

Wisconsin Department of Natural Resources

Attn: Mr. B.J. Leroy 2984 Shawano Avenue Green Bay, WI 54313-6727









Subject:

Limited Geoprobe Investigation USH 45 & STH 76 ROW – State Lead Town of Bear Creek, Waupaca County, WI 54922 BRRTS #02-69-583401

Dear Mr. Leroy:

This letter and enclosed information will serve to summarize the results of the limited geoprobe investigation activities at the above referenced site. The site location is shown on Figure 1.

Background

In April 2019, Waupaca County Highway Department workers encountered strong petroleum vapors in soil cuttings while installing a signpost along the west bound right-of-way of STH 76 near the intersection with USH 45. The right-of-way is adjacent to a closed Leaking Underground Storage Tank (LUST) site known as Former Dennison Quality Oil (BRRTS #03-69-000214). The site was closed in 2000 with a groundwater use restriction and later placed on the GIS registry. Spills have also been documented at the site on June 8, and August 18, 1984, and October 6, 2010. The June 8, 1984 spill (BRRTS #04-69-419530) was closed the same day. The August 18, 1984 spill (BRRTS #04-69-449692) was transferred to the LUST activity referenced above.

The October 2010 spill (BRRTS #04-69-556408) was opened when water with gasoline odor was discharging into the ditch from beneath the roadway. The discharge was assumed to be related to the former LUST investigation. Notes on a Dennison Quality Oil site map within the spill file question the presence of a "tank" near the spill area, and close to the area of the 2019 sign installation. Veolia Special Services responded to the spill, placed absorbents, and containerized four (4) 55-gallon drums of water and absorbents. Notes and photographs from the 2010 response are included in Attachment A. The spill was closed on November 10, 2010.

Limited investigative data was available in the GIS package for the Former Dennison Quality Oil site. Although soil samples were likely collected, that data was not included in the GIS, and was not reviewed for this report. Groundwater contamination was present near the area of the sign installed in April at the former MW-5. Mapping and groundwater data from the GIS package are included in Attachment A.

Limited Geoprobe Investigation

On June 27, 2019, REI Engineering, Inc. (REI) was on site to oversee the installation of four (4) geoprobe soil borings at the locations shown on Figure 2. Boring locations were specified by the WDNR and were installed by Geiss Soil & Samples of Merrill, WI. Photographs of the site are included in Attachment B.

Continuous soil samples were collected at two (2) foot intervals and field screened with a Mini-Rae 3000 photoionization detector (PID) with a 10.6 eV lamp. The maximum boring depth was eight (8) feet below land surface (bls).

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4080 N. 20th Avenue Wausau, WI 54401 715-675-9784 REIengineering.com Wisconsin Department of Natural Resources Attn: Mr. B.J. Leroy July 18, 2019

Native soil types consist of black silt, red clay, silty clay, and layers of sand and gravel fill material. Probe refusal was encountered at boring GP1 at approximately six (6) feet bls. Soils in GP1 were saturated at the surface, likely due to recent precipitation and standing water in the ditch, otherwise no obviously saturated soils were observed in any of the borings. A temporary screen, sand filter pack, and PVC casing was placed in geoprobe GP3, and groundwater was measured at a depth of approximately 6.5 feet bls. Soil boring logs and abandonment forms are included in Attachment C. Methods and procedures for geoprobe soil sampling and groundwater sampling are included in Attachment D.

Field screening results were all 0.0 Instrument Units (I.U.s) on the PID for the presence of organic vapors in all soil samples from GP1, GP2, and GP4. Geoprobe GP3 was placed adjacent to the signpost installed in April, and recorded 9.7 Instrument Units (I.U.s) from 2-4 feet bls, and 220 I.U.s from 4-6 feet bls. Sample GP3, 6-8 feet was 0.0 on the PID. One (1) soil sample from each boring was submitted to Pace Analytical, of Green Bay, WI for Petroleum Volatile Organic Compounds (PVOC) and naphthalene analysis. Samples from GP1 (4-6'), GP2 (2-4'), and GP4 (4-6') were non-detect for all PVOCs and naphthalene. Sample GP3, 4-6' exceeded the Groundwater Pathway Residual Contaminant Level (RCL) for benzene, ethylbenzene, toluene, xylenes, trimethylbenzenes, and naphthalene. The results are summarized on Table 1.

One groundwater sample was collected from GP3 using temporary PVC casing and screen and a peristaltic pump with disposable tubing. Sample GP3 contained detectable levels of benzene, ethylbenzene, toluene, trimethylbenzenes, xylenes, and naphthalene and exceeded the NR 140 ES for benzene. The results of groundwater sampling are summarized on Table 2. The complete analytical report is included in Attachment E.

Conclusions and Recommendations

Groundwater contaminant concentrations at GP3 were similar to that of MW-5, installed for the Dennison Quality Oil LUST investigation, which was approximately fifty (50) feet north. Significant soil contamination was encountered at GP3, the chemistry of which may be indicative of a relatively recent release. It may be beneficial to review the Dennison Quality Oil soil data in detail to compare levels of soil contamination in GP3 to levels encountered during the investigation. There are five (5) USTs registered with the Department of Agriculture, Trade, and Consumer Protection (DATCP) as associated with Dennison Quality Oil, David Dennison, or Robert Dennison in the Town of Bear Creek. All five (5) are registered as "in use." A copy of the database search result is included in Attachment F. Wisconsin DATCP petroleum inspection personnel may be able to assist with verifying whether any or all of these USTs have been removed, and not properly re-registered, or if they remain in place.

REI thanks you for the opportunity to service your environmental consulting needs. Please contact me at (715) 675-9784 or Adelforge@REIengineering.com if you would like to discuss this further.

Sincerely,

REI Engineering, Inc.

Andrew R. Delforge P.G.

Senior Hydrogeologist/Project Manager

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TABLE 1 GEOPROBE SOIL ANALYTICAL RESULTS USH 45 & STH 76 ROW BEAR CREEK, WI 54922

		Date>	6/27/19	6/27/19	6/27/19	6/27/19	6/27/19
		Sample>	GP-1	GP-2	GP-3	GP-4	MeOH
		Depth>	4-6	2-4	4-6	4-6	Blank
	Saturated/U	Unsaturated>	Unsat	Unsat	Unsat	Unsat	-
PVOCs (ug/kg)	DC RCL	GW RCL					
Benzene	1,600	5.1	<25.0	<25.0	7,110	<25.0	<25.0
Ethylbenzene	8,020	1,570.0	<25.0	<25.0	14,400	<25.0	<25.0
Toluene	818,000	1,107.2	<25.0	<25.0	1,380	<25.0	<25.0
Xylenes (Total)	258,000	3,960	<75	<75	34,570	<75	<75
Methly tert Butyl Ether	63,800	27.0	<25.0	<25.0	<62.5	<25.0	<25.0
1,2,4-Trimethylbenzene	89,800	1,382.1	<25.0	<25.0	49,000	<25.0	<25.0
1,3,5-Trimethylbenzene	182,000	1,362.1	<25.0	<25.0	11,800	<25.0	<25.0
Naphthalene	5,150	658.2	<25.0	<25.0	2,230	<25.0	<25.0

Notes:

PID - Photoionization Detector

DC RCL - Direct Contact Non-Industrial Sites RCL

GW RCL - Groundwater Pathway RCL

ug/kg - parts per billion

Outlined in Bold	 Exceeding DC RCL
Bold	- Exceeding GW path RCI
0 1 1 1	

< - Concentration below listed laboratory detection limit

PVOCS - Petroleum Volatile Organic Compounds

NS - No Standard

NA - Not Analyzed

j - Estimated value between Limit of Detection and Limit of Quantification

TABLE 2 GEOPROBE GROUNDWATER ANALYTICAL RESULTS USH 45 & STH 76 ROW BEAR CREEK, WI 54922

			GP-3
PARAMETER	ES	PAL	6/27/19
Detected VOC's (ug/L)			
Benzene	5	0.5	215
Ethylbenzene	700	140	52.6
Methyl-tert-Butyl Ether	60	12	<2.5
Naphthalene	100	10	6.2j
Toluene	800	160	10.3
Total Trimethylbenzenes	480	96	82.7
Total Xylenes	2,000	400	148.1

PAL = Preventive Action Limit

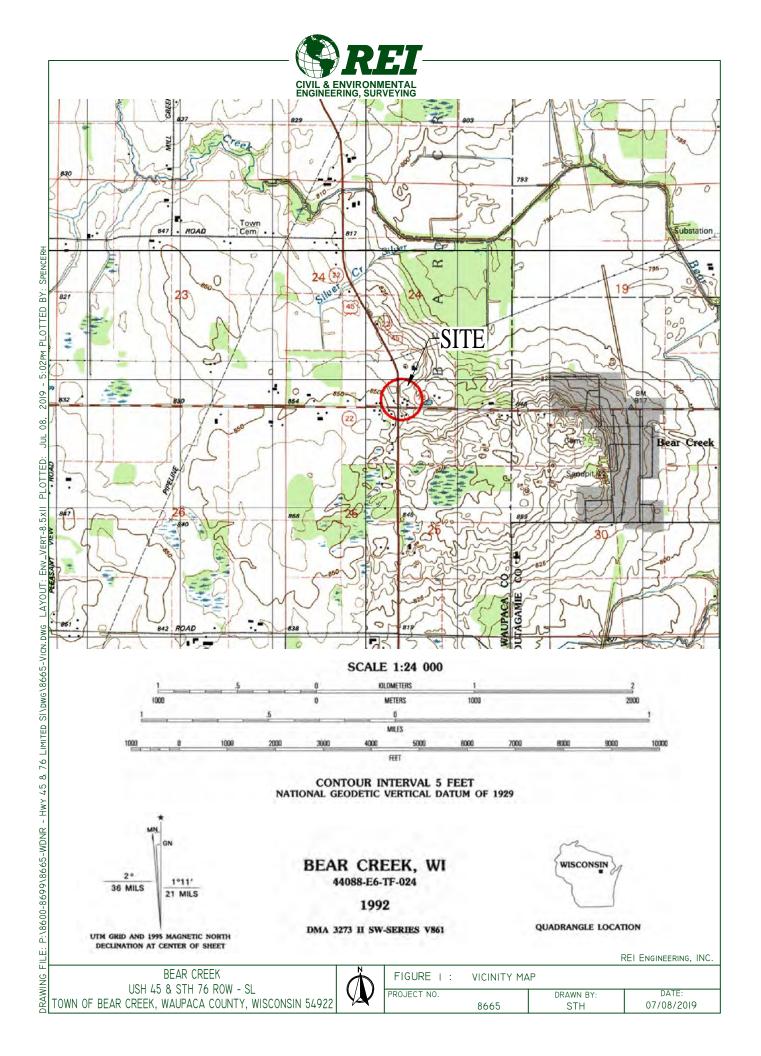
ES = Enforcement Standards

BOLD	= Exceeds Enforcement Standard
Italic	= Exceeds Preventative Action Limit

NA - Not Analyzed

< - Concentration less than listed detection limit

j - Estimated Value between detection limit and quantification limit







8665

STH

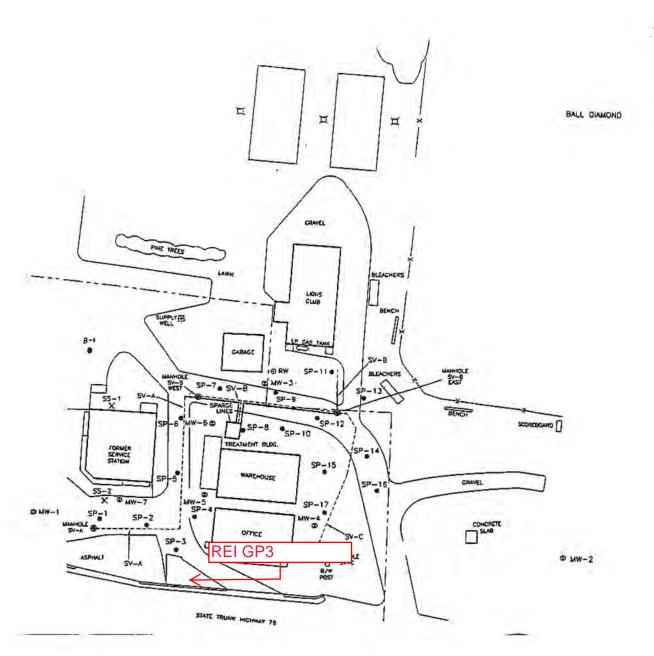
07/08/2019

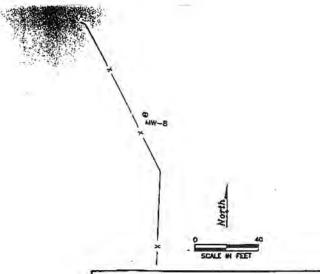
TOWN OF BEAR CREEK, WAUPACA COUNTY, WISCONSIN 54922

ATTACHMENT A

HISTORICAL GROUNDWATER AND SPILL DATA







LEGEND:

- --- APPROXIMATE PROPERTY BOUNDARY
- -x- FENCE
- MONITORING WELL LOCATION
- X SOIL SAMPLE
- SOIL VENT LINE ACCESS MANHOLE
- SPARGE POINT
- PRIVATE WELL LOCATION
- @ RECOVERY WELL
- VAPOR EXTRACTION LINES
- SOLID HORIZONTAL SOIL VAPOR EXTRACTION LINES

FIGURE 2 SITE PLAN

FORMER DENNISON QUALITY OIL CO. BEAR CREEK, WISCONSIN

PROJECT NO.	PREPARED BY	DRAWN BY
DATE	REMEMED BY	FILE NAME
11/10/99		93506SM



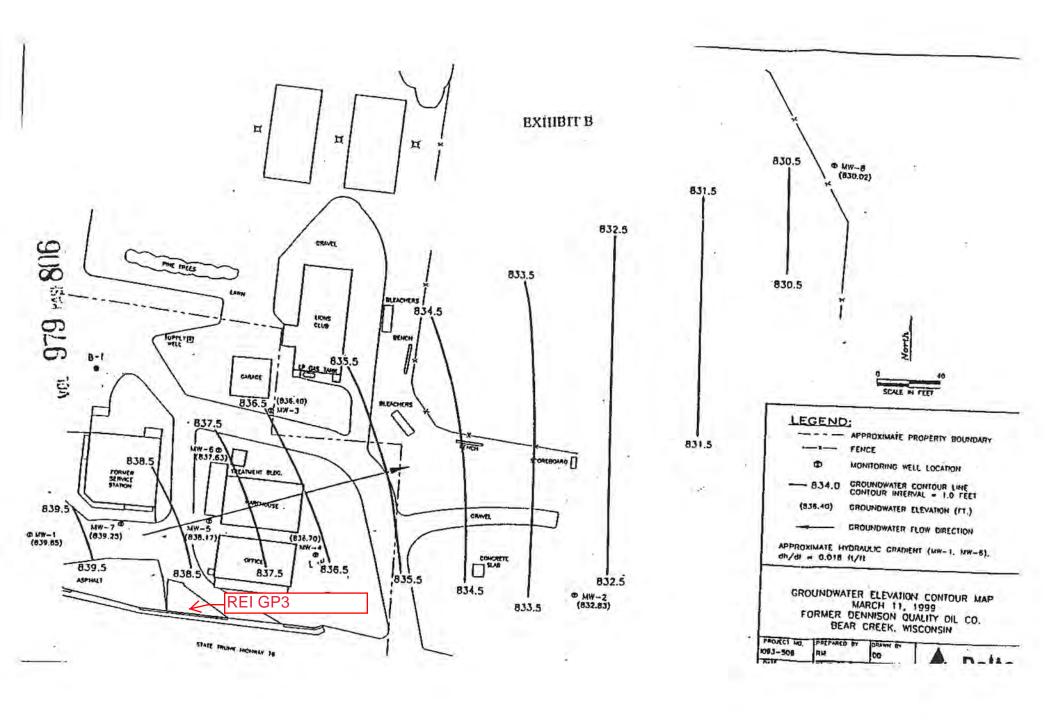


TABLE 2

	200		Volatile	Organic Con	mpounds					S. 3.		n-field Bi	odegradation Men	surement		
Parameter/	Benzene ug/L	Toluene ug/L	Ethyl- benzens ug/L	Xylenes ug/L	1,3,5- TMB ug/L	1,2,4- TMB ug/L	Naphibalene ug/l	MTBE ug/L	GRO ug/L	DO ppm	REDOX	Temp °C	Conductivity	pH s.u.	Iron (T)	Iron (S)
NR 140 ES	5.0	343	700	620	4	80	40	60							-2 -	
09/13/95	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.1	MM	19	4600	7.2	1.0	1.0
12/14/95	NS	NS	NS	NS	NS	NS	NS	NS	NS	5,6	NM	NM	NM	NM	NM	NM
03/27/96	NS	NS	NS	NS	NS	NS	NS	NS	NS	1.3	162	NM	MM	· NM	NM	NM
06/18/96	NS	NS	NS	NS.	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS.	NS	N5
09/11/96	<0.5	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	4.4	<50	1.6	-041	16	5400	7.1	4.0	6.0
12/16/96	<.5	<1.0	<1.0	⊲.0	<1.0	<1.0	<1.0	<1.0	<50	1.8	-017	8	3600	7.1	0.20	0.10
03/12/97	NS	NS	NS	NS	NS	NS	NS	N3	NS	1.9	-003	NM	NM	NM	NM	NM
06/25/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	1.3	133	NM	NM	NM	NM	NM
09/25/97	< 0.13	< 0.20	<0.22	<0.23	<0.29	<0.22	<0.46	<1.9	<50	4.9	-078	17	1600	7.2	10.00	10.00
12/15/97	NS	NS	NS	NS	NS	NS	NS	NS	NS	3.8	015	NM	NM	NM	NM	NM
03/18/98	NS	NS	NS	NS NS	NS	NS	NS	NS	NS	1.0	042	NM	NM	NM	NM	NM
06/17/98	NS	NS	พร	NS	NS	NS	NS	NS	NS	0.8	031	NM	NM	NM	NM	NM
09/16/98	<0.13	<0.20	<0.22	<0.23	<0.29	<0.22	<0.46	<0.16	<50	0.8	-061	18	600	7.0	10+	8
12/02/98	NS	NS	NS	NS NS	NS	NS	NS NS	NS	NS	0.9	171	NM	NM	NM	NM	NM
03/11/99	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.3	025	NM	NM	NM	NM	NM

S. A. Company				Organic Con								n-field Bl	udegradation Mea	urement	3	
Parameter/	Benzene ug/L	Toluene ug/L	Ethyl- benzene ug/L	Xylenes ug/L	1,3,5- TMB ug/L	I,2,4- TMB ug/L	Naphthalene ug/l	MTHE ug/L	GRO ug/L	DO ppm	REDOX mV	Temp *C	Conductivity µS/cm	pH n.u.	Iron (T)	Iron (S)
NR 140 ES	5.0	343	700	620	4	80	10	60								
09/13/95	ND	ND	ND	ND	ND	ND	NA	1.2	ND	3.1	NM	16	2300	7.2	0.6	0.4
12/14/95	NS	NS	NS	NS	NS	NS	NS	NS	NS	2.7	NM	NM	NM	NM	NM	NM
03/27/96	NS	NS	NS	NS	NS	NS	NS	NS	NS	2.5	205	NM	NM	NM	NM	NM
06/18/96	NS	NS	N3	NS NS	NS	NS	NS	NS	NS	NM	NM	NM	NM	NM	NM	NM
09/11/96	< 0.5	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	12	<50	1.2	056	14	1800	7.0	0.2	0.1
12/16/96	<5	<1.0	<1.0	⊲.0	<1.0	<1.0	<1.0	<6.0	<50	1.8	062	8	2500	7.0	0.20	0.10
03/12/97	NS	NS	NS	NS	NS	NS	NS ·	NS	NS	1.7	073	NM	NM	NM	NM	NM
06/25/97	NS	NS	NS	พร	NS	NS	NS	NS	NS	1.2	114	NM	NM	NM	NM	NM
09/25/97	1.2	< 0.20	<0.22	<0.23	<0.29	<0.22	1.7	<9.7	<50	4.7	-015	14	600	7.2	7.00	6,00
12/15/97	NS NS	NS	N3	N3	NS	NS	NS	NS	NS	0.2	-016	NM	NM	NM	NM	NM
03/18/98	0.36	<0.20	<0.22	<0.23	<0.29	<0.22	<1.1	6.1	<50	1.2	-030	7	200	7.8	10+	8.0
06/17/98	1.5	<0,20	<0.22	<0.23	<0.29	<0.22	<1.1	7.3	<50	0.6	028	15	200	7.8	8.0	6.0
09/16/98	<0.13	<0.20	<0.22	<0.23	<0.29	<0.22	<0.46	<2.0	<50	1.0	-036	15	300	7.6	5.0	1.0
12/02/98	NS	NS	NS	NS	NS	N8	NS	NS	NS	1.0	168	NM	NM	NM	NM	NM
03/11/99	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.3	040	NM	NM :	NM	NM	NM

TABLE 2

VIM-3	h		Volatile	Organic Co	mpounds	SEC. 20. 100 - 761	time let le	****			1	n-field Bi	odegradation Men	surement	5	
Parameter/	Benzene ug/L	Toluens ug/L	Ethyl- benzene ug/L	Xylenes ug/L	1,3,5- TMB ug/L	1,2,4- TMB ug/L	Naphthalene ug/l	MTBE	GRO ug/L	DO ppm	REDOX mV	Temp	Conductivity µS/cm	pH s.u.	Iron (T)	Iron (S)
NR 140 ES	5.0	343	700	620	4	80	40	60								
09/13/95	30	35	<5	350	210	<200	54	<5	2300	1.9	NM	19	1700	7.3	5.0	3.0
12/14/95	51	<5	<5	72	90	37	10	<20	1400	7.1	NM	8	1200	7.2	2.0	1.0
03/27/96	41	2.7	5.5	130	130	41	17	<1	1300	8.9	302	4	. 2400	7.2	0.8	0.2
06/18/96	16	2	2.2	58	18	46	7.1	<1.0	750	3.4	040	15	700	7.1	0.6	0.4
09/11/96	72	9.2	9.3	120	30	94	25	<1.0	1400	2.4	-081	15	2700	7.0	2.0	0.6
12/16/96	32	21	17	86	19	58	13	<12	970	0.8	-086	8	3100	7.1	4.0	2.0
03/12/97	28	2	4.2	29	11	30	4.7	<6.0	380	8.3	111	3	2400	7.1	0.4	0.2
06/25/97	69	1.7	9.2	16	6.2	19	4.9	<0.16	490	1.5	127	14	1200	7.5	0.2	0.1
09/25/97	27	31	21	85	38	130	20	<0.32	2800	3.7	-083	18	600	7.1	6.0	5.0
12/15/97	5.4	3.5	14	40	14	75	16	10	1800	0.2	035	10	800	7.5	>10	7.0
03/18/98	17	<17	9.1	100	53	160	23	<5.1	2200	0,3	-020	5	300	7.5	3.0	2.0
06/17/98	21	12	11	49	27	86	12	<6.8	1900	0.2	-093	18	300	7.6	10+	10.0
09/16/98	14	20	11	45	14	65	11	<7.8	980	0.3	-121	20	500	7.1	10+	10+
12/02/98	32	77	60	130	15	130	39	16	2000	0.2	-100	13	200	7.5	10+	10+
03/11/99	13	10	11	98	18	88	17	< 0.67	1600	0.2	-023	NM	NM	NM	NM	NM

			Volatite	Organic Co			***************			5.5	- 3	n-field Bi	odegradation Mea	surement.	3	7 - 2
Parameter/ Date Sampled	Benzene ug/L	Toluene ug/L	Ethyl- benzene ug/L	Xylenes ug/L	1,3,5- TMB ug/L	I,2,4- TMB ug/L	Naphthalena ug/l	MTBE ug/L	GRO ug/L	DO ppm	REDOX mV	Тепір °С	Conductivity µS/cm	pH s.u.	Iron (T)	Iron (S)
NR 140 ES	5.0	343	700	620	- 1	80	40	60		1000				5.58. 3	= 1.50	11-2-
09/13/95	130	3.7	110	- 11	6.9	<5	7.4	~2	700	2.0	NM	18	4400	7.3	10.0	10.0
12/14/95	52	1.3	42	4	1.3	<1	1.7	<10	450	6.1	NM	7	2400	7.1	3.0	2,0
03/27/96	14	<1	15	<1	<1	<1	1.1	<10	200	8.4	330	5	4500	7.1	NA	NA
06/18/96	21	<1.0	22	⊲.0	1.5	2.1	1.6	<1.0	300	1.4	-066	15	4000	7.1	8,0	6.0
09/11/96	9.1	<1.0	10	<3.0	<1.0	1.1	⊲.0	<28	260	1.2	-073	15	4000	7.1	>10	>10
12/16/96	4.9	<1.0	1.7	⊲.0	<1.0	<1.0	<1.0	<1.0	120	1.2	-022	9	3600	7.1	>10	>10
03/12/97	1.1	<0.20	0.89	0.34	<.29	<.22	<46	7.9	<50	11.7	183	3	4100	7.4	1.0	0.8
06/25/97	8	0.39	1.9	0.97	<0.29	0.48	<2.0	<0.16	81	1.3	069	14	3500	6.8	8.0	6.0
09/25/97	12	0.44	1	0.53	<0.29	0.32	<0.46	<12	<50	4.4	-074	16	1200	7.1	10,0	8.0
12/15/97	1,6	0.25	0.99	0.48	<0.29	0.41	0.88	<0.16	53	0,2	-054	13	700	7.4	>10	>10
03/18/98	4.9	0.53	1.6	1.7	0.34	1.0	<1.1	<6.5	100	0.4	-032	6	300	7.5	10+	10+
06/17/98	2.8	0.33	2.0	1.0	<0.29	1.1	1.2	4	<50	0.9	-063	17	300	7.6	10+	10+
09/16/98	1.1	0.24	0.42	<0.23	< 0.29	0.29	0.53	⊲.1	<50	0.3	-108	16	600	7.1	10+	10+
12/02/98	1.2	<0.20	0,26	<0.23	<0.29	0.42	0.59	2.7	120	0.2	-057	13	200	7.4	10+	10+
03/11/99	4.0	0.33	0.33	0.97	< 0.29	<0.22	<1.1	6.0	87	0.2	-060	NM	NM	NM	MM	MM

TABLE 2

		CHECKER		Organic Co	mpounds	~~~						n-field Bl	odegradation Mea	surement		
Parameter/	Benzene ug/L	Toluene ug/L	Ethyl- benzens ug/L	Xylenes ug/L	1,3,5- TMB ug/L	I,2,4- TMB ug/L	Nuphthalene ug/l	MTBE ug/L	GRO ug/L	DO ppm	REDOX mV	Temp °C	Conductivity µS/cm	pH.	Iron (T)	Iron (S)
NR 140 ES	5.0	343	700	620	4	80	40	60	100	I TOTAL			V 1			
09/13/95	3900	2200	220	3400	500	<200	<300	<50	17000	0.8	NM	19	5600	7.3	10.0	10.0
12/14/95	280	160	49	710	140	140	<40	<100	7600	1.2	NM	7	5000	7.5	10.0	10.0
03/27/96	2000	610	<100	1900	310	⊲80	<2,200	<100	20000	1.0	059	5	4900	7.2	10.0	10.0
06/18/96	300	170	54	1100	91	190	<50	<50	3300	0.9	-072	15	4800	6.8	10.0	10.0
09/11/96	2100	640	150	2300	180	380	250	<50	21000	0.2	-121	14	4900	6.9	>10	>10
12/16/96	760	280	65	1500	140	280	460	<20	5500	0.5	-136	8	5100	7.2	>10	>10
03/12/97	140	36	15	240	38	66	19	<4.0	1300	4.1	-035	3	4200	7.1	9.0	5.0
06/25/97	560	170	63	1000	100	200	14	<0.80	5500	1.2	-041	15	4000	6.9	>10	>10
09/25/97	770	260	110	1800	190	380	140	<16	6000	1.9	-141	19	2000	7.0	>10	>10
12/15/97	920	230	120	1300	140	270	42	38	12000	1.2	014	12	1400	7.2	>10	>10
03/18/98	610	190	89	1200	130	250	89	<16	5600	0.2	-069	6	600	7.2	10+	10+
06/17/98	480	200	140	1800	240	490	<370	<8.0	24000	0.9	-125	19	800	7.6	10+	10+
09/16/98	150	52	44	660	140	260	170	<6,9	7800	0.2	-150	19	1200	7.2	10+	10+
12/02/98	100	38	18	500	98	150	30	9.7	3800	0.2	-117	13	500	7.4	10+	10+
03/11/99	230	84	<44	720	110	210	170	⊲32	20000	0.2	-142	NM	NM	NM	NM	NM

			Volutile	Organic Co	mpounds							n-field Bi	odegradation Mea	surement		
Parameter/	Benzena ug/L	Toluens ug/L	Ethyl- benzene ug/L	Xylenes ug/L	I,J,5- TMB ug/L	1,2,4- TMB ug/L	Naphthalene ug/l	MTBE ug/L	GRO ug/L	DO ppm	REDOX mV	Temp *C	Conductivity µS/cm	pH s.v.	Iron (T)	Iroa (S)
NR 140 ES	5.0	343	700	620	4.	80	40	60						-		100
. 09/13/95	2.1	<1	<1	3	<1	<1	<1 ·	<1	<50	1.7	NM	19	1300	7.4	0.4	0.2
12/14/95	0.77	</td <td><1</td> <td>3</td> <td>1.3</td> <td><1</td> <td>1.3</td> <td><1</td> <td>82</td> <td>5.2</td> <td>NM</td> <td>7</td> <td>800</td> <td>7.2</td> <td>0.4</td> <td>0.2</td>	<1	3	1.3	<1	1.3	<1	82	5.2	NM	7	800	7.2	0.4	0.2
03/27/96	<0.50	<1	<1	3	<1	<1	<1	<1	<500	11.0	223	4	1700	7.1	0.4	0.2
06/18/96	<0.50	<1.0	<1.0	⊲.0	<1.0	<1.0	<1.0	<1.0	<50	7.1	125	14	1300	7.0	0.1	0.0
09/11/96	3.6	1	<1.0	<3.0	<1.0	1	<1.0	<10	85	1.9	-014	15	2100	6.9	7.0	5.0
12/16/96	3.7	<1.0	<1.0	⊲3.0	<1.0	<1.0	<1.0	6.9	<50	1.7	-094	8	1500	7.0	0.4	0.2
03/12/97	<0.13	<0,20	<0.22	<0,40	<0.29	0.45	<0.46	2.3	<50	10.7	201	4	900	7.5	0.4	0.2
06/25/97	4.2	0.25	0.6	3.1	1.8	1.9	1.1	Q.2	72	5.8	189	14	1100	7.4	0.4	0.2
09/25/97	1.0	0.38	0.24	1.1	0.67	1.2	1.2	<3.3	57	4.5	040	18	1000	7.6	10.0	7.0
12/15/97	1.1	0.34	0.78	2.6	1.6	2,9	1.9	<0.16	54	9.6	044	11	900	7.9	7.0	5.0
03/18/98	1.2	0.36	1.4	1.2	0.98	1.9	<1.7	<0.81	130	1.0	038	6	400	7.6	2.0	0.6
06/17/98	0.84	0.24	0.8	1.4	1.2	2.4	<1.1	<0.16	140	0.4	-025	18	300	7.5	10+	10+
09/16/98	2.6	1.0	2.1	3.6	3.8	3.5	1.6	<1.9	210	0.2	-210	18	700	7.4	10+	10+
12/02/98	1.8	<0.20	<0.22	0.51	0.34	0.79	1.2	<0.16	160	0.2	-085	13	200	7.5	10+	10+
03/11/99	1.1	0.65	0.81	1,4	1.5	2.1	<1.1	<0.16	160	0.2	-086	NM	NM	NM	NM	NM

TABLE 2

				Organic Con	apounds							n-field Ble	odegradation Mea	surements		
Parameter/	Benzene ug/L	Toluene ug/L	Ethyl- benzene ug/L	Xylenes ug/L	1,3,5- TMB ug/L	1,2,4- TMB ug/L	Naphthalene ug/l	MTBE ug/L	GRO ug/L	DO ppm	REDOX mV	Temp	Conductivity µS/cm	pH s.u.	Iron (T)	Iron (S)
NR 140 ES	5.0	343	700	620	-	80	40	60		507.63				100		10.00
09/13/95	340	1600	850	3400	1300	<1100	200	<100	14000	1.4	NM	20	5100	7.3	10.0	10.0
12/14/95	360	2000	740	3400	1100	330	290	<100	12000	1.3	NM	7	4800	7.5	10.0	10.0
03/27/96	470	5200	1200	6500	1600	<1400	540	<100	24000	0.5	-018	4	6500	7.3	10.0	10.0
06/18/96	400	3200	1300	5400	410	1600	500	<20	20000	0.3	-103	150	5700	7.2	10.0	10.0
09/11/96	260	2200	1100	3300	310	1300	510	<10	17000	0.2	-102	17	5200	7.1	>10	>10
12/16/96	300	2700	1000	3300	370	1400	310	<20	13000	0.6	-120	8	3400	7.2	>10	>10
03/12/97	140	1600	740	3400	510	1400	320	≪8.0	12000	2.8	-071	3	6800	7.1	>10	10.0
06/25/97	120	660	830	2700	320	1300	380	⊲.2	13000	1.3	-048	15	5800	7.0	>10	>10
09/25/97	110	1406	730	3100	350	1300	250	⊲.2	14000	2.5	-136	18	1800	7.1	>10	>10
12/15/97	80	2900	1100	5100	470	1700	520	<6.4	21000	0,2	-137	12	1600	7.4	>10	>10
03/18/98	73	1600	860	3400	390	1400	330	<5.5	17000	0.2	-099	7	600	7.3	10+	10+
06/17/98	56	1000	740	2900	330	1200	310	₹3.2	14000	0.8	-124	17	400	7.5	10+	10+
09/16/98	38	490	520	2100	270	930	340	<8.0	11000	0.2	-164	20	1200	7.2	10+	10+
12/02/98	30	200	480	2100	380	1300	500	21	11000	0.2	-120	13	300	7.5	10+	10+
03/11/99	55	160	330	1400	300	950	400	⊲2	10000	0.2	-156	NM	NM	NM	NM	NM

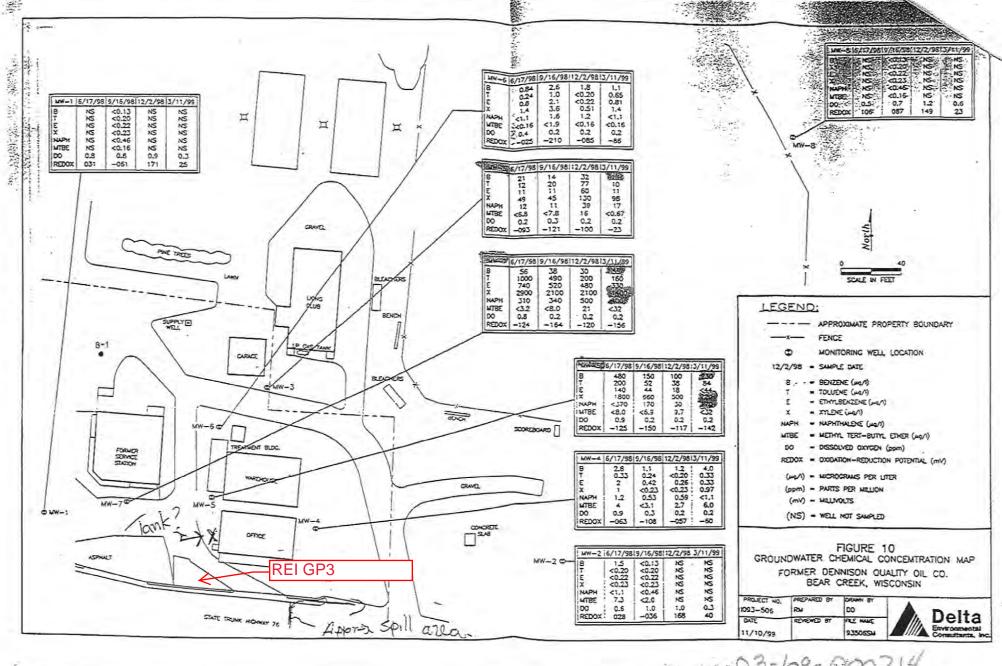
MW-8			Volatile	Organic Co	nipounds	<u> </u>			DIA SANDA LAN			n-field Bi	odegradation Mea	sucement	1	
Parameter/ Date Sampled	Benzens ug/L	Toluene ug/L	Ethyl- benzene ug/L	Xylenes ug/L	1,3,5- TMB ug/L	I,2,4- TMB ug/L	Naphthalene ug/l	MTBE ug/L	GRO ug/L	DO ppm	REDOX mV	Temp ℃	Conductivity µ8/cm	pH s.u.	fron (1') ppm	fron (S)
NR 140 ES	5.0	343	700	620	4	80	40	60	1,000						1000	
09/13/95	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	NM	17	700	7.1	0.2	0.1
12/14/95	NS	NS	NS	NS	NS	NS	NS	NS	NS	1.4	NM	NM	NM	MM	NM	MM
03/27/96	NS	NS	NS	NS	NS	NS	NS	NS	NS	1.3	125	NM	NM	MM	NM	NM
06/18/96	NS	NS	NS	NS	NS	NS	NS NS	NS	NS	NM	NM	NM	NM	NM	NM	NM
09/11/96	<0.5	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	2.9	<50	1.5	098	15	500	7.0	0.1	0.0
12/16/96	<0.5	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<50	1,3	087	8	800	7.0	0.2	0.1
03/12/97	NS	NS	N3	NS	NS	NS	N3 ·	NS	NS	1.5	094	NM	NM	NM	NM_	NM
06/25/97	<0.13	<0.20	<0.22	<0.23	< 0.29	⊴0,22	0.55	<0.16	<50	1.3	139	14	500	7.6	0.1	0.0
09/25/97	<0.13	<0.20	<0.22	<0.23	<0.29	<0.22	<0.46	<0.16	<50	4.3	047	15 .	400	7.6	0.6	0.3
12/15/97	<0.13	<0.20	<0.22	0.34	<0.29	<0.22	<0.46	<0.16	<50	1.2	017	12	300	7.9	0.3	0.2
03/18/98	NS	NS	NS	NS	NS	NS	NS	NS NS	NS	0.8	036	NM	NM	MM	NM	NM
06/17/98	NS	N3	NS	NS	NS	NS	NS	ИЗ	NS	0.5	106	NM	NM	NM	NM	NM
09/16/98	<0.13	<0.20	<0.22	< 0.23	<0.29	<0.22	<0.46	<0.16	<50	0.7	087	16	200	7.8	0.6	0,3
12/02/98	NS	NS	NS	NS	NS	N3	NS	N3	NS	1.2	149	NM	NM	NM	NM	NM
03/11/99	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.6	023	NM	NM	NM	NM	NM







Photo's By Tom STURM - DAR 10-7-10



03-69-000214

ATTACHMENT B

SITE PHOTOGRAPHS







Geoprobe GP1, facing south from STH 76



Utilities along north side of STH 76, and GP3 location, facing east



Geoprobe GP2, facing northeast from south side of STH 76



GP4, facing northwest from STH 76 median

USH 45 & STH 76 ROW	Photographs
Bear Creek, WI 54922	REI No. 8665
	P:\ Report Template\Pho

ATTACHMENT C

SOIL BORING LOGS AND ABANDONMENT FORMS



	Rei	mediation/	astewater Redevelop			ier 🗆	gement	П				Dana	1 of 11		
ne 02-69	-583401 USH	45 &STH	76 ROW - 3	License/Perm	it/Mor	nitoring N	lumber				Bor	. 303		21	_
	the state of	F 1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7			1	e Drilling	Started		Da		ng Com	4.31.4	hate it.	rilling N	Method probe -
	DNR Well ID	No.	Commo	n Well Name	Fin	al Static	Water Le	evel	Sui	face El	evation			ole Dia	The State of the
4000	the second secon			GP1						Local (Grid Loc	ation N 🗆 S 🗆			E□
		County V	Vaupaca		Cour	ty Code	69	Civ	il Tow	n/City/o	r Village	Town	of Bear (Creek	
											Soil	Prope	rties		-
Depth In Feet		And Ge	ologic Origi	n For		U.S.C.S.	Graphic	Well	PUD/FID	Compressive Strength	Moisture	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1- 2- 3- 3-	Crushed Do	lomite			7	GP			0		М				
5-	Probe Refu	ısal @ 6'							o						
	Name of (esti V 1/4 SE	Name of crew chief (f	Name of crew chief (first, last) a DNR Well ID No. (estimated) or Boring V 1/4 SE 1/4 Sec. 24, T24N, R14E County V Soil/ R And Ge Eac Base Coarse Crushed Dolomite Black Silt Probe Refusal @ 6'	Name of crew chief (first, last) and Firm DNR Well ID No. Common (estimated) or Boring Location V 1/4 SE 1/4 Sec. 24, T24N, R14E County Waupaca Soil/ Rock Descrip And Geologic Origi Each Major Un Base Coarse Crushed Dolomite Black Silt Probe Refusal @ 6'	Name of crew chief (first, last) and Firm DNR Well ID No. Common Well Name (estimated) or Boring Location GP1 V 1/4 SE 1/4 Sec. 24, T24N, R14E County Waupaca	Name of crew chief (first, last) and Firm Date DNR Well ID No. Common Well Name Fin	Name of crew chief (first, last) and Firm Date Drilling (estimated) or Boring Location P1 V 1/4 SE 1/4 Sec. 24, T24N, R14E County Waupaca County Code Soil/ Rock Description And Geologic Origin For Each Major Unit Base Coarse Crushed Dolomite GP Black Silt A ML	DNR Well ID No. Common Well Name Final Static Water Let (estimated)	Name of crew chief (first, last) and Firm Date Drilling Started 6/27/19	Name of crew chief (first, last) and Firm Date Drilling Started Back Silt	Name of crew chief (first, last) and Firm Date Drilling Started 6/27/19 Burface El 1342 Local of County Well ID No. Common Well Name Final Static Water Level Surface El 1342 Local of County Valyacea County Waupaca County Code 69 Civil Town/City/c Soil/ Rock Description And Geologic Origin For Each Major Unit Base Coarse Crushed Dolomite Crushed Dolomite Black Stit ML MIL Frobe Refusal @ 6*	Name of crew chief (first, last) and Firm Date Drilling Started 6/27/19 Date Drilling Com 6/27/19 Date Dri	Boring Number Salcensel/Permit/Monitoring Number Boring N	Name of crew chief (first, last) and Firm Date Drilling Started Date Drilling Completed 6/27/19 Date Drilling Completed 6/27/19	Boring Number GP1 Sizense/Permit/Monitoring Number Boring Number GP1 Name of crew chief (first, last) and Firm Date Drilling Started 6/27/19 Date Drilling Completed 6/27/19 Geographic Graph

ac	ility/	Projec	t Name	e 02-69	-583401 USH 45 &ST	176 ROW - Slice	ense/Perm	it/Monit	oring N	umber				Bor	ing Nur	nber GF	2	
	ing h - S		By: N	ame of	crew chief (first, last)	and Firm		Date D		Started /27/19		Da	ate Drillin	ng Com 27/19	pleted	D		Method probe - ct Push
NI I	Jniq	ue We	II No.		DNR Well ID No.	Common W	ell Name	me Final Static Water Level S						evation		Borehole Diameter 3"		
	al G e Pl		gin 🗆 SW		mated)	ng Location GP 4E	2	Lon					Local C	Grid Loc	ation N □ S □			E
ac	ility	ID			County	/ Waupaca		County	Code 6	9	Civi	l Tow	n/City/o	r Village	Town	of Bear (Creek	
5	amı	ple										1		Soil	Prope	rties		
Number	Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	And (Rock Description Geologic Origin F ach Major Unit			U.S.C.S.	Graphic	Well	PID/FID	Compressive Strength	Moisture	Liquid	Plasticity Index	P 200	RQD/ Comments
					Base Coarse Crushed Dolomite				GP					M-W				
				1-	Sand Black, silty													
				2-					SM					М				
1	SS	10		3-	Black Silt				ML			0						
				. 6	Sand Brown, very fine grain	ned			SP			-		10.			_	
				4-	Sand Black, silty				SM					M-W				
2	SS	20		5	Sand Brown, fine to medium	m grained			SP			0		M-W				
			T	6-	Red Clay									M				
3	3 SS 20			7-					CL			0						
				8-	End of Boring @ 8 I	eet .		_/										

aci	lity/l	Projec	t Nam	e 02-69	9-583401 USH 45 &STE	176 ROW - \$1	cense/Perm	it/Monit	oring N	umber				Bor	ing Nur	nber GF	23	
	ing I		By: N	ame of	f crew chief (first, last)	and Firm		Date I	Orilling S	Started /27/19		Da		ng Com /27/19	pleted	,0		Method probe -
VI L	Jniq	ue We	il No.		DNR Well ID No.	Common	Well Name						face El 1342	evation		Borehole Diameter 3"		
	al Gi		gin 🗌 SW		mated)	ig Location G 4E	P3	Lor					Local (Grid Loc	ation N 🗆 S 🗆			E
ac	lity	ID			County	Waupaca		County	Code 6	9	Civ	il Tow	n/City/o	r Village	Town	of Bear (Creek	
S	amp	ole												Soil	Prope	rties		
Number	Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	And C	Rock Descripti Geologic Origin ach Major Unit	For		U.S.C.S.	Graphic	Well	PID/FID	Compressive Strength	Moisture	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
		7 - 1		-	Grass									М				
				1-	Topsoil Brown, silty sand				SM			li						
				2-	Sand Brown, fine to coarse	grained, with gra	avel		SP	000 000 000 000								
12	SS	12		3-	Clay Dark brown, silty			CL			9.7							
				4-	Sand Brown, medium to co	arse grained			SP			T		M-W				
2	SS	24		5 =	Clay Gray, silty				CL			220						
		27		6-	Black Organic Silt/P	eat			ML/PT	2	N FI			М				
3	3 SS 1	7 Red Clay							CL			σ						
				8-	End of Boring @ 8 F	cet		/										

					Re	mediation	Redevelopment	M	Other							Page	1 of 18		
ac	ility/	Projec	t Name	e 02-69	-583401 USF	1 45 &STH	76 ROW - Sicens	se/Permit	Monit	oring N	umber				Bor		nber GF	94	
	ing h - S		By: N	ame of	crew chief (first, last) a	and Firm		Date [-	Started /27/19		Da		ng Com /27/19	pleted	C	Geo	Method probe - ct Push
NI U	Jniq	ue We	ll No.		DNR Well II	No.	Common Well	Name	e Final Static Water Level Surface Eleva					evation					
	al G e Pl		gin 🗆 SW	9-14-140V	mated) 1/4 Sec. 24,		Location GP4		Lon					Local (Grid Loc	ation N 🗆 S 🗆			E [
ac	ility	ID				County	Waupaca		County	Code	69	Civ	il Tow	n/City/o	r Village	Town	of Bear (Creek	
S	am	ole													Soil	Prope	rties		
Number	Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet		And Ge	tock Description cologic Origin For ch Major Unit			U.S.C.S.	Graphic	Well	PID/FID	Compressive Strength	Moisture	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
					Grass						minima to				М				
				1	Topsoil Brown, silt	y sand				SM									
				2-	Fill Brown, fine	e to coarse g	rained, with gravel	4		SP	0000000								
12	SS	18		3.— 	Sand Black, silty	Sand Black, silty				SM			0						
2	SS	24		5-	Sand								0						
				6-	Brown, fine	e gramed				SP		*			w				
3	SS	24		7-									0						
					Red Clay					CL									
				8-	End of Bo	ring @ 8 Fe	et		_/										
				9-			the correct to the						1						

State of Wis., Dept. of Natural Resources

Street or Route

City

Wausau

4080 North 20th Avenue

Well / Drillhole / Borehole Filling & Sealing Report

dnr.wi.gov Form 3300-005 (R 4/2015) Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information. Route to DNR Bureau: Remediation/Redevelopment **Drinking Water** Watershed/Wastewater Verification Only of Fill and Seal Other: Waste Management 2. Facility / Owner Information 1. Well Location Information WI Unique Well # of Hicap# Facility Name County Removed Well **USH 45 & STH 76 ROW** GP1 Waupaca Facility ID (FID or PWS) Format Code Method Code Latitude / Longitude (see instructions) 02-69-583401 GPS008 DD N License/Permit/Monitoring # **SCR002** DDM W OTH001 Original Well Owner Township 1/4/1/4 Section Range E SW SE WI DOT 24 24 14 or Gov't Lot # W Present Well Owner Well Street Address WI DOT STH 76 East of USH 45 Intersection Mailing Address of Present Owner Well ZIP Code Well City, Village or Town 54922 Town of Bear Creek ZIP Code State City of Present Owner Lot# Subdivision Name 4. Pump, Liner, Screen, Casing & Sealing Material WI Unique Well # of Replacement Well Reason for Removal from Service Yes N/A Pump and piping removed? Sampling Complete Yes No Liner(s) removed? 3. Filled & Sealed Well / Drillhole / Borehole Information Yes No N/A Liner(s) perforated? Original Construction Date (mm/dd/yyyy) Monitoring Well Screen removed? Yes No N/A 6/27/19 No N/A Yes Casing left in place? Water Well If a Well Construction Report is available, Yes No Was casing cut off below surface? Borehole / Drillhole please attach. Did sealing material rise to surface? Yes Yes No N/A Construction Type: Yes N/A Did material settle after 24 hours? Driven (Sandpoint) Dug Drilled N/A If yes, was hole retopped? Yes Other (specify): Direct Push - Geoprobe If bentonite chips were used, were they hydrated No N/A Yes Formation Type: with water from a known safe source? Required Method of Placing Sealing Material ■ Unconsolidated Formation Bedrock Conductor Pipe-Pumped Conductor Pipe-Gravity Casing Diameter (in.) Total Well Depth From Ground Surface (ft.) Screened & Poured Other (Explain): (Bentonite Chips) Sealing Materials Lower Drillhole Diameter (in.) Casing Depth (ft.) Concrete Neat Cement Grout Bentonite Chips Sand-Cement (Concrete) Grout Yes No Unknown Was well annular space grouted? For Monitoring Wells and Monitoring Well Boreholes Only: Depth to Water (feet) Bentonite - Cement Grout If yes, to what depth (feet)? Bentonite Chips Not Encountered Bentonite - Sand Slurry Granular Bentonite No. Yards, Sacks Sealant or Mix Ratio or To (ft.) 5. Material Used to Fill Well / Drillhole From (ft.) Mud Weight Volume (circle one) 1/4 bag Surface 6 3/8" Holeplug Bentonite 6. Comments **DNR Use Only** 7. Supervision of Work Date of Filling & Sealing or Verification Date Received Noted By Name of Person or Firm Doing Filling & Sealing License # Keith - Geiss Soil & Samples c/o REI (mm/dd/yyyy) 6/27/19

Telephone Number

ZIP Code

54401

State

WI

(715)675-9784

Signature of Person Doing Work

Con Ruc

Comments

Date Signed

State of Wis., Dept. of Natural Resources

Street or Route

City

Wausau

4080 North 20th Avenue

Well / Drillhole / Borehole Filling & Sealing Report

dnr.wi.gov Form 3300-005 (R 4/2015) Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information. Route to DNR Bureau: Remediation/Redevelopment **Drinking Water** Watershed/Wastewater Verification Only of Fill and Seal Waste Management Other: 2. Facility / Owner Information 1. Well Location Information WI Unique Well # of Hicap# Facility Name County Removed Well **USH 45 & STH 76 ROW** Waupaca GP2 Facility ID (FID or PWS) Latitude / Longitude (see instructions) Format Code Method Code 02-69-583401 **GPS008** DD N License/Permit/Monitoring # SCR002 DDM W OTH001 Original Well Owner Section Township 1/4/1/4 1/4 Range E SW SE WI DOT 24 14 or Gov't Lot # 24 N Present Well Owner Well Street Address WI DOT STH 76 East of USH 45 Intersection Mailing Address of Present Owner Well ZIP Code Well City, Village or Town 54922 Town of Bear Creek State ZIP Code City of Present Owner Lot# Subdivision Name 4. Pump, Liner, Screen, Casing & Sealing Material Reason for Removal from Service WI Unique Well # of Replacement Well Yes Pump and piping removed? No Sampling Complete Yes No Liner(s) removed? 3. Filled & Sealed Well / Drillhole / Borehole Information Yes N/A Liner(s) perforated? Original Construction Date (mm/dd/yyyy) Monitoring Well Screen removed? Yes No N/A 6/27/19 N/A Casing left in place? No Water Well Yes If a Well Construction Report is available, No N/A Yes Borehole / Drillhole Was casing cut off below surface? please attach. No N/A Did sealing material rise to surface? Yes Construction Type: N/A Did material settle after 24 hours? Yes Dug Drilled Driven (Sandpoint) If yes, was hole retopped? Yes Other (specify): Direct Push - Geoprobe If bentonite chips were used, were they hydrated N/A Yes No Formation Type: with water from a known safe source? Required Method of Placing Sealing Material Unconsolidated Formation Bedrock Conductor Pipe-Pumped Conductor Pipe-Gravity Casing Diameter (in.) Total Well Depth From Ground Surface (ft.) Screened & Poured Other (Explain): (Bentonite Chips) Casing Depth (ft.) Sealing Materials Lower Drillhole Diameter (in.) Concrete Neat Cement Grout Sand-Cement (Concrete) Grout Bentonite Chips Unknown Was well annular space grouted? Yes No For Monitoring Wells and Monitoring Well Boreholes Only: Depth to Water (feet) Bentonite - Cement Grout If yes, to what depth (feet)? ■ Bentonite Chips Not Encountered Bentonite - Sand Slurry Granular Bentonite No. Yards, Sacks Sealant or Mix Ratio or 5. Material Used to Fill Well / Drillhole From (ft.) To (ft.) Mud Weight Volume (circle one) Surface 1/4 bag 8 3/8" Holeplug Bentonite 6. Comments **DNR Use Only** 7. Supervision of Work Date of Filling & Sealing or Verification Date Received Noted By Name of Person or Firm Doing Filling & Sealing License # Keith - Geiss Soil & Samples c/o REI 6/27/19 (mm/dd/yyyy)

Telephone Number

ZIP Code

54401

State

WI

(715)675-9784

Signature of Person Doing Work

Comments

Date Signed

State of Wis., Dept. of Natural Resources dnr.wi.gov

City

Wausau

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information. Route to DNR Bureau: Remediation/Redevelopment Watershed/Wastewater **Drinking Water** Verification Only of Fill and Seal Other: Waste Management 2. Facility / Owner Information 1. Well Location Information WI Unique Well # of Hicap# Facility Name County Removed Well **USH 45 & STH 76 ROW** GP3 Waupaca Facility ID (FID or PWS) Format Code Method Code Latitude / Longitude (see instructions) 02-69-583401 GPS008 DD N License/Permit/Monitoring # SCR002 DDM OTH001 W Original Well Owner Township Range 1/4/1/4 Section E SW SE WI DOT 14 24 24 or Gov't Lot # N Present Well Owner Well Street Address WI DOT STH 76 East of USH 45 Intersection Mailing Address of Present Owner Well City, Village or Town Well ZIP Code 54922 Town of Bear Creek State ZIP Code City of Present Owner Lot # Subdivision Name 4. Pump, Liner, Screen, Casing & Sealing Material Reason for Removal from Service WI Unique Well # of Replacement Well Yes No Pump and piping removed? Sampling Complete Liner(s) removed? 3. Filled & Sealed Well / Drillhole / Borehole Information No N/A Yes Liner(s) perforated? Original Construction Date (mm/dd/yyyy) Monitoring Well No N/A Yes Screen removed? 6/27/19 Yes No N/A Casing left in place? Water Well If a Well Construction Report is available, Yes No Was casing cut off below surface? Borehole / Drillhole please attach. Yes No N/A Did sealing material rise to surface? Construction Type: Yes ■ No N/A Did material settle after 24 hours? Dug Drilled Driven (Sandpoint) N/A If yes, was hole retopped? Yes Other (specify): Direct Push - Geoprobe If bentonite chips were used, were they hydrated Yes No N/A Formation Type: with water from a known safe source? Required Method of Placing Sealing Material Bedrock Unconsolidated Formation Conductor Pipe-Pumped Conductor Pipe-Gravity Total Well Depth From Ground Surface (ft.) Casing Diameter (in.) Screened & Poured Other (Explain): (Bentonite Chips) Casing Depth (ft.) Sealing Materials Lower Drillhole Diameter (in.) Concrete Neat Cement Grout Sand-Cement (Concrete) Grout Bentonite Chips Yes No Unknown Was well annular space grouted? For Monitoring Wells and Monitoring Well Boreholes Only: Bentonite - Cement Grout Depth to Water (feet) If yes, to what depth (feet)? Bentonite Chips 6 Bentonite - Sand Slurry Granular Bentonite No. Yards, Sacks Sealant or Mix Ratio or From (ft.) To (ft.) 5. Material Used to Fill Well / Drillhole Mud Weight Volume (circle one) Surface 1/4 bag 8 3/8" Holeplug Bentonite 6. Comments **DNR Use Only** 7. Supervision of Work Date of Filling & Sealing or Verification Date Received Noted By Name of Person or Firm Doing Filling & Sealing License # Keith - Geiss Soil & Samples c/o REI (mm/dd/yyyy) 6/27/19 Telephone Number Comments Street or Route (715)675-9784 4080 North 20th Avenue

Signature of Person Doing Work

nac

ZIP Code

54401

State

WI

Date Signed

State of Wis., Dept. of Natural Resources dnr.wi.gov

City

Wausau

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Page 1 of 2

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information Route to DNR Bureau: Remediation/Redevelopment Watershed/Wastewater **Drinking Water** Verification Only of Fill and Seal Other: Waste Management 2. Facility / Owner Information 1. Well Location Information WI Unique Well # of Hicap# Facility Name County Removed Well **USH 45 & STH 76 ROW** GP4 Waupaca Facility ID (FID or PWS) Format Code Method Code Latitude / Longitude (see instructions) 02-69-583401 GPS008 DD N License/Permit/Monitoring # SCR002 DDM W OTH001 Original Well Owner Township 1/4 Section Range E 1/4/1/4 SW SE WI DOT 24 24 14 W or Gov't Lot # N Present Well Owner Well Street Address WI DOT STH 76 East of USH 45 Intersection Mailing Address of Present Owner Well ZIP Code Well City, Village or Town 54922 Town of Bear Creek State ZIP Code City of Present Owner Lot# Subdivision Name 4. Pump, Liner, Screen, Casing & Sealing Material WI Unique Well # of Replacement Well Reason for Removal from Service Yes No Pump and piping removed? Sampling Complete Yes Liner(s) removed? 3. Filled & Sealed Well / Drillhole / Borehole Information Yes No N/A Liner(s) perforated? Original Construction Date (mm/dd/yyyy) Monitoring Well N/A Screen removed? Yes No 6/27/19 ■ No N/A Yes Water Well Casing left in place? If a Well Construction Report is available, Yes No N/A Was casing cut off below surface? Borehole / Drillhole please attach. Did sealing material rise to surface? Yes Yes No N/A Construction Type: Yes ■ No N/A Did material settle after 24 hours? Driven (Sandpoint) Dug Drilled N/A If yes, was hole retopped? Yes No Other (specify): Direct Push - Geoprobe If bentonite chips were used, were they hydrated No N/A Yes Formation Type: with water from a known safe source? Required Method of Placing Sealing Material Bedrock Unconsolidated Formation Conductor Pipe-Pumped Conductor Pipe-Gravity Casing Diameter (in.) Total Well Depth From Ground Surface (ft.) Screened & Poured Other (Explain): (Bentonite Chips) Casing Depth (ft.) Sealing Materials Lower Drillhole Diameter (in.) Concrete Neat Cement Grout 3 ■ Bentonite Chips Sand-Cement (Concrete) Grout Yes No. Unknown Was well annular space grouted? For Monitoring Wells and Monitoring Well Boreholes Only: Bentonite - Cement Grout Depth to Water (feet) Bentonite Chips If yes, to what depth (feet)? 6 Bentonite - Sand Slurry Granular Bentonite No. Yards, Sacks Sealant or Mix Ratio or To (ft.) 5. Material Used to Fill Well / Drillhole From (ft.) Mud Weight Volume (circle one) 1/4 bag Surface 8 3/8" Holeplug Bentonite 6. Comments **DNR Use Only** 7. Supervision of Work Date of Filling & Sealing or Verification Date Received Noted By Name of Person or Firm Doing Filling & Sealing License # Keith - Geiss Soil & Samples c/o REI (mm/dd/yyyy) 6/27/19 Telephone Number Comments Street or Route (715)675-9784 4080 North 20th Avenue

Signature of Person Doing Work

ZIP Code

54401

State

WI

Date Signed

ATTACHMENT D

METHODS AND PROCEDURES



METHODS AND PROCEDURES

FOR

GEOPROBE SOIL SAMPLING

The Geoprobe unit hydraulically advances threaded, two-inch diameter, four-foot long, steel rod sections into the subsurface. A four-foot sampler, consisting of a drive shoe, a steel tube with a clean acetate liner, and a drive-head retractable piston, is attached to the leading Geoprobe rod. The sampler is driven down to the top of the interval to be sampled. The stop-pin is removed to release the drive head piston, which retracts as the sampler is advanced. When the sampler has been advanced four feet, the rods are retracted from the hole and the soil in the acetate liner is recovered. The acetate liner is split open and the soil is visually and manually classified by the field geologist/technician in accordance with ASTM:D2488-84. Logs of the borings are filled out indicating the depth and identification of the various strata, water level information, and pertinent information regarding the method of maintaining and advancing the borings.

Immediately after identification, the soil is quickly divided into two portions. One portion is prepared for potential laboratory analysis. The other portion is placed into a clean one-quart Ziploc bag for field screening. See the section "Soil Headspace Analysis" for field screening procedures.

HEADSPACE ANALYSIS

The soils were screened with a Mini-RAE photoionization detector (PID) equipped with an 10.6 eV lamp. The detector was calibrated in instrument units for Total Organic Vapors using an isobutylene standard. The soil sample, sealed in a Ziploc bag, was shaken vigorously to promote volatilization of the contaminant into the headspace of the bag. The sample was allowed to rest for at least ten minutes and then shaken again before screening. When ambient temperatures were below 60 degrees F, soil samples were allowed to warm for a minimum of 10 minutes in a heated environment prior to headspace development. The Ziploc bag was punctured with the PID probe and the resulting meter reading was recorded.

SAMPLING AND CHAIN OF CUSTODY

Soil samples for laboratory analysis were collected into laboratory prepared vials. Each vial was labeled and placed directly into a cooler pending delivery to the laboratory. Latex gloves were worn during all sample collection procedures.

An entry on a Chain of Custody log was completed as each sample was collected. The Chain of Custody included the following information: project name, work order number, shipped by, shipped to, sampling point, location, field ID number, date and time taken, sample type, number of containers, analysis required, sampler (s) signature (s), etc. As few people as possible handled the samples. The Chain of Custody log was sent to the laboratory with each cooler of samples.

DECONTAMINATION

Sampling equipment was decontaminated prior to sampling. Steel rod sections were washed after every sample collected.

METHODS AND PROCEDURES

FOR

GEOPROBE WATER SAMPLING

GROUNDWATER PROFILER (IF SOIL SAMPLES ARE NOT COLLECTED)

The Geoprobe rods are connected to a covered stainless steel, 2-foot screen and driven to the appropriate depth. Internal rods are inserted in the hollow rods, and the cover is unscrewed and released, exposing the screen. Following sample collection, the rods are withdrawn, and the borehole is properly abandoned.

TEMPORARY CASING AND SCREEN INSTALLATION (FOLLOWING SOIL SAMPLING)

One (1) inch PVC casing and screen is placed in the open geoprobe borehole to the appropriate depth. The annular space seal between the screen and the borehole is filled with #30 Red Flint filter pack sand. Following sample collection, the casing and screen is withdrawn, and the borehole is properly abandoned.

PURGING, SAMPLING AND CHAIN OF CUSTODY

Disposable ¼" polyethylene tubing is inserted to the screen and connected to a peristaltic pump. The water is pumped slowly until sediment free. Purge water is containerized for proper disposal. Water samples are collected directly from the tubing. If the well is purged dry, it is allowed to recharge and then sampled. Samples are labeled and placed in a cooler to be preserved at approximately 4 degrees C. Samples are accompanied by Chain of Custody records.

Upon completion of a sample, a chain of custody log is initiated. The chain of custody record includes the following information: project name, work order number, shipped by, shipped to, sampling point, location, field ID number, date and time taken, sample type, number of containers, analysis required, sampler (s) signature (s), etc. As few people as possible handle the samples.

DECONTAMINATION

Sampling equipment is decontaminated prior to sampling. The Geoprobe rods and screen are washed between holes using distilled water and Alconox cleaning detergent. New, disposable

tubing is used at each sample location. Latex gloves are worn during all sample collection procedures and are changed between the collection of each of the water samples from each monitoring well.

ATTACHMENT E

LABORATORY ANALYTICAL REPORT







July 16, 2019

Andy Delforge REI 4080 North 20th Avenue Wausau, WI 54401

RE: Project: 8665 WDNR-BEAR CREEK

Pace Project No.: 40190437

Dear Andy Delforge:

Enclosed are the analytical results for sample(s) received by the laboratory on June 29, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

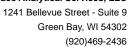
If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Brian Basten brian.basten@pacelabs.com (920)469-2436 Project Manager

Enclosures







CERTIFICATIONS

Project: 8665 WDNR-BEAR CREEK

Pace Project No.: 40190437

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302 Florida/NELAP Certification #: E87948 Illinois Certification #: 200050 Kentucky UST Certification #: 82 Louisiana Certification #: 04168 Minnesota Certification #: 055-999-334 New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001 Texas Certification #: T104704529-14-1 Wisconsin Certification #: 405132750 Wisconsin DATCP Certification #: 105-444 USDA Soil Permit #: P330-16-00157 Federal Fish & Wildlife Permit #: LE51774A-0

(920)469-2436



SAMPLE SUMMARY

Project: 8665 WDNR-BEAR CREEK

Pace Project No.: 40190437

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40190437001	GP1, 4-6'	Solid	06/27/19 09:00	06/29/19 09:00
40190437002	GP2, 2-4'	Solid	06/27/19 09:03	06/29/19 09:00
40190437003	GP3, 4-6'	Solid	06/27/19 09:21	06/29/19 09:00
40190437004	GP4, 4-6'	Solid	06/27/19 09:51	06/29/19 09:00
40190437005	GP3	Water	06/27/19 09:30	06/29/19 09:00
40190437006	MEOH BLANK	Solid	06/27/19 00:00	06/29/19 09:00

REPORT OF LABORATORY ANALYSIS



SAMPLE ANALYTE COUNT

Project: 8665 WDNR-BEAR CREEK

Pace Project No.: 40190437

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40190437001	GP1, 4-6'	EPA 8260	MDS	12	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
40190437002	GP2, 2-4'	EPA 8260	MDS	12	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
40190437003	GP3, 4-6'	EPA 8260	MDS	12	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
40190437004	GP4, 4-6'	EPA 8260	MDS	12	PASI-G
		ASTM D2974-87	SKW	1	PASI-G
40190437005	GP3	EPA 8260	SMT	12	PASI-G
40190437006	MEOH BLANK	EPA 8260	MDS	12	PASI-G

REPORT OF LABORATORY ANALYSIS



Project: 8665 WDNR-BEAR CREEK

Pace Project No.: 40190437

Date: 07/16/2019 08:13 AM

Sample: GP1, 4-6' Lab ID: 40190437001 Collected: 06/27/19 09:00 Received: 06/29/19 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Short List	Analytical	Method: EP	A 8260 Prepai	ration Metho	od: EP/	A 5035/5030B			
Benzene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 10:27	71-43-2	W
Ethylbenzene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 10:27	100-41-4	W
Methyl-tert-butyl ether	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 10:27	1634-04-4	W
Naphthalene	<40.0	ug/kg	250	40.0	1	07/05/19 08:45	07/08/19 10:27	91-20-3	W
Toluene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 10:27	108-88-3	W
1,2,4-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 10:27	95-63-6	W
1,3,5-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 10:27	108-67-8	W
m&p-Xylene	<50.0	ug/kg	120	50.0	1	07/05/19 08:45	07/08/19 10:27	179601-23-1	W
o-Xylene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 10:27	95-47-6	W
Surrogates									
Dibromofluoromethane (S)	103	%	57-146		1	07/05/19 08:45	07/08/19 10:27	1868-53-7	
4-Bromofluorobenzene (S)	100	%	54-126		1	07/05/19 08:45	07/08/19 10:27	460-00-4	
Toluene-d8 (S)	95	%	64-134		1	07/05/19 08:45	07/08/19 10:27	2037-26-5	
Percent Moisture	Analytical	Method: AS	TM D2974-87						
Percent Moisture	27.2	%	0.10	0.10	1		07/15/19 16:31		



Project: 8665 WDNR-BEAR CREEK

Pace Project No.: 40190437

Date: 07/16/2019 08:13 AM

Sample: GP2, 2-4' Lab ID: 40190437002 Collected: 06/27/19 09:03 Received: 06/29/19 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Short List	Analytical	Method: EPA	A 8260 Prepar	ation Metho	od: EP	A 5035/5030B			
Benzene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 10:50	71-43-2	W
Ethylbenzene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 10:50	100-41-4	W
Methyl-tert-butyl ether	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 10:50	1634-04-4	W
Naphthalene	<40.0	ug/kg	250	40.0	1	07/05/19 08:45	07/08/19 10:50	91-20-3	W
Toluene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 10:50	108-88-3	W
1,2,4-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 10:50	95-63-6	W
1,3,5-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 10:50	108-67-8	W
m&p-Xylene	<50.0	ug/kg	120	50.0	1	07/05/19 08:45	07/08/19 10:50	179601-23-1	W
o-Xylene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 10:50	95-47-6	W
Surrogates									
Dibromofluoromethane (S)	103	%	57-146		1	07/05/19 08:45	07/08/19 10:50	1868-53-7	
4-Bromofluorobenzene (S)	98	%	54-126		1	07/05/19 08:45	07/08/19 10:50	460-00-4	
Toluene-d8 (S)	96	%	64-134		1	07/05/19 08:45	07/08/19 10:50	2037-26-5	
Percent Moisture	Analytical	Method: AS	ΓM D2974-87						
Percent Moisture	18.5	%	0.10	0.10	1		07/15/19 16:31		



Project: 8665 WDNR-BEAR CREEK

Pace Project No.: 40190437

Date: 07/16/2019 08:13 AM

Sample: GP3, 4-6' Lab ID: 40190437003 Collected: 06/27/19 09:21 Received: 06/29/19 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Short List	Analytical	Method: EP/	A 8260 Prepar	ation Meth	od: EP	A 5035/5030B			
Benzene	7110	ug/kg	277	116	2.5	07/05/19 08:45	07/08/19 14:22	71-43-2	
Ethylbenzene	14400	ug/kg	277	116	2.5	07/05/19 08:45	07/08/19 14:22	100-41-4	
Methyl-tert-butyl ether	<62.5	ug/kg	150	62.5	2.5	07/05/19 08:45	07/08/19 14:22	1634-04-4	W
Naphthalene	2230	ug/kg	1160	185	2.5	07/05/19 08:45	07/08/19 14:22	91-20-3	
Toluene	1380	ug/kg	277	116	2.5	07/05/19 08:45	07/08/19 14:22	108-88-3	
1,2,4-Trimethylbenzene	49000	ug/kg	555	231	5	07/05/19 08:45	07/08/19 15:32	95-63-6	
1,3,5-Trimethylbenzene	11800	ug/kg	277	116	2.5	07/05/19 08:45	07/08/19 14:22	108-67-8	
m&p-Xylene	31200	ug/kg	555	231	2.5	07/05/19 08:45	07/08/19 14:22	179601-23-1	
o-Xylene	3370	ug/kg	277	116	2.5	07/05/19 08:45	07/08/19 14:22	95-47-6	
Surrogates									
Dibromofluoromethane (S)	100	%	57-146		2.5	07/05/19 08:45	07/08/19 14:22	1868-53-7	
4-Bromofluorobenzene (S)	107	%	54-126		2.5	07/05/19 08:45	07/08/19 14:22	460-00-4	
Toluene-d8 (S)	90	%	64-134		2.5	07/05/19 08:45	07/08/19 14:22	2037-26-5	
Percent Moisture	Analytical	Method: AS	TM D2974-87						
Percent Moisture	45.9	%	0.10	0.10	1		07/15/19 16:31		



Project: 8665 WDNR-BEAR CREEK

Pace Project No.: 40190437

Date: 07/16/2019 08:13 AM

Sample: GP4, 4-6' Lab ID: 40190437004 Collected: 06/27/19 09:51 Received: 06/29/19 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Short List	Analytical	Method: EPA	8260 Prepar	ation Metho	od: EP	A 5035/5030B			
Benzene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 13:59	71-43-2	W
Ethylbenzene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 13:59	100-41-4	W
Methyl-tert-butyl ether	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 13:59	1634-04-4	W
Naphthalene	<40.0	ug/kg	250	40.0	1	07/05/19 08:45	07/08/19 13:59	91-20-3	W
Toluene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 13:59	108-88-3	W
1,2,4-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 13:59	95-63-6	W
1,3,5-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 13:59	108-67-8	W
m&p-Xylene	<50.0	ug/kg	120	50.0	1	07/05/19 08:45	07/08/19 13:59	179601-23-1	W
o-Xylene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 13:59	95-47-6	W
Surrogates									
Dibromofluoromethane (S)	109	%	57-146		1	07/05/19 08:45	07/08/19 13:59	1868-53-7	
4-Bromofluorobenzene (S)	108	%	54-126		1	07/05/19 08:45	07/08/19 13:59	460-00-4	
Toluene-d8 (S)	100	%	64-134		1	07/05/19 08:45	07/08/19 13:59	2037-26-5	
Percent Moisture	Analytical	Method: AST	TM D2974-87						
Percent Moisture	14.5	%	0.10	0.10	1		07/15/19 16:32		



ANALYTICAL RESULTS

Project: 8665 WDNR-BEAR CREEK

Pace Project No.: 40190437

Date: 07/16/2019 08:13 AM

Sample: GP3 Lab ID: 40190437005 Collected: 06/27/19 09:30 Received: 06/29/19 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST	Analytical	Method: EPA	A 8260						
Benzene	215	ug/L	2.0	0.49	2		07/03/19 10:18	71-43-2	
Ethylbenzene	52.6	ug/L	2.0	0.44	2		07/03/19 10:18	100-41-4	
Methyl-tert-butyl ether	<2.5	ug/L	8.3	2.5	2		07/03/19 10:18	1634-04-4	
Naphthalene	6.2J	ug/L	10.0	2.4	2		07/03/19 10:18	91-20-3	
Toluene	10.3	ug/L	10.0	0.34	2		07/03/19 10:18	108-88-3	
1,2,4-Trimethylbenzene	70.8	ug/L	5.6	1.7	2		07/03/19 10:18	95-63-6	
1,3,5-Trimethylbenzene	11.9	ug/L	5.8	1.7	2		07/03/19 10:18	108-67-8	
m&p-Xylene	138	ug/L	4.0	0.93	2		07/03/19 10:18	179601-23-1	
o-Xylene	10.1	ug/L	2.0	0.52	2		07/03/19 10:18	95-47-6	
Surrogates		•							
Dibromofluoromethane (S)	106	%	70-130		2		07/03/19 10:18	1868-53-7	
Toluene-d8 (S)	109	%	70-130		2		07/03/19 10:18	2037-26-5	
4-Bromofluorobenzene (S)	100	%	70-130		2		07/03/19 10:18	460-00-4	



ANALYTICAL RESULTS

Project: 8665 WDNR-BEAR CREEK

Pace Project No.: 40190437

Date: 07/16/2019 08:13 AM

Sample: MEOH BLANK Lab ID: 40190437006 Collected: 06/27/19 00:00 Received: 06/29/19 09:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Short List	Analytical	Method: EPA	A 8260 Prepar	ration Metho	od: EP	A 5035/5030B			
Benzene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 09:41	71-43-2	W
Ethylbenzene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 09:41	100-41-4	W
Methyl-tert-butyl ether	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 09:41	1634-04-4	W
Naphthalene	<40.0	ug/kg	250	40.0	1	07/05/19 08:45	07/08/19 09:41	91-20-3	W
Toluene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 09:41	108-88-3	W
1,2,4-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 09:41	95-63-6	W
1,3,5-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 09:41	108-67-8	W
m&p-Xylene	<50.0	ug/kg	120	50.0	1	07/05/19 08:45	07/08/19 09:41	179601-23-1	W
o-Xylene	<25.0	ug/kg	60.0	25.0	1	07/05/19 08:45	07/08/19 09:41	95-47-6	W
Surrogates									
Dibromofluoromethane (S)	98	%	57-146		1	07/05/19 08:45	07/08/19 09:41	1868-53-7	
4-Bromofluorobenzene (S)	105	%	54-126		1	07/05/19 08:45	07/08/19 09:41	460-00-4	
Toluene-d8 (S)	91	%	64-134		1	07/05/19 08:45	07/08/19 09:41	2037-26-5	



QUALITY CONTROL DATA

Project: 8665 WDNR-BEAR CREEK

Pace Project No.: 40190437

QC Batch: 326631 Analysis Method: EPA 8260

QC Batch Method: EPA 5035/5030B Analysis Description: 8260 MSV Med Level Short List

Associated Lab Samples: 40190437001, 40190437002, 40190437003, 40190437004, 40190437006

METHOD BLANK: 1896789 Matrix: Solid

Associated Lab Samples: 40190437001, 40190437002, 40190437003, 40190437004, 40190437006

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/kg	<12.2	50.0	07/05/19 09:32	
1,3,5-Trimethylbenzene	ug/kg	<14.5	50.0	07/05/19 09:32	
Benzene	ug/kg	<9.2	20.0	07/05/19 09:32	
Ethylbenzene	ug/kg	<12.4	50.0	07/05/19 09:32	
m&p-Xylene	ug/kg	<34.4	100	07/05/19 09:32	
Methyl-tert-butyl ether	ug/kg	<12.7	50.0	07/05/19 09:32	
Naphthalene	ug/kg	<40.0	250	07/05/19 09:32	
o-Xylene	ug/kg	<14.0	50.0	07/05/19 09:32	
Toluene	ug/kg	<11.2	50.0	07/05/19 09:32	
4-Bromofluorobenzene (S)	%	110	54-126	07/05/19 09:32	
Dibromofluoromethane (S)	%	117	57-146	07/05/19 09:32	
Toluene-d8 (S)	%	108	64-134	07/05/19 09:32	

LABORATORY CONTROL SAMPLE: 1896790

Date: 07/16/2019 08:13 AM

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Benzene	ug/kg	2500	2760	110	70-130	_
Ethylbenzene	ug/kg	2500	2530	101	82-122	
m&p-Xylene	ug/kg	5000	5010	100	70-130	
Methyl-tert-butyl ether	ug/kg	2500	3050	122	70-130	
o-Xylene	ug/kg	2500	2480	99	70-130	
Toluene	ug/kg	2500	2520	101	80-121	
4-Bromofluorobenzene (S)	%			117	54-126	
Dibromofluoromethane (S)	%			112	57-146	
Toluene-d8 (S)	%			105	64-134	

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: 8665 WDNR-BEAR CREEK

Pace Project No.: 40190437

Date: 07/16/2019 08:13 AM

QC Batch: 326276 Analysis Method: EPA 8260

QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER

Associated Lab Samples: 40190437005

METHOD BLANK: 1894705 Matrix: Water

Associated Lab Samples: 40190437005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Farameter				Allalyzeu	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	07/03/19 08:02	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	07/03/19 08:02	
Benzene	ug/L	<0.25	1.0	07/03/19 08:02	
Ethylbenzene	ug/L	<0.22	1.0	07/03/19 08:02	
m&p-Xylene	ug/L	< 0.47	2.0	07/03/19 08:02	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	07/03/19 08:02	
Naphthalene	ug/L	<1.2	5.0	07/03/19 08:02	
o-Xylene	ug/L	<0.26	1.0	07/03/19 08:02	
Toluene	ug/L	<0.17	5.0	07/03/19 08:02	
4-Bromofluorobenzene (S)	%	96	70-130	07/03/19 08:02	
Dibromofluoromethane (S)	%	109	70-130	07/03/19 08:02	
Toluene-d8 (S)	%	108	70-130	07/03/19 08:02	

LABORATORY CONTROL SAMPLE:	1894706					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Benzene	ug/L	50	53.9	108	70-130	
Ethylbenzene	ug/L	50	51.4	103	80-124	
m&p-Xylene	ug/L	100	101	101	70-130	
Methyl-tert-butyl ether	ug/L	50	46.3	93	54-137	
o-Xylene	ug/L	50	52.0	104	70-130	
Toluene	ug/L	50	51.3	103	80-126	
4-Bromofluorobenzene (S)	%			103	70-130	
Dibromofluoromethane (S)	%			106	70-130	
Toluene-d8 (S)	%			106	70-130	

MATRIX SPIKE & MATRIX SP	PIKE DUPLIC	CATE: 1895	812		1895813							
			MS	MSD								
	4	0190438024	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Benzene	ug/L	3.4	50	50	57.7	54.8	109	103	70-130	5	20	
Ethylbenzene	ug/L	1.1	50	50	51.5	52.3	101	103	80-125	2	20	
m&p-Xylene	ug/L	8.8	100	100	113	111	104	103	70-130	1	20	
Methyl-tert-butyl ether	ug/L	<1.2	50	50	47.8	45.5	94	90	51-145	5	20	
o-Xylene	ug/L	6.2	50	50	58.9	59.8	105	107	70-130	2	20	
Toluene	ug/L	9.7	50	50	61.3	62.2	103	105	80-131	1	20	
4-Bromofluorobenzene (S)	%						102	100	70-130			
Dibromofluoromethane (S)	%						108	104	70-130			

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: 8665 WDNR-BEAR CREEK

Pace Project No.: 40190437

Date: 07/16/2019 08:13 AM

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1895812 1895813

MSD

MS 40190438024 Spike Spike MS MSD MS MSD % Rec Max Limits Parameter Units Conc. Conc. Result Result % Rec % Rec RPD RPD Qual Result Toluene-d8 (S) % 106 109 70-130

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: 8665 WDNR-BEAR CREEK

Pace Project No.: 40190437

QC Batch: 327578 Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 40190437001, 40190437002, 40190437003, 40190437004

SAMPLE DUPLICATE: 1902158

Date: 07/16/2019 08:13 AM

40190437002 Dup Max Parameter Units Result Result **RPD** RPD Qualifiers 18.5 % Percent Moisture 19.1 4 10

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: 8665 WDNR-BEAR CREEK

Pace Project No.: 40190437

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, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

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.

TNI - The NELAC Institute.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

Date: 07/16/2019 08:13 AM

W Non-detect results are reported on a wet weight basis.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 8665 WDNR-BEAR CREEK

Pace Project No.: 40190437

Date: 07/16/2019 08:13 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40190437001	GP1, 4-6'	EPA 5035/5030B	326631	EPA 8260	326632
40190437002	GP2, 2-4'	EPA 5035/5030B	326631	EPA 8260	326632
40190437003	GP3, 4-6'	EPA 5035/5030B	326631	EPA 8260	326632
40190437004	GP4, 4-6'	EPA 5035/5030B	326631	EPA 8260	326632
40190437006	MEOH BLANK	EPA 5035/5030B	326631	EPA 8260	326632
40190437005	GP3	EPA 8260	326276		
40190437001	GP1, 4-6'	ASTM D2974-87	327578		
40190437002	GP2, 2-4'	ASTM D2974-87	327578		
40190437003	GP3, 4-6'	ASTM D2974-87	327578		
40190437004	GP4, 4-6'	ASTM D2974-87	327578		

CHAIN OF CUSTODY The part of	(Please Print Clearly)
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Mail To Contact: My Mail To Company: (K2 Threestack Company: (K2 Mail To Company: (K2 Mail To Company: (K2 Mail To Address: (K2 Mail To Company: (K2	
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Invoice To Contact: Mo Invoice To Contact: Mo Invoice To Company: Profit Profit	FILTERED? (YES/NO)
The company Activates Invoice To Address Invoice To Phone Invoice To Phone Invoice To Phone COMMENTS (Lab Use Only)	PRESERVATION (CODE)*
Invoice To Phone: CLIENT COMMENTS (Lab Use Only) Y Y Y Y N N N N N N N N N	
Invoice To Phone: CLIENT LAB COMMENTS Profit Part Part Profit	Regulatory Program:
CLIENT LAB COMMENTS Profit COMMENTS (Lab Use Only) Y Y Y Y A COMMENTS (Lab Use Only) COMMENTS (L	Matrix Codes A = Air W = Water B = Biots DW = Dinking Water
COMMENTS (Lab Use Only) The state of the st	C Charcoal GW = Ground Water C = Charcoal GW = Surface Water S = Soil SW = Surface Water SI = Sludge WP = Wipe
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Heceived By: A 100 A 2 A 200 Received By: Received By: Received By: Received By: Date/Time: Date/Time: Date/Time: Date/Time: Sample Receipt pH OK / Adjusted Cooler Custody Seal Present / Not Present Intact / Not Intact	
Date/Time: Oq UO Received By: 6/24/Q O A Receipt Temp = 3.0 Date/Time: Sample Receipt pH Date/Time: Date/Time: Cooler Custody Seal Date/Time: Date/Time: Date/Time: Cooler Custody Seal Present / Not Present Intact / Not Intact	Rush Turnaround Time Requested - Prelims Relinquished By (Rush TAT subject to approval/surcharge)
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Received By: Date/Time:	Relinquished By:
	Relinquished By:

Pace Analytical Services, LLC 9 1241 Bellevue Street, Suite 9 o Green Bay, WI 54302 0 Green Bay, MI 54302 0 0 Datc/

Sample Preservation Receipt Form

fold N45 Project #

Date/ Time:

Initial when

completed:

Jars

Vials

Plastic

Glass

* (mm2<) slaiv AOV General

9≤ Hq toA nZ+HOsV 12SO4 pH S2

CN

SPLC

TSAS

MPFU

MCER

1CEN

ACOD

MC9M

AC6H

 Λ C δ Π

DC₉T

DC₆V

BP3S

BP3N

BP3B

BP3U

BP2Z

BP2N

BPIU **BC3**N VC52

VC2N

VC10

YC42 **VCIH**

Rein

Pace

Lab#

004 005 900

002 003

001

600

010

011

012 013 014

007 800 015

016

017

018 019

020

Hafter adjusted

S Hq €ONF AAOH PH >12

2.5 / 5 / 10 2.5 / 5 / 10 2.5 / 5 / 10 2.5/5/10 2.5 / 5 / 10 2.5/5/10 2.5 / 5 / 10 2.5 / 5 / 10

Volume (mL)

Lab Std #ID of preservation (if pH adjusted):

All containers needing preservation have been checked and noted below. a Yes allo pM/A

Client Name:

Lab Lot# of pH paper:

2.5 / 5 / 10 2.5 / 5 / 10 2.5 / 5 / 10

2.5/5/10

2.5 / 5 / 10 2.5 / 5 / 10

2.5 / 5 / 10

2.5/5/10

2.5 / 5 / 10

2.5 / 5 / 10

2.5 / 5 / 10 2.5 / 5 / 10

> 4 oz amber jar unpres 4 oz plastic jar unpres 4 oz clear jar unpres

WGFU JGFU

WPFU

10 mL clear vial unpres

40 mL clear vial HCL

VG9H VG9M

VG9U DG9T

500 mL plastic NaOH, Znact

500 mL plastic HNO3

BP2N

liter plastic unpres

250 mL plastic unpres

BP3U BP2Z

AG4S 125 mL amber glass H2SO4

AG1H 1 liter amber glass HCL

AG1U I liter amber glass

AG4U 120 mL amber glass unpres AGSU 100 mL amber glass unpres

40 mL amber ascorbic

DG9A

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other.

40 mL amber Na Thio

40 mL clear vial MeOH

40 mL clear vial DI

VG9D

250 mL plastic HN03 250 mL plastic H2SO4

250 mL plastic NaOH

BP3B

BP3N BP3S

500 mL amber glass H2SO4

BG3U 250 mL clear glass unpres

F-GB-C-046-Rev.02 (29Mar2018) Sample Preservation Receipt Form

Headspace in VOA Vials (>6mm): OYes DW6 ON/A *If yes look in headspace column

120 mL plastic Na Thiosulfate

Page 1

ziploc bag ZPLC SP5T

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Pace Analytical

1241 Bellevue Street, Green Bay, WI 54302

Document Name: Sample Condition Upon Receipt (SCUR)

Document No.: F-GB-C-031-Rev.07

Document Revised: 25Apr2018

Issuing Authority: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Client Name: PE Courier: CS Logistics Fed Ex CS Client Pace Othe	•	WO#:4 	WO#: 40190437			
Tracking #: 2598746-1 Custody Seal on Cooler/Box Present: Custody Seal on Samples Present: Packing Material: Bubble Wrap Thermometer Used SR - 85		no	on ice, cooling process has begun			
Temp Blank Present: Uncorr: 3 · 0 // Temp should be above freezing to 6°C. Biota Samples may be received at ≤ 0°C.	Biological Tissue is Fro	zen: ☐ yes ☐ no	Person examining contents: Date: 19 Initials: 49			
Chain of Custody Present:	. □Yes □No □N/A 1.	-				
Chain of Custody Filled Out:	⊠Yes □No □N/A 2.					
Chain of Custody Relinquished:	∠Yes □No □N/A 3.					
Sampler Name & Signature on COC:	ØYes □No □N/A 4.					
Samples Arrived within Hold Time:	⊠Yes □No 5.					
- VOA Samples frozen upon receipt	□Yes □No Date/Time:					
Short Hold Time Analysis (<72hr):	□Yes ÆMo 6.					
Rush Turn Around Time Requested:	□Yes ☑No 7.					
Sufficient Volume: For Analysis: ☐ Yes ☐ No M Correct Containers Used:	8. S/MSD: _Yes					
-Pace Containers Used:	Yes □No □N/A					
-Pace IR Containers Used:	□Yes □No -□N/A					
Containers Intact:	☐Yes ☐No 10.	<u>rangang</u>				
Filtered volume received for Dissolved tests						
Sample Labels match COC: -Includes date/time/ID/Analysis Matr	(12.) → 12.	10 only	7/11/8			
Trip Blank Present:	Yes □No □N/A 13.					
Trip Blank Custody Seals Present	☐Yes ☐No ☐N/A					
Pace Trip Blank Lot # (if purchased):						
Client Notification/ Resolution: Person Contacted: Comments/ Resolution:	Date/Time:	If checked, see atta	ched form for additional comments			
Project Manager Review:	fx -	Date	: 2-1-19 Page Dofo 2			

ATTACHMENT F

DATCP REGISTRATION



Tank Search Public Access Number of matching records: 9 7/17/2019 1:18 PM										
Tank Type	Tank ID	Facility ID	Street Address	Tank Status	Tank Contents	Tank Size (Gal)	Facility Owner			
County: Waupaca County, FDID: 4419										
Underground Storage Tank	98321	426114	Rte 1	In Use	Fuel Oil	1,000	Robert E Dennison			
Underground Storage Tank	69858	433351	Rte 1	In Use	Leaded Gasoline	275	Dennisons Quality Oil Inc			
Underground Storage Tank	82672	433351	Rte 1	In Use	Diesel	500	Dennisons Quality Oil Inc			
Underground Storage Tank	102873	448078	Rte 1	In Use	Fuel Oil	1,500	David Dennison			
County: Waupaca County, FDID: 6807										
Underground Storage Tank	372006	<u>69364</u>	E7040 Dennison Rd	Closed/Removed	Leaded Gasoline	1,000	Russ Dennison			
County: Waupaca County, FDID: 6812										
Underground Storage Tank	373125	<u>119265</u>	302 S Shawano Ave	Closed/Removed	Unleaded Gasoline	5,000	Grace Dennison			
Underground Storage Tank	373126	<u>119265</u>	302 S Shawano Ave	Closed/Removed	Unleaded Gasoline	5,000	Grace Dennison			
Underground Storage Tank	373147	<u>119265</u>	302 S Shawano Ave	Closed/Removed	Waste/Used Motor Oil	500	Grace Dennison			
Underground Storage Tank	86176	<u>457164</u>	Box 41	In Use	Fuel Oil	500	Dennisons Quality Oil Inc			