



May 3, 2021

Karl Beaster, PG
Sr. Environmental Advisor
Enbridge Energy, Limited Partnership
11 East Superior Street, Suite 125
Duluth, MN 55802
karl.beaster@enbridge.com

**Subject: Monitoring Well Sampling Results – GRO and Dissolved Gases
Enbridge Line 13 MP 312, Blackhawk Island Rd Valve Site, Ft. Atkinson, WI
WDNR BRRTS #02-28-586199**

Dear Mr. Beaster:

WSP USA Inc. (WSP) is pleased to submit the following summary of sampling results for monitoring wells that were sampled on April 1, 2021, as a part of Enbridge's ongoing assessment of the Line 13 Milepost (MP) 312 Valve Site located at the intersection of Blackhawk Island Road and Westphal Lane near Ft Atkinson, Wisconsin. This letter provides the laboratory analytical results for Gasoline Range Organics (GRO) and dissolved gases n-butane, ethane, n-propane, and isobutane. Sampling results for volatile organic compounds (VOCs) were submitted to the Wisconsin Department of Natural Resources (WDNR) on April 16, 2021.

WSP collected water samples from the eight existing site monitoring wells (MW-1 through MW-8) on April 1, 2021. The well locations are shown on Figure 1. Groundwater samples were collected in accordance with WSP's Standard Operating Procedures using low-flow purge and sample methods. Samples were analyzed by Pace Analytical of Green Bay, Wisconsin for VOCs by Method 8260 (results previously submitted) and GRO using Wisconsin Modified GRO Method and by Pace Analytical of Baton Rouge, Louisiana for dissolved gases using Method RSK-175. One duplicate sample was collected at the MW-1 well location, and a trip blank sample was submitted with the monitoring well samples.

Table 1 includes laboratory analytical results and the final field parameter readings prior to sample collection. Enclosure A includes the laboratory reports. GRO was detected in the sample from monitoring well MW-1 (35,200 micrograms per liter [$\mu\text{g/l}$]) and the duplicate sample (37,100 $\mu\text{g/l}$). N-butane, ethane, n-propane, and isobutane were also detected in the sample from MW-1 (259 $\mu\text{g/l}$; 1.35 $\mu\text{g/l}$; 4.69 $\mu\text{g/l}$; and 16.3 $\mu\text{g/l}$; respectively) and the duplicate sample (300 $\mu\text{g/l}$; 1.1 $\mu\text{g/l}$; 5.6 $\mu\text{g/l}$; and 24 $\mu\text{g/l}$; respectively). Several samples from other monitoring wells and the trip blank contained n-propane or isobutane at concentrations below 1 $\mu\text{g/l}$. The laboratory report indicates low level propane and isobutane laboratory contamination in some samples. **As a result, the dissolved gases detections in the trip blank and the samples from monitoring wells, except MW-1, are likely the result of laboratory contamination.** There are no WDNR Enforcement Standards (ES) or Preventative Action Limits (PAL) for GRO, n-butane, ethane, n-propane, or isobutane.

WSP USA
Suite 2800
211 North Broadway
St. Louis, MO 63102

Tel.: +1 314 206-4444
Fax: +1 314 421-1741
wsp.com



In accordance with Wisconsin Administrative Code, Chapter NR 712, the certification of a hydrogeologist for this sampling results submittal is included in Enclosure B.

Please do not hesitate to contact me if you have questions:

Kind regards,

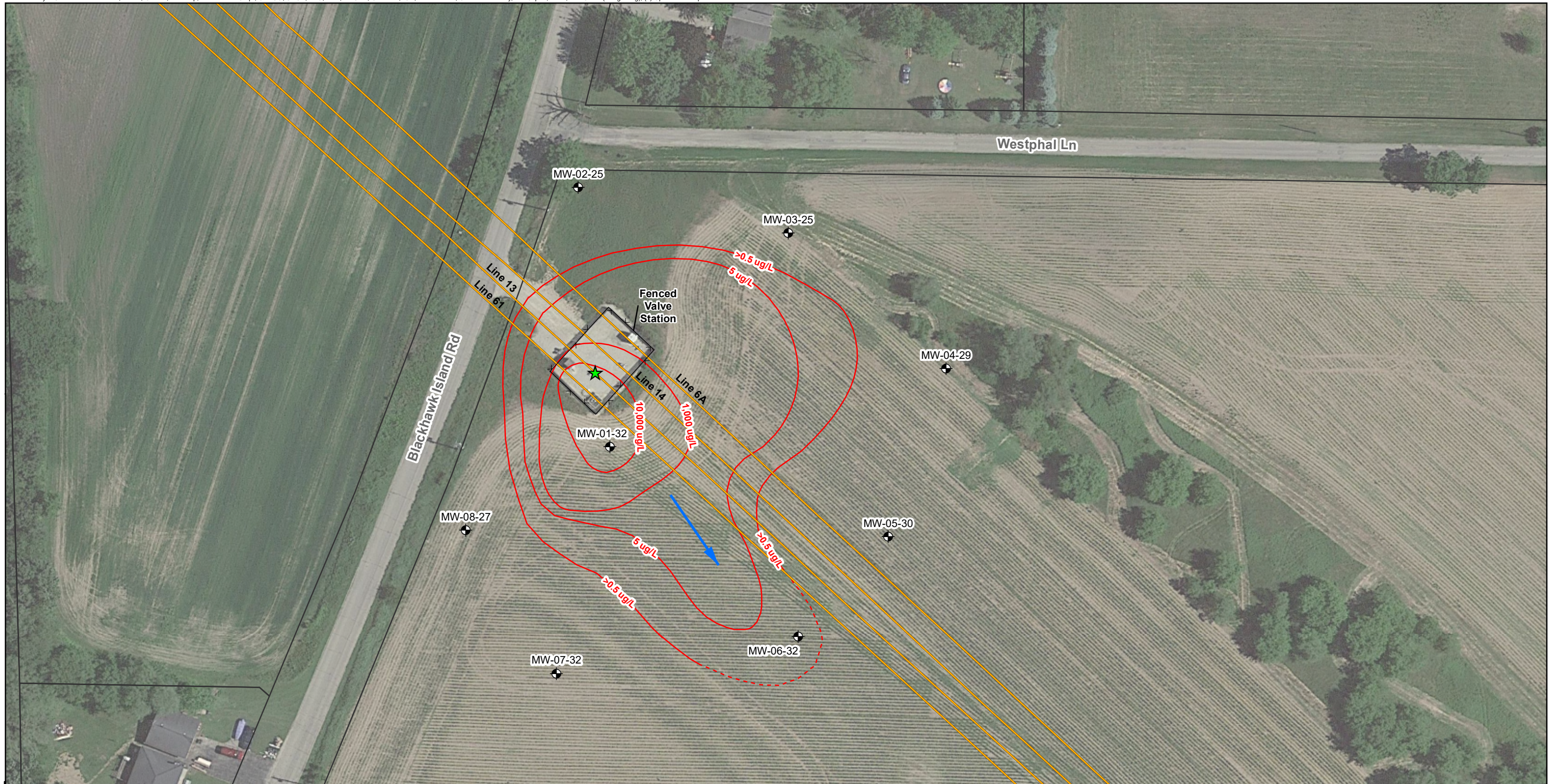
A handwritten signature in black ink that reads "Tim Huff". The signature is written in a cursive, slightly slanted style.

Timothy A. Huff
Senior Lead Geologist

TAH :
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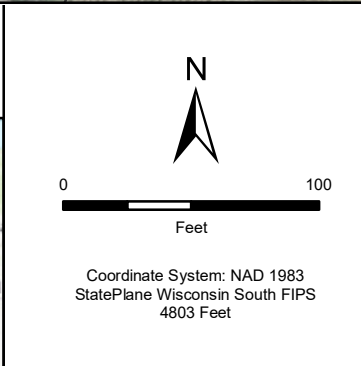
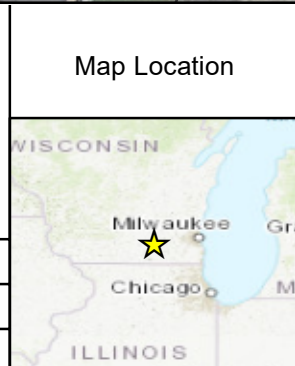
Encl.

FIGURE



ENBRIDGE

Drawn: WSP 4/29/2021
 Approved: WSP 4/29/2021
 Project #: 31401967.705



- Legend**
- Approximate Release Location
 - Existing Monitoring Well
 - Groundwater Flow Direction
 - Benzene Isoconcentration Contours (ug/l) (Dashed where inferred)
 - Enbridge Pipeline
 - Fenced Valve Site
 - Property Parcels

Note:
 1. Benzene isoconcentration contours developed from Sept 2020 temporary well sampling results and April 2021 monitoring well sampling results

FIGURE 1
 SITE LAYOUT
 LINE 13 MP 312 VALVE SITE
 FORT ATKINSON, WISCONSIN
 ENBRIDGE ENERGY
 LIMITED PARTNERSHIP

TABLE

Table 1
Monitoring Well Analytical Results - April 2021
Line 13 MP312 Valve Site
Fort Atkinson, Wisconsin

Analyte	Enforcement Standard (a)	Preventative Action Limit (a)	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-1 Duplicate (MW-01042021)	Trip Blank (TB01042021)
			4/1/2021	4/1/2021	4/1/2021	4/1/2021	4/1/2021	4/1/2021	4/1/2021	4/1/2021	4/1/2021	4/1/2021
Dissolved Gases (ug/L) by RSK-175												
n-Butane	--	--	259	<0.037	<0.037	<0.037	<0.037	<0.037	<0.037	<0.037	300	<0.037
Ethane	--	--	1.35	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	<0.075	1.1	<0.075
n-Propane	--	--	4.69	0.307	<0.014	<0.014	0.126	0.123	0.200	0.281	5.6	0.316
Isobutane	--	--	16.3	0.689	<0.037	<0.037	<0.037	<0.037	<0.037	<0.037	24	0.283
Total Petroleum Hydrocarbons (ug/L) by WDNR GRO Modified												
Gasoline Range Organics (GRO)	--	--	35,200	<30.5	<30.5	<30.5	<30.5	<30.5	<30.5	<30.5	37,100	<30.5
Purge Parameters (Final Reading)												
Purge Volume (L)	--	--	8.25	8.85	6.0	5.25	6.0	4.5	13.0	17.0	--	--
pH	--	--	6.90	7.29	7.20	6.92	6.77	6.74	7.44	7.48	--	--
Conductivity (mS/cm)	--	--	0.909	0.84	0.952	0.878	1.13	1.18	0.905	1.12	--	--
Turbidity (NTU)	--	--	5.7	7.3	3.1	6.1	10.1	0.9	17.0	7.8	--	--
Dissolved Oxygen (mg/L)	--	--	2.65	7.78	0.0	6.55	3.47	0.85	12.90	3.66	--	--
Temperature (°C)	--	--	12.11	4.49	8.00	8.58	8.26	11.37	9.76	9.30	--	--
Oxidative Reductive Potential (mV)	--	--	-88	131	146	164	160	163	189	167	--	--
Appearance of Purge Water	--	--	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	--	--
Odor	--	--	Mild	None	None	None	None	None	None	None	--	--

General Notes

Shaded = Regulatory exceedance

Bold = Enforcement Standard exceedance

Italics = Preventative Action Limit exceedance

Acronyms and Abbreviations

a/ Wisconsin Department of Natural Resources (WDNR) Administrative Code Chapter NR 140.10, Table 1 - Public Health Groundwater Standards. February 2021.

ug/L = micrograms per liter; mg/l = milligrams per liter; L = liters; mS/cm = millisiemens per centimeter; NTU = nephelometric turbidity units; mV = millivolts.

ENCLOSURE A – LABORATORY ANALYTICAL RESULTS

April 22, 2021

Timothy Huff
WSP USA
211 North Broadway
Saint Louis, MO 63102

RE: Project: 31401967.705-01.00 L13 MP 312
Pace Project No.: 40224383

Dear Timothy Huff:

Enclosed are the analytical results for sample(s) received by the laboratory on April 02, 2021. 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 Gulf Coast
- 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: Cal Johnson, WSP USA - MADISON
Brian Kimpel, WSP USA



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 31401967.705-01.00 L13 MP 312

Pace Project No.: 40224383

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

Pace Analytical Gulf Coast

7979 Innovation Park Drive, Baton Rouge, LA 70820

Arkansas Certification #: 88-0655

DoD ELAP Certification #: L18-597

Florida Certification #: E87854

Illinois Certification #: 004585

Kansas Certification #: E-10354

Louisiana/LELAP Certification #: 01955

North Carolina Certification #: 618

North Dakota Certification #: R-195

Oklahoma Certification #: 2019-101

South Carolina Certification #: 73006001

Texas Certification #: T104704178-19-11

USDA Soil Permit # P330-19-00209

Virginia Certification #: 460215

Washington Certification #: C929

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SAMPLE SUMMARY

Project: 31401967.705-01.00 L13 MP 312

Pace Project No.: 40224383

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40224383001	MW-1	Water	04/01/21 13:45	04/02/21 08:20
40224383002	MW-2	Water	04/01/21 10:35	04/02/21 08:20
40224383003	MW-3	Water	04/01/21 11:40	04/02/21 08:20
40224383004	MW-4	Water	04/01/21 11:20	04/02/21 08:20
40224383005	MW-5	Water	04/01/21 10:13	04/02/21 08:20
40224383006	MW-6	Water	04/01/21 12:20	04/02/21 08:20
40224383007	MW-7	Water	04/01/21 15:35	04/02/21 08:20
40224383008	MW-8	Water	04/01/21 13:45	04/02/21 08:20
40224383009	MW-01042021	Water	04/01/21 08:30	04/02/21 08:20
40224383010	TB-01042021A	Water	04/01/21 00:00	04/02/21 08:20

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SAMPLE ANALYTE COUNT

Project: 31401967.705-01.00 L13 MP 312
Pace Project No.: 40224383

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40224383001	MW-1	RSK-175	JCK2	4	GCLA
		WI MOD GRO	ALD	1	PASI-G
40224383002	MW-2	RSK-175	JCK2	4	GCLA
		WI MOD GRO	ALD	1	PASI-G
40224383003	MW-3	RSK-175	JCK2	4	GCLA
		WI MOD GRO	ALD	1	PASI-G
40224383004	MW-4	RSK-175	JCK2	4	GCLA
		WI MOD GRO	ALD	1	PASI-G
40224383005	MW-5	RSK-175	JCK2	4	GCLA
		WI MOD GRO	ALD	1	PASI-G
40224383006	MW-6	RSK-175	JCK2	4	GCLA
		WI MOD GRO	ALD	1	PASI-G
40224383007	MW-7	RSK-175	JCK2	4	GCLA
		WI MOD GRO	ALD	1	PASI-G
40224383008	MW-8	RSK-175	JCK2	4	GCLA
		WI MOD GRO	ALD	1	PASI-G
40224383009	MW-01042021	RSK-175	JCK2	4	GCLA
		WI MOD GRO	ALD	1	PASI-G
40224383010	TB-01042021A	RSK-175	JCK2	4	GCLA
		WI MOD GRO	ALD	1	PASI-G

GCLA = Pace Analytical Gulf Coast
PASI-G = Pace Analytical Services - Green Bay

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ANALYTICAL RESULTS

Project: 31401967.705-01.00 L13 MP 312

Pace Project No.: 40224383

Sample: MW-1 **Lab ID: 40224383001** Collected: 04/01/21 13:45 Received: 04/02/21 08:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Biodegradation Indicator Gases									
Analytical Method: RSK-175 Pace Analytical Gulf Coast									
n-Butane	259	ug/L	0.200	0.037	1		04/13/21 16:32	JUNK42	
Ethane	1.35	ug/L	1.00	0.075	1		04/13/21 16:32	74-84-0	
n-Propane	4.69	ug/L	0.100	0.014	1		04/13/21 16:32	74-98-6	
Isobutane	16.3	ug/L	0.200	0.037	1		04/13/21 16:32	JUNK40	
WIGRO GCV									
Analytical Method: WI MOD GRO Pace Analytical Services - Green Bay									
Gasoline Range Organics	35200	ug/L	5000	1520	50		04/02/21 20:42		G-

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ANALYTICAL RESULTS

Project: 31401967.705-01.00 L13 MP 312

Pace Project No.: 40224383

Sample: MW-2 **Lab ID: 40224383002** Collected: 04/01/21 10:35 Received: 04/02/21 08:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Biodegradation Indicator Gases									
Analytical Method: RSK-175									
Pace Analytical Gulf Coast									
n-Butane	<0.037	ug/L	0.200	0.037	1		04/13/21 16:45	JUNK42	
Ethane	<0.075	ug/L	1.00	0.075	1		04/13/21 16:45	74-84-0	
n-Propane	0.307	ug/L	0.100	0.014	1		04/13/21 16:45	74-98-6	
Isobutane	0.689	ug/L	0.200	0.037	1		04/13/21 16:45	JUNK40	
WIGRO GCV									
Analytical Method: WI MOD GRO									
Pace Analytical Services - Green Bay									
Gasoline Range Organics	<30.5	ug/L	100	30.5	1		04/02/21 17:42		

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ANALYTICAL RESULTS

Project: 31401967.705-01.00 L13 MP 312

Pace Project No.: 40224383

Sample: MW-3 **Lab ID: 40224383003** Collected: 04/01/21 11:40 Received: 04/02/21 08:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Biodegradation Indicator Gases									
Analytical Method: RSK-175									
Pace Analytical Gulf Coast									
n-Butane	<0.037	ug/L	0.200	0.037	1		04/15/21 21:31	JUNK42	
Ethane	<0.075	ug/L	1.00	0.075	1		04/15/21 21:31	74-84-0	
n-Propane	<0.014	ug/L	0.100	0.014	1		04/15/21 21:31	74-98-6	
Isobutane	<0.037	ug/L	0.200	0.037	1		04/15/21 21:31	JUNK40	
WIGRO GCV									
Analytical Method: WI MOD GRO									
Pace Analytical Services - Green Bay									
Gasoline Range Organics	<30.5	ug/L	100	30.5	1		04/02/21 15:59		

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ANALYTICAL RESULTS

Project: 31401967.705-01.00 L13 MP 312

Pace Project No.: 40224383

Sample: MW-4 **Lab ID: 40224383004** Collected: 04/01/21 11:20 Received: 04/02/21 08:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Biodegradation Indicator Gases									
Analytical Method: RSK-175									
Pace Analytical Gulf Coast									
n-Butane	<0.037	ug/L	0.200	0.037	1		04/15/21 21:43	JUNK42	
Ethane	<0.075	ug/L	1.00	0.075	1		04/15/21 21:43	74-84-0	
n-Propane	<0.014	ug/L	0.100	0.014	1		04/15/21 21:43	74-98-6	
Isobutane	<0.037	ug/L	0.200	0.037	1		04/15/21 21:43	JUNK40	
WIGRO GCV									
Analytical Method: WI MOD GRO									
Pace Analytical Services - Green Bay									
Gasoline Range Organics	<30.5	ug/L	100	30.5	1		04/02/21 18:08		

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ANALYTICAL RESULTS

Project: 31401967.705-01.00 L13 MP 312

Pace Project No.: 40224383

Sample: MW-5 **Lab ID: 40224383005** Collected: 04/01/21 10:13 Received: 04/02/21 08:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Biodegradation Indicator Gases									
Analytical Method: RSK-175									
Pace Analytical Gulf Coast									
n-Butane	<0.037	ug/L	0.200	0.037	1		04/14/21 11:06	JUNK42	
Ethane	<0.075	ug/L	1.00	0.075	1		04/14/21 11:06	74-84-0	
n-Propane	0.126	ug/L	0.100	0.014	1		04/14/21 11:06	74-98-6	
Isobutane	<0.037	ug/L	0.200	0.037	1		04/14/21 11:06	JUNK40	
WIGRO GCV									
Analytical Method: WI MOD GRO									
Pace Analytical Services - Green Bay									
Gasoline Range Organics	<30.5	ug/L	100	30.5	1		04/02/21 18:33		

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ANALYTICAL RESULTS

Project: 31401967.705-01.00 L13 MP 312

Pace Project No.: 40224383

Sample: MW-6 **Lab ID: 40224383006** Collected: 04/01/21 12:20 Received: 04/02/21 08:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Biodegradation Indicator Gases		Analytical Method: RSK-175 Pace Analytical Gulf Coast							
n-Butane	<0.037	ug/L	0.200	0.037	1		04/14/21 14:39	JUNK42	
Ethane	<0.075	ug/L	1.00	0.075	1		04/14/21 14:39	74-84-0	
n-Propane	0.123	ug/L	0.100	0.014	1		04/14/21 14:39	74-98-6	
Isobutane	<0.037	ug/L	0.200	0.037	1		04/14/21 14:39	JUNK40	
WIGRO GCV		Analytical Method: WI MOD GRO Pace Analytical Services - Green Bay							
Gasoline Range Organics	<30.5	ug/L	100	30.5	1		04/02/21 18:59		

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ANALYTICAL RESULTS

Project: 31401967.705-01.00 L13 MP 312

Pace Project No.: 40224383

Sample: MW-7 **Lab ID: 40224383007** Collected: 04/01/21 15:35 Received: 04/02/21 08:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Biodegradation Indicator Gases									
Analytical Method: RSK-175									
Pace Analytical Gulf Coast									
n-Butane	<0.037	ug/L	0.200	0.037	1		04/14/21 14:52	JUNK42	
Ethane	<0.075	ug/L	1.00	0.075	1		04/14/21 14:52	74-84-0	
n-Propane	0.200	ug/L	0.100	0.014	1		04/14/21 14:52	74-98-6	
Isobutane	<0.037	ug/L	0.200	0.037	1		04/14/21 14:52	JUNK40	
WIGRO GCV									
Analytical Method: WI MOD GRO									
Pace Analytical Services - Green Bay									
Gasoline Range Organics	<30.5	ug/L	100	30.5	1		04/02/21 19:25		

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ANALYTICAL RESULTS

Project: 31401967.705-01.00 L13 MP 312

Pace Project No.: 40224383

Sample: MW-8 **Lab ID: 40224383008** Collected: 04/01/21 13:45 Received: 04/02/21 08:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Biodegradation Indicator Gases		Analytical Method: RSK-175 Pace Analytical Gulf Coast							
n-Butane	<0.037	ug/L	0.200	0.037	1		04/14/21 15:10	JUNK42	
Ethane	<0.075	ug/L	1.00	0.075	1		04/14/21 15:10	74-84-0	
n-Propane	0.281	ug/L	0.100	0.014	1		04/14/21 15:10	74-98-6	
Isobutane	<0.037	ug/L	0.200	0.037	1		04/14/21 15:10	JUNK40	
WIGRO GCV		Analytical Method: WI MOD GRO Pace Analytical Services - Green Bay							
Gasoline Range Organics	<30.5	ug/L	100	30.5	1		04/02/21 19:51		

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ANALYTICAL RESULTS

Project: 31401967.705-01.00 L13 MP 312

Pace Project No.: 40224383

Sample: MW-01042021 **Lab ID: 40224383009** Collected: 04/01/21 08:30 Received: 04/02/21 08:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Biodegradation Indicator Gases									
Analytical Method: RSK-175									
Pace Analytical Gulf Coast									
n-Butane	300	ug/L	0.20	0.037	1		04/14/21 15:26	JUNK42	
Ethane	1.1	ug/L	1.0	0.075	1		04/14/21 15:26	74-84-0	
n-Propane	5.6	ug/L	0.10	0.014	1		04/14/21 15:26	74-98-6	
Isobutane	24	ug/L	0.20	0.037	1		04/14/21 15:26	JUNK40	
WIGRO GCV									
Analytical Method: WI MOD GRO									
Pace Analytical Services - Green Bay									
Gasoline Range Organics	37100	ug/L	4000	1220	40		04/02/21 20:16		G-

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ANALYTICAL RESULTS

Project: 31401967.705-01.00 L13 MP 312

Pace Project No.: 40224383

Sample: TB-01042021A **Lab ID: 40224383010** Collected: 04/01/21 00:00 Received: 04/02/21 08:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Biodegradation Indicator Gases									
Analytical Method: RSK-175									
Pace Analytical Gulf Coast									
n-Butane	<0.037	ug/L	0.200	0.037	1		04/13/21 16:18	JUNK42	
Ethane	<0.075	ug/L	1.00	0.075	1		04/13/21 16:18	74-84-0	
n-Propane	0.316	ug/L	0.100	0.014	1		04/13/21 16:18	74-98-6	
Isobutane	0.283	ug/L	0.200	0.037	1		04/13/21 16:18	JUNK40	
WIGRO GCV									
Analytical Method: WI MOD GRO									
Pace Analytical Services - Green Bay									
Gasoline Range Organics	<30.5	ug/L	100	30.5	1		04/02/21 16:50		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 31401967.705-01.00 L13 MP 312

Pace Project No.: 40224383

QC Batch:	708340	Analysis Method:	RSK-175
QC Batch Method:	RSK-175	Analysis Description:	Biodegradation Indicator Gases
		Laboratory:	Pace Analytical Gulf Coast

Associated Lab Samples: 40224383005, 40224383006, 40224383007, 40224383008, 40224383009

METHOD BLANK: 2169800 Matrix: Water

Associated Lab Samples: 40224383005, 40224383006, 40224383007, 40224383008, 40224383009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
n-Butane	ug/L	<0.037	0.200	04/14/21 10:10	
Ethane	ug/L	<0.075	1.00	04/14/21 10:10	
n-Propane	ug/L	<0.014	0.100	04/14/21 10:10	
Isobutane	ug/L	<0.037	0.200	04/14/21 10:10	

LABORATORY CONTROL SAMPLE & LCSD: 2169801

2169802

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
n-Butane	ug/L	73.2	59.8	76.2	82	104	30-170	24	30	
Ethane	ug/L	37.9	36.7	36.9	97	97	70-130	1	30	
n-Propane	ug/L	55.5	51.7	48.1	93	87	30-170	7	30	
Isobutane	ug/L	73.2	60.4	67.6	83	92	30-170	11	30	

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

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QUALITY CONTROL DATA

Project: 31401967.705-01.00 L13 MP 312
Pace Project No.: 40224383

QC Batch: 708637 Analysis Method: RSK-175
QC Batch Method: RSK-175 Analysis Description: Biodegradation Indicator Gases
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples: 40224383001, 40224383002, 40224383010

METHOD BLANK: 2171820 Matrix: Water
Associated Lab Samples: 40224383001, 40224383002, 40224383010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
n-Butane	ug/L	<0.037	0.200	04/13/21 15:19	
Ethane	ug/L	<0.075	1.00	04/13/21 15:19	
n-Propane	ug/L	<0.014	0.100	04/13/21 15:19	
Isobutane	ug/L	<0.037	0.200	04/13/21 15:19	

LABORATORY CONTROL SAMPLE & LCSD: 2171821

Parameter	Units	2171822								Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	
n-Butane	ug/L	73.2	67.1	69.6	92	95	30-170	4	30	
Ethane	ug/L	37.9	37.2	37.3	98	98	70-130	0	30	
n-Propane	ug/L	55.5	52.1	52.6	94	95	30-170	1	30	
Isobutane	ug/L	73.2	68.2	67.7	93	93	30-170	1	30	

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

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QUALITY CONTROL DATA

Project: 31401967.705-01.00 L13 MP 312

Pace Project No.: 40224383

QC Batch: 708645

Analysis Method: RSK-175

QC Batch Method: RSK-175

Analysis Description: Biodegradation Indicator Gases

Laboratory: Pace Analytical Gulf Coast

Associated Lab Samples: 40224383003, 40224383004

METHOD BLANK: 2171864

Matrix: Water

Associated Lab Samples: 40224383003, 40224383004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
n-Butane	ug/L	<0.037	0.200	04/15/21 20:26	
Ethane	ug/L	<0.075	1.00	04/15/21 20:26	
n-Propane	ug/L	<0.014	0.100	04/15/21 20:26	
Isobutane	ug/L	<0.037	0.200	04/15/21 20:26	

LABORATORY CONTROL SAMPLE & LCSD: 2171865

2171866

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
n-Butane	ug/L	73.2	63.3	68.9	86	94	30-170	9	30	
Ethane	ug/L	37.9	36.8	37.6	97	99	70-130	2	30	
n-Propane	ug/L	55.5	51.7	54.0	93	97	30-170	4	30	
Isobutane	ug/L	73.2	66.7	70.4	91	96	30-170	5	30	

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.

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QUALITY CONTROL DATA

Project: 31401967.705-01.00 L13 MP 312

Pace Project No.: 40224383

QC Batch:	381375	Analysis Method:	WI MOD GRO
QC Batch Method:	WI MOD GRO	Analysis Description:	WIGRO GCV Water
		Laboratory:	Pace Analytical Services - Green Bay
Associated Lab Samples:	40224383001, 40224383002, 40224383003, 40224383004, 40224383005, 40224383006, 40224383007, 40224383008, 40224383009, 40224383010		

METHOD BLANK:	2199391	Matrix:	Water
Associated Lab Samples:	40224383001, 40224383002, 40224383003, 40224383004, 40224383005, 40224383006, 40224383007, 40224383008, 40224383009, 40224383010		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	ug/L	<30.5	100	04/02/21 11:26	

Parameter	Units	LABORATORY CONTROL SAMPLE & LCSD: 2199392					2199393		Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD		
Gasoline Range Organics	ug/L	200	191	182	95	91	80-120	4	20	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 31401967.705-01.00 L13 MP 312
Pace Project No.: 40224383

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.

WORKORDER QUALIFIERS

WO: 40224383

- [1] Low level propane and isobutane laboratory contamination is present in some samples. The lab, however, is confident it is below 3.5 ug/l.
- [1] Revised Report: The original report had a RSK data issue between MW-1 and the field duplicate.
- [2] Low level propane and isobutane laboratory contamination is present in some samples. The lab however is confident it is below 3.5 ug/l.
- [3] The sample container for TB-01042021A was inadvertently omitted from the initial shipment. This sample was shipped separately and arrived at the laboratory on 4-8-21 (Ruth Welsh 04/08/2021 15:27)

ANALYTE QUALIFIERS

G- Early peaks present outside the GRO window.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 31401967.705-01.00 L13 MP 312

Pace Project No.: 40224383

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40224383001	MW-1	RSK-175	708637		
40224383002	MW-2	RSK-175	708637		
40224383003	MW-3	RSK-175	708645		
40224383004	MW-4	RSK-175	708645		
40224383005	MW-5	RSK-175	708340		
40224383006	MW-6	RSK-175	708340		
40224383007	MW-7	RSK-175	708340		
40224383008	MW-8	RSK-175	708340		
40224383009	MW-01042021	RSK-175	708340		
40224383010	TB-01042021A	RSK-175	708637		
40224383001	MW-1	WI MOD GRO	381375		
40224383002	MW-2	WI MOD GRO	381375		
40224383003	MW-3	WI MOD GRO	381375		
40224383004	MW-4	WI MOD GRO	381375		
40224383005	MW-5	WI MOD GRO	381375		
40224383006	MW-6	WI MOD GRO	381375		
40224383007	MW-7	WI MOD GRO	381375		
40224383008	MW-8	WI MOD GRO	381375		
40224383009	MW-01042021	WI MOD GRO	381375		
40224383010	TB-01042021A	WI MOD GRO	381375		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY RECORD

40224383

WSP Office Address 5957 McKee Road, Suite 7, Madison, WI 53719						Requested Analyses & Preservatives										No. WSP																																																				
Project Name L13 MP 312 Valve Site			WSP Contact Name Tim Huff			VOCs (EPA Method 8260) - 48 Hr TAT Asim	GRO (WI Modified) - 10-day TAT	butane, ethane, isobutane, propane (FSK-175) 10-day TAT	 <table border="1"> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> 																																		Laboratory Name & Location Pace Analytical - Green Bay, WI																									
Project Location Ft Atkinson, WI			WSP Contact E-mail tim.huff@wsp.com																Laboratory Project Manager Dan Milewsky																																																	
Project Number & Task 31401967.705 - 01.00			WSP Contact Phone 571-217-6759			Requested Turn-Around-Time <input checked="" type="checkbox"/> Standard <input type="checkbox"/> 24 HR <input checked="" type="checkbox"/> 48 HR - Asim <input type="checkbox"/> 72 HR <input type="checkbox"/> <input type="checkbox"/> HR																																																														
Sampler(s) Name(s) Al Moreland Matt Grady			Sampler(s) Signature(s) 			Number of Containers	<table border="1"> <tr> <td colspan="12">Requested Deliverable</td> </tr> <tr> <td><input checked="" type="checkbox"/> Level II</td> <td><input type="checkbox"/> ERIMS EDD</td> <td colspan="10"></td> </tr> <tr> <td><input type="checkbox"/> Level III</td> <td><input checked="" type="checkbox"/> GISKEY EDD</td> <td colspan="10"></td> </tr> <tr> <td><input type="checkbox"/> Level IV</td> <td><input type="checkbox"/> EQUIS EDD</td> <td colspan="10"></td> </tr> </table>												Requested Deliverable												<input checked="" type="checkbox"/> Level II	<input type="checkbox"/> ERIMS EDD											<input type="checkbox"/> Level III	<input checked="" type="checkbox"/> GISKEY EDD											<input type="checkbox"/> Level IV	<input type="checkbox"/> EQUIS EDD											Sample Comments	
Requested Deliverable																																																																				
<input checked="" type="checkbox"/> Level II	<input type="checkbox"/> ERIMS EDD																																																																			
<input type="checkbox"/> Level III	<input checked="" type="checkbox"/> GISKEY EDD																																																																			
<input type="checkbox"/> Level IV	<input type="checkbox"/> EQUIS EDD																																																																			
Sample Identification	Matrix	Collection Start*		Collection Stop*		Number of Containers	VOCs (EPA Method 8260) - 48 Hr TAT Asim	GRO (WI Modified) - 10-day TAT	butane, ethane, isobutane, propane (FSK-175) 10-day TAT	Requested Analyses & Preservatives										Sample Comments																																																
		Date	Time	Date	Time																																																															
MW-1	GW	4-21-20	1345			6		X	X													001																																														
MW-2			1035			6		X	X													002																																														
MW-3			1140			6		X	X													003																																														
MW-4			1120			6		X	X													004																																														
MW-5			1013			6		X	X													005																																														
MW-6			1220			6		X	X													006																																														
MW-7			1535			6		X	X													007																																														
MW-8			1345			6		X	X													008																																														
MW-01042021	X	X	0830			6		X	X													009																																														
D-100 Blanks																										010																																										
Lab added to COC - included in shipment 4/21/21													A-GUM																																																							
Relinquished By (Signature) 		Date	Time	Received By (Signature) FedEx Janesville		Date	Time	Shipment Method		Tracking Number(s) see Scan 4/2-21																																																										
Relinquished By (Signature) FedEx Express		Date	Time	Received By (Signature) Marilyn Moreland		Date	Time	Number of Packages 3		Custody Seal Number(s) —																																																										

*Use stop time/date for composite and/or air samples; use only start time/date for all other samples. Matrix: AQ = Aqueous, S = Soil, SE = Sediment, A = Air, W = Wipe, B = Bulk, O = Other (detail in comments)

Client Name: WSP

Sample Preservation Receipt Form

Project # 40224383

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

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:

Pace Lab #	Glass	Plastic	Vials	Jars	General	VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)													
													AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S
001												2.5 / 5 / 10													
002												2.5 / 5 / 10													
003												2.5 / 5 / 10													
004												2.5 / 5 / 10													
005												2.5 / 5 / 10													
006												2.5 / 5 / 10													
007												2.5 / 5 / 10													
008												2.5 / 5 / 10													
009												2.5 / 5 / 10													
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017												2.5 / 5 / 10													
018												2.5 / 5 / 10													
019												2.5 / 5 / 10													
020												2.5 / 5 / 10													

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 headdress column

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	VG9A	40 mL clear ascorbic	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
AG4U	120 mL amber glass unpres	BP3S	250 mL plastic H2SO4	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG5U	100 mL amber glass unpres			VG9D	40 mL clear vial DI	ZPLC	ziploc bag
AG2S	500 mL amber glass H2SO4					GN	
BG3U	250 mL clear glass unpres						

 1241 Bellevue Street, Green Bay, WI 54302	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: 26Mar2020
	Document No.: ENV-FRM-GBAY-0014-Rev.00	Author: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #: _____

Client Name: WSP

WO#: **40224383**

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



Tracking #: 7851 9631 3639 - Mstr #

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 Cardboard

Thermometer Used SR - 99 Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 1.0/2.0/1.0 Corr: 1.0/2.0/0.5

Temp Blank Present: yes no 0.5 Biological Tissue is Frozen: yes no

Person examining contents:	
Date: <u>4-2-21</u>	Initials: <u>MLR</u>
Labeled By Initials: <u>SKL</u>	

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

Chain of Custody Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>Collection dates "4-21-20" per PM "4-1-21"</u>
Chain of Custody Relinquished: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3. <u>MLR 4-2-21</u>
Sampler Name & Signature on COC: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
- VOA Samples frozen upon receipt <input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume:	8.
For Analysis: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Correct Containers Used: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used: <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12. <u>Samples placed by packaging, MLR dates 4-1 001-009. 4-2-21</u>
-Includes date/time/ID/Analysis Matrix: <u>W</u>	
Trip Blank Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <u>Lab added to COC - included in shipment MLR 4-2-21</u>
Trip Blank Custody Seals Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>459</u>	

Client Notification/ Resolution: _____ If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____
 Comments/ Resolution: 012 comment due to multiple projects had same sample #ID'S. 4-2-21 SKL

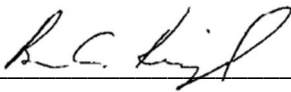
PM Review is documented electronically in LIMS. By releasing the project, the PM acknowledges they have reviewed the sample logir

ENCLOSURE B – HYDROGEOLOGIST CERTIFICATION

CERTIFICATION

Monitoring Well Sampling Results – GRO and Dissolved Gases
Enbridge Line 13 MP 312 Valve Site
Blackhawk Island Road
Fort Atkinson, Wisconsin
BRRTS Number: 02-28-586199

I, Brian C. Kimpel, certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.



5/3/2021

Brian C. Kimpel,
Supervisory Hydrogeologist, Wisconsin P.G. #1140

Date