

# Meridian Environmental Consulting, LLC

Rew John

October 14, 2016

John Sager Wisconsin Department of Natural Resources 1701 N. 4<sup>th</sup> St. Superior, WI 54880

Subject:

**Progress Report** 

Wagner Oil Spill - March 12, 2016

Hwy. 45 – Rolling Township, Langlade County, Wisconsin

DNR BRRTS No. 02-34-577387

Meridian No. 05C817

Dear John:

This letter describes work completed to date in response to the above referenced spill. Based on this work, we recommend an additional downgradient monitoring well followed by two quarters of ground water samples. If the results indicate a stable and/or receding plume, we will evaluate this site for Closure with GIS Registry for Soil and Ground Water.

#### **BACKGROUND INFORMATION**

Please refer to file reports for detailed background information. A brief summary is provided below.

The spill occurred March 12, 2016 on Hwy. 45 near Aniwa, Wisconsin (Figures 1 and 2). An estimated 1787 gallons of gasoline spilled onto the roadway and flowed easterly onto the shoulder and ditch.

Cleanup included using absorbent pads and booms (29 drums), vacuum truck(s) (14,800 gallons of gasoline/water mixture), and soil excavation (670.18 tons).

We estimate 1500 gallons (or more) of product was recovered in the initial emergency response action. Additionally, a significant portion of the unrecovered product likely evaporated over time (especially during the hot summer months).

#### REMEDIAL INVESTIGATION

# Soil Borings - May 25, 2016

Seventeen soil borings (B1 through B17) were installed in the locations shown on Figure 2. The boring depths ranged from 8 to 12 ft below grade. Soil samples were collected from the borings and analyzed for PVOC+Naphthalene. The results are summarized in Table 1.

Ground water samples were collected from several soil borings; the results are summarized in Table 2.

# Temporary Monitoring Wells - May 25, 2016

Five temporary monitoring wells (1-inch dia) (TMW-1 thru TMW-5) were installed in the locations shown on Figure 2. The wells were screened across the water table with 5 ft screens. Ground water samples were collected from these wells; the results are summarized in Table 2.

# Monitoring Wells - August 10, 2016

Monitoring wells MW-1, MW-2, and MW-3 were installed August 10, 2016 in the locations shown on Figure 2. The soil boring logs and monitoring well forms are provided in Appendix A.

# **Ground Water Sampling**

Ground water samples were collected August 29, 2016 from MW-1, -2, -3, TMW-3, -4, -5. Temporary wells TMW-1 and TMW-2 could not be located. The analytical reports are provided in Appendix B and summarized in Table 2.

The depth to ground water was measured in each well prior to sampling (Table 3).

Natural attenuation parameters were measured in the field during the August 29, 2016 sampling event (Table 4). Several wells (especially temporary wells) were poorly developed which limited field measurements.

# DATA EVALUATION

#### **Setting**

The site is located in a rural area of Langlade County. The area is forested. The spill occurred in a topographic swale with surface water flow to the south/southeast. The remedial excavation created a shallow pond (approximately 1 foot depth).

The nearest residence is located over 1/4 mile away.

# Hydrogeology

The site is underlain by heterogeneous glacial deposits consisting of sand, gravel, clay, and silt with large boulders. Bedrock (described as 'granite' in area well logs – Appendix C) is typically encountered in area wells about 50 feet below grade.

The soil borings encountered silty sands with some coarser sand, gravel, and large boulders.

Ground water flow appears to be to the southwest (Figure 3) based on the August 29, 2016 measurements. Additional measurements are needed to confirm this finding.

# **Impacted Soil**

The soil borings and soil samples defined the extent of impacted soil. There is residual soil contamination around the perimeter and floor of the excavated area. These impacts will naturally attenuate and do not require further investigation and remediation.

No further action is recommended with respect to soil impacts.

# **Extent of Impacted Ground Water**

The analytical data and ground water flow measurements indicate the extent of impacted ground water is as shown in Figure 4. Based on this initial data, the downgradient extent should be defined with an additional monitoring well (Figure 4).

After the additional well is installed, all of the monitoring wells will be sampled twice (quarterly). The ground water levels will be measured during each event to confirm ground water flow direction.

# **Environmental Risk Analysis**

The primary environmental risks at this site are surface water and potential impacts to nearby potable wells. Based on the water sample from the pond (Table 2), the initial remedial actions appear to have removed shallow petroleum impacts which present a threat to surface water. No further action is recommended with respect to surface water.

The potential for impacting nearby private wells is not of concern at this time. The nearest residence (and private well) is over ¼ mile away.

# RECOMMENDATIONS

We recommend the downgradient extent of impacted ground water be defined followed by two sampling events (quarterly). It is expected this data will document a stable and receding plume as natural attenuation processes (i.e., natural biodegradation, dilution, offgas evaporation, etc.) reduce the ground water impacts.

We plan to install the additional monitoring well in the next few weeks. Ground water sampling of all wells will occur following the well installation.

The absorbent boom around the perimeter of the pond will be removed. The pond no longer has measureable petroleum impacts and the absorbent boom is no longer needed.

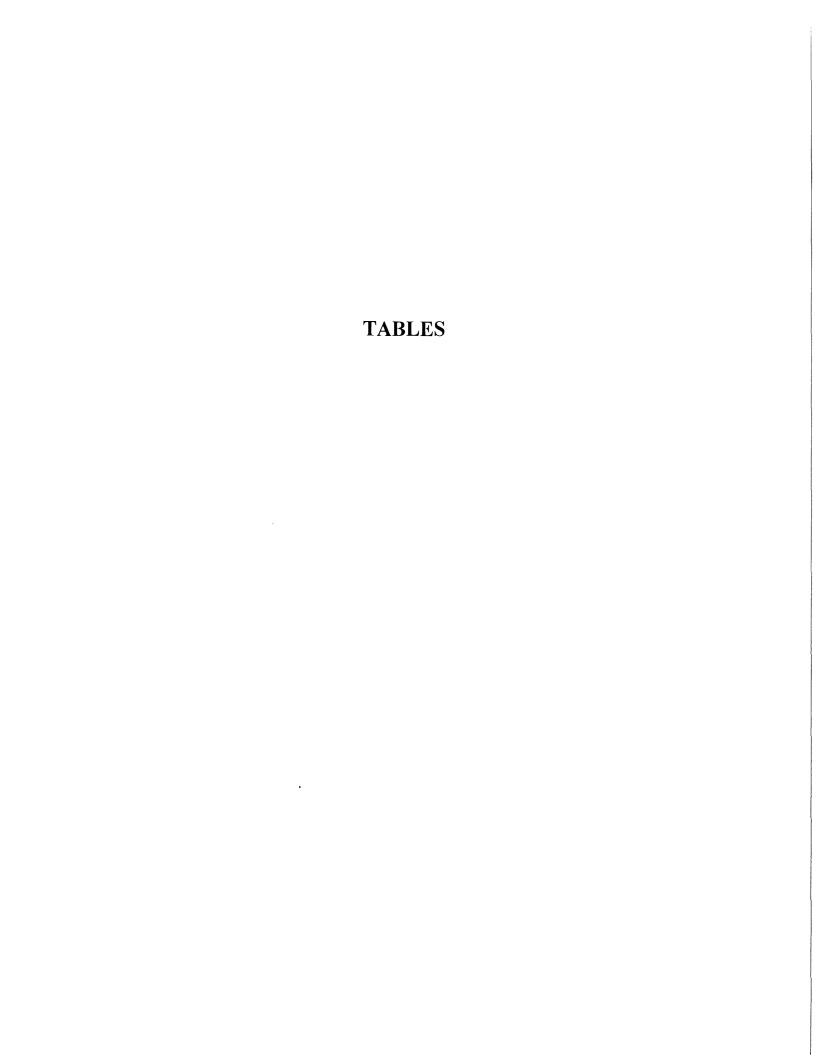
Following completion of this work, a report will be prepared documenting the above actions and include our recommendations regarding Closure.

Sincerely,

MERIDIAN ENVIRONMENTAL CONSULTING, LLC

Kenneth Shimko, PG Project Manager

C: Wagner Oil Company



#### Table 1: Geoprobe Soil Analytical Results Table Wagner Oil Company - Highway 45 Gasoline Spill Rolling, WI (Table Created By REI)

		Date->	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16
		Sample>	B1	B1	B2	B2	B3	B3	B4	B4	B5	B5	В6	B6	B7 .	B7	B8	B8
	Sample Depth—>			6-8'	2-4'	10-12'	2-4'	6-8'	2-4'	6-8'	2-4'	10-12'	2-4'	10-12'	2-4'	10-12'	2-4'	6-8'
	Percent	Moisture (%)	7.2	12.0	6.5	6.1	6.5	8.1	9.3	7.3	8.5	5.5	12.8	NA.	10.5	10.9	16.4	8.3
	-	PID (ppm)	0	0	0	0	0	0	0	0	8.2	31.3	0	1,485	0.4	4.2	0	0
Petroleum VOC's (mg/kg)	Non-Industrial Not-to-Exceed DC RCL	NR 140 Groundwater Pathway Protection																
Benzene	1.49	0.0026	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	26.3	<0.025	<0.025	<0.025	<0.025
Ethylbenzene	7.47	0.785	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<b>7</b> 9.9	<0.025	<0.025	<0.025	<0.025
Toluene	818	0.5536	<0.025	<0.025	<0.025	0.0374 <sup>J</sup>	<0.025	<0.025	<0.025	<0.025	<0.025	0.0474 <sup>J</sup>	<0.025	250	<0.025	<0.025	<0.025	<0.025
Xylenes (Total)	258	1.97	<0.050	<0.050	<0.050	<0.050	< 0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	363	<0.050	<0.050	<0.050	<0.050
Methyl-tert-Butyl-Ether (ΜΓΒΕ)	59.4	0.0135	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	2.18 <sup>J</sup>	<0.025	<0.025	<0.025	<0.025
1,2,4- Trimethylbenzene	89.8	NA	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	135	<0.025	<0.025	<0.025	<0.025
1,3,5- Trimethylbenzene	182	NA	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	38.4	<0.025	<0.025	<0.025	<0.025
Trimethylbenzenes (Total)	NA	0.691	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	17340	<0.025	<0.025	<0.025	<0.025
Naphthalene	5.15	0.3291	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025_	<0.025	<0.025	<0.025	<0.025	<0.025	19.8	<0.025	<0.025	<0.025	<0.025
	lividual Exceeda	<u> </u>	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
	ulative Hazard I			0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	2.3743	0.0007	0.0007	0.0007	0.0007
Cur	nulative Cancer	Risk (DC)>	2.50E-08	2.50E-08	2.50E-08	2.50E-08	2.50E-08	2.50E-08	2.50E-08	2.50E-08	2.50E-08	2.50E-08	2.50E-08	2.30E-05	2.50E-08	2.50E-08	2.50E-08	2.50E-08

#### Notes:

NR 720 Standards Obtained From WDNR Online Database

RCL - NR720 Soil Residual Concentration Level

DC - Direct Contact

< - Concentration Below Laboratory Detection Limit

NA - No Standard/Not Applicable

mg/kg - Parts Per Million (ppm)

J - Estimated concentration at or above the Limit of Detection (LOD) and below the Limit of Quantitation (LOQ)

Exceeds Non-Industrial Not-To-Exceed DC RCL -

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Exceeds NR 140 Groundwater Pathway Protection -

#### Table 1 (cont): Geoprobe Soil Analytical Results Table Wagner Oil Company - Highway 45 Gasoline Spill Rolling, WI (Table Created by REI)

		Date->	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16	5/25/16
		Sample>	B9	B9	B10	B10	B11	B11	B12	B13	B13	B14	B14	B15	B15	B16	B16	B17	B17
	San	nple Dep <b>th</b> ->	2-4'	4-6'	2-4'	4-6'	2-4'	4-6'	2-4'	2-4'	4-6'	2-4'	4-6'	2-4'	8-10'	2-4'	6-8'	2-4'	6-8'
	Percent	Moisture (%)		10.7	13.1	15.1	10.9	11.2	11.0	9.8	11.8	9.8	8.7	5.2	14.4	7.0	7.8	5.0	2.3
		PID (ppm)	1,163	1,107	4.9	1.9	194.6	797	8.0	0.9	7.3	0.8	1.0	0	52.6	26.9	65.7	8.7	30.1
Petroleum VOC's (mg/kg)	Non-Industrial Not-to-Exceed DC RCL	( troundwater											F13						
Benzene	1.49	0.0026	3.9	3.53	<0.025	<0.025	0.394	2.47	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.0569 <sup>J</sup>	<0.025	<0.025	<0.025	<0.025
Ethylbenzene	7.47	0.785	8.98	3.79	0.0573 <sup>J</sup>	<0.025	0.0689	1.13	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Toluene	818	0.5536	29.3	14.5	0.137	<0.025	0.675	5.79	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.109	<0.025	<0.025	<0.025	<0.025
Xylenes (Total)	258	1.97	48.3	17.3	0.279	<0.050	0.315	5.28	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.0539 <sup>J</sup>	<0.050	<0.050	<0.050
Methyl-tert-Butyl-Ether (MTBE)	59.4	0.0135	0.201 <sup>J</sup>	0.0739 J	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,2,4- Trimethylbenzene	89.8	NA	17.8	6.39	0.129	<0.025	0.0509 <sup>J</sup>	1.92	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.0535 <sup>J</sup>	<0.025	<0.025	<0.025
1,3,5- Trimethylbenzene	182	NA	5.1	1.79	0.042 <sup>J</sup>	<0.025	<0.025	0.531	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trimethylbenzenes (Total)	NA	0.691	22.9	8.18	0.129	<0.025	0.0509 <sup>J</sup>	2.45	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	< 0.025	<0.025	<0.025	<0.025
Naphthalene	5.15	0.3291	2.42	0.994	<0.025	<0.025	<0.025	0.312	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
-	lividual Exceeda	` ′ '	2	l	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	ılative Hazard I	, , ,		0.1138	0.0022	0.0007	0.0048	0.0533	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.001	0.0011	0.0007	0.0007	0.0007
Сип	nulative Cancer	Risk (DC)>	4.30E-06	3.10E-06	3.00E-08	2.50E-08	2.80E-07	1.90E-06	2.50E-08	2.50E-08	2.50E-08	2.50E-08	2.50E-08	2.50E-08	4.70E-08	2.50E-08	2.50E-08	2.50E-08	2.50E-08

Notes:

NR 720 Standards Obtained From WDNR Online Database

RCL - NR720 Soil Residual Concentration Level

DC - Direct Contact

< - Concentration Below Laboratory Detection Limit

NA - No Standard/Not Applicable

mg/kg - Parts Per Million (ppm)

J - Estimated concentration at or above the Limit of Detection (LOD) and below the Limit of Quantitation (LOQ)

Exceeds Non-Industrial Not-To-Exceed DC RCL -

Exceeds NR 140 Groundwater Pathway Protection -

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# **Table 2: Ground Water Analytical Results**

Wagner Oil Spill Hwy 45 near Aniwa, Wisconsin Meridian No. 05C817

Sample Location		Benzene	Ethylbenzene	Toluene	Xylenes (Total)	MTBE	1,2,4-TMB	1,3,5-TMB	TMB (Total)	Naphthalene
NR140 Enforcement Standard		5	700	800	2000	60			480	100
NR140 Preventative Action Limit		0.5	140	160	400	12			96	10
Soil Borings	,					0.40				
B3		<0.40	<0.39	<0.39	<1.2	<0.48	NR	NR	<0.42	<0.42
B5		9,620	883	15,000	4,240	<48.5	NR	NR	326	77.6 <sup>J</sup>
B8		8.6	1.2	9.9	5,3	<0.48	NR	NR	<0.42	<0.42
B9		25,800	5,050	47,600	23,200	<121	NR	NR	5,490	676
B12		299	82.8	930	367	<4.8	NR	NR	16.3	<4.2
B13		32.5	0.80	24.9	2.8 <sup>J</sup>	<0.48	NR	NR	3,3	<0.42
B15		39.9	3.3	46,2	10.5	<0.48	NR	NR	0.56 <sup>J</sup>	<0.42
B16		3,250	2,340	17,600	10,300	<48.5	NR	NR	2,091	278
Monitoring Wells (temporary and 2	2-inch)									
TW1 (B2) (installed 5/25/16)	,					_				
	5/25/2016	<0.40	<0.39	< 0.39	<1.2	<0.48	NR	NR	<0.42	<0,42
		Could not l							****	
	,,									
TW2 (B4) (installed 5/25/16)					-					
	5/25/2016	< 0.40	< 0.39	< 0.39	<1.2	<0.48	NR	NR	< 0.42	<0.42
	8/29/2016	Could not I	ocate						,	
TW3 (B7) (installed 5/25/16)										
	5/25/2016	4.7	< 0.39	6.2	<1.2	<0.48	NR	NR	< 0.42	<0.42
	8/29/2016	16.3	<.39	4.8	5,3	<.48	<.42	0.75	0.75	<.42
TW4 (B10) (installed 5/25/16)										
	5/25/2016	0.55.1	<0.39	1.8	<1.2	<0,48	NR	NR	<0.42	<0.42
	8/29/2016	<2	2.2	30.9	12,1	<2.4	<2,1	<2.1	<2.1	<2.1
	0/23/2010		2,2	30,7	12,1	\2,7	\2,1	12,1	-2.1	-2,1
TW5 (B14) (installed 5/25/16)										
	5/25/2016	46.5	7.4	90.1	24.8	<0.48	NR	NR	1.6	<0.42
	8/29/2016	<4	<3.9	<3.9	<12.5	<4.2	<4.2	<4.2	<4.2	<4.2
				•			·			
MW-1 (installed August 10, 2016)				,						
	8/29/2016	6630	1980	186000	10700	<60.6	1500	386	1886	299
	·				**					
MW-2 (installed August 10, 2016)						_ 2.7				
<u> </u>	8/29/2016	10100	1160	18000	7110	<60.6	689	160	849	161
MW-3 (installed August 10, 2016)										
	8/29/2016	1430	123	1640	818	<9.7	64.2	16.2	80.4	19.5
naud.			,							
Pond	F /2 F /201 F		4.2	10.0	22.2	<0.49	ND	ND	0.6	2.2
	5/25/2016	6.2	4.2	19.9	22,3	<0.48	NR <,42	NR <.42	8.6	2,2 <.42
	8/29/2016	<.4	<.39	<.39	<1.2	<b>\.40</b>	₹,42	₹.42	<.42	₹,42

# **Table 3: Ground Water Level Measurements**

Wagner Oil Spill Hwy 45 near Aniwa, Wisconsin Meridian No. 05C817

F			TA () ( 2 ( ) + -    -   -   -   -   -   -   -	1 5 44 54 4 -	TRANS ( 2 ( U - 1 84 25 2015)		T	
TMW-1 (installed May 25, 2016) (screened 9-14	tt below g	rade)	TMW-2 (installed May 25, 2016) (screene	a e-11 tt pei	iow grade)	TMW-3 (installed May 25, 2016)		
Surface Elevation (ft)			Surface Elevation (ft)			Surface Elevation (ft)		104.5
Top of Casing elevation (ft)			Top of Casing elevation (ft)			Top of Casing elevation (ft)		104.36
Top of Screen Elevation (ft)			Top of Screen Elevation (ft)			Top of Screen Elevation (ft)		93.5
Bottom of Screen Elevation (ft)			Bottom of Screen Elevation (ft)			Bottom of Screen Elevation (ft)		88.5
Meas. Date	DTW (ft)	GW Elev (ft)	Meas. Date	DTW (ft)	GW Elev (ft)	Meas. Date	DTW (ft)	GW Elev (ft)
CAN NOT LOCATE WELL			CAN NOT LOCATE WELL					
						8/29/2016	9.97	94.39

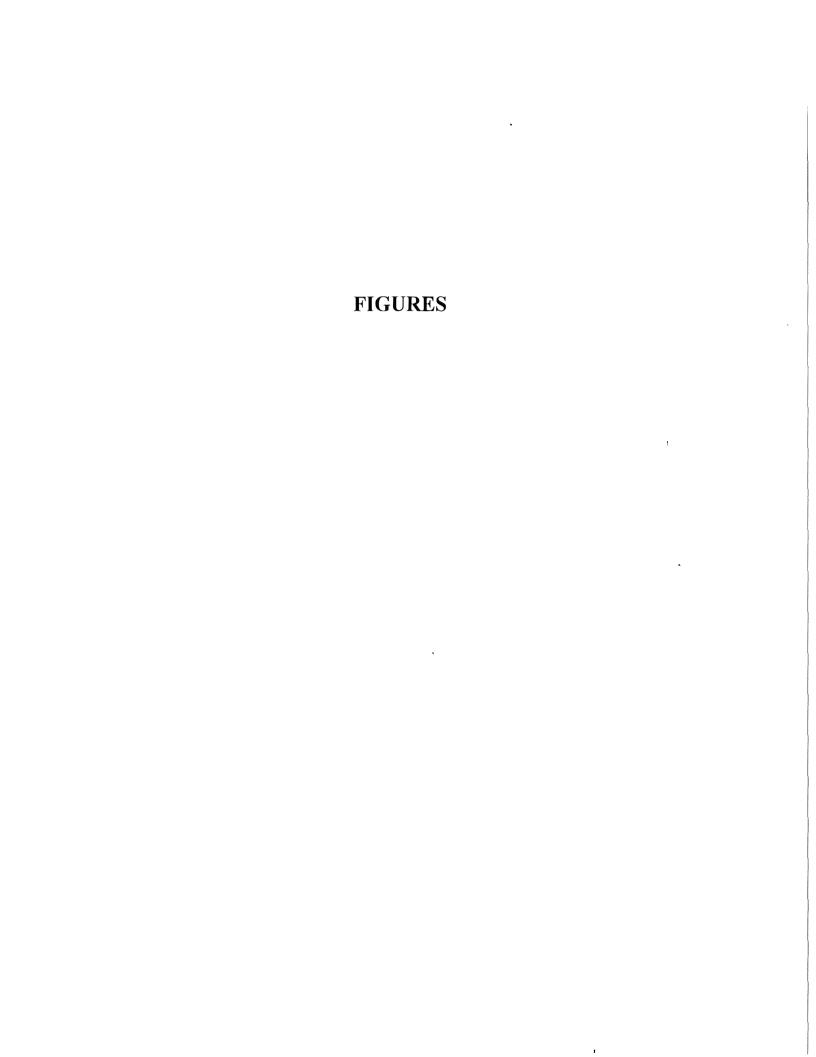
TMW-4 (installed May 25, 2016)			TMW-5 (installed May 25, 2016)		
Surface Elevation (ft)		100.5	Surface Elevation (ft)		101.75
Top of Casing elevation (ft)		100.44	Top of Casing elevation (ft)		101.61
Top of Screen Elevation (ft)		97.5	Top of Screen Elevation (ft)		98.75
Bottom of Screen Elevation (ft)		92.5	Bottom of Screen Elevation (ft)		93.75
Meas. Date	DTW (ft)	GW Elev (ft)	Meas. Date	DTW (ft)	GW Elev (ft)
8/29/2016	5.47	94.97	8/29/2016	6.67	94.94

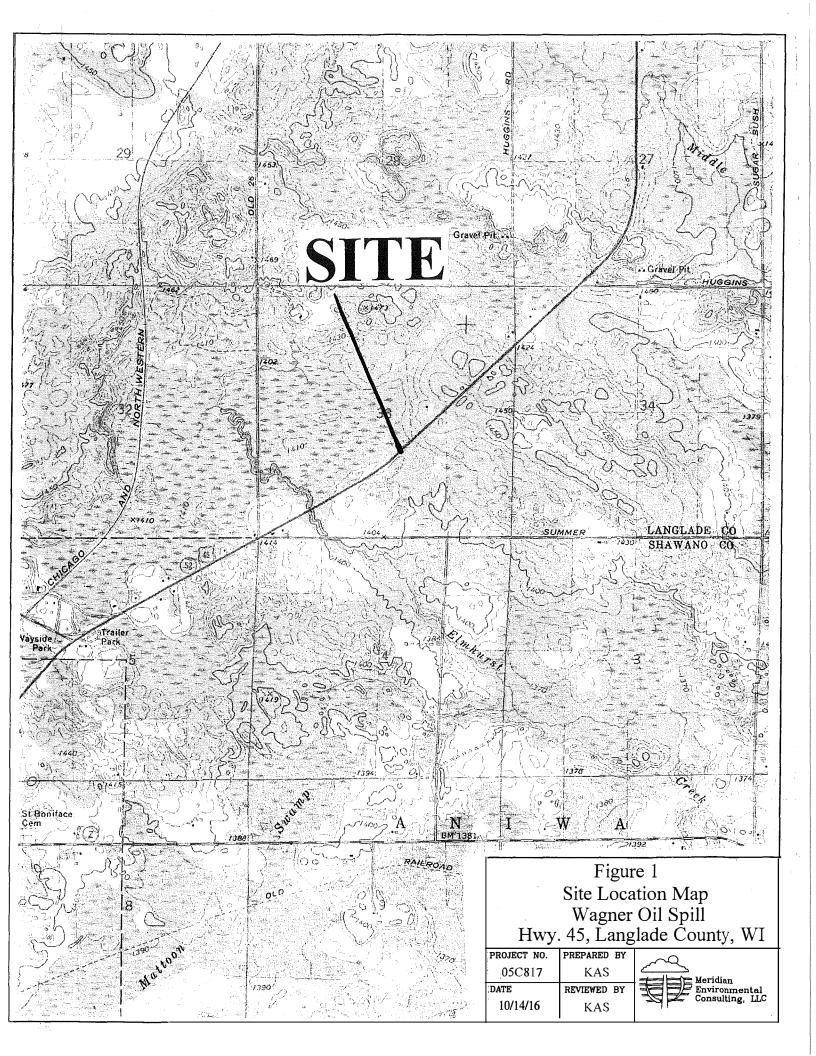
MW-1 (installed Aug. 10, 2016)	-			MW-2 (installed Aug. 10, 2016)				MW-3 (installed Aug. 10, 2016)		T
Surface Elevation (ft)			100.25	Surface Elevation (ft)			106	Surface Elevation (ft)		102.25
Top of Casing elevation (ft)			100  Top of Casing elevation (ft)				105.89	Top of Casing elevation (ft)	-	102.17
Top of Screen Elevation (ft)			98	Top of Screen Elevation (ft)			98	Top of Screen Elevation (ft)		99.25
Bottom of Screen Elevation (ft)			88	Bottom of Screen Elevation (ft)			88	Bottom of Screen Elevation (ft)		89.25
Meas. Date		DTW (ft)	GW Elev (ft)	Meas. Date		DTW (ft)	GW Elev (ft)	Meas. Date	DTW (ft)	GW Elev (ft)
Ï			l li							1
	8/29/2016	4.99	95.01		8/29/2016	11.41	94.48	8/29/2016	7.21	94.96

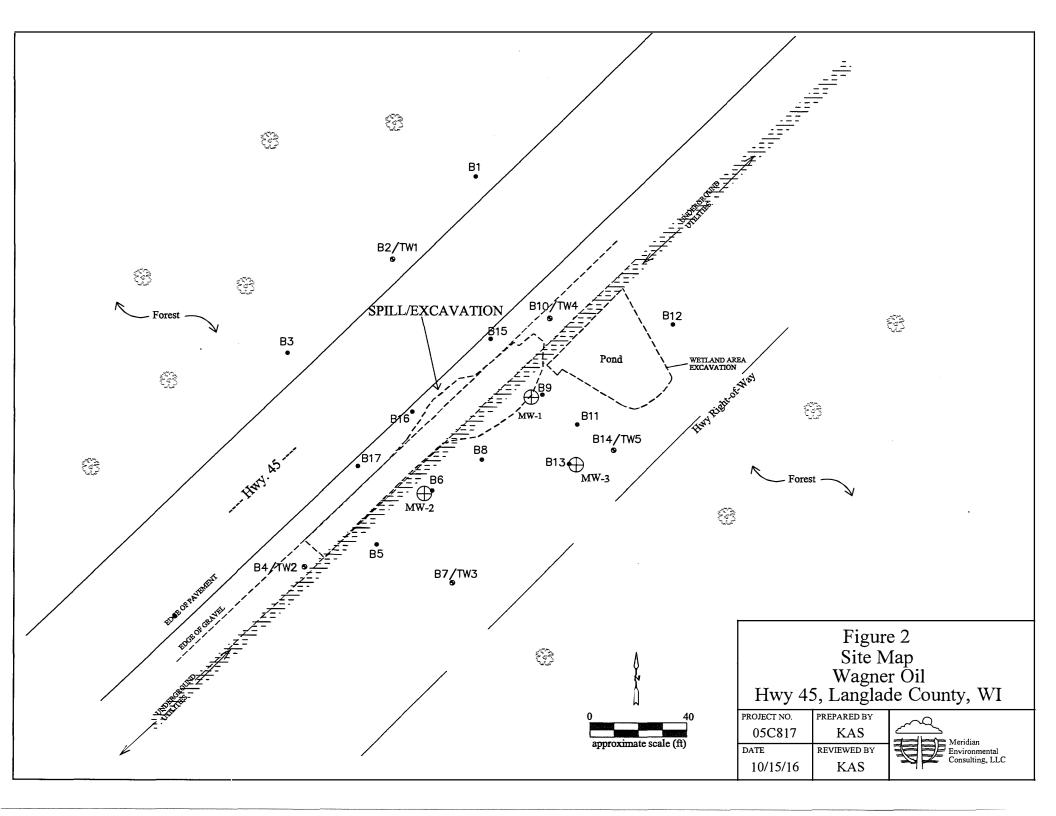
# **Table 4: Natural Attenuation Field Measurements**

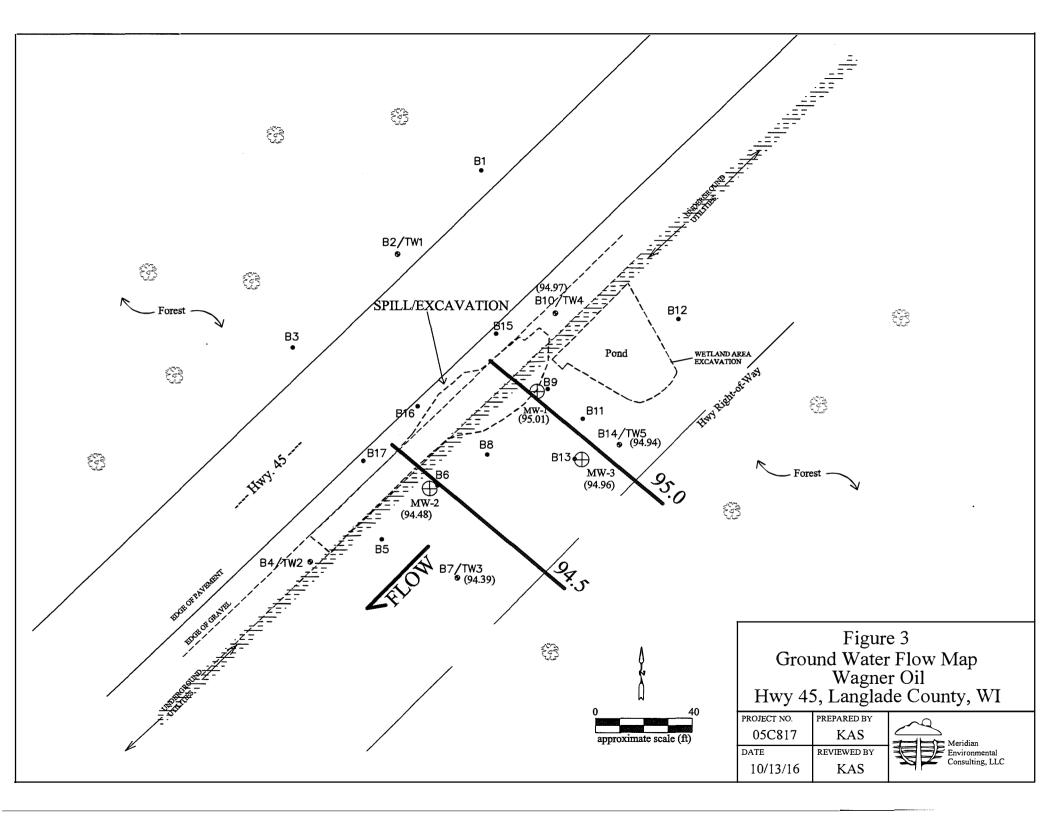
Wagner Oil Spill Hwy 45 near Aniwa, Wisconsin Meridian No. 05C817

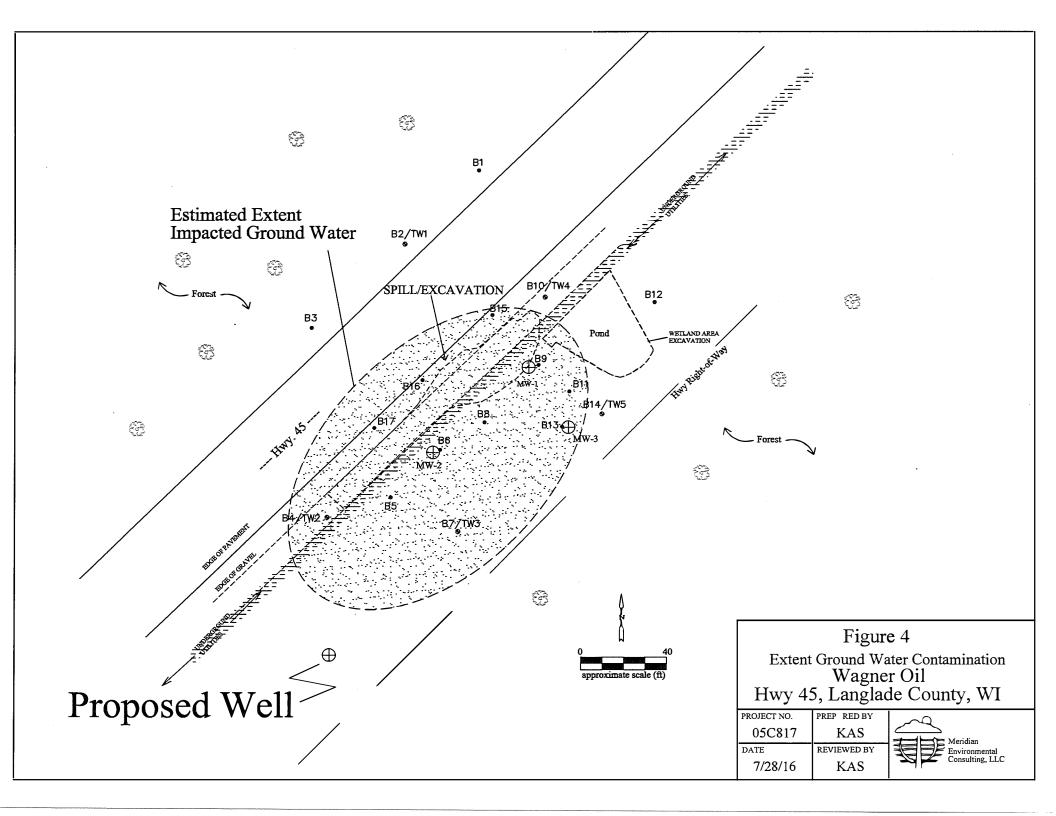
Well	DO	рН	Temp	Conductivity	ORP
		ριι	Temp	Conductivity	OAF
MW-1					
8/29/2016	0	7.7	17.6	511	12
		ĺ	·		į
MW-2		8.16	15.3	773	31
8/29/2016	0				
MW-3		:			
8/29/2016	0	too muddy	, ,		
TMW-3					· · · · · · · · · · · · · · · · · · ·
8/29/2016	<1	too muddy	<u>'</u>		
TMW-4					
8/29/2016	1	too muddy			
TMW-5		1			
8/29/2016	3	too muddy	<u>'</u>		
Pond		1			
8/29/2016	8				











# APPENDIX A

Soil Boring Logs & Monitoring Well Forms

State of W	isconsin/	
Departmen	nt of Natural	Resources

# SOIL BORING LOG INFORMATION Form 4400-122 Rev. 7-98

Environmental Consulting, LLC

Facility/Pri	ojeci N	ame	5p:11	- Huy	, 45		License/I	ermit/	Monitori	ng Nu	mber	Bori	Pag ng Nun	nber	of 1 N	<u></u> > - 1	
Boring Dri First Name:	Da.	i Nam	ne of crev Lasi Na		last) and Firm		Date Dril		Date Drilling Completed  S / 10 / 16  m m / d d / y y y y								
Firm:	Ge755 Inique Well No.   DNR Well ID No.   Well Name						m m d		7 6 7 y y					HSA Borehole Diameter			
			_						MSL			_Feet	MSL			inches	
tate Plane			······································	N,	ring Location		Lat_		1 - 11 1 - 11	Loca	Grid 1		I N			ΠE	
1/4 o	f	_ 1/4 of		ounty	N, R	Cou	Long_ nty Code		il Town/	City/ o	or Villa	eet C				t W	_
Sample		<u> </u>	<u> </u>	Lang	ade			<u>.  </u>	1	<u>9 n:</u>	wa		Prope		7	Towns	٠ <i>١</i>
	<u> </u>	Set Purface			k Description						l e	)	Сторе	lucs		1	
and Type Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Bolow ground surface)			ogic Origin For Major:Unit		SCS	phic	Well. Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments	
\$ 17 %	ĬŘ	മ്ല			1		>	<u> ξ.</u>	3 ≥ ⊠	M	L SS	≱້ວິ	בבו	도구	P.,	_≅8	
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This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

	Watershed/Wastewater Remediation/Redevelopment	Waste Management Other	MONITORING WELL CONSTRUCTION Form 4400-113A Rev. 7-98
Facility/Project Name Wagner - Huy. 455pill	II and Cated I ambien of Wall		Well Name MW-
Facility License, Permit or Monitoring No.	Local Grid Origin (estimated	d:  ) or Well Location	Wis. Unique Well No. DNR Well ID No.
Facility ID	St. Plancft. N,	fi. E. S/C/N	Date Well Installeds / LO / Lb m m d d y y y y y
Type of Well  Well Code/	Section Location of Waste/Source  1/4 of 1/4 of Sec Location of Well Relative to Wast	,T N, R 🗒 W	Well Installed By: Name (first, last) and Fir
Distance from Waste/ Enf. Stds.  Sourceft. Apply _		idegradient	Geis
	Pft_MSL	1. Cap and lock? 2. Protective cover p	Yes No
B. Well casing, top elevation	Oft. MSL	a. Inside diameter.	<b>5</b> _in.
C. Land surface elevation	O_ft. MSL	b. Length:	_!fi.
D. Surface seal, bottom ft. MS	Lor ft.	c. Material:	Siee] ☐ 0 4 Other ☐
12. USCS classification of soil near screen	10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	d. Additional prote	420,000
	W C SP C	If yes, describe:	
SM 🖃 SC 🗆 ML 🗆 MH 🗆 Cl	L CH D	3. Surface scal:	Bentonite 2 30
13. Sieve analysis performed?	es 🛮 No		Concrete 0 1
14. Drilling method used: Rots	ry 🗆 5,0	4. Material between v	vell casing and protective pipe:
Hollow Stem Aug			Bentonite 30
Oth	ner 🗆 🔛 💮		a. Granular/Chipped Bentonite 12/3 3
15. Drilling fluid used: Water □ 0 2	Air 🗆 01	5. Annular space seal:	d weight Bentonite-sand slurry 35
Drilling Mud □ 0 3 No	me 🗆 99   👺 🮇		d weight Bentonite slurry   3 1
16. Drilling additives used?	s 🗆 No	d % Bentonite	Bentonite-cement grout 5 0
16. Diming additives used?		eFı <sup>3</sup> \	volume added for any of the above
Describe		f. How installed:	Tremie □ 01 Tremie pumped □ 02
17. Source of water (attach analysis, if require	;d):		Tremie pumped □ 02 Gravity □ 08
		6. Bentonite seal:	a. Bentonite granules [] 33
E. Bentonite seal, top ft. MSL of	or 2ft.,	ь. □1/4 in. □3/8	3 in. □1/2 in. Bentonite chips □ 3 2 Other □
F. Fine sand, top ft. MSL c	ır2ft.	7. Fine sand meterial:	Manufacturer, product name & mesh size
G. Filter pack, top ft. MSL o	r_Zf.	b. Volume added	
H. Screen joint, top ft. MSL o	3_n.	ă	Manufacturer, product name & mesh size
I. Well bottom ft. MSL or	r_13_A.		ft <sup>3</sup> lush threaded PVC schedule 40  23
J. Filter pack, bottom ft. MSL or	, 13 h	<b>`</b>	lush threaded PVC schedule 80
K. Borehole, bottom ft. MSL or	13_ft.	10. Screen material: a. Screen type:	Factory cut 11
L Borehole, diameter in.		<u> </u>	Continuous slot
M. O.D. well casing in.		b. Manufacturer c. Slot size: d. Slotted length:	0L_in.
N. 1.D. well casing in.		d. Slotted length: 11. Backfill material (bel	
Thereby certify that the information on this form	n is true and correct to the best of	my knowledge.	Other 🗆 🧱
Signature	Firm _		0 4 . (1)
WIT A	Men. dias	Environment	l consultang, LLL

Please contracte both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299. Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Statt., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

Route to: Watershed/Wastewater Remediation/Redevelopment	Waste Management Other Other
	TWO IN A STATE OF THE STATE OF
wasner oil soill - Huy, 4) Low	glade MW-1
Facility License, Permit or Monitoring Number County Co	de Wis. Unique Well Number DNR Well ID Number
1. Can this well be purged dry?	
bail down but reco	Men 11. Depth to Water 11 QC
2. Well development method	(from top of a ft.
surged with bailer and bailed	well casing)
surged with bailer and pumped [] 61	
surged with block and bailed 🔲 42	Date b. $\frac{8}{m}$ , $\frac{29}{d}$ , $\frac{16}{y}$ , $\frac{8}{y}$ , $\frac{29}{m}$ , $\frac{15}{d}$
surged with block and pumped $\Box$ 62	mm ddyyyy mm ddyyy
surged with block, bailed and pumped   70	□ 1.m. □ a.m.
compressed air 20	a.m a.m. Time c: p.m: p.m.
bailed only	
pumped only	12. Sediment in well inches inches
pumped slowly	bottom
Other	13. Water clarity Clear 2 1 0 Clear 2 2 0 Turbid 1 5 Turbid 2 2 5
3. Time spent developing well $\sim 30$ min.	(Describe) (Describe)
4. Depth of well (from top of well casising)	
5. Inside diameter of wellin.	
6. Volume of water in filter pack and well casing gal_	
7. Volume of water removed from well	Fill in if drilling fluids were used and well is at solid waste facility:  14. Total suspended mg/l mg/l
8. Volume of water added (if any), _ gal.	solids
9. Source of water added	15. CODmg/lmg/l
	16. Well developed by; Name (first, last) and Firm
10. Analysis performed on water added?	First Name: Ken Last Name: Sh. mko
(If yes, attach results)	
	Firm Mendian Environmental Consult
17. Additional comments on development:	(4)
well bails down but	18(018)
within 5-10 n	unater
Winding 5	
	<u></u>
Name and Address of Facility Contact /Owner/Responsible Party  First Name: Ken Name: Shime	I hereby certify that the above information is true and correct to the best of my knowledge.
	Signature:
	Print Name: Kenheth Shimks
City/Stato/Zip: Fall Creek WI F	im: Mendian Environmental

54742

Department of Natural Resources Route to: W	Vatershed/Wastewater  emediation/Redevelopment Local Grid Location of Well ft	Waste Management Other O	MONITORING WELL CONSTRUCTION Form 4400-113A Rev. 7-98
Pacility/Project Name	Local Grid Location of Well	ON OF	Well Name Mw. 2
Wagner - Huy. 455pill	ft	□ N. □ E. □ W.	
Pacility License, Permit or Monitoring No. [1	Local Grid Origin 🔲 (estit	mated:   ) or Well Location	.
Facility ID		N,ft. E. S/C/N	75 75 75 75 75 75 75 75 75 75 75 75 75 7
Type of Well	CERON LOCATION OF WASICASC	, TN, R B	Well Installed By: Name (first, last) and Fir
Well Code/	1/4 of1/4 of Sec	, T N, R U W	Darin & Keith
Distance from Waste/ Enf. Stds.	ocation of Well Relative to u [] Upgradient s [ d [] Downgradient n [	☐ Sidegradient	Gers
	ft MSL	1. Cap and lock?	Yes No
	fi. MSL	2. Protective cover p	•
C. Land surface elevation C	_ fr. MSL	b. Length:	
		c. Material:	Steel 404
D. Surface seal, bottom ft. MSL	or ft.		Other 🗆 🥷
12. USCS classification of soil near screen:	3. A. S.	d. Additional prot	
GP GM GC GW SW SM SM SC ML ML MH CL	무용무	If yes, describe	<u> </u>
Bedrock	L CH L	3, Surface scal:	Bentonite 2 30
_	™ No		Concrete 01
	1 23	A Managari batana ana	Other □  well casing and protective pipe:
14. Drilling method used: Rotary  Hollow Stem Auger		4. Material between	Bentonite 30
.nollow Stem Auger Other			Other 🗆
		4	
15. Drilling fluid used: Water □ 0 2 Air	ا ده □٠	5. Annular space seal	ad weight Bentonite-sand slurry 35
Drilling Mud 🗆 0 3 None	99		ad weight Bentonite slurry 3 3
· <u>-</u>			e Bentonite-cement grout  50
16. Drilling additives used?	□ No   🔯		volume added for any of the above
December 1		f. How installed:	Tremie 🔲 0 )
Describe			Tremie pumped □ 0.2
17. Source of water (attach analysis, if required)	·   😹 `		Gravity 1 08
		6. Bentonite seal:	a. Bentonite granules [ 3 3
	6 6	b. □1/4 in. □3/8	Bin. 1/2 in. Bentonite chips 2 3 2
E. Bentonite seal, topft. MSL or		c	Other 🗆
. Fine sand, top ft. MSL or _		a.	Manufacturer, product name & mesh size
Filter pack, top ft. MSL or _	6 ft.	b. Volume added _	fi <sup>3</sup>
. Screen joint, top ft. MSL or _	8_ A.	a	Manufacturer, product name & mesh size
Well bottom ft. MSL or _	18 A	b. Volume added 9. Well casing: F	fi <sup>3</sup> lush threaded PVC schedule 40  23
Filterpack, bottom ft. MSL or _	18 A	P	lush threaded PVC schedule 80  24 Other
		10. Screen material:	PVC SILL S
Borehole, bottom ft MSL or _	1.2_ft.	a. Screen type:	Factory cut  1 1 Continuous slot
Borehole, diameter		<u> </u>	Other
O.D. well casing in.		b. Manufacturer c. Slot size: d. Slotted length:	0 in.
I.D. well casing in.		11. Backfill material (bel	
reby certify that the information on this form is	true and correct to the best	of my knowledge.	

Please contracte both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299. Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be

Signature

# SOIL BORING LOG INFORMATION Form 4400-122 Rev. 7-98

Consulting, LLC

	Route To: Watershed/Wastewater	Other			Pag		
Facility/Project Name Wagner On	Spill - Huy. 45	License/Po	ermit/Monitori	ng Number	Boring Nur	nber M U	· - で
	ame of crew chief (first, last) and Firm	Date Drilli			ng Completed		
Firm: Geis	5				1 b y y y		
WI Unique Well No.	DNR Well ID No.   Well Name	Final Statio	Water Level _Feet MSL	Surface Ele	vation Feet MSL	Borehole D	riameter inches
Local Grid Origin   State Plane	(estimated:   ) or Boring Location		О ). п	Local Grid I			
1/4 of1/4	of Section, TN, R	Long	0 ' "	F	□N <del>*eet□S</del> _	Fee	E EUW
Facility ID	County Langlade -	ounty Code	Civil Town/	City/or Villa N.Wa	ge (Ro	1 ling	Townshi
Sample		-		-	Soil Prope		·
Number and Type By Length Att. & all Recovered (in) Blow Counts Behavior Be	Soil/Rock Description  And Geologic Origin For  Each Major Unit	USCS	Graphic Log Well Diagram	PID/FID Compressive Strength	Moisture Content Liquid Limit	Plasticity Index P 200	RQD/ Comments
15_	Earth Drill  See B6 + B5  logs		70d "2 - [[[[[]]]]]]	lge.			

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Meridian

	Route to: Waters	hcd/Wasicwaic	т 🗀	Waste Manageme	ant 🔙		
	Remed	iation/Redevelo	pment	Other 🖂			
Facility/Project Name,	- 11 11	_  Cou	inty Name		Well Name		<del></del>
wagner oil	SOIT - HW	4.45 1	-aug	lacle		Mw-Z	
Facility/Project Name, Wagner Oil Facility License, Permit	or Monitoring Num	Cou	nty Code	Wis. Unique Well I	Number	DNR Well ID Number	
				\			
1. Can this well be purge	aldry?	☐ Yes [	⊃ No		Before Dev	elopment After Developmen	<u>t</u>
<u> </u>	bath down	n but r	ecover	11. Depth to Water		41 t 17 _ a	
2 Well development met	hod			(from top of well casing)	<u>a — // — .</u>		•
surged with bailer		41		wen (asing)			
surged with bailer					8 70	: //-	1)
surged with block		☐ <b>4</b> 2		Date	b <u>0 / 2-7</u>	1/6 <u>8/29/</u> yyyy mmddy	16
surged with block		□ 62 □ 70				·-	
surged with block,	panea and pumped	□ 70 □ 20		Time			•
compressed air		□ 20 □ 10		I HIIC	c ·	p.m.	-
pumped only		□ 10 □ 51		12. Sediment in well		_ inches inches	
pumped slowly		_		bottom			
Other		□ 50 □ <b>◎</b>	].	13. Water clarity	Clear Dar 1 (	Clear 20	
			ľ	23,	Turbid 1		
3. Time spent developing w	zeli /	<u> </u>			(Describe)	(Describe)	
2. I i i i posta de vetepaig						(=======	
4. Depth of well (from top of	of well casisme)	18 _ft	1				
	<u> </u>		1	<i>r</i>			
5. Inside diameter of well		Z in.					
•							
6. Volume of water in filter	pack and well	. 7					
casing		<u>~ Z ga</u>	L	•			
	Λ	. 7	F	ill in if drilling fluids	were used and	well is at solid waste facility.	
7. Volume of water removed	from well	ـ <mark>2</mark> _ <sub>gal</sub> .	. }	,	•		
			1.14			_ mg/l mg/l	
8. Volume of water added (if		— — . — gal.	1	solids	**	•	
0.5		٠,	125	S. COD		_	
9. Source of water added	<del></del>		-	_		mg/l mg/l	
·			_ 16	. Well developed by:	Name (first last)	and Riem	<del></del>
10. Analysis performed on wa	ster added?	Yes □ N	7.	ven developed by:	Transcauza ast,	st Name: Shimle	
(If yes, attach results)	LEI MODEL!						
(2)2,222			F	im Men I	as En	vironments Con	in It
17. Additional comments on d	evelopment:						
•		۱ ۸					ردار
we	ll bai	ts de	ə س بر	. but	rece	vers	
• •							•
	with	uin	5'-	10 min	intes		
	· ·						
•							
Name and Address of Facility Co	mtact/Owner/Respon	sible Party					<del></del>
River	•				above informa	tion is true and correct to the best	
	Name: Shil	<u> </u>	of	my knowledge.	<u> </u>		
44 1 -	8	0.11	/ C   C: _	11		1 -	
Facility/Firm: Mer .d.	an 1200	· Colty	L Sign	ature:	7 1		
221 11 21	co Rd	0'	<u> </u> .	" " V	on lan	1 <1- mile -	
Street: 771 N. R.1	co veck		- Print	Name:	erine	n Jaimis	
City/State/Zip: Fall C	1 X 1	2-	Firm:	Me.	0	Fun Sommer L	0
Chy/State/Zip:	77.7	(()	-	1-100	Chran	ILYW IT BILLION	1
	/ 11 -	<del></del>	1		,		_

State of Wisconsin	
Department of Natural	Resources

# SOIL BORING LOG INFORMATION Form 4400-122 Rev. 7-98 Form 4400-122

Ron	Natershed/Wastewater Waste Remediation/Revelopment On		nt 🗌				1	1,
Facility/Project Name Washer 87	Spill - Huy. 45	License/Pe	amit/Monitori	ng Number	Boring	Page Numb	er	w-3
Boring Drilled By: Nam First Name: Darin Firm: Geiss	e of crew chief (first, last) and Firm Last Name:		ng Started	Date Drillin	, 16		Drilling	
WI Unique Well No.	DNR Well ID No.   Well Name	1	Water Level Feet MSL	Surface Ele	vation Feet N	MSL E	Borehol	le Diameter inches
State Plane 1/4 of 1/4 of	timated: □ ) or Boring Location □N,E  Section, TN, R	Lat Long	0 1 "		□ Fæt □	N		□ E Feet□ W
Facility ID  Sample	County Langlade Co	emty Code	Civil Town/	City/or Villa 9 n i wa 1 T	_ ( (	Zo l ropert		Townshi
Number and Type Bu Length Att. & Bu Recovered (in) Blow Counts Depth in Feet (Below ground nurine)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log Well Diagram	PID/FID Compressive Strength	1 1		illy	P 200 RQD/ Comments
20	Earth Mill  See B13  109  EOB=13 F1.  refusal at 13 ft  (bolder)		W [	due				

Signature Consulting, LLC This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

	Vatershed/Wastewater Remediation/Redevelopme	waste Manage		Form 4400-113A	Rev. 7-98
Facility/Project Name Wagner - Huy. 455p.11	Local Grid Location of W	cll N.	t.	Well Name Mu	∑ د
Pacility License, Permit or Monitoring No.		stimated:   ) or W	ell Location	Wis. Unique Well N	Io. DNR Well ID No
Facility ID	St. Plane	fl N,		Date Well Installed	
Type of Well	Section Location of Waste	/Source	ΠE	Well Installed By: 1	n d d y y y y Name (first, last) and F
Well Code	1/4 of 1/4 of S	Sec, T,N,	. R B W	Darin +	Keith
Distance from Waste/ Enf. Stds.		☐ Sidegradient	ov. Lot Number	Geiss	
	fLMSL		ap and lock?		Yes D No
	_ ft MSL	11 1159	ntective cover pi Inside diameter:	•	5_ in
	fr.MSL	11 14	Length:		n
· ·	the start of the start of the	11   Da-	Material:		Steel 40
D. Surface seal, bottom ft. MSL	or n.				Other 🗆 🧾
12. USCS classification of soil near screen:			Additional prote	ection?	☐ Yes ☐ No
GP□ GM□ GC□ GW□ SW SM ☑ SC□ ML□ MH□ CL	CH	H 143 /		, .	Bentonite 2 30
Bedrock 🗆		3, Sun	rface scal:		Concrete 0 0
13. Sieve analysis performed?	5 ☑ No	<b>                                     </b>			Other 🗆 🧱
	, 🗆 50	4. Ma	terial between w	vell casing and protec	
Hollow Stem Auge					Bentonite 2 3
Othe			nular space seal:	a Granular/Chine	Other 🗆 🏯 Ded Bentonite 🗗 😘
15. Drilling fiuid used: Water □ 0 2 Ai	r 🗆 01   🐰			d weight Bentonii	
Drilling Mud □ 03 Non	🛱 🕴 99 ء			d weight Ben	
6. Drilling additives used?	□ No	888 d	% Bentonite	Bentonite-	cement grout 🗆 50
U. Diffing Redieves Beer		c. —	Fi <sup>3</sup> v	olume added for any	
Describe		f. H	How installed:		Tremie 🔲 0]
7. Source of water (attach analysis, if required				llét	nie pumped 🗆 02
		6 Ben	tonite seal:	a. Benton	Gravity 🖽 08
		2000		in. □1/2 in. Ber	
Bentonite seal, topft. MSL or	fi	/ °			Other 🗆 🎇
Fine sand, top ft. MSL or	2n.	7. Fine	sand meterial:	Manufacturer, produc	et name & mesh size
Filter pack, top ft. MSL or	_2_A	b. V	olume added	fi-	
Screen joint, top ft. MSL or	3 n	8. Filter	r pack material:	Manufacturer, produ	
Well bottom ft. MSL or	13 A	b. V 9. Well	olume added	ush threaded PVC sch	3
	· [准		_	ush threaded PVC sch	
ilter pack, bottom ft. MSL or	! ft.	10 Scree	en material:	PVC	Other 🗆 🎎
Borehole, bottom ft. MSL or	13_A.		creen type:		Pactory cut 11
orehole, diameter in.			``	Contin	Other D
O.D. well casing in.		c. Slo			0L_ in.
D. well casing $-2$ in.			otted length: ill material (belo	w filter pack):	
eby certify that the information on this form	s true and correct to the b	est of my knowledge.			Other 🗆 🌋
ature	Firm Men. d		<del>,                                      </del>	^ _	tans. 110

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and buresu. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299. Wis. Stats., and ch. NR 141. Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be

#### MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 7-98

TO SEE WALLEST TO A SECONDER OF THE SECONDER O	
Remediation/Redevelopme	
Facility/Project Name Spill - Huy 45 County)	
wagner 011 3/111 1/109.93 La	
Facility License, Permit or Monitoring Number County (	Code Wis. Unique Well Number DNR Well ID Number
1. Can this well be purged dry?	
bath down but rece	(from top of a 7 2) ft. NIZ ft.
2. Well development method	well casing)
surged with bailer and bailed 41	won danis,
surged with bailer and pumped	- 4 76 1/2 8 76 1)
surged with block and bailed 42	Date b. $\frac{g}{m m} \frac{2g}{d d y y y y} \frac{g}{y m m} \frac{g}{d d y y y}$
surged with block and pumped	
surged with block, bailed and pumped   70	i_m
compressed air 20	Time c:   p.m:   p.m.
bailed only	12 Fedination II
pumped only 51	12. Sediment in well inches inches
pumped slowly	
Other	13. Water clarity Clear 10 Clear 20 Turbid 15 Turbid 25
3. Time spent developing well $200 - 100$ min.	
3. Time spent developing well	(Describe) (Describe)
4. Depth of well (from top of well casising) _13 ft	
·	
5. Inside diameter of well in.	
J. Histor diameter of wen in.	
6. Volume of water in filter pack and well	
casing Sal	
	Fill in if drilling fluids were used and well is at solid waste facility.
7. Volume of water removed from well	The in it orthogonalds were used and went is at some waste factory.
7. Volume of water lemoved from wen 8a.	14. Total suspended mg/l mg/l
8. Volume of water added (if any) gal.	solids
a. Volume of water added (if ally)	POINTS
9. Source of water added	15. COD mg/l mg/l
7,500.00 51 774.51 16500	mg/i
<u> </u>	16. Well developed by: Name (first, last) and Firm
10. Analysis performed on water added? Yes No	
(If yes, attach results)	
	Fine Mendian Environmental Consult
7. Additional comments on development;	
	ر د ا
well bails down t	out recovers
	<b>.</b>
within 5-10	minutes
ma carried 5 to	
	<u> </u>
ame and Address of FacilityContact/OwnerResponsible Party	I hereby certify that the above information is true and correct to the best
me: Ken Last Shimle	of my knowledge.
Name:	
office Row. Colte US	Signature:
cility/Firm: Mer. W. Tho. Site	11-1-17
cer 7711 N. Rlco Qd	Print Name: Kenketh Shimto
	7.55-71.50
VISTATO/ZIP: Fall Creek WI	Firm: Men Dan Environmental
54742	Cousulter, LL

# APPENDIX B Analytical Reports





September 06, 2016

Kenneth Shimko Meridian Environmental Consulting, LLC 2711 North Elco Rd Fall Creek, WI 54742

RE: Project: WAGNER

Pace Project No.: 40137485

#### Dear Kenneth Shimko:

Enclosed are the analytical results for sample(s) received by the laboratory on August 31, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Brian Basten

brian.basten@pacelabs.com

**Project Manager** 

Enclosures







# **CERTIFICATIONS**

Project:

WAGNER

Pace Project No.:

40137485

# **Green Bay Certification IDs**

1241 Bellevue Street, Green Bay, WI 54302 Florida/NELAP Certification #: E87948 Illinois Certification #: 200050 Kentucky Certification #: 82 Louisiana Certification #: 04168 Minnesota Certification #: 055-999-334

Virginia VELAP ID: 460263

North Dakota Certification #: R-150

South Carolina Certification #: 83006001 Texas Certification #: T104704529-14-1 US Dept of Agriculture #: S-76505 Virginia VELAP Certification ID: 460263 Virginia VELAP ID: 460263 Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444



# **SAMPLE SUMMARY**

Project:

WAGNER

Pace Project No.: 40137485

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40137485001	MW-1	Water	08/29/16 00:00	08/31/16 07:30
40137485002	MW-2	Water	08/29/16 00:00	08/31/16 07:30
40137485003	MW-3	Water	08/29/16 00:00	08/31/16 07:30
40137485004	TW-3	Water	08/29/16 00:00	08/31/16 07:30
40137485005	TW-4	Water	08/29/16 00:00	08/31/16 07:30
40137485006	TW-5	Water	08/29/16 00:00	08/31/16 07:30
40137485007	POND	Water	08/29/16 00:00	08/31/16 07:30
40137485008	TRIP BLANK	Water	08/29/16 00:00	08/31/16 07:30



# **SAMPLE ANALYTE COUNT**

Project:

WAGNER

Pace Project No.: 40137485

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40137485001	MW-1	WI MOD GRO	PMS	9	PASI-G
40137485002	MW-2	WI MOD GRO	PMS	9	PASI-G
40137485003	MW-3	WI MOD GRO	PMS	9	PASI-G
40137485004	TW-3	WI MOD GRO	PMS	9	PASI-G
40137485005	TW-4	WI MOD GRO	PMS	9	PASI-G
40137485006	TW-5	WI MOD GRO	PMS	9	PASI-G
40137485007	POND	WI MOD GRO	PMS	9	PASI-G
40137485008	TRIP BLANK	WI MOD GRO	PMS	9	PASI-G





#### PROJECT NARRATIVE

Project: WAGNER
Pace Project No.: 40137485

Method: WI MOD GRO Description: WIGRO GCV

Client: Meridian Environmental Consulting, LLC

Date: September 06, 2016

#### **General Information:**

8 samples were analyzed for WI MOD GRO. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

pH: Post-analysis pH measurement indicates insufficient VOA sample preservation.

• POND (Lab ID: 40137485007)

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 233972

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 40137496010

M1: Matrix spike recovery exceeded Q C limits. Batch accepted based on laboratory control sample (LCS) recovery.

MSD (Lab ID: 1386446)Methyl-tert-butyl ether

# Additional Comments:

**Analyte Comments:** 

QC Batch: 233849

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- •TW-4 (Lab ID: 40137485005)
  - a,a,a-Trifluorotoluene (S)

This data package has been reviewed for quality and completeness and is approved for release.



# **ANALYTICAL RESULTS**

Project:

WAGNER

Pace Project No.: 40137485

Date: 09/06/2016 02:41 PM

Sample: MW-1	Lab ID:	40137485001	Collecte	d: 08/29/1	6 00:00	Received: 0	8/31/16 07:30 M	latrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAŞ No.	Qual
WIGRO GCV	Analytical	Method: WI MO	DD GRO						
Benzene	6630	ug/L	125	49.5	125		09/01/16 17:25	71-43-2	
Ethylbenzene	1980	ug/L	125	49.1	125		09/01/16 17:25	5 100-41-4	
Methyl-tert-butyl ether	<60.6	ug/L	125	60.6	125		09/01/16 17:25	1634-04-4	
Naphthalene	299	ug/L	125	53.0	125		09/01/16 17:25	91-20-3	
Toluene	18600	ug/L	125	48.5	125		09/01/16 17:25	108-88-3	
1,2,4-Trimethylbenzene	1500	ug/L	125	52.2	125		09/01/16 17:25	95-63-6	
1,3,5-Trimethylbenzene	386	ug/L	125	52.0	125		09/01/16 17:25	108-67-8	
Xylene (Total)	10700	ug/L	375	156	125		09/01/16 17:25	1330-20-7	
Surrogates		J							
a,a,a-Trifluorotoluene (S)	103	%	80-120		125		09/01/16 17:25	5 98-08-8	
Sample: MW-2	Lab ID:	40137485002	Collecte	d: 08/29/1	6 00:00	Received: 08	3/31/16 07:30 M	atrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical	Method: WI MC	D GRO						
Benzene	10100	ug/L	125	49.5	125		09/01/16 17:50	71-43-2	
Ethylbenzene	1160	ug/L	125	49.1	125		09/01/16 17:50		
Methyl-tert-butyl ether	<60.6	ug/L	125	60.6	125		09/01/16 17:50		
Naphthalene	161	ug/L	125	53.0	125		09/01/16 17:50		
Toluene	18000	ug/L	125	48.5	125		09/01/16 17:50		
1,2,4-Trimethylbenzene	689	ug/L	125	52.2	125		09/01/16 17:50	•	
1,3,5-Trimethylbenzene	160	ug/L	125	52.0	125		09/01/16 17:50		
Xylene (Total)	7110	ug/L	375	156	125		09/01/16 17:50		
Surrogates	7110	ug/L	010	100	120		00/01/10 17:00	1000 20 1	
a,a,a-Trifluorotoluene (S)	99	%	80-120		125		09/01/16 17:50	98-08-8	
Sample: MW-3	Lab ID:	40137485003	Collected	d: 08/29/16	3 00:00	Received: 08	3/31/16 07:30 M	atrix: Water	
Parameters	Dogulto	Limita	LOQ	LOD	DF	Draparad	Anglyzad	CAS No.	Ougl
	Results	Units	LOQ			Prepared	Analyzed	CAS NO.	Qual
WIGRO GCV	Analytical	Method: WI MC	D GRO						
Benzene	1430	ug/L	20.0	7.9	20		09/01/16 18:41		
Ethylbenzene	123	ug/L	20.0	7.9	20		09/01/16 18:41	100-41-4	
Methyl-tert-butyl ether	<9.7	ug/Ļ	20.0	9.7	20		09/01/16 18:41	1634-04-4	
Naphthalene	19.5J	ug/ <u>L</u>	20.0	8.5	20		09/01/16 18:41		
Toluene	1640	ug/L	20.0	7.8	20		09/01/16 18:41	108-88-3	
1,2,4-Trimethylbenzene	64.2	ug/L	20.0	8.4	20		09/01/16 18:41	95-63-6	
1,3,5-Trimethylbenzene	16.2J	ug/L	20.0	8.3	20		09/01/16 18:41	108-67-8	
Xylene (Total)	818	ug/L	60.0	24.9	20		09/01/16 18:41	1330-20-7	
<b>Surrogates</b> a,a,a-Trifluorotoluene (S)	100	%	80-120		20		09/01/16 18:41	98-08-8	



# **ANALYTICAL RESULTS**

Project:

WAGNER

Pace Project No.:

Date: 09/06/2016 02:41 PM

40137485

Sample: TW-3	Lab ID:	40137485004	Collected	d: 08/29/1	00:00	Received: 08	8/31/16 07:30 M	atrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytica	I Method: WI MO	OD GRO						
Benzene	16.3	ug/L	1.0	0.40	1		09/01/16 11:30	71-43-2	
Ethylbenzene	<0.39	ug/L	1.0	0.39	1		09/01/16 11:30	100-41-4	
Methyl-tert-butyl ether	<0.48	ug/L	1.0	0.48	1		09/01/16 11:30	1634-04-4	
Naphthalene	<0.42	ug/L	1.0	0.42	1		09/01/16 11:30	91-20-3	
Toluene	4.8	ug/L	1.0	0.39	1		09/01/16 11:30	108-88-3	
1,2,4-Trimethylbenzene	<0.42	ug/L	1.0	0.42	1		09/01/16 11:30	95-63-6	
1,3,5-Trimethylbenzene	0.75J	ug/L	1.0	0.42	1		09/01/16 11:30	108-67-8	
Xylene (Total)	5.3	ug/L	3.0	1.2	1		09/01/16 11:30	1330-20-7	
Surrogates		-							
a,a,a-Trifluorotoluene (S)	102	%	80-120		1		09/01/16 11:30	98-08-8	
Sample: TW-4	Lab ID:	40137485005	Collected	l: 08/29/1	6 00:00	Received: 08	3/31/16 07:30 Ma	atrix: Water	10.0
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical	Method: WI MC	DD GRO						
Benzene	<2.0	ug/L	5.0	2.0	5		09/01/16 20:24	71-43-2	
Ethylbenzene	2.2J	ug/L	5.0	2.0	5		09/01/16 20:24	100-41-4	
Methyl-tert-butyl ether	<2.4	ug/L	5.0	2.4	5		09/01/16 20:24	1634-04-4	
Naphthalene	<2.1	ug/L	5.0	2.1	5		09/01/16 20:24	91-20-3	
Toluene	30.9	ug/L	5.0	1.9	5		09/01/16 20:24	108-88-3	
1,2,4-Trimethylbenzene	<2.1	ug/L	5.0	2.1	5		09/01/16 20:24	95-63-6	
1,3,5-Trimethylbenzene	<2.1	ug/L	5.0	2.1	5		09/01/16 20:24	108-67-8	
Xylene (Total)	12.1J	ug/L	15.0	6.2	5		09/01/16 20:24		
Surrogates		J							
a.a,a-Trifluorotoluene (S)	106	%	80-120		5		09/01/16 20:24	98-08-8	D3,F1
Sample: TW-5	Lab ID:	40137485006	Collected	: 08/29/16	00:00	Received: 08	3/31/16 07:30 Ma	atrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical	Method: WI MC	D GRO						
Benzene	<4.0	ug/L	10.0	4.0	10		09/02/16 11:16	71-43-2	
Ethylbenzene	<3.9	ug/L	10.0	3.9	10		09/02/16 11:16	100-41-4	
Methyl-tert-butyl ether	<4.8	ug/L	10.0	4.8	10		09/02/16 11:16		
Naphthalene	<4.2	ug/L	10.0	4.2	10		09/02/16 11:16	91-20-3	
Toluene	<3.9	ug/L	10.0	3.9	10		09/02/16 11:16	108-88-3	
1,2,4-Trimethylbenzene	<4.2	ug/L	10.0	4.2	10		09/02/16 11:16		
1,3,5-Trimethylbenzene	<4.2	ug/L	10.0	4.2	10		09/02/16 11:16		
Xylene (Total)	<12.5	ug/L	30.0	12.5	10		09/02/16 11:16		
Surrogates		-							
a,a,a-Trifluorotoluene (S)	105	%	80-120		10		09/02/16 11:16	98-08-8	F1



# **ANALYTICAL RESULTS**

Project:

WAGNER

Pace Project No.:

Date: 09/06/2016 02:41 PM

40137485

Sample: POND	Lab ID:	40137485007	Collected	1: 08/29/16	00:00	Received: 08	3/31/16 07:30 M	atrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical	Method: WI MC	DD GRO						
Benzene	<0.40	ug/L	1.0	0.40	1		09/02/16 12:33	71-43-2	
Ethylbenzene	<0.39	ug/L	1.0	0.39	1		09/02/16 12:33	100-41-4	
Methyl-tert-butyl ether	<0.48	ug/L	1.0	0.48	1		09/02/16 12:33	1634-04-4	
Naphthalene	<0.42	ug/L	1.0	0.42	1		09/02/16 12:33	91-20-3	
Toluene	<0.39	ug/L	1.0	0.39	1		09/02/16 12:33	108-88-3	
1,2,4-Trimethylbenzene	<0.42	ug/L	1.0	0.42	1		09/02/16 12:33	95-63-6	
1,3,5-Trimethylbenzene	< 0.42	ug/L	1.0	0.42	1		09/02/16 12:33	108-67-8	
Xylene (Total)	<1.2	ug/L	3.0	1.2	1		09/02/16 12:33	1330-20-7	
Surrogates		-							
a,a,a-Trifluorotoluene (S)	105	%	80-120		1		09/02/16 12:33	98-08-8	HS,pH
Sample: TRIPBLANK	Lab ID:	40137485008	Collected	: 08/29/16	00:00	Received: 08	3/31/16 07:30 M	atrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
							_	0/10/110.	
WIGRO GCV	Analytical	Method: WI MC	D GRO					ONO NO.	
	Analytical	Method: WI MC	DD GRO 1.0	0.40	. 1		09/02/16 14:16	<u></u>	
Benzene	•			0.40 0.39	1			71-43-2	
Benzene Ethylbenzene	<0.40	ug/L	1.0				09/02/16 14:16	71-43-2 100-41-4	
Benzene Ethylbenzene Methyl-tert-butyl ether	<0.40 <0.39	ug/L ug/L	1.0 1.0	0.39			09/02/16 14:16 09/02/16 14:16	71-43-2 100-41-4 1634-04-4	
Benzene Ethylbenzene Methyl-tert-butyl ether Naphthalene	<0.40 <0.39 <0.48	ug/L ug/L ug/L	1.0 1.0 1.0	0.39 0.48	1 1		09/02/16 14:16 09/02/16 14:16 09/02/16 14:16	71-43-2 100-41-4 1634-04-4 91-20-3	
Benzene Ethylbenzene Methyl-tert-butyl ether Naphthalene Foluene	<0.40 <0.39 <0.48 <0.42	ug/L ug/L ug/L ug/L	1.0 1.0 1.0 1.0	0.39 0.48 0.42	1 1 1		09/02/16 14:16 09/02/16 14:16 09/02/16 14:16 09/02/16 14:16	71-43-2 100-41-4 1634-04-4 91-20-3 108-88-3	
Benzene Ethylbenzene Methyl-tert-butyl ether Naphthalene Oluene ,2,4-Trimethylbenzene	<0.40 <0.39 <0.48 <0.42 <0.39	ug/L ug/L ug/L ug/L ug/L	1.0 1.0 1.0 1.0	0.39 0.48 0.42 0.39	1 1 1		09/02/16 14:16 09/02/16 14:16 09/02/16 14:16 09/02/16 14:16 09/02/16 14:16	71-43-2 100-41-4 1634-04-4 91-20-3 108-88-3 95-63-6	
WIGRO GCV Benzene Ethylbenzene Methyl-tert-butyl ether Naphthalene Foluene 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Kylene (Total) Surrogates	<0.40 <0.39 <0.48 <0.42 <0.39 <0.42	ug/L ug/L ug/L ug/L ug/L ug/L	1.0 1.0 1.0 1.0 1.0	0.39 0.48 0.42 0.39 0.42	1 1 1 1		09/02/16 14:16 09/02/16 14:16 09/02/16 14:16 09/02/16 14:16 09/02/16 14:16 09/02/16 14:16	71-43-2 100-41-4 1634-04-4 91-20-3 108-88-3 95-63-6 108-67-8	



#### **QUALITY CONTROL DATA**

Project:

WAGNER

Pace Project No.:

40137485

QC Batch:

233849

Analysis Method:

WI MOD GRO

QC Batch Method:

WI MOD GRO

Analysis Description:

WIGRO GCV Water

Associated Lab Samples: 40137485001, 40137485002, 40137485003, 40137485004, 40137485005

METHOD BLANK: 1385219

Matrix: Water

Date: 09/06/2016 02:41 PM

Associated Lab Samples: 40137485001, 40137485002, 40137485003, 40137485004, 40137485005

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L .	<0.42	1.0	09/01/16 08:56	
1,3,5-Trimethylbenzene	ug/L	< 0.42	1.0	09/01/16 08:56	
Benzene	ug/L	<0.40	1.0	09/01/16 08:56	
Ethylbenzene	ug/L	<0.39	1.0	09/01/16 08:56	
Methyl-tert-butyl ether	ug/L	<0.48	1.0	09/01/16 08:56	
Naphthalene	ug/L	<0.42	1.0	09/01/16 08:56	
Toluene	ug/L	<0.39	1.0	09/01/16 08:56	
Xylene (Total)	ug/L	<1.2	3.0	09/01/16 08:56	•
a,a,a-Trifluorotoluene (S)	%	104	80-120	09/01/16 08:56	

LABORATORY CONTROL SAMPL	.E & LCSD: 138522	0	13	385221						
		Spike	LCS	LCSD	LCS	LCSD	% Rec		Max	
Parameter	Units	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	18.6	19.8	93	99	80-120	6	20	
1,3,5-Trimethylbenzene	ug/L	20	17.9	19.2	90	96	80-120	7	20	
Benzene	ug/L	20	19.3	20.0	97	100	80-120	3	20	
Ethylbenzene	ug/L	20	18.5	19.5	93	97	80-120	5	20	
Methyl-tert-butyl ether	ug/L	20	20.0	20.8	100	104	80-120	4	20	
Naphthalene	ug/L	20	18.3	19.7	91	98	80-120	7	20	
Toluene	ug/L	20	19.0	19.7	95	99	80-120	4	20	
Xylene (Total)	ug/L	60	55.7	58.9	93	98	80-120	6	20	
a,a,a-Trifluorotoluene (S)	%				103	102	80-120			

MATRIX SPIKE & MATRIX SF	PIKE DUPLICA	ATE: 13854	18		1385419							
Parameter	4 Units	0137430002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2,4-Trimethylbenzene	ug/L	<4.2	200	200	207	202	103	101	48-177		20	
1,3,5-Trimethylbenzene	ug/L	<4.2	200	200	200	197	100	98	73-145	2	20	
Benzene	ug/L	1230	200	200	1370	1330	70	53	74-139	2	20	
Ethylbenzene	ug/L	54.5	200	200	265	262	105	104	74-140	1	20	
Methyl-tert-butyl ether	ug/L	<4.8	200	200	209	192	105	96	80-120	9	20	
Naphthalene	ug/L	<4.2	200	200	197	186	98	93	73-133	6	20	
Toluene	ug/L	16.5	200	200	220	219	102	101	80-128	1	20	
Xylene (Total)	ug/L	82.9	600	600	667	656	. 97	95	69-143	2	20	
a,a,a-Trifluorotoluene (S)	%						96	97	80-120			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



# **QUALITY CONTROL DATA**

Project:
Pace Project No.:

WAGNER

40137485

QC Batch:

233972

Analysis Method:

WI MOD GRO

QC Batch Method:

WI MOD GRO

Analysis Description:

WIGRO GCV Water

Associated Lab Samples:

40137485006, 40137485007, 40137485008

METHOD BLANK: 1386134

Matrix: Water

Associated Lab Samples:

Date: 09/06/2016 02:41 PM

40137485006, 40137485007, 40137485008

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.42	1.0	09/02/16 09:07	
1,3,5-Trimethylbenzene	ug/L	< 0.42	1.0	09/02/16 09:07	
Benzene	ug/L	<0.40	1.0	09/02/16 09:07	
Ethylbenzene	ug/L	<0.39	1.0	09/02/16 09:07	
Methyl-tert-butyl ether	ug/L	<0.48	1.0	09/02/16 09:07	
Naphthalene	ug/L	<0.42	1.0	09/02/16 09:07	
Toluene	ug/L	<0.39	1.0	09/02/16 09:07	
Xylene (Total)	ug/L	<1.2	3.0	09/02/16 09:07	
a,a,a-Trifluorotoluene (S)	%	104	80-120	09/02/16 09:07	

LABORATORY CONTROL SAMPL	E & LCSD: 1386135		13	386136						
		Spike	LCS	LCSD	LCS	LCSD	% Rec		Max	
Parameter	Units	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	19.8	20.5	99	102	80-120	3	20	
1,3,5-Trimethylbenzene	ug/L	20	19.3	19.9	96	100	80-120	3	20	
Benzene	ug/L	20	20.5	20.8	102	104.	80-120	1	20	
Ethylbenzene	ug/L	20	19.7	20.2	98	101	80-120	2	20	
Methyl-tert-butyl ether	ug/L	20	20.7	21.6	103	108	80-120	4	20	
Naphthalene	ug/L	20	19.0	20.6	• 95	103	80-120	8	20	
Toluene	ug/L	20	20.1	20.4	101	102	80-120	1	20	
Xylene (Total)	ug/L	60	58.6	60.5	98	101	80-120	3	20	
a,a,a-Trifluorotoluene (S)	%				103	102	80-120			

MATRIX SPIKE & MATRIX SF	PIKE DUPLICA	ATE: 13864	45		1386446							
	4	10137496010	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
1,2,4-Trimethylbenzene	ug/L	744	200	200	989	1000	122	130	48-177	2	20	
1,3,5-Trimethylbenzene	ug/L	191	200	200	411	440	110	124	73-145	7	20	
Benzene	ug/L	<4.0	200	200	218	254	109	127	74-139	15	20	
Ethylbenzene	ug/L	309	200	200	532	553	112	122	74-140	4	20	
Methyl-tert-butyl ether	ug/L	<4.8	200	200	210	256	105	128	80-120	20	20	M1
Naphthalene	ug/L	255	200	200	463	512	104	129	73-133	10	20	
Toluene	ug/L	24.1	200	200	245	277	110	126	80-128	12	20	
Xylene (Total)	ug/L	2450	600	600	3180	3170	122	119	69-143	0	20	
a,a,a-Trifluorotoluene (S)	%						105	106	80-120			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



#### **QUALIFIERS**

Project:

WAGNER

Pace Project No.: 40137485

#### **DEFINITIONS**

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

Post-analysis pH measurement indicates insufficient VOA sample preservation.

TNI - The NELAC Institute.

#### **LABORATORIES**

pН

PASI-G Pace Analytical Services - Green Bay

#### **ANALYTE QUALIFIERS**

Date: 09/06/2016 02:41 PM

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
F1	The sample was analyzed at a dilution due to foaming of the sample in the purge vessel.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.



# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:

WAGNER

Pace Project No.: 40137485

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytica Batch
40137485001	MW-1	WI MOD GRO	233849		
40137485002	MW-2	WI MOD GRO	233849		
40137485003	MW-3	WI MOD GRO	233849		
40137485004	TW-3	WI MOD GRO	233849		
10137485005	TW-4	WI MOD GRO	233849		
10137485006	TW-5	WI MOD GRO	233972		
10137485007	POND	WI MOD GRO	233972	•	
10137485008	TRIP BLANK	WI MOD GRO	233972		

(P	lease Print Clearly)		7							Į	UPPER	MIDME	ST RE	SION		Page 1	of
Company Name:	Meridian Far	CIL	7							F	<b>∀IN</b> : 61	2-697-1	1700 V	VI: 920-469-2436			7, 10
Branch/Location:	Mer Man 120	->01	4 /		ace					,	~/\	V			1	4013748	75 =
Project Contact:	Ken Shimbs	***************************************			ı	www.pa	celabs.co	om		4	1	•		Quote #:			Pag
Phone:	715-832-66	,08		C	HA	IN	OF	CL	JST	O	YC			Mail To Contact:	Ken	Sh;	mo
Project Number:			A=No	ne B≃H	CL C=H	_	Preservat D=HNO3	ion Code: E≃DIW	_	Methano	l G≈Na	юн		Mail To Company:	Mar	dian.	5-C-
Project Name:	Wagner		H≖So	dium Bisulf	ate Solution	1	t=Sodium	Thiosulfat	e J=C	ther				Mail To Address:	Z711	N. Fel Creek	CORif
Project State:	WI		FILTE (YES		Y/N							.		,	Fall	Creek	WI
Sampled By (Print)	wagner wit Keushimk	<u></u>	PRESER (CO		Pick Latter								1	Involce To Contact:		54°	742
Sampled By (Sign):	1							ļ					}	Invoice To Company:			
PO#:		Regulato Program			pesso	0		}				1	Ī	Invoice To Address:			
Data Package O		N - Air	fatrix Codes W ≈ Water	}	Reque	Man	1	Ì	l	Ì			1				
EPA Leve	el III (billable) C	= Blota = Charcoal = Oil	DW = Drinki	nd Water		+								Invoice To Phone:			
EPA Ceve	your sample Si	= Soil = Sludge	WW = Wast WP = Wipe		Analyse	100							ľ	CLIENT	LAB C	OMMENTS	Profile #
PACE LAB #	CLIENT FIELD ID	DATE		MATRIX		3								COMMENTS	(Lab	Jse Only)	
10011	uw-1	18/2	9	GW		X	<b>l</b>			1			1	•	3-4	OmlyB	
002 4	MW-Z			1													
003	MW-3.					$\top$										1	
009	TW-3	11				1									2-4	Dalve	
005	Tw-4													•		1	
006	TW-4 TW-5					$\top$										V	
007	pond														3-	40mlvB	
008 O.	trip blanks	<u> </u>													2-	Ymly B	
		1														<u> </u>	
G	Itrio blank ou	de	by				<del> </del>										
	lab per samples	1	reved														
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	ound Time Requested - Prelim		Reilinquished By:					te/Time:	C		Received		7	Date/Tighe:	0	PACE Pr	oject No.
	subject to approval/surcharge) te Needed:		Relinquished By:	4	<u> </u>	_8,		te/Time:	7 4				hau	5/39/16 Date/Time:	9-	4013	1485
	ish Results by (complete what you wa		terinquistien sy	Din	m	$\mathcal{N}$		Ille	073		Received	18	444	> nac 5/3///	00730	2-1-7	200 %
Email #1:			telinquished By:	<del></del>	-4-2431			te/Time:			Received	By:		Date/Time:	-	Receipt Temp ≖ (	207 .c
Email #2:														····		1	ecelpt pH
Telephone:		R	Relinquished By:				Da	te/Time:			Received	i By:		Date/Time:		-OKTA	
Fax:							D-1	- σ			D1			Date 67:		Cooler Cu Present (N	of Present
	s on HOLD are subject to icing and release of liability	R	telinquished By:				Dat	le/Пите:			Received	і Ву:		Date/Time:			ot Intact
·····																Version 6.0 06/14/06	

# Sample Condition Upon Receipt

Pace Analytical Services, Inc. 1241 Bellevue Street, Suite 9 Green Bay, WI 54302

Pace Analytical Project #: WO#:40137485 Client Name: Moridias Courier: Fed Ex | UPS | Client | Pace Other: Tracking #: Custody Seal on Cooler/Box Present: Tyes 7 no Seals intact: T yes T no Custody Seal on Samples Present: Tyes 7 no Seals intact: T ves T no Packing Material: P Bubble Wrap | Bubble Bags | None Type of Ice: (Net Blue Dry None Samples on ice, cooling process has begun Thermometer Used Biological Tissue is Frozen: Tyes Cooler Temperature Uncorr: Temp Blank Present: Tyes T no T no Person examining contents: Date: 🔀 🔼 Temp should be above freezing to 6°C for all sample except Biota. Initials: Frozen Biota Samples should be received ≤ 0°C. Comments: ZYes □No □N/A 1 Chain of Custody Present: OYes No DN/A 2. NO COLLECT Chain of Custody Filled Out: ZYes □No □N/A 3. Chain of Custody Relinquished: ØYes. □No □N/A 4. Sampler Name & Signature on COC: ZYes □No □N/A 5. Samples Arrived within Hold Time: - VOA Samples frozen upon receipt □Yes □No Date/Time: □Yes ☑No □N/A 6. Short Hold Time Analysis (<72hr): □Yes ZNo Rush Turn Around Time Requested: □N/A Yes DNo □N/A Sufficient Volume: ZYes □No □N/A Correct Containers Used: ØYes □No □N/A -Pace Containers Used: □Yes\_□No DAN/A -Pace IR Containers Used: ØYes □No □N/A Containers Intact: □Yes □No ZON/A Filtered volume received for Dissolved tests 12 no collect dates □Yes ☑No □N/A Sample Labels match COC: 004 thru 006-No"W -Includes date/time/ID/Analysis Matrix: NaOH I All containers needing preservation have been checked. T HN03 T H2SO4 □Yes □No □N/A (Non-Compliance noted in 13.) 13. All containers needing preservation are found to be in compliance with EPA recommendation. □Yes □No ØN/A (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12) exceptions (VOA, coliform, TOC, TOX, TOH, Date/ Initial when Lab Std #ID of ØYes □No Time: O&G, WIDROW, Phenolics, completed preservative □Yes ZNo □N/A 14 Headspace in VOA Vials ( >6mm): ONA 15. trip blank added to Trip Blank Present: ØYes □No Samples received ØYes □No Trip Blank Custody Seals Present □n/a Pace Trip Blank Lot # (if purchased): Client Notification/ Resolution: If checked, see attached form for additional comments Person Contacted: Date/Time: Comments/ Resolution: Project Manager Review: Date:

# APPENDIX C Private Well Logs

Sourc	ce: WE	VIQUE WELL LL CONST			l	JC85	8	State of Wi-Private Water System Department Of Natural Resource Madison, WI 53707	s, Box 7921	Form 33 (Rev 02)	
Property Owner	FULLER, CHF	RIS		]	relephor Number	<sup>ne</sup> 715 <b>–</b> 7	'89 <b>–</b> 3418	1. Well Location	De	pth <b>183</b>	FT
Mailing N Address		CHINS-ANIWA T	OWN LINE RD					T=Town C=City V=Village T of ROLLING		Fire#	
City BIR	NAMWOOD		State	WI	Zip Coo	ie 5	54414	Street Address or Road Name and W10480 NOW RD	l Number		
	Well Location		Co Well Permit	No	Well C	ompletion D	Date	Subdivision Name	Lot#	Block #	
1	LANGLADE		W			June 22, 2	2007				
Well Cons	structor EL PHIL WEL	L DRLG LLC	Licens 662	e# Faci	lity ID (	Public)		Gov't Lot or	<b>SE</b> 1/4 of	SW	1/4 of
Address W8060 S	S PARK RD			Publ	ic Well	Plan Appro	val#	Section 33 T 30 N	<sup>R</sup> 11 E		
City ANTIGO			ate Zip Code VI 54409	Date	Of App	oroval		2. Well Type 1 (	See item 12 belov	w)	
	manent Well #		nmon Well#	Spec	cific Cap	pacity		1=New 2=Replacement			
						gpm/ft		of previous unique well #		l in	-
3. Well Ser		nomes and or	ahusah aabaal	: d	-4-)	High Capa Well?	acity:	Reason for replaced or reconstruc	ted Well?		
P M=Munic O=0	•	g: barn, restaurant P=Private Z=Other X=N				Property?		1 1=Drilled 2=Driven Point 3=.	letted 4=Other		<u> </u>
			10 Commonwealth and a common an					g those on neighboring properties?	octicu + Other		
Well locat Distance in f	ted in floodplair feet from well to	n? <b>N</b> o nearest: (includir	ng proposed)		9. Do	wnspout/Ya	ard Hydrant	17.	Wastewater Sump		
	1. Landfill		01 1 ,		10. Pri	•			Paved Animal Ba	rn Pen	
25	2. Building	Overhang					rain to Clearw	17.	Animal Yard or S	helter	
	-	otic 2= Holding	Tank			undation Dr iilding Drair	rain to Sewer	20.	Silo Barn Gutter		
	_	bsorption Unit				1=Cast Ir	ron or Plastic	2=Other		l=Gravity	2=Pressure
	5. Nonconfo	•	T1-		14. Bu	•		ity 2=Pressure	1=Cast iron Other manure Sto	or Plastic	
		ome Heating Oil troleum Tank	Iank		15. Co			in diam	Ditch	iage	
		reline 2= Swimn	ning Pool	35	16. Cl	earwater Sui	mp		Other NR 812 Wa	iste Source	
. Drillhole	nestensultinenskenskenninge	nd Construction N		T and		- Dadaala	Geology	8. Geology		Fron	n To
F	from To	Upper Enla	arged Drillhole - Mud Circulatio		-	n Bedrock	Codes	Type, Caving/Noncaving, Colo		(ft.)	(ft.)
Dia.(III.) (I	(11)		- Air			X	<u> </u>	ONCAVING SANDY CLAY & S	TONES	0	63 📥
6.0 surf	ace 183	- 3. Rotary	- Air and Foam				_Q_ G	RANITE-RED & BLACK		63	183
		4. Drill-T 5. Revers	Through Casing F se Rotary	Hammer							
		6. Cable-t	ool Bitn	dia		-	l				
		7 Temp					·				
		Remov	Outer Casing _ ved ?	in. d	lia	_ depth ft.		· · · · · · · · · · · · · · · · · · ·			
		Remov Other	Outer Casing _ ved ?	in. d	lia	depth ft.					
6. Casing L	iner Screen N	Remov Other	ved ?	F	rom	depth ft.	<u> </u>				
Dia. (in.)	iner Screen Man	Remov	ved ?	F							
	Man BLACK ST	Remov Other Material, Weight, S ufacturer & Metho TEEL A53B 18.97	Specification od of Assembly 7 #/FT .280	F	rom ft.)	To					
Dia. (in.)	Man BLACK ST	Remov Other Material, Weight, S oufacturer & Metho	Specification od of Assembly 7 #/FT .280	F (f	rom ft.)	To (ft.)					
Dia. (in.)	Man BLACK ST	Remov Other Material, Weight, S ufacturer & Metho TEEL A53B 18.97	Specification od of Assembly 7 #/FT .280	F (f	rom ft.)	To (ft.)					
Dia. (in.)	Man BLACK ST	Remov Other Material, Weight, S ufacturer & Metho TEEL A53B 18.97	Specification od of Assembly 7 #/FT .280	F (f	rom ft.)	To (ft.)		/ater Level	III. Well is:	20.	
Dia. (in.)	Man BLACK ST	Remov Other Material, Weight, S ufacturer & Metho TEEL A53B 18.97	Specification od of Assembly 7 #/FT .280	F (f	rom ft.)	To (ft.)	9. Static W	eet B ground surface	11. Well is:	36 in.	A Grade
Dia. (in.)	Man BLACK ST	Remov Other Material, Weight, S ufacturer & Metho TEEL A53B 18.97	Specification od of Assembly 7 #/FT .280	F (f	rom ft.)	To (ft.)	9. Static W 13.0 fe	eet B ground surface A=Above B=Below		36 in.	
Dia. (in.)	Man BLACK ST INCH WEI	Remov Other Material, Weight, S ufacturer & Metho TEEL A53B 18.97	pecification od of Assembly 7 #/FT .280 AND	F (f	rom ft.)	To (ft.)	9. Static W	B ground surface A=Above B=Below	Developed?		A Grade A=Above
Dia. (in.) 6.0	Man BLACK ST INCH WEI	Remov Other Material, Weight, S ufacturer & Metho TEEL A53B 18.97 LDED WHEATLA	pecification od of Assembly 7 #/FT .280 AND	F (1	rom ft.)	To (ft.)	9. Static W 13.0 fe 10. Pump T Pumping Pumping	et B ground surface A=Above B=Below  est level 180.0 ft. below surface g at 1.0 GP M 2.0 Hrs	Developed? Disinfected? Capped?	Y Y Y	A Grade A=Above B=Below
Dia. (in.) 6.0 Dia.(in.)	Man BLACK ST INCH WEI	Remov Other  Material, Weight, S ufacturer & Methor TEEL A53B 18.97 LDED WHEATLA	pecification od of Assembly 7 #/FT .280 AND	F (1	rom ft.)	To (ft.) 63	9. Static W 13.0 fe 10. Pump T Pumping Pumping 12. Did you	et B ground surface A=Above B=Below  est level 180.0 ft. below surface g at 1.0 GP M 2.0 Hrs  notify the owner of the need to pe	Developed? Disinfected? Capped?	Y Y Y	A Grade A=Above B=Below
Dia. (in.) 6.0 Dia.(in.)	Man BLACK ST INCH WEI	Remov Other  Material, Weight, S unfacturer & Methor  EEL A53B 18.97  DED WHEATLA  type, material & sl	pecification od of Assembly 7 #/FT .280 AND	From	face To	To (ft.) 63 To Sacks	9. Static W 13.0 fe 10. Pump T Pumping Pumping 12. Did you unused welk If no, expla	et B ground surface A=Above B=Below  level 180.0 ft. below surface g at 1.0 GP M 2.0 Hrs a notify the owner of the need to pe s on this property?	Developed? Disinfected? Capped?	Y Y Y	A Grade A=Above B=Below
Dia. (in.) 6.0 Dia.(in.)	Man BLACK ST INCH WEI  Screen Other Sealing MOUNDED Kind of Se	Remov Other  Material, Weight, S ufacturer & Metho TEEL A53B 18.97 LDED WHEATLA  type, material & sl  Material Caling Material	pecification od of Assembly 7 #/FT .280 AND	F (1	rom ft.) face	To (ft.) 63 To  # Sacks Cement	9. Static W 13.0 fe 10. Pump T Pumping Pumping 12. Did you unused welk If no, expla	et B ground surface A=Above B=Below  level 180.0 ft. below surface g at 1.0 GP M 2.0 Hrs a notify the owner of the need to pe s on this property?	Developed? Disinfected? Capped? rmanently abando	Y Y Y	A Grade A=Above B=Below
Dia. (in.) 6.0 Dia.(in.)	Man BLACK ST INCH WEI  Screen Other Sealing MOUNDED Kind of Se	Remov Other  Material, Weight, S ufacturer & Methor  EEL A53B 18.97  DED WHEATLA  type, material & sl	pecification od of Assembly 7 #/FT .280 AND	From	face To	To (ft.) 63 To	9. Static W 13.0 fe 10. Pump T Pumping Pumping 12. Did you unused wells If no, expla	The set because the set of the se	Developed? Disinfected? Capped? Transently abando	Y Y Y On and fill a	A Grade A=Above B=Below
Dia. (in.) 6.0 Dia.(in.)	Man BLACK ST INCH WEI  Screen Other Sealing MOUNDED Kind of Se	Remov Other  Material, Weight, S ufacturer & Metho TEEL A53B 18.97 LDED WHEATLA  type, material & sl  Material Caling Material	pecification od of Assembly 7 #/FT .280 AND	From (ft.)	face To	To (ft.) 63 To  # Sacks Cement	9. Static W 13.0 fe 10. Pump T Pumping Pumping 12. Did you unused wells If no, expla	ret B ground surface A=Above B=Below  Test level 180.0 ft. below surface g at 1.0 GP M 2.0 Hrs a notify the owner of the need to pe s on this property?  ain	Developed? Disinfected? Capped? Transently abando	Y Y Y On and fill a	A Grade A=Above B=Below

Sou	urce	: WE	VIQUE V LL COI	WELL NU NSTRU	MBER CTION			<b>W</b> 47		State of Wi- Department Madison, W	Of Natural 1 I 53707				Form 3 (Rev 0 pth <b>59</b>		
		ONE, PAT				N	elephoi umber	<sup>ne</sup> 715 <b>=</b> 4	49 <b>–</b> 2277		cation C=City V=V	'illage		De	Fire#	7633-003-04 <u>-000</u> -0	F 1
Mailin Addre	ng PO I	BOX 132								T of R	OLLING	8-			THOM		
City	ANIWA	١			State	WI	Zip Co	de g	54408	Street Addre	ess or Road	Name and	d Number	•			
County 34	-	ll Location	NO	Co W	/ell Permit N	lo T		ompletion D August 31,		Subdivision	Name		Lot#		Block	#	
	Construc			•		# Facili	ity ID (	(Public)		Gov't Lot		or	SW	1/4 of	SE	1/4	of
Addres		DREWS			327	Publi	ic Well	Plan Appro	val#	Section	<b>33</b> T	<b>30</b> N	R	11 E			
	71 KOI	NKOL RD															
City HATL	ΕY			State WI	Zip Code 54440	Date	Of Ap	proval		2. Well Ty	_		(See item		v)		
Hicap	Perman	ent Well#		Common	Well#	1 '	fic Cap			of previous	2=Replace				. <b>L</b> ∟in		
						.2		gpm/ft		Reason for re						_	
3. Well	Serves P		nomes and	or taurant, chur	ch school i	ndiistrv	etc.)	High Capa Well?	acity: N	Troubon for re	opiaced of I	construc	nou wom.				
	-	•	,	ther X=NonPot	, ,	• • •	•	Property?		1 l=Drille	d 2=Driven	Point 3=.	Jetted 4=(	Other			
										ng those on neig	ghboring pro	operties?	Υ				
Well le Distance	located in feet	n floodplan from well t	n'? <b>N</b> o nearest: (i	including pro	posed)		<ol> <li>Do</li> <li>Pr</li> </ol>	•	ard Hydrant				Wastewat	•			
		Landfill						•	rain to Clear	water			Paved An Animal Y				
	<b>18</b> 2. <b>70</b> 3.	_	Overhang						rain to Sewe			20.					
		•	bsorption	lding Tank Unit			13. Bu	ilding Drair		• 0.1		21.	Barn Gutt	ter			
		_	rming Pit				14. Bu		ron or Plastie er 1=Grav	c 2=Other vity 2=Pressur	e	22.	Manure P		l=Gravity or Plastic	2=Pr	essure
	6.	Buried Ho	ome Heati	ng Oil Tank	C		15 Ca			Plastic 2=Othe			Other man			. 2 .01	iici
	7.	Buried Pe	troleum T	`ank			15. CC	mector sewe	er units	in . diam.		24. ]	Ditch				
												25 (	OtherNID	012 W/o	oto Cour		
	8.	TERM CONTROL OF THE STATE OF	ocasional minimal describe	Swimming l			16. Cl	earwater Sui	1			25. (	OtherNR	812 Wa	ste Sourc	e	Source Francisco
5. Drillh	Contract of the Contract of th	nensions ar	nd Constru Upj	oction Metho per Enlarged	od Drillhole	Low	er Ope	earwater Sur n Bedrock	Geology Codes	8. Type, Cav	ving/Noncav	Geology		SAT-1-8-2-H91K)	Fro	m	To (ft.)
5. Drillh	i <b>ole Din</b> From	nensions ar	nd Constru Upp 1.	nction Metho per Enlarged I Rotary - Mud	od Drillhole I Circulation	Low	er Ope		Geology Codes		ing/Noncav	Geology		SAT-1-8-2-H91K)		om :.)	To (ft.) 56 📥
Dia.(in.)	i <b>ole Din</b> From	n <b>ensions a</b> n 1 To	nd Constru Upp 1. ] 2. ]	oction Metho per Enlarged	od Drillhole d Circulation	Low	er Ope	n Bedrock	Geology CodesYS	Type, Cav	ving/Noncav VEL	Geology ring, Colo		SAT-1-8-2-H91K)	Fro (f	om t.)	(ft.)
Dia.(in.)	role Din From (ft)	nensions and To	Upp 1. 1 2. 1 3. 1 4.	oction Metho per Enlarged I Rotary - Mud Rotary - Air Rotary - Air a Drill-Throug	od Drillhole I Circulation and Foam gh Casing H	Low	er Ope	n Bedrock	Geology Codes Y_ S	Type, Cav SAND & GRA	ving/Noncav VEL	Geology ring, Colo		SAT-1-8-2-H91K)	Fro (f	om :.)	(ft.) 56 📥
Dia.(in.)	role Din From (ft)	nensions and To	Upp 1. 1 2. 1 3. 1 4. 5.	nction Metho per Enlarged I Rotary - Mud Rotary - Air Rotary - Air a	od Drillhole I Circulation and Foam gh Casing Heary	Low	er Ope	n Bedrock	Geology Codes Y_ S	Type, Cav SAND & GRA DECOMPOSE	ving/Noncav VEL	Geology ring, Colo		SAT-1-8-2-H91K)	Fro (f	om :.)	(ft.) 56 📥
Dia.(in.)	role Din From (ft)	nensions and To	Upp 1. 1 2. 1 3. 1 4 5 6.	nction Metho per Enlarged I Rotary - Mud Rotary - Air Rotary - Air a Drill-Throug Reverse Rot Cable-tool Bi Temp. Outer	od Drillhole d Circulation and Foam gh Casing H ary	Low	er Ope	n Bedrock	Geology Codes Y_ S	Type, Cav SAND & GRA DECOMPOSE	ving/Noncav VEL	Geology ring, Colo		SAT-1-8-2-H91K)	Fro (f	om :.)	(ft.) 56 📥
Dia.(in.)	role Din From (ft)	nensions and To	Upp 1. 1 2. 1 3. 1 4 5 6.	nction Metho per Enlarged () Rotary - Mud Rotary - Air Rotary - Air a Drill-Throug Reverse Rota Cable-tool Bi Temp. Outer Removed ?	od Drillhole d Circulation and Foam gh Casing H ary	Low	er Ope	n Bedrock	Geology Codes Y_ S	Type, Cav SAND & GRA DECOMPOSE	ving/Noncav VEL	Geology ring, Colo		SAT-1-8-2-H91K)	Fro (f	om :.)	(ft.) 56 📥
6.0 (	From (ft) (ft)	nensions and To (ft) 59		nction Metho per Enlarged ! Rotary - Mud Rotary - Air a Drill-Throug Reverse Rot Cable-tool Bi Temp. Outer Removed ?	od Drillhole I Circulation and Foam and	Low ammer dia	er Ope	n Bedrock	Geology Codes Y_ S	Type, Cav SAND & GRA DECOMPOSE	ving/Noncav VEL	Geology ring, Colo		SAT-1-8-2-H91K)	Fro (f	om :.)	(ft.) 56 📥
6.0 (	role Din From ) (ft) surface	nensions and To (ft) 59	1. 1 2. 1 3. 1 4. 5. 6. 7. Oth	nction Metho per Enlarged () Rotary - Mud Rotary - Air Rotary - Air a Drill-Throug Reverse Rota Cable-tool Bi Temp. Outer Removed ?	od Drillhole d Circulation and Foam and Foam ary itn. Casing	Low ammer dia	er Ope	n Bedrock depth ft.	Geology Codes Y_ S	Type, Cav SAND & GRA DECOMPOSE	ving/Noncav VEL	Geology ring, Colo		SAT-1-8-2-H91K)	Fro (f	om :.)	(ft.) 56 📥
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6.0 c	role Din From ) (ft) surface	r Screen M		nction Metho per Enlarged I Rotary - Mud Rotary - Air Rotary - Air a Drill-Throug Reverse Rot Cable-tool Bi Temp. Outer Removed ? ter	od Drillhole I Circulation and Foam gh Casing H ary itn Casing _	Low ammer dia in. di  Fr (fi	er Ope	n Bedrock  depth ft.  To (ft.)	Geology Codes Y_ S	Type, Cav SAND & GRA DECOMPOSE	ving/Noncav VEL	Geology ring, Colo		SAT-1-8-2-H91K)	Fro (f	om :.)	(ft.) 56 📥
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6.0 c	role Din From ) (ft) surface	r Screen M		nction Metho per Enlarged I Rotary - Mud Rotary - Air Rotary - Air a Drill-Throug Reverse Rot Cable-tool Bi Temp. Outer Removed ? ter	od Drillhole I Circulation and Foam gh Casing H ary itn Casing _	Low ammer dia in. di  Fr (fi	er Ope	n Bedrock  depth ft.  To (ft.)	Geology CodesY_ SDQ_ [	Type, Cav SAND & GRA DECOMPOSE GRANITE  Water Level feet B gr	ving/Noncav	Geology ring, Colo		ess, etc	Fro (f	A	(ft.) 56 📥 59 59 Grade
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6.0 c	nole Din From ) (ft) surface	r Screen Mar	ond Constru Upp 1. 1 2. 1 3. 1 4 5 6 7. Oth Material, Wonufacturer & STEEL As	nction Metho per Enlarged in Rotary - Mud Rotary - Air Rotary - Air and Drill-Throug Reverse Rote Cable-tool Bi Temp. Outer Removed ? Here	od Drillhole I Circulation and Foam - gh Casing H ary it _ n Casing _	Low ammer dia in. di  Fr (fi	a	n Bedrock  depth ft.  To (ft.)	Geology Codes YSDQ [Q (	Type, Cav SAND & GRA DECOMPOSE GRANITE  Water Level feet B gr A= Test g level 54.0	ound surface-Above B=Be	Ecology ing, Colo  FE  e elow w surface	TI. W  Develo	ess, etc	Fro (f	A A=A	(ft.) 56
6. Casin Dia. (in.)	nole Din From ) (ft) surface	r Screen Mar	ond Constru Upp 1. 1 2. 1 3. 1 4 5 6 7. Oth Material, Wonufacturer & STEEL As	nction Metho per Enlarged in Rotary - Mud Rotary - Air Rotary - Air and Drill-Throug Reverse Rote Cable-tool Bi Temp. Outer Removed ? wer eight, Specifi Se Method of A	od Drillhole I Circulation and Foam - gh Casing H ary it _ n Casing _	Low ammer dia in. di  Fr (fi	a	n Bedrock  depth ft.  To (ft.)	Geology Codes Y_ SDQ_ [Q_ C	Type, Cav SAND & GRA DECOMPOSE GRANITE  Water Level feet B gr A= Test g level 54.0 ng at 9.0	ound surface Above B=Be ft, below	e ellow	T1. W  Develor  Disinfor  Capper	ess, etc  Cell Is:  oped?  ected?  d?	From (f)	A A=A=F	(ft.) 56
6. Casin Dia. (in.)	nole Din From ) (ft) surface	r Screen Mar	ond Constru Upp 1. 1 2. 1 3. 1 4 5 6 7. Oth  Material, Wondfacturer & STEEL AS	nction Metho per Enlarged in Rotary - Mud Rotary - Air Rotary - Air and Drill-Throug Reverse Rote Cable-tool Bi Temp. Outer Removed ? Here	od Drillhole I Circulation and Foam gh Casing H ary it _ n Casing _ ication Assembly	Low ammer dia in. di  Fr (fi	a	n Bedrock  depth ft.  To (ft.)  59	Geology Codes Y_ SDQ_ [Q_ C Q_ C	Type, Cav SAND & GRA DECOMPOSE GRANITE  Water Level feet B gr A= Test g level 54.0 u notify the ow ls on this prope	ound surface Above B=Be ft, below	e ellow	T1. W  Develor  Disinfor  Capper	ess, etc  Cell Is:  oped?  ected?  d?	From (f)	A A=A=F	(ft.) 56
6. Casin Dia. (in.)	nole Din From ) (ft) surface	r Screen Mar SAWHILL	ond Constru Upp 1. 1 2. 1 3. 1 4 5 6 7. Oth Material, We obtained the second the secon	action Metho oper Enlarged in Rotary - Mud Rotary - Air and Drill-Throug Reverse Rote Cable-tool Bi Temp. Outer Removed ? wer eight, Specific Method of A	od Drillhole I Circulation and Foam gh Casing H ary it _ n Casing _ ication Assembly	Low ammer dia in. di  Fr (fi	a	n Bedrock  depth ft.  To (ft.)  59	Geology Codes YSDQ [Q G	Type, Cav SAND & GRA DECOMPOSE GRANITE  Water Level feet B granity A= Test glevel 54.0 unotify the ow ls on this propolatin	ound surface-Above B=Both GP M vner of the nerty?	e elow w surface 1.0 Hrs eed to pe	T1. W Develor Disinfor Capped	ess, etc  Cell Is:  oped?  ected?  d?	From (f)	A A=AB=I	(ft.) 56
6. Casin Dia. (in.)	nole Din From ) (ft) surface	r Screen Mar SAWHILL	ond Constru Upp 1. 1 2. 1 3. 1 4 5 6 7. Oth  Material, Wondfacturer & STEEL AS	action Metho oper Enlarged in Rotary - Mud Rotary - Air and Drill-Throug Reverse Rote Cable-tool Bi Temp. Outer Removed ? wer eight, Specific Method of A	od Drillhole I Circulation and Foam - gh Casing H ary it _ n. Casing _ ication Assembly ELDED	Low in. di  Fr (fi  surfa	er Ope	n Bedrock  depth ft.  To (ft.)  59	Geology Codes YSDQ [Q G	Type, Cav SAND & GRA DECOMPOSE GRANITE  Water Level feet B gr A= Test g level 54.0 u notify the ow ls on this prope	ound surface-Above B=Both GP M vner of the nerty?	e elow w surface 1.0 Hrs eed to pe	T1. W Develor Disinfor Capped	ess, etc  Cell Is:  oped?  ected?  d?	From (f)	A A=AB=I	(ft.) 56   59   59   Grade Above Below
6. Casin Dia. (in.)	nole Din From ) (ft) surface	r Screen Mar SAWHILL	ond Constru Upp 1. 1 2. 1 3. 1 4 5 6 7. Oth Material, We obtained the second the secon	action Metho oper Enlarged in Rotary - Mud Rotary - Air and Drill-Throug Reverse Rote Cable-tool Bi Temp. Outer Removed ? wer eight, Specific Method of A	od Drillhole I Circulation and Foam - gh Casing H ary it _ n. Casing _ ication Assembly ELDED	Low ammer dia in. di  Fr (fi	er Ope	n Bedrock  depth ft.  To (ft.)  59	Geology Codes Y_ SDQ_ [Q_ C Q_ C  9. Static V 12.0 f  10. Pump Pumping Pumping Pumping If no, exp  13. Initials	Type, Cav SAND & GRA DECOMPOSE GRANITE  Water Level feet B granity A= Test glevel 54.0 unotify the ow ls on this propolatin	ound surface Above B=Be ft. below GP M Veructor or Sur	e elow w surface 1.0 Hrs eed to pe	TI. W Develor Disinfor Capper	ess, etc  Pell Is:  Pede Pected?  d?  y abando  EJD	From (f)	A A=/B=F all	(ft.) 56   59   59   Grade Above Below

So	urce	: WEI		<i>/ELL NUI</i> ISTRUC			C	DN43	6	NT .	ate Water System Natural Resource 3707	s, Box 7921	(Rev 02	,
Prope Own	erty er	ONE, PAT				T N	`elephon Jumber	<sup>ne</sup> 715 <b>–</b> 4	49 <b>=</b> 2277	1. Well Locat T=Town C=C		De	epth 205	FT
Maili Addr	ing PO	BOX 132								T of ROLL			Fire#	
City	ANIWA	4			State	wı	Zip Cod	le 5	54408	Street Address o	Road Name and	d Number		
Coun	-	ell Location NGLADE	NO	Co We	ell Permit N	0		ompletion D ptember 2		Subdivision Nar	ne	Lot#	Block	#
	Constru	ctor J DREWS			License 327	# Faci	lity ID (1	Public)		Gov't Lot	or	<b>SW</b> 1/4 of	SE	1/4 of
Addr	ess	NKOL RD			321	Publ	ic Well	Plan Appro	oval#	Section 3	3 T 30 N	<sup>R</sup> 11 E	•	
City HAT	IFY			State WI	Zip Code 54440	Date	Of App	oroval		2. Well Type	3 (	(See item 12 belo	ow)	
		ient Well #		Common		Spec	ific Cap	acity		·	Replacement 3			
						-		gpm/ft			ue well # <b>NW</b>		d in <u>U</u>	
3. Wel	l Serves		omes and o	or aurant, churc	ch school i	ndustry.	etc.)	High Capa Well?	acity: N	LOW YIELD	ced of reconstruc	aca wen:		
M=Mun	-	•		ner X=NonPot A		•	<i>'</i>	Property?	N .	1 1=Drilled 2=	Driven Point 3=	Jetted 4=Other		
						om any			ces, including	g those on neighbo	. 01 1	•		*
Distanc			o nearest: (in	cluding prop	posed)		10. Pri	•	aid Hydrain			Wastewater Sum Paved Animal B	•	
		Landfill Building	Overhang				11. Fo	undation Di	rain to Cleary	vater	19.	Animal Yard or	Shelter	
	<b>70</b> 3.	_	otic 2= Hole	ding Tank					rain to Sewer		20.	Silo		
	90 4.	Sewage A	bsorption U	Unit			13. Bu	ilding Drair 1=Cast Iı	n ron or Plastic	2=Other		Barn Gutter		
	5.	Nonconfo	rming Pit				14. Bu	_		ity 2=Pressure		Manure Pipe 1=Cast iro	n or Plastic	2=Pressure 2=Other
				g Oil Tank			15. Co			astic 2=Other in . diam.		Other manure Sto Ditch	orage	
	7.	Buried Pe	troleum Ta	ınk						—	24.	Ditti		
		1=Shor			Pool		16. Cle	earwater Su	mp		25. (	Other NR 812 W	aste Source	e
5. Drill	8.		reline 2= S	wimming P	eroneren er er er er	<b>T</b>		earwater Sur	•	8.		Other NR 812 W		
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6. Casi	8.  hole Dir From .) (ft)  surface	r Screen Man	reline 2= S  d Construct Uppe 1. R 2. R 3. R 4. I 5. I 6. C 7. T I Othe  Material, Wei surfacturer & STEEL A5:	wimming P  ction Method er Enlarged I cotary - Mud cotary - Air - cotary - Air a Drill-Through Reverse Rota Cable-tool Bit Cemp. Outer of Removed ? er  ight, Specific Method of A	d Drillhole Circulation Circulation The Casing Harry The Casing C	in. d	ia	n Bedrock  depth ft.  To (ft.)	Geology Codes  EQ_ G	Type, Caving,  EXISTING  GRANITE  Vater Level  eet B groun  A=Abo  Fest	Geology Noncaving, Colo	il. Well Is: Developed?	Fro (ft. 0 59 59 59 59 59 59 59 59 59 59 59 59 59	m To (ft.)  59 205  205  A Grade  A=Above
6. Casi	8.  hole Dir From .) (ft)  surface	r Screen Man	reline 2= S  d Construct Uppe 1. R 2. R 3. R 4. I 5. I 6. C 7. T I Othe  Material, Wei surfacturer & STEEL A5:	wimming P etion Method er Enlarged I cotary - Mud cotary - Air - cotary - Air a: Drill-Through Reverse Rota Cable-tool Bit Femp. Outer of Removed ? er ight, Specific Method of A 3 18.97 WE	d Drillhole Circulation Circulation The Casing Harry The Casing C	ammer dia in. d	ia	n Bedrock  depth ft.  To (ft.)	Geology Codes  E Q G	Type, Caving, EXISTING ERANITE  Vater Level eet B groun A=Abo Fest level 200.0 ag at 0.5 GP	Geology Noncaving, Colo  d surface ve B=Below ft. below surface M 2.0 Hrs	11. Well Is: Developed? Disinfected? Capped?	24 in.  Y Y	m To (ft.)  59 205  205  A Grade  A=Above  B=Below
6. Casi Dia. (i	8.  hole Dir From .) (ft)  surface  ing Line in.)  6.0	r Screen Man	reline 2= S  d Construct Uppe 1. R 2. R 3. R 4. I 5. I 6. C 7. T I Othe  Material, Wei aufacturer & STEEL A5:	wimming P etion Method er Enlarged I cotary - Mud cotary - Air - cotary - Air a: Drill-Through Reverse Rota Cable-tool Bit Femp. Outer of Removed ? er ight, Specific Method of A 3 18.97 WE	d Drillhole Circulation Circulation The Casing Harry The Casing C	in. d	ia	n Bedrock  depth ft.  To (ft.)	Geology Codes  E Q G	Type, Caving  EXISTING  BRANITE  Vater Level  eet B groun  A=Abc  Test level 200.0  ig at 0.5 GP  in notify the owner	Geology Noncaving, Colo  d surface ve B=Below  ft. below surface M 2.0 Hrs of the need to pe	11. Well Is: Developed? Disinfected? Capped?	24 in.  Y Y	m To (ft.)  59 205  205  A Grade  A=Above  B=Below
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