TRUE NORTH CONSULTANTS

525 Junction Road, Suite 1900
Madison, WI 53717

P: 608 234 5092
F: 608 237 2453

mail@consulttruenorth.com

September 02, 2022 BRRTS # 02-14-287206

Ms. Mackenzie Reynolds
WDNR – SC Region
3911 Fish Hatchery Road
Fitchburg, WI 53711

RE: Groundwater Sampling Update
Former Frei Oil
207 Highway Street
Horicon, WI 53032
Project #T222-045

Dear Ms. Reynolds,

True North Consultants, Inc. (True North) has prepared this letter to provide you with the most recent groundwater sampling data from the site. This is the fourth groundwater sampling event conducted since the remedial excavation was performed at the site. This sampling was conducted to provide current water quality information since groundwater at the site has not been sampled since March 2020. Details of the groundwater sampling are discussed below.

On August 18, 2022 groundwater monitoring was conducted across the well network at the site. This work included water level measurement and groundwater sample collection at each of the four water-table monitoring wells. The groundwater samples collected from the wells were analyzed for petroleum-related volatile organic compounds and naphthalene (PVOC+napth). Previous sampling of the groundwater at the site has shown that polynuclear aromatic hydrocarbons (PAH) impacts to the groundwater quality at the site are limited. Assessment soil sampling showed that lead level in soil are below the BTV and groundwater pathway RCLs.

Groundwater level collected during the August 2022 monitoring event is consistent with historic information. Water level data shows that the water table at the site is present approximately 5 to 6 feet below grade. The groundwater flow at the site generally is easterly. In the water table aquifer near the source area the groundwater flow direction was N90^{o}E and the horizontal hydraulic gradient was 0.013 feet/feet. Water levels data collected at the site is summarized in **Table 1** and a map showing the water level contour data from August 2022 is included as **Figure 1**.

Analytical data from the groundwater samples shows that the petroleum-related contamination at the site generally is limited to the former location of the former bulk fuel storage tanks and remedial excavation area. Petroleum-related compounds were present at concentrations exceeding the NR140 groundwater quality standards in only one monitoring wells, MW-2R. The groundwater sample collected from MW-2R contained benzene (50.2 ug/l) above the Enforcement Standard (ES). Additionally, several other analytes were present in the groundwater sample collected from MW-2R but the concentrations detected were below the

NR140 Preventative Action Limit (PAL). No petroleum compounds were identified in the wells located near the former loading rack near the railroad (MW-1) or downgradient from the remediation excavation (MW-3 and MW4). Groundwater analytical data is summarized in **Table 2** and the lateral extent of the identified petroleum contamination in groundwater is shown on **Figure 2**.

Groundwater analytical data from the recent sampling event was compared to historic information to evaluate temporal trends in the groundwater quality. This comparison indicates that the concentrations of the petroleum related compounds in groundwater at the site generally are declining. Since the soil remediation was conducted in July 2019 no groundwater contamination exceeding the NR140 PALs has been present in groundwater at MW-1, MW-3, and MW-4. Groundwater analytical data from MW-2/MW-2R, which is located within the former fuel storage tank bed, show a declining trend in the concentration of the PVOCs. Initial sampling after the soil remediation was conducted showed that benzene, trimethylbenzenes, and naphthalene were present in the groundwater at MW-2R at concentrations exceeding the Enforcement Standard (ES). During sampling conducted in the fall 2019 and spring 2020 only benzene was present above the ES in the groundwater at MW-2R; benzene was present at a concentration of approximately 250 ug/l. During the most recent sampling event, the benzene concentration in the groundwater at MW-2R had dropped to approximately 50 ug/l. Generally, no significant correlation between the water table elevation and the contaminant concentrations were not noted in the dataset. A graph showing the contaminant trends over time at well MW-2/MW-2R is attached as **Figure 3**.

We believe that sufficient information has been collected at the site to achieve WDNR closure. The basis for this conclusion includes:

- A significant volume of soil contamination has been removed from the site. Samples of the soils along the excavation sidewalls showed that a small area of soil exceeding groundwater pathway RCLs remains along the southern wall of the remedial excavation. Petroleum-related contaminants were not detected in the groundwater at a monitoring well in that area (MW-3)
- The limits of the soil and groundwater contamination have been adequately determined.
- Groundwater contaminant concentrations appear to be stable and/or improving.
- Groundwater quality data from the downgradient water table monitoring wells (MW-3, and MW-4) indicate that contamination from the release exceeding the enforcement standards has not migrated beyond the source property to the parcel to the south and east (which also are owned by the RP).
- Vapor intrusion currently is not a concern at the site since no buildings are present within 60 feet of the existing PVOC contamination in soil and groundwater.

Closure of the site would require several ongoing obligations related to the residual contamination. These obligations would include proper handling of soil if excavation occurs in the future and additional assessment of the vapor intrusion potential if new buildings are constructed at the property. No ongoing obligation should be required for covers/barriers since the area of contamination is unpaved, and no shallow residual soil contamination remains that exceeds the direct contact hazard RCLs for industrial properties.

Site closure will also require notification of off-site properties for residual soil contamination. During the assessment work conducted for the WDOT in 2006/2007 contamination was identified within the Highway Street (STH 33) right-of-way. We do not believe that notification of contamination to the off-site property to the north (the WDOT railroad) should be required.

You can contact me at 608.220.4847 or mfryman@consulttruenorth.com with any questions. We look forward to hearing from you regarding the recommendation to close the BRRTS activity at the property.

Regards,
TRUE NORTH CONSULTANTS

Mark Fryman
Project Consultant

Enclosures
Tables (2)
Figures (3)
Attachment A - Analytical Report

TABLES

TABLE 1
SUMMARY OF WELL CONSTRUCTION AND GROUNDWATER LEVEL DATA
Frei Oil - 207 Highway Street
Horicon, WI

WELL CONSTRUCTION DETAILS

WELL	Date Installed	Top of Casing Elevation	Well Depth	Screen Length	Top of Screen Elevation	Base of Screen Elevation
MW-1	09/03/2015	880.74	15.82	10	874.92	864.92
MW-2	09/03/2015	881.61	14.75	10	876.86	866.86
MW-2R	07/18/2019	880.72	13.60	10	877.12	867.12
MW-3	09/03/2015	880.03	14.60	10	875.43	865.43
MW-4	09/03/2015	879.37	13.25	10	876.12	866.12

WATER LEVEL DATA

WELL	9/11/2015		01/28/16		08/10/16		11/29/16	
	Depth	Elevation	Depth	Elevation	Depth	Elevation	Depth	Elevation
MW-1	7.33	873.41	6.90	873.84	7.15	873.59	6.22	874.52
MW-2	6.93	874.68	6.55	875.06	6.64	874.97	6.22	875.39
MW-2R	m	m	m	m	m	m	m	m
MW-3	5.60	874.43	5.37	874.66	5.56	874.47	5.09	874.94
MW-4	5.88	873.49	5.53	873.84	5.73	873.64	5.10	874.27
Hydraulic Gradient	0.0144 ft/ft N78^{0}E		0.0138 ft/ft N78^{0}E		0.0139 ft/ft N78^{0}E		0.0094 ft/ft S86^{0}E	
WELL	07/22/19		09/26/19		03/03/2020		08/18/2022	
	Depth	Elevation	Depth	Elevation	Depth	Elevation	Depth	Elevation
MW-1	6.41	874.33	5.68	875.06	6.39	874.35	6.94	873.80
MW-2	abd	abd	abd	abd	abd	abd	abd	abd
MW-2R	5.58	875.14	5.39	875.33	5.84	874.88	5.28	874.75
MW-3	5.01	875.02	4.83	875.20	5.16	874.87	5.60	873.77
MW-4	5.11	874.26	4.93	874.44	5.22	874.15	5.95	874.77
Hydraulic Gradient	0.0111 ft/ft S85 ^{0}E		0.0148 ft/ft S86^{0}E		0.0093 ft/ft S85^{0}E		0.0130 ft/ft N90^{0}E	

- Depth and Length values are listed in feet
- Elevation data listed in feet above mean sea level (NAVD 1929)
- ni = not installed yet
- Well MW-2 abandoned in July 2019 during remedial excavation
- Hydraulic gradient information from bulk fuel storage area

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TABLE 2
SUMMARY OF POST-REMEDIAL GROUNDWATER ANALYTICAL DATA
FREI OIL
207 Highway Street - Horicon, WI

WELL	Date	Benzene	1,2 Dichloroethane	Ethylbenzene	Methyl-tert-butyl ether	Toluene	1,3,5 Trimethylbenzene	1,2,4 Trimethylbenzene	Total Trimethylbenzenes	Xylenes, -m, -p	Xylene, -o	Total Xylenes	Naphthalene
MW-1	07/22/19	<0.25	na	<0.22	<1.2	<0.17	<0.87	<0.84	<1.71	<0.47	<0.26	<0.73	<1.2
	09/26/19	<0.25	na	<0.22	<1.2	<0.17	<0.87	<0.84	<1.71	<0.47	<0.26	<0.73	<1.2
	03/03/20	<0.25	na	<0.32	<1.2	<0.27	<0.87	<0.84	<1.71	<0.47	<0.26	<0.73	<1.2
	08/18/22	<0.30	na	<0.33	<1.1	<0.29	<0.36	<0.45	<0.81	na	na	<1.0	<1.1
MW-2R	07/22/19	**461**	na	581	<12.5	9.2 J	117	698	**815**	866	12.8	878.8	**107**
	09/26/19	**250**	na	212	<3.1	2.8 J	55.4	271	326.4	240	3.4	243.4	74.7
	03/03/20	**258**	na	249	<3.1	1.9 J	14.3	170	184.3	171	1.6 J	172.6	54.3
	08/18/22	**50.2**	na	18.6	<1.1	0.55 J	1.2	15.4	16.6	na	na	10.8	3.8 J
MW-3	07/22/19	<0.25	na	<0.22	<1.2	<0.17	<0.87	<0.84	<1.71	<0.47	<0.26	<0.73	<1.2
	09/26/19	<0.25	na	<0.22	<1.2	<0.17	<0.87	<0.84	<1.71	<0.47	<0.26	<0.73	<1.2
	03/03/20	0.29 J	na	<0.32	<1.2	<0.27	<0.87	<0.84	<1.71	<0.47	<0.26	<0.73	<1.2
	08/18/22	<0.30	na	<0.33	<1.1	<0.29	<0.36	<0.45	<0.81	na	na	<1.0	<1.1
MW-4	07/22/19	<0.25	na	<0.22	<1.2	<0.17	<0.87	<0.84	<1.71	<0.47	<0.26	<0.73	<1.2
	09/26/19	<0.25	na	<0.22	<1.2	<0.17	<0.87	<0.84	<1.71	<0.47	<0.26	<0.73	<1.2
	03/03/20	<0.25	na	<0.32	<1.2	<0.27	<0.87	<0.84	<1.71	<0.47	<0.26	<0.73	<1.2
	08/18/22	<0.30	na	<0.33	<1.1	<0.29	<0.36	<0.45	<0.81	na	na	<1.0	<1.1
NR140 ES		5	5	700	60	800	ns	ns	480	ns	ns	2000	100
NR140 PAL		0.5	0.5	140	12	160	ns	ns	96	ns	ns	400	10

- All data is listed in ug/l
- na = not anlayzed
- ns = no standard established
- J = detected below limit of quantitation
- NR140 ES = Enforcement Standard (exceedances bold)
- NR140 PAL = Preventative Action Limit (exceedances underlined)

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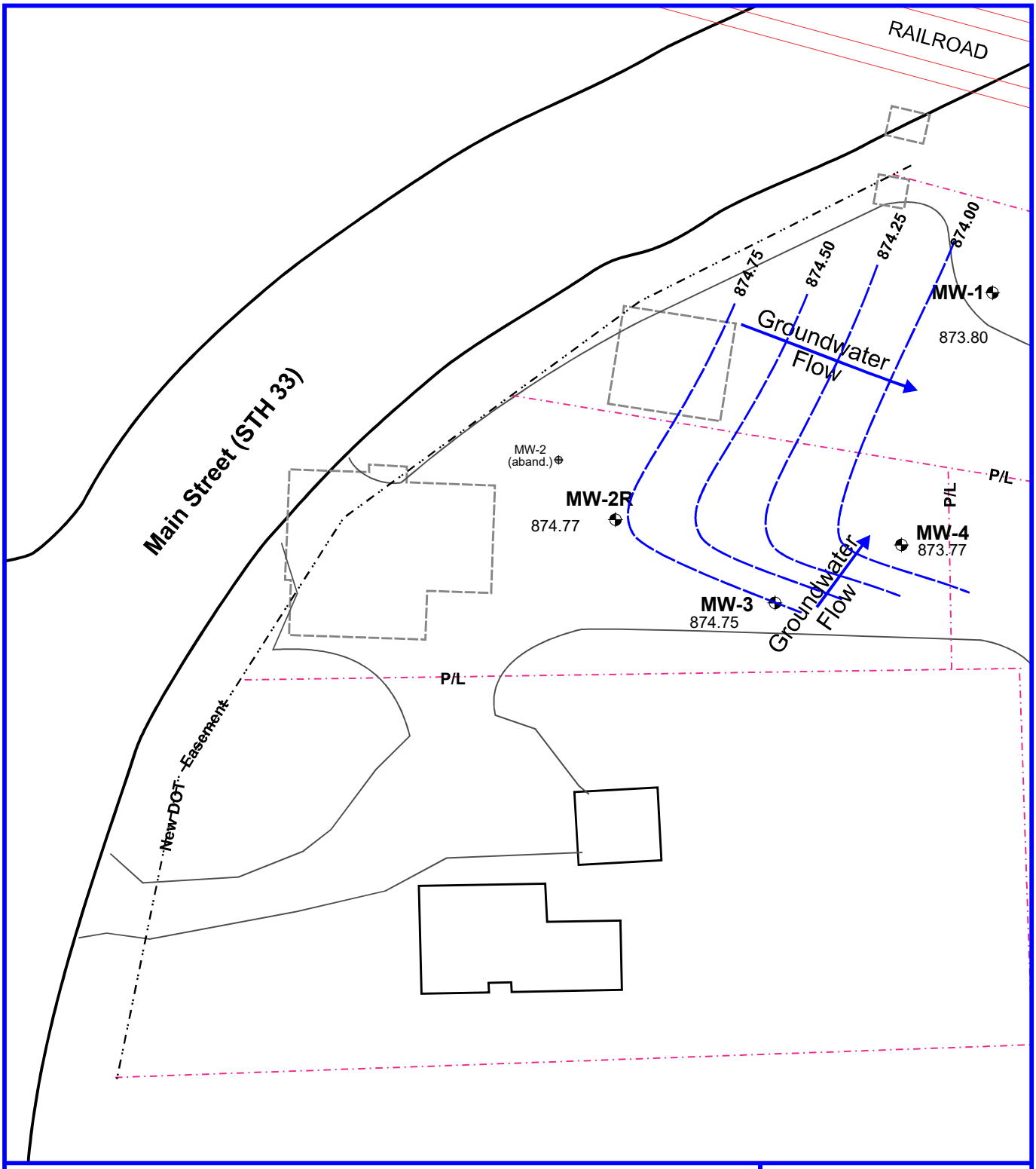
FIGURES



MW-1 - Monitoring Well

0 40'

1 INCH = 40 FEET
SCALE IS APPROXIMATE

N

FIGURE 1

GROUNDWATER FLOW (Aug. 2022)

525 JUNCTION ROAD
SUITE 1900
MADISON, WI

TRUENORTH CONSULTANTS

CLIENT

MARK FRANZ
421 BARSTOW STREET
HORICON, WI 53032

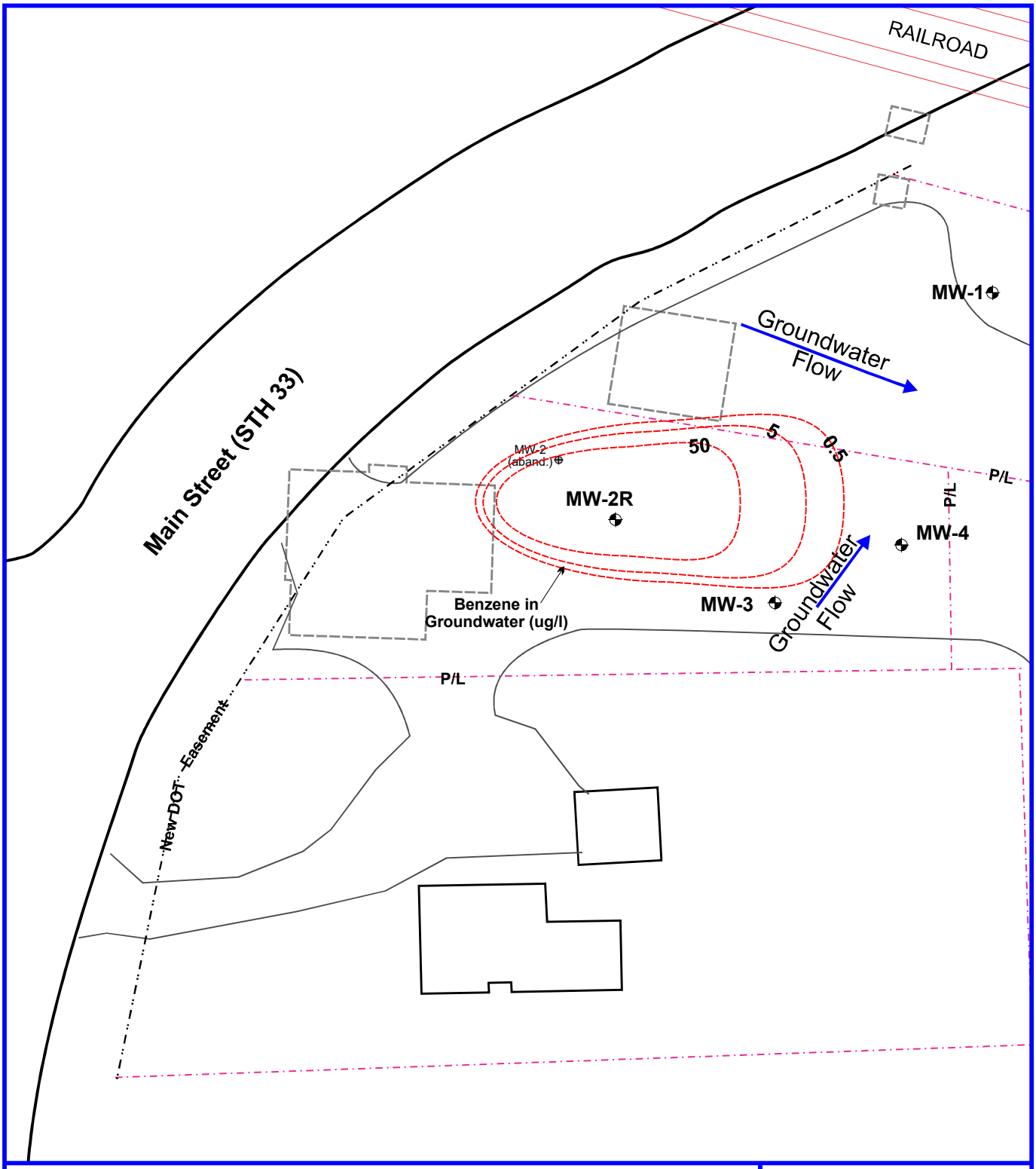
SITE LOCATION

FREI OIL PROPERTY (FORMER)
207 HIGHWAY STREET
HORICON, WI 53032

PROJECT NUMBER T222-045

DATE 08/29/2022

SOURCE DODGE COUNTY PUBLIC MAPPING
FIELD DATA



MW-1 - Monitoring Well

0 40'

1 INCH = 40 FEET
SCALE IS APPROXIMATE

N

FIGURE 2

GROUNDWATER ISOCONCENTRATION (Aug. 2022)

525 JUNCTION ROAD
SUITE 1900
MADISON, WI

TRUENORTH CONSULTANTS

CLIENT

MARK FRANZ
421 BARSTOW STREET
HORICON, WI 53032

SITE LOCATION

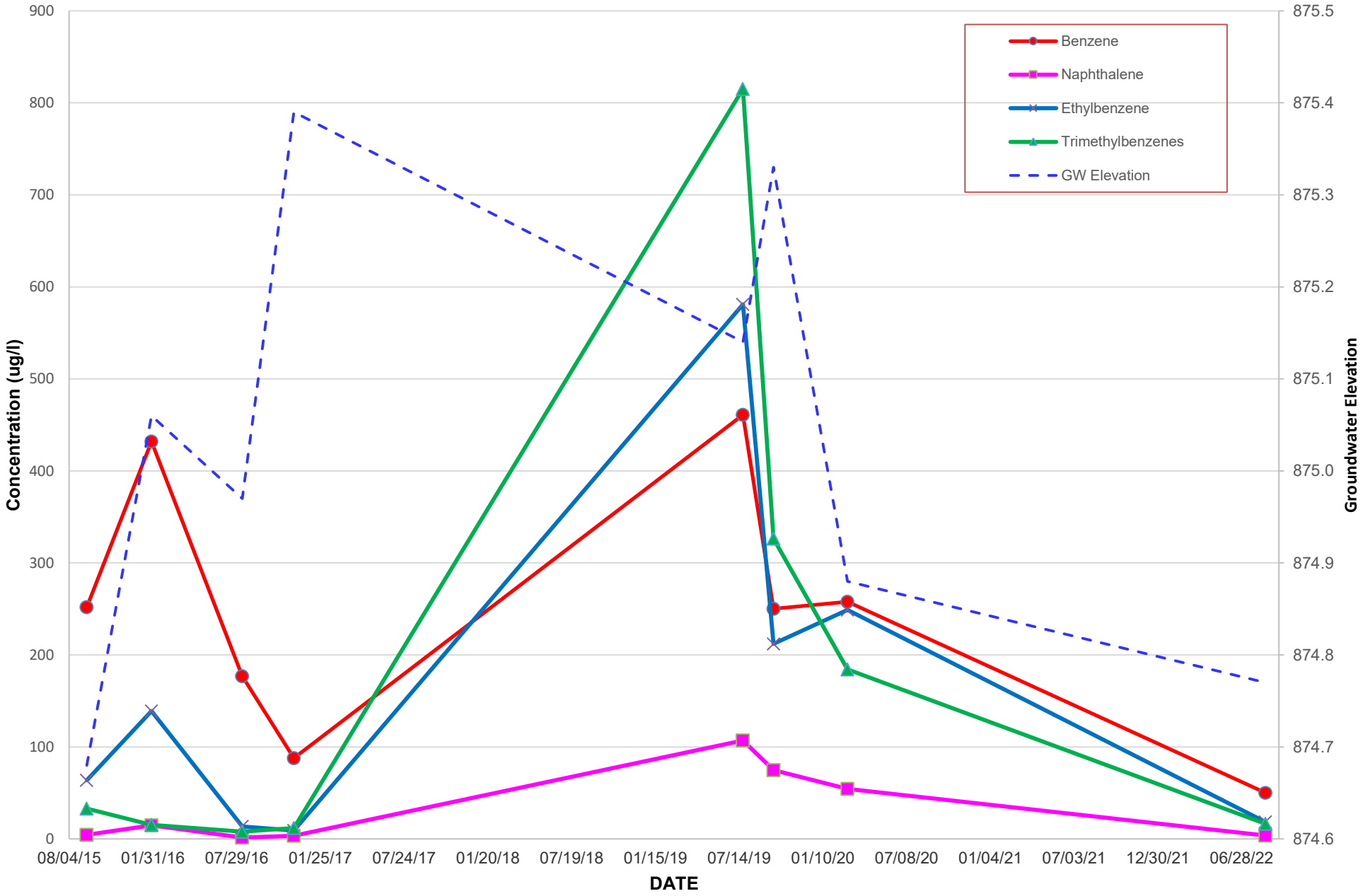
FREI OIL PROPERTY (FORMER)
207 HIGHWAY STREET
HORICON, WI 53032

PROJECT NUMBER T222-045

DATE 08/29/2022

SOURCE DODGE COUNTY PUBLIC MAPPING
FIELD DATA

FIGURE 3
Groundwater Level and Chemistry Trends (MW-2/2R)
Frei Oil - Horicon WI



ATTACHMENT A
ANALYTICAL REPORT

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

August 25, 2022

Ben Stencil
True North Consultants, Inc.
525 Junction Road, Suite 1900
Madison, WI 53717

RE: Project: T222-045 FREI OIL
Pace Project No.: 40250223

Dear Ben Stencil:

Enclosed are the analytical results for sample(s) received by the laboratory on August 23, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Green Bay

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

Sincerely,

Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Evan Grzeszczak, True North Consultants

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: T222-045 FREI OIL
Pace Project No.: 40250223

Pace Analytical Services Green Bay
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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: T222-045 FREI OIL
Pace Project No.: 40250223

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40250223001	**MW-1**	Water	08/18/22 11:00	08/23/22 08:10
40250223002	**MW-2R**	Water	08/18/22 11:45	08/23/22 08:10
40250223003	**MW-3**	Water	08/18/22 11:30	08/23/22 08:10
40250223004	**MW-4**	Water	08/18/22 11:15	08/23/22 08:10

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: T222-045 FREI OIL
Pace Project No.: 40250223

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40250223001	**MW-1**	EPA 8260	LAP	11
40250223002	**MW-2R**	EPA 8260	LAP	11
40250223003	**MW-3**	EPA 8260	LAP	11
40250223004	**MW-4**	EPA 8260	LAP	11

PASI-G = Pace Analytical Services - Green Bay

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SUMMARY OF DETECTION

Project: T222-045 FREI OIL
Pace Project No.: 40250223

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40250223002	**MW-2R**					
EPA 8260	Benzene	50.2	ug/L	1.0	08/24/22 17:34	
EPA 8260	Ethylbenzene	18.6	ug/L	1.0	08/24/22 17:34	
EPA 8260	Naphthalene	3.8J	ug/L	5.0	08/24/22 17:34	
EPA 8260	Toluene	0.55J	ug/L	1.0	08/24/22 17:34	
EPA 8260	1,2,4-Trimethylbenzene	15.4	ug/L	1.0	08/24/22 17:34	
EPA 8260	1,3,5-Trimethylbenzene	1.2	ug/L	1.0	08/24/22 17:34	
EPA 8260	Xylene (Total)	10.8	ug/L	3.0	08/24/22 17:34	

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T222-045 FREI OIL
Pace Project No.: 40250223

Sample: MW-1 **Lab ID: 40250223001** Collected: 08/18/22 11:00 Received: 08/23/22 08:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Benzene	**<0.30**	ug/L	1.0	0.30	1		08/24/22 16:14	71-43-2	
Ethylbenzene	**<0.33**	ug/L	1.0	0.33	1		08/24/22 16:14	100-41-4	
Methyl-tert-butyl ether	**<1.1**	ug/L	5.0	1.1	1		08/24/22 16:14	1634-04-4	
Naphthalene	**<1.1**	ug/L	5.0	1.1	1		08/24/22 16:14	91-20-3	
Toluene	**<0.29**	ug/L	1.0	0.29	1		08/24/22 16:14	108-88-3	
1,2,4-Trimethylbenzene	**<0.45**	ug/L	1.0	0.45	1		08/24/22 16:14	95-63-6	
1,3,5-Trimethylbenzene	**<0.36**	ug/L	1.0	0.36	1		08/24/22 16:14	108-67-8	
Xylene (Total)	**<1.0**	ug/L	3.0	1.0	1		08/24/22 16:14	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	70-130		1		08/24/22 16:14	2037-26-5	
4-Bromofluorobenzene (S)	103	%	70-130		1		08/24/22 16:14	460-00-4	
1,2-Dichlorobenzene-d4 (S)	107	%	70-130		1		08/24/22 16:14	2199-69-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T222-045 FREI OIL
Pace Project No.: 40250223

Sample: MW-2R **Lab ID: 40250223002** Collected: 08/18/22 11:45 Received: 08/23/22 08:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Benzene	**50.2**	ug/L	1.0	0.30	1		08/24/22 17:34	71-43-2	
Ethylbenzene	**18.6**	ug/L	1.0	0.33	1		08/24/22 17:34	100-41-4	
Methyl-tert-butyl ether	**<1.1**	ug/L	5.0	1.1	1		08/24/22 17:34	1634-04-4	
Naphthalene	**3.8J**	ug/L	5.0	1.1	1		08/24/22 17:34	91-20-3	
Toluene	**0.55J**	ug/L	1.0	0.29	1		08/24/22 17:34	108-88-3	
1,2,4-Trimethylbenzene	**15.4**	ug/L	1.0	0.45	1		08/24/22 17:34	95-63-6	
1,3,5-Trimethylbenzene	**1.2**	ug/L	1.0	0.36	1		08/24/22 17:34	108-67-8	
Xylene (Total)	**10.8**	ug/L	3.0	1.0	1		08/24/22 17:34	1330-20-7	
Surrogates									
Toluene-d8 (S)	106	%	70-130		1		08/24/22 17:34	2037-26-5	
4-Bromofluorobenzene (S)	105	%	70-130		1		08/24/22 17:34	460-00-4	
1,2-Dichlorobenzene-d4 (S)	106	%	70-130		1		08/24/22 17:34	2199-69-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T222-045 FREI OIL
Pace Project No.: 40250223

Sample: MW-3 **Lab ID: 40250223003** Collected: 08/18/22 11:30 Received: 08/23/22 08:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Benzene	**<0.30**	ug/L	1.0	0.30	1		08/24/22 17:54	71-43-2	
Ethylbenzene	**<0.33**	ug/L	1.0	0.33	1		08/24/22 17:54	100-41-4	
Methyl-tert-butyl ether	**<1.1**	ug/L	5.0	1.1	1		08/24/22 17:54	1634-04-4	
Naphthalene	**<1.1**	ug/L	5.0	1.1	1		08/24/22 17:54	91-20-3	
Toluene	**<0.29**	ug/L	1.0	0.29	1		08/24/22 17:54	108-88-3	
1,2,4-Trimethylbenzene	**<0.45**	ug/L	1.0	0.45	1		08/24/22 17:54	95-63-6	
1,3,5-Trimethylbenzene	**<0.36**	ug/L	1.0	0.36	1		08/24/22 17:54	108-67-8	
Xylene (Total)	**<1.0**	ug/L	3.0	1.0	1		08/24/22 17:54	1330-20-7	
Surrogates									
Toluene-d8 (S)	103	%	70-130		1		08/24/22 17:54	2037-26-5	
4-Bromofluorobenzene (S)	106	%	70-130		1		08/24/22 17:54	460-00-4	
1,2-Dichlorobenzene-d4 (S)	110	%	70-130		1		08/24/22 17:54	2199-69-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T222-045 FREI OIL
Pace Project No.: 40250223

Sample: MW-4 **Lab ID: 40250223004** Collected: 08/18/22 11:15 Received: 08/23/22 08:10 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Benzene	**<0.30**	ug/L	1.0	0.30	1		08/24/22 18:13	71-43-2	
Ethylbenzene	**<0.33**	ug/L	1.0	0.33	1		08/24/22 18:13	100-41-4	
Methyl-tert-butyl ether	**<1.1**	ug/L	5.0	1.1	1		08/24/22 18:13	1634-04-4	
Naphthalene	**<1.1**	ug/L	5.0	1.1	1		08/24/22 18:13	91-20-3	
Toluene	**<0.29**	ug/L	1.0	0.29	1		08/24/22 18:13	108-88-3	
1,2,4-Trimethylbenzene	**<0.45**	ug/L	1.0	0.45	1		08/24/22 18:13	95-63-6	
1,3,5-Trimethylbenzene	**<0.36**	ug/L	1.0	0.36	1		08/24/22 18:13	108-67-8	
Xylene (Total)	**<1.0**	ug/L	3.0	1.0	1		08/24/22 18:13	1330-20-7	
Surrogates									
Toluene-d8 (S)	102	%	70-130		1		08/24/22 18:13	2037-26-5	
4-Bromofluorobenzene (S)	105	%	70-130		1		08/24/22 18:13	460-00-4	
1,2-Dichlorobenzene-d4 (S)	107	%	70-130		1		08/24/22 18:13	2199-69-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: T222-045 FREI OIL
Pace Project No.: 40250223

QC Batch: 424224
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV UST-WATER
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40250223001, 40250223002, 40250223003, 40250223004

METHOD BLANK: 2442997 Matrix: Water
Associated Lab Samples: 40250223001, 40250223002, 40250223003, 40250223004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.45	1.0	08/24/22 09:05	
1,3,5-Trimethylbenzene	ug/L	<0.36	1.0	08/24/22 09:05	
Benzene	ug/L	<0.30	1.0	08/24/22 09:05	
Ethylbenzene	ug/L	<0.33	1.0	08/24/22 09:05	
Methyl-tert-butyl ether	ug/L	<1.1	5.0	08/24/22 09:05	
Naphthalene	ug/L	<1.1	5.0	08/24/22 09:05	
Toluene	ug/L	<0.29	1.0	08/24/22 09:05	
Xylene (Total)	ug/L	<1.0	3.0	08/24/22 09:05	
1,2-Dichlorobenzene-d4 (S)	%	107	70-130	08/24/22 09:05	
4-Bromofluorobenzene (S)	%	102	70-130	08/24/22 09:05	
Toluene-d8 (S)	%	103	70-130	08/24/22 09:05	

LABORATORY CONTROL SAMPLE: 2442998

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	49.7	99	70-130	
Ethylbenzene	ug/L	50	53.9	108	80-120	
Methyl-tert-butyl ether	ug/L	50	40.8	82	70-130	
Toluene	ug/L	50	53.8	108	80-120	
Xylene (Total)	ug/L	150	161	107	70-130	
1,2-Dichlorobenzene-d4 (S)	%			103	70-130	
4-Bromofluorobenzene (S)	%			110	70-130	
Toluene-d8 (S)	%			105	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2443606 2443607

Parameter	Units	40250236001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	<0.30	50	50	48.8	50.9	98	102	70-130	4	20	
Ethylbenzene	ug/L	<0.33	50	50	54.0	55.8	108	112	80-121	3	20	
Methyl-tert-butyl ether	ug/L	<1.1	50	50	41.3	42.0	83	84	70-130	2	20	
Toluene	ug/L	<0.29	50	50	53.6	55.3	107	111	80-120	3	20	
Xylene (Total)	ug/L	<1.0	150	150	158	163	105	109	70-130	3	20	
1,2-Dichlorobenzene-d4 (S)	%						103	100	70-130			
4-Bromofluorobenzene (S)	%						111	109	70-130			
Toluene-d8 (S)	%						106	106	70-130			HS

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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: T222-045 FREI OIL
Pace Project No.: 40250223

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.

ANALYTE QUALIFIERS

HS Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: T222-045 FREI OIL
Pace Project No.: 40250223

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40250223001	**MW-1**	EPA 8260	424224		
40250223002	**MW-2R**	EPA 8260	424224		
40250223003	**MW-3**	EPA 8260	424224		
40250223004	**MW-4**	EPA 8260	424224		

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

Pace Analytical®
www.pacelabs.com

CHAIN OF CUSTODY

4025022 3

(Please Print Clearly)	
Company Name:	~~TRUE~~ TRUE NORTH CONSULTANTS
Branch/Location:	MADISON, WI
Project Contact:	MARK FRYMAN
Phone:	(608) 220-4847
Project Number:	TZZZ-045
Project Name:	FREI OIL
Project State:	WI
Sampled By (Print):	MARK FRYMAN
Sampled By (Sign):	Mark D Fry
PO #:	Regulatory Program:

Quote #:	~
Mail To Contact:	MARK FRYMAN
Mail To Company:	TRUE NORTH CONSULTANTS
Mail To Address:	525 JUNCTION RD SUITE 1900 MADISON, WI 53717
Invoice To Contact:	CHRIS VALCHEFF
Invoice To Company:	TRUE NORTH CONSULTANTS
Invoice To Address:	SAME
Invoice To Phone:	

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes
A = Air, B = Biota, C = Charcoal, O = Oil, S = Soil, SI = Sludge, W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: PVOCs + Naphth	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	MW-1	8/18/22	11:00	GW	N	B	X			
002	MW-2R	"	11:45	GW			X			
003	MW-3	"	11:30	GW			X			
004	MW-4	"	11:15	GW			X			

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge) Date Needed:	
Transmit Prelim Rush Results by (complete what you want):	
Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
Mark D Fry	8/22/22 14:30		
CS Logistics	8/23/22 0810	Kendra Space	8/23/22 0810

PACE Project No. 4025022 3

Receipt Temp = °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / ~~Not Present~~

Intact / ~~Not Intact~~

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Client Name: True North

Sample Preservation Receipt Form

Project # 40250223

All containers needing preservation have been checked and noted below: ☒Yes ☐No ☐N/A

Lab Lot# of pH paper:

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

Initial when completed:

Date/ Time:

	Glass							Plastic						Vials						Jars				General								
Pace Lab #	AG1U	BG1U	AG1H	AG4S	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	BP2Z	VG9C	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN 1	GN 2	VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
001																																		2.5 / 5
002																																		2.5 / 5
003																																		2.5 / 5
004																												1						2.5 / 5
005																																		2.5 / 5
006																																		2.5 / 5
007																																		2.5 / 5
008																																		2.5 / 5
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019																																		2.5 / 5
020																																		2.5 / 5

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

Headspace in VOA Vials (>6mm): ☒Yes ☐No ☐N/A ***If yes look in headspace column**

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	VG9C	40 mL clear ascorbic w/ HCl	JGFU	4 oz amber jar unpres
BG1U	1 liter clear glass	BP3U	250 mL plastic unpres	DG9T	40 mL amber Na Thio	JG9U	9 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP3B	250 mL plastic NaOH	VG9U	40 mL clear vial unpres	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9H	40 mL clear vial HCL	WPFU	4 oz plastic jar unpres
AG5U	100 mL amber glass unpres	BP3S	250 mL plastic H2SO4	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH + Zn	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres					GN 1	
						GN 2	

Page 1 of 2

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40250223

40250223

Client Name: True North

Courier: ☒ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco
☐ Client ☐ Pace Other: _____

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____

Thermometer Used SR - 110 **Type of Ice:** (Wet) Blue Dry None ☐ Meltwater Only

Cooler Temperature Uncorr: 0 /Corr: 0

Temp Blank Present: ☒ yes ☐ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Person examining contents:
Date: 8/23/22 /Initials: KS

Labeled By Initials: TP

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☒No ☐N/A	2. pg #, KS 8/23/22
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No	5.
- DI VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☒No	6.
Rush Turn Around Time Requested:	☐Yes ☒No	7.
Sufficient Volume:		8.
For Analysis: ☒Yes ☐No MS/MSD:	☐Yes ☒No ☐N/A	
Correct Containers Used:	☒Yes ☐No	9.
Correct Type: (Pace Green Bay) Pace IR, Non-Pace		
Containers Intact:	☒Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☒Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:	WU	
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: If checked, see attached form for additional comments ☐

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logi

Page 2 of 2