General Engineering Company P.O. Box 340 916 Silver Lake Drive Portage, WI 53901



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February 9, 2018

Ms. Janet DiMaggio Wisconsin Department of Natural Resources 3911 Fish Hatchery Road Fitchburg, WI 53711

SUBJECT:

STATUS UPDATE

Hugo Speaker Property 6832 US Highway 18 Mount Ida, Wisconsin BRRTs #: 03-22-178494 PECFA # 53809-9640-32

Dear Ms. DiMaggio,

Attached is a Status Update for the Site Investigation Activity at the Hugo Speaker Property, located at 6832 US Highway 18, Mount Ida, Wisconsin.

Please feel free to contact General Engineering Company with any questions at 608-742-2169.

Sincerely yours,

GENERAL ENGINEERING COMPANY

Brian Youngwirth

**Environmental Project Manager** 

Lynn M. Bradley

**Environmental Project Manager** 

c: Sharon Speaker







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#### **APPENDICES**

#### **APPENDIX A**

- Figure 1 Regional Site Location Map
- Figure 2 Site Plan Map
- Figure 3 Soil Boring and Monitoring Well Location Map
- Figure 4 Groundwater Elevation and Contour Map—January 30, 2018

#### **APPENDIX B**

- Table 1 Summary of Soil Analytical Results
- Table 2 Summary of Groundwater Analytical Results
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#### **APPENDIX C**

- Groundwater Analytical Reports
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#### INTRODUCTION

#### General

This report presents the findings for the subsurface investigative activities performed at the Hugo Speaker Property located at 6382 US Highway 18, Mount Ida, Grant County, Wisconsin since the most recent Status Update, which was submitted to the Wisconsin Department of Natural Resources (WDNR) on December 21, 2016. The activities were performed at the request and authorization of Mrs. Sharon Speaker, the former property owner and responsible party for the release.

#### Purpose

The purpose of the investigation was to further evaluate the extent of petroleum affected groundwater and stability of the groundwater contaminant plume resulting from a release from a former underground storage tank system.

#### Scope

The scope of the most recent site investigation activities included the collection of three rounds of groundwater samples from six monitoring wells, submittal of the groundwater samples for laboratory analysis, analysis of the data obtained, and preparation of this report. The investigation activities were structured specifically to address the presence of constituents associated with the former UST system.

#### SITE FEATURES AND BACKGROUND

#### Site Features

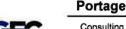
The project site is located at 6832 U.S. Highway 18 in Mount Ida, Wisconsin. More specifically, the property is located within the Northwest ¼ of the Northwest ¼ of Section 29, Township 06 North, Range 03 West, Grant County, Wisconsin. The site is located within a rural area surrounded by primarily residential properties and wooded land. A site location map is shown in Figure 1, Appendix A.

The subject site is currently occupied by a residence on the southwestern portion of the property. The surrounding properties are comprised of residential properties to the west; vacant or wooded land to the north; dense wooded land followed by a residential property to the east; and US Highway 18, followed by residential properties to the southwest.

#### Background

According to Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP) records, one (1) 500-gallon single wall tank containing unleaded gasoline and one (1) 500 gallon single wall tank containing leaded gasoline are registered to the site as closed/removed on December 9, 1997. It is understood that the tank was formerly located to the west of the northwest corner of the building and the dispensers were located along the southwestern portion of the property, located along Hwy 18. The locations of the former USTs are shown on Figure 2, Appendix A.

The WDNR was reportedly notified of a release on December 12, 1997 and a responsible party (RP) letter was sent on December 23, 1997. The case remained idle for several years and a push action was taken by the WDNR on December 27, 2004 followed by a deed affidavit for enforcement on March 28, 2005, and an additional push action on October 9, 2009. As a result, General Engineering Company was retained in May of 2010 to perform a soil and groundwater investigation at the site.





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As part of the initial site investigation activities, six (6) soil probes, designated GP-1 to GP-6, were advanced on September 23, 2010. Due to the uneven and steep terrain, an all-terrain soil probe unit advanced seven additional probes, designated GP-7 to GP-13, on October 14, 2010 to further evaluate the extent of affected soil. The probes were advanced until refusal on bedrock at depths ranging from 4 feet to 14 feet below ground surface. Petroleum affected soils were encountered west/southwest of the structure near the location of the former tank bed and beyond toward the southwest and the former dispenser area.

The soils at the probe locations generally consisted of gravel or grass/topsoil underlain by variable natural soils consisting of reddish brown and brown silty clay, silty sand, and sandy silt with varying amounts of gravel extending to bedrock at depths of 4 to 14 feet below grade. Groundwater was not encountered within the soil probes. At the soil borings, groundwater was encountered within bedrock at depths ranging from about 15 to 40 feet below grade.

Petroleum odors and PID results were observed within the samples collected from GP-2, GP-4, GP-7, GP-8, GP-9, and GP-10. The highest PID levels (983 IU to 1,242 IU) were detected within the soil samples collected from GP-7 (southwest of the former tank system) and GP-10 (near the southeast corner of the former tank system) at depths of about 13 feet and 9 feet, respectively.

Soil samples were collected from each probe at depths of approximately 4 to 14 feet below grade, where bedrock was encountered. Soil samples were collected and analyzed for the presence of PVOC, naphthalene, and GRO. The soil samples collected from GP-2, GP-4, GP-7, GP-8, and GP-10 contained petroleum compounds at levels exceeding each compound's respective NR 720 cancer risk based residual contaminant level (C RCL) or soil to groundwater standards. The highest levels of petroleum compounds were detected within the sample collected from GP-7 (near the former dispensers) at a depth of 13 to 14 feet below ground surface (bgs). The sample contained benzene at a concentration of 1,240 micrograms per kilogram ( $\mu$ g/kg), ethylbenzene (27,100  $\mu$ g/kg), naphthalene (9,300 ( $\mu$ g/kg), toluene (8,660  $\mu$ g/kg), total trimethylbenzene (84,200  $\mu$ g/kg), and total xylenes (127,800  $\mu$ g/kg). The detected concentrations exceed their respective NR 720 Cancer Residual Contaminant Level (C RCL) and/or soil to groundwater RCL.

The samples collected at the remaining locations either did not contain petroleum compounds or did not contain them at levels exceeding their respective standards. None of the collected samples from the direct contact zone contained petroleum compounds at concentrations exceeding their respective standards. The results of the chemical analyses on the soil samples are summarized on Table 1, Appendix B.

Due to the presence of soil contamination to the depth of bedrock, one (1) boring was advanced into bedrock on June 3, 2011. Due to the terrain, a truck-mounted drilling rig could not access the former tank or dispenser area. Therefore, soil boring MW-1 was advanced just west of the property boundary, northwest of the former tank system. The boring was blind drilled to a depth of 8 feet to auger refusal on bedrock and advanced to a depth of approximately 32 feet utilizing air rotary drilling techniques. The boring was converted to a monitoring well, designated MW-1. Due to the presence of petroleum compounds within the initial groundwater sample collected from MW-1, two additional soil borings were advanced into bedrock on September 2, 2011. One boring was advanced to the south/southeast of the former tank bed (MW-2) and one was advanced to the northeast of MW-1 beyond the subject property boundary to the west (MW-3). The borings were blind drilled to bedrock at depths of about 10 feet and 8 feet below grade, respectively. The borings were advanced utilizing air rotary drilling techniques to depths of about 59 feet and 36 feet, respectively. The locations of the soil probes, soil borings, and monitoring wells are shown on Figure 3, Appendix A.

Groundwater samples were collected from MW-1 on July 5, 2011. Groundwater samples were collected from monitoring wells MW-1 to MW-3 on November 22, 2011, June 21, 2012, June 4, 2013, and August 8, 2014, and February 11, 2016.

The groundwater samples collected from monitoring wells MW-1 and MW-3 have generally contained benzene, ethylbenzene, naphthalene, and trimethylbenzene, and 1,2 dichloroethane (1,2 DCA) at levels exceeding each compound's respective NR 140 ES of 5 micrograms per liter (µg/l), 700 µg/l, 100 µg/l, 480 µg/l, and 5 µg/l,



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respectively. The highest levels were observed within the samples collected from MW-1, which contained benzene levels of 2,540  $\mu$ g/l, 1,640  $\mu$ g/l, 2,710  $\mu$ g/l, 1,260  $\mu$ g/l, 2,490  $\mu$ g/l, and 1,820  $\mu$ g/l during the sampling rounds performed. The samples collected from MW-3 contained benzene levels of 1,210  $\mu$ g/l, 19.9  $\mu$ g/l, 364  $\mu$ g/l, 990  $\mu$ g/l, and 660  $\mu$ g/L. The samples collected from MW-2 contained benzene at levels exceeding its NR 140 PAL during the initial two sampling rounds but did not contain PVOCs or naphthalene during the June 4, 2013 to February 11, 2016 sampling rounds. Groundwater flow has been toward the north/northeast during the sampling rounds performed although groundwater elevations have been highly variable. The results of the groundwater analyses are summarized in Table 2 in Appendix B.

Since the extent of groundwater contamination had not been defined beyond MW-3 to the northeast three additional monitoring wells were installed to the north/northeast of MW-3. Specifically, one (1) bedrock monitoring well (MW-4) was performed on June 30, 2016. Additionally, one (1) bedrock monitoring well (MW-5) and one monitoring well within unconsolidated soils (MW-6) were performed on October 11, 2016. Refusal was encountered within MW-4 and MW-5 at depths of 22 feet and 9 feet bgs, respectively. Refusal was not encountered at MW-6 to a depth of 26 feet. MW-4 and MW-5 were advanced utilizing air rotary drilling techniques to depths of 45.5 feet and 29 feet, respectively. The wells were installed to depths of 45 feet, 29 feet, and 22 feet, respectively. PID readings were not detected within the auger cutting from MW-4 or the soil samples collected from MW-5 and MW-6. Since the extent of soil contamination appeared to have been defined, no soil samples were collected from the borings for laboratory analysis.

Groundwater samples were collected from MW-1 to MW-3 and newly installed monitoring wells MW-4 to MW-6 on October 17, 2016. The samples collected from MW-1 and MW-3 contained a few PVOCs and naphthalene at concentrations exceeding their respective NR 140 ES. Specifically, benzene was detected at concentrations of 2,220  $\mu$ g/l and 930  $\mu$ g/l, respectively. The samples collected from MW-5 and MW-6 contained benzene at levels exceeding the NR 140 ES with concentrations of 77  $\mu$ g/l and 5.6  $\mu$ g/l, respectively. The sample collected from MW-4 contained benzene (0.79J  $\mu$ g/l), which exceeds its NR 140 PAL of 0.5  $\mu$ g/l. The sample collected from MW-2 did not contain detectable levels of PVOCs or naphthalene.

A Status Update was submitted to the WDNR on December 21, 2016 and the work herein was subsequently performed to further evaluate the extent of groundwater contamination and the stability of the groundwater contaminant plume.

#### **FIELD ACTIVITIES AND PROCEDURES**

#### Scope Summary

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The performed scope of additional investigative activities included the collection of groundwater samples from MW-1 to MW-6. The groundwater samples were submitted for laboratory analysis for the presence of PVOCs and/or 1,2 DCA and naphthalene.

#### Groundwater Sample Collection and Preparation

Groundwater samples were collected from the monitoring wells utilizing a disposable bailer. Groundwater samples submitted for PVOC, 1,2 DCA, and naphthalene analysis were transferred into a laboratory prepared 40-milliliter vials containing hydrochloric acid preservative. The sample containers were placed on ice and standard chain-of-custody procedures were initiated. The samples were then submitted to Synergy Environmental Laboratory in Appleton, Wisconsin, for laboratory analysis.





# Status Update/Groundwater Monitoring Report Speaker Property Page 4

#### **GROUNDWATER MONITORING ACTIVITIES**

#### Groundwater Sampling

Groundwater samples were collected from MW-1 to MW-6 on January 18, 2017, August 17, 2017, and January 30, 2018. The samples were submitted for laboratory analysis for the presence of PVOCs and/or naphthalene, and 1,2 DCA.

#### **Groundwater Well Elevations**

Groundwater measurements were performed during each of the sampling rounds performed. It should be noted that during the most recent sampling round, free product (<0.5 inches) was observed within the bailer during the sampling performed at MW-1. The groundwater depth was approximately 2.5 to 7 feet lower within this well than during the previous 10 sampling rounds. Depth to groundwater at the site has ranged from 11.29 feet below (TOC) at MW-6 on January 18, 2017 to 48.23 feet below TOC at MW-2 on October 17, 2016. The groundwater elevation has ranged from EL. 1166.33 at MW-2 on October 17, 2016 to EL. 1197.79 at MW-1 on June 4, 2013. Groundwater elevation data is summarized on Table 3 in Appendix B.

The depth to groundwater and groundwater elevations appear to be highly variable based on the information collected to date with over 20 feet of groundwater elevation difference between wells MW-2 (near the former tank area) and the five outlying wells (MW-1 and MW-3 to MW-6). However, the groundwater elevations within MW-1 and MW-3 to MW-6 appear to be more consistent. It is likely that the water elevations are representative of perched groundwater based on the site topography. Based on the groundwater analytical results the groundwater flow direction appears to be toward the north/northeast. A groundwater elevation contour and flow direction map, dated January 30, 2018 is included as Figure 4 in Appendix A. Additional sampling and other monitoring points would be necessary to further evaluate groundwater flow on the subject property.

#### **EVALUATION AND DISCUSSION**

#### Groundwater Quality Standards

The Enforcement Standards (ESs) and Preventive Action Limits (PALs) are Groundwater Quality Standards, which have been established in NR140 of the Wisconsin Administrative Code. These Standards are referenced when evaluating the need for further study or remedial activities. The PAL is the more stringent guideline, in terms of being lesser in magnitude than the ES, but will typically require less response action when exceeded. The required action is determined by DNR regulations, based on various site-specific considerations.

#### Laboratory Groundwater Results

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Groundwater samples were collected from MW-1 to MW-6 on January 18, 2017, August 8, 2017, and January 30, 2018. The samples collected from MW-1 and MW-3 contained a few PVOCs and/or naphthalene and 1,2 DCA at concentrations exceeding their respective NR 140 ES. The concentrations detected were similar to those detected in the previous four sampling rounds with the exception that benzene was detected at its highest concentration (3,800 µg/L) during the most recent sampling round performed within MW-1 (where free product was observed within the bailer). The samples collected from MW-5 generally contained benzene at concentrations exceeding the NR 140 ES at concentrations up to 65 µg/L. The sample collected from MW-6 during the initial sampling round contained benzene at a concentration exceeding its NR 140 ES (5.6 µg/L) but has not contained the tested compounds at concentrations exceeding their respective standards during the three most recent sampling rounds. The samples collected from MW-2 and MW-4 have not contained detectable concentrations of the tested compounds during the three most recent sampling rounds.

The results of the chemical analyses of the groundwater samples are summarized in Table 2 in Appendix B. Laboratory analytical results and chain of custody forms are included in the Appendix C.





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#### **CONCLUSIONS**

Based on the soil probes and borings/monitoring wells performed to date, it appears that the extent of soil contamination has generally been defined and is confined to the area of the former USTs and to the southwest of the former USTs (GP-2, GP-7, GP-8, and GP-10). However, it is possible that soil contamination may extend beneath the residence to the southeast of the former tanks. Additionally, the residence has recently been purchased and is currently occupied by the new owner of the property. Therefore, it is recommended that vapor testing be performed within the basement of the residence to address concerns related to the migration of vapors into the structure. Pending the results of that testing, General Engineering will provide recommendations regarding the need for the excavation of petroleum affected soils and/or vapor mitigation systems. A variance will be submitted at a later date for the vapor testing.

With regard to the groundwater, based on the collected groundwater samples, it appears that the extent of groundwater contamination extends from the area of the former tank system/dispensers toward the northeast beyond MW-5. Although benzene has been detected at concentrations of up to 77  $\mu$ g/l at MW-5, the concentrations are well below those observed at MW-1 and MW-3. In addition, there is an overhead power line and heavily wooded area beyond MW-5 to the northeast and installation of an additional monitoring well is not feasible at the present time. It also appears that the extent of groundwater contamination has not been defined to the west/northwest of MW-1 and to the southwest of MW-1. Therefore, GEC recommends installing an additional monitoring wells on the southeastern portion of the western adjoining property and near the southwestern boundary of the Speaker property, subject to the WDNR review of this report and concurrence with the recommendations. It also appears that free product gauging will be necessary at MW-1. Subsequent to WDNR review, and finalizing a work scope, a bid deferral and variance request will be submitted.

#### **GENERAL COMMENTS**

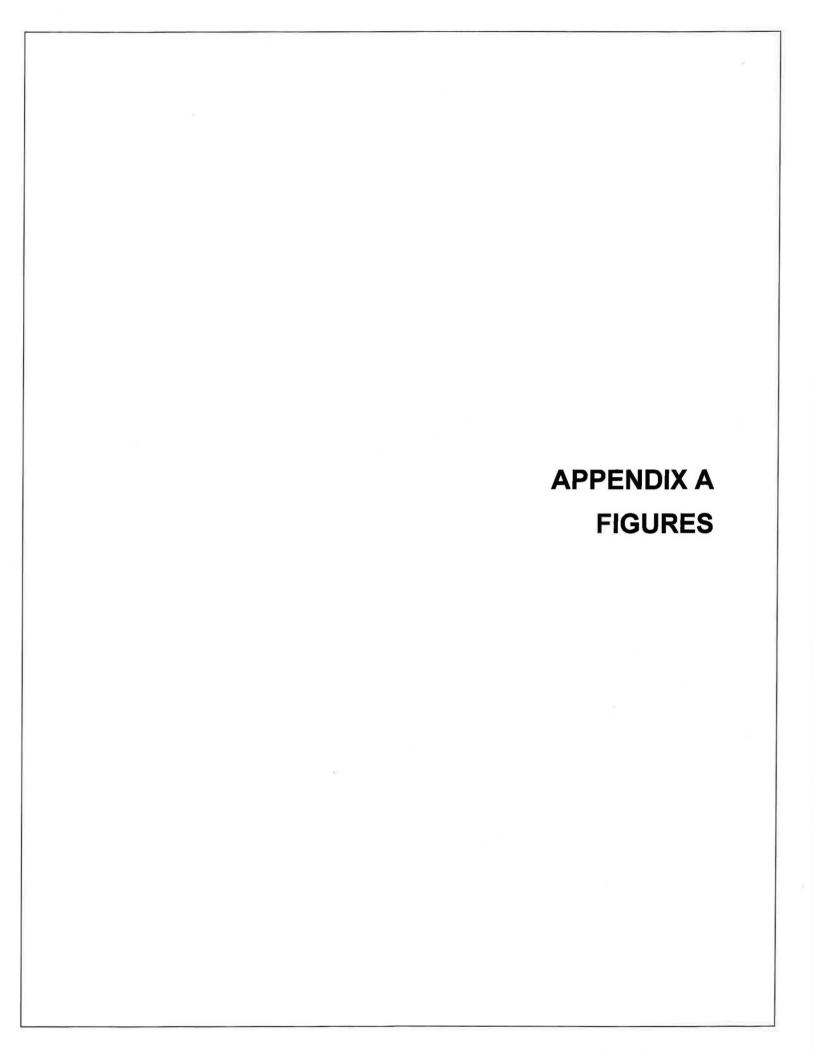
The investigative activities have been conducted in a manner consistent with that level of care ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. The findings, recommendations and opinions contained herein have been promulgated in accordance with generally accepted practice in similar fields. No other representations, expressed or implied, and no warranty or guarantee is included or intended in this report.

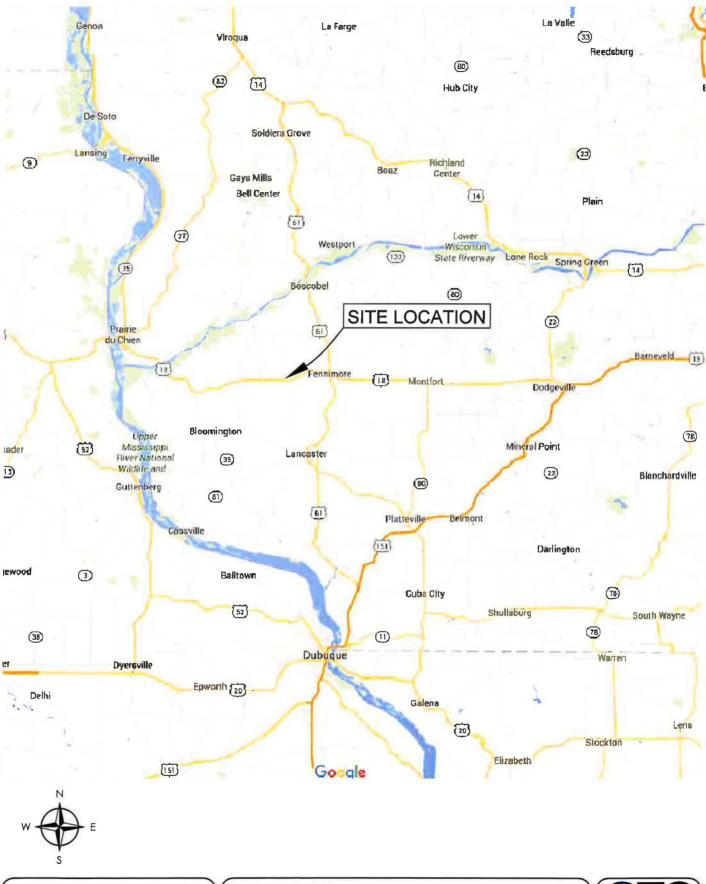
The conclusions presented in this report were formulated from the data obtained during the course of exploratory work on the site, which may result in a redirection of conclusions and interpretations where new information is obtained. The regulatory climate and interpretation may also have an effect on the outcome of the environmental investigation for this site. The information contained in this report may have an effect on the value of the property, and is considered confidential. Copies of this report will be submitted to others only with authorization from the client.



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# SITE LOCATION MAP

Speaker Property &

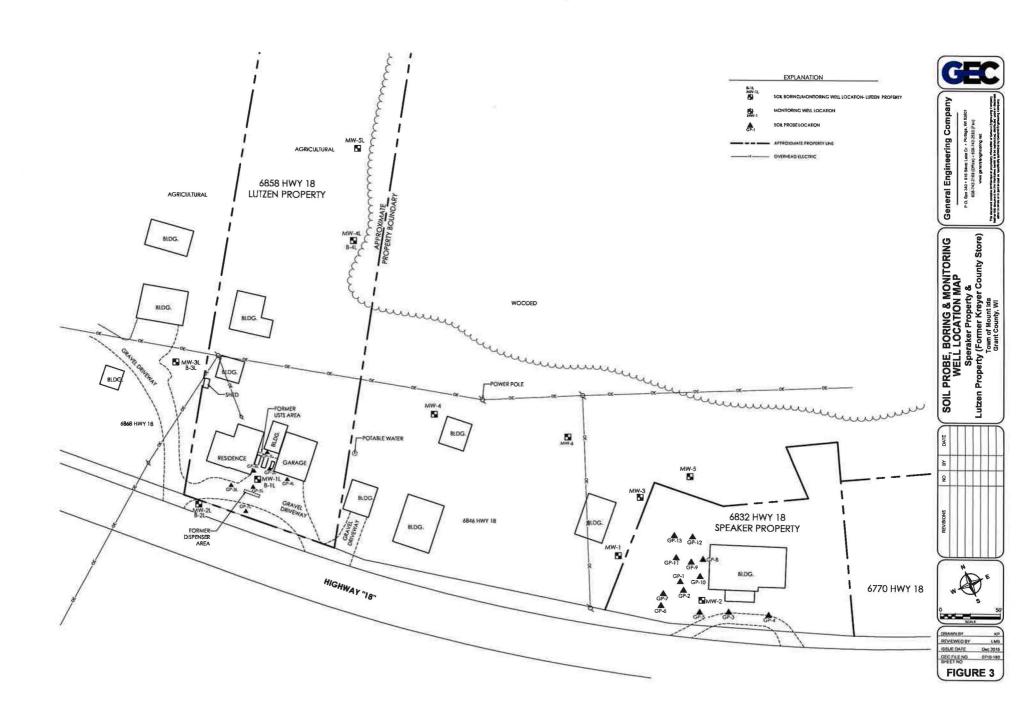
Lutzen Property (Former Kreyer County Store)

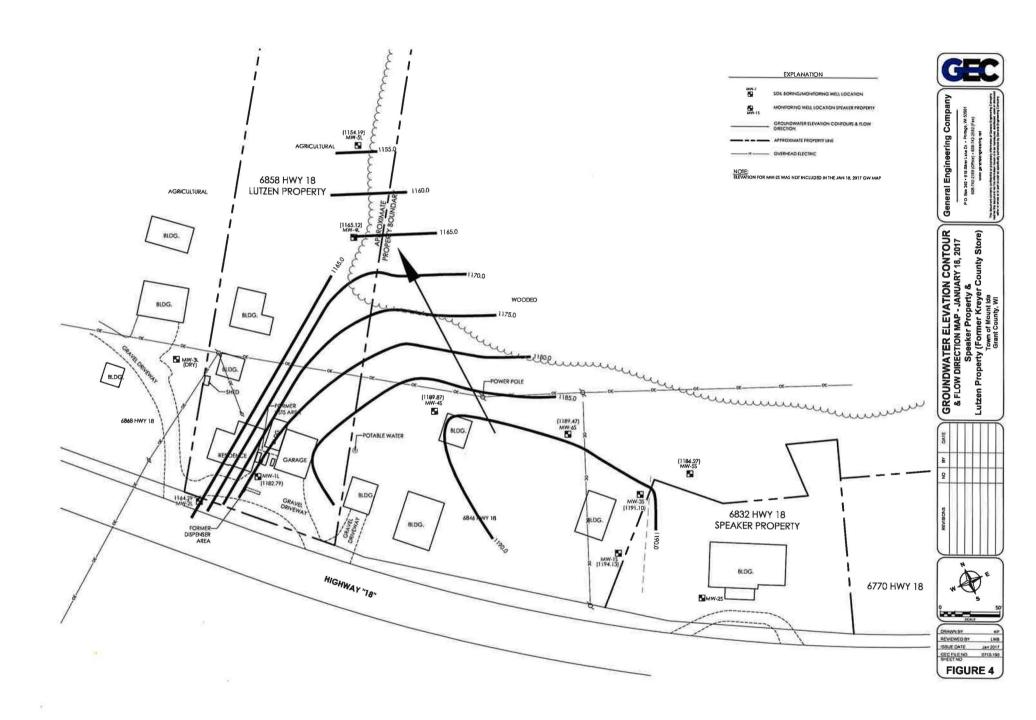
Town of Mount Ida

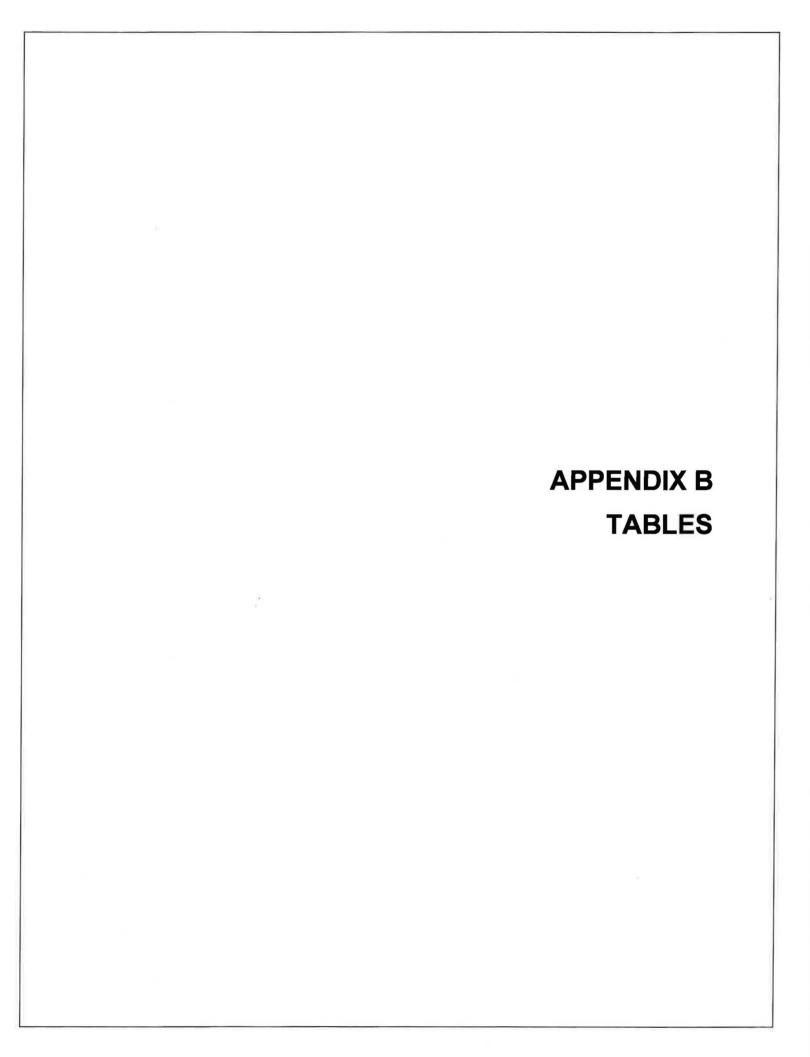
Grant County, WI



G:(Current Piles R: 7(Speaker, Sharon 0610-113) (CAD)2016 1023-Speaker - Luttendwg, 12/20/2016 9:02:10 AM, OWG To PDF,oc3







#### TABLE 1 SUMMARY OF SOIL ANALYTICAL RESULTS SPEAKER PROPERTY 0610-133

Sample No.	NC RCL	C RCL	Direct Contact	Soil to	GP-1	GP-2	GP-3	GP-4	GP-5	GP-6	GP-7	GP-8	GP-8	GP-9	GP-9	GP-10	GP-11	GP-12	GP-13
Sampling Date	(ug/kg)	(ug/kg)	RCL	Groundwater RCL (ug/kg)	09/23/10	09/23/10	09/23/10	09/23/10	09/23/10	09/23/10	10/14/10	10/14/10	10/14/10	10/14/10	10/14/10	10/14/10	10/14/10	10/14/10	10/14/10
Sample Depth (feet)			(ug/kg)	NCL (ug/kg)	6-7	9-10	3-4	13-14	11-12	11-12	13-14'	3-4	8-9	3-4	8-9	9-10	9-10	9-10	9-10
GASOLINE RANGE ORGA	ANICS (GRC	), DIESE	LRANGE	ORGANICS (I	DRO) (mg	/kg)				100									
GRO	NE	NE	NE	NE	<3.6	<3.6	<3.1	<3.5	<3.8	<3.4	1010	<3.1	<3.4	<3.0	<3.0	45.9	<3.1	<3.3	<3.6
PETROLEUM VOLATILE	ORGANIC C	OMPOUN	IDS (PVO	C) (µg/kg)			6, 51						0.00			10 211			35
Benzene	106,000	1,600	1,600	5	<25	<25	<25	41.3J	<25	<25	1,240	<25	<25	<25	<25	<25	<25	<25	<25
Ethylbenzene	4,080,000	8,020	8,020	1,570	<25	<25	<25	<25	<25	<25	27,100	<25	<25	<25	<25	1100	<25	<25	<25
Methyl tert-butyl ether	22,100,000	63,800	63,800	27	<25	<25	<25	<25	<25	<25	<200	<25	<25	<25	<25	<25	<25	<25	<25
Naphthalnene	178,000	5,520	5,520	658	<25	5,750	<25	<25	<25	<25	9,300	1,320	<25	61.7J	<25	753	<25	<25	<25
Toluene	5,240,000	NE	818,000	1,107	<25	<25	<25	38.6J	<25	<25	8,660	<25	<25	<25	<25	<25	<25	<25	<25
1,2,4-Trimethylbenzene	373,000	NE	219,000	1,382	<25	<25	<25	<25	<25	<25	63,300	<25	<25	<25	<25	4,600	<25	<25	<25
1,3,5-Trimethylbenzene	339,000	NE	182,000	1,002	<25	<25	<25	<25	<25	<25	20,900	<25	<25	<25	<25	1,420	<25	<25	<25
Xylenes, -m, -p	818,000	NE	260,000	3,960	<75	<75	<75	<75	<75	<75	127,800	<75	<75	<75	<75	5,154	<75	<75	<75
Xylenes, -o	010,000	IVL	200,000	0,300	-,,5	-75	-,,,	-73	-,,5	-75	127,000	-,,5	-75	-75	-75	0,104	-70	-75	-,,5

mg/kg = milligrams per kilogram

µg/kg = micrograms per kilogram

RCL = Residual Contaminant Level

SSL = Soil Screening Level

DCL = Direct Contact Level

NA = Parameter not analyzed

NE = NR 720 RCL not established

J = Analyte detected above laboratory limit of detection but below limit of quantitation. Bold indicates analytical results exceed NR 720 RCL

Monitoring Well	NR	140	40 MW-1									
Sampling Date	ES	PAL	7/5/2011	11/22/2011	6/21/2012	6/4/2013	8/8/2014	2/11/2016	10/17/2016	1/18/2017	8/17/2017	1/30/2018
<b>VOLATILE ORGANIC COMP</b>	OUNDS (	VOC) (μg	/L)				CONTRACTOR OF THE PARTY OF THE					
Benzene	5	0.5	2540	1640	2710	1260	2490	1820	2220	1870	890	3800
Ethylbenzene	700	140	1200	1230	454	437	1890	1370	1310	980	680	600
Methyl tert-butyl ether	60	12	<12.2	16.1	<15.2	<7.4	<3.7	<55	<24.5	<41	<41	<14
Toluene	800	160	544	283	428	264	810	750	820	460	287	550
1,2,4 -Trimethylbenzene	480	96	973	1380	798	55.2	2870	2680	1570	1160	910	560
1,3,5 -Trimethylbenzene	1 400	90	210	349	225	<7.1	780	700	470	291	248	143
Xylenes, -m, -p	2000	400	4540	4189	4290	792	7720	7390	5180	4090	2740	2480
Xylenes, -o	1 2000	400	4540	4103	4290	192	1120	7390	3100	4090	2/40	2460
OTHER DETECTED VOLATI	LE ORGA	NIC CON	MPOUNDS (V	/OC) (μg/L)								or to spoke and
Chloromethane	30	3	<4.8	NA	NA	NA	. NA	NA	NA	NA	NA	NA
n-Butylbenzene	NE	NE	<18.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	0.5	163	NA	NA	NA	NA	<24	NA	35J	<22.5	68
Isopropylbenzene	NE	NE	49.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	100	10	134	207	152	17.8J	430	400	320J	150J	340J	164J
n-Propylbenzene	NE	NE	171	NA	NA	NA	NA	NA	NA	NA	NA	NA
LEAD (μg/L)	Tonies,		IN THE PARTY				10 3 12 12 13 13 13 13 13 13 13 13 13 13 13 13 13					
Lead	15	1.5	6.5J	NA	NA	NA	NA	NA	NA	NA	NA	NA

ES = Enforcement Standard

PAL = Preventive Action Limit

μg/L = micrograms per liter

NA = Parameter not analyzed

NE = NR 140 ES not established

J = Analyte detected above laboratory limit of detection but below limit of quantitation.

Bold indicates analytical results above NR 140 ES

Monitoring Well	NR	140					MW-2				
Sampling Date	ES	PAL	11/22/2011	6/21/2012	6/4/2013	8/8/2014	2/11/2016	10/17/2016	1/18/2017	8/17/2017	1/30/2018
VOLATILE ORGANIC COMP	POUNDS (	VOC) (µg	1/L)			7 12-12-0					
Benzene	5	0.5	1.3	1.7	<0.34	<0.27	<0.44	<0.46	<0.17	<0.17	<0.22
Ethylbenzene	700	140	<0.54	<0.41	<0.34	<0.82	<0.71	<0.73	<0.2	<0.2	<0.53
Methyl tert-butyl ether	60	12	<0.61	<0.38	<0.37	<0.37	<1.1	<0.49	<0.82	<0.82	<0.57
Toluene	800	160	<0.67	0.55J	<0.34	<0.8	<0.44	<0.39	<0.67	<0.67	<0.45
1,2,4 -Trimethylbenzene	480	96	<0.97	<0.43	<0.33	<0.83	<1.6	<0.68	<1.14	<1.14	<0.73
1,3,5 -Trimethylbenzene	7 400	30	<0.83	<0.40	<0.36	<0.86	<1.5	<0.83	<0.91	<0.91	<0.75
Xylenes, -m, -p	2000	400	<2.63	<1.25	<1.03	<2.41	<3.1	<2.06	<1.95	<1.95	<1.58
Xylenes, -o	7 2000	400	<b>\2.03</b>	<b>~1.25</b>	71.03	<b>\2.41</b>	\ \3.1	<b>\2.00</b>	<1.95	1.95	\1.50 <sub>\</sub>
OTHER DETECTED VOLAT	ILE ORGA	NIC CO	MPOUNDS (V	OC) (µg/L)			RESERVED IN			The state of the	A STATE OF STREET
Chloromethane	30	3	1.2	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	NE	NE	< 0.93	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	0.5	<0.36	NA	NA	NA	<0.48	NA	<0.45	NA	NA
Isopropylbenzene	NE	NE	<0.59	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	100	10	<0.89	<0.40	<0.37	<1.2	<1.6	<2.6	<2.17	<2.17	NA
n-Propylbenzene	NE	NE	<0.81	NA	NA	NA	NA	NA	NA	NA	NA
LEAD (μg/L)	AND STATE OF	SEX VI	Market 150							TNU S	12/03/18
Lead	15	1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA

ES = Enforcement Standard

PAL = Preventive Action Limit

μg/L = micrograms per liter

NA = Parameter not analyzed

NE = NR 140 ES not established

J = Analyte detected above laboratory limit of detection but below limit of quantitation.

Bold indicates analytical results above NR 140 ES

Monitoring Well	NR	140					MW-3				
Sampling Date	ES	PAL	11/22/2011	6/21/2012	6/4/2013	8/8/2014	2/11/2016	10/17/2016	1/18/2017	8/17/2017	1/30/2018
VOLATILE ORGANIC COMP	OUNDS (	VOC) (µg	g/L)	Line West S	San						
Benzene	5	0.5	1210	19.9	364	990	660	930	820	420	980
Ethylbenzene	700	140	910	8.5	586	840	800	650	600	274	1080
Methyl tert-butyl ether	60	12	<15.2	1.2	7.4	<1.85	<11	<4.9	<8.2	<8.2	<2.8
Toluene	800	160	164	2.3	95.6	180	130	135	114	62	122
1,2,4 -Trimethylbenzene	480	96	1170	31.9	1030	1550	1410	1140	1030	620	1290
1,3,5 -Trimethylbenzene	400	90	241	59.3	296	440	370	307	225	150	360
Xylenes, -m, -p	2000	400	3025	114.7	2011	2815	2875	2194	1902	1203	3143
Xylenes, -o	1 2000	400	3025	1 14.7	2011	2013	2015	2134	1902	1203	3143
OTHER DETECTED VOLATI	LE ORGA	NIC CO	MPOUNDS (\	/OC) (μg/L)		TO ET S					P. Tum Li
Chloromethane	30	3	<6.0	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	NE	NE	45.2	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	0.5	<9.0	NA	NA	NA	27	NA	14.3J	9.5J	11.5
Isopropylbenzene	NE	NE	63.9	NA	NA	NA	NA	NA	NA	NA	NA
Napthalene	100	10	111J	3.3	125	178	183	105	102	67J	67J
n-Propylbenzene	NE	NE	224	NA	NA	NA	NA	NA	NA	NA	NA
LEAD (μg/L)		ge vell									
Lead	15	1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA

ES = Enforcement Standard

PAL = Preventive Action Limit

μg/L = micrograms per liter

NA = Parameter not analyzed

NE = NR 140 ES not established

J = Analyte detected above laboratory limit of detection but below limit of quantitation. Bold indicates analytical results above NR 140 ES

Monitoring Well	NR	140		MV	V-4			MV	V-5		MW-6				
Sampling Date	ES	PAL	10/17/2016	1/18/2017	8/17/2017	1/30/2018	10/17/2016	1/18/2017	8/17/2017	1/30/2018	10/17/2016	1/18/2017	8/17/2017	1/30/2018	
<b>VOLATILE ORGANIC COM</b>	POUNDS (	VOC) (µg	g/L)				1,80	over the part					2 75 1 15 11	100	
Benzene	5	0.5	0.79J	<0.17	<0.17	<0.22	77	0.81	6.6	65	5.6	<0.17	<0.17	0.45J	
Ethylbenzene	700	140	<0.73	<0.2	<0.2	<0.53	58	0.23J	1	7.2	<0.73	<0.2	<0.2	<0.53	
Methyl tert-butyl ether	60	12	<0.49	<0.82	<0.82	<0.57	<0.49	<0.82	<0.82	<0.57	<0.49	<0.82	<0.82	<0.57	
Toluene	800	160	<0.39	<0.67	<0.67	<0.45	5.3	<0.67	<0.67	1.82	<0.39	<0.67	<0.67	<0.45	
1,2,4 -Trimethylbenzene	480	96	<0.68	<1.14	<1.14	<0.73	31.2	<1.14	<1.14	9.1	<0.68	<1.14	<1.14	<0.73	
1,3,5 -Trimethylbenzene	700	30	<0.83	<0.91	<0.91	<0.75	3.5	<0.91	<0.91	1.02J	<0.83	<0.91	<0.91	<0.75	
Xylenes, -m, -p	2000	400	<2.06	<1.95	<1.95	<1.58	52.02	<1.95	<1.95	12.47	<2.06	<1.95	<1.95	<1.58	
Xylenes, -o	2000	400	\$2.00	41.55	11.55	\$1.50	32.02	41.55	41.55	12.77	12.00	1,35	11.55	1.50	
OTHER DETECTED VOLAT	TILE ORGA	NIC CO	MPOUNDS (V	(OC) (μg/L)		Name of the							TOTAL CONTRACTOR		
Chloromethane	30	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
n-Butylbenzene	NE	NE	NA	NA	NA	NA	NA	<0.45	NA	NA	NA	NA	NA	NA	
1,2-Dichloroethane	5	0.5	NA	<0.45	NA	NA	NA	NA	NA	NA	NA	<0.45	NA	NA	
Isopropylbenzene	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Napthalene	100	10	<2.6	<2.17	<2.17	NA	<2.6	<2.17	<2.17	<2.17	<2.6	<2.17	<2.17	NA	
n-Propylbenzene	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
LEAD (μg/L)										THE HIT	Contract to				
Lead	15	1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

ES = Enforcement Standard

PAL = Preventive Action Limit

μg/L = micrograms per liter

NA = Parameter not analyzed

NE = NR 140 ES not established

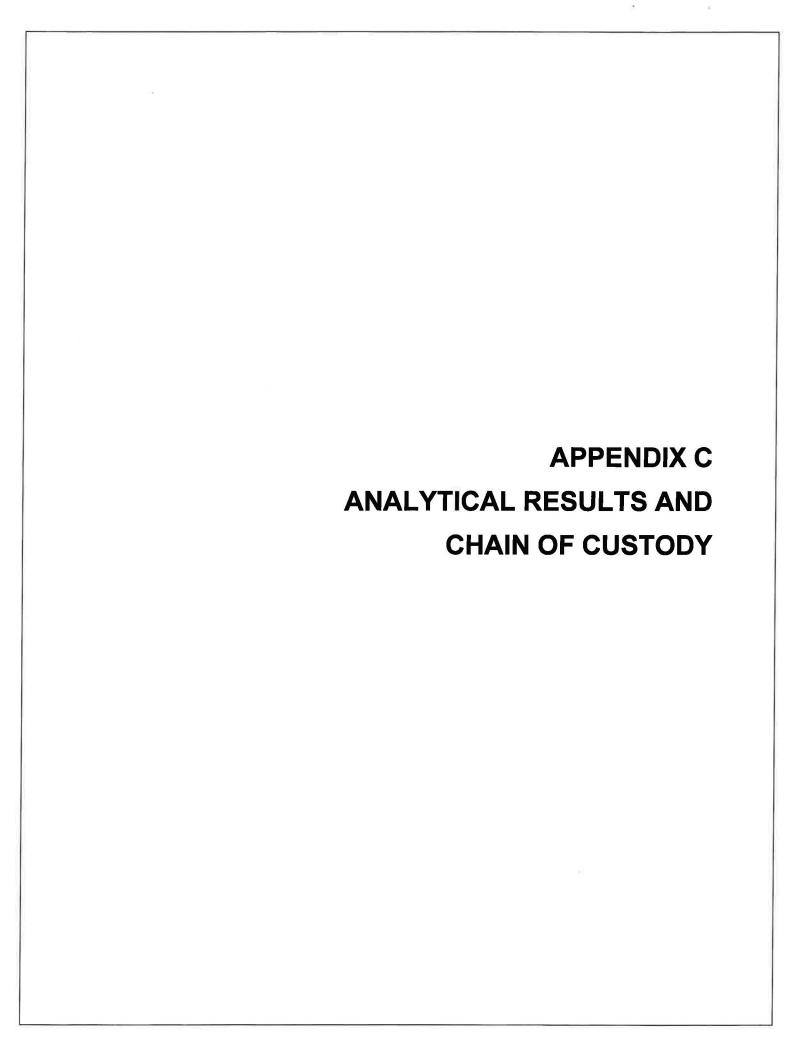
J = Analyte detected above laboratory limit of detection but below limit of quantitation.

Bold indicates analytical results above NR 140 ES

#### TABLE 3 WATER LEVEL DATA SPEAKER PROPERTY 0610-133

MW-1	1208.77	1187.07	7/5/2011 11/22/2011 6/21/2012	15.87 16.60	1192.90
MW-1	1208.77	1187.07		16.60	
MW-1	1208.77		6/21/2012	10.00	1192.17
MW-1		1 1	0/2//20/2	18.95	1189.82
MW-1			6/4/2013	10.98	1197.79
MW-1		1177.07	8/8/2014	15.86	1192.91
MW-1		1 1	6/9/2015	15.40	1193.37
		1 1	2/11/2016	16.38	1192.39
		l 1	10/17/2016	16.38	1192.39
		ļ .	1/18/2017	14.64	1194.13
			8/17/2017	15.89	1192.88
			1/30/2018	21.40	1187.37
			7/5/2011	NA	NA
		1171.73	11/22/2011	38.22	1176.34
1	1214.56		6/21/2012	40.50	1174.06
- 1			6/4/2013	42.72	1171.84
I		1156.73	8/8/2014	42,40	1172.16
MW-2	1		6/9/2015	44.22	1170.34
14144-7			2/11/2016	45.65	1168.91
			10/17/2016	48.23	1166,33
			1/18/2017	46.45	1168.11
			8/17/2017	48.15	1166.41
			1/30/2018	41.56	1173.00
			7/5/00/14	N/A	
		4400 30	7/5/2011	NA 10.00	NA 1100.00
- 1	4200 47	1180.32	11/22/2011	19.29	1188.88
- 1	1208.17		6/21/2012	21.58	1186.59
		4470.00	6/4/2013	18.51	1189.66
- 1		1170.32	8/8/2014	21.66	1186.51
MW-3			6/9/2015	22.97	1185.20
			2/11/2016	21,24	1186.93
		_	10/17/2016	18.38	1189.79
		-	1/18/2017	17.07	1191.10
- 1	ji	-	8/17/2017	19.17	1189.00
		-	1/30/2018	27.59	1180.58
			10/17/2016	17.72	1188.89
- 1		1179.35	1/18/2017	16.74	1189.87
	1206.61		8/17/2017	18.61	1188.00
MW-4			1/30/2018	21,93	1184.68
		1164.35			
			4014715515	40.55	
		4407.00	10/17/2016	16.75	1183.77
- 1	4000 50	1187.39	1/18/2017	14.25	1186.27
	1200.52	-	8/17/2017	18.61	1181.91
MW-5		1172.39	1/30/2018	19.82	1180.70
		F			
			10/17/2016	12.51	1188,25
l		1189.21	1/18/2017	11.29	1189.47
l.	1200.76		8/17/2017	13.95	1186.81
MW-6			1/30/2018	17.79	1182.97
		1179.21			

ft = feet



# Synergy Environmental Lab, INC.

1990 Prospect Ct., Appleton, WI 54914 \*P 920-830-2455 \* F 920-733-0631

BRIAN YOUNGWIRTH GENERAL ENGINEERING 916 SILVER LAKE DRIVE PORTAGE, WI 53901

Report Date 05-Feb-18

<b>Project Name</b>	SPEAKER/MT IDA	Invoice #	E34181
	D. 2		

Project #

Sample Date

1/30/2018

I Toject #	
Lab Code	5034181A
Sample ID	MW-1
Sample Matrix	Water

	Result	Unit	LOD I	LOQ D	il	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene + 1	,2 DCA									
Benzene	3800	ug/l	11	35.5	50	8260B		2/3/2018	CJR	1
1,2-Dichloroethane	68	ug/l	12.5	39	50	8260B		2/3/2018	CJR	1
Ethylbenzene	600	ug/l	13	41.5	50	8260B		2/3/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 14	ug/l	14	44.5	50	8260B		2/3/2018	CJR	1
Naphthalene	164 "J"	ug/l	105	332.5	50	8260B		2/3/2018	CJR	1
Toluene	550	ug/l	9.5	30	50	8260B		2/3/2018	CJR	1
1,2,4-Trimethylbenzene	560	ug/l	40	127.5	50	8260B		2/3/2018	CJR	1
1,3,5-Trimethylbenzene	143	ug/l	31.5	100	50	8260B		2/3/2018	CJR	1
m&p-Xylene	1990	ug/l	21.5	69	50	8260B		2/3/2018	CJR	1
o-Xylene	490	ug/l	14.5	46.5	50	8260B		2/3/2018	CJR	1

Lab Code5034181BSample IDMW-2Sample MatrixWaterSample Date1/30/2018

	Result	Unit	LOD I	OQ D	il	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC										
Benzene	< 0.22	ug/l	0.22	0.69	1	GRO95/8021		2/1/2018	CJR	1
Ethylbenzene	< 0.53	ug/l	0.53	1.69	1	GRO95/8021		2/1/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.57	ug/l	0.57	1.82	1	GRO95/8021		2/1/2018	CJR	1
Toluene	< 0.45	ug/l	0.45	1.45	1	GRO95/8021		2/1/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.73	ug/l	0.73	2.33	1	GRO95/8021		2/1/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.75	ug/l	0.75	2.39	1	GRO95/8021		2/1/2018	CJR	1
m&p-Xylene	< 1	ug/l	1	3.17	1	GRO95/8021		2/1/2018	CJR	1
o-Xylene	< 0.58	ug/l	0.58	1.84	1	GRO95/8021		2/1/2018	CJR	1

Invoice # E34181

Project Name SPEAKER/MT IDA
Project #

Lab Code 5034181C
Sample ID MW-3
Sample Matrix Water
Sample Date 1/30/2018
Result

LOD LOQ Dil Ext Date Run Date Analyst Code Result Unit Method Organic PVOC + Naphthalene + 1,2 DCA ug/l 2.2 7.1 10 8260B 2/3/2018 CJR 1 1,2-Dichloroethane 11.5 ug/l 2.5 7.8 10 8260B 2/3/2018 CJR 1 1080 2.6 8260B 2/3/2018 CJR Ethylbenzene ug/l 8.3 10 1 Methyl tert-butyl ether (MTBE) < 2.8 ug/l 2.8 8.9 10 8260B 2/3/2018 CJR Naphthalene 189 21 66.5 10 8260B 2/3/2018 CJR ug/l 1 1.9 CJR Toluene 6 10 8260B 2/3/2018 122 ug/l 1 1,2,4-Trimethylbenzene 1290 ug/l 8 25.5 10 8260B 2/3/2018 CJR 1 1,3,5-Trimethylbenzene 360 6.3 20 10 8260B 2/3/2018 CJR 1 ug/l m&p-Xylene 3080 ug/l 4.3 13.8 10 8260B 2/3/2018 CJR 1 o-Xylene 63 ug/l 2.9 9.3 10 8260B 2/3/2018 CJR 1

Lab Code5034181DSample IDMW-4Sample MatrixWaterSample Date1/30/2018

	Result	Unit	LOD 1	LOQ D	il	Method	Ext Date	Run Date	Analyst	Code
Organic									: 0	
PVOC										
Benzene	< 0.22	ug/l	0.22	0.69	1	GRO95/8021		2/1/2018	CJR	1
Ethylbenzene	< 0.53	ug/l	0,53	1.69	1	GRO95/8021		2/1/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.57	ug/l	0,57	1.82	1	GRO95/8021		2/1/2018	CJR	1
Toluene	< 0.45	ug/l	0.45	1.45	1	GRO95/8021		2/1/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.73	ug/l	0.73	2.33	1	GRO95/8021		2/1/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.75	ug/l	0.75	2.39	1	GRO95/8021		2/1/2018	CJR	1
m&p-Xylene	< 1	ug/l	1	3.17	1	GRO95/8021		2/1/2018	CJR	1
o-Xylene	< 0.58	ug/l	0.58	1.84	1	GRO95/8021		2/1/2018	CJR	1

Lab Code5034181ESample IDMW-5Sample MatrixWaterSample Date1/30/2018

	Result	ılt Unit		OQ D	il	Method	<b>Ext Date</b>	<b>Run Date</b>	Analyst	Code
Organic										
PVOC										
Benzene	65	ug/l	0.22	0.69	1	GRO95/8021		2/1/2018	CJR	1
Ethylbenzene	7.2	ug/l	0.53	1.69	1	GRO95/8021		2/1/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.57	ug/l	0.57	1.82	1	GRO95/8021		2/1/2018	CJR	1
Toluene	1.82	ug/l	0.45	1.45	1	GRO95/8021		2/1/2018	CJR	1
1,2,4-Trimethylbenzene	9.1	ug/l	0.73	2.33	1	GRO95/8021		2/1/2018	CJR	1
1,3,5-Trimethylbenzene	1.02 "J"	ug/l	0.75	2.39	1	GRO95/8021		2/1/2018	CJR	1
m&p-Xylene	11.3	ug/l	1	3.17	1	GRO95/8021		2/1/2018	CJR	1
o-Xylene	1.17 "J"	ug/l	0.58	1.84	1	GRO95/8021		2/1/2018	CJR	1

**Project Name** 

SPEAKER/MT IDA

Invoice # E34181

Project #

Lab Code Sample ID 5034181F

MW-6

Sample Matrix Water Sample Date

1/30/2018

Sample Date	1/30/2010										
		Result	Unit	LOD LOQ Dil		Method	Ext Date	Run Date	Analyst	Code	
Organic											
PVOC											
Benzene		0.45 "J"	ug/l	0.22	0.69	1	GRO95/8021		2/1/2018	CJR	1
Ethylbenzene		< 0.53	ug/l	0.53	1.69	1	GRO95/8021		2/1/2018	CJR	1
Methyl tert-butyl et	ther (MTBE)	< 0.57	ug/l	0.57	1.82	1	GRO95/8021		2/1/2018	CJR	1
Toluene		< 0.45	ug/l	0.45	1.45	1	GRO95/8021		2/1/2018	CJR	1
1,2,4-Trimethylben	zene	< 0.73	ug/l	0.73	2,33	1	GRO95/8021		2/1/2018	CJR	1
1,3,5-Trimethylben	zene	< 0.75	ug/l	0.75	2.39	1	GRO95/8021		2/1/2018	CJR	1
m&p-Xylene		< 1	ug/l	1	3.17	1	GRO95/8021		2/1/2018	CJR	1
o-Xylene		< 0.58	ug/l	0.58	1.84	1	GRO95/8021		2/1/2018	CJR	1

<sup>&</sup>quot;J" Flag: Analyte detected between LOD and LOQ

LOD Limit of Detection

LOQ Limit of Quantitation

Code Comment

1 Laboratory QC within limits.

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Michaelflul

**Authorized Signature** 

# CHAIN OF JSTODY RECORD



-1-45 400	Incasin sin					1				,						_	Pa	age		of		4			
Account No. : Quote No.:				Environmental Lab, Inc.										Sample Handling Request Rush Analysis Date Required											
Project #:				-	1990 Prospect Ct. • Appleton, WI 54914								100	(Rus		irea ithoriza	ation)								
Sampler: (sgrature)	1 2	)							• FAX 920-7									4		_ No	rma	l Tur	n Arou	bnı	
Project (Name / Location): Specker / Mb. Ida				1						Analysis Requeste						d						Other Analysis			
Reports To: Bon Younguing Invoice To:											T		i			П		T		T		Τİ			
Company GUEZ Company																(0			Ù			1 1			
Address Glo Silve Late Q Address														1.		SOLIDS									
City State Zip	Nae WI	579	1	City	State Z	ip ii					Sep 95)					i i		D SC	(2)						
Phone 608		010	0 (	Pho						O Sep 95)	S O	T I		) e	.	124 E		NO	1542	(S)		8			
FAX	67/00	10		FAX							d GR	FIN	200	A B27		24 8(	- L	USPE	(EPA	A BZK		V	4		PID/
Lab I.D.	Sample I.D.	Colle	ection Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matnx)*	Preservation	DRO (Mod DRO	GRO (Mod GRO	LEAD	OII & GREASE	PAH (EPA 8270)	PCB	PVOC (EPA 8021)	SULFATE	TOTAL SUSPENDED	VOC DW (EPA 542.2)	VOC (EPA 8260) 8-RCRA METALS		77			FID
5034181 A	Mu.I	1/solv	Pm			N	2	64	HCL	ľ			+	1-	-	)	_	-	-			X			
B	m-2	1						1	1							X									
Q	MW-3	11	1							-	L		+	1		>	-	-			45	X	-	$\perp$	
D	Men-4	+							1	-		+	+	+		X	+			-			++	++	-
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	1.00									t			t	+	H		+	H	Н	Ť			++	11	
Comments/Spec	cial Instructions (*	Specify	ground	dwater	"GW".	Drinking V	Vater "DW", V	Vaste Water	"ww", soil "s"	". Ai	5)	". Oil.	SIL P	r P	etc.	0	hi		(	3	N	W	.1		
NAME OF TAXABLE PARTY.	y - To be complet				Rei	ing dishert t	(sign)		Time	-	Dat	e	Red	ceive	d By	: (sig	n)					Ā	Time		Date
							<b>Y</b>			_												_ =		_	
	np. of Temp. Blan act upon recelpt:							1	1	_														_	
Cooler seal inte	ict upon receipt: _	<u>~ 1</u> Ye	S	NO	Rex	ceived in La	aboratory By:	2/1	1-0 -	^	E	_					Time	е.	P	W.		Λ C	ale:/-	-3/	-10