19:52	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		11/09/20 07:23	11/16/20 19:52	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		11/09/20 07:23	11/16/20 19:52	1

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

Lab Sample ID: MB 480-558052/1-A
Matrix: Water
Analysis Batch: 559332

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 558052

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		11/09/20 07:23	11/16/20 19:52	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		11/09/20 07:23	11/16/20 19:52	1
2-Chlorophenol	ND		5.0	0.53	ug/L		11/09/20 07:23	11/16/20 19:52	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		11/09/20 07:23	11/16/20 19:52	1
2-Methylphenol	ND		5.0	0.40	ug/L		11/09/20 07:23	11/16/20 19:52	1
2-Nitroaniline	ND		10	0.42	ug/L		11/09/20 07:23	11/16/20 19:52	1
2-Nitrophenol	ND		5.0	0.48	ug/L		11/09/20 07:23	11/16/20 19:52	1
3,3'-Dichlorobenzidine	ND		5.0	0.40	ug/L		11/09/20 07:23	11/16/20 19:52	1
3-Nitroaniline	ND		10	0.48	ug/L		11/09/20 07:23	11/16/20 19:52	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		11/09/20 07:23	11/16/20 19:52	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		11/09/20 07:23	11/16/20 19:52	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		11/09/20 07:23	11/16/20 19:52	1
4-Chloroaniline	ND		5.0	0.59	ug/L		11/09/20 07:23	11/16/20 19:52	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		11/09/20 07:23	11/16/20 19:52	1
4-Methylphenol	ND		10	0.36	ug/L		11/09/20 07:23	11/16/20 19:52	1
4-Nitroaniline	ND		10	0.25	ug/L		11/09/20 07:23	11/16/20 19:52	1
4-Nitrophenol	ND		10	1.5	ug/L		11/09/20 07:23	11/16/20 19:52	1
Acenaphthene	ND		5.0	0.41	ug/L		11/09/20 07:23	11/16/20 19:52	1
Acenaphthylene	ND		5.0	0.38	ug/L		11/09/20 07:23	11/16/20 19:52	1
Acetophenone	ND		5.0	0.54	ug/L		11/09/20 07:23	11/16/20 19:52	1
Anthracene	ND		5.0	0.28	ug/L		11/09/20 07:23	11/16/20 19:52	1
Atrazine	ND		5.0	0.46	ug/L		11/09/20 07:23	11/16/20 19:52	1
Benzaldehyde	ND		5.0	0.27	ug/L		11/09/20 07:23	11/16/20 19:52	1
Benzo[a]anthracene	ND		5.0	0.36	ug/L		11/09/20 07:23	11/16/20 19:52	1
Benzo[a]pyrene	ND		5.0	0.47	ug/L		11/09/20 07:23	11/16/20 19:52	1
Benzo[b]fluoranthene	ND		5.0	0.34	ug/L		11/09/20 07:23	11/16/20 19:52	1
Benzo[g,h,i]perylene	ND		5.0	0.35	ug/L		11/09/20 07:23	11/16/20 19:52	1
Benzo[k]fluoranthene	ND		5.0	0.73	ug/L		11/09/20 07:23	11/16/20 19:52	1
Biphenyl	ND		5.0	0.65	ug/L		11/09/20 07:23	11/16/20 19:52	1
bis (2-chloroisopropyl) ether	ND		5.0	0.52	ug/L		11/09/20 07:23	11/16/20 19:52	1
Bis(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		11/09/20 07:23	11/16/20 19:52	1
Bis(2-chloroethyl)ether	ND		5.0	0.40	ug/L		11/09/20 07:23	11/16/20 19:52	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/09/20 07:23	11/16/20 19:52	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		11/09/20 07:23	11/16/20 19:52	1
Caprolactam	ND		5.0	2.2	ug/L		11/09/20 07:23	11/16/20 19:52	1
Carbazole	ND		5.0	0.30	ug/L		11/09/20 07:23	11/16/20 19:52	1
Chrysene	ND		5.0	0.33	ug/L		11/09/20 07:23	11/16/20 19:52	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		11/09/20 07:23	11/16/20 19:52	1
Dibenzofuran	ND		10	0.51	ug/L		11/09/20 07:23	11/16/20 19:52	1
Diethyl phthalate	ND		5.0	0.22	ug/L		11/09/20 07:23	11/16/20 19:52	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		11/09/20 07:23	11/16/20 19:52	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		11/09/20 07:23	11/16/20 19:52	1
Di-n-octyl phthalate	0.877	J	5.0	0.47	ug/L		11/09/20 07:23	11/16/20 19:52	1
Fluoranthene	ND		5.0	0.40	ug/L		11/09/20 07:23	11/16/20 19:52	1
Fluorene	ND		5.0	0.36	ug/L		11/09/20 07:23	11/16/20 19:52	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		11/09/20 07:23	11/16/20 19:52	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		11/09/20 07:23	11/16/20 19:52	1
Hexachlorocyclopentadiene	ND		5.0	0.59	ug/L		11/09/20 07:23	11/16/20 19:52	1
Hexachloroethane	ND		5.0	0.59	ug/L		11/09/20 07:23	11/16/20 19:52	1

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

Lab Sample ID: MB 480-558052/1-A
Matrix: Water
Analysis Batch: 559332

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 558052

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND		5.0	0.47	ug/L		11/09/20 07:23	11/16/20 19:52	1
Isophorone	ND		5.0	0.43	ug/L		11/09/20 07:23	11/16/20 19:52	1
Naphthalene	ND		5.0	0.76	ug/L		11/09/20 07:23	11/16/20 19:52	1
Nitrobenzene	ND		5.0	0.29	ug/L		11/09/20 07:23	11/16/20 19:52	1
N-Nitrosodi-n-propylamine	ND		5.0	0.54	ug/L		11/09/20 07:23	11/16/20 19:52	1
N-Nitrosodiphenylamine	ND		5.0	0.51	ug/L		11/09/20 07:23	11/16/20 19:52	1
Pentachlorophenol	ND		10	2.2	ug/L		11/09/20 07:23	11/16/20 19:52	1
Phenanthrene	ND		5.0	0.44	ug/L		11/09/20 07:23	11/16/20 19:52	1
Phenol	ND		5.0	0.39	ug/L		11/09/20 07:23	11/16/20 19:52	1
Pyrene	ND		5.0	0.34	ug/L		11/09/20 07:23	11/16/20 19:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*92*		*41 - 120*	*11/09/20 07:23*	*11/16/20 19:52*	*1*
2-Fluorobiphenyl	*110*		*48 - 120*	*11/09/20 07:23*	*11/16/20 19:52*	*1*
2-Fluorophenol (Surr)	*81*		*35 - 120*	*11/09/20 07:23*	*11/16/20 19:52*	*1*
Nitrobenzene-d5 (Surr)	*97*		*46 - 120*	*11/09/20 07:23*	*11/16/20 19:52*	*1*
Phenol-d5 (Surr)	*59*		*22 - 120*	*11/09/20 07:23*	*11/16/20 19:52*	*1*
p-Terphenyl-d14 (Surr)	*114*		*60 - 148*	*11/09/20 07:23*	*11/16/20 19:52*	*1*

Lab Sample ID: LCS 480-558052/2-A
Matrix: Water
Analysis Batch: 559332

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 558052

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,5-Trichlorophenol	32.0	34.0		ug/L		106	65 - 126
2,4,6-Trichlorophenol	32.0	35.8		ug/L		112	64 - 120
2,4-Dichlorophenol	32.0	33.4		ug/L		104	63 - 120
2,4-Dimethylphenol	32.0	32.4		ug/L		101	47 - 120
2,4-Dinitrophenol	64.0	69.9		ug/L		109	31 - 137
2,4-Dinitrotoluene	32.0	35.6		ug/L		111	69 - 120
2,6-Dinitrotoluene	32.0	35.3		ug/L		110	68 - 120
2-Chloronaphthalene	32.0	30.8		ug/L		96	58 - 120
2-Chlorophenol	32.0	31.0		ug/L		97	48 - 120
2-Methylnaphthalene	32.0	30.5		ug/L		95	59 - 120
2-Methylphenol	32.0	28.3		ug/L		88	39 - 120
2-Nitroaniline	32.0	31.7		ug/L		99	54 - 127
2-Nitrophenol	32.0	34.0		ug/L		106	52 - 125
3,3'-Dichlorobenzidine	64.0	70.3		ug/L		110	49 - 135
3-Nitroaniline	32.0	29.7		ug/L		93	51 - 120
4,6-Dinitro-2-methylphenol	64.0	71.3		ug/L		111	46 - 136
4-Bromophenyl phenyl ether	32.0	32.7		ug/L		102	65 - 120
4-Chloro-3-methylphenol	32.0	32.9		ug/L		103	61 - 123
4-Chloroaniline	32.0	23.9		ug/L		75	30 - 120
4-Chlorophenyl phenyl ether	32.0	33.6		ug/L		105	62 - 120
4-Methylphenol	32.0	27.5		ug/L		86	29 - 131
4-Nitroaniline	32.0	31.8		ug/L		99	65 - 120
4-Nitrophenol	64.0	70.9		ug/L		111	45 - 120
Acenaphthene	32.0	31.8		ug/L		99	60 - 120

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

Lab Sample ID: LCS 480-558052/2-A
Matrix: Water
Analysis Batch: 559332

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 558052

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthylene	32.0	33.3		ug/L		104	63 - 120
Acetophenone	32.0	29.9		ug/L		93	45 - 120
Anthracene	32.0	32.2		ug/L		101	67 - 120
Atrazine	64.0	88.0	*	ug/L		138	71 - 130
Benzaldehyde	64.0	64.1		ug/L		100	10 - 140
Benzo[a]anthracene	32.0	33.3		ug/L		104	70 - 121
Benzo[a]pyrene	32.0	37.5		ug/L		117	60 - 123
Benzo[b]fluoranthene	32.0	37.8		ug/L		118	66 - 126
Benzo[g,h,i]perylene	32.0	38.0		ug/L		119	66 - 150
Benzo[k]fluoranthene	32.0	38.4		ug/L		120	65 - 124
Biphenyl	32.0	31.7		ug/L		99	59 - 120
bis (2-chloroisopropyl) ether	32.0	24.1		ug/L		75	21 - 136
Bis(2-chloroethoxy)methane	32.0	29.3		ug/L		92	50 - 128
Bis(2-chloroethyl)ether	32.0	27.4		ug/L		85	44 - 120
Bis(2-ethylhexyl) phthalate	32.0	36.0		ug/L		113	63 - 139
Butyl benzyl phthalate	32.0	35.6		ug/L		111	70 - 129
Caprolactam	64.0	28.6		ug/L		45	22 - 120
Carbazole	32.0	33.1		ug/L		103	66 - 123
Chrysene	32.0	32.4		ug/L		101	69 - 120
Dibenz(a,h)anthracene	32.0	38.5		ug/L		120	65 - 135
Dibenzofuran	32.0	32.7		ug/L		102	66 - 120
Diethyl phthalate	32.0	36.7		ug/L		115	59 - 127
Dimethyl phthalate	32.0	35.6		ug/L		111	68 - 120
Di-n-butyl phthalate	32.0	36.1		ug/L		113	69 - 131
Di-n-octyl phthalate	32.0	35.5		ug/L		111	63 - 140
Fluoranthene	32.0	34.8		ug/L		109	69 - 126
Fluorene	32.0	33.2		ug/L		104	66 - 120
Hexachlorobenzene	32.0	31.2		ug/L		98	61 - 120
Hexachlorobutadiene	32.0	26.7		ug/L		84	35 - 120
Hexachlorocyclopentadiene	32.0	23.9		ug/L		75	31 - 120
Hexachloroethane	32.0	26.0		ug/L		81	43 - 120
Indeno[1,2,3-cd]pyrene	32.0	38.1		ug/L		119	69 - 146
Isophorone	32.0	31.2		ug/L		98	55 - 120
Naphthalene	32.0	29.5		ug/L		92	57 - 120
Nitrobenzene	32.0	30.4		ug/L		95	53 - 123
N-Nitrosodi-n-propylamine	32.0	27.8		ug/L		87	32 - 140
N-Nitrosodiphenylamine	32.0	31.9		ug/L		100	61 - 120
Pentachlorophenol	64.0	61.1		ug/L		95	29 - 136
Phenanthrene	32.0	32.0		ug/L		100	68 - 120
Phenol	32.0	20.2		ug/L		63	17 - 120
Pyrene	32.0	33.8		ug/L		106	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*113*		*41 - 120*
2-Fluorobiphenyl	*111*		*48 - 120*
2-Fluorophenol (Surr)	*90*		*35 - 120*
Nitrobenzene-d5 (Surr)	*98*		*46 - 120*
Phenol-d5 (Surr)	*69*		*22 - 120*

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

Lab Sample ID: LCS 480-558052/2-A
Matrix: Water
Analysis Batch: 559332

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 558052

Surrogate	LCS %Recovery	LCS Qualifier	Limits
p-Terphenyl-d14 (Surr)	*118*		*60 - 148*

Lab Sample ID: LCSD 480-558052/3-A
Matrix: Water
Analysis Batch: 559332

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 558052

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4,5-Trichlorophenol			32.0	34.1		ug/L		107	65 - 126	0	18
2,4,6-Trichlorophenol			32.0	36.0		ug/L		112	64 - 120	1	19
2,4-Dichlorophenol			32.0	34.3		ug/L		107	63 - 120	3	19
2,4-Dimethylphenol			32.0	32.9		ug/L		103	47 - 120	1	42
2,4-Dinitrophenol			64.0	76.7		ug/L		120	31 - 137	9	22
2,4-Dinitrotoluene			32.0	36.3		ug/L		114	69 - 120	2	20
2,6-Dinitrotoluene			32.0	35.8		ug/L		112	68 - 120	1	15
2-Chloronaphthalene			32.0	31.7		ug/L		99	58 - 120	3	21
2-Chlorophenol			32.0	32.5		ug/L		101	48 - 120	5	25
2-Methylnaphthalene			32.0	31.2		ug/L		97	59 - 120	2	21
2-Methylphenol			32.0	30.7		ug/L		96	39 - 120	8	27
2-Nitroaniline			32.0	32.2		ug/L		101	54 - 127	1	15
2-Nitrophenol			32.0	34.9		ug/L		109	52 - 125	3	18
3,3'-Dichlorobenzidine			64.0	72.5		ug/L		113	49 - 135	3	25
3-Nitroaniline			32.0	31.0		ug/L		97	51 - 120	4	19
4,6-Dinitro-2-methylphenol			64.0	74.2		ug/L		116	46 - 136	4	15
4-Bromophenyl phenyl ether			32.0	34.1		ug/L		107	65 - 120	4	15
4-Chloro-3-methylphenol			32.0	33.3		ug/L		104	61 - 123	1	27
4-Chloroaniline			32.0	25.5		ug/L		80	30 - 120	6	22
4-Chlorophenyl phenyl ether			32.0	35.1		ug/L		110	62 - 120	5	16
4-Methylphenol			32.0	29.3		ug/L		92	29 - 131	6	24
4-Nitroaniline			32.0	33.5		ug/L		105	65 - 120	5	24
4-Nitrophenol			64.0	71.2		ug/L		111	45 - 120	0	48
Acenaphthene			32.0	32.3		ug/L		101	60 - 120	1	24
Acenaphthylene			32.0	33.9		ug/L		106	63 - 120	2	18
Acetophenone			32.0	31.3		ug/L		98	45 - 120	4	20
Anthracene			32.0	34.0		ug/L		106	67 - 120	6	15
Atrazine			64.0	90.2	*	ug/L		141	71 - 130	2	20
Benzaldehyde			64.0	67.9		ug/L		106	10 - 140	6	20
Benzo[a]anthracene			32.0	34.5		ug/L		108	70 - 121	4	15
Benzo[a]pyrene			32.0	38.4		ug/L		120	60 - 123	2	15
Benzo[b]fluoranthene			32.0	38.6		ug/L		120	66 - 126	2	15
Benzo[g,h,i]perylene			32.0	38.7		ug/L		121	66 - 150	2	15
Benzo[k]fluoranthene			32.0	39.2		ug/L		122	65 - 124	2	22
Biphenyl			32.0	32.3		ug/L		101	59 - 120	2	20
bis (2-chloroisopropyl) ether			32.0	25.0		ug/L		78	21 - 136	4	24
Bis(2-chloroethoxy)methane			32.0	29.8		ug/L		93	50 - 128	2	17
Bis(2-chloroethyl)ether			32.0	28.1		ug/L		88	44 - 120	3	21
Bis(2-ethylhexyl) phthalate			32.0	37.0		ug/L		116	63 - 139	3	15
Butyl benzyl phthalate			32.0	36.2		ug/L		113	70 - 129	2	16
Caprolactam			64.0	28.8		ug/L		45	22 - 120	1	20

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

Lab Sample ID: LCSD 480-558052/3-A
Matrix: Water
Analysis Batch: 559332

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 558052

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbazole			32.0	34.6		ug/L		108	66 - 123	4	20
Chrysene			32.0	33.0		ug/L		103	69 - 120	2	15
Dibenz(a,h)anthracene			32.0	39.1		ug/L		122	65 - 135	2	15
Dibenzofuran			32.0	33.7		ug/L		105	66 - 120	3	15
Diethyl phthalate			32.0	37.3		ug/L		117	59 - 127	2	15
Dimethyl phthalate			32.0	36.4		ug/L		114	68 - 120	2	15
Di-n-butyl phthalate			32.0	38.3		ug/L		120	69 - 131	6	15
Di-n-octyl phthalate			32.0	36.4		ug/L		114	63 - 140	3	16
Fluoranthene			32.0	36.0		ug/L		113	69 - 126	4	15
Fluorene			32.0	33.8		ug/L		106	66 - 120	2	15
Hexachlorobenzene			32.0	32.8		ug/L		102	61 - 120	5	15
Hexachlorobutadiene			32.0	27.5		ug/L		86	35 - 120	3	44
Hexachlorocyclopentadiene			32.0	24.7		ug/L		77	31 - 120	3	49
Hexachloroethane			32.0	27.3		ug/L		85	43 - 120	5	46
Indeno[1,2,3-cd]pyrene			32.0	38.9		ug/L		122	69 - 146	2	15
Isophorone			32.0	31.7		ug/L		99	55 - 120	2	17
Naphthalene			32.0	30.2		ug/L		94	57 - 120	2	29
Nitrobenzene			32.0	31.2		ug/L		98	53 - 123	3	24
N-Nitrosodi-n-propylamine			32.0	29.6		ug/L		92	32 - 140	6	31
N-Nitrosodiphenylamine			32.0	33.5		ug/L		105	61 - 120	5	15
Pentachlorophenol			64.0	63.8		ug/L		100	29 - 136	4	37
Phenanthrene			32.0	33.6		ug/L		105	68 - 120	5	15
Phenol			32.0	21.1		ug/L		66	17 - 120	4	34
Pyrene			32.0	34.2		ug/L		107	70 - 125	1	19

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*124*	*X*	*41 - 120*
2-Fluorobiphenyl	*113*		*48 - 120*
2-Fluorophenol (Surr)	*91*		*35 - 120*
Nitrobenzene-d5 (Surr)	*102*		*46 - 120*
Phenol-d5 (Surr)	*71*		*22 - 120*
p-Terphenyl-d14 (Surr)	*120*		*60 - 148*

QC Association Summary

Client: Benchmark Env. Eng. & Science, PLLC
Job ID: 480-177672-1
Project/Site: Tecumseh - HWMU Groundwater

GC/MS VOA

Analysis Batch: 558155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-177672-1	MW-1D3	Total/NA	Water	8260C	
480-177672-2	MW-1D4	Total/NA	Water	8260C	
480-177672-3	MW-1D6	Total/NA	Water	8260C	
480-177672-4	MW-2D2	Total/NA	Water	8260C	
480-177672-5	MW-2D3	Total/NA	Water	8260C	
480-177672-6	MW-2D4	Total/NA	Water	8260C	
480-177672-7	MWS-11A	Total/NA	Water	8260C	
MB 480-558155/8	Method Blank	Total/NA	Water	8260C	
LCS 480-558155/6	Lab Control Sample	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 558052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-177672-1	MW-1D3	Total/NA	Water	3510C	
480-177672-2	MW-1D4	Total/NA	Water	3510C	
480-177672-3	MW-1D6	Total/NA	Water	3510C	
480-177672-4	MW-2D2	Total/NA	Water	3510C	
480-177672-5	MW-2D3	Total/NA	Water	3510C	
480-177672-6	MW-2D4	Total/NA	Water	3510C	
480-177672-7	MWS-11A	Total/NA	Water	3510C	
MB 480-558052/1-A	Method Blank	Total/NA	Water	3510C	
LCS 480-558052/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 480-558052/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 559049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-177672-2	MW-1D4	Total/NA	Water	8270D	558052
480-177672-3	MW-1D6	Total/NA	Water	8270D	558052
480-177672-4	MW-2D2	Total/NA	Water	8270D	558052
480-177672-6	MW-2D4	Total/NA	Water	8270D	558052

Analysis Batch: 559332

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-177672-1	MW-1D3	Total/NA	Water	8270D	558052
480-177672-5	MW-2D3	Total/NA	Water	8270D	558052
480-177672-7	MWS-11A	Total/NA	Water	8270D	558052
MB 480-558052/1-A	Method Blank	Total/NA	Water	8270D	558052
LCS 480-558052/2-A	Lab Control Sample	Total/NA	Water	8270D	558052
LCSD 480-558052/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	558052

Lab Chronicle

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177672-1

Client Sample ID: MW-1D3
Date Collected: 11/03/20 10:15
Date Received: 11/05/20 11:05

Lab Sample ID: 480-177672-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	558155	11/09/20 22:45	AMM	TAL BUF
Total/NA	Prep	3510C			558052	11/09/20 07:23	SMP	TAL BUF
Total/NA	Analysis	8270D		1	559332	11/16/20 21:17	PJQ	TAL BUF

Client Sample ID: MW-1D4
Date Collected: 11/03/20 10:55
Date Received: 11/05/20 11:05

Lab Sample ID: 480-177672-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	558155	11/09/20 23:08	AMM	TAL BUF
Total/NA	Prep	3510C			558052	11/09/20 07:23	SMP	TAL BUF
Total/NA	Analysis	8270D		1	559049	11/13/20 18:59	PJQ	TAL BUF

Client Sample ID: MW-1D6
Date Collected: 11/03/20 09:20
Date Received: 11/05/20 11:05

Lab Sample ID: 480-177672-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	558155	11/09/20 23:32	AMM	TAL BUF
Total/NA	Prep	3510C			558052	11/09/20 07:23	SMP	TAL BUF
Total/NA	Analysis	8270D		1	559049	11/13/20 19:26	PJQ	TAL BUF

Client Sample ID: MW-2D2
Date Collected: 11/03/20 12:20
Date Received: 11/05/20 11:05

Lab Sample ID: 480-177672-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	558155	11/09/20 23:55	AMM	TAL BUF
Total/NA	Prep	3510C			558052	11/09/20 07:23	SMP	TAL BUF
Total/NA	Analysis	8270D		1	559049	11/13/20 19:54	PJQ	TAL BUF

Client Sample ID: MW-2D3
Date Collected: 11/03/20 14:50
Date Received: 11/05/20 11:05

Lab Sample ID: 480-177672-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		5	558155	11/10/20 00:18	AMM	TAL BUF
Total/NA	Prep	3510C			558052	11/09/20 07:23	SMP	TAL BUF
Total/NA	Analysis	8270D		1	559332	11/16/20 21:46	PJQ	TAL BUF

Client Sample ID: MW-2D4
Date Collected: 11/03/20 14:00
Date Received: 11/05/20 11:05

Lab Sample ID: 480-177672-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		5	558155	11/10/20 00:41	AMM	TAL BUF

Lab Chronicle

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177672-1

Client Sample ID: MW-2D4

Lab Sample ID: 480-177672-6

Date Collected: 11/03/20 14:00

Matrix: Water

Date Received: 11/05/20 11:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			558052	11/09/20 07:23	SMP	TAL BUF
Total/NA	Analysis	8270D		1	559049	11/13/20 20:48	PJQ	TAL BUF

Client Sample ID: MWS-11A

Lab Sample ID: 480-177672-7

Date Collected: 11/03/20 13:25

Matrix: Water

Date Received: 11/05/20 11:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	558155	11/10/20 01:05	AMM	TAL BUF
Total/NA	Prep	3510C			558052	11/09/20 07:23	SMP	TAL BUF
Total/NA	Analysis	8270D		5	559332	11/16/20 22:14	PJQ	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: Benchmark Env. Eng. & Science, PLLC
Job ID: 480-177672-1
Project/Site: Tecumseh - HWMU Groundwater

Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	04-01-21

Method Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177672-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL BUF
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL BUF
5030C	Purge and Trap	SW846	TAL BUF

Protocol References:

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

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Tecumseh - HWMU Groundwater

Job ID: 480-177672-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-177672-1	MW-1D3	Water	11/03/20 10:15	11/05/20 11:05	
480-177672-2	MW-1D4	Water	11/03/20 10:55	11/05/20 11:05	
480-177672-3	MW-1D6	Water	11/03/20 09:20	11/05/20 11:05	
480-177672-4	MW-2D2	Water	11/03/20 12:20	11/05/20 11:05	
480-177672-5	MW-2D3	Water	11/03/20 14:50	11/05/20 11:05	
480-177672-6	MW-2D4	Water	11/03/20 14:00	11/05/20 11:05	
480-177672-7	MWS-11A	Water	11/03/20 13:25	11/05/20 11:05	

ɔfins TestAmerica, Buffalo
ɦazelwood Drive
.nherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Caroline Bukowski	Lab PM: Fischer, Brian J	Carrier Tracking No(s):	COC No: 480-151163-33587.2
Client Contact: Ms. Caroline Bukowski	Phone: 716-856-0599	E-Mail: Brian.Fischer@Eurofinset.com		Page: Page 2 of 3
Company: Benchmark Env. Eng. & Science, PLLC		Analysis Requested		Job #:
Address: 2558 Hamburg Turnpike Suite 300	Due Date Requested:			Preservation Codes:
City: Buffalo	TAT Requested (days): Standard			A - HCl M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)
State, Zip: NY, 14218				
Phone: 716-225-3314(Tel)	PO #: Purchase Order Requested			
Email: cbukowski@bm-tk.com	WO #:			
Project Name: Tecumseh - HWMU Groundwater	Project #: 48022794			L - EDA Other:
Site:	SSOW#:			

480-177672 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C - (CP-51 (STARS) - naphthalene	8260C - TCL list	8270D - TCL SVOA	Total Number of contain	Special Instructions/Note:
			Preservation Code:				A	A	N		
MW-1D3	11/3/20	1015	G	Water			X		X		
MW-1D4		1055		Water			X		X		
MW-1D6		920		Water			X	X	X		
MW-2D2		1220		Water			X		X		
MW-2D3		1450		Water			X		X		
MW-2D4		1400		Water			X		X		
MW-11A		1325		Water			X		X		
				Water							
				Water							
				Water							
				Water							

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		11/3/20 1500	BMTK		11/4/20 9:17	TAB
2		11/4/20 11:05	TAB		11/04/20 1105	TA
3						

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3.3# 1 ICE

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Benchmark Env. Eng. & Science, PLLC

Job Number: 480-177672-1

Login Number: 177672
List Number: 1
Creator: Stopa, Erik S

List Source: Eurofins TestAmerica, Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	BMTK
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

ATTACHMENT 3

TIME-CONCENTRATION PLOTS

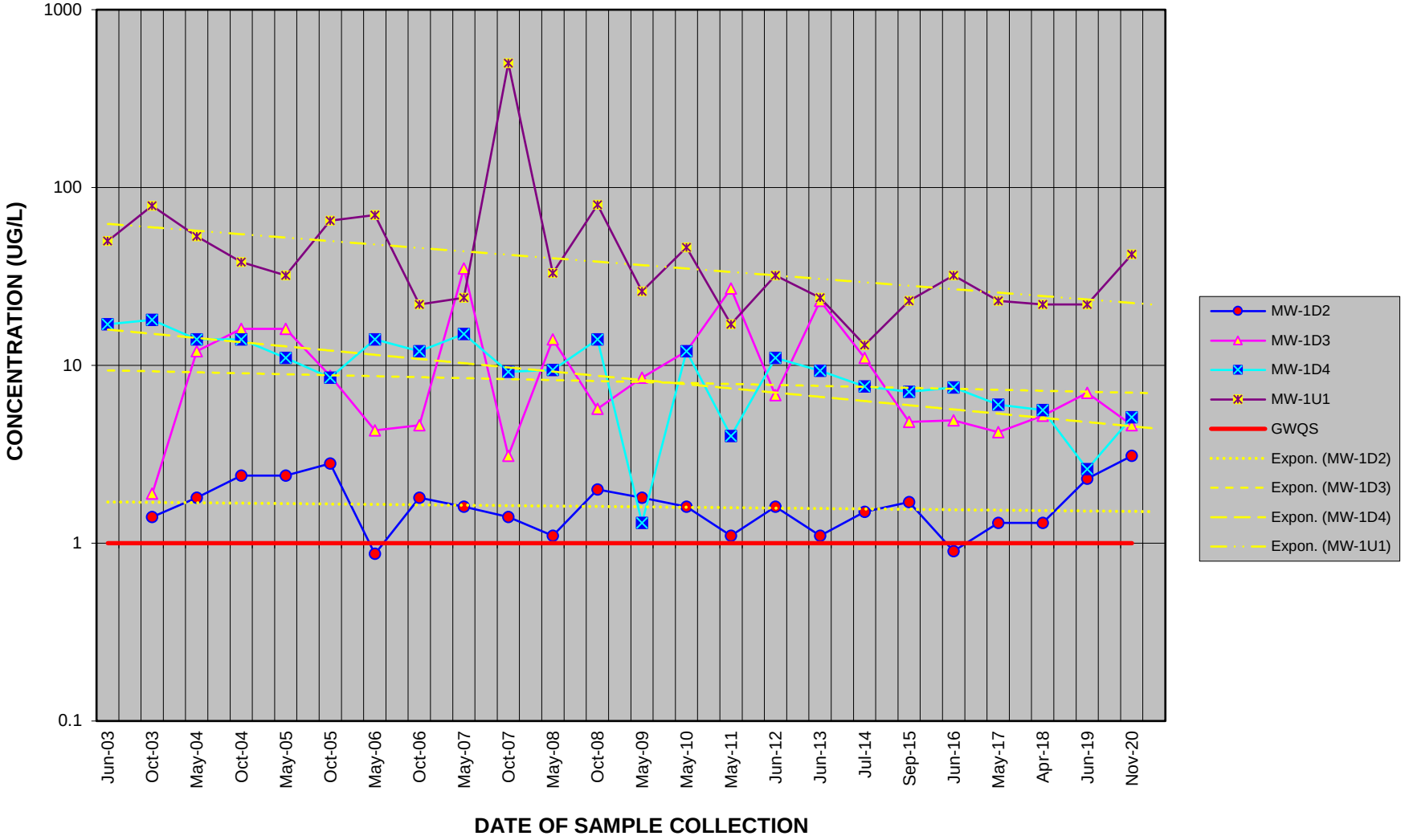
ATTACHMENT 3A

TIME-CONCENTRATION PLOTS

HWMU-1A

BENZENE

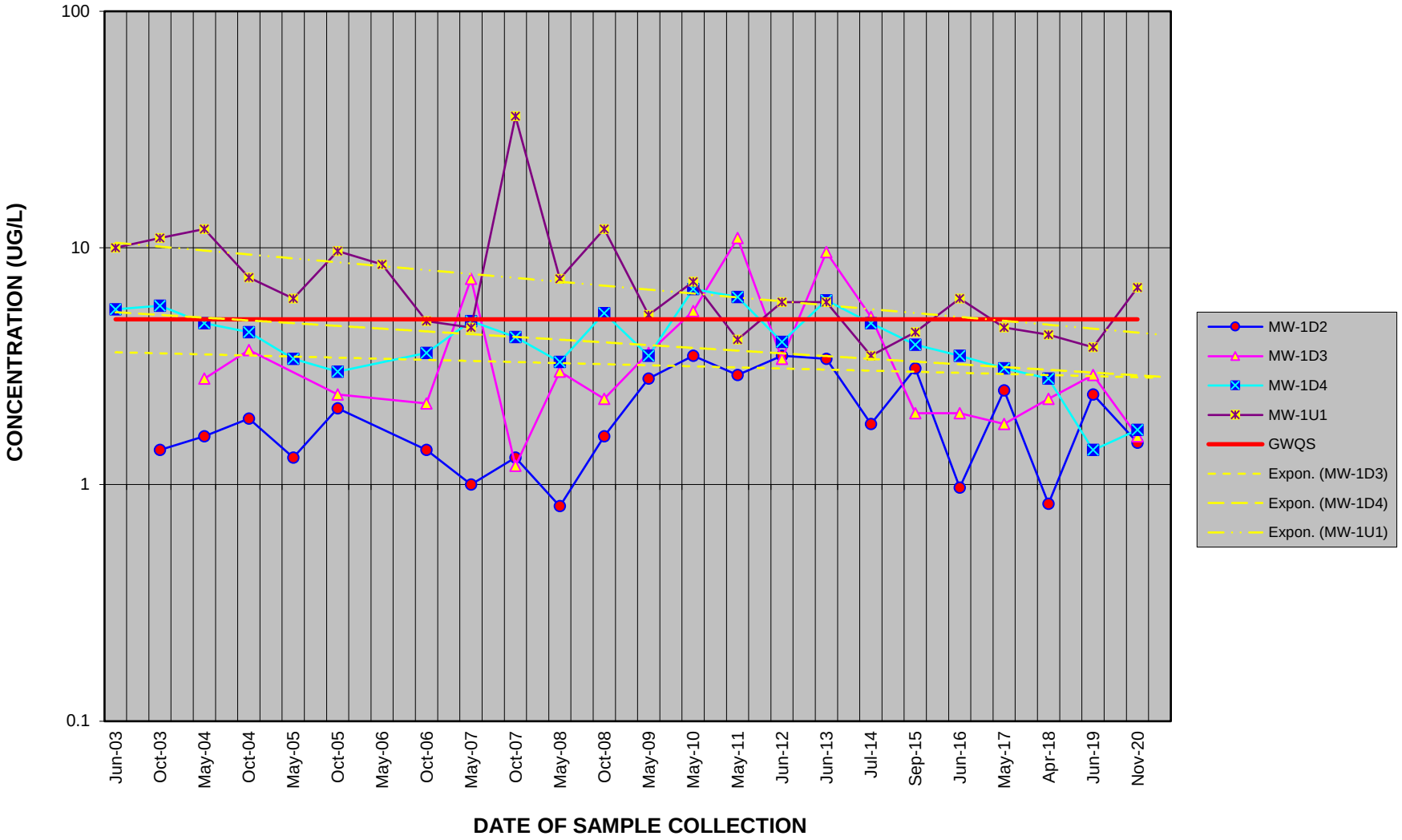
HAZARDOUS WASTE MANAGEMENT UNIT 1A
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

TOLUENE

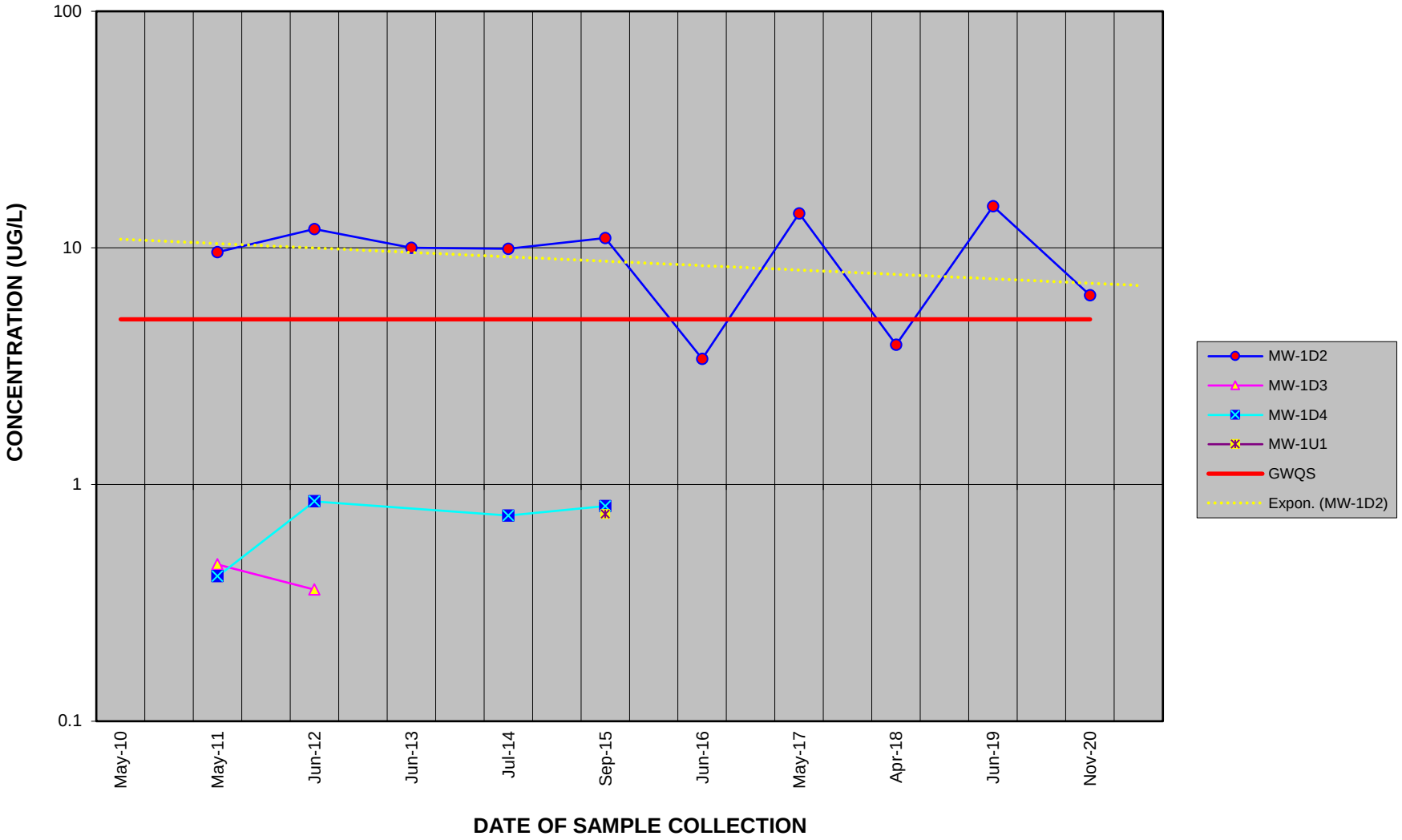
HAZARDOUS WASTE MANAGEMENT UNIT 1A
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

1,2,4-TRIMETHYLBENZENE

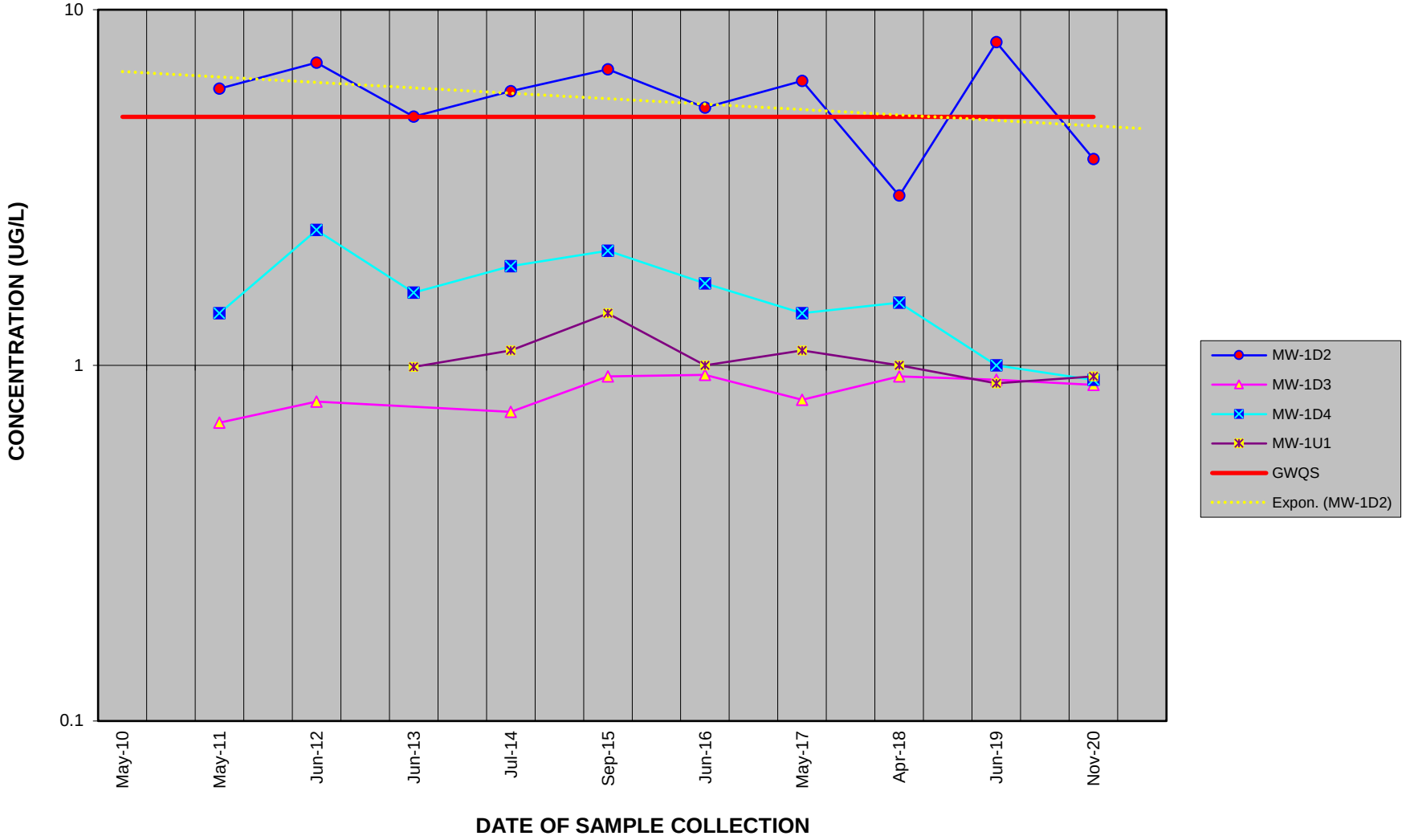
HAZARDOUS WASTE MANAGEMENT UNIT 1A
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

1,3,5-TRIMETHYLBENZENE

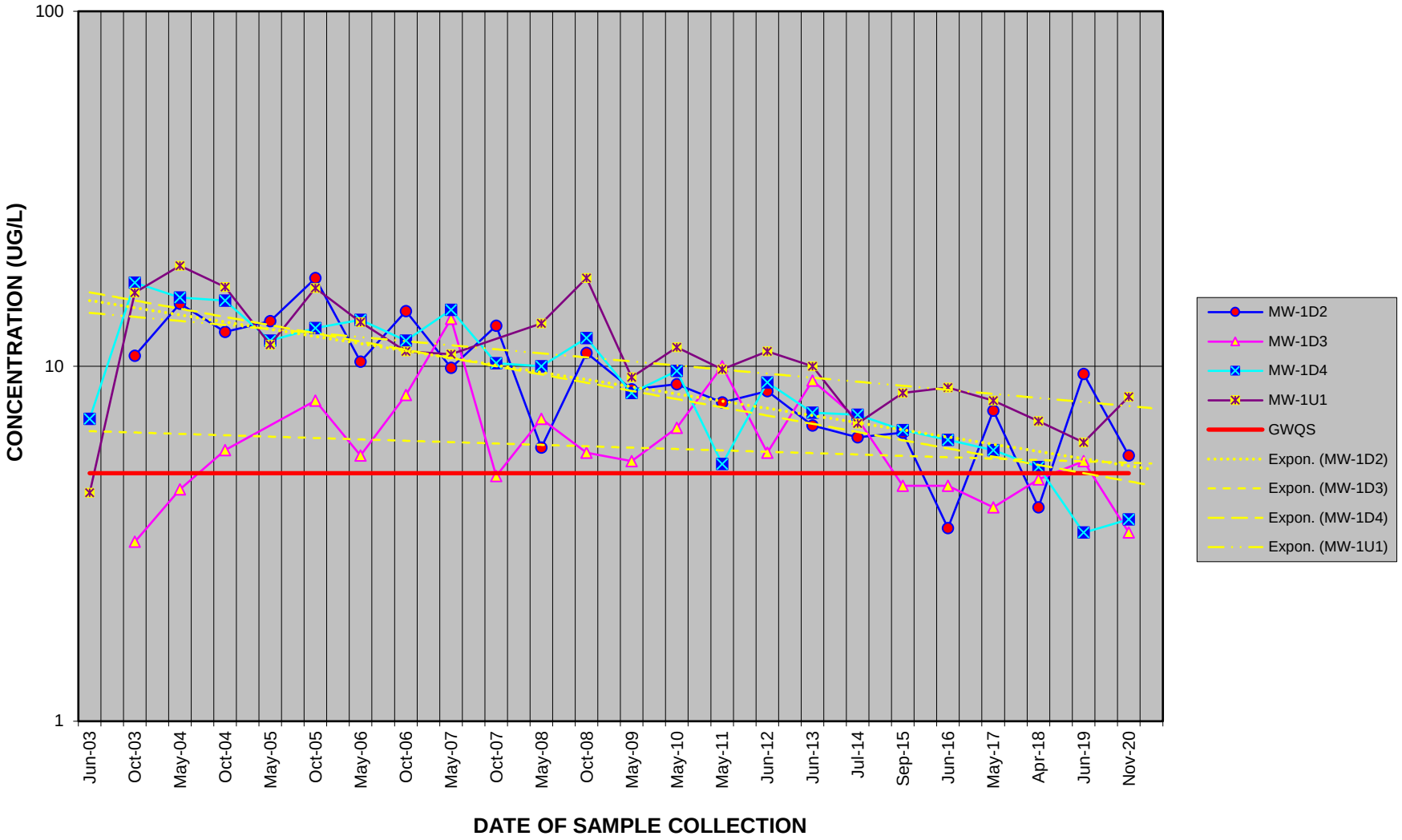
HAZARDOUS WASTE MANAGEMENT UNIT 1A
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

TOTAL XYLENES

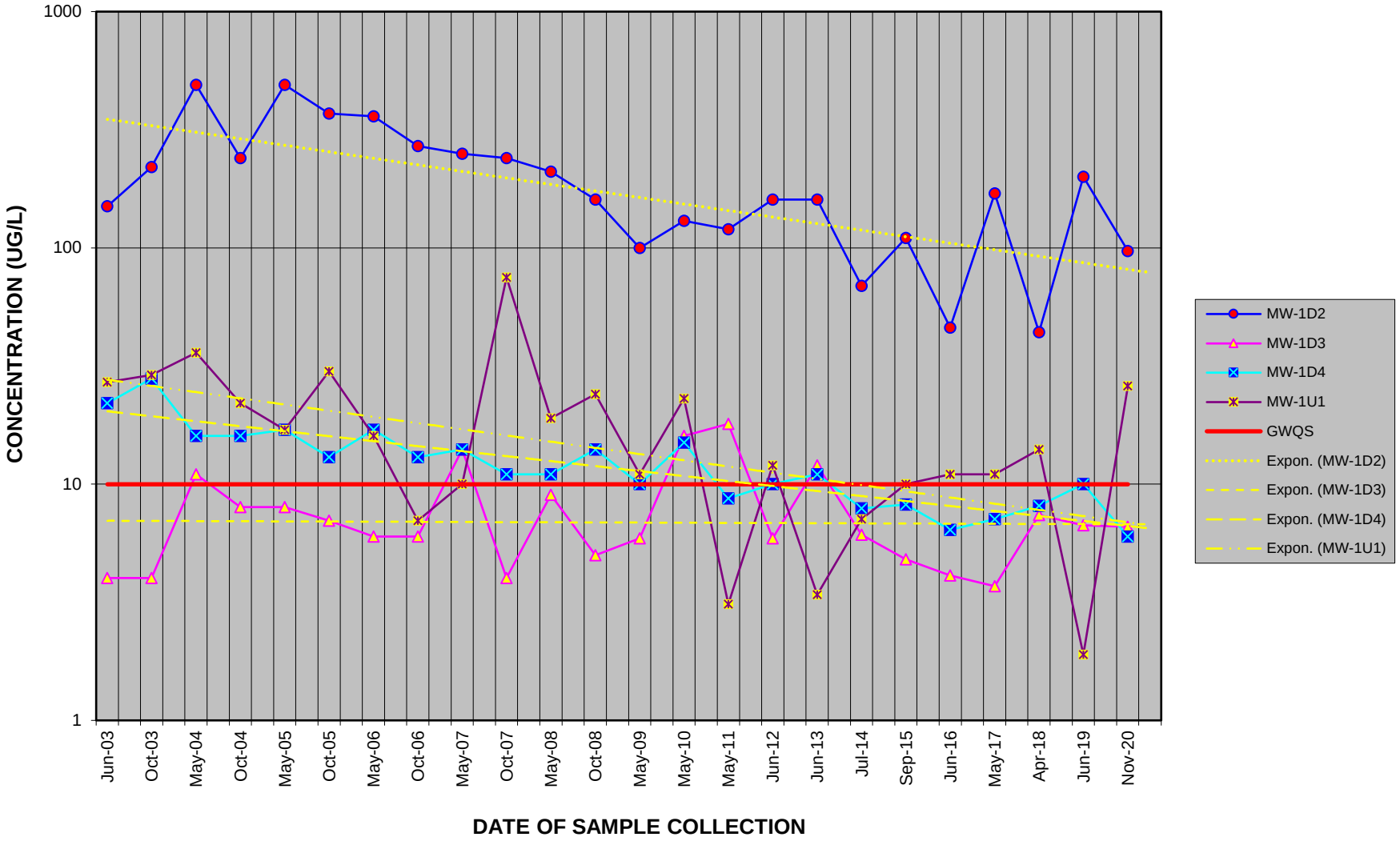
HAZARDOUS WASTE MANAGEMENT UNIT 1A
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

NAPHTHALENE

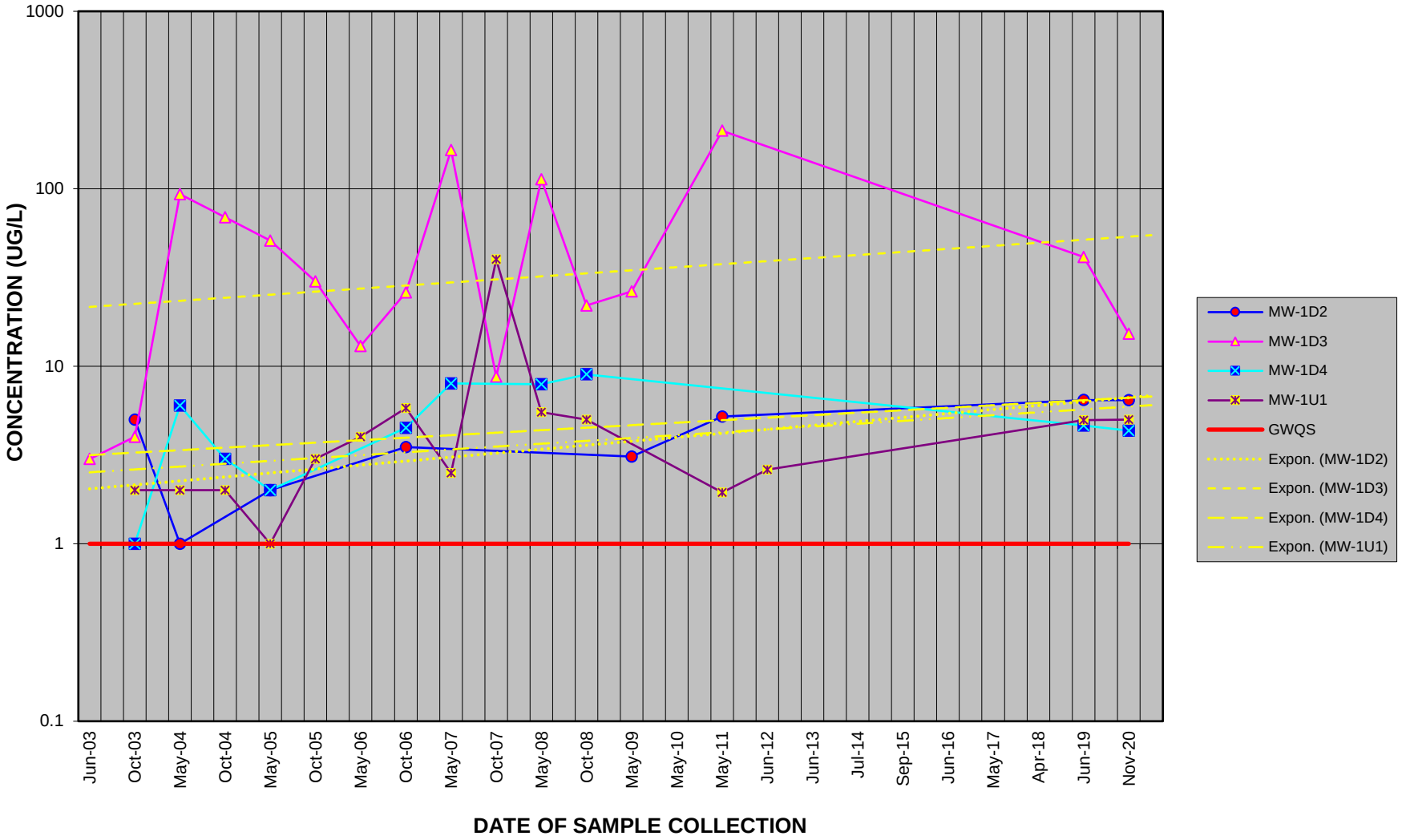
HAZARDOUS WASTE MANAGEMENT UNIT 1A
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

SUM OF PHENOLIC COMPOUNDS

HAZARDOUS WASTE MANAGEMENT UNIT 1A
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

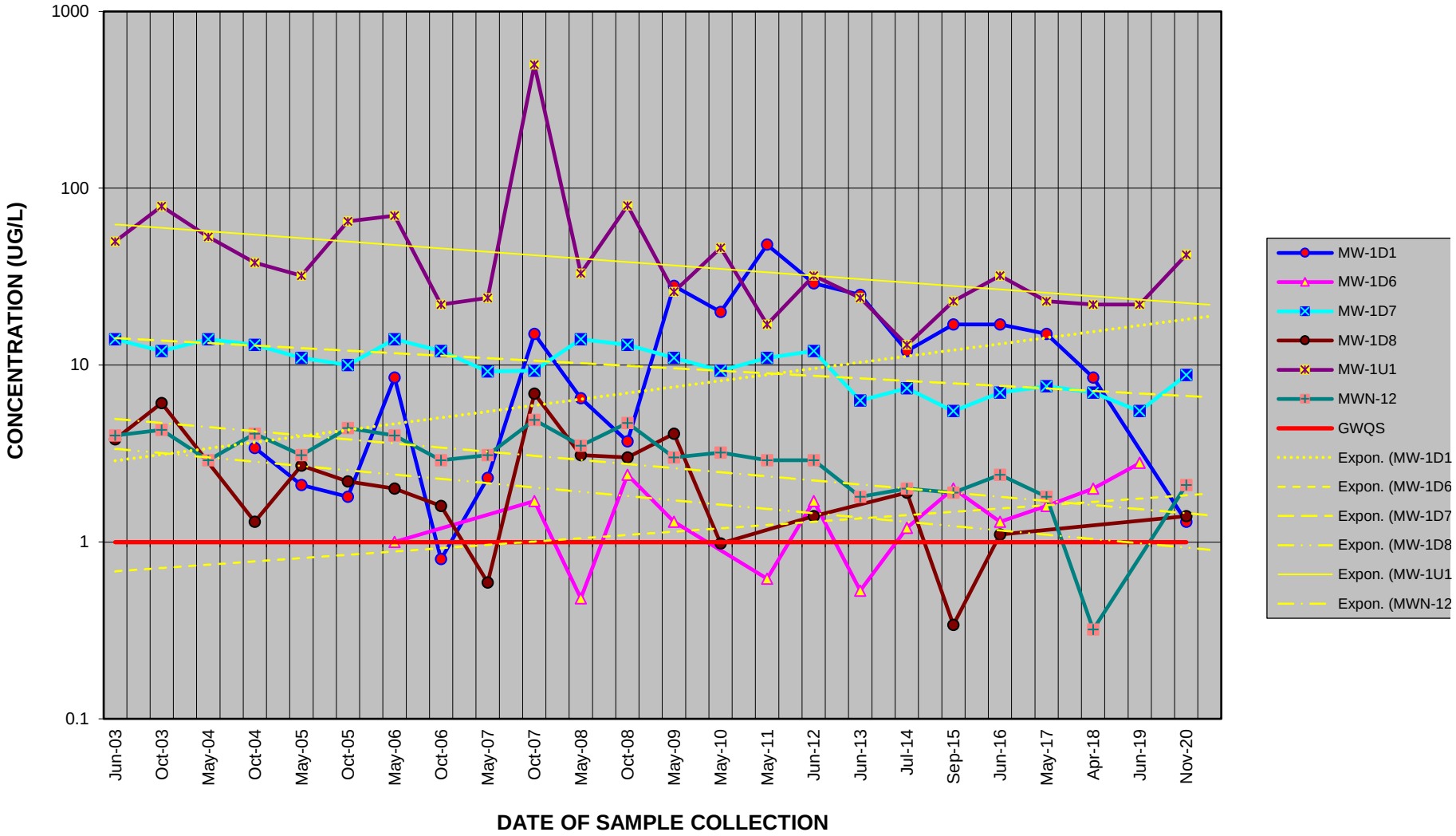
ATTACHMENT 3B

TIME-CONCENTRATION PLOTS

HWMU-1B

BENZENE

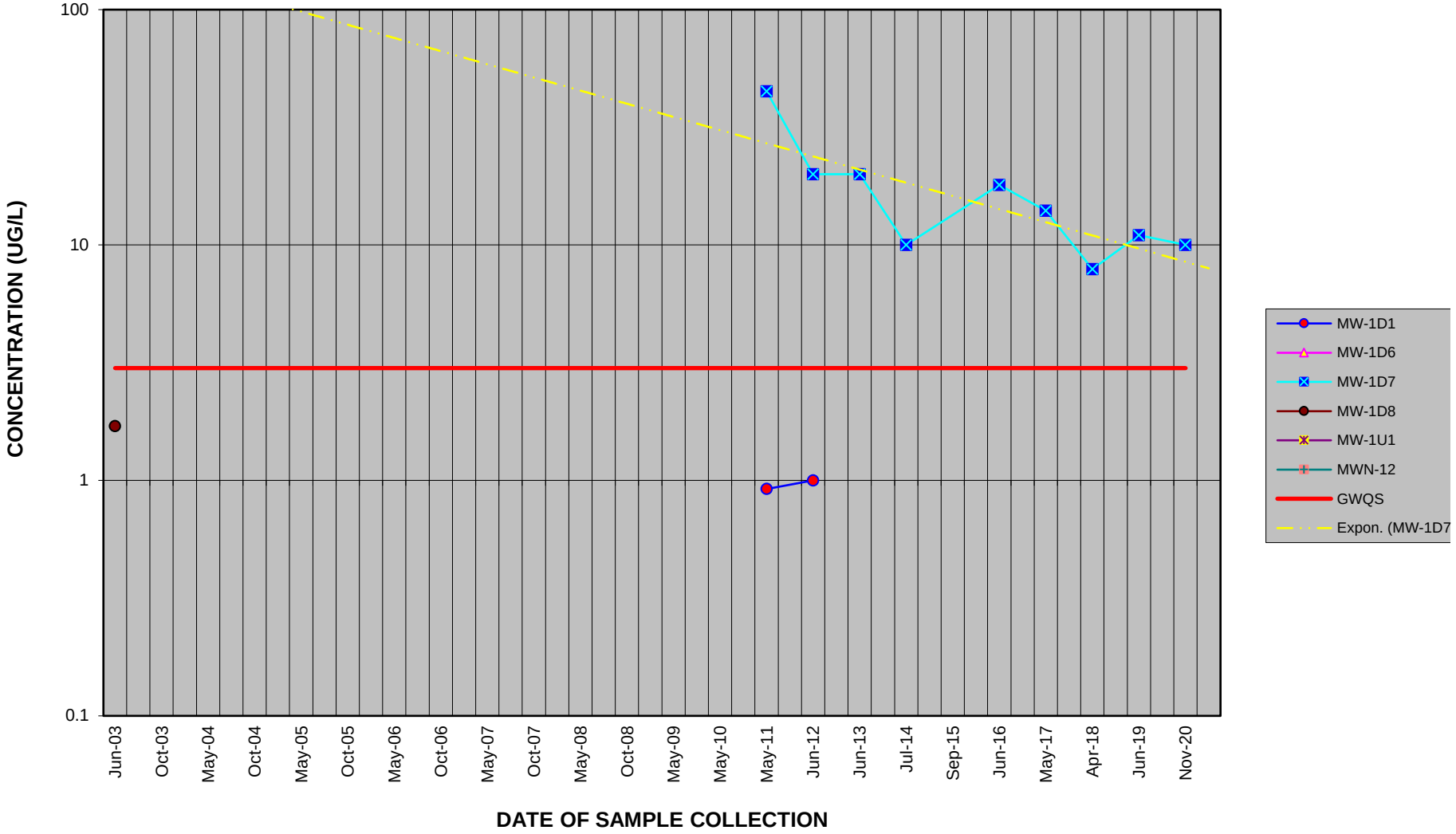
HAZARDOUS WASTE MANAGEMENT UNIT 1B
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

cis-1,2-DICHLOROETHENE

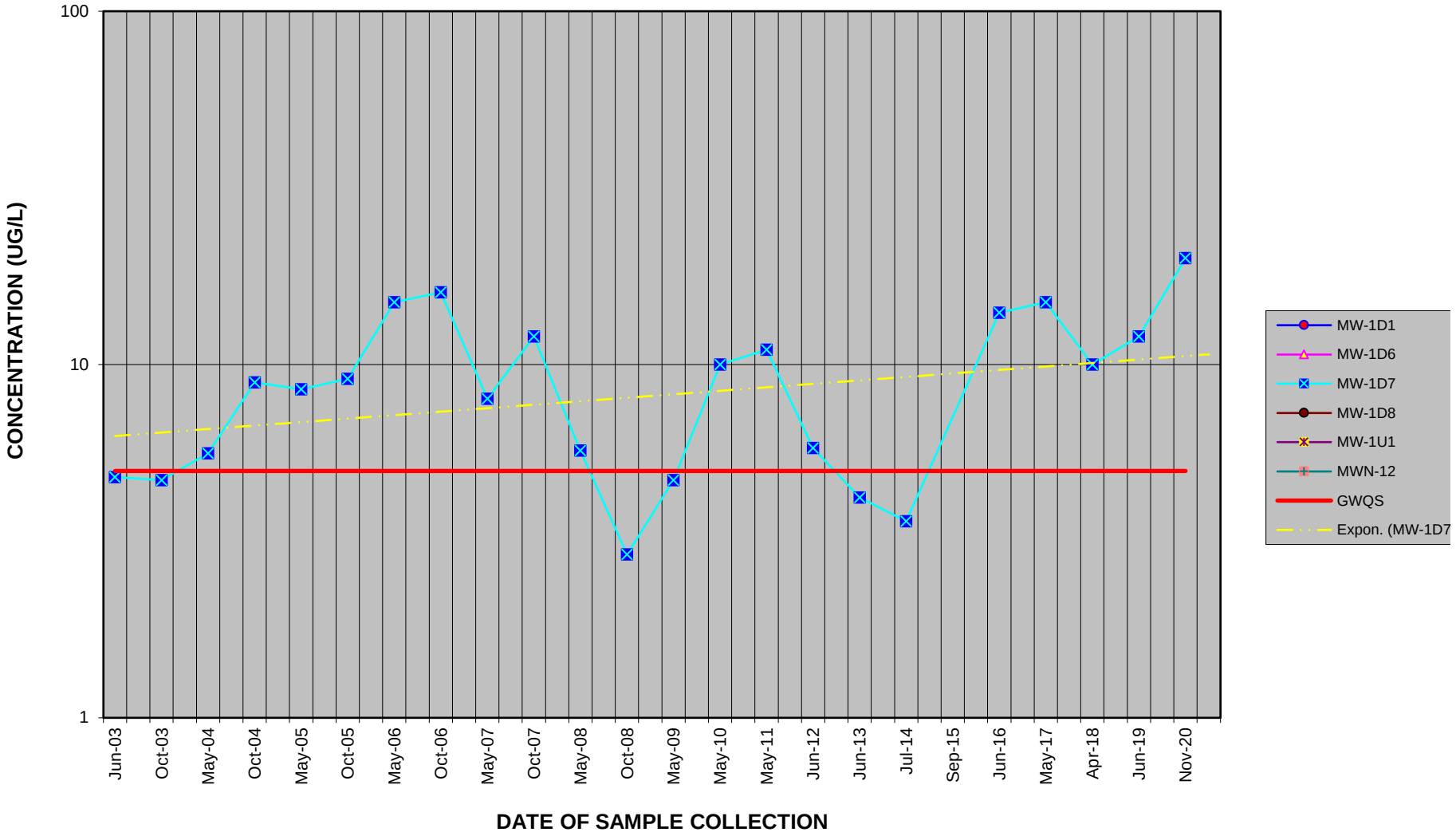
HAZARDOUS WASTE MANAGEMENT UNIT 1B
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

trans-1,2-DICHLOROETHENE

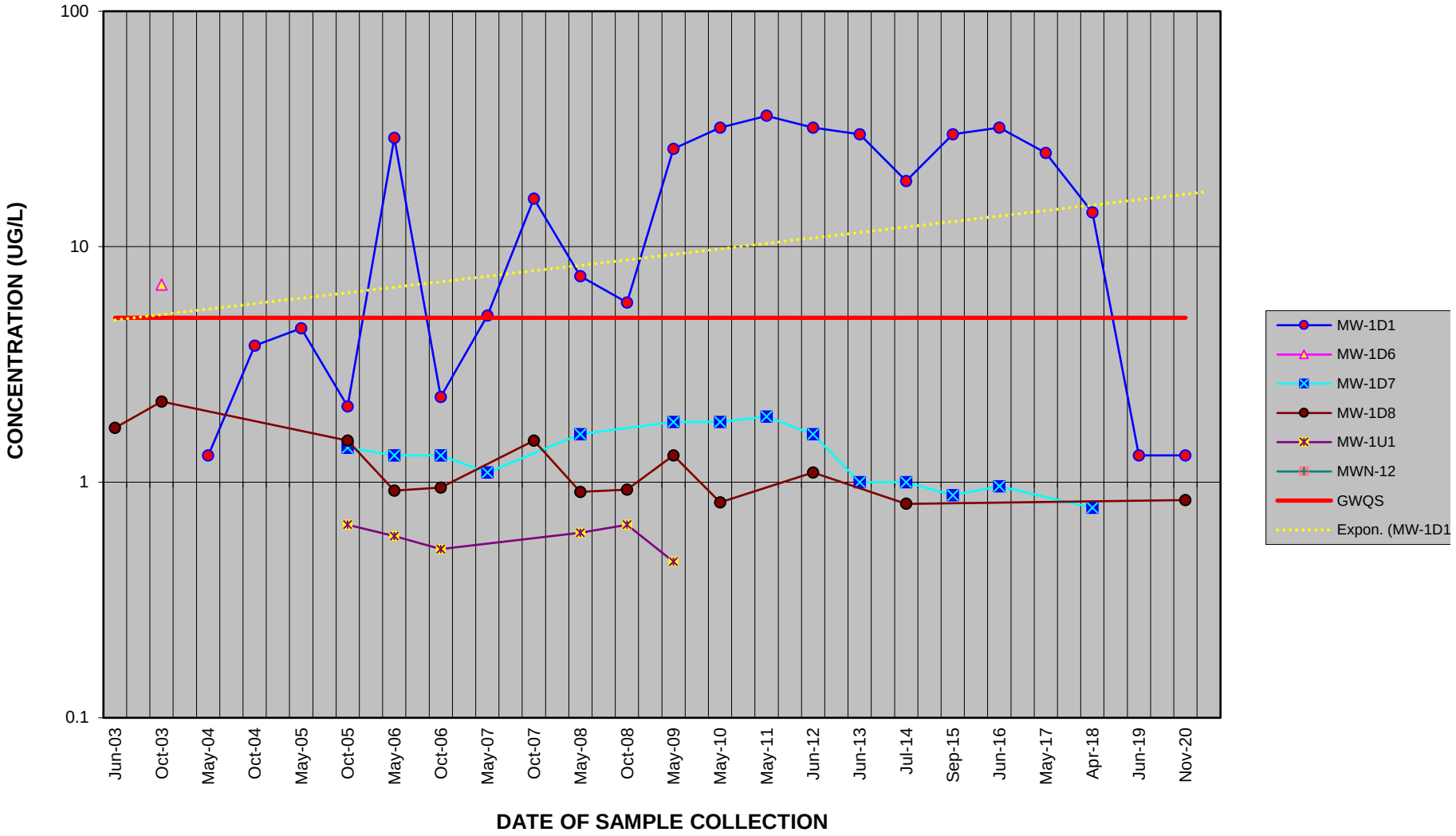
HAZARDOUS WASTE MANAGEMENT UNIT 1B
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

ETHYLBENZENE

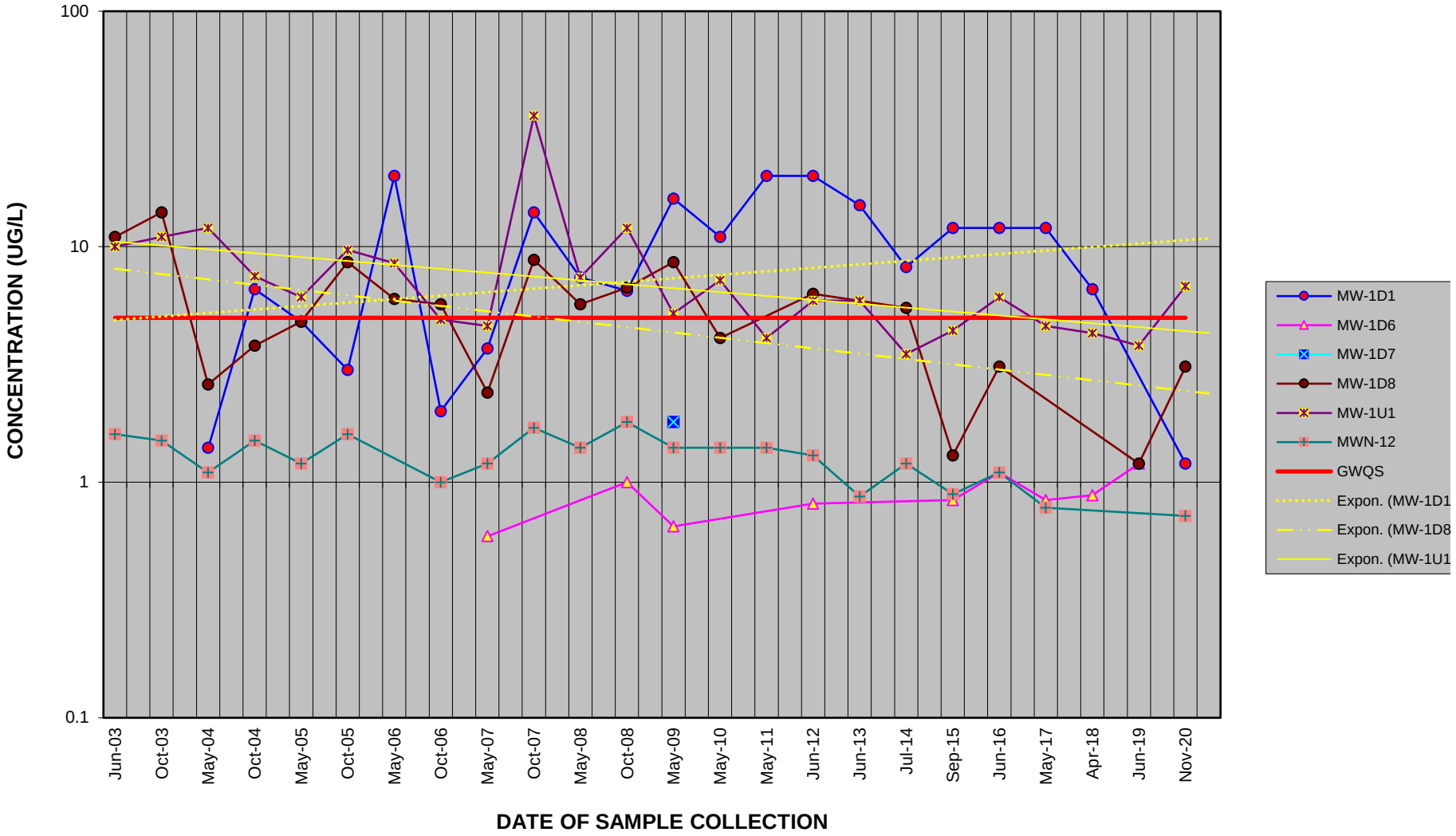
HAZARDOUS WASTE MANAGEMENT UNIT 1B
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

TOLUENE

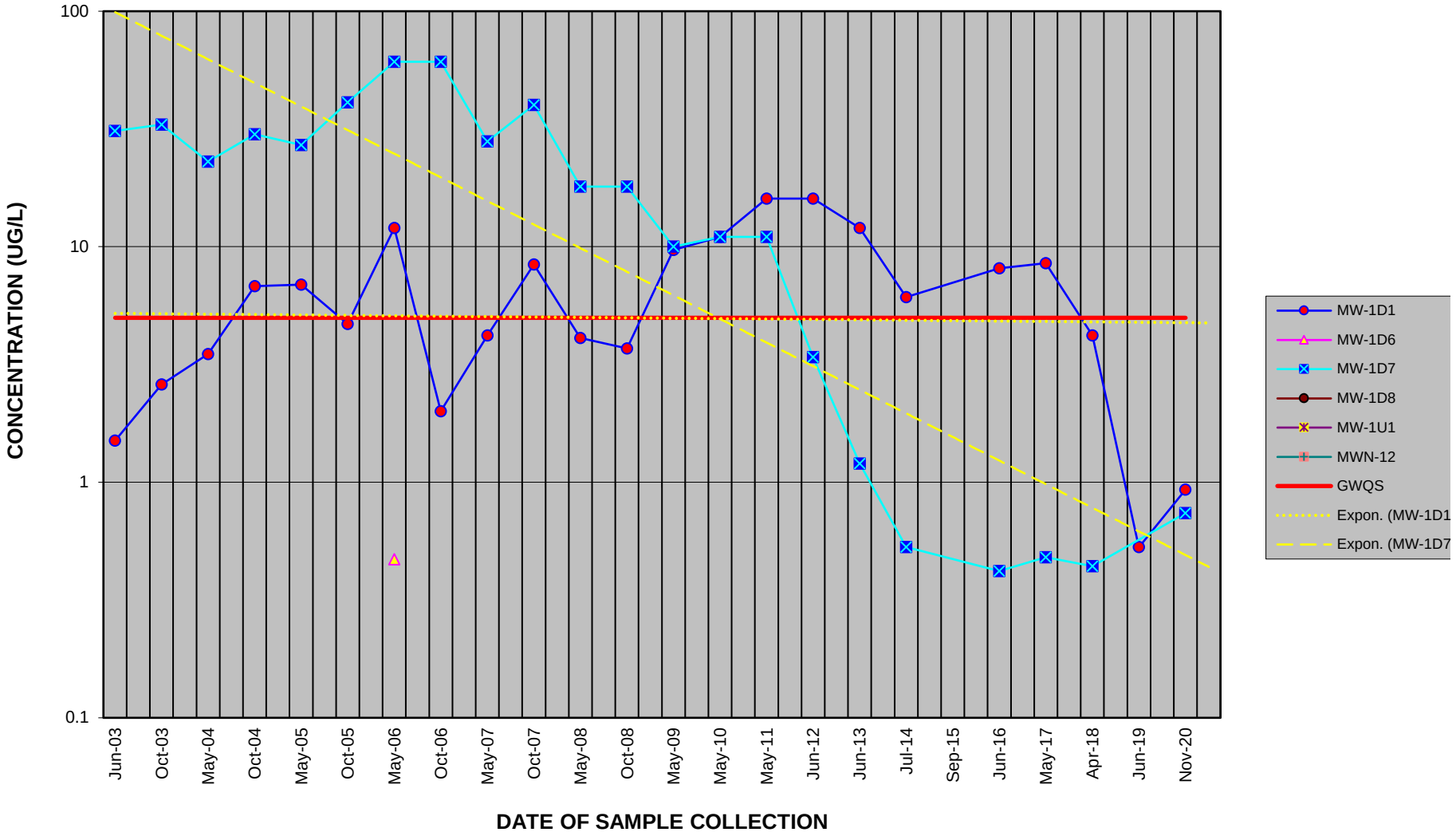
HAZARDOUS WASTE MANAGEMENT UNIT 1B
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

TRICHLOROETHENE

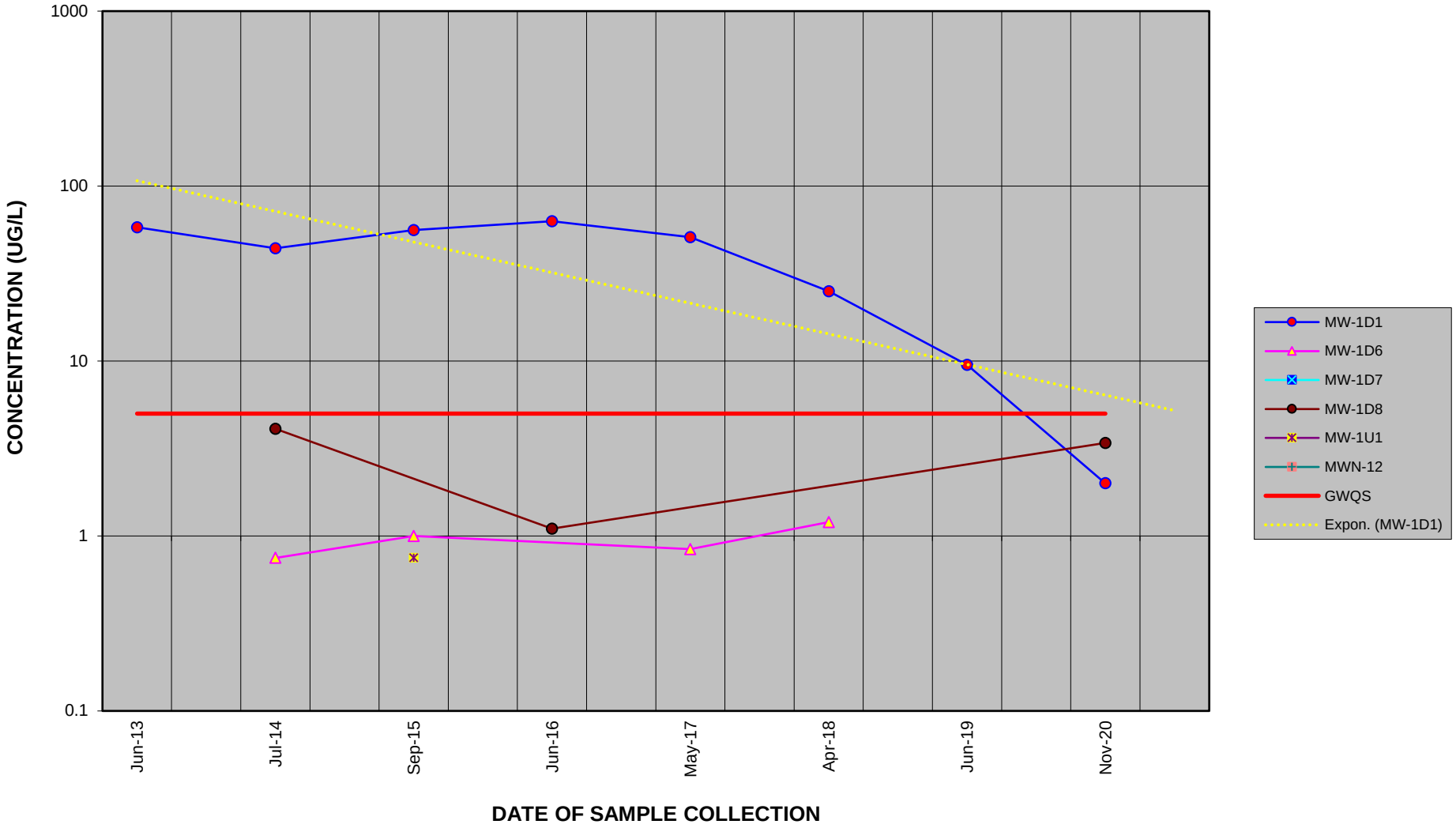
HAZARDOUS WASTE MANAGEMENT UNIT 1B
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

1,2,4-TRIMETHYLBENZENE

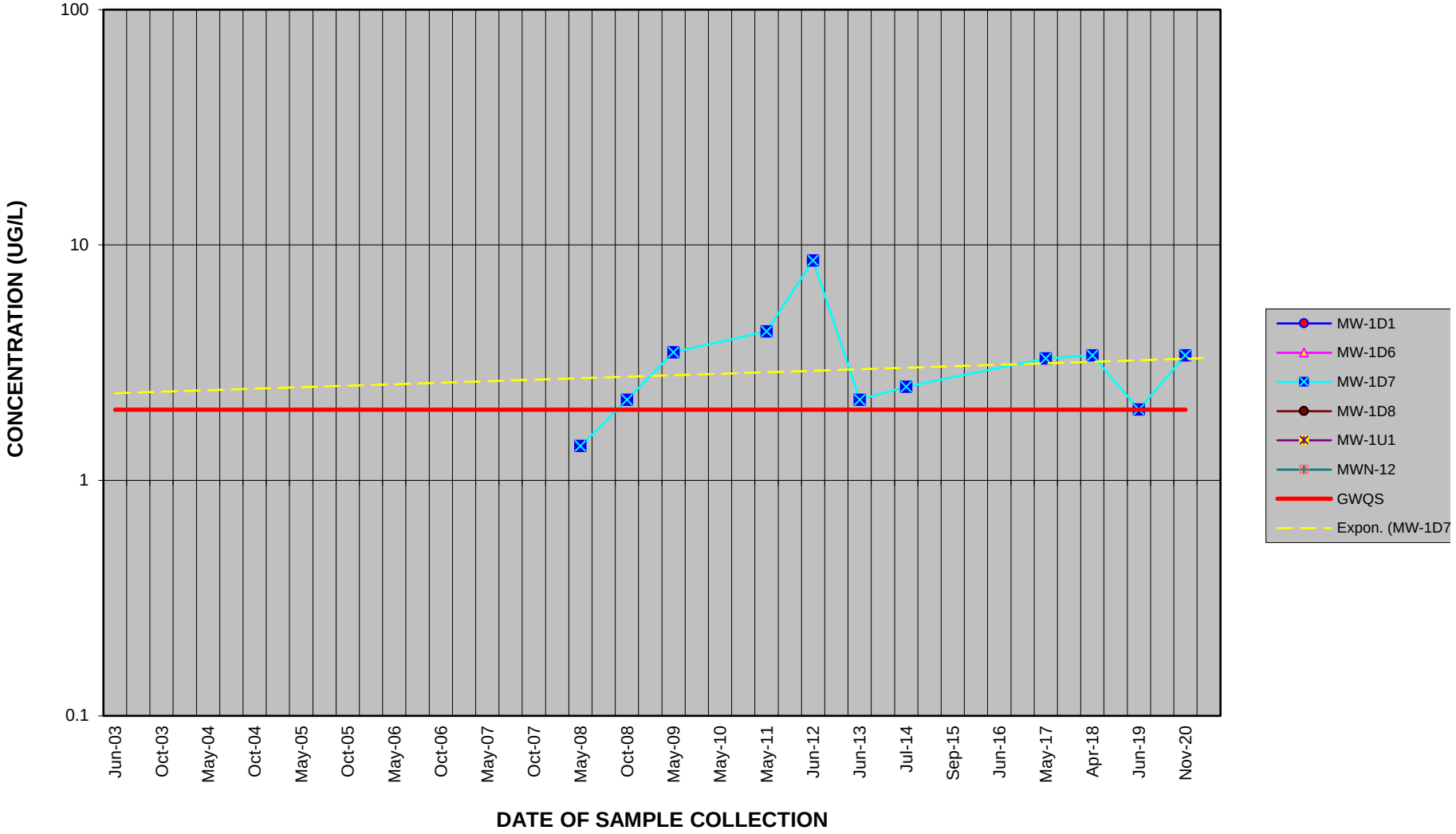
HAZARDOUS WASTE MANAGEMENT UNIT 1B
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

VINYL CHLORIDE

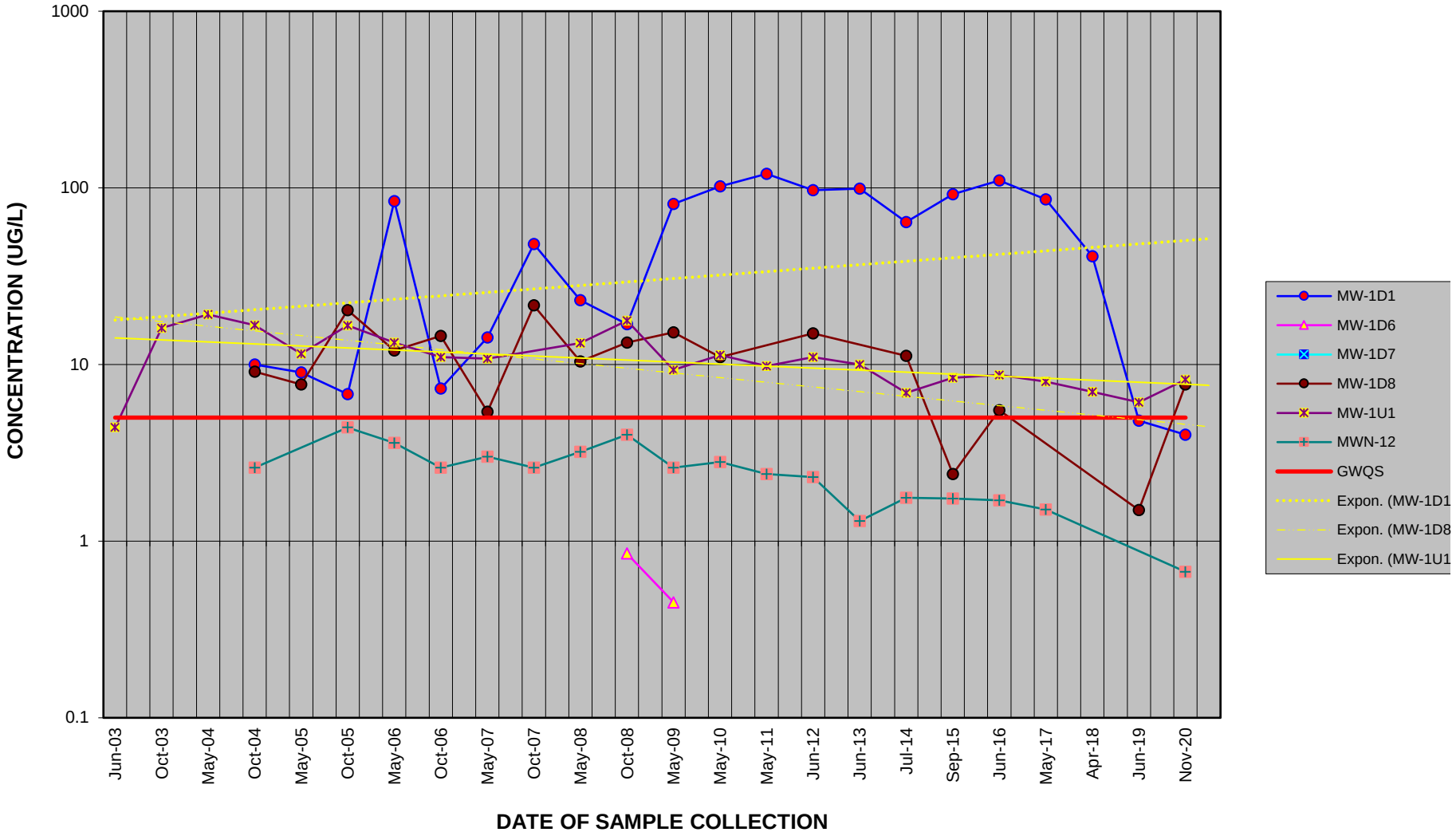
HAZARDOUS WASTE MANAGEMENT UNIT 1B
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

TOTAL XYLENES

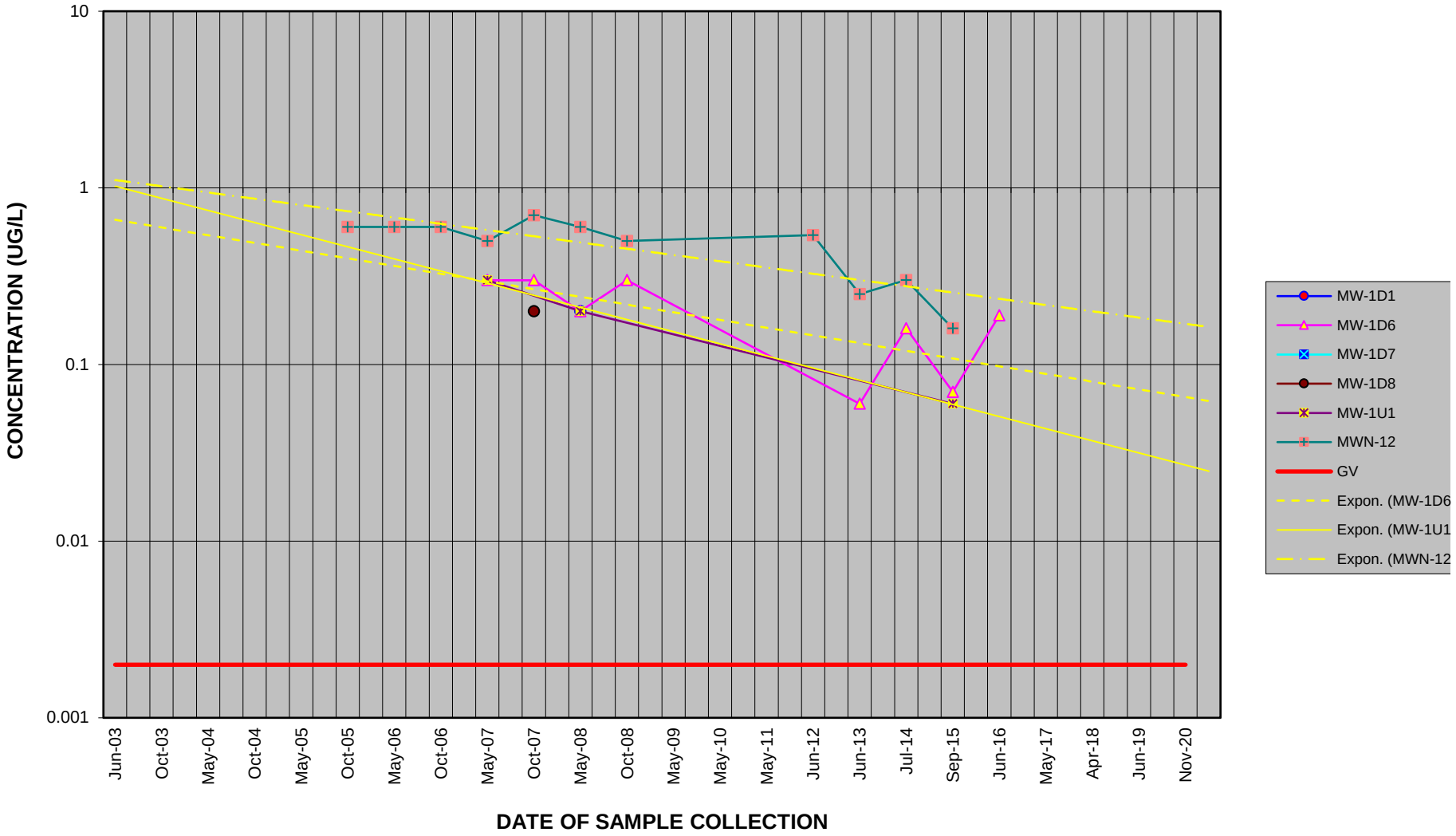
HAZARDOUS WASTE MANAGEMENT UNIT 1B
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

BENZO(A)ANTHRACENE

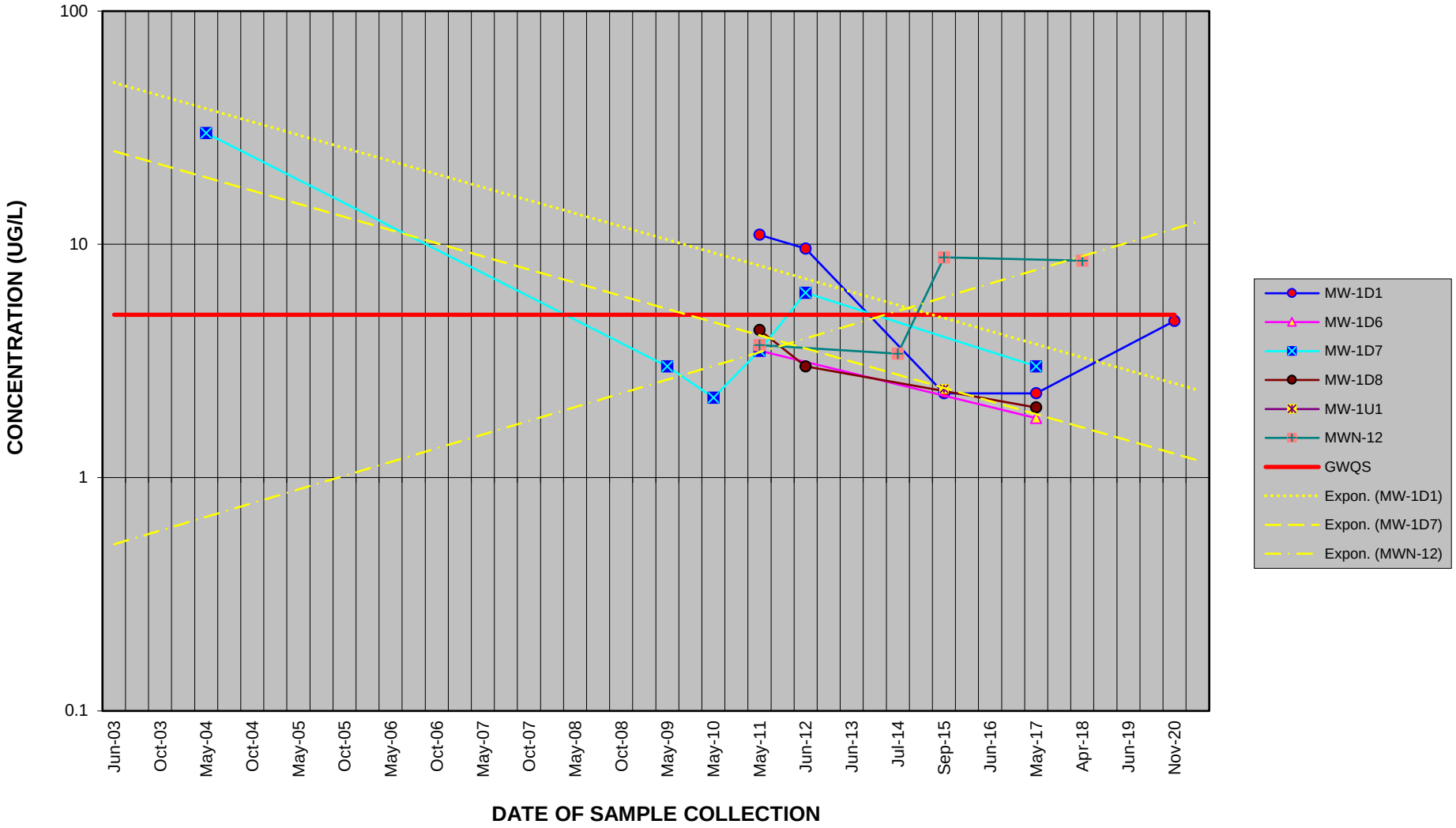
HAZARDOUS WASTE MANAGEMENT UNIT 1B
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

BIS(2-ETHYLHEXYL)PHTHALATE

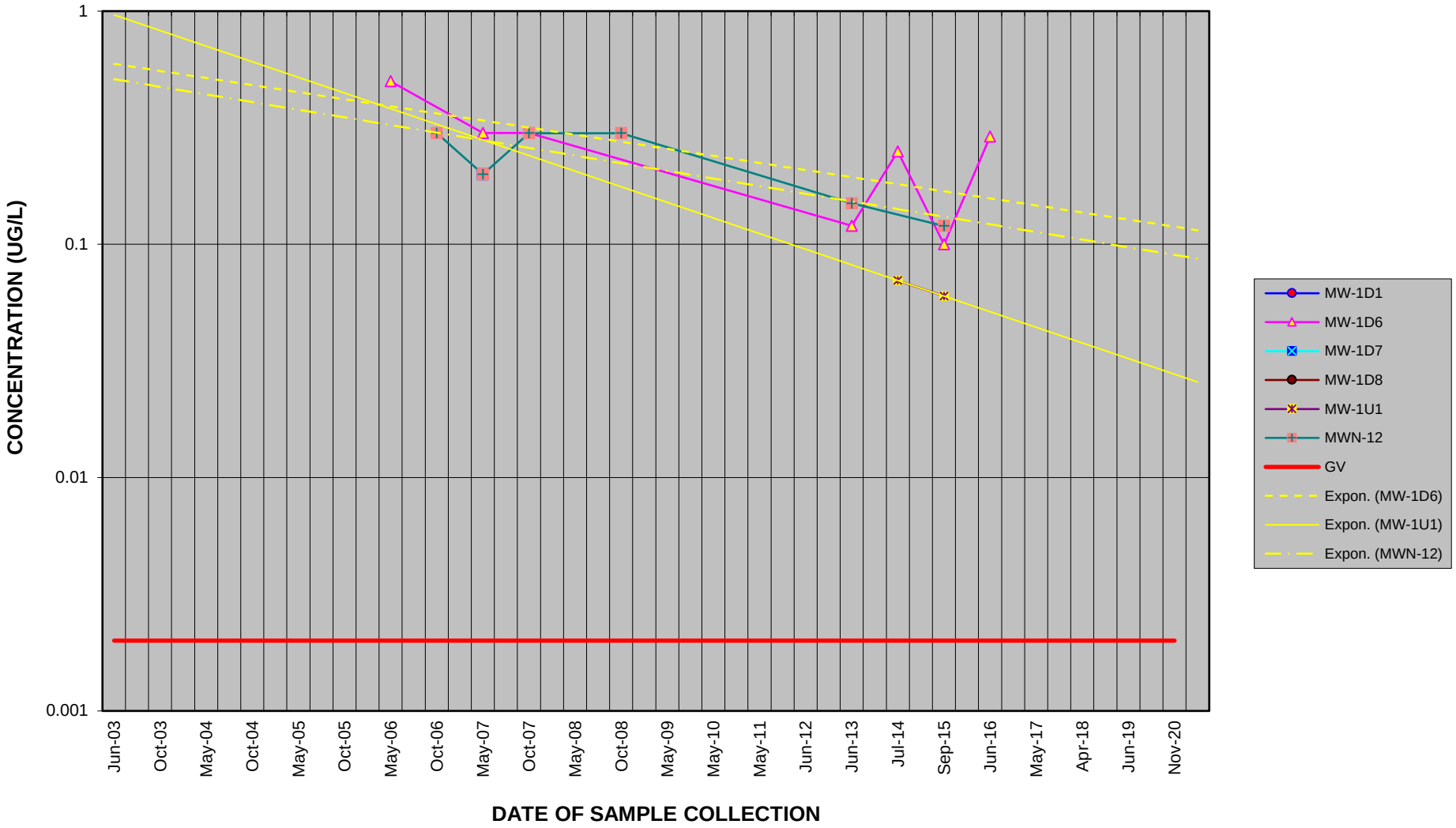
HAZARDOUS WASTE MANAGEMENT UNIT 1B
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

CHRYSENE

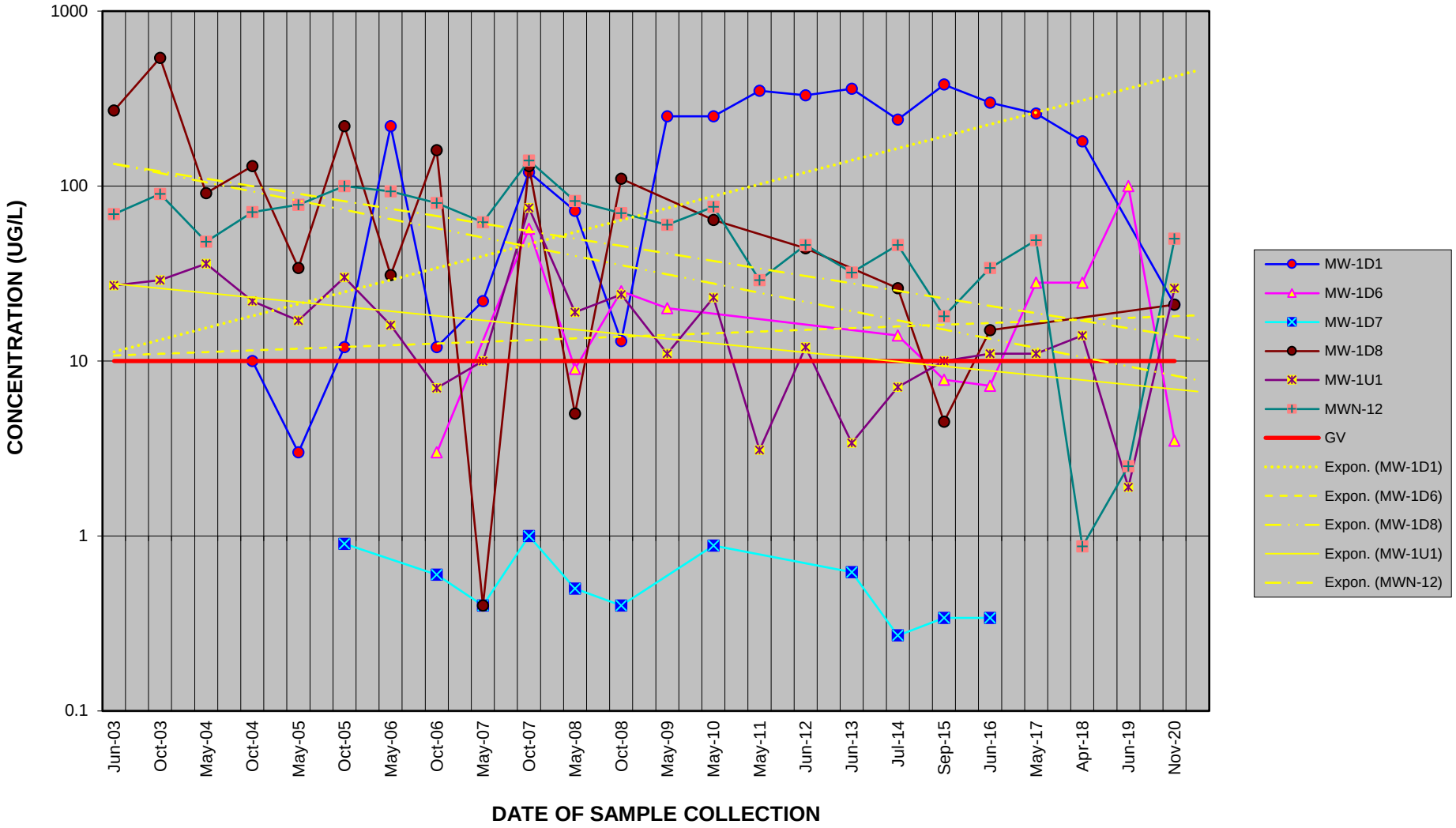
HAZARDOUS WASTE MANAGEMENT UNIT 1B
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

NAPHTHALENE

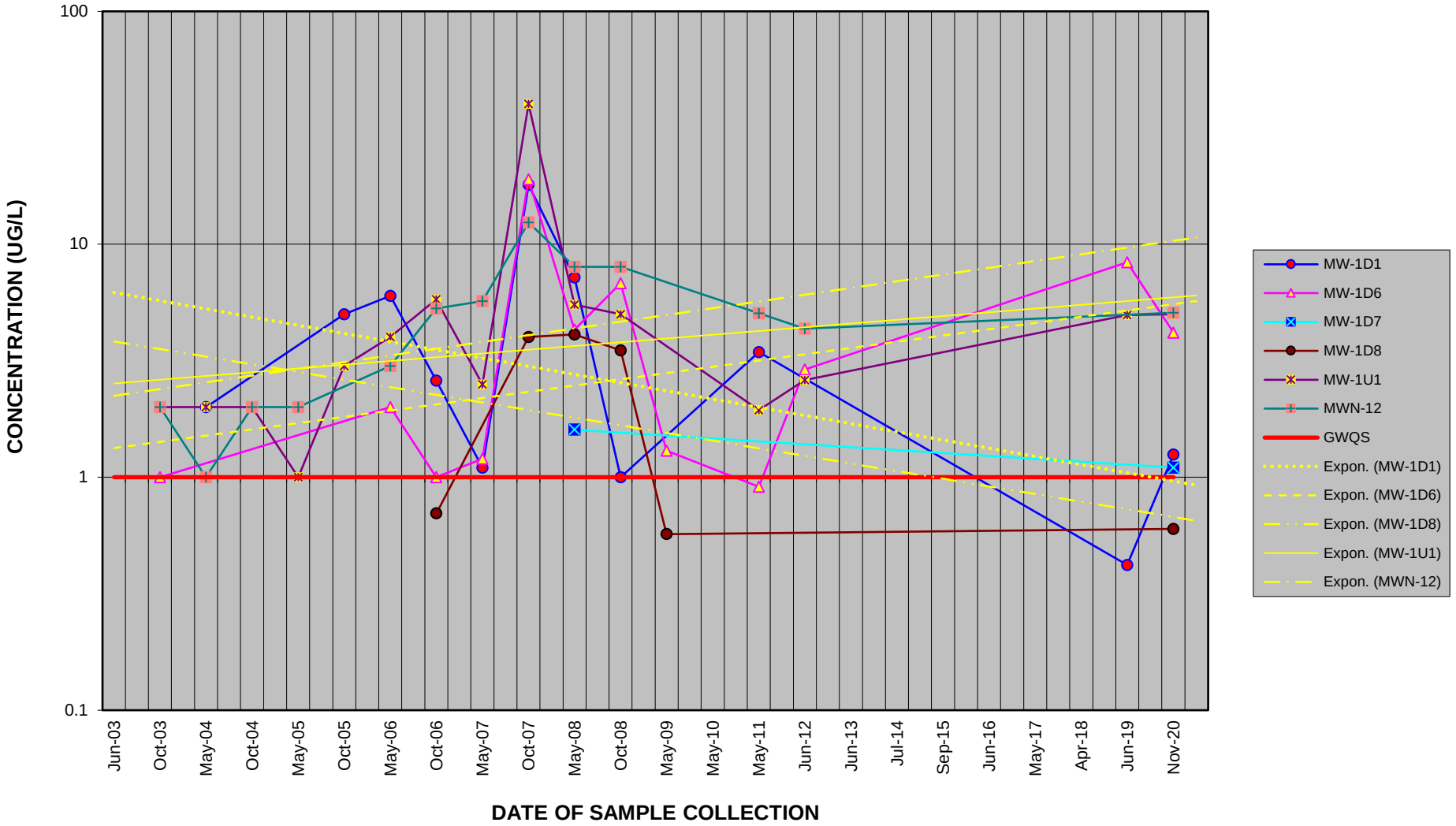
HAZARDOUS WASTE MANAGEMENT UNIT 1B
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

SUM OF PHENOLICS COMPOUNDS

HAZARDOUS WASTE MANAGEMENT UNIT 1B
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

ATTACHMENT 3C

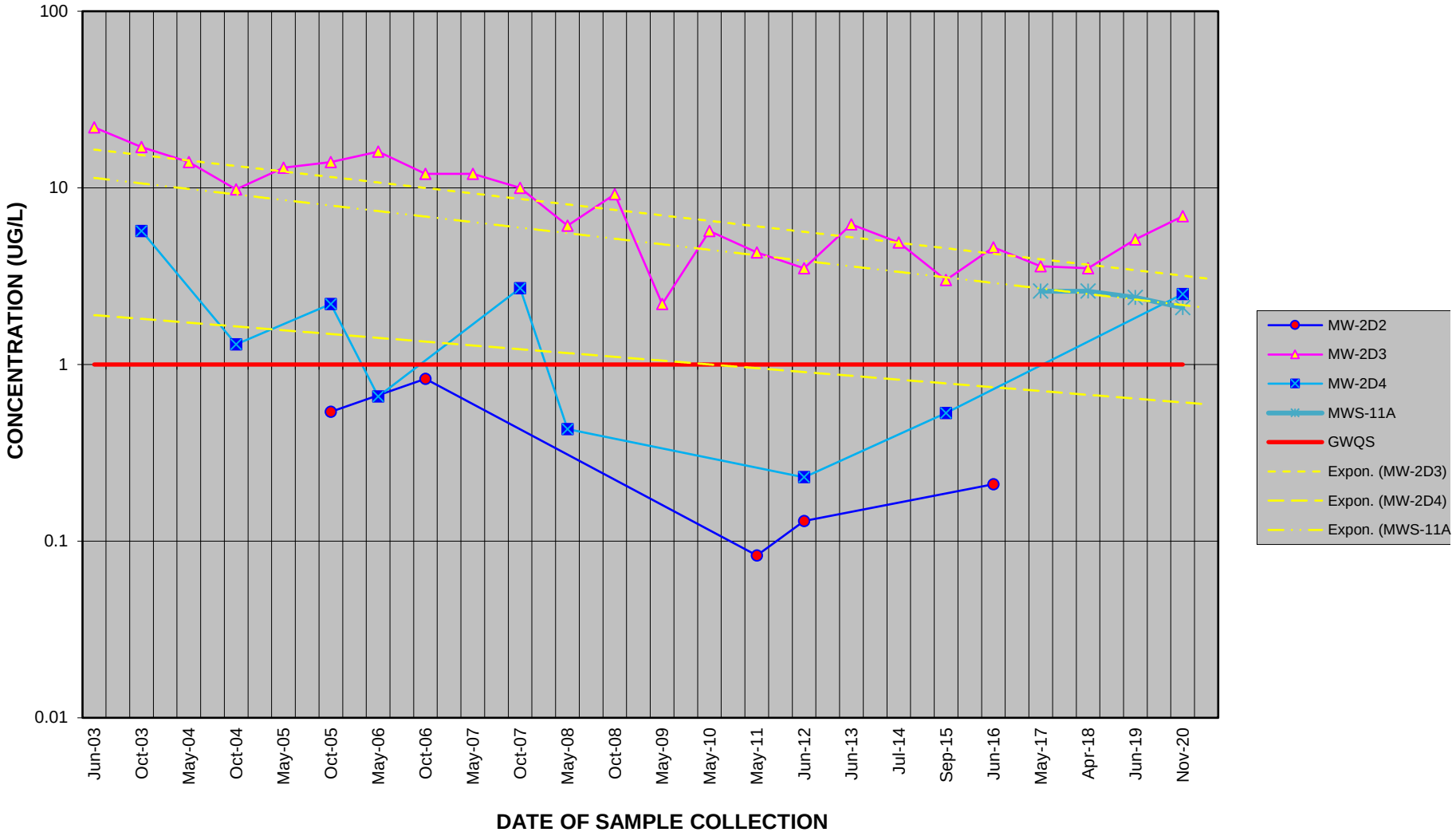
TIME-CONCENTRATION PLOTS

HWMU-2

TURNKEY

BENZENE

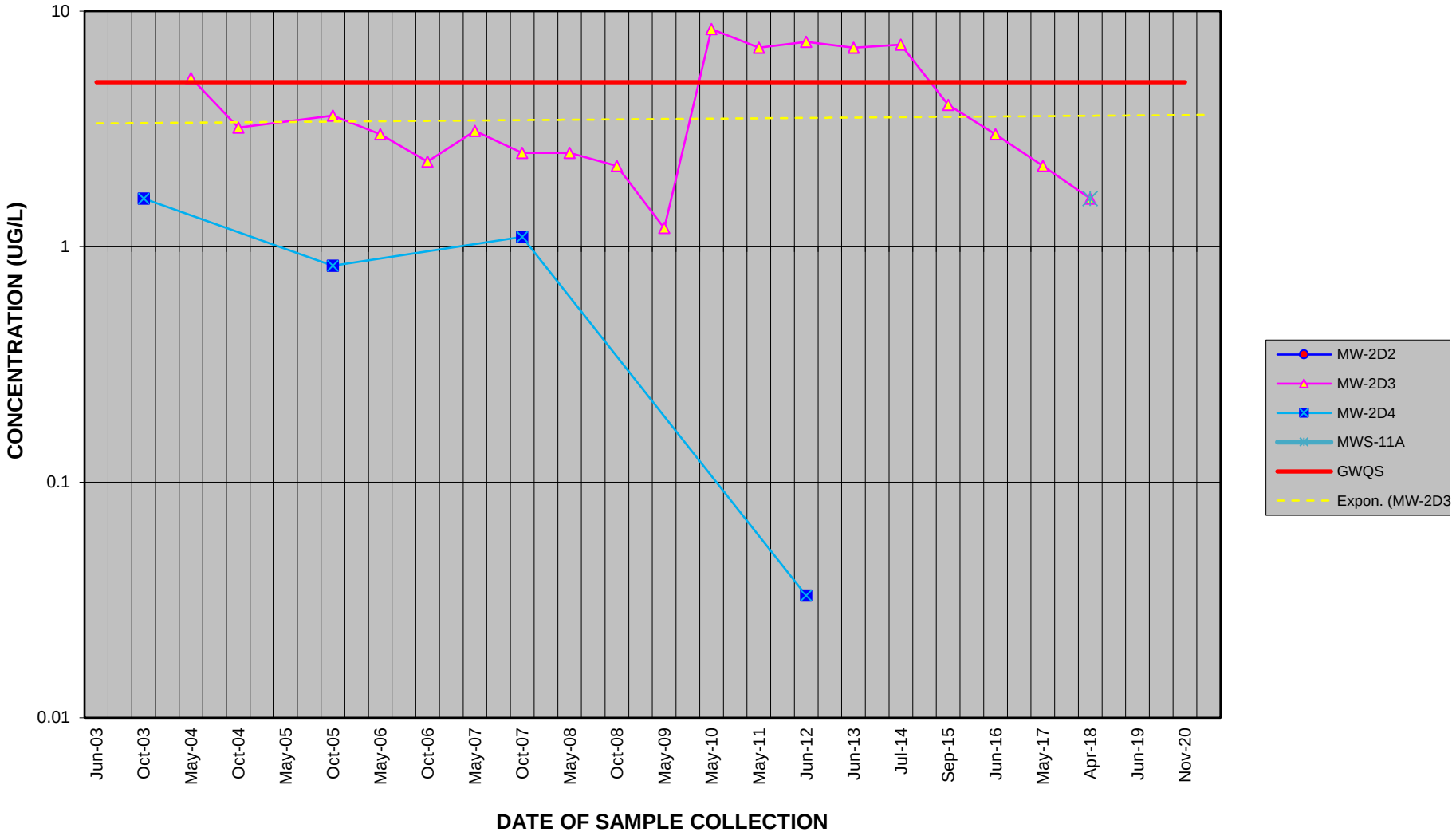
HAZARDOUS WASTE MANAGEMENT UNIT 2
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

ETHYLBENZENE

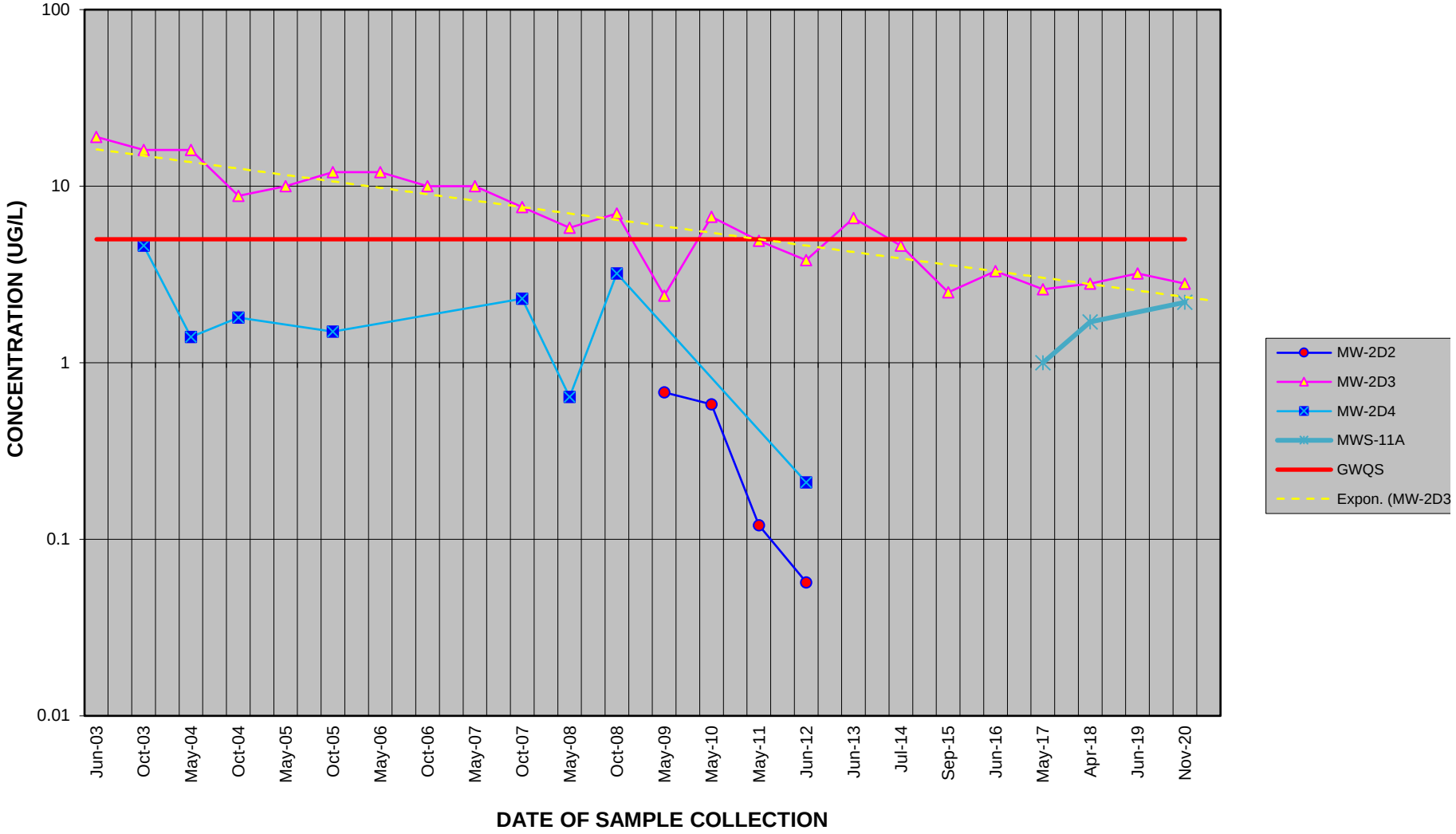
HAZARDOUS WASTE MANAGEMENT UNIT 2
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

TOLUENE

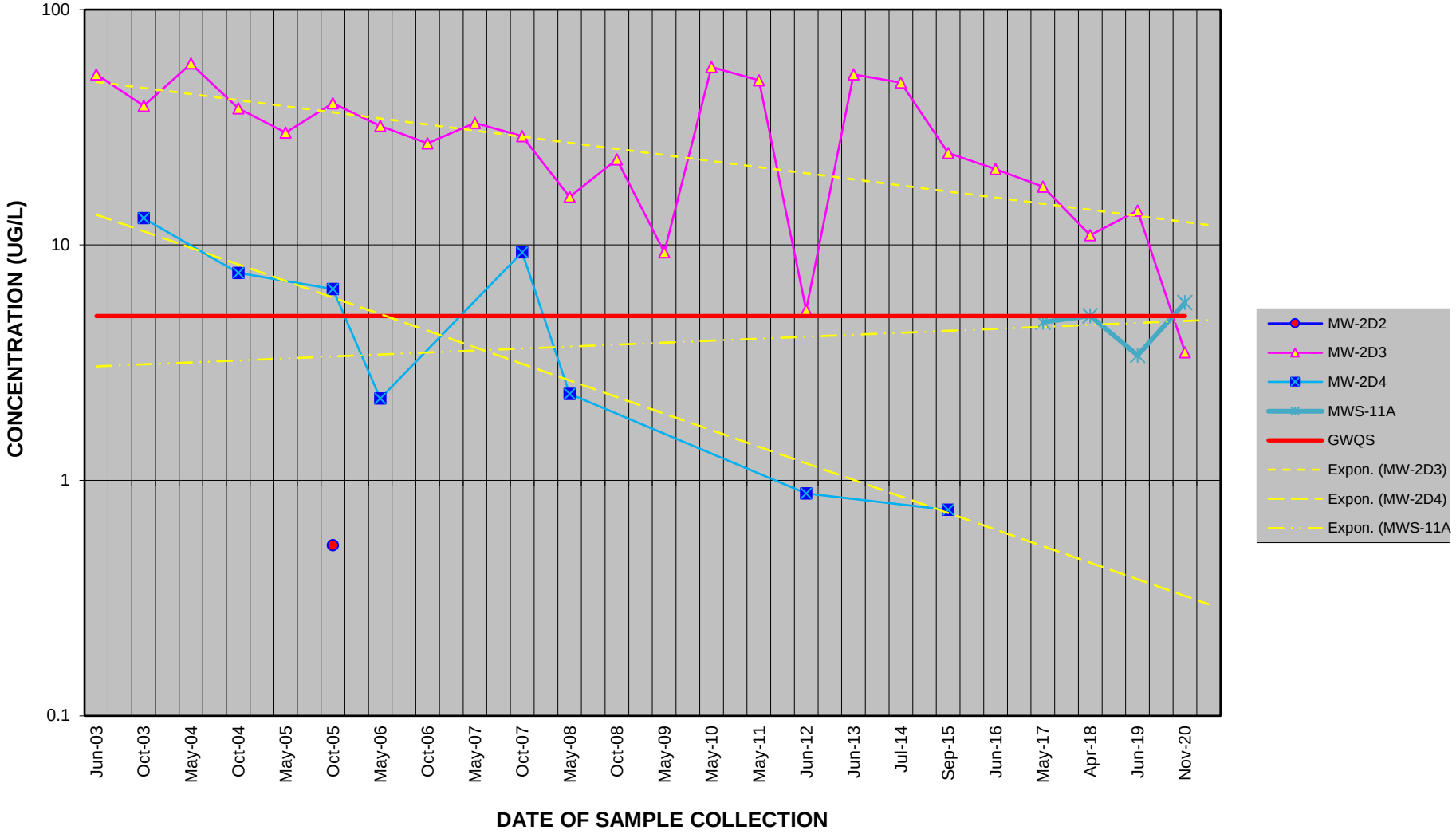
HAZARDOUS WASTE MANAGEMENT UNIT 2
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

TOTAL XYLENES

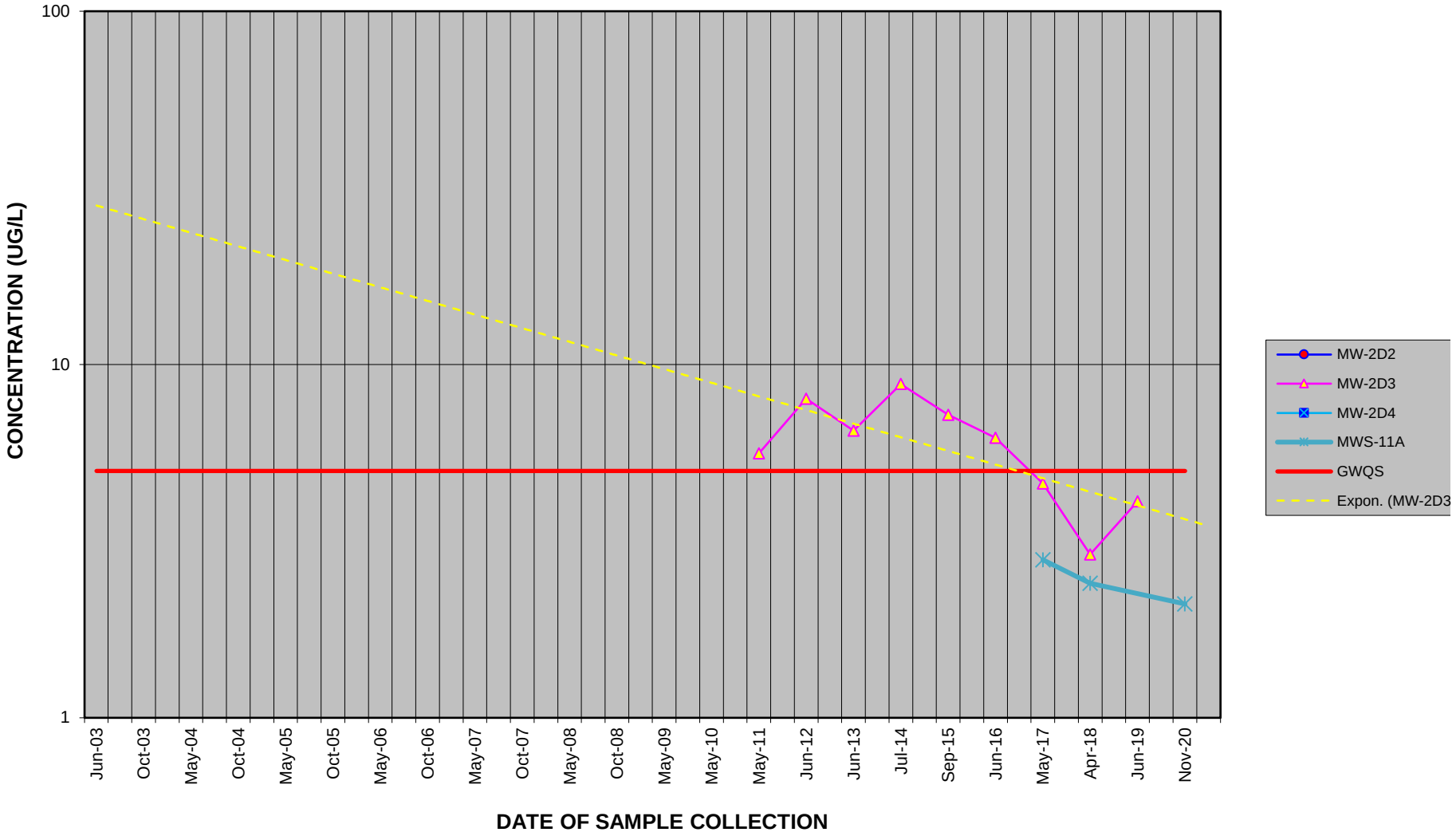
HAZARDOUS WASTE MANAGEMENT UNIT 2
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

1,2,4-TRIMETHYLBENZENE

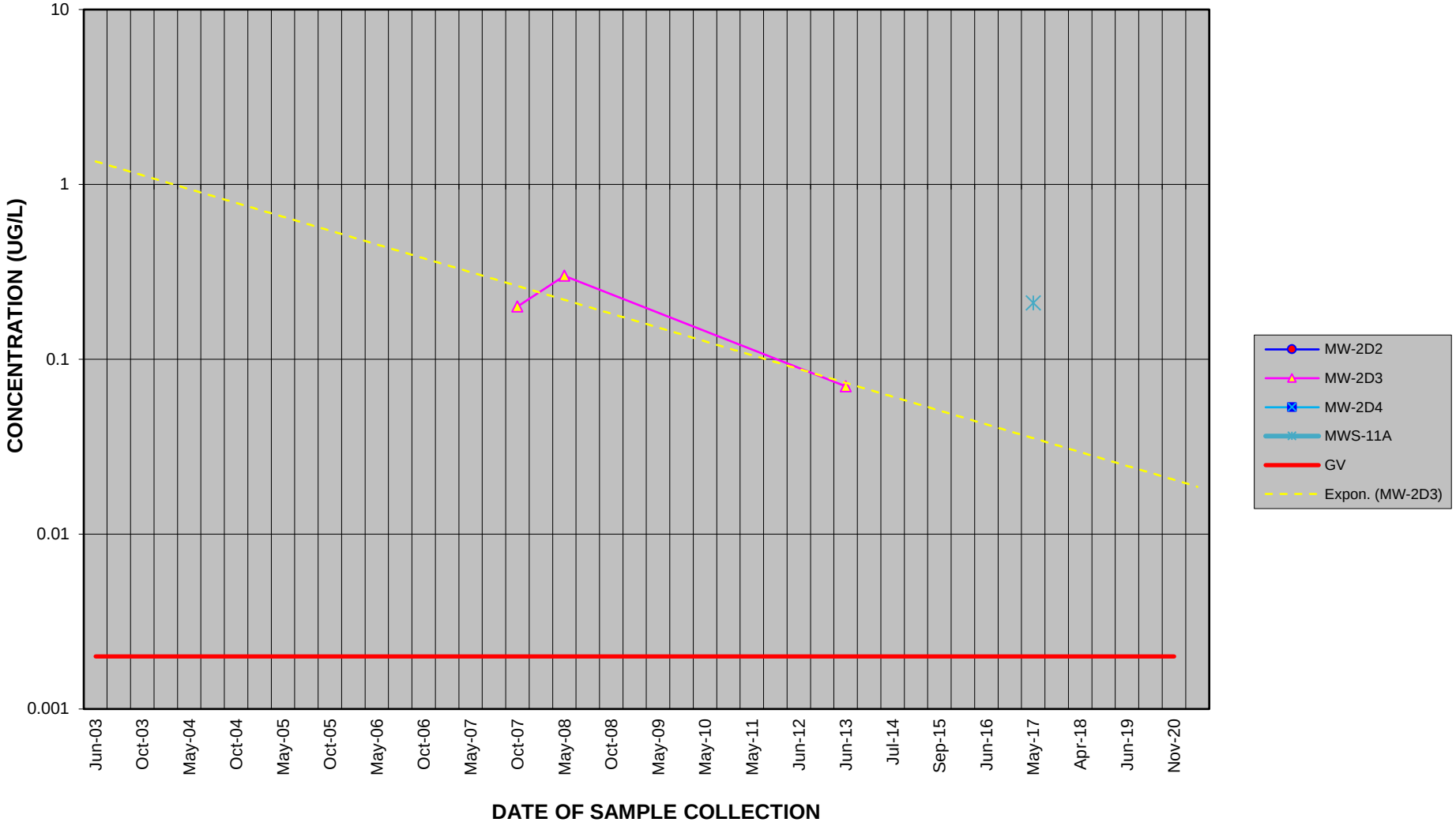
HAZARDOUS WASTE MANAGEMENT UNIT 2
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

CHRYSENE

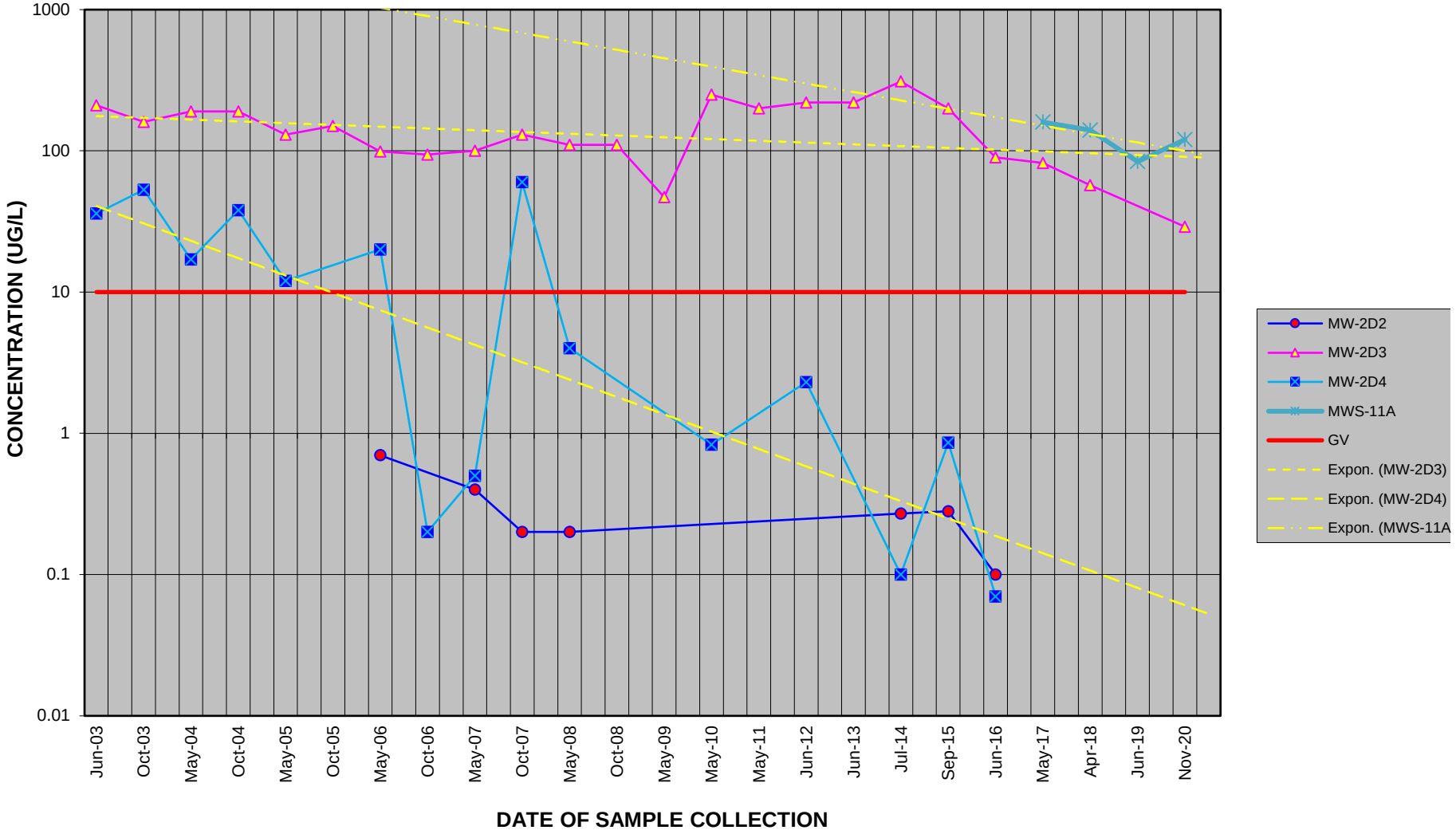
HAZARDOUS WASTE MANAGEMENT UNIT 2
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

NAPHTHALENE

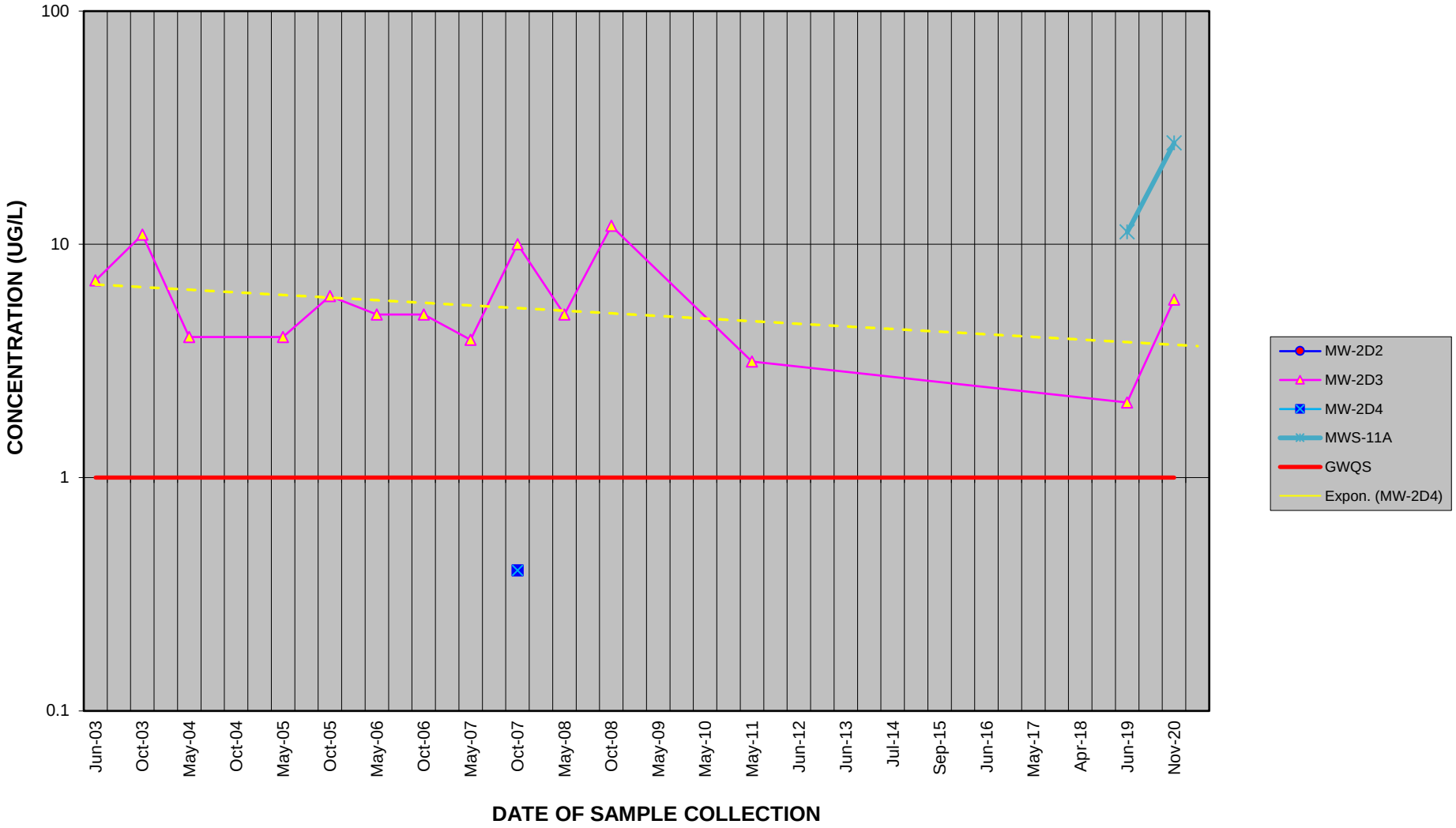
HAZARDOUS WASTE MANAGEMENT UNIT 2
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

SUM OF PHENOLICS COMPOUNDS

HAZARDOUS WASTE MANAGEMENT UNIT 2
HISTORICAL ANALYTICAL SUMMARY



Note: Concentrations reported below method detection limits (i.e., non-detect) are not included in the plot. Trend lines are only plotted for wells that have at least one detection greater than GWQS/GVs and have at least three points plotted.

ATTACHMENT 4

HWMU 1A COVER SYSTEM INSPECTION REPORT

Field Inspection Report
HWMU 1A

Property Name: Tecumseh Redevelopment Site	Project No.: T0071-020-240
Client: Tecumseh Redevelopment	
Property Address: HWMU 1A	Lackawanna, NY
Preparer: Brock Greene	Date/Time: September 20, 2020

CERTIFICATION

The results of this inspection were discussed with the Site Manager. Any corrective actions required have been identified and noted in this report, and a supplemental Corrective Action Form has been completed. Proper implementation of these corrective actions have been discussed with the Site Manager, agreed upon, and scheduled.

Preparer / Inspector: Brock Greene **Date:** September 20, 2020

Signature: 

Next Scheduled Inspection Date: August 2021

Property Access

1. Is the access road in need of repair?	☐ yes	☑ no	☐ N/A
2. Sufficient signage posted (No Trespassing)?	☑ yes	☐ no	☐ N/A
3. Has there been any noted or reported trespassing?	☐ yes	☑ no	☐ N/A

Please note any irregularities/ changes in site access and security:

Final Surface Cover / Vegetation

The integrity of the vegetative soil cover or other surface coverage (e.g., asphalt, concrete) over the entire Site must be maintained. The following documents the condition of the above.

1. Final Cover is in Place and in good condition?	☑ yes	☐ no	☐ N/A
Cover consists of (mainly): Vegetative Grass Cover			
2. Evidence of erosion?	☐ yes	☑ no	☐ N/A
3. Cracks visible in pavement?	☐ yes	☐ no	☑ N/A
4. Evidence of distressed vegetation/turf?	☐ yes	☑ no	☐ N/A
5. Evidence of unintended traffic and/or rutting?	☐ yes	☑ no	☐ N/A
6. Evidence of uneven settlement and/or ponding?	☐ yes	☑ no	☐ N/A
7. Damage to any surface coverage?	☐ yes	☑ no	☐ N/A

Final Surface Cover / Vegetation

If yes to questions 2 through 7 above, please provide more information below.

Gas Vent System Monitoring and Maintenance

Are there signs of stressed vegetation around gas vents? ☐ yes ☐ no ☑ N/A

Are the gas vents currently intact and operational? ☐ yes ☐ no ☑ N/A

Has regular maintenance and monitoring been documented and enclosed or referenced?
☐ yes ☐ no ☑ N/A

Groundwater Monitoring

Is there a plan in place and currently being followed? ☑ yes ☐ no ☐ N/A

Are the wells currently intact and operational? ☑ yes ☐ no ☐ N/A

When was the most recent sampling event report and submittal? Date: November 2020

When is the next projected sampling event? Date: August 2021

Property Use Changes / Site Development

Has the property usage changed, or site been redeveloped since the last inspection?
☐ yes ☑ no ☐ N/A

If yes, please list with date: _____

New Information

Has any new information been brought to the owner/engineer's attention regarding any and/or all engineering and institutional controls and their operation and effectiveness?

☐ yes ☑ no ☐ N/A

Comments: _____

This space for Notes and Comments

Photos taken during the inspection.

Top photo: HWMU 1A impoundment area looking east. Bottom left photo: HWMU 1A area looking southwest.

Bottom right photo: HWMU 1A area looking northeast.

Photos taken during the inspection.

Top left photo: HWMU 1A sign looking northwest. Top right photo: HWMU 1A top of cap looking northwest.

Bottom left photo: HWMU 1A top of cap looking southwest.