

May 04, 2022

James Beilman
Mull Drilling Company
1700 N Waterfront Pkwy
Bld. 1200
Wichita, KS 67206

RE: Project: 915-1
Pace Project No.: 60398351

Dear James Beilman:

Enclosed are the analytical results for sample(s) received by the laboratory on April 21, 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 National - Mt. Juliet
- Pace Analytical Services - Kansas City

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

Sincerely,



Nolie Wood
nolie.wood@pacelabs.com
1(913)563-1401
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 915-1
Pace Project No.: 60398351

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 20-020-0
Arkansas Drinking Water
Illinois Certification #: 2000302021-3
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055

Nevada Certification #: KS000212020-2
Oklahoma Certification #: 9205/9935
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-21-15
Utah Certification #: KS000212019-9
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122
Alabama Certification #: 40660
Alaska Certification 17-026
Arizona Certification #: AZ0612
Arkansas Certification #: 88-0469
California Certification #: 2932
Canada Certification #: 1461.01
Colorado Certification #: TN00003
Connecticut Certification #: PH-0197
DOD Certification: #1461.01
EPA# TN00003
Florida Certification #: E87487
Georgia DW Certification #: 923
Georgia Certification: NELAP
Idaho Certification #: TN00003
Illinois Certification #: 200008
Indiana Certification #: C-TN-01
Iowa Certification #: 364
Kansas Certification #: E-10277
Kentucky UST Certification #: 16
Kentucky Certification #: 90010
Louisiana Certification #: AI30792
Louisiana DW Certification #: LA180010
Maine Certification #: TN0002
Maryland Certification #: 324
Massachusetts Certification #: M-TN003
Michigan Certification #: 9958
Minnesota Certification #: 047-999-395
Mississippi Certification #: TN00003
Missouri Certification #: 340
Montana Certification #: CERT0086
Nebraska Certification #: NE-OS-15-05

Nevada Certification #: TN-03-2002-34
New Hampshire Certification #: 2975
New Jersey Certification #: TN002
New Mexico DW Certification
New York Certification #: 11742
North Carolina Aquatic Toxicity Certification #: 41
North Carolina Drinking Water Certification #: 21704
North Carolina Environmental Certificate #: 375
North Dakota Certification #: R-140
Ohio VAP Certification #: CL0069
Oklahoma Certification #: 9915
Oregon Certification #: TN200002
Pennsylvania Certification #: 68-02979
Rhode Island Certification #: LA000356
South Carolina Certification #: 84004
South Dakota Certification
Tennessee DW/Chem/Micro Certification #: 2006
Texas Certification #: T 104704245-17-14
Texas Mold Certification #: LAB0152
USDA Soil Permit #: P330-15-00234
Utah Certification #: TN00003
Vermont Dept. of Health: ID# VT-2006
Virginia Certification #: VT2006
Virginia Certification #: 460132
Washington Certification #: C847
West Virginia Certification #: 233
Wisconsin Certification #: 998093910
Wyoming UST Certification #: via A2LA 2926.01
A2LA-ISO 17025 Certification #: 1461.01
A2LA-ISO 17025 Certification #: 1461.02
AIHA-LAP/LLC EMLAP Certification #:100789

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 915-1
Pace Project No.: 60398351

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60398351001	B1	Solid	04/19/22 09:30	04/21/22 08:45
60398351002	B2	Solid	04/19/22 09:45	04/21/22 08:45
60398351003	B3	Solid	04/19/22 10:00	04/21/22 08:45
60398351004	B4	Solid	04/19/22 10:15	04/21/22 08:45
60398351005	B5	Solid	04/19/22 10:30	04/21/22 08:45
60398351006	B6	Solid	04/19/22 10:45	04/21/22 08:45
60398351007	B7	Solid	04/19/22 11:00	04/21/22 08:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 915-1

Pace Project No.: 60398351

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60398351001	B1	EPA 8015B	WFG	4	PASI-K
		EPA 8015B	BA	2	PASI-K
		6010B-NE493 Ch 2	CCE	1	PAN
		EPA 6010	MA1	8	PASI-K
		EPA 6020	MRV	1	PASI-K
		EPA 8270 by SIM	JMT	17	PASI-K
		EPA 8260B	RAD	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
		SM 2540G	KDW	1	PAN
		EPA 7199	JER	1	PAN
		EPA 9045D	GI	1	PAN
		EPA 9050	ARD	1	PAN
		Calculated	CCE	1	PAN
60398351002	B2	EPA 8015B	WFG	4	PASI-K
		EPA 8015B	BA	2	PASI-K
		6010B-NE493 Ch 2	CCE	1	PAN
		EPA 6010	MA1	8	PASI-K
		EPA 6020	MRV	1	PASI-K
		EPA 8270 by SIM	JMT	17	PASI-K
		EPA 8260B	RAD	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
		SM 2540G	KDW	1	PAN
		EPA 7199	JER	1	PAN
		EPA 9045D	GI	1	PAN
		EPA 9050	ARD	1	PAN
		Calculated	CCE	1	PAN
60398351003	B3	EPA 8015B	WFG	4	PASI-K
		EPA 8015B	BA	2	PASI-K
		6010B-NE493 Ch 2	CCE	1	PAN
		EPA 6010	MA1	8	PASI-K
		EPA 6020	MRV	1	PASI-K
		EPA 8270 by SIM	JMT	17	PASI-K
		EPA 8260B	RAD	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
		SM 2540G	KDW	1	PAN
		EPA 7199	JER	1	PAN
		EPA 9045D	GI	1	PAN

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SAMPLE ANALYTE COUNT

Project: 915-1
Pace Project No.: 60398351

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60398351004	B4	EPA 9050	ARD	1	PAN
		Calculated	CCE	1	PAN
		EPA 8015B	WFG	4	PASI-K
		EPA 8015B	BA	2	PASI-K
		6010B-NE493 Ch 2	CCE	1	PAN
		EPA 6010	MA1	8	PASI-K
		EPA 6020	MRV	1	PASI-K
		EPA 8270 by SIM	JMT	17	PASI-K
		EPA 8260B	RAD	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
		SM 2540G	KDW	1	PAN
		EPA 7199	JER	1	PAN
		EPA 9045D	GI	1	PAN
		EPA 9050	ARD	1	PAN
		Calculated	CCE	1	PAN
60398351005	B5	EPA 8015B	WFG	4	PASI-K
		EPA 8015B	BA	2	PASI-K
		6010B-NE493 Ch 2	CCE	1	PAN
		EPA 6010	MA1	8	PASI-K
		EPA 6020	MRV	1	PASI-K
		EPA 8270 by SIM	JMT	17	PASI-K
		EPA 8260B	RAD	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
		SM 2540G	KDW	1	PAN
		EPA 7199	JER	1	PAN
		EPA 9045D	GI	1	PAN
		EPA 9050	ARD	1	PAN
		Calculated	CCE	1	PAN
		EPA 8015B	WFG	4	PASI-K
		EPA 8015B	BA	2	PASI-K
60398351006	B6	6010B-NE493 Ch 2	CCE	1	PAN
		EPA 6010	MA1	8	PASI-K
		EPA 6020	MRV	1	PASI-K
		EPA 8270 by SIM	JMT	17	PASI-K
		EPA 8260B	RAD	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
		SM 2540G	KDW	1	PAN

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SAMPLE ANALYTE COUNT

Project: 915-1
Pace Project No.: 60398351

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60398351007	B7	EPA 7199	JER	1	PAN
		EPA 9045D	GI	1	PAN
		EPA 9050	ARD	1	PAN
		Calculated	CCE	1	PAN
		EPA 8015B	WFG	4	PASI-K
		EPA 8015B	BA	2	PASI-K
		6010B-NE493 Ch 2	CCE	1	PAN
		EPA 6010	MA1	8	PASI-K
		EPA 6020	MRV	1	PASI-K
		EPA 8270 by SIM	JMT	17	PASI-K
		EPA 8260B	RAD	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
		SM 2540G	KDW	1	PAN
		EPA 7199	JER	1	PAN
		EPA 9045D	GI	1	PAN
		EPA 9050	ARD	1	PAN
		Calculated	CCE	1	PAN

PAN = Pace National - Mt. Juliet

PASI-K = Pace Analytical Services - Kansas City

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 915-1
Pace Project No.: 60398351

Sample: B1 **Lab ID: 60398351001** Collected: 04/19/22 09:30 Received: 04/21/22 08:45 Matrix: Solid

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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
TPH-RRO (C28-C36)	4.7J	mg/kg	20.8	4.7	1	04/26/22 20:53	04/28/22 04:56		
TPH-DRO (C10-C28)	ND	mg/kg	10.4	4.7	1	04/26/22 20:53	04/28/22 04:56		
Surrogates									
n-Tetracosane (S)	78	%	31-152		1	04/26/22 20:53	04/28/22 04:56	646-31-1	
p-Terphenyl (S)	80	%	46-130		1	04/26/22 20:53	04/28/22 04:56	92-94-4	
Gasoline Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
TPH-GRO	2.5J	mg/kg	10.2	1.2	1	04/28/22 13:57	04/28/22 22:24		B,L1
Surrogates									
4-Bromofluorobenzene (S)	96	%	63-121		1	04/28/22 13:57	04/28/22 22:24	460-00-4	
Metals (ICP) 6010B-NE493 Ch 2									
Analytical Method: 6010B-NE493 Ch 2 Preparation Method: HWS Boron									
Pace National - Mt. Juliet									
Boron, Hot Water Soluble	52.4J	ug/L	200	16.7	1	05/01/22 19:27	05/03/22 13:16	7440-42-8H	J
6010 MET ICP Red. Interference									
Analytical Method: EPA 6010 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Barium	28.3	mg/kg	0.37	0.15	1	04/26/22 11:29	04/29/22 19:30	7440-39-3	
Cadmium	0.085J	mg/kg	0.37	0.032	1	04/26/22 11:29	04/29/22 19:30	7440-43-9	
Copper	2.3	mg/kg	1.5	0.12	1	04/26/22 11:29	04/29/22 19:30	7440-50-8	
Lead	3.7	mg/kg	0.73	0.20	1	04/26/22 11:29	04/29/22 19:30	7439-92-1	
Nickel	2.6	mg/kg	0.37	0.20	1	04/26/22 11:29	04/29/22 19:30	7440-02-0	
Selenium	ND	mg/kg	1.1	0.58	1	04/26/22 11:29	04/28/22 14:59	7782-49-2	
Silver	ND	mg/kg	0.51	0.37	1	04/26/22 11:29	04/29/22 19:30	7440-22-4	
Zinc	12.2	mg/kg	7.3	0.83	1	04/26/22 11:29	04/29/22 19:30	7440-66-6	
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Arsenic	2.1	mg/kg	0.73	0.17	10	04/26/22 11:29	04/29/22 15:26	7440-38-2	
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
Acenaphthene	ND	mg/kg	0.0033	0.0012	1	04/27/22 14:12	04/28/22 14:59	83-32-9	
Anthracene	ND	mg/kg	0.0033	0.0014	1	04/27/22 14:12	04/28/22 14:59	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0033	0.0016	1	04/27/22 14:12	04/28/22 14:59	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0033	0.0012	1	04/27/22 14:12	04/28/22 14:59	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0033	0.0016	1	04/27/22 14:12	04/28/22 14:59	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0033	0.0019	1	04/27/22 14:12	04/28/22 14:59	207-08-9	
Chrysene	ND	mg/kg	0.0033	0.0016	1	04/27/22 14:12	04/28/22 14:59	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0033	0.0014	1	04/27/22 14:12	04/28/22 14:59	53-70-3	
Fluoranthene	ND	mg/kg	0.0033	0.0025	1	04/27/22 14:12	04/28/22 14:59	206-44-0	
Fluorene	ND	mg/kg	0.0033	0.0013	1	04/27/22 14:12	04/28/22 14:59	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0033	0.0014	1	04/27/22 14:12	04/28/22 14:59	193-39-5	

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ANALYTICAL RESULTS

Project: 915-1
Pace Project No.: 60398351

Sample: B1 **Lab ID: 60398351001** Collected: 04/19/22 09:30 Received: 04/21/22 08:45 Matrix: Solid

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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
1-Methylnaphthalene	ND	mg/kg	0.0033	0.0014	1	04/27/22 14:12	04/28/22 14:59	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0033	0.0013	1	04/27/22 14:12	04/28/22 14:59	91-57-6	
Naphthalene	ND	mg/kg	0.0033	0.0014	1	04/27/22 14:12	04/28/22 14:59	91-20-3	
Pyrene	ND	mg/kg	0.0033	0.0018	1	04/27/22 14:12	04/28/22 14:59	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	58	%	40-120		1	04/27/22 14:12	04/28/22 14:59	321-60-8	
Terphenyl-d14 (S)	66	%	45-130		1	04/27/22 14:12	04/28/22 14:59	1718-51-0	
8260B MSV 5035A Low Level									
Analytical Method: EPA 8260B Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
Benzene	0.0077	mg/kg	0.0053	0.00049	1	04/25/22 11:16	04/25/22 14:28	71-43-2	
Ethylbenzene	0.0026J	mg/kg	0.0053	0.00092	1	04/25/22 11:16	04/25/22 14:28	100-41-4	
Toluene	0.011J	mg/kg	0.021	0.0047	1	04/25/22 11:16	04/25/22 14:28	108-88-3	
1,2,4-Trimethylbenzene	0.00088J	mg/kg	0.0053	0.00073	1	04/25/22 11:16	04/25/22 14:28	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0053	0.00046	1	04/25/22 11:16	04/25/22 14:28	108-67-8	
Xylene (Total)	0.010J	mg/kg	0.016	0.0039	1	04/25/22 11:16	04/25/22 14:28	1330-20-7	
Surrogates									
Toluene-d8 (S)	106	%	80-120		1	04/25/22 11:16	04/25/22 14:28	2037-26-5	
4-Bromofluorobenzene (S)	102	%	83-119		1	04/25/22 11:16	04/25/22 14:28	460-00-4	
1,2-Dichlorobenzene-d4 (S)	100	%	80-120		1	04/25/22 11:16	04/25/22 14:28	2199-69-1	
Percent Moisture									
Analytical Method: ASTM D2974									
Pace Analytical Services - Kansas City									
Percent Moisture	3.8	%	0.50	0.50	1		04/22/22 17:12		
Total Solids 2540 G-2011									
Analytical Method: SM 2540G Preparation Method: SM 2540 G									
Pace National - Mt. Juliet									
Total Solids	96.5	%			1	04/29/22 08:41	04/29/22 08:46		
Wet Chemistry 7199									
Analytical Method: EPA 7199 Preparation Method: 3060A									
Pace National - Mt. Juliet									
Chromium, Hexavalent	ND	mg/kg	1.04	0.264	1	05/02/22 18:05	05/03/22 16:20	18540-29-9	PH
Wet Chemistry 9045D									
Analytical Method: EPA 9045D Preparation Method: 9045C/9045D									
Pace National - Mt. Juliet									
pH	6.99	Std. Units		0.10	1	04/30/22 10:00	04/30/22 12:00		H3
Wet Chemistry 9050AMod									
Analytical Method: EPA 9050 Preparation Method: 9050A									
Pace National - Mt. Juliet									
Specific Conductance @ 25 C	38.6	umhos/cm	10.0	10.0	1	05/01/22 15:19	05/01/22 18:35		
Calculated Results									
Analytical Method: Calculated Preparation Method: Calc									
Pace National - Mt. Juliet									
Sodium Adsorption Ratio	0.0887				1	05/02/22 23:04	05/02/22 23:04	SAR	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 915-1
Pace Project No.: 60398351

Sample: B2 **Lab ID: 60398351002** Collected: 04/19/22 09:45 Received: 04/21/22 08:45 Matrix: Solid

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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
TPH-RRO (C28-C36)	ND	mg/kg	20.4	4.6	1	04/26/22 20:53	04/28/22 05:04		
TPH-DRO (C10-C28)	ND	mg/kg	10.2	4.6	1	04/26/22 20:53	04/28/22 05:04		
Surrogates									
n-Tetracosane (S)	79	%	31-152		1	04/26/22 20:53	04/28/22 05:04	646-31-1	
p-Terphenyl (S)	79	%	46-130		1	04/26/22 20:53	04/28/22 05:04	92-94-4	
Gasoline Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
TPH-GRO	2.4J	mg/kg	9.8	1.2	1	04/28/22 13:57	04/28/22 22:39		B,L1
Surrogates									
4-Bromofluorobenzene (S)	95	%	63-121		1	04/28/22 13:57	04/28/22 22:39	460-00-4	
Metals (ICP) 6010B-NE493 Ch 2									
Analytical Method: 6010B-NE493 Ch 2 Preparation Method: HWS Boron									
Pace National - Mt. Juliet									
Boron, Hot Water Soluble	52.8J	ug/L	200	16.7	1	05/01/22 19:27	05/03/22 13:24	7440-42-8H	J
6010 MET ICP Red. Interference									
Analytical Method: EPA 6010 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Barium	24.7	mg/kg	0.46	0.19	1	04/26/22 11:29	04/29/22 19:36	7440-39-3	
Cadmium	0.098J	mg/kg	0.46	0.040	1	04/26/22 11:29	04/29/22 19:36	7440-43-9	
Copper	2.2	mg/kg	1.8	0.16	1	04/26/22 11:29	04/29/22 19:36	7440-50-8	
Lead	4.0	mg/kg	0.92	0.25	1	04/26/22 11:29	04/29/22 19:36	7439-92-1	
Nickel	2.3	mg/kg	0.46	0.25	1	04/26/22 11:29	04/29/22 19:36	7440-02-0	
Selenium	ND	mg/kg	1.4	0.73	1	04/26/22 11:29	04/29/22 19:36	7782-49-2	
Silver	ND	mg/kg	0.65	0.46	1	04/26/22 11:29	04/29/22 19:36	7440-22-4	
Zinc	13.2	mg/kg	9.2	1.0	1	04/26/22 11:29	04/29/22 19:36	7440-66-6	
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Arsenic	1.8	mg/kg	0.92	0.21	10	04/26/22 11:29	04/29/22 15:39	7440-38-2	
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
Acenaphthene	ND	mg/kg	0.0033	0.0012	1	04/27/22 14:12	04/28/22 15:17	83-32-9	
Anthracene	ND	mg/kg	0.0033	0.0014	1	04/27/22 14:12	04/28/22 15:17	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0033	0.0016	1	04/27/22 14:12	04/28/22 15:17	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0033	0.0012	1	04/27/22 14:12	04/28/22 15:17	50-32-8	
Benzo(b)fluoranthene	0.0018J	mg/kg	0.0033	0.0016	1	04/27/22 14:12	04/28/22 15:17	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0033	0.0019	1	04/27/22 14:12	04/28/22 15:17	207-08-9	
Chrysene	ND	mg/kg	0.0033	0.0016	1	04/27/22 14:12	04/28/22 15:17	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0033	0.0014	1	04/27/22 14:12	04/28/22 15:17	53-70-3	
Fluoranthene	0.0042	mg/kg	0.0033	0.0025	1	04/27/22 14:12	04/28/22 15:17	206-44-0	
Fluorene	ND	mg/kg	0.0033	0.0013	1	04/27/22 14:12	04/28/22 15:17	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0033	0.0014	1	04/27/22 14:12	04/28/22 15:17	193-39-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 915-1
Pace Project No.: 60398351

Sample: B2 **Lab ID: 60398351002** Collected: 04/19/22 09:45 Received: 04/21/22 08:45 Matrix: Solid

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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
1-Methylnaphthalene	ND	mg/kg	0.0033	0.0014	1	04/27/22 14:12	04/28/22 15:17	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0033	0.0013	1	04/27/22 14:12	04/28/22 15:17	91-57-6	
Naphthalene	ND	mg/kg	0.0033	0.0014	1	04/27/22 14:12	04/28/22 15:17	91-20-3	
Pyrene	0.0032J	mg/kg	0.0033	0.0018	1	04/27/22 14:12	04/28/22 15:17	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	65	%	40-120		1	04/27/22 14:12	04/28/22 15:17	321-60-8	
Terphenyl-d14 (S)	73	%	45-130		1	04/27/22 14:12	04/28/22 15:17	1718-51-0	
8260B MSV 5035A Low Level									
Analytical Method: EPA 8260B Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
Benzene	0.0060	mg/kg	0.0053	0.00048	1	04/25/22 11:16	04/25/22 14:49	71-43-2	
Ethylbenzene	0.0019J	mg/kg	0.0053	0.00091	1	04/25/22 11:16	04/25/22 14:49	100-41-4	
Toluene	0.0093J	mg/kg	0.021	0.0047	1	04/25/22 11:16	04/25/22 14:49	108-88-3	
1,2,4-Trimethylbenzene	0.0010J	mg/kg	0.0053	0.00072	1	04/25/22 11:16	04/25/22 14:49	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0053	0.00046	1	04/25/22 11:16	04/25/22 14:49	108-67-8	
Xylene (Total)	0.0083J	mg/kg	0.016	0.0039	1	04/25/22 11:16	04/25/22 14:49	1330-20-7	
Surrogates									
Toluene-d8 (S)	109	%	80-120		1	04/25/22 11:16	04/25/22 14:49	2037-26-5	
4-Bromofluorobenzene (S)	101	%	83-119		1	04/25/22 11:16	04/25/22 14:49	460-00-4	
1,2-Dichlorobenzene-d4 (S)	102	%	80-120		1	04/25/22 11:16	04/25/22 14:49	2199-69-1	
Percent Moisture									
Analytical Method: ASTM D2974									
Pace Analytical Services - Kansas City									
Percent Moisture	3.4	%	0.50	0.50	1		04/22/22 17:12		
Total Solids 2540 G-2011									
Analytical Method: SM 2540G Preparation Method: SM 2540 G									
Pace National - Mt. Juliet									
Total Solids	97.2	%			1	04/29/22 08:41	04/29/22 08:46		
Wet Chemistry 7199									
Analytical Method: EPA 7199 Preparation Method: 3060A									
Pace National - Mt. Juliet									
Chromium, Hexavalent	ND	mg/kg	1.03	0.262	1	05/02/22 18:05	05/03/22 16:46	18540-29-9	
Wet Chemistry 9045D									
Analytical Method: EPA 9045D Preparation Method: 9045C/9045D									
Pace National - Mt. Juliet									
pH	8.10	Std. Units		0.10	1	04/30/22 10:00	04/30/22 12:00		H3
Wet Chemistry 9050AMod									
Analytical Method: EPA 9050 Preparation Method: 9050A									
Pace National - Mt. Juliet									
Specific Conductance @ 25 C	121	umhos/cm	10.0	10.0	1	05/01/22 15:19	05/01/22 18:35		
Calculated Results									
Analytical Method: Calculated Preparation Method: Calc									
Pace National - Mt. Juliet									
Sodium Adsorption Ratio	0.686				1	05/02/22 23:07	05/02/22 23:07	SAR	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 915-1
Pace Project No.: 60398351

Sample: B3 **Lab ID: 60398351003** Collected: 04/19/22 10:00 Received: 04/21/22 08:45 Matrix: Solid

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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
TPH-RRO (C28-C36)	ND	mg/kg	20.8	4.7	1	04/26/22 20:53	04/28/22 05:12		
TPH-DRO (C10-C28)	ND	mg/kg	10.4	4.7	1	04/26/22 20:53	04/28/22 05:12		
Surrogates									
n-Tetracosane (S)	81	%	31-152		1	04/26/22 20:53	04/28/22 05:12	646-31-1	
p-Terphenyl (S)	83	%	46-130		1	04/26/22 20:53	04/28/22 05:12	92-94-4	
Gasoline Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
TPH-GRO	2.4J	mg/kg	10.6	1.3	1	04/28/22 13:57	04/28/22 22:54		B,L1
Surrogates									
4-Bromofluorobenzene (S)	97	%	63-121		1	04/28/22 13:57	04/28/22 22:54	460-00-4	
Metals (ICP) 6010B-NE493 Ch 2									
Analytical Method: 6010B-NE493 Ch 2 Preparation Method: HWS Boron									
Pace National - Mt. Juliet									
Boron, Hot Water Soluble	101J	ug/L	200	16.7	1	05/01/22 19:27	05/03/22 13:27	7440-42-8H	J
6010 MET ICP Red. Interference									
Analytical Method: EPA 6010 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Barium	27.3	mg/kg	0.51	0.21	1	04/26/22 11:29	04/29/22 19:38	7440-39-3	
Cadmium	0.080J	mg/kg	0.51	0.044	1	04/26/22 11:29	04/29/22 19:38	7440-43-9	
Copper	2.5	mg/kg	2.1	0.17	1	04/26/22 11:29	04/29/22 19:38	7440-50-8	
Lead	3.4	mg/kg	1.0	0.28	1	04/26/22 11:29	04/29/22 19:38	7439-92-1	
Nickel	2.8	mg/kg	0.51	0.28	1	04/26/22 11:29	04/29/22 19:38	7440-02-0	
Selenium	ND	mg/kg	1.5	0.82	1	04/26/22 11:29	04/29/22 19:38	7782-49-2	
Silver	ND	mg/kg	0.72	0.51	1	04/26/22 11:29	04/29/22 19:38	7440-22-4	
Zinc	12.2	mg/kg	10.3	1.2	1	04/26/22 11:29	04/29/22 19:38	7440-66-6	
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Arsenic	2.0	mg/kg	1.0	0.24	10	04/26/22 11:29	04/29/22 15:43	7440-38-2	
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
Acenaphthene	ND	mg/kg	0.0034	0.0013	1	04/27/22 14:12	04/28/22 15:35	83-32-9	
Anthracene	ND	mg/kg	0.0034	0.0014	1	04/27/22 14:12	04/28/22 15:35	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0034	0.0016	1	04/27/22 14:12	04/28/22 15:35	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0034	0.0012	1	04/27/22 14:12	04/28/22 15:35	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0034	0.0016	1	04/27/22 14:12	04/28/22 15:35	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0034	0.0019	1	04/27/22 14:12	04/28/22 15:35	207-08-9	
Chrysene	ND	mg/kg	0.0034	0.0016	1	04/27/22 14:12	04/28/22 15:35	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0034	0.0015	1	04/27/22 14:12	04/28/22 15:35	53-70-3	
Fluoranthene	ND	mg/kg	0.0034	0.0025	1	04/27/22 14:12	04/28/22 15:35	206-44-0	
Fluorene	ND	mg/kg	0.0034	0.0013	1	04/27/22 14:12	04/28/22 15:35	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0034	0.0015	1	04/27/22 14:12	04/28/22 15:35	193-39-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 915-1
Pace Project No.: 60398351

Sample: B3 **Lab ID: 60398351003** Collected: 04/19/22 10:00 Received: 04/21/22 08:45 Matrix: Solid

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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
1-Methylnaphthalene	ND	mg/kg	0.0034	0.0014	1	04/27/22 14:12	04/28/22 15:35	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0034	0.0013	1	04/27/22 14:12	04/28/22 15:35	91-57-6	
Naphthalene	ND	mg/kg	0.0034	0.0014	1	04/27/22 14:12	04/28/22 15:35	91-20-3	
Pyrene	ND	mg/kg	0.0034	0.0018	1	04/27/22 14:12	04/28/22 15:35	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	53	%	40-120		1	04/27/22 14:12	04/28/22 15:35	321-60-8	
Terphenyl-d14 (S)	61	%	45-130		1	04/27/22 14:12	04/28/22 15:35	1718-51-0	
8260B MSV 5035A Low Level									
Analytical Method: EPA 8260B Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
Benzene	0.0094	mg/kg	0.0054	0.00049	1	04/25/22 11:16	04/25/22 15:10	71-43-2	
Ethylbenzene	0.0030J	mg/kg	0.0054	0.00094	1	04/25/22 11:16	04/25/22 15:10	100-41-4	
Toluene	0.014J	mg/kg	0.022	0.0048	1	04/25/22 11:16	04/25/22 15:10	108-88-3	
1,2,4-Trimethylbenzene	0.0015J	mg/kg	0.0054	0.00075	1	04/25/22 11:16	04/25/22 15:10	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0054	0.00047	1	04/25/22 11:16	04/25/22 15:10	108-67-8	
Xylene (Total)	0.014J	mg/kg	0.016	0.0040	1	04/25/22 11:16	04/25/22 15:10	1330-20-7	
Surrogates									
Toluene-d8 (S)	111	%	80-120		1	04/25/22 11:16	04/25/22 15:10	2037-26-5	
4-Bromofluorobenzene (S)	101	%	83-119		1	04/25/22 11:16	04/25/22 15:10	460-00-4	
1,2-Dichlorobenzene-d4 (S)	102	%	80-120		1	04/25/22 11:16	04/25/22 15:10	2199-69-1	
Percent Moisture									
Analytical Method: ASTM D2974									
Pace Analytical Services - Kansas City									
Percent Moisture	4.4	%	0.50	0.50	1		04/22/22 17:13		
Total Solids 2540 G-2011									
Analytical Method: SM 2540G Preparation Method: SM 2540 G									
Pace National - Mt. Juliet									
Total Solids	95.4	%			1	04/29/22 08:41	04/29/22 08:46		
Wet Chemistry 7199									
Analytical Method: EPA 7199 Preparation Method: 3060A									
Pace National - Mt. Juliet									
Chromium, Hexavalent	ND	mg/kg	1.05	0.267	1	05/02/22 18:05	05/03/22 16:51	18540-29-9	
Wet Chemistry 9045D									
Analytical Method: EPA 9045D Preparation Method: 9045C/9045D									
Pace National - Mt. Juliet									
pH	7.92	Std. Units		0.10	1	04/30/22 10:00	04/30/22 12:00		H3
Wet Chemistry 9050AMod									
Analytical Method: EPA 9050 Preparation Method: 9050A									
Pace National - Mt. Juliet									
Specific Conductance @ 25 C	124	umhos/cm	10.0	10.0	1	05/01/22 15:19	05/01/22 18:35		
Calculated Results									
Analytical Method: Calculated Preparation Method: Calc									
Pace National - Mt. Juliet									
Sodium Adsorption Ratio	0.132				1	05/02/22 23:10	05/02/22 23:10	SAR	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 915-1
Pace Project No.: 60398351

Sample: B4 **Lab ID: 60398351004** Collected: 04/19/22 10:15 Received: 04/21/22 08:45 Matrix: Solid

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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
TPH-RRO (C28-C36)	6.7J	mg/kg	20.9	4.7	1	04/26/22 20:53	04/28/22 05:20		
TPH-DRO (C10-C28)	4.8J	mg/kg	10.4	4.7	1	04/26/22 20:53	04/28/22 05:20		
Surrogates									
n-Tetracosane (S)	77	%	31-152		1	04/26/22 20:53	04/28/22 05:20	646-31-1	
p-Terphenyl (S)	78	%	46-130		1	04/26/22 20:53	04/28/22 05:20	92-94-4	
Gasoline Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
TPH-GRO	2.8J	mg/kg	10.2	1.2	1	04/28/22 13:57	04/28/22 23:09		B,L1
Surrogates									
4-Bromofluorobenzene (S)	92	%	63-121		1	04/28/22 13:57	04/28/22 23:09	460-00-4	
Metals (ICP) 6010B-NE493 Ch 2									
Analytical Method: 6010B-NE493 Ch 2 Preparation Method: HWS Boron									
Pace National - Mt. Juliet									
Boron, Hot Water Soluble	118J	ug/L	200	16.7	1	05/01/22 19:27	05/03/22 13:29	7440-42-8H	J
6010 MET ICP Red. Interference									
Analytical Method: EPA 6010 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Barium	24.3	mg/kg	0.38	0.16	1	04/26/22 11:29	04/29/22 19:40	7440-39-3	
Cadmium	0.074J	mg/kg	0.38	0.033	1	04/26/22 11:29	04/29/22 19:40	7440-43-9	
Copper	2.6	mg/kg	1.5	0.13	1	04/26/22 11:29	04/29/22 19:40	7440-50-8	
Lead	3.5	mg/kg	0.76	0.21	1	04/26/22 11:29	04/29/22 19:40	7439-92-1	
Nickel	2.7	mg/kg	0.38	0.21	1	04/26/22 11:29	04/29/22 19:40	7440-02-0	
Selenium	ND	mg/kg	1.1	0.60	1	04/26/22 11:29	04/29/22 19:40	7782-49-2	
Silver	ND	mg/kg	0.53	0.38	1	04/26/22 11:29	04/29/22 19:40	7440-22-4	
Zinc	11.2	mg/kg	7.6	0.86	1	04/26/22 11:29	04/29/22 19:40	7440-66-6	
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Arsenic	2.2	mg/kg	0.76	0.17	10	04/26/22 11:29	04/29/22 15:46	7440-38-2	
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
Acenaphthene	ND	mg/kg	0.0034	0.0013	1	04/27/22 14:12	04/28/22 15:53	83-32-9	
Anthracene	ND	mg/kg	0.0034	0.0014	1	04/27/22 14:12	04/28/22 15:53	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0034	0.0016	1	04/27/22 14:12	04/28/22 15:53	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0034	0.0013	1	04/27/22 14:12	04/28/22 15:53	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0034	0.0017	1	04/27/22 14:12	04/28/22 15:53	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0034	0.0019	1	04/27/22 14:12	04/28/22 15:53	207-08-9	
Chrysene	ND	mg/kg	0.0034	0.0016	1	04/27/22 14:12	04/28/22 15:53	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0034	0.0015	1	04/27/22 14:12	04/28/22 15:53	53-70-3	
Fluoranthene	ND	mg/kg	0.0034	0.0026	1	04/27/22 14:12	04/28/22 15:53	206-44-0	
Fluorene	ND	mg/kg	0.0034	0.0013	1	04/27/22 14:12	04/28/22 15:53	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0034	0.0015	1	04/27/22 14:12	04/28/22 15:53	193-39-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 915-1
Pace Project No.: 60398351

Sample: B4 **Lab ID: 60398351004** Collected: 04/19/22 10:15 Received: 04/21/22 08:45 Matrix: Solid

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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
1-Methylnaphthalene	ND	mg/kg	0.0034	0.0014	1	04/27/22 14:12	04/28/22 15:53	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0034	0.0014	1	04/27/22 14:12	04/28/22 15:53	91-57-6	
Naphthalene	ND	mg/kg	0.0034	0.0015	1	04/27/22 14:12	04/28/22 15:53	91-20-3	
Pyrene	ND	mg/kg	0.0034	0.0019	1	04/27/22 14:12	04/28/22 15:53	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	69	%	40-120		1	04/27/22 14:12	04/28/22 15:53	321-60-8	
Terphenyl-d14 (S)	79	%	45-130		1	04/27/22 14:12	04/28/22 15:53	1718-51-0	
8260B MSV 5035A Low Level									
Analytical Method: EPA 8260B Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
Benzene	0.0073	mg/kg	0.0055	0.00050	1	04/25/22 11:16	04/25/22 15:30	71-43-2	
Ethylbenzene	0.0026J	mg/kg	0.0055	0.00095	1	04/25/22 11:16	04/25/22 15:30	100-41-4	
Toluene	0.011J	mg/kg	0.022	0.0049	1	04/25/22 11:16	04/25/22 15:30	108-88-3	
1,2,4-Trimethylbenzene	0.0013J	mg/kg	0.0055	0.00076	1	04/25/22 11:16	04/25/22 15:30	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0055	0.00048	1	04/25/22 11:16	04/25/22 15:30	108-67-8	
Xylene (Total)	0.011J	mg/kg	0.016	0.0040	1	04/25/22 11:16	04/25/22 15:30	1330-20-7	
Surrogates									
Toluene-d8 (S)	106	%	80-120		1	04/25/22 11:16	04/25/22 15:30	2037-26-5	
4-Bromofluorobenzene (S)	100	%	83-119		1	04/25/22 11:16	04/25/22 15:30	460-00-4	
1,2-Dichlorobenzene-d4 (S)	101	%	80-120		1	04/25/22 11:16	04/25/22 15:30	2199-69-1	
Percent Moisture									
Analytical Method: ASTM D2974									
Pace Analytical Services - Kansas City									
Percent Moisture	4.8	%	0.50	0.50	1		04/22/22 17:13		
Total Solids 2540 G-2011									
Analytical Method: SM 2540G Preparation Method: SM 2540 G									
Pace National - Mt. Juliet									
Total Solids	95.9	%			1	04/29/22 08:41	04/29/22 08:46		
Wet Chemistry 7199									
Analytical Method: EPA 7199 Preparation Method: 3060A									
Pace National - Mt. Juliet									
Chromium, Hexavalent	ND	mg/kg	1.04	0.266	1	05/02/22 18:05	05/03/22 16:57	18540-29-9	
Wet Chemistry 9045D									
Analytical Method: EPA 9045D Preparation Method: 9045C/9045D									
Pace National - Mt. Juliet									
pH	7.85	Std. Units		0.10	1	04/30/22 10:00	04/30/22 12:00		H3
Wet Chemistry 9050AMod									
Analytical Method: EPA 9050 Preparation Method: 9050A									
Pace National - Mt. Juliet									
Specific Conductance @ 25 C	127	umhos/cm	10.0	10.0	1	05/01/22 15:19	05/01/22 18:35		
Calculated Results									
Analytical Method: Calculated Preparation Method: Calc									
Pace National - Mt. Juliet									
Sodium Adsorption Ratio	0.120				1	05/02/22 23:13	05/02/22 23:13	SAR	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 915-1
Pace Project No.: 60398351

Sample: B5 **Lab ID: 60398351005** Collected: 04/19/22 10:30 Received: 04/21/22 08:45 Matrix: Solid

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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
TPH-RRO (C28-C36)	20.0J	mg/kg	20.3	4.5	1	04/26/22 20:53	04/28/22 05:44		
TPH-DRO (C10-C28)	14.9	mg/kg	10.2	4.5	1	04/26/22 20:53	04/28/22 05:44		
Surrogates									
n-Tetracosane (S)	86	%	31-152		1	04/26/22 20:53	04/28/22 05:44	646-31-1	
p-Terphenyl (S)	86	%	46-130		1	04/26/22 20:53	04/28/22 05:44	92-94-4	
Gasoline Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
TPH-GRO	2.7J	mg/kg	10.5	1.3	1	04/28/22 13:57	04/28/22 23:24		B,L1
Surrogates									
4-Bromofluorobenzene (S)	95	%	63-121		1	04/28/22 13:57	04/28/22 23:24	460-00-4	
Metals (ICP) 6010B-NE493 Ch 2									
Analytical Method: 6010B-NE493 Ch 2 Preparation Method: HWS Boron									
Pace National - Mt. Juliet									
Boron, Hot Water Soluble	948	ug/L	200	16.7	1	05/01/22 19:27	05/03/22 13:32	7440-42-8H	
6010 MET ICP Red. Interference									
Analytical Method: EPA 6010 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Barium	168	mg/kg	0.36	0.15	1	04/26/22 11:29	04/29/22 19:42	7440-39-3	
Cadmium	0.25J	mg/kg	0.36	0.031	1	04/26/22 11:29	04/29/22 19:42	7440-43-9	
Copper	10.3	mg/kg	1.5	0.12	1	04/26/22 11:29	04/29/22 19:42	7440-50-8	
Lead	8.4	mg/kg	0.73	0.20	1	04/26/22 11:29	04/29/22 19:42	7439-92-1	
Nickel	9.1	mg/kg	0.36	0.20	1	04/26/22 11:29	04/29/22 19:42	7440-02-0	
Selenium	0.65J	mg/kg	1.1	0.58	1	04/26/22 11:29	04/29/22 19:42	7782-49-2	
Silver	ND	mg/kg	0.51	0.36	1	04/26/22 11:29	04/29/22 19:42	7440-22-4	
Zinc	25.6	mg/kg	7.3	0.82	1	04/26/22 11:29	04/29/22 19:42	7440-66-6	
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Arsenic	3.8	mg/kg	0.73	0.17	10	04/26/22 11:29	04/29/22 15:49	7440-38-2	
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
Acenaphthene	ND	mg/kg	0.0035	0.0013	1	04/27/22 14:12	04/28/22 16:11	83-32-9	
Anthracene	ND	mg/kg	0.0035	0.0014	1	04/27/22 14:12	04/28/22 16:11	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0035	0.0016	1	04/27/22 14:12	04/28/22 16:11	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0035	0.0013	1	04/27/22 14:12	04/28/22 16:11	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0035	0.0017	1	04/27/22 14:12	04/28/22 16:11	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0035	0.0019	1	04/27/22 14:12	04/28/22 16:11	207-08-9	
Chrysene	0.0028J	mg/kg	0.0035	0.0017	1	04/27/22 14:12	04/28/22 16:11	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0035	0.0015	1	04/27/22 14:12	04/28/22 16:11	53-70-3	
Fluoranthene	ND	mg/kg	0.0035	0.0026	1	04/27/22 14:12	04/28/22 16:11	206-44-0	
Fluorene	ND	mg/kg	0.0035	0.0014	1	04/27/22 14:12	04/28/22 16:11	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0035	0.0015	1	04/27/22 14:12	04/28/22 16:11	193-39-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 915-1
Pace Project No.: 60398351

Sample: B5 **Lab ID: 60398351005** Collected: 04/19/22 10:30 Received: 04/21/22 08:45 Matrix: Solid

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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
1-Methylnaphthalene	0.0046	mg/kg	0.0035	0.0014	1	04/27/22 14:12	04/28/22 16:11	90-12-0	
2-Methylnaphthalene	0.0054	mg/kg	0.0035	0.0014	1	04/27/22 14:12	04/28/22 16:11	91-57-6	
Naphthalene	0.0025J	mg/kg	0.0035	0.0015	1	04/27/22 14:12	04/28/22 16:11	91-20-3	
Pyrene	0.0023J	mg/kg	0.0035	0.0019	1	04/27/22 14:12	04/28/22 16:11	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	70	%	40-120		1	04/27/22 14:12	04/28/22 16:11	321-60-8	
Terphenyl-d14 (S)	79	%	45-130		1	04/27/22 14:12	04/28/22 16:11	1718-51-0	
8260B MSV 5035A Low Level									
Analytical Method: EPA 8260B Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
Benzene	0.011	mg/kg	0.0056	0.00051	1	04/25/22 11:16	04/25/22 15:51	71-43-2	
Ethylbenzene	0.0038J	mg/kg	0.0056	0.00097	1	04/25/22 11:16	04/25/22 15:51	100-41-4	
Toluene	0.017J	mg/kg	0.022	0.0050	1	04/25/22 11:16	04/25/22 15:51	108-88-3	
1,2,4-Trimethylbenzene	0.0021J	mg/kg	0.0056	0.00077	1	04/25/22 11:16	04/25/22 15:51	95-63-6	
1,3,5-Trimethylbenzene	0.00049J	mg/kg	0.0056	0.00048	1	04/25/22 11:16	04/25/22 15:51	108-67-8	
Xylene (Total)	0.018	mg/kg	0.017	0.0041	1	04/25/22 11:16	04/25/22 15:51	1330-20-7	
Surrogates									
Toluene-d8 (S)	110	%	80-120		1	04/25/22 11:16	04/25/22 15:51	2037-26-5	
4-Bromofluorobenzene (S)	101	%	83-119		1	04/25/22 11:16	04/25/22 15:51	460-00-4	
1,2-Dichlorobenzene-d4 (S)	101	%	80-120		1	04/25/22 11:16	04/25/22 15:51	2199-69-1	
Percent Moisture									
Analytical Method: ASTM D2974									
Pace Analytical Services - Kansas City									
Percent Moisture	5.5	%	0.50	0.50	1		04/22/22 17:13		
Total Solids 2540 G-2011									
Analytical Method: SM 2540G Preparation Method: SM 2540 G									
Pace National - Mt. Juliet									
Total Solids	95.5	%			1	04/29/22 08:41	04/29/22 08:46		
Wet Chemistry 7199									
Analytical Method: EPA 7199 Preparation Method: 3060A									
Pace National - Mt. Juliet									
Chromium, Hexavalent	ND	mg/kg	1.05	0.267	1	05/02/22 18:05	05/03/22 17:12	18540-29-9	
Wet Chemistry 9045D									
Analytical Method: EPA 9045D Preparation Method: 9045C/9045D									
Pace National - Mt. Juliet									
pH	8.01	Std. Units		0.10	1	04/29/22 08:00	04/29/22 10:00		H3
Wet Chemistry 9050AMod									
Analytical Method: EPA 9050 Preparation Method: 9050A									
Pace National - Mt. Juliet									
Specific Conductance @ 25 C	3180	umhos/cm	10.0	10.0	1	05/01/22 15:19	05/01/22 18:35		
Calculated Results									
Analytical Method: Calculated Preparation Method: Calc									
Pace National - Mt. Juliet									
Sodium Adsorption Ratio	5.59				1	05/02/22 23:21	05/02/22 23:21	SAR	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 915-1
Pace Project No.: 60398351

Sample: B6 **Lab ID: 60398351006** Collected: 04/19/22 10:45 Received: 04/21/22 08:45 Matrix: Solid

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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
TPH-RRO (C28-C36)	15.1J	mg/kg	20.8	4.7	1	04/26/22 20:53	04/28/22 05:52		
TPH-DRO (C10-C28)	8.7J	mg/kg	10.4	4.7	1	04/26/22 20:53	04/28/22 05:52		
Surrogates									
n-Tetracosane (S)	79	%	31-152		1	04/26/22 20:53	04/28/22 05:52	646-31-1	
p-Terphenyl (S)	79	%	46-130		1	04/26/22 20:53	04/28/22 05:52	92-94-4	
Gasoline Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
TPH-GRO	1.8J	mg/kg	10.1	1.2	1	04/28/22 13:57	04/28/22 23:38		B,L1
Surrogates									
4-Bromofluorobenzene (S)	94	%	63-121		1	04/28/22 13:57	04/28/22 23:38	460-00-4	
Metals (ICP) 6010B-NE493 Ch 2									
Analytical Method: 6010B-NE493 Ch 2 Preparation Method: HWS Boron									
Pace National - Mt. Juliet									
Boron, Hot Water Soluble	166J	ug/L	200	16.7	1	05/01/22 19:27	05/03/22 13:35	7440-42-8H	J
6010 MET ICP Red. Interference									
Analytical Method: EPA 6010 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Barium	41.3	mg/kg	0.38	0.16	1	04/26/22 11:29	04/29/22 19:44	7440-39-3	
Cadmium	0.14J	mg/kg	0.38	0.033	1	04/26/22 11:29	04/29/22 19:44	7440-43-9	
Copper	3.5	mg/kg	1.5	0.13	1	04/26/22 11:29	04/29/22 19:44	7440-50-8	
Lead	5.0	mg/kg	0.76	0.21	1	04/26/22 11:29	04/29/22 19:44	7439-92-1	
Nickel	3.7	mg/kg	0.38	0.21	1	04/26/22 11:29	04/29/22 19:44	7440-02-0	
Selenium	ND	mg/kg	1.1	0.61	1	04/26/22 11:29	04/28/22 19:44	7782-49-2	
Silver	ND	mg/kg	0.53	0.38	1	04/26/22 11:29	04/29/22 19:44	7440-22-4	
Zinc	16.8	mg/kg	7.6	0.86	1	04/26/22 11:29	04/29/22 19:44	7440-66-6	
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Arsenic	2.3	mg/kg	0.76	0.18	10	04/26/22 11:29	04/29/22 15:52	7440-38-2	
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
Acenaphthene	ND	mg/kg	0.0034	0.0013	1	04/27/22 14:12	04/28/22 16:29	83-32-9	
Anthracene	ND	mg/kg	0.0034	0.0014	1	04/27/22 14:12	04/28/22 16:29	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0034	0.0016	1	04/27/22 14:12	04/28/22 16:29	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0034	0.0012	1	04/27/22 14:12	04/28/22 16:29	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0034	0.0016	1	04/27/22 14:12	04/28/22 16:29	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0034	0.0019	1	04/27/22 14:12	04/28/22 16:29	207-08-9	
Chrysene	ND	mg/kg	0.0034	0.0016	1	04/27/22 14:12	04/28/22 16:29	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0034	0.0014	1	04/27/22 14:12	04/28/22 16:29	53-70-3	
Fluoranthene	ND	mg/kg	0.0034	0.0025	1	04/27/22 14:12	04/28/22 16:29	206-44-0	
Fluorene	ND	mg/kg	0.0034	0.0013	1	04/27/22 14:12	04/28/22 16:29	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0034	0.0014	1	04/27/22 14:12	04/28/22 16:29	193-39-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 915-1
Pace Project No.: 60398351

Sample: B6 **Lab ID: 60398351006** Collected: 04/19/22 10:45 Received: 04/21/22 08:45 Matrix: Solid

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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
1-Methylnaphthalene	ND	mg/kg	0.0034	0.0014	1	04/27/22 14:12	04/28/22 16:29	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0034	0.0013	1	04/27/22 14:12	04/28/22 16:29	91-57-6	
Naphthalene	ND	mg/kg	0.0034	0.0014	1	04/27/22 14:12	04/28/22 16:29	91-20-3	
Pyrene	ND	mg/kg	0.0034	0.0018	1	04/27/22 14:12	04/28/22 16:29	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	67	%	40-120		1	04/27/22 14:12	04/28/22 16:29	321-60-8	
Terphenyl-d14 (S)	77	%	45-130		1	04/27/22 14:12	04/28/22 16:29	1718-51-0	
8260B MSV 5035A Low Level									
Analytical Method: EPA 8260B Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
Benzene	0.010	mg/kg	0.0053	0.00049	1	04/25/22 11:16	04/25/22 16:11	71-43-2	
Ethylbenzene	0.0038J	mg/kg	0.0053	0.00092	1	04/25/22 11:16	04/25/22 16:11	100-41-4	
Toluene	0.016J	mg/kg	0.021	0.0047	1	04/25/22 11:16	04/25/22 16:11	108-88-3	
1,2,4-Trimethylbenzene	0.0017J	mg/kg	0.0053	0.00074	1	04/25/22 11:16	04/25/22 16:11	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0053	0.00046	1	04/25/22 11:16	04/25/22 16:11	108-67-8	
Xylene (Total)	0.017	mg/kg	0.016	0.0039	1	04/25/22 11:16	04/25/22 16:11	1330-20-7	
Surrogates									
Toluene-d8 (S)	110	%	80-120		1	04/25/22 11:16	04/25/22 16:11	2037-26-5	
4-Bromofluorobenzene (S)	102	%	83-119		1	04/25/22 11:16	04/25/22 16:11	460-00-4	
1,2-Dichlorobenzene-d4 (S)	100	%	80-120		1	04/25/22 11:16	04/25/22 16:11	2199-69-1	
Percent Moisture									
Analytical Method: ASTM D2974									
Pace Analytical Services - Kansas City									
Percent Moisture	3.7	%	0.50	0.50	1		04/22/22 17:13		
Total Solids 2540 G-2011									
Analytical Method: SM 2540G Preparation Method: SM 2540 G									
Pace National - Mt. Juliet									
Total Solids	96.9	%			1	04/29/22 08:41	04/29/22 08:46		
Wet Chemistry 7199									
Analytical Method: EPA 7199 Preparation Method: 3060A									
Pace National - Mt. Juliet									
Chromium, Hexavalent	ND	mg/kg	1.03	0.263	1	05/02/22 18:05	05/03/22 17:17	18540-29-9	
Wet Chemistry 9045D									
Analytical Method: EPA 9045D Preparation Method: 9045C/9045D									
Pace National - Mt. Juliet									
pH	7.85	Std. Units		0.10	1	04/30/22 10:00	04/30/22 12:00		H3
Wet Chemistry 9050AMod									
Analytical Method: EPA 9050 Preparation Method: 9050A									
Pace National - Mt. Juliet									
Specific Conductance @ 25 C	1010	umhos/cm	10.0	10.0	1	05/01/22 15:19	05/01/22 18:35		
Calculated Results									
Analytical Method: Calculated Preparation Method: Calc									
Pace National - Mt. Juliet									
Sodium Adsorption Ratio	1.95				1	05/02/22 23:23	05/02/22 23:23	SAR	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 915-1
Pace Project No.: 60398351

Sample: B7 **Lab ID: 60398351007** Collected: 04/19/22 11:00 Received: 04/21/22 08:45 Matrix: Solid

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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
TPH-RRO (C28-C36)	18.9J	mg/kg	21.0	4.7	1	04/26/22 20:53	04/28/22 06:01		
TPH-DRO (C10-C28)	16.3	mg/kg	10.5	4.7	1	04/26/22 20:53	04/28/22 06:01		
Surrogates									
n-Tetracosane (S)	95	%	31-152		1	04/26/22 20:53	04/28/22 06:01	646-31-1	
p-Terphenyl (S)	95	%	46-130		1	04/26/22 20:53	04/28/22 06:01	92-94-4	
Gasoline Range Organics									
Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
TPH-GRO	3.8J	mg/kg	11.0	1.3	1	04/28/22 13:57	04/28/22 23:53		B,L1
Surrogates									
4-Bromofluorobenzene (S)	95	%	63-121		1	04/28/22 13:57	04/28/22 23:53	460-00-4	
Metals (ICP) 6010B-NE493 Ch 2									
Analytical Method: 6010B-NE493 Ch 2 Preparation Method: HWS Boron									
Pace National - Mt. Juliet									
Boron, Hot Water Soluble	1750	ug/L	200	16.7	1	05/01/22 19:27	05/03/22 13:38	7440-42-8H	
6010 MET ICP Red. Interference									
Analytical Method: EPA 6010 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Barium	96.4	mg/kg	0.44	0.18	1	04/26/22 11:29	04/29/22 19:46	7440-39-3	
Cadmium	0.29J	mg/kg	0.44	0.038	1	04/26/22 11:29	04/29/22 19:46	7440-43-9	
Copper	5.5	mg/kg	1.8	0.15	1	04/26/22 11:29	04/29/22 19:46	7440-50-8	
Lead	5.8	mg/kg	0.88	0.24	1	04/26/22 11:29	04/29/22 19:46	7439-92-1	
Nickel	6.3	mg/kg	0.44	0.24	1	04/26/22 11:29	04/29/22 19:46	7440-02-0	
Selenium	ND	mg/kg	1.3	0.70	1	04/26/22 11:29	04/29/22 19:46	7782-49-2	
Silver	ND	mg/kg	0.62	0.44	1	04/26/22 11:29	04/29/22 19:46	7440-22-4	
Zinc	23.1	mg/kg	8.8	1.0	1	04/26/22 11:29	04/29/22 19:46	7440-66-6	
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050									
Pace Analytical Services - Kansas City									
Arsenic	2.7	mg/kg	0.88	0.20	10	04/26/22 11:29	04/29/22 15:59	7440-38-2	
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
Acenaphthene	ND	mg/kg	0.0035	0.0013	1	04/27/22 14:12	04/28/22 16:47	83-32-9	
Anthracene	ND	mg/kg	0.0035	0.0014	1	04/27/22 14:12	04/28/22 16:47	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0035	0.0016	1	04/27/22 14:12	04/28/22 16:47	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0035	0.0013	1	04/27/22 14:12	04/28/22 16:47	50-32-8	
Benzo(b)fluoranthene	0.0018J	mg/kg	0.0035	0.0017	1	04/27/22 14:12	04/28/22 16:47	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0035	0.0019	1	04/27/22 14:12	04/28/22 16:47	207-08-9	
Chrysene	0.0032J	mg/kg	0.0035	0.0017	1	04/27/22 14:12	04/28/22 16:47	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0035	0.0015	1	04/27/22 14:12	04/28/22 16:47	53-70-3	
Fluoranthene	0.0035J	mg/kg	0.0035	0.0026	1	04/27/22 14:12	04/28/22 16:47	206-44-0	
Fluorene	ND	mg/kg	0.0035	0.0014	1	04/27/22 14:12	04/28/22 16:47	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0035	0.0015	1	04/27/22 14:12	04/28/22 16:47	193-39-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 915-1
Pace Project No.: 60398351

Sample: B7 **Lab ID: 60398351007** Collected: 04/19/22 11:00 Received: 04/21/22 08:45 Matrix: Solid

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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM									
Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3546									
Pace Analytical Services - Kansas City									
1-Methylnaphthalene	0.0022J	mg/kg	0.0035	0.0014	1	04/27/22 14:12	04/28/22 16:47	90-12-0	
2-Methylnaphthalene	0.0019J	mg/kg	0.0035	0.0014	1	04/27/22 14:12	04/28/22 16:47	91-57-6	
Naphthalene	ND	mg/kg	0.0035	0.0015	1	04/27/22 14:12	04/28/22 16:47	91-20-3	
Pyrene	0.0035	mg/kg	0.0035	0.0019	1	04/27/22 14:12	04/28/22 16:47	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	60	%	40-120		1	04/27/22 14:12	04/28/22 16:47	321-60-8	
Terphenyl-d14 (S)	68	%	45-130		1	04/27/22 14:12	04/28/22 16:47	1718-51-0	
8260B MSV 5035A Low Level									
Analytical Method: EPA 8260B Preparation Method: EPA 5035A/5030B									
Pace Analytical Services - Kansas City									
Benzene	0.0065	mg/kg	0.0056	0.00051	1	04/25/22 11:16	04/25/22 16:31	71-43-2	
Ethylbenzene	0.0026J	mg/kg	0.0056	0.00097	1	04/25/22 11:16	04/25/22 16:31	100-41-4	
Toluene	0.011J	mg/kg	0.022	0.0050	1	04/25/22 11:16	04/25/22 16:31	108-88-3	
1,2,4-Trimethylbenzene	0.0013J	mg/kg	0.0056	0.00077	1	04/25/22 11:16	04/25/22 16:31	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0056	0.00048	1	04/25/22 11:16	04/25/22 16:31	108-67-8	
Xylene (Total)	0.012J	mg/kg	0.017	0.0041	1	04/25/22 11:16	04/25/22 16:31	1330-20-7	
Surrogates									
Toluene-d8 (S)	106	%	80-120		1	04/25/22 11:16	04/25/22 16:31	2037-26-5	
4-Bromofluorobenzene (S)	101	%	83-119		1	04/25/22 11:16	04/25/22 16:31	460-00-4	
1,2-Dichlorobenzene-d4 (S)	101	%	80-120		1	04/25/22 11:16	04/25/22 16:31	2199-69-1	
Percent Moisture									
Analytical Method: ASTM D2974									
Pace Analytical Services - Kansas City									
Percent Moisture	5.6	%	0.50	0.50	1		04/22/22 17:13		
Total Solids 2540 G-2011									
Analytical Method: SM 2540G Preparation Method: SM 2540 G									
Pace National - Mt. Juliet									
Total Solids	80.3	%			1	04/29/22 08:41	04/29/22 08:46		
Wet Chemistry 7199									
Analytical Method: EPA 7199 Preparation Method: 3060A									
Pace National - Mt. Juliet									
Chromium, Hexavalent	ND	mg/kg	1.24	0.317	1	05/02/22 18:05	05/03/22 17:23	18540-29-9	
Wet Chemistry 9045D									
Analytical Method: EPA 9045D Preparation Method: 9045C/9045D									
Pace National - Mt. Juliet									
pH	7.98	Std. Units		0.10	1	04/30/22 10:00	04/30/22 12:00		H3
Wet Chemistry 9050AMod									
Analytical Method: EPA 9050 Preparation Method: 9050A									
Pace National - Mt. Juliet									
Specific Conductance @ 25 C	2060	umhos/cm	10.0	10.0	1	05/01/22 15:19	05/01/22 18:35		
Calculated Results									
Analytical Method: Calculated Preparation Method: Calc									
Pace National - Mt. Juliet									
Sodium Adsorption Ratio	12.3				1	05/02/22 23:26	05/02/22 23:26	SAR	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 915-1
Pace Project No.: 60398351

QC Batch:	783730	Analysis Method:	EPA 8015B
QC Batch Method:	EPA 5035A/5030B	Analysis Description:	Gasoline Range Organics
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351005, 60398351006, 60398351007

METHOD BLANK: 3125314 Matrix: Solid
Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351005, 60398351006, 60398351007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH-GRO	mg/kg	2.9J	10.0	1.2	04/28/22 18:52	
4-Bromofluorobenzene (S)	%	91	63-121		04/28/22 18:52	

LABORATORY CONTROL SAMPLE: 3125315

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-GRO	mg/kg	50	54.0	108	71-107	L1
4-Bromofluorobenzene (S)	%			98	63-121	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3125316 3125317

Parameter	Units	60398637001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH-GRO	mg/kg	568	620	620	1040	1020	77	73	29-143	2	26	
4-Bromofluorobenzene (S)	%						103	102	63-121			

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QUALITY CONTROL DATA

Project: 915-1
Pace Project No.: 60398351

QC Batch:	1854799	Analysis Method:	6010B-NE493 Ch 2
QC Batch Method:	HWS Boron	Analysis Description:	Metals (ICP) 6010B-NE493 Ch 2
		Laboratory:	Pace National - Mt. Juliet

Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351005, 60398351006, 60398351007

METHOD BLANK: R3787632-1 Matrix: Solid
Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351005, 60398351006, 60398351007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron, Hot Water Soluble	ug/L	ND	200	16.7	05/03/22 12:52	

LABORATORY CONTROL SAMPLE & LCSD: R3787632-2		R3787632-3								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Boron, Hot Water Soluble	ug/L	1000	968	992	96.8	99.2	80.0-120	2.46	20	

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QUALITY CONTROL DATA

Project: 915-1
Pace Project No.: 60398351

QC Batch:	783290	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3050	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351005, 60398351006, 60398351007

METHOD BLANK: 3123533 Matrix: Solid
Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351005, 60398351006, 60398351007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	mg/kg	ND	0.50	0.21	04/29/22 19:22	
Cadmium	mg/kg	ND	0.50	0.043	04/29/22 19:22	
Copper	mg/kg	ND	2.0	0.17	04/29/22 19:22	
Lead	mg/kg	ND	1.0	0.27	04/29/22 19:22	
Nickel	mg/kg	ND	0.50	0.27	04/29/22 19:22	
Selenium	mg/kg	ND	1.5	0.80	04/29/22 19:22	
Silver	mg/kg	ND	0.70	0.50	04/29/22 19:22	
Zinc	mg/kg	ND	10.0	1.1	04/29/22 19:22	

LABORATORY CONTROL SAMPLE: 3123534

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/kg	100	97.5	98	80-120	
Cadmium	mg/kg	100	96.6	97	80-120	
Copper	mg/kg	100	96.6	97	80-120	
Lead	mg/kg	100	97.3	97	80-120	
Nickel	mg/kg	100	99.5	99	80-120	
Selenium	mg/kg	100	83.9	84	80-120	
Silver	mg/kg	50	45.9	92	80-120	
Zinc	mg/kg	100	96.3	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3123535 3123536

Parameter	Units	60398351001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/kg	28.3	71.2	71.2	95.3	97.4	94	97	75-125	2	20	
Cadmium	mg/kg	0.085J	71.2	71.2	62.3	65.3	87	92	75-125	5	20	
Copper	mg/kg	2.3	71.2	71.2	67.5	68.8	92	93	75-125	2	20	
Lead	mg/kg	3.7	71.2	71.2	66.3	69.4	88	92	75-125	5	20	
Nickel	mg/kg	2.6	71.2	71.2	66.5	69.0	90	93	75-125	4	20	
Selenium	mg/kg	ND	71.2	71.2	55.5	57.5	78	81	75-125	4	20	
Silver	mg/kg	ND	35.5	35.5	30.3	31.7	85	89	75-125	5	20	
Zinc	mg/kg	12.2	71.2	71.2	75.5	78.0	89	93	75-125	3	20	

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QUALITY CONTROL DATA

Project: 915-1
Pace Project No.: 60398351

QC Batch:	783072	Analysis Method:	EPA 6020
QC Batch Method:	EPA 3050	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351005, 60398351006, 60398351007

METHOD BLANK: 3122670 Matrix: Solid
Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351005, 60398351006, 60398351007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/kg	ND	1.0	0.23	04/29/22 15:21	

LABORATORY CONTROL SAMPLE: 3122671

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	100	88.4	88	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122672 3122673

Parameter	Units	60398351001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	2.1	71.2	71.2	62.0	65.4	84	89	75-125	5	20	

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QUALITY CONTROL DATA

Project: 915-1
Pace Project No.: 60398351

QC Batch:	783074	Analysis Method:	EPA 8260B
QC Batch Method:	EPA 5035A/5030B	Analysis Description:	8260B MSV 5035A Low Level
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351005, 60398351006, 60398351007

METHOD BLANK: 3122682 Matrix: Solid
Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351005, 60398351006, 60398351007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	mg/kg	ND	0.0050	0.00069	04/25/22 14:08	
1,3,5-Trimethylbenzene	mg/kg	ND	0.0050	0.00043	04/25/22 14:08	
Benzene	mg/kg	ND	0.0050	0.00046	04/25/22 14:08	
Ethylbenzene	mg/kg	ND	0.0050	0.00087	04/25/22 14:08	
Toluene	mg/kg	ND	0.020	0.0044	04/25/22 14:08	
Xylene (Total)	mg/kg	ND	0.015	0.0037	04/25/22 14:08	
1,2-Dichlorobenzene-d4 (S)	%	102	80-120		04/25/22 14:08	
4-Bromofluorobenzene (S)	%	102	83-119		04/25/22 14:08	
Toluene-d8 (S)	%	113	80-120		04/25/22 14:08	

LABORATORY CONTROL SAMPLE: 3122683

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	mg/kg	1.2	1.2	97	79-121	
1,3,5-Trimethylbenzene	mg/kg	1.2	1.2	97	81-122	
Benzene	mg/kg	1.2	1.2	95	67-126	
Ethylbenzene	mg/kg	1.2	1.2	95	69-127	
Toluene	mg/kg	1.2	1.1	89	80-118	
Xylene (Total)	mg/kg	3.8	3.7	98	69-130	
1,2-Dichlorobenzene-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			100	83-119	
Toluene-d8 (S)	%			95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122684 3122685

Parameter	Units	60398351001	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Max	Qual
		Result	Spike Conc.	Spike Conc.								
1,2,4-Trimethylbenzene	mg/kg	0.00088J	1.4	1.4	1.5	1.5	113	111	10-124	2	68	
1,3,5-Trimethylbenzene	mg/kg	ND	1.4	1.4	1.5	1.5	112	109	10-125	3	65	
Benzene	mg/kg	0.0077	1.4	1.4	1.4	1.4	104	102	17-134	2	53	
Ethylbenzene	mg/kg	0.0026J	1.4	1.4	1.4	1.4	105	104	10-137	1	60	
Toluene	mg/kg	0.011J	1.4	1.4	1.4	1.3	103	100	13-131	2	60	
Xylene (Total)	mg/kg	0.010J	3.9	3.9	4.3	4.3	109	107	10-137	2	58	
1,2-Dichlorobenzene-d4 (S)	%						102	103	80-120			
4-Bromofluorobenzene (S)	%						99	99	83-119			
Toluene-d8 (S)	%						95	96	80-120			

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QUALITY CONTROL DATA

Project: 915-1
Pace Project No.: 60398351

QC Batch:	783120	Analysis Method:	EPA 8015B
QC Batch Method:	EPA 3546	Analysis Description:	EPA 8015B
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351005, 60398351006, 60398351007

METHOD BLANK: 3122840 Matrix: Solid
Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351005, 60398351006, 60398351007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH-DRO (C10-C28)	mg/kg	ND	9.7	4.3	04/28/22 04:24	
TPH-RRO (C28-C36)	mg/kg	ND	19.3	4.3	04/28/22 04:24	
n-Tetracosane (S)	%	80	31-152		04/28/22 04:24	
p-Terphenyl (S)	%	82	46-130		04/28/22 04:24	

LABORATORY CONTROL SAMPLE: 3122841

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-DRO (C10-C28)	mg/kg	82	72.1	88	74-124	
n-Tetracosane (S)	%			85	31-152	
p-Terphenyl (S)	%			87	46-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122842 3122843

Parameter	Units	60398351004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH-DRO (C10-C28)	mg/kg	4.8J	86.3	86	76.7	76.6	83	83	30-130	0	35	
n-Tetracosane (S)	%						77	80	31-152			
p-Terphenyl (S)	%						79	81	46-130			

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QUALITY CONTROL DATA

Project: 915-1
Pace Project No.: 60398351

QC Batch:	783374	Analysis Method:	EPA 8270 by SIM
QC Batch Method:	EPA 3546	Analysis Description:	8270/3546 MSSV PAH by SIM
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351005, 60398351006, 60398351007

METHOD BLANK: 3123959 Matrix: Solid
Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351005, 60398351006, 60398351007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	mg/kg	ND	0.0032	0.0013	04/28/22 11:40	
2-Methylnaphthalene	mg/kg	ND	0.0032	0.0013	04/28/22 11:40	
Acenaphthene	mg/kg	ND	0.0032	0.0012	04/28/22 11:40	
Anthracene	mg/kg	ND	0.0032	0.0013	04/28/22 11:40	
Benzo(a)anthracene	mg/kg	ND	0.0032	0.0015	04/28/22 11:40	
Benzo(a)pyrene	mg/kg	ND	0.0032	0.0012	04/28/22 11:40	
Benzo(b)fluoranthene	mg/kg	ND	0.0032	0.0016	04/28/22 11:40	
Benzo(k)fluoranthene	mg/kg	ND	0.0032	0.0018	04/28/22 11:40	
Chrysene	mg/kg	ND	0.0032	0.0015	04/28/22 11:40	
Dibenz(a,h)anthracene	mg/kg	ND	0.0032	0.0014	04/28/22 11:40	
Fluoranthene	mg/kg	ND	0.0032	0.0024	04/28/22 11:40	
Fluorene	mg/kg	ND	0.0032	0.0013	04/28/22 11:40	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.0032	0.0014	04/28/22 11:40	
Naphthalene	mg/kg	ND	0.0032	0.0014	04/28/22 11:40	
Pyrene	mg/kg	ND	0.0032	0.0017	04/28/22 11:40	
2-Fluorobiphenyl (S)	%	86	40-120		04/28/22 11:40	
Terphenyl-d14 (S)	%	98	45-130		04/28/22 11:40	

LABORATORY CONTROL SAMPLE: 3123960

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	mg/kg	0.033	0.024	73	70-130	
2-Methylnaphthalene	mg/kg	0.033	0.025	75	55-120	
Acenaphthene	mg/kg	0.033	0.025	76	45-120	
Anthracene	mg/kg	0.033	0.026	77	50-120	
Benzo(a)anthracene	mg/kg	0.033	0.027	81	55-125	
Benzo(a)pyrene	mg/kg	0.033	0.026	79	45-120	
Benzo(b)fluoranthene	mg/kg	0.033	0.027	81	50-125	
Benzo(k)fluoranthene	mg/kg	0.033	0.027	82	55-120	
Chrysene	mg/kg	0.033	0.027	81	55-120	
Dibenz(a,h)anthracene	mg/kg	0.033	0.027	81	40-125	
Fluoranthene	mg/kg	0.033	0.027	81	50-125	
Fluorene	mg/kg	0.033	0.026	78	50-120	
Indeno(1,2,3-cd)pyrene	mg/kg	0.033	0.028	83	44-125	
Naphthalene	mg/kg	0.033	0.025	74	45-120	
Pyrene	mg/kg	0.033	0.028	84	50-125	
2-Fluorobiphenyl (S)	%			80	40-120	
Terphenyl-d14 (S)	%			88	45-130	

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QUALITY CONTROL DATA

Project: 915-1
Pace Project No.: 60398351

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3123963 3123964											
Parameter	Units	60398408001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
1-Methylnaphthalene	mg/kg	12.6 ug/kg	0.034	0.034	0.051	0.053	110	117	50-145	4	61
2-Methylnaphthalene	mg/kg	15.9 ug/kg	0.034	0.034	0.056	0.063	118	138	50-120	12	61 M1
Acenaphthene	mg/kg	6.0 ug/kg	0.034	0.034	0.034	0.035	82	85	10-150	3	42
Anthracene	mg/kg	336 ug/kg	0.034	0.034	0.28	0.33	-154	-14	10-160	16	54 M1
Benzo(a)anthracene	mg/kg	306 ug/kg	0.034	0.034	0.25	0.34	-164	105	10-160	31	62 M1
Benzo(a)pyrene	mg/kg	353 ug/kg	0.034	0.034	0.31	0.35	-123	3	10-150	13	66 M1
Benzo(b)fluoranthene	mg/kg	1020 ug/kg	0.034	0.034	0.71	0.81	-899	-608	10-165	13	61 M1
Benzo(k)fluoranthene	mg/kg	300 ug/kg	0.034	0.034	0.23	0.23	-206	-191	10-165	2	53 M1
Chrysene	mg/kg	395 ug/kg	0.034	0.034	0.33	0.41	-183	42	10-150	21	57 M1
Dibenz(a,h)anthracene	mg/kg	97.7 ug/kg	0.034	0.034	0.095	0.11	-7	24	10-175	11	48 M1
Fluoranthene	mg/kg	496 ug/kg	0.034	0.034	0.32	0.69	-522	560	10-180	74	54 M1, R1
Fluorene	mg/kg	7.0 ug/kg	0.034	0.034	0.042	0.043	100	105	20-145	3	39
Indeno(1,2,3-cd)pyrene	mg/kg	364 ug/kg	0.034	0.034	0.31	0.35	-158	-48	10-150	11	59 M1
Naphthalene	mg/kg	12.1 ug/kg	0.034	0.034	0.044	0.056	94	128	10-165	23	54
Pyrene	mg/kg	522 ug/kg	0.034	0.034	0.39	0.65	-376	362	10-180	49	61 M1
2-Fluorobiphenyl (S)	%						73	78	40-120		D4
Terphenyl-d14 (S)	%						103	101	45-130		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 915-1
Pace Project No.: 60398351

QC Batch:	782941	Analysis Method:	ASTM D2974
QC Batch Method:	ASTM D2974	Analysis Description:	Dry Weight/Percent Moisture
		Laboratory:	Pace Analytical Services - Kansas City

Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351005, 60398351006, 60398351007

METHOD BLANK: 3122086 Matrix: Solid
Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351005, 60398351006, 60398351007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	0.50	04/22/22 17:11	

SAMPLE DUPLICATE: 3122087

Parameter	Units	60398351001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	3.8	3.9	3	20	

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QUALITY CONTROL DATA

Project: 915-1
Pace Project No.: 60398351

QC Batch:	1855671	Analysis Method:	SM 2540G
QC Batch Method:	SM 2540 G	Analysis Description:	Total Solids 2540 G-2011
		Laboratory:	Pace National - Mt. Juliet

Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351005, 60398351006, 60398351007

METHOD BLANK: R3786666-1 Matrix: Solid
Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351005, 60398351006, 60398351007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Solids	%	0.00100			04/29/22 08:46	

LABORATORY CONTROL SAMPLE: R3786666-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Solids	%	50.0	50.0	100	85.0-115	

SAMPLE DUPLICATE: R3786666-3

Parameter	Units	60398351004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	%	95.9	96.1	0.166	10	

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QUALITY CONTROL DATA

Project: 915-1
Pace Project No.: 60398351

QC Batch:	1857134	Analysis Method:	EPA 7199
QC Batch Method:	3060A	Analysis Description:	Wet Chemistry 7199
		Laboratory:	Pace National - Mt. Juliet

Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351005, 60398351006, 60398351007

METHOD BLANK: R3787731-1 Matrix: Solid
Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351005, 60398351006, 60398351007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium, Hexavalent	mg/kg	ND	1.00	0.255	05/03/22 14:43	

LABORATORY CONTROL SAMPLE: R3787731-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/kg	10.0	10.6	106	80.0-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: R3787731-4 R3787731-5

Parameter	Units	60398351001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	mg/kg	ND	20.7	20.7	21.0	21.7	101	105	75.0-125	3.41	20	

SAMPLE DUPLICATE: R3787731-3

Parameter	Units	L1482721-06 Result	Dup Result	RPD	Max RPD	Qualifiers
Chromium, Hexavalent	mg/kg	0.925	1.04	11.7	20	

SAMPLE DUPLICATE: R3787731-8

Parameter	Units	L1486429-04 Result	Dup Result	RPD	Max RPD	Qualifiers
Chromium, Hexavalent	mg/kg	1.40	1.27	9.12	20	

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QUALITY CONTROL DATA

Project: 915-1
Pace Project No.: 60398351

QC Batch:	1856122	Analysis Method:	EPA 9045D
QC Batch Method:	9045C/9045D	Analysis Description:	Wet Chemistry 9045D
		Laboratory:	Pace National - Mt. Juliet

Associated Lab Samples: 60398351005

LABORATORY CONTROL SAMPLE: R3786368-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH	Std. Units	10.0	9.93	99.3	99.0-101	

SAMPLE DUPLICATE: R3786368-2

Parameter	Units	L1485327-10 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	8.22	8.24	0.243	1	

SAMPLE DUPLICATE: R3786368-3

Parameter	Units	L1485828-07 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	7.69	7.68	0.130	1	

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QUALITY CONTROL DATA

Project: 915-1
Pace Project No.: 60398351

QC Batch:	1856776	Analysis Method:	EPA 9045D
QC Batch Method:	9045C/9045D	Analysis Description:	Wet Chemistry 9045D
		Laboratory:	Pace National - Mt. Juliet

Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351006, 60398351007

LABORATORY CONTROL SAMPLE: R3786724-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH	Std. Units	10.0	9.92	99.2	99.0-101	

SAMPLE DUPLICATE: R3786724-2

Parameter	Units	60398351002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	8.10	8.11	0.123	1	

SAMPLE DUPLICATE: R3786724-3

Parameter	Units	L1486737-01 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	8.19	8.15	0.490	1	

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QUALITY CONTROL DATA

Project: 915-1
Pace Project No.: 60398351

QC Batch:	1856022	Analysis Method:	EPA 9050
QC Batch Method:	9050A	Analysis Description:	Wet Chemistry 9050AMod
		Laboratory:	Pace National - Mt. Juliet

Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351005, 60398351006, 60398351007

METHOD BLANK: R3786907-1 Matrix: Solid
Associated Lab Samples:

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Specific Conductance @ 25 C	umhos/cm	ND	10.0	10.0	05/01/22 18:35	

LABORATORY CONTROL SAMPLE: R3786907-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance @ 25 C	umhos/cm	268	279	104	85.0-115	

SAMPLE DUPLICATE: R3786907-3

Parameter	Units	60398351003 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25 C	umhos/cm	124	123	0.486	20	

SAMPLE DUPLICATE: R3786907-4

Parameter	Units	L1486829-04 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25 C	umhos/cm	192	188	1.89	20	

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QUALITY CONTROL DATA

Project: 915-1
Pace Project No.: 60398351

QC Batch:	1856022	Analysis Method:	EPA 9050
QC Batch Method:	EPA 9050	Analysis Description:	Wet Chemistry 9050AMod
		Laboratory:	Pace National - Mt. Juliet

Associated Lab Samples: 60398351001, 60398351002, 60398351003, 60398351004, 60398351005, 60398351006, 60398351007

METHOD BLANK: R3786907-1 Matrix: Solid
Associated Lab Samples:

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Specific Conductance @ 25 C	umhos/cm	ND	10.0	10.0	05/01/22 18:35	

LABORATORY CONTROL SAMPLE: R3786907-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance @ 25 C	umhos/cm	268	279	104	85.0-115	

SAMPLE DUPLICATE: R3786907-3

Parameter	Units	60398351003 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25 C	umhos/cm	124	123	0.486	20	

SAMPLE DUPLICATE: R3786907-4

Parameter	Units	L1486829-04 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25 C	umhos/cm	192	188	1.89	20	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 915-1
Pace Project No.: 60398351

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 adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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.

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

SAMPLE QUALIFIERS

Sample: 60398351001

[1] Wet Chemistry by Method 9045D - 6.99 at 20.8C

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: 60398351002

[1] Wet Chemistry by Method 9045D - 8.1 at 20.7C

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: 60398351003

[1] Wet Chemistry by Method 9045D - 7.92 at 20.8C

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: 60398351004

[1] Wet Chemistry by Method 9045D - 7.85 at 20.4C

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: 60398351005

[1] Wet Chemistry by Method 9045D - 8.01 at 20.4C

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: 60398351006

[1] Wet Chemistry by Method 9045D - 7.85 at 20.6C

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 915-1
Pace Project No.: 60398351

SAMPLE QUALIFIERS

Sample: 60398351006

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: 60398351007

[1] Wet Chemistry by Method 9045D - 7.98 at 20.2C

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: R3786368-1

[1] Wet Chemistry by Method 9045D - 9.93 at 19.8C

Sample: R3786368-2

[1] Wet Chemistry by Method 9045D - 8.24 at 20.4C

Sample: R3786368-3

[1] Wet Chemistry by Method 9045D - 7.68 at 20.5C

Sample: R3786724-1

[1] Wet Chemistry by Method 9045D - 9.92 at 20.3C

Sample: R3786724-2

[1] Wet Chemistry by Method 9045D - 8.11 at 20.7C

Sample: R3786724-3

[1] Wet Chemistry by Method 9045D - 8.15 at 20.6C

Sample: R3786907-1

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: R3786907-2

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: R3786907-3

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: R3786907-4

[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: L1485327-10

[1] Wet Chemistry by Method 9045D - 8.22 at 20.5C

Sample: L1485828-07

[1] Wet Chemistry by Method 9045D - 7.69 at 20.5C

Sample: L1486737-01

[1] Wet Chemistry by Method 9045D - 8.19 at 20.5C

Sample: L1486829-04

[1] Wet Chemistry by Method 9050AMod - at 25C

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
D4	Sample was diluted due to the presence of high levels of target analytes.
H3	Sample was received or analysis requested beyond the recognized method holding time.
J	Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 915-1
Pace Project No.: 60398351

ANALYTE QUALIFIERS

PH	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
R1	RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 915-1
Pace Project No.: 60398351

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60398351001	B1	EPA 3546	783120	EPA 8015B	783650
60398351002	B2	EPA 3546	783120	EPA 8015B	783650
60398351003	B3	EPA 3546	783120	EPA 8015B	783650
60398351004	B4	EPA 3546	783120	EPA 8015B	783650
60398351005	B5	EPA 3546	783120	EPA 8015B	783650
60398351006	B6	EPA 3546	783120	EPA 8015B	783650
60398351007	B7	EPA 3546	783120	EPA 8015B	783650
60398351001	B1	EPA 5035A/5030B	783730	EPA 8015B	783991
60398351002	B2	EPA 5035A/5030B	783730	EPA 8015B	783991
60398351003	B3	EPA 5035A/5030B	783730	EPA 8015B	783991
60398351004	B4	EPA 5035A/5030B	783730	EPA 8015B	783991
60398351005	B5	EPA 5035A/5030B	783730	EPA 8015B	783991
60398351006	B6	EPA 5035A/5030B	783730	EPA 8015B	783991
60398351007	B7	EPA 5035A/5030B	783730	EPA 8015B	783991
60398351001	B1	HWS Boron	1854799	6010B-NE493 Ch 2	1854799
60398351002	B2	HWS Boron	1854799	6010B-NE493 Ch 2	1854799
60398351003	B3	HWS Boron	1854799	6010B-NE493 Ch 2	1854799
60398351004	B4	HWS Boron	1854799	6010B-NE493 Ch 2	1854799
60398351005	B5	HWS Boron	1854799	6010B-NE493 Ch 2	1854799
60398351006	B6	HWS Boron	1854799	6010B-NE493 Ch 2	1854799
60398351007	B7	HWS Boron	1854799	6010B-NE493 Ch 2	1854799
60398351001	B1	EPA 3050	783290	EPA 6010	783438
60398351002	B2	EPA 3050	783290	EPA 6010	783438
60398351003	B3	EPA 3050	783290	EPA 6010	783438
60398351004	B4	EPA 3050	783290	EPA 6010	783438
60398351005	B5	EPA 3050	783290	EPA 6010	783438
60398351006	B6	EPA 3050	783290	EPA 6010	783438
60398351007	B7	EPA 3050	783290	EPA 6010	783438
60398351001	B1	EPA 3050	783072	EPA 6020	783437
60398351002	B2	EPA 3050	783072	EPA 6020	783437
60398351003	B3	EPA 3050	783072	EPA 6020	783437
60398351004	B4	EPA 3050	783072	EPA 6020	783437
60398351005	B5	EPA 3050	783072	EPA 6020	783437
60398351006	B6	EPA 3050	783072	EPA 6020	783437
60398351007	B7	EPA 3050	783072	EPA 6020	783437
60398351001	B1	EPA 3546	783374	EPA 8270 by SIM	783765
60398351002	B2	EPA 3546	783374	EPA 8270 by SIM	783765
60398351003	B3	EPA 3546	783374	EPA 8270 by SIM	783765
60398351004	B4	EPA 3546	783374	EPA 8270 by SIM	783765
60398351005	B5	EPA 3546	783374	EPA 8270 by SIM	783765
60398351006	B6	EPA 3546	783374	EPA 8270 by SIM	783765
60398351007	B7	EPA 3546	783374	EPA 8270 by SIM	783765
60398351001	B1	EPA 5035A/5030B	783074	EPA 8260B	783098
60398351002	B2	EPA 5035A/5030B	783074	EPA 8260B	783098
60398351003	B3	EPA 5035A/5030B	783074	EPA 8260B	783098
60398351004	B4	EPA 5035A/5030B	783074	EPA 8260B	783098

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 915-1
Pace Project No.: 60398351

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60398351005	B5	EPA 5035A/5030B	783074	EPA 8260B	783098
60398351006	B6	EPA 5035A/5030B	783074	EPA 8260B	783098
60398351007	B7	EPA 5035A/5030B	783074	EPA 8260B	783098
60398351001	B1	ASTM D2974	782941		
60398351002	B2	ASTM D2974	782941		
60398351003	B3	ASTM D2974	782941		
60398351004	B4	ASTM D2974	782941		
60398351005	B5	ASTM D2974	782941		
60398351006	B6	ASTM D2974	782941		
60398351007	B7	ASTM D2974	782941		
60398351001	B1	SM 2540 G	1855671	SM 2540G	1855671
60398351002	B2	SM 2540 G	1855671	SM 2540G	1855671
60398351003	B3	SM 2540 G	1855671	SM 2540G	1855671
60398351004	B4	SM 2540 G	1855671	SM 2540G	1855671
60398351005	B5	SM 2540 G	1855671	SM 2540G	1855671
60398351006	B6	SM 2540 G	1855671	SM 2540G	1855671
60398351007	B7	SM 2540 G	1855671	SM 2540G	1855671
60398351001	B1	3060A	1857134	EPA 7199	1857134
60398351002	B2	3060A	1857134	EPA 7199	1857134
60398351003	B3	3060A	1857134	EPA 7199	1857134
60398351004	B4	3060A	1857134	EPA 7199	1857134
60398351005	B5	3060A	1857134	EPA 7199	1857134
60398351006	B6	3060A	1857134	EPA 7199	1857134
60398351007	B7	3060A	1857134	EPA 7199	1857134
60398351001	B1	9045C/9045D	1856776	EPA 9045D	1856776
60398351002	B2	9045C/9045D	1856776	EPA 9045D	1856776
60398351003	B3	9045C/9045D	1856776	EPA 9045D	1856776
60398351004	B4	9045C/9045D	1856776	EPA 9045D	1856776
60398351005	B5	9045C/9045D	1856122	EPA 9045D	1856122
60398351006	B6	9045C/9045D	1856776	EPA 9045D	1856776
60398351007	B7	9045C/9045D	1856776	EPA 9045D	1856776
60398351001	B1	9050A	1856022	EPA 9050	1856022
60398351002	B2	9050A	1856022	EPA 9050	1856022
60398351003	B3	9050A	1856022	EPA 9050	1856022
60398351004	B4	9050A	1856022	EPA 9050	1856022
60398351005	B5	9050A	1856022	EPA 9050	1856022
60398351006	B6	9050A	1856022	EPA 9050	1856022
60398351007	B7	9050A	1856022	EPA 9050	1856022
60398351001	B1	Calc	1854800	Calculated	1854800
60398351002	B2	Calc	1854800	Calculated	1854800
60398351003	B3	Calc	1854800	Calculated	1854800
60398351004	B4	Calc	1854800	Calculated	1854800
60398351005	B5	Calc	1854800	Calculated	1854800
60398351006	B6	Calc	1854800	Calculated	1854800
60398351007	B7	Calc	1854800	Calculated	1854800

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 915-1
Pace Project No.: 60398351

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
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REPORT OF LABORATORY ANALYSIS

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DC#_Title: ENV-FRM-LENE-0009_Sample Co

Revision: 2

Effective Date: 01/12/2022

Issued By: L. L. L. L.

WO#: 60398351

Client Name: Mull Drilling Co.Courier: FedEx ☒ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐Tracking #: 272249811228 Pace Shipping Label Used? Yes ☐ No ☒Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐Packing Material: Bubble Wrap ☐ Bubble Bags ☒ Foam ☐ None ☐ Other ☒ 211CThermometer Used: 7301 Type of Ice: Wet Blue ☐ None ☐Cooler Temperature (°C): As-read 2.6 Corr. Factor 1.0 Corrected 1.6Date and initials of person examining contents: 04-22-2022

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix: <u>SL</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks:		
Lead acetate strip turns dark? (Record only)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State: <u>CO</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

Client Notification/ Resolution:

Copy COC to Client? Y / N

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: _____

Client: Mull Drilling

Profile #

1 W64U-SI-Wet

Site:

Notes

1 SGFU - 82605mL + 8015620

COC Line Item	Matrix	VG9H	DG9H	DG9Q	VG9U	DG9U	DG9M	DG9B	BG1U	AG1H	AG1U	AG2U	AG3S	AG4U	AG5U	JGFU	WGKU	WGDU	BP1U	BP2U	BP3U	BP1N	BP3N	BP3F	BP3S	BP3C	BP3Z	WPDU	ZPLC	Other
1	SL															2	2													
2																2	2													
3																2	2													
4																2	2													
5																2	2													
6																2	2													
7																2	2													
8																														
9																														
10																														
11																														
12																														

Container Codes

Glass		Plastic		Misc.	
DG9B	40mL bisulfate clear vial	WGKU	8oz clear soil jar	BP1C	1L NaOH plastic
DG9H	40mL HCl amber vial	WGFU	4oz clear soil jar	BP1N	1L HNO3 plastic
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar	BP1S	1L H2SO4 plastic
DG9Q	40mL TSP amber vial	JGFU	4oz unpreserved amber wide	BP1U	1L unpreserved plastic
DG9S	40mL H2SO4 amber vial	AG0U	100mL unopres amber glass	BP1Z	1L NaOH, Zn Acetate
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass	BP2C	500mL NaOH plastic
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass	BP2N	500mL HNO3 plastic
VG9H	40mL HCl clear vial	AG1T	1L Na Thiosulfate clear/amber glass	BP2S	500mL H2SO4 plastic
VG9T	40mL Na Thio. clear vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic
VG9U	40mL unpreserved clear vial	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Acetate
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass	BP3C	250mL NaOH plastic
BG1U	1liter unpres glass	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic - field filtered
BG3H	250mL HCL Clear glass	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass	BP3U	250mL unpreserved plastic
WGDU	16oz clear soil jar	AG4U	125mL unpres amber glass	BP3S	250mL H2SO4 plastic
		AG5U	100mL unpres amber glass	BP3Z	250mL NaOH, Zn Acetate
				BP4U	125mL unpreserved plastic
				BP4N	125mL HNO3 plastic
				BP4S	125mL H2SO4 plastic
				WPDU	16oz unpreserved plastic

Work Order Number:

60398351