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January 29, 2019

BRRTS #: 03-35-554426
PECFA #: 54487-1334-11

Carrie Stoltz
Wisconsin Department of Natural Resources
107 Sutliff Avenue
Rhinelander, WI 54501

Subject: Luedtke Property – Letter Report

Dear Ms. Stoltz,

Enclosed is the Letter Report for the Luedtke Property site located at 11 W Wisconsin Street in Tomahawk, Wisconsin. **This completes the Public Bidding Deferred workscope approved on September 7, 2018.**

Groundwater Monitoring

On September 19, 2018, METCO personnel collected groundwater samples from nine monitoring/piezometer wells (MW-1 thru MW-8, and PZ-1) for PVOC and Naphthalene analysis. Three of the wells (MW-1, MW-8, and PZ-1) were also sampled for Dissolved Lead. Field measurements for water level, Dissolved Oxygen, pH, ORP, temperature, and Specific Conductivity were collected from all sampled monitoring wells.

On December 10, 2018, METCO personnel collected groundwater samples from nine monitoring/piezometer wells (MW-1 thru MW-8, and PZ-1) for PVOC and Naphthalene analysis. Three of the wells (MW-1, MW-8, and PZ-1) were also sampled for Dissolved Lead. Field measurements for water level, Dissolved Oxygen, pH, ORP, temperature, and Specific Conductivity were collected from all sampled monitoring wells.

Discussion of Results

Groundwater Monitoring Results

Monitoring Well MW-1: Currently shows a NR140 Preventative Action Limit (PAL) exceedance for Benzene (2.95 ppb). Groundwater contaminant levels appear to be decreasing.

Monitoring Well MW-2: Currently shows a NR140 Enforcement Standard (ES) exceedance for Benzene (23.6 ppb). Groundwater contaminant levels appear to be at least stable.

Monitoring Well MW-3: Currently shows detects but no exceedances for all contaminants of concern.

Monitoring Well MW-4: Currently shows no detects for all contaminants of concern.

Monitoring Well MW-5: Currently shows no detects for all contaminants of concern.

Monitoring Well MW-6: Currently shows no detects for all contaminants of concern.

Monitoring Well MW-7: Currently shows no detects for all contaminants of concern.

Monitoring Well MW-8: Currently shows NR140 Enforcement Standard (ES) exceedances for Lead (17.5 ppb), Ethylbenzene (1100 ppb), Naphthalene (620 ppb), Trimethylbenzenes (2040 ppb), and Xylene (4250 ppb). Groundwater contaminant levels appear to be at least stable.

Piezometer PZ-1: Currently shows a NR140 Enforcement Standard (ES) exceedance for Benzene (12.9 ppb) as well as NR140 Preventative Action Limit (PAL) exceedances for Ethylbenzene (380 ppb), Naphthalene (97 ppb), Trimethylbenzenes (251 ppb), and Xylene (755 ppb). Groundwater contaminant levels appear to be at least stable.

Geology & Vertical Gradients

The differentials & vertical gradients were calculated for monitoring well/piezometer pair (PZ-1 & MW-1). Based on these results, the vertical differentials show an average of -1.99 feet which is a downward gradient showing an area of groundwater recharge. The vertical gradients show an average of -0.10936636 feet/feet.

Based on all of the boring logs for this site, native unconsolidated materials in this area generally consist of the following in downward stratigraphic order. From surface to approximately 15 feet bgs exists a brown to gray to tan fine to coarse grained sand with gravel. From approximately 15 feet bgs and extending to approximately 24 feet bgs exists a gray silt to sandy silt. At approximately 24 feet bgs and extending to at least 30 feet bgs exists a tan very fine to fine grained sand to silty sand. The depth to groundwater varied from approximately 6.5 to 9 feet bgs across the site.

With the differentials and vertical gradients showing a downward movement, close proximity to the source, and only 10 feet of separation from the bottom of MW-1 well screen to the top of PZ-1 screen, it is not surprising to see that piezometer PZ-1 shows modest contaminant levels exceeding NR140 Enforcement Standards.

Conclusions

Based on current results, METCO recommends that the Luedtke Property site be reviewed for the possibility of "closure" for the following reasons:

- 1) The extent and degree of petroleum contamination in soil and groundwater has been defined to a practical extent.
- 2) There is no soil contamination exceeding NR 720 Direct Contact levels.
- 3) There has been no free product encountered during this investigation.
- 4) Contaminant trends in groundwater appear to be at least stable.
- 5) Risk of vapor intrusion appears unlikely as free product has never been encountered in any monitoring wells and Benzene levels in groundwater are significantly less than 1,000 ppb.

- 6) The subject property and surrounding properties are all served by the City of Tomahawk municipal water supply. The City of Tomahawk has two municipal wells, which are located approximately 4,000 feet to the south of the subject property. METCO is not aware of any private water supply wells in this area.

An Updated Site Layout Map, Groundwater Flow Maps (2), Groundwater Contamination Map, Data Tables, and Laboratory Documents have been attached.

If you have any questions or comments please feel free to call (608-781-8879) or email at jasonp@metcohq.com.



Sincerely,

A handwritten signature in black ink that reads "Jason T. Powell". The signature is fluid and cursive, with a long horizontal stroke at the beginning.

Jason T. Powell
Staff Scientist

Attachments

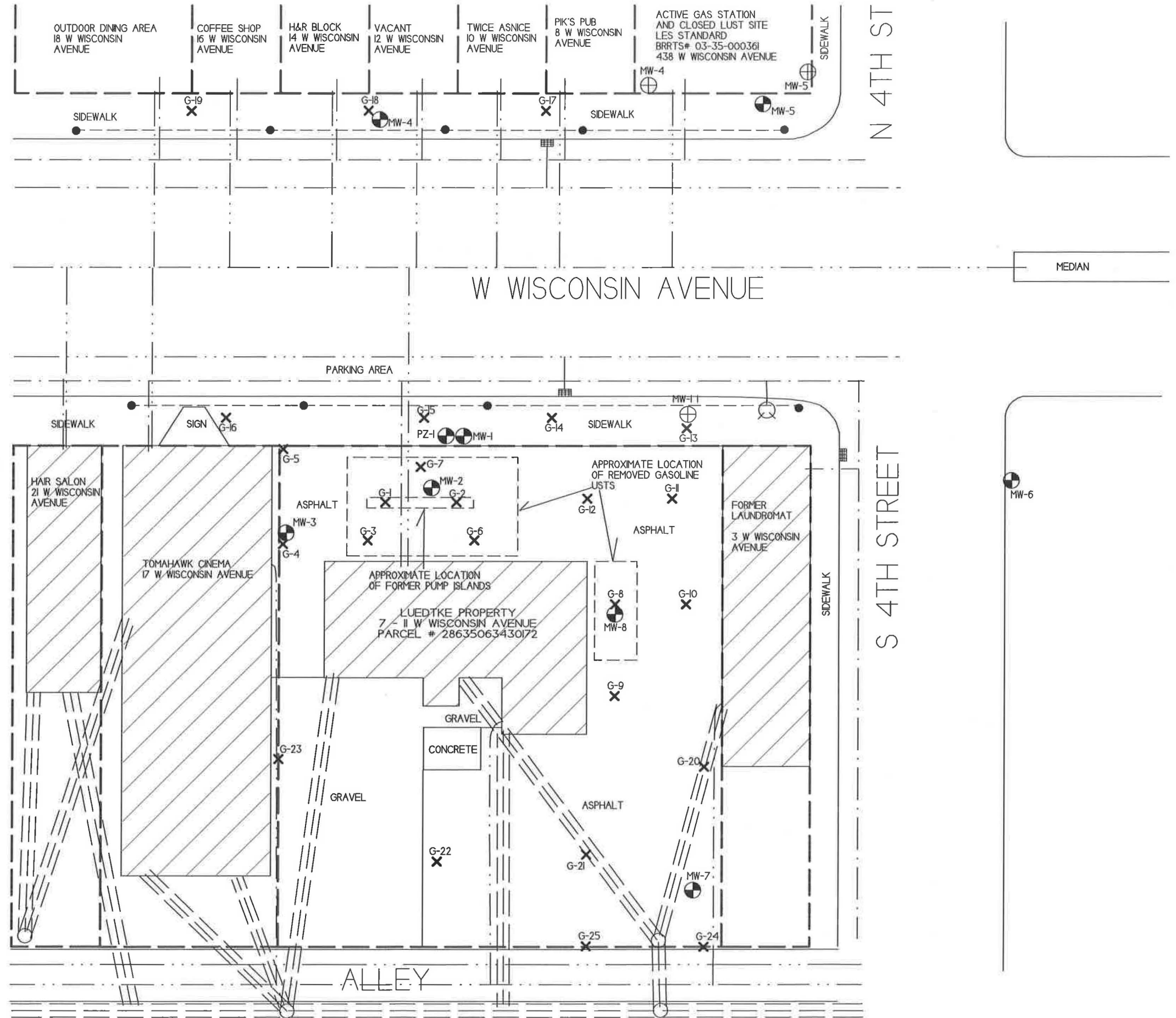
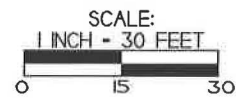
c: Todd Luedtke – Client

B.I.b DETAILED SITE MAP LUEDTKE PROPERTY		
 709 Gillette St. Suite 2 La Crosse, WI 54603 Tel: (608) 781-8579 Fax: (608) 781-8523 <small>Established through experience</small>	TOMAHAWK, WISCONSIN DRAWN BY: ED DATE: 01/18/2017	

NOTE: INFORMATION BASED ON AVAILABLE DATA ACTUAL CONDITIONS MAY DIFFER

- ⊕ - FORMER MONITORING WELL LOCATION - LES STANDARD
- ⊙ - MONITORING WELL LOCATION - METCO
- ✕ - SOIL BORING LOCATION
- ▣ - STORM DRAIN
- ⊕ - FIRE HYDRANT
- - LIGHT POLE



- - PROPERTY BOUNDARY
- - SANITARY SEWER LINE
- - STORM SEWER LINE
- - WATER LINE
- - GAS LINE
- - BURIED ELECTRIC LINE
- ===== - OVERHEAD ELECTRIC



B.3.c GROUNDWATER FLOW DIRECTION (9/19/18)
 LUEDTKE PROPERTY

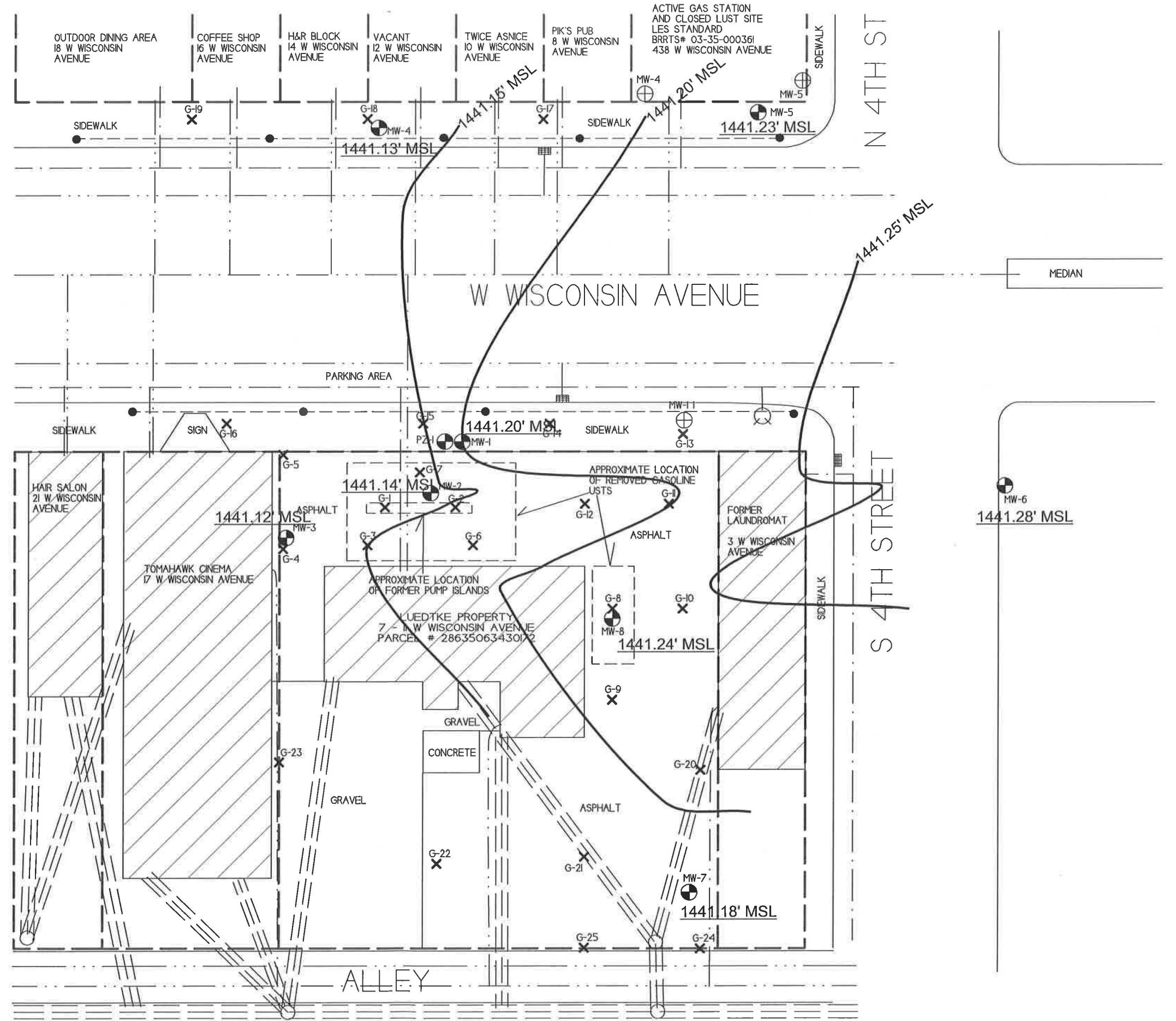
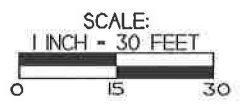
709 Gillette St. Suite 2
 La Crosse, WI 54603
 Tel: (608) 781-8879
 Fax: (608) 781-8883

TOMAHAWK, WISCONSIN
 DRAWN BY: ED
 DATE: 04/8/2007





NOTE: INFORMATION BASED ON AVAILABLE DATA ACTUAL CONDITIONS MAY DIFFER

- ⊕ - FORMER MONITORING WELL LOCATION - LES STANDARD
- ⊙ - MONITORING WELL LOCATION - METCO
- ✕ - SOIL BORING LOCATION
- ▣ - STORM DRAIN
- ⊙ - FIRE HYDRANT
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- - - - - WATER LINE
- - - - - GAS LINE
- - - - - BURIED ELECTRIC LINE
- ≡≡≡≡≡≡≡ - OVERHEAD ELECTRIC



B.3.c GROUNDWATER FLOW DIRECTION (12/10/18)
 LUEDTKE PROPERTY



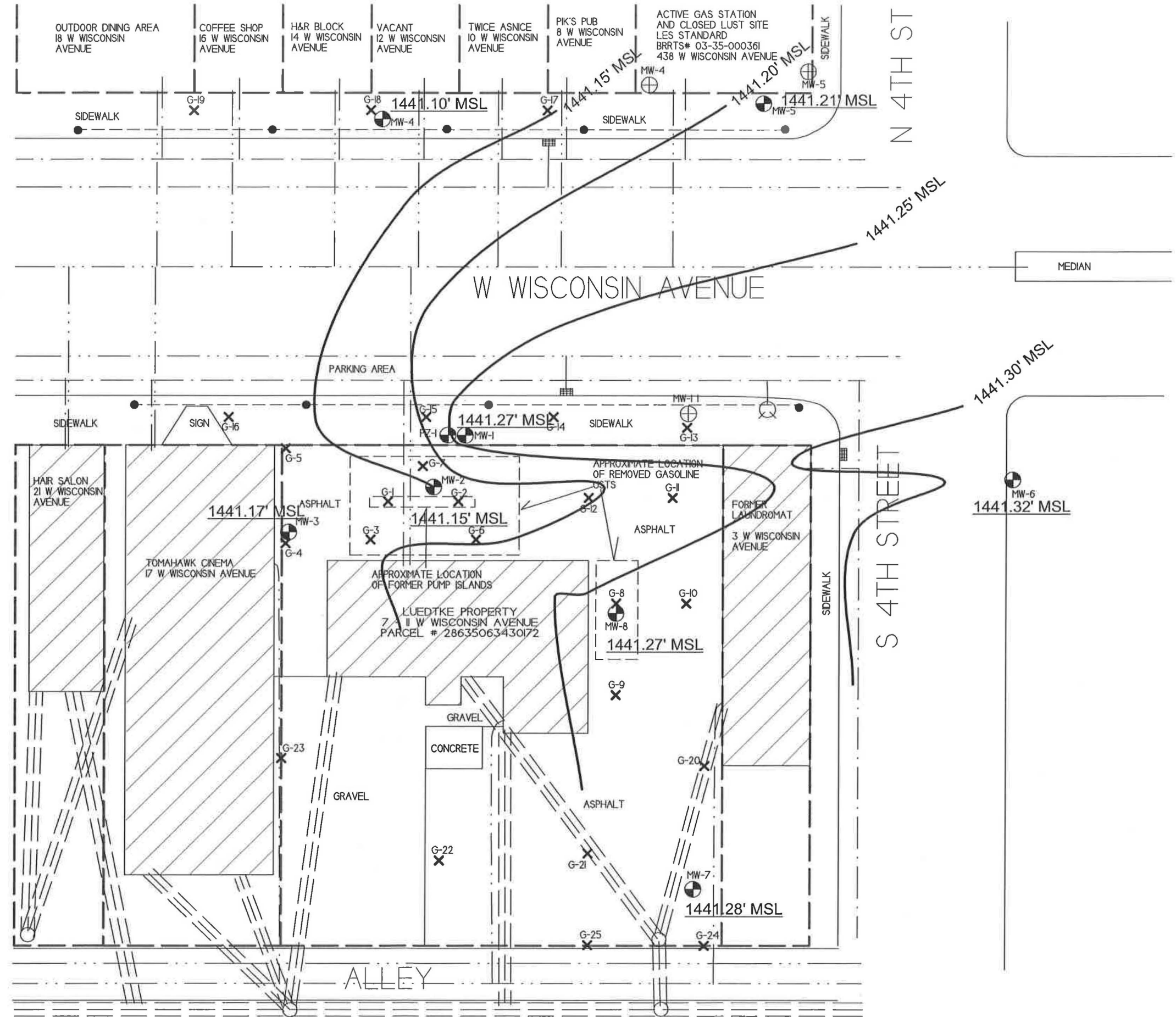
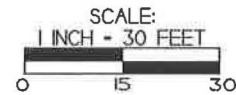
METCO
 709 Gillette St. Suite 2
 La Crosse, WI 54603
 Tel: (608) 781-8579
 Fax: (608) 781-8813

TOMAHAWK, WISCONSIN
 DRAWN BY: ED
 DATE: 06/18/2017

NOTE: INFORMATION BASED ON AVAILABLE DATA ACTUAL CONDITIONS MAY DIFFER

- ⊕ - FORMER MONITORING WELL LOCATION - LES STANDARD
- ⊙ - MONITORING WELL LOCATION - METCO
- ✕ - SOIL BORING LOCATION
- ▣ - STORM DRAIN
- ⊕ - FIRE HYDRANT
- - LIGHT POLE


- — — — — - PROPERTY BOUNDARY
- — — — — - SANITARY SEWER LINE
- — — — — - STORM SEWER LINE
- — — — — - WATER LINE
- — — — — - GAS LINE
- — — — — - BURIED ELECTRIC LINE
- ≡ ≡ ≡ ≡ ≡ - OVERHEAD ELECTRIC



B.3.b GROUNDWATER ISOCONCENTRATION (12/10/18)
LUEDTKE PROPERTY

METCO
 709 Galleria St., Suite 1
 La Crosse, WI 54603
 Tel: (608) 781-8879
 Fax: (608) 781-8893
 DRAWN BY: ED
 DATE: 06/8/2007

TOMAHAWK, WISCONSIN



NOTE: INFORMATION BASED ON AVAILABLE DATA ACTUAL CONDITIONS MAY DIFFER

⊕ - FORMER MONITORING WELL LOCATION - LES STANDARD

⊗ - MONITORING WELL LOCATION - METCO

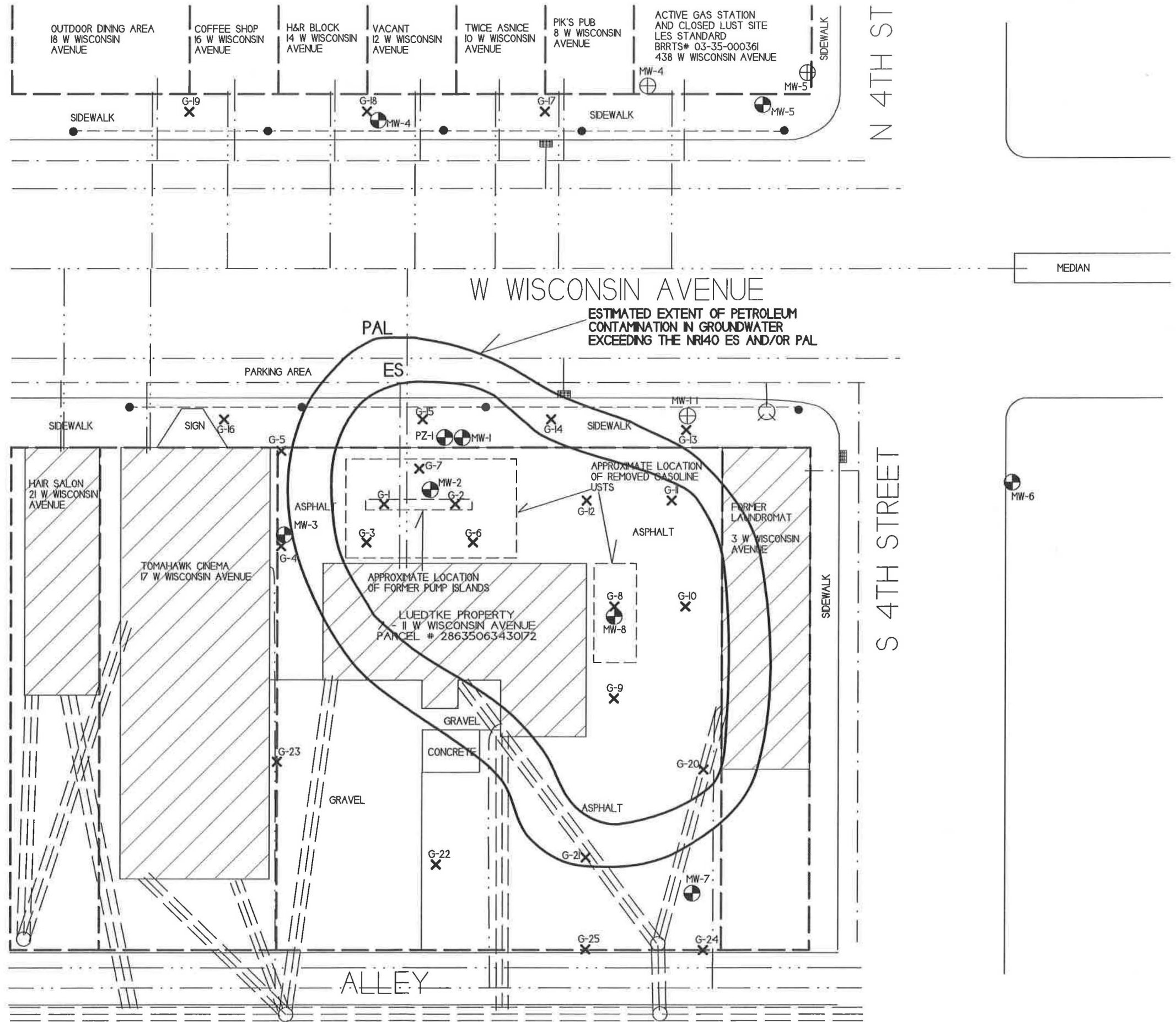
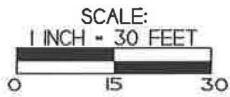
✕ - SOIL BORING LOCATION

▤ - STORM DRAIN

⊕ - FIRE HYDRANT

● - LIGHT POLE

- ▬ - PROPERTY BOUNDARY
- ▬ - SANITARY SEWER LINE
- ▬ - STORM SEWER LINE
- ▬ - WATER LINE
- ▬ - GAS LINE
- ▬ - BURIED ELECTRIC LINE
- ▬ - OVERHEAD ELECTRIC



A.1 Groundwater Analytical Table
Luedtke Property BRRTS #03-35-554426

Well MW-1

PVC Elevation = 1447.71 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	Benzene (ppb)	Ethyl Benzene (ppb)	MTBE (ppb)	Naphthalene (ppb)	Toluene (ppb)	Trimethylbenzenes (ppb)	Xylene (Total) (ppb)
01/29/18	1440.98	6.73	2.4	9.3	108	<2.8	99	3.5	429	414
04/30/18	1441.72	5.99	7.7	5.5	112	<2.8	79	3.9	357	341
09/19/18	1441.20	6.51	<0.8	5.6	24.3	<5.7	23.8	<4.5	60.8	44.9
12/10/18	1441.27	6.44	0.9	2.95	<0.26	<0.28	<2.1	<0.19	<1.43	<0.72
ENFORCEMENT STANDARD ES = Bold			15	5	700	60	100	800	480	2000
PREVENTIVE ACTION LIMIT PAL = Italics			<i>1.5</i>	<i>0.5</i>	<i>140</i>	<i>12</i>	<i>10</i>	<i>160</i>	<i>96</i>	<i>400</i>

(ppb) = parts per billion (ppm) = parts per million

ns = not sampled nm = not measured

Note: Elevations are presented in feet mean sea level (msl).

Well MW-2

PVC Elevation = 1448.05 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	Benzene (ppb)	Ethyl Benzene (ppb)	MTBE (ppb)	Naphthalene (ppb)	Toluene (ppb)	Trimethylbenzenes (ppb)	Xylene (Total) (ppb)
01/29/18	1440.86	7.19	<0.9	19.2	16	<0.28	6.3	1.02	9	25.17
04/30/18	1441.68	6.37	<0.9	22.2	7.4	<0.28	4.8	0.93	4.8	33.4
09/19/18	1441.14	6.91	NS	25.7	4.3	<0.57	3.8	0.85	2.91	8.56
12/10/18	1441.15	6.90	NS	23.6	8.5	<0.57	5.2	0.93	6.26	11.96
ENFORCEMENT STANDARD ES = Bold			15	5	700	60	100	800	480	2000
PREVENTIVE ACTION LIMIT PAL = Italics			<i>1.5</i>	<i>0.5</i>	<i>140</i>	<i>12</i>	<i>10</i>	<i>160</i>	<i>96</i>	<i>400</i>

(ppb) = parts per billion (ppm) = parts per million

ns = not sampled nm = not measured

Note: Elevations are presented in feet mean sea level (msl).

Well MW-3

PVC Elevation = 1448.19 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	Benzene (ppb)	Ethyl Benzene (ppb)	MTBE (ppb)	Naphthalene (ppb)	Toluene (ppb)	Trimethylbenzenes (ppb)	Xylene (Total) (ppb)
01/29/18	1440.80	7.39	<0.9	<2.2	69	<2.8	26.2	3.2	64	94
04/30/18	1441.69	6.50	<0.9	<0.22	1.8	<0.28	3.03	<0.19	<1.43	1.11
09/19/18	1441.12	7.07	NS	<0.22	<0.53	<0.57	<1.7	<0.45	<1.48	<1.58
12/10/18	1441.17	7.02	NS	<0.22	2.07	<0.57	4.7	0.5	1.36-2.11	0.94-1.94
ENFORCEMENT STANDARD ES = Bold			15	5	700	60	100	800	480	2000
PREVENTIVE ACTION LIMIT PAL = Italics			<i>1.5</i>	<i>0.5</i>	<i>140</i>	<i>12</i>	<i>10</i>	<i>160</i>	<i>96</i>	<i>400</i>

(ppb) = parts per billion (ppm) = parts per million

ns = not sampled nm = not measured

Note: Elevations are presented in feet mean sea level (msl).

A.1 Groundwater Analytical Table
Luedtke Property BRRTS #03-35-554426

Well MW-4

PVC Elevation = 1448.13 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	Benzene (ppb)	Ethyl Benzene (ppb)	MTBE (ppb)	Naphthalene (ppb)	Toluene (ppb)	Trimethylbenzenes (ppb)	Xylene (Total) (ppb)
01/29/18	1440.88	7.25	<0.9	<0.22	<0.26	<0.28	<2.1	<0.19	<1.43	<0.72
04/30/18	1441.57	6.56	<0.9	<0.22	<0.26	<0.28	<2.1	<0.19	<1.43	<0.72
09/19/18	1441.13	7.00	NS	<0.22	<0.53	<0.57	<1.7	<0.45	<1.48	<1.58
12/10/18	1441.10	7.03	NS	<0.22	<0.53	<0.57	<1.7	<0.45	<1.48	<1.58
ENFORCEMENT STANDARD ES = Bold			15	5	700	60	100	800	480	2000
PREVENTIVE ACTION LIMIT PAL = Italics			<i>1.5</i>	<i>0.5</i>	<i>140</i>	<i>12</i>	<i>10</i>	<i>160</i>	<i>96</i>	<i>400</i>

(ppb) = parts per billion (ppm) = parts per million

ns = not sampled nm = not measured

Note: Elevations are presented in feet mean sea level (msl).

Well MW-5

PVC Elevation = 1447.78 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	Benzene (ppb)	Ethyl Benzene (ppb)	MTBE (ppb)	Naphthalene (ppb)	Toluene (ppb)	Trimethylbenzenes (ppb)	Xylene (Total) (ppb)
01/29/18	1441.03	6.75	<0.9	<0.22	<0.26	<0.28	<2.1	<0.19	<1.43	<0.72
04/30/18	1441.80	5.98	<0.9	<0.22	<0.26	<0.28	<2.1	<0.19	<1.43	<0.72
09/19/18	1441.23	6.55	NS	<0.22	<0.53	<0.57	<1.7	<0.45	<1.48	<1.58
12/10/18	1441.21	6.57	NS	<0.22	<0.53	<0.57	<1.7	<0.45	<1.48	<1.58
ENFORCEMENT STANDARD ES = Bold			15	5	700	60	100	800	480	2000
PREVENTIVE ACTION LIMIT PAL = Italics			<i>1.5</i>	<i>0.5</i>	<i>140</i>	<i>12</i>	<i>10</i>	<i>160</i>	<i>96</i>	<i>400</i>

(ppb) = parts per billion (ppm) = parts per million

ns = not sampled nm = not measured

Note: Elevations are presented in feet mean sea level (msl).

Well MW-6

PVC Elevation = 1448.31 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	Benzene (ppb)	Ethyl Benzene (ppb)	MTBE (ppb)	Naphthalene (ppb)	Toluene (ppb)	Trimethylbenzenes (ppb)	Xylene (Total) (ppb)
01/29/18	1441.04	7.27	<0.9	<0.22	<0.26	<0.28	<2.1	<0.19	<1.43	<0.72
04/30/18	1441.88	6.43	<0.9	<0.22	<0.26	<0.28	<2.1	<0.19	<1.43	<0.72
09/19/18	1441.28	7.03	NS	<0.22	<0.53	<0.57	<1.7	<0.45	<1.48	<1.58
12/10/18	1441.32	6.99	NS	<0.22	<0.53	<0.57	<1.7	<0.45	<1.48	<1.58
ENFORCEMENT STANDARD ES = Bold			15	5	700	60	100	800	480	2000
PREVENTIVE ACTION LIMIT PAL = Italics			<i>1.5</i>	<i>0.5</i>	<i>140</i>	<i>12</i>	<i>10</i>	<i>160</i>	<i>96</i>	<i>400</i>

(ppb) = parts per billion (ppm) = parts per million

ns = not sampled nm = not measured

Note: Elevations are presented in feet mean sea level (msl).

A.1 Groundwater Analytical Table
Luedtke Property BRRTS #03-35-554426

Well MW-7

PVC Elevation = 1449.08 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	Benzene (ppb)	Ethyl Benzene (ppb)	MTBE (ppb)	Naphthalene (ppb)	Toluene (ppb)	Trimethylbenzenes (ppb)	Xylene (Total) (ppb)
01/29/18	COULD NOT LOCATE									
04/30/18	1441.83	7.25	<0.9	<0.22	<0.26	<0.28	<2.1	<0.19	<1.43	<0.72
09/19/18	1441.18	7.90	NS	<0.22	<0.53	<0.57	<1.7	<0.45	<1.48	<1.58
12/10/18	1441.28	7.80	NS	<0.22	<0.53	<0.57	<1.7	<0.45	<1.48	<1.58
ENFORCEMENT STANDARD ES = Bold			15	5	700	60	100	800	480	2000
PREVENTIVE ACTION LIMIT PAL = Italics			<i>1.5</i>	<i>0.5</i>	<i>140</i>	<i>12</i>	<i>10</i>	<i>160</i>	<i>96</i>	<i>400</i>

(ppb) = parts per billion (ppm) = parts per million

ns = not sampled nm = not measured

Note: Elevations are presented in feet mean sea level (msl).

Well MW-8

PVC Elevation = 1448.40 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	Benzene (ppb)	Ethyl Benzene (ppb)	MTBE (ppb)	Naphthalene (ppb)	Toluene (ppb)	Trimethylbenzenes (ppb)	Xylene (Total) (ppb)
01/29/18	1440.99	7.41	21.2	<11	1600	<14	790	29	1940	5500
04/30/18	1441.82	6.58	20.9	<11	1560	<14	490	20.5	1860	3370
09/19/18	1441.24	7.16	20.9	<11	800	<28.5	488	<22.5	2100	2910
12/10/18	1441.27	7.13	17.5	<11	1100	<28.5	620	27	2040	4250
ENFORCEMENT STANDARD ES = Bold			15	5	700	60	100	800	480	2000
PREVENTIVE ACTION LIMIT PAL = Italics			<i>1.5</i>	<i>0.5</i>	<i>140</i>	<i>12</i>	<i>10</i>	<i>160</i>	<i>96</i>	<i>400</i>

(ppb) = parts per billion (ppm) = parts per million

ns = not sampled nm = not measured

Note: Elevations are presented in feet mean sea level (msl).

Well PZ-1

PVC Elevation = 1447.59 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	Benzene (ppb)	Ethyl Benzene (ppb)	MTBE (ppb)	Naphthalene (ppb)	Toluene (ppb)	Trimethylbenzenes (ppb)	Xylene (Total) (ppb)
01/29/18	1438.98	8.61	<0.9	7.6	311	<2.8	65	<3.8	248	816
04/30/18	1439.88	7.71	1.5	<2.2	430	<2.8	123	38	417	804
09/19/18	1439.22	8.37	<0.8	12.8	380	<5.7	77	50	264	777
12/10/18	1439.15	8.44	<0.8	12.9	380	<0.57	97	55	251	755
ENFORCEMENT STANDARD ES = Bold			15	5	700	60	100	800	480	2000
PREVENTIVE ACTION LIMIT PAL = Italics			<i>1.5</i>	<i>0.5</i>	<i>140</i>	<i>12</i>	<i>10</i>	<i>160</i>	<i>96</i>	<i>400</i>

(ppb) = parts per billion (ppm) = parts per million

ns = not sampled nm = not measured

Note: Elevations are presented in feet mean sea level (msl).

**A.6 Water Level Elevations
Luedtke Property BRRTS #03-35-554426
Tomahawk, Wisconsin**

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	PZ-1
Ground Surface (feet msl)	1448.15	1448.43	1448.80	1448.52	1448.23	1448.66	1449.44	1448.71	1448.13
PVC top (feet msl)	1447.71	1448.05	1448.19	1448.13	1447.78	1448.31	1449.08	1448.40	1447.59
Well Depth (feet)	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	30.00
Top of screen (feet msl)	1443.15	1443.43	1443.80	1443.52	1443.23	1443.66	1444.44	1443.71	1423.13
Bottom of screen (feet msl)	1433.15	1433.43	1433.80	1433.52	1433.23	1433.66	1434.44	1433.71	1418.13

Depth to Water From Top of PVC (feet)

01/29/18	6.73	7.19	7.39	7.25	6.75	7.27	CNL	7.41	8.61
04/30/18	5.99	6.37	6.50	6.56	5.98	6.43	7.25	6.58	7.71
09/19/18	6.51	6.91	7.07	7.00	6.55	7.03	7.90	7.16	8.37
12/10/18	6.44	6.90	7.02	7.03	6.57	6.99	7.80	7.13	8.44

Depth to Water From Ground Surface (feet)

01/29/18	7.17	7.57	8.00	7.64	7.20	7.62	CNL	7.72	9.15
04/30/18	6.43	6.75	7.11	6.95	6.43	6.78	7.61	6.89	8.25
09/19/18	6.95	7.29	7.68	7.39	7.00	7.38	8.26	7.47	8.91
12/10/18	6.88	7.28	7.63	7.42	7.02	7.34	8.16	7.44	8.98

Groundwater Elevation (feet msl)

01/29/18	1440.98	1440.86	1440.80	1440.88	1441.03	1441.04	CNL	1440.99	1438.98
04/30/18	1441.72	1441.68	1441.69	1441.57	1441.80	1441.88	1441.83	1441.82	1439.88
09/19/18	1441.20	1441.14	1441.12	1441.13	1441.23	1441.28	1441.18	1441.24	1439.22
12/10/18	1441.27	1441.15	1441.17	1441.10	1441.21	1441.32	1441.28	1441.27	1439.15

CNL = Could Not Locate

A.7 Other
Groundwater NA Indicator Results
Luedtke Property BRRTS #03-35-554426

Well MW-1

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
01/29/18	3.94	6.20	36.4	6.33	1813	<0.36	21.4	5.68	1040
04/30/18	1.18	6.49	21	7.80	1910	NS	NS	NS	NS
09/19/18	1.53	7.11	-30	17.90	3.9	NS	NS	NS	NS
12/10/18	3.24	6.59	-62.3	7.41	714.0	NS	NS	NS	NS
ENFORCEMENT STANDARD = ES – Bold						10	-	-	300
PREVENTIVE ACTION LIMIT = <i>PAL - Italics</i>						<i>2</i>	-	-	<i>60</i>

(ppb) = parts per billion (ppm) = parts per million
 ns = not sampled nm = not measured ORP = Oxidation Reduction Potential
 Note: Elevations are presented in feet mean sea level (msl).

Well MW-2

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
01/29/18	3.46	5.54	101.8	7.73	1411	<0.36	9.90	10.1	2270
04/30/18	0.57	5.89	72	9.50	985	NS	NS	NS	NS
09/19/18	1.81	6.48	85	17.00	1.4	NS	NS	NS	NS
12/10/18	3.47	5.64	-31.0	4.95	1631.0	NS	NS	NS	NS
ENFORCEMENT STANDARD = ES – Bold						10	-	-	300
PREVENTIVE ACTION LIMIT = <i>PAL - Italics</i>						<i>2</i>	-	-	<i>60</i>

(ppb) = parts per billion (ppm) = parts per million
 ns = not sampled nm = not measured ORP = Oxidation Reduction Potential
 Note: Elevations are presented in feet mean sea level (msl).

Well MW-3

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
01/29/18	3.14	6.50	32.8	10.16	717	<0.36	38.6	0.98	839
04/30/18	2.56	7.32	225	11.70	1170	NS	NS	NS	NS
09/19/18	1.28	8.20	231	17.10	1.0	NS	NS	NS	NS
12/10/18	3.40	6.72	-37.5	5.58	1077.0	NS	NS	NS	NS
ENFORCEMENT STANDARD = ES – Bold						10	-	-	300
PREVENTIVE ACTION LIMIT = <i>PAL - Italics</i>						<i>2</i>	-	-	<i>60</i>

(ppb) = parts per billion (ppm) = parts per million
 ns = not sampled nm = not measured ORP = Oxidation Reduction Potential
 Note: Elevations are presented in feet mean sea level (msl).

A.7 Other
Groundwater NA Indicator Results
Luedtke Property BRRTS #03-35-554426

Well MW-4

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
01/29/18	5.30	7.35	257.9	7.22	369	2.16	33.8	0.18	36.8
04/30/18	5.35	6.41	222	10.00	944	NS	NS	NS	NS
09/19/18	1.67	7.10	188	16.80	1.7	NS	NS	NS	NS
12/10/18	3.39	6.22	-23.3	5.09	3789.0	NS	NS	NS	NS
ENFORCEMENT STANDARD = ES – Bold						10	-	-	300
PREVENTIVE ACTION LIMIT = PAL - Italics						2	-	-	60

(ppb) = parts per billion (ppm) = parts per million
 ns = not sampled nm = not measured ORP = Oxidation Reduction Potential
 Note: Elevations are presented in feet mean sea level (msl).

Well MW-5

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
01/29/18	7.28	7.65	230.7	5.14	680	2.13	19.7	<0.03	9.0
04/30/18	5.80	7.64	201	9.70	559	NS	NS	NS	NS
09/19/18	1.90	8.23	246	18.70	1.9	NS	NS	NS	NS
12/10/18	3.57	7.04	-13.4	3.60	2525.0	NS	NS	NS	NS
ENFORCEMENT STANDARD = ES – Bold						10	-	-	300
PREVENTIVE ACTION LIMIT = PAL - Italics						2	-	-	60

(ppb) = parts per billion (ppm) = parts per million
 ns = not sampled nm = not measured ORP = Oxidation Reduction Potential
 Note: Elevations are presented in feet mean sea level (msl).

Well MW-6

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
01/29/18	5.59	7.72	291.1	7.43	304	1.18	18.5	0.05	27.2
04/30/18	9.16	7.39	257	7.4	290.9	NS	NS	NS	NS
09/19/18	2.65	7.66	313	15.30	0.4	NS	NS	NS	NS
12/10/18	3.55	6.90	-1.4	3.65	421.0	NS	NS	NS	NS
ENFORCEMENT STANDARD = ES – Bold						10	-	-	300
PREVENTIVE ACTION LIMIT = PAL - Italics						2	-	-	60

(ppb) = parts per billion (ppm) = parts per million
 ns = not sampled nm = not measured ORP = Oxidation Reduction Potential
 Note: Elevations are presented in feet mean sea level (msl).

A.7 Other
Groundwater NA Indicator Results
Luedtke Property BRRTS #03-35-554426

Well MW-7

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
01/29/18	COULD NOT LOCATE								
04/30/18	4.73	7.12	231	9.8	379.7	NS	NS	NS	NS
09/19/18	2.39	8.50	298	17.50	0.3	NS	NS	NS	NS
12/10/18	3.46	7.07	-3.2	5.08	410.0	NS	NS	NS	NS
ENFORCEMENT STANDARD = ES - Bold						10	-	-	300
PREVENTIVE ACTION LIMIT = <i>PAL - Italics</i>						<i>2</i>	-	-	<i>60</i>

(ppb) = parts per billion (ppm) = parts per million
 ns = not sampled nm = not measured ORP = Oxidation Reduction Potential
 Note: Elevations are presented in feet mean sea level (msl).

Well MW-8

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
01/29/18	3.40	6.32	-71.7	7.61	412	<0.36	31.4	29.0	1520
04/30/18	0.69	6.52	6	8.7	523	NS	NS	NS	NS
09/19/18	1.94	7.14	54	16.50	0.4	NS	NS	NS	NS
12/10/18	3.43	6.26	-99.2	5.66	455.0	NS	NS	NS	NS
ENFORCEMENT STANDARD = ES - Bold						10	-	-	300
PREVENTIVE ACTION LIMIT = <i>PAL - Italics</i>						<i>2</i>	-	-	<i>60</i>

(ppb) = parts per billion (ppm) = parts per million
 ns = not sampled nm = not measured ORP = Oxidation Reduction Potential
 Note: Elevations are presented in feet mean sea level (msl).

Well PZ-1

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
01/29/18	3.72	5.87	70.5	8.82	773	<0.36	4.53	23.4	1930
04/30/18	1.05	6.36	41	9.9	902	NS	NS	NS	NS
09/19/18	1.36	6.98	-83	16.20	1.0	NS	NS	NS	NS
12/10/18	3.23	6.07	-104.5	7.55	1072.0	NS	NS	NS	NS
ENFORCEMENT STANDARD = ES - Bold						10	-	-	300
PREVENTIVE ACTION LIMIT = <i>PAL - Italics</i>						<i>2</i>	-	-	<i>60</i>

(ppb) = parts per billion (ppm) = parts per million
 ns = not sampled nm = not measured ORP = Oxidation Reduction Potential
 Note: Elevations are presented in feet mean sea level (msl).

A.7 Differential & Vertical Gradient Levels
Luedtke Property BRRTS #03-35-554426
Tomahawk, Wisconsin

	PZ-1	MW-1
Ground Surface (feet msl)	1448.13	1448.15
PVC top (feet msl)	1447.59	1447.71
Well Depth (feet)	30.00	15.00
Top of screen (feet msl)	1423.13	1443.15
Bottom of screen (feet msl)	1418.13	1433.15

Groundwater Elevation (feet msl)	PZ-1	MW-1	Differential		Vertical Gradient ft/ft	
			PZ-1/MW-1	PZ-1/MW-1	PZ-1/MW-1	PZ-1/MW-1
01/29/18	1438.98	1440.98	-2.00	17.85	-0.112044818	
04/30/18	1439.88	1441.72	-1.84	18.59	-0.098977945	
09/19/18	1439.22	1441.20	-1.98	18.07	-0.109573879	
12/10/18	1439.15	1441.27	-2.12	18.14	-0.116868798	
		Average	-1.99	Average	-0.10936636	

Synergy Environmental Lab,

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

TODD LUEDTKE
TODD LUEDTKE
426 CROWFOOT AVE.,
FOND DU LAC, WI 54935

Report Date 27-Sep-18

Project Name LUEDTKE PROPERTY
Project #

Invoice # E35240

Lab Code 5035240A
Sample ID MW-6
Sample Matrix Water
Sample Date 9/19/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.22	ug/l	0.22	0.69	1	GRO95/8021		9/21/2018	CJR	1
Ethylbenzene	< 0.53	ug/l	0.53	1.69	1	GRO95/8021		9/21/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.57	ug/l	0.57	1.82	1	GRO95/8021		9/21/2018	CJR	1
Naphthalene	< 1.7	ug/l	1.7	5.38	1	GRO95/8021		9/21/2018	CJR	1
Toluene	< 0.45	ug/l	0.45	1.45	1	GRO95/8021		9/21/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.73	ug/l	0.73	2.33	1	GRO95/8021		9/21/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.75	ug/l	0.75	2.39	1	GRO95/8021		9/21/2018	CJR	1
m&p-Xylene	< 1	ug/l	1	3.17	1	GRO95/8021		9/21/2018	CJR	1
o-Xylene	< 0.58	ug/l	0.58	1.84	1	GRO95/8021		9/21/2018	CJR	1

Lab Code 5035240B
Sample ID MW-4
Sample Matrix Water
Sample Date 9/19/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.22	ug/l	0.22	0.69	1	GRO95/8021		9/21/2018	CJR	1
Ethylbenzene	< 0.53	ug/l	0.53	1.69	1	GRO95/8021		9/21/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.57	ug/l	0.57	1.82	1	GRO95/8021		9/21/2018	CJR	1
Naphthalene	< 1.7	ug/l	1.7	5.38	1	GRO95/8021		9/21/2018	CJR	1
Toluene	< 0.45	ug/l	0.45	1.45	1	GRO95/8021		9/21/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.73	ug/l	0.73	2.33	1	GRO95/8021		9/21/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.75	ug/l	0.75	2.39	1	GRO95/8021		9/21/2018	CJR	1
m&p-Xylene	< 1	ug/l	1	3.17	1	GRO95/8021		9/21/2018	CJR	1
o-Xylene	< 0.58	ug/l	0.58	1.84	1	GRO95/8021		9/21/2018	CJR	1

Project

Lab Code 5035240C

Sample ID MW-5

Sample Matrix Water

Sample Date 9/19/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.22	ug/l	0.22	0.69	1	GRO95/8021		9/21/2018	CJR	1
Ethylbenzene	< 0.53	ug/l	0.53	1.69	1	GRO95/8021		9/21/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.57	ug/l	0.57	1.82	1	GRO95/8021		9/21/2018	CJR	1
Naphthalene	< 1.7	ug/l	1.7	5.38	1	GRO95/8021		9/21/2018	CJR	1
Toluene	< 0.45	ug/l	0.45	1.45	1	GRO95/8021		9/21/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.73	ug/l	0.73	2.33	1	GRO95/8021		9/21/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.75	ug/l	0.75	2.39	1	GRO95/8021		9/21/2018	CJR	1
m&p-Xylene	< 1	ug/l	1	3.17	1	GRO95/8021		9/21/2018	CJR	1
o-Xylene	< 0.58	ug/l	0.58	1.84	1	GRO95/8021		9/21/2018	CJR	1

Lab Code 5035240D

Sample ID MW-7

Sample Matrix Water

Sample Date 9/19/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.22	ug/l	0.22	0.69	1	GRO95/8021		9/21/2018	CJR	1
Ethylbenzene	< 0.53	ug/l	0.53	1.69	1	GRO95/8021		9/21/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.57	ug/l	0.57	1.82	1	GRO95/8021		9/21/2018	CJR	1
Naphthalene	< 1.7	ug/l	1.7	5.38	1	GRO95/8021		9/21/2018	CJR	1
Toluene	< 0.45	ug/l	0.45	1.45	1	GRO95/8021		9/21/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.73	ug/l	0.73	2.33	1	GRO95/8021		9/21/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.75	ug/l	0.75	2.39	1	GRO95/8021		9/21/2018	CJR	1
m&p-Xylene	< 1	ug/l	1	3.17	1	GRO95/8021		9/21/2018	CJR	1
o-Xylene	< 0.58	ug/l	0.58	1.84	1	GRO95/8021		9/21/2018	CJR	1

Lab Code 5035240E

Sample ID MW-3

Sample Matrix Water

Sample Date 9/19/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.22	ug/l	0.22	0.69	1	GRO95/8021		9/21/2018	CJR	1
Ethylbenzene	< 0.53	ug/l	0.53	1.69	1	GRO95/8021		9/21/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.57	ug/l	0.57	1.82	1	GRO95/8021		9/21/2018	CJR	1
Naphthalene	< 1.7	ug/l	1.7	5.38	1	GRO95/8021		9/21/2018	CJR	1
Toluene	< 0.45	ug/l	0.45	1.45	1	GRO95/8021		9/21/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.73	ug/l	0.73	2.33	1	GRO95/8021		9/21/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.75	ug/l	0.75	2.39	1	GRO95/8021		9/21/2018	CJR	1
m&p-Xylene	< 1	ug/l	1	3.17	1	GRO95/8021		9/21/2018	CJR	1
o-Xylene	< 0.58	ug/l	0.58	1.84	1	GRO95/8021		9/21/2018	CJR	1

Project #

Lab Code 5035240F
 Sample ID PZ-1
 Sample Matrix Water
 Sample Date 9/19/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Lead, Dissolved	< 0.8	ug/L	0.8	2.7	1	7421		9/25/2018	CWT	1
Organic										
PVOC + Naphthalene										
Benzene	12.8	ug/l	2.2	6.9	10	GRO95/8021		9/21/2018	CJR	1
Ethylbenzene	380	ug/l	5.3	16.9	10	GRO95/8021		9/21/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 5.7	ug/l	5.7	18.2	10	GRO95/8021		9/21/2018	CJR	1
Naphthalene	77	ug/l	17	53.8	10	GRO95/8021		9/21/2018	CJR	1
Toluene	50	ug/l	4.5	14.5	10	GRO95/8021		9/21/2018	CJR	1
1,2,4-Trimethylbenzene	193	ug/l	7.3	23.3	10	GRO95/8021		9/21/2018	CJR	1
1,3,5-Trimethylbenzene	71	ug/l	7.5	23.9	10	GRO95/8021		9/21/2018	CJR	1
m&p-Xylene	660	ug/l	10	31.7	10	GRO95/8021		9/21/2018	CJR	1
o-Xylene	117	ug/l	5.8	18.4	10	GRO95/8021		9/21/2018	CJR	1

Lab Code 5035240G
 Sample ID MW-1
 Sample Matrix Water
 Sample Date 9/19/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Lead, Dissolved	< 0.8	ug/L	0.8	2.7	1	7421		9/25/2018	CWT	1
Organic										
PVOC + Naphthalene										
Benzene	5.6 "J"	ug/l	2.2	6.9	10	GRO95/8021		9/21/2018	CJR	1
Ethylbenzene	24.3	ug/l	5.3	16.9	10	GRO95/8021		9/21/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 5.7	ug/l	5.7	18.2	10	GRO95/8021		9/21/2018	CJR	1
Naphthalene	23.8 "J"	ug/l	17	53.8	10	GRO95/8021		9/21/2018	CJR	1
Toluene	< 4.5	ug/l	4.5	14.5	10	GRO95/8021		9/21/2018	CJR	1
1,2,4-Trimethylbenzene	47	ug/l	7.3	23.3	10	GRO95/8021		9/21/2018	CJR	1
1,3,5-Trimethylbenzene	13.8 "J"	ug/l	7.5	23.9	10	GRO95/8021		9/21/2018	CJR	1
m&p-Xylene	30.3 "J"	ug/l	10	31.7	10	GRO95/8021		9/21/2018	CJR	1
o-Xylene	14.6 "J"	ug/l	5.8	18.4	10	GRO95/8021		9/21/2018	CJR	1

Project #

Lab Code 5035240H
 Sample ID MW-2
 Sample Matrix Water
 Sample Date 9/19/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	25.7	ug/l	0.22	0.69	1	GRO95/8021		9/21/2018	CJR	1
Ethylbenzene	4.3	ug/l	0.53	1.69	1	GRO95/8021		9/21/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.57	ug/l	0.57	1.82	1	GRO95/8021		9/21/2018	CJR	1
Naphthalene	3.8 "J"	ug/l	1.7	5.38	1	GRO95/8021		9/21/2018	CJR	1
Toluene	0.85 "J"	ug/l	0.45	1.45	1	GRO95/8021		9/21/2018	CJR	1
1,2,4-Trimethylbenzene	1.81 "J"	ug/l	0.73	2.33	1	GRO95/8021		9/21/2018	CJR	1
1,3,5-Trimethylbenzene	1.1 "J"	ug/l	0.75	2.39	1	GRO95/8021		9/21/2018	CJR	1
m&p-Xylene	7.5	ug/l	1	3.17	1	GRO95/8021		9/21/2018	CJR	1
o-Xylene	1.06 "J"	ug/l	0.58	1.84	1	GRO95/8021		9/21/2018	CJR	1

Lab Code 5035240I
 Sample ID MW-8
 Sample Matrix Water
 Sample Date 9/19/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Lead, Dissolved	20.9	ug/L	0.8	2.7	1	7421		9/25/2018	CWT	1
Organic										
PVOC + Naphthalene										
Benzene	< 11	ug/l	11	34.5	50	GRO95/8021		9/21/2018	CJR	1
Ethylbenzene	800	ug/l	26.5	84.5	50	GRO95/8021		9/21/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 28.5	ug/l	28.5	91	50	GRO95/8021		9/21/2018	CJR	1
Naphthalene	488	ug/l	85	269	50	GRO95/8021		9/21/2018	CJR	1
Toluene	< 22.5	ug/l	22.5	72.5	50	GRO95/8021		9/21/2018	CJR	1
1,2,4-Trimethylbenzene	1700	ug/l	36.5	116.5	50	GRO95/8021		9/21/2018	CJR	1
1,3,5-Trimethylbenzene	400	ug/l	37.5	119.5	50	GRO95/8021		9/21/2018	CJR	1
m&p-Xylene	2430	ug/l	50	158.5	50	GRO95/8021		9/21/2018	CJR	1
o-Xylene	480	ug/l	29	92	50	GRO95/8021		9/21/2018	CJR	1

Project #

Lab Code 5035240J
 Sample ID TB
 Sample Matrix Water
 Sample Date 9/19/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.22	ug/l	0.22	0.69	1	GRO95/8021		9/21/2018	CJR	1
Ethylbenzene	< 0.53	ug/l	0.53	1.69	1	GRO95/8021		9/21/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.57	ug/l	0.57	1.82	1	GRO95/8021		9/21/2018	CJR	1
Naphthalene	< 1.7	ug/l	1.7	5.38	1	GRO95/8021		9/21/2018	CJR	1
Toluene	< 0.45	ug/l	0.45	1.45	1	GRO95/8021		9/21/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.73	ug/l	0.73	2.33	1	GRO95/8021		9/21/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.75	ug/l	0.75	2.39	1	GRO95/8021		9/21/2018	CJR	1
m&p-Xylene	< 1	ug/l	1	3.17	1	GRO95/8021		9/21/2018	CJR	1
o-Xylene	< 0.58	ug/l	0.58	1.84	1	GRO95/8021		9/21/2018	CJR	1

"J" Flag: Analyte detected between LOD and LOQ

LOD Limit of Detection

LOQ Limit of Quantitation

Code Comment

1 Laboratory QC within limits.

CWT denotes sub contract lab - Certification #445126660

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.

Authorized Signature

Michael Ricker

Environmental Lab, Inc.

1990 Prospect Ct. • Appleton, WI 54914
920-830-2455 • FAX 920-733-0631

Sample Handling Request

Rush Analysis Date Required _____
(Rushes accepted only with prior authorization)

Normal Turn Around

Lab I.D. #	
Account No. :	Quote No.:
Project #:	
Sampler: (signature) <i>Tyln Woodke</i>	

Project (Name / Location): <i>Luedtke Property / Tomahawk, WI</i>	
Reports To: <i>Todd Luedtke</i>	Invoice To: <i>Todd Luedtke</i>
Company	Company <i>YO METCO</i>
Address <i>426 Crowfoot Ave.</i>	Address <i>709 Gillelte Street, Suite 3</i>
City State Zip <i>Fond du Lac, WI 54935</i>	City State Zip <i>La Crosse, WI 54603</i>
Phone	Phone
FAX	FAX

Lab I.D.	Sample I.D.	Collection Date	Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation	DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	LEAD (Dissolved)	NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PCB	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	TOTAL SUSPENDED SOLIDS	VOC DW (EPA 524.2)	VOC (EPA 8260)	8-PCRA METALS	PID/ FID
<i>5035240A</i>	<i>MW-6</i>	<i>9/19/18</i>	<i>905</i>			<i>N</i>	<i>3</i>	<i>GW</i>	<i>HCL</i>									<i>X</i>						
<i>B</i>	<i>MW-4</i>		<i>930</i>															<i>X</i>						
<i>P</i>	<i>MW-5</i>		<i>1000</i>															<i>X</i>						
<i>V</i>	<i>MW-7</i>		<i>1035</i>															<i>X</i>						
<i>E</i>	<i>MW-3</i>		<i>1050</i>			<i>Y</i>	<i>4</i>		<i>↓</i>									<i>X</i>						
<i>F</i>	<i>PZ-1</i>		<i>1130</i>			<i>Y</i>	<i>4</i>		<i>HCL, HNO3</i>		<i>X</i>							<i>X</i>						
<i>G</i>	<i>MW-1</i>		<i>1300</i>			<i>Y</i>	<i>4</i>		<i>HCL, HNO3</i>		<i>X</i>							<i>X</i>						
<i>H</i>	<i>MW-2</i>		<i>1225</i>			<i>N</i>	<i>3</i>		<i>HCL</i>									<i>X</i>						
<i>J</i>	<i>MW-8</i>	<i>↓</i>	<i>1250</i>			<i>Y</i>	<i>4</i>	<i>↓</i>	<i>HCL, HNO3</i>		<i>X</i>							<i>X</i>						
<i>J</i>	<i>TB</i>						<i>1</i>		<i>HCL</i>									<i>X</i>						

Comments/Special Instructions (*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", Oil, Sludge etc.)

Lab to send copy of report to METCO/Jason P. (Invoice to METCO)
** UIC Rates Apply*
** Agent Status*

Sample Integrity - To be completed by receiving lab. Method of Shipment: <i>GR</i> Temp. of Temp. Blank _____ °C On Ice: <input checked="" type="checkbox"/> Cooler seal intact upon receipt: <input checked="" type="checkbox"/> Yes _____ No	Relinquished By: (sign) <i>Tyln Woodke</i>	Time <i>9:00AM</i>	Date <i>9/20/18</i>	Received By: (sign) _____	Time _____	Date _____
	Received in Laboratory By: <i>[Signature]</i>					
	Time: <i>8:00</i> Date: <i>9/21/18</i>					

Synergy Environmental Lab,

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

TODD LUEDTKE
TODD LUEDTKE
426 CROWFOOT AVE.,
FOND DU LAC, WI 54935

Report Date 24-Dec-18

Project Name LUEDTKE PROPERTY
Project #

Invoice # E35598

Lab Code 5035598A
Sample ID MW-6
Sample Matrix Water
Sample Date 12/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.22	ug/l	0.22	0.69	1	GRO95/8021		12/18/2018	CJR	1
Ethylbenzene	< 0.53	ug/l	0.53	1.69	1	GRO95/8021		12/18/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.57	ug/l	0.57	1.82	1	GRO95/8021		12/18/2018	CJR	1
Naphthalene	< 1.7	ug/l	1.7	5.38	1	GRO95/8021		12/18/2018	CJR	1
Toluene	< 0.45	ug/l	0.45	1.45	1	GRO95/8021		12/18/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.73	ug/l	0.73	2.33	1	GRO95/8021		12/18/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.75	ug/l	0.75	2.39	1	GRO95/8021		12/18/2018	CJR	1
m&p-Xylene	< 1	ug/l	1	3.17	1	GRO95/8021		12/18/2018	CJR	1
o-Xylene	< 0.58	ug/l	0.58	1.84	1	GRO95/8021		12/18/2018	CJR	1

Project #

Lab Code 5035598B
 Sample ID MW-4
 Sample Matrix Water
 Sample Date 12/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.22	ug/l	0.22	0.69	1	GRO95/8021		12/18/2018	CJR	1
Ethylbenzene	< 0.53	ug/l	0.53	1.69	1	GRO95/8021		12/18/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.57	ug/l	0.57	1.82	1	GRO95/8021		12/18/2018	CJR	1
Naphthalene	< 1.7	ug/l	1.7	5.38	1	GRO95/8021		12/18/2018	CJR	1
Toluene	< 0.45	ug/l	0.45	1.45	1	GRO95/8021		12/18/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.73	ug/l	0.73	2.33	1	GRO95/8021		12/18/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.75	ug/l	0.75	2.39	1	GRO95/8021		12/18/2018	CJR	1
m&p-Xylene	< 1	ug/l	1	3.17	1	GRO95/8021		12/18/2018	CJR	1
o-Xylene	< 0.58	ug/l	0.58	1.84	1	GRO95/8021		12/18/2018	CJR	1

Lab Code 5035598C
 Sample ID MW-5
 Sample Matrix Water
 Sample Date 12/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.22	ug/l	0.22	0.69	1	GRO95/8021		12/18/2018	CJR	1
Ethylbenzene	< 0.53	ug/l	0.53	1.69	1	GRO95/8021		12/18/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.57	ug/l	0.57	1.82	1	GRO95/8021		12/18/2018	CJR	1
Naphthalene	< 1.7	ug/l	1.7	5.38	1	GRO95/8021		12/18/2018	CJR	1
Toluene	< 0.45	ug/l	0.45	1.45	1	GRO95/8021		12/18/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.73	ug/l	0.73	2.33	1	GRO95/8021		12/18/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.75	ug/l	0.75	2.39	1	GRO95/8021		12/18/2018	CJR	1
m&p-Xylene	< 1	ug/l	1	3.17	1	GRO95/8021		12/18/2018	CJR	1
o-Xylene	< 0.58	ug/l	0.58	1.84	1	GRO95/8021		12/18/2018	CJR	1

Lab Code 5035598D
 Sample ID MW-7
 Sample Matrix Water
 Sample Date 12/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.22	ug/l	0.22	0.69	1	GRO95/8021		12/18/2018	CJR	1
Ethylbenzene	< 0.53	ug/l	0.53	1.69	1	GRO95/8021		12/18/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.57	ug/l	0.57	1.82	1	GRO95/8021		12/18/2018	CJR	1
Naphthalene	< 1.7	ug/l	1.7	5.38	1	GRO95/8021		12/18/2018	CJR	1
Toluene	< 0.45	ug/l	0.45	1.45	1	GRO95/8021		12/18/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.73	ug/l	0.73	2.33	1	GRO95/8021		12/18/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.75	ug/l	0.75	2.39	1	GRO95/8021		12/18/2018	CJR	1
m&p-Xylene	< 1	ug/l	1	3.17	1	GRO95/8021		12/18/2018	CJR	1
o-Xylene	< 0.58	ug/l	0.58	1.84	1	GRO95/8021		12/18/2018	CJR	1

Project Name LUEDTKE PROPERTY
 Project #

Invoice # E35598

Lab Code 5035598E
 Sample ID MW-3
 Sample Matrix Water
 Sample Date 12/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.22	ug/l	0.22	0.69	1	GRO95/8021		12/18/2018	CJR	1
Ethylbenzene	2.07	ug/l	0.53	1.69	1	GRO95/8021		12/18/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.57	ug/l	0.57	1.82	1	GRO95/8021		12/18/2018	CJR	1
Naphthalene	4.7 "J"	ug/l	1.7	5.38	1	GRO95/8021		12/18/2018	CJR	1
Toluene	0.5 "J"	ug/l	0.45	1.45	1	GRO95/8021		12/18/2018	CJR	1
1,2,4-Trimethylbenzene	1.36 "J"	ug/l	0.73	2.33	1	GRO95/8021		12/18/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.75	ug/l	0.75	2.39	1	GRO95/8021		12/18/2018	CJR	1
m&p-Xylene	< 1	ug/l	1	3.17	1	GRO95/8021		12/18/2018	CJR	1
o-Xylene	0.94 "J"	ug/l	0.58	1.84	1	GRO95/8021		12/18/2018	CJR	1

Lab Code 5035598F
 Sample ID PZ-1
 Sample Matrix Water
 Sample Date 12/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Lead, Dissolved	< 0.8	ug/L	0.8	2.7	1	7421		12/14/2018	CWT	1
Organic										
PVOC + Naphthalene										
Benzene	12.9	ug/l	0.22	0.69	1	GRO95/8021		12/18/2018	CJR	1
Ethylbenzene	380	ug/l	0.53	1.69	1	GRO95/8021		12/18/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.57	ug/l	0.57	1.82	1	GRO95/8021		12/18/2018	CJR	1
Naphthalene	97	ug/l	1.7	5.38	1	GRO95/8021		12/18/2018	CJR	1
Toluene	55	ug/l	0.45	1.45	1	GRO95/8021		12/18/2018	CJR	1
1,2,4-Trimethylbenzene	176	ug/l	0.73	2.33	1	GRO95/8021		12/18/2018	CJR	1
1,3,5-Trimethylbenzene	75	ug/l	0.75	2.39	1	GRO95/8021		12/18/2018	CJR	1
m&p-Xylene	580	ug/l	1	3.17	1	GRO95/8021		12/18/2018	CJR	1
o-Xylene	175	ug/l	0.58	1.84	1	GRO95/8021		12/18/2018	CJR	1

Project #

Lab Code 5035598G
 Sample ID MW-1
 Sample Matrix Water
 Sample Date 12/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Lead, Dissolved	0.9 "J"	ug/L	0.8	2.7	1	7421		12/14/2018	CWT	1
Organic										
PVOC + Naphthalene										
Benzene	2.95	ug/l	0.22	0.71	1	8260B		12/20/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		12/20/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		12/20/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		12/20/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		12/20/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		12/20/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		12/20/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		12/20/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		12/20/2018	CJR	1

Lab Code 5035598H
 Sample ID MW-2
 Sample Matrix Water
 Sample Date 12/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	23.6	ug/l	0.22	0.69	1	GRO95/8021		12/18/2018	CJR	1
Ethylbenzene	8.5	ug/l	0.53	1.69	1	GRO95/8021		12/18/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.57	ug/l	0.57	1.82	1	GRO95/8021		12/18/2018	CJR	1
Naphthalene	5.2 "J"	ug/l	1.7	5.38	1	GRO95/8021		12/18/2018	CJR	1
Toluene	0.93 "J"	ug/l	0.45	1.45	1	GRO95/8021		12/18/2018	CJR	1
1,2,4-Trimethylbenzene	4.3	ug/l	0.73	2.33	1	GRO95/8021		12/18/2018	CJR	1
1,3,5-Trimethylbenzene	1.96 "J"	ug/l	0.75	2.39	1	GRO95/8021		12/18/2018	CJR	1
m&p-Xylene	10.4	ug/l	1	3.17	1	GRO95/8021		12/18/2018	CJR	1
o-Xylene	1.56 "J"	ug/l	0.58	1.84	1	GRO95/8021		12/18/2018	CJR	1

Project #

Lab Code 5035598I
 Sample ID MW-8
 Sample Matrix Water
 Sample Date 12/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Lead, Dissolved	17.5	ug/L	0.8	2.7	1	7421		12/14/2018	CWT	1
Organic										
PVOC + Naphthalene										
Benzene	< 11	ug/l	11	34.5	50	GRO95/8021		12/19/2018	CJR	1
Ethylbenzene	1100	ug/l	26.5	84.5	50	GRO95/8021		12/19/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 28.5	ug/l	28.5	91	50	GRO95/8021		12/19/2018	CJR	1
Naphthalene	620	ug/l	85	269	50	GRO95/8021		12/19/2018	CJR	1
Toluene	27 "J"	ug/l	22.5	72.5	50	GRO95/8021		12/19/2018	CJR	1
1,2,4-Trimethylbenzene	1650	ug/l	36.5	116.5	50	GRO95/8021		12/19/2018	CJR	1
1,3,5-Trimethylbenzene	390	ug/l	37.5	119.5	50	GRO95/8021		12/19/2018	CJR	1
m&p-Xylene	3500	ug/l	50	158.5	50	GRO95/8021		12/19/2018	CJR	1
o-Xylene	750	ug/l	29	92	50	GRO95/8021		12/19/2018	CJR	1

Lab Code 5035598J
 Sample ID TB
 Sample Matrix Water
 Sample Date 12/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.22	ug/l	0.22	0.69	1	GRO95/8021		12/18/2018	CJR	1
Ethylbenzene	< 0.53	ug/l	0.53	1.69	1	GRO95/8021		12/18/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.57	ug/l	0.57	1.82	1	GRO95/8021		12/18/2018	CJR	1
Naphthalene	< 1.7	ug/l	1.7	5.38	1	GRO95/8021		12/18/2018	CJR	1
Toluene	< 0.45	ug/l	0.45	1.45	1	GRO95/8021		12/18/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.73	ug/l	0.73	2.33	1	GRO95/8021		12/18/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.75	ug/l	0.75	2.39	1	GRO95/8021		12/18/2018	CJR	1
m&p-Xylene	< 1	ug/l	1	3.17	1	GRO95/8021		12/18/2018	CJR	1
o-Xylene	< 0.58	ug/l	0.58	1.84	1	GRO95/8021		12/18/2018	CJR	1

Project Name LUEDTKE PROPERTY

Invoice # E35598

Project #

"J" Flag: Analyte detected between LOD and LOQ

LOD Limit of Detection

LOQ Limit of Quantitation

Code *Comment*

1 Laboratory QC within limits.

CWT denotes sub contract lab - Certification #445126660

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.

Authorized Signature

Michael Ricker

Environmental Lab, Inc.

1990 Prospect Ct. • Appleton, WI 54914
920-830-2455 • FAX 920-733-0631

Sample Handling Request
Rush Analysis Date Required _____
(Rushes accepted only with prior authorization)
 Normal Turn Around

Lab I.D. # _____
Account No. : _____ Quote No.: _____
Project #: _____
Sampler: (signature) *Tyler Woodke*

Project (Name / Location): *Luedtke Property / Tomahawk, WI*
Reports To: *Todd Luedtke* Invoice To: *Todd Luedtke*
Company: _____ Company: *Co METCO*
Address: *426 Crowfoot Avenue* Address: *709 Gillette Street, Suite 3*
City State Zip: *Fond du Lac, WI 54935* City State Zip: *Lu Cross, WI 54603*
Phone: _____ Phone: _____
FAX: _____ FAX: _____

Analysis Requested										Other Analysis				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 85)	LEAD (Dissolved)	NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PCB	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	TOTAL SUSPENDED SOLIDS	VOC DW (EPA 524.2)	VOC (EPA 8260)	B-RORA METALS	PID/ FID

Lab I.D.	Sample I.D.	Collection Date	Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation	DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 85)	LEAD (Dissolved)	NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PCB	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	TOTAL SUSPENDED SOLIDS	VOC DW (EPA 524.2)	VOC (EPA 8260)	B-RORA METALS	PID/ FID
<i>S035598A</i>	<i>MW-6</i>	<i>2/10/18</i>	<i>1000</i>			<i>N</i>	<i>3</i>	<i>GW</i>	<i>HCl</i>									<i>X</i>						
<i>B</i>	<i>MW-4</i>		<i>1025</i>															<i>X</i>						
<i>C</i>	<i>MW-5</i>		<i>1050</i>															<i>X</i>						
<i>D</i>	<i>MW-7</i>		<i>1115</i>															<i>X</i>						
<i>E</i>	<i>MW-3</i>		<i>1140</i>			<i>Y</i>	<i>4</i>		<i>HCl, HNO3</i>			<i>X</i>						<i>X</i>						
<i>F</i>	<i>PZ-1</i>		<i>1270</i>			<i>Y</i>	<i>4</i>		<i>HCl, HNO3</i>			<i>X</i>						<i>X</i>						
<i>G</i>	<i>MW-1</i>		<i>1245</i>			<i>Y</i>	<i>4</i>		<i>HCl, HNO3</i>			<i>X</i>						<i>X</i>						
<i>H</i>	<i>MW-2</i>		<i>110</i>			<i>N</i>	<i>3</i>		<i>HCl</i>									<i>X</i>						
<i>I</i>	<i>MW-8</i>		<i>135</i>			<i>Y</i>	<i>4</i>		<i>HCl, HNO3</i>			<i>X</i>						<i>X</i>						
<i>J</i>	<i>TB</i>						<i>1</i>		<i>HCl</i>									<i>X</i>						

Comments/Special Instructions (*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", Oil, Sludge etc.)

Lab to send copy of report to METCO/Jason P. (Invoice to METCO)
** W/C Rates Apply*
** Agent Status*

Sample Integrity - To be completed by receiving lab.
Method of Shipment: *Cooler*
Temp. of Temp. Blank: _____ °C On Ice:
Cooler seal intact upon receipt: Yes No

Relinquished By: (sign) *Tyler Woodke* Time: *7:00 AM* Date: *12/11/18*
Received By: (sign) _____ Time: _____ Date: _____
Received in Laboratory By: *[Signature]* Time: *8:00* Date: *12/11/18*