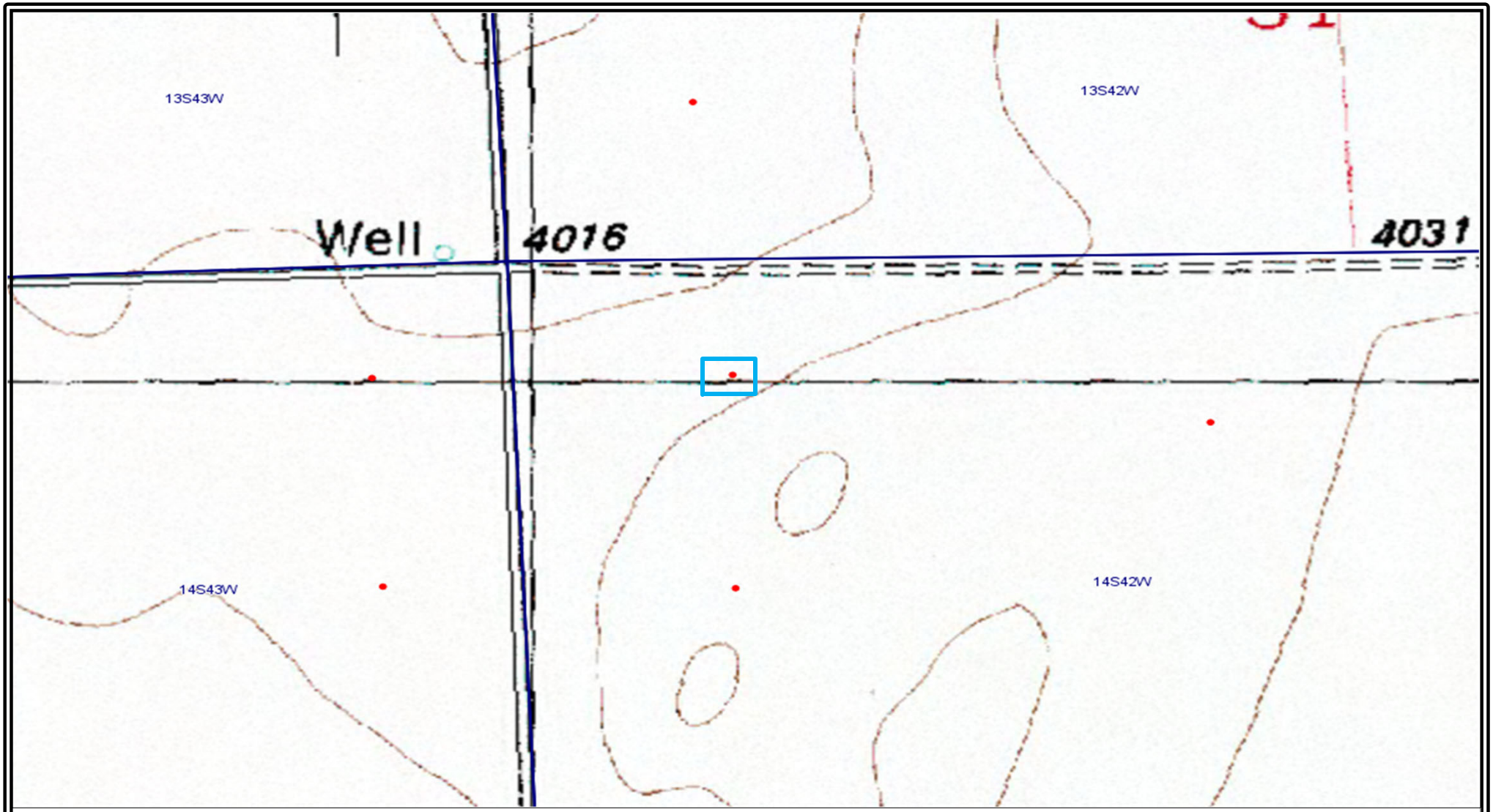
FIGURES

Figure 1: Topographic Site Location Map

Figure 2: Soil Sample Location Map



MULL DRILLING COMPANY, INC.
NW ARAPAHOE UNIT-614S42W
LOCATION: 321845
NWNW S6, T14S R42W
TOPOGRAPHIC MAP

Legend

Location Boundary

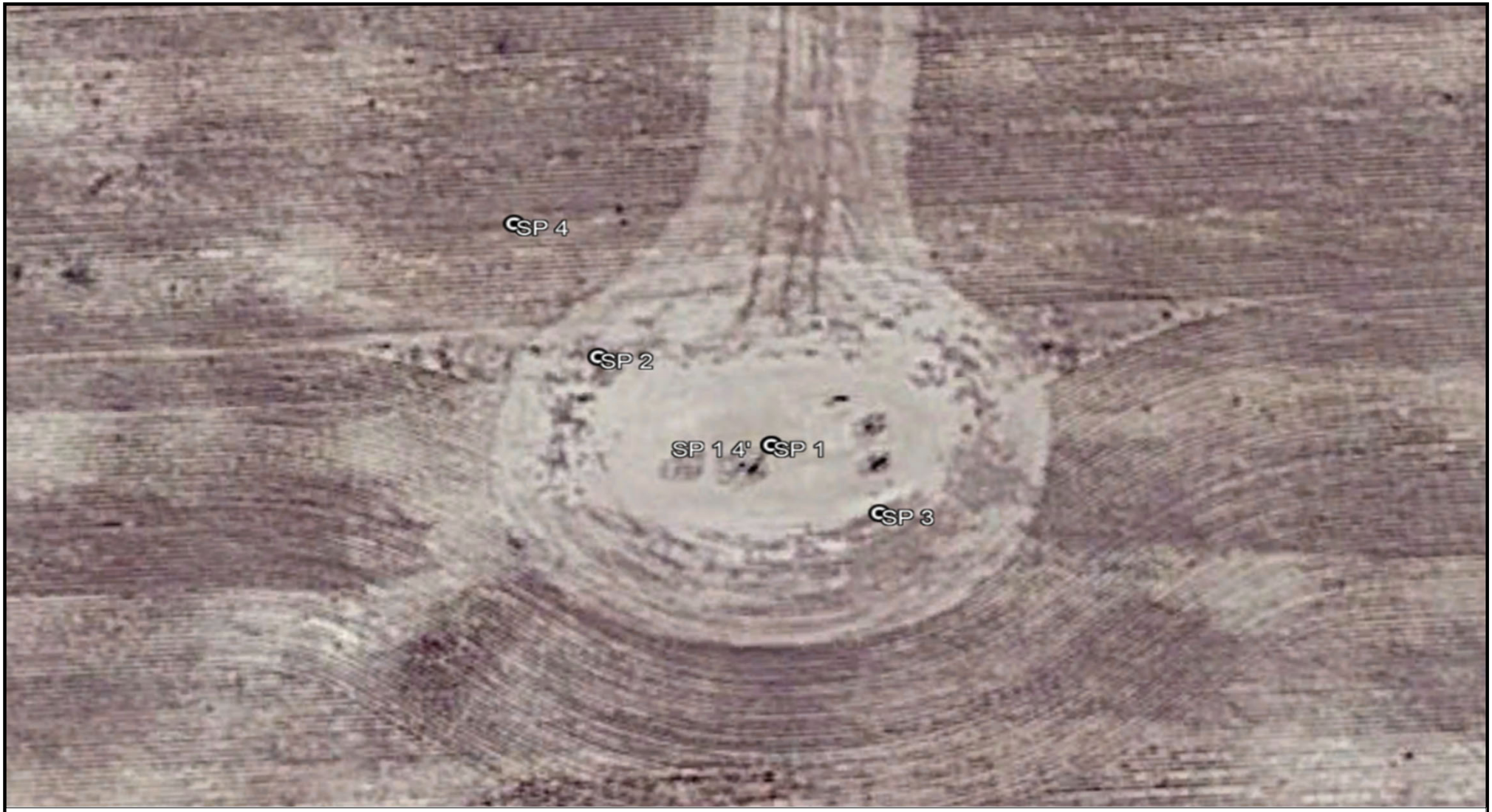
N

0 ft 350 ft 700 ft

ARDOR

Prepared By:
Ardor Environmental LLC

December 26, 2023



MULL DRILLING COMPANY, INC.
NW ARAPAHOE UNIT-614S42W
LOCATION: 321845
NWNW S6, T14S R42W
2023 SOIL SAMPLE LOCATIONS

Legend

Soil Sample Locations

N

0 ft 50 ft

ARDOR

Prepared By:
Ardor Environmental LLC

December 26, 2023

MULL DRILLING COMPANY, INC.
NW ARAPAHOE UNIT-614S42W
LOCATION: 321845
NWNW S6, T14S R42W
2024 Flowline Assessment

Legend

N

0 ft 50 ft

ARDOR

Prepared By:
Ardor Environmental LLC

July 5, 2024

TABLES

Table 1: Flowline Photoionization Detector Reading Summary

Table 2: Combined Analytical Results

TABLE 1
PHOTOIONIZATION DETECTOR READING SUMMARY
NW ARAPAHOE UNIT #24
38.870290, -102.162690
NWNW S6 T14S R42W
CHEYENNE COUNTY, COLORADO
LOCATION ID 321845

Sample Location (Lat/Long)	Sample Date	Approximate Depth	PID Reading (ppm)	Lab Submission (Y/N)
FL01 @ 4' 38.870303, -102.162681	5/2/2024	4'	0.8	N
FL02 @ 4' 38.870347, -102.16185	5/2/2024	4'	0.0	N
FL03 @ 4' 38.870408, -102.160992	5/2/2024	4'	0.0	N
FL04 @ 4' 38.870303, -102.162681	5/2/2024	4'	0.0	N
FL05 @ 4' 38.870511, -102.159297	5/2/2024	4'	0.0	N
FL06 @ 4' 38.870586, -102.158489	5/2/2024	4'	0.0	N
FL07 @ 4' 38.870661, -102.157686	5/2/2024	4'	0.0	N
FL08 @ 4' 38.870786, -102.156864	5/2/2024	4'	0.0	N
FL09 @ 4' 38.870911, -102.155942	5/2/2024	4'	0.0	N

NWAU 24 Table 915-1		4/13/2023				
CLEANUP CONCENTRATIONS		**SP 1 0'-1'**	**SP 1 4'**	**SP 2 0'-1'**	**SP 3 0'-1'**	**SP 4 0'-1' (Background)**
Contaminant of Concern	**Concentrations**	**38.870287; -102.162749**	**38.870287; -102.162749**	**38.870333; 102.162833**	**38.870252; 102.162697**	**38.870399; 102.162871**
Soil TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons)	500mg/kg	29.8	ND	12.5	14.7	30.6
PID READING		ND	ND	ND	ND	ND
Soil Suitability for Reclamation						
Electrical conductivity (EC) (by saturated paste method)	<4mmhos/cm	0.394	0.294	0.298	0.169	0.231
Sodium adsorption ratio (SAR) (by saturated paste method)	<6	0.537	1.63	0.0732	0.0681	0.0624
pH (by saturated paste method)	6–8.3	8.22	**8.75**	7.97	8.26	8.08
boron (hot water soluble soil extract)	2mg/l	0.27	0.211	0.293	0.154J	0.26
Organic Compounds in Groundwater						
benzene	5µg/l	NA	NA	NA	NA	NA
toluene	560 to 1,000µg/l	NA	NA	NA	NA	NA
ethylbenzene	700µg/l	NA	NA	NA	NA	NA
xylenes (sum of o-, m- and p- isomers = total xylenes)	1,400 to 10,000µg/l	NA	NA	NA	NA	NA
naphthalene	140µg/l	NA	NA	NA	NA	NA
1,2,4-trimethylbenzene	67µg/l	NA	NA	NA	NA	NA
1,3,5-trimethylbenzene	67µg/l	NA	NA	NA	NA	NA
Groundwater Inorganic Parameters						
total dissolved solids (TDS)	<1.25 X local background	NA	NA	NA	NA	NA
chloride ion	250mg/l or <1.25 X local background	NA	NA	NA	NA	NA
sulfate ion	250mg/l or <1.25 X local background	NA	NA	NA	NA	NA

Soils	**Residential Soil Screening Level Concentrations (mg/kg)**	**Protection of Groundwater Soil Screening Level Concentrations (mg/kg)**					
Organic Compounds in Soils							
benzene	1.2	0.0026 (M)	ND	ND	ND	ND	ND
toluene	490	0.69 (M)	ND	ND	ND	ND	ND
ethylbenzene	5.8	0.78 (M)	ND	ND	ND	ND	ND
xylenes (sum of o-, m- and p- isomers = total xylenes)	58	9.9 (M)	ND	ND	ND	ND	ND
1,2,4-trimethylbenzene	30	0.0081 (R)	ND	ND	ND	ND	ND
1,3,5-trimethylbenzene	27	0.0087 (R)	ND	ND	ND	ND	ND
acenaphthene	360	0.55 (R)	ND	ND	ND	ND	ND
anthracene	1800	5.8 (R)	ND	ND	ND	ND	ND
benz(a)anthracene	1.1	0.011 (R)	ND	ND	ND	ND	ND
benzo(b)fluoranthene	1.1	0.3 (R)	ND	ND	ND	ND	ND
benzo(k)fluoranthene	11	2.9 (R)	ND	ND	ND	ND	ND
benzo(a)pyrene	0.11	0.24 (M)	ND	ND	ND	ND	ND
chrysene	110	9 (R)	ND	ND	ND	ND	ND
dibenzo(a,h)anthracene	0.11	0.096 (R)	ND	ND	ND	ND	ND
fluoranthene	240	8.9 (R)	ND	ND	ND	ND	ND
fluorene	240	0.54 (R)	ND	ND	ND	ND	ND
indeno(1,2,3-cd)pyrene	1.1	0.98 (R)	ND	ND	ND	ND	ND
1-methylnaphthalene	18	0.006 (R)	ND	ND	ND	ND	ND
2-methylnaphthalene	24	0.019 (R)	ND	ND	ND	ND	ND
naphthalene	2	0.0038 (R)	ND	ND	ND	ND	ND
pyrene	180	1.3 (R)	ND	ND	ND	ND	ND
Metals in Soils							
arsenic	0.68	0.29 (M)	**5.6**	**5.4**	**4.9**	**4.7**	**6.9**
barium	15000	82 (M)	219	245	140	141	161
cadmium	71	0.38 (M)	0.59	0.57	0.61	0.54	0.71
chromium (VI)	0.3	0.00067 (R)	ND	ND	ND	ND	ND
copper	3100	46 (M)	10.2	10	10.5	10.7	13
lead	400	14 (M)	9.1	9.4	9.7	8.4	10.4
nickel	1500	26 (R)	10.5	10.6	11	10.5	13.5
selenium	390	0.26 (M)	ND	ND	ND	ND	ND
silver	390	0.8 (R)	ND	ND	ND	ND	ND
zinc	23000	370 (R)	37.6	34.8	41.9	34.5	42.2

*The letter "(**R**)" following a protection of Groundwater soil screening level indicates the concentration is derived from a risk-based approach. The letter "(**M**)" following a protection of Groundwater soil screening level indicates the*
Quantifier "J" indicated analyte is present at an estimated concentration between the MDL and Reporting Limit.
Quantifier "U" indicates analyzed but not detected above the MDL.
Values presented in **BOLD** contained concentrations exceeding ECMC Table 915-1 Residential Soil Screening Level limits, but are within Background results.
Values presented in **BOLD** contained concentrations exceeding ECMC Table 915-1 Residential Soil Screening Level limits, and Background results.
*Arsenic is naturally occurring. Local Clean-Up Level is 1.25*BG(6.9) = 8.63 mg/kg

ATTACHMENT A

Laboratory Analytical Reports

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

May 02, 2023

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

RE: Project: NWAV #24
Pace Project No.: 60426353

Dear James Beilman:

Enclosed are the analytical results for sample(s) received by the laboratory on April 15, 2023. 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,

Heather Wilson
heather.wilson@pacelabs.com
1(913)563-1407
Project Manager

Enclosures

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Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: NWAV #24
Pace Project No.: 60426353

Pace Analytical Services Kansas
9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 22-031-0
Illinois Certification #: 2000302021-3
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212023-1
Oklahoma Certification #: 2022-057
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-21-15
Utah Certification #: KS000212022-12
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 #: LAO00356
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

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Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: NWAV #24
Pace Project No.: 60426353

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60426353001	**SP 1**	Solid	04/13/23 09:00	04/15/23 12:56
60426353002	**SP 1 4'**	Solid	04/13/23 09:10	04/15/23 12:56
60426353003	**SP 2**	Solid	04/13/23 09:15	04/15/23 12:56
60426353004	**SP 3**	Solid	04/13/23 09:25	04/15/23 12:56
60426353005	**SP 4**	Solid	04/13/23 09:30	04/15/23 12:56

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SAMPLE ANALYTE COUNT

Project: NWAV #24
Pace Project No.: 60426353

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60426353001	**SP 1**	EPA 8015B	YGR	4	PASI-K
		EPA 8015B	JLO	2	PASI-K
		6010B-NE493 Ch 2	SPL	1	PAN
		EPA 6010	MA1	8	PASI-K
		EPA 6020	JGP	1	PASI-K
		EPA 8270 by SIM	SJJ	17	PASI-K
		EPA 8260C	RAD	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
		SM 2540G	CMK	1	PAN
		EPA 7199	VSS	1	PAN
		EPA 9045D	KAD	1	PAN
		EPA 9050	NTG	1	PAN
		Calculated	ZSA	1	PAN
60426353002	**SP 1 4'**	EPA 8015B	YGR	4	PASI-K
		EPA 8015B	JLO	2	PASI-K
		6010B-NE493 Ch 2	SPL	1	PAN
		EPA 6010	MA1	8	PASI-K
		EPA 6020	JGP	1	PASI-K
		EPA 8270 by SIM	SJJ	17	PASI-K
		EPA 8260C	RAD	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
		SM 2540G	CMK	1	PAN
		EPA 7199	VSS	1	PAN
		EPA 9045D	KAD	1	PAN
		EPA 9050	NTG	1	PAN
		Calculated	ZSA	1	PAN
60426353003	**SP 2**	EPA 8015B	YGR	4	PASI-K
		EPA 8015B	JLO	2	PASI-K
		6010B-NE493 Ch 2	SPL	1	PAN
		EPA 6010	MA1	8	PASI-K
		EPA 6020	JGP	1	PASI-K
		EPA 8270 by SIM	SJJ	17	PASI-K
		EPA 8260C	RAD	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
		SM 2540G	CMK	1	PAN
		EPA 7199	VSS	1	PAN
		EPA 9045D	KAD	1	PAN

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SAMPLE ANALYTE COUNT

Project: NWAV #24
Pace Project No.: 60426353

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9050	NTG	1	PAN
		Calculated	ZSA	1	PAN
60426353004	**SP 3**	EPA 8015B	YGR	4	PASI-K
		EPA 8015B	JLO	2	PASI-K
		6010B-NE493 Ch 2	SPL	1	PAN
		EPA 6010	MA1	8	PASI-K
		EPA 6020	JGP	1	PASI-K
		EPA 8270 by SIM	SJJ	17	PASI-K
		EPA 8260C	RAD	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
		SM 2540G	CMK	1	PAN
		EPA 7199	VSS	1	PAN
		EPA 9045D	KAD	1	PAN
		EPA 9050	NTG	1	PAN
		Calculated	ZSA	1	PAN
60426353005	**SP 4**	EPA 8015B	YGR	4	PASI-K
		EPA 8015B	JLO	2	PASI-K
		6010B-NE493 Ch 2	SPL	1	PAN
		EPA 6010	MA1	8	PASI-K
		EPA 6020	JGP	1	PASI-K
		EPA 8270 by SIM	SJJ	17	PASI-K
		EPA 8260C	RAD	9	PASI-K
		ASTM D2974	DWC	1	PASI-K
		SM 2540G	CMK	1	PAN
		EPA 7199	VSS	1	PAN
		EPA 9045D	KAD	1	PAN
		EPA 9050	NTG	1	PAN
		Calculated	ZSA	1	PAN

PAN = Pace National - Mt. Juliet
PASI-K = Pace Analytical Services - Kansas City

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ANALYTICAL RESULTS

Project: NWAV #24
Pace Project No.: 60426353

Sample: SP 1 **Lab ID: 60426353001** Collected: 04/13/23 09:00 Received: 04/15/23 12:56 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)	**14.3J**	mg/kg	21.9	4.9	1	04/19/23 01:59	04/19/23 10:52		
TPH-DRO (C10-C28)	**15.5**	mg/kg	11.0	4.9	1	04/19/23 01:59	04/19/23 10:52		
Surrogates									
n-Tetracosane (S)	72	%	31-152		1	04/19/23 01:59	04/19/23 10:52	646-31-1	
p-Terphenyl (S)	72	%	46-130		1	04/19/23 01:59	04/19/23 10:52	92-94-4	
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B Pace Analytical Services - Kansas City								
TPH-GRO	ND	mg/kg	12.1	1.5	1	04/20/23 13:54	04/21/23 00:21		
Surrogates									
4-Bromofluorobenzene (S)	93	%	66-130		1	04/20/23 13:54	04/21/23 00:21	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	**0.270**	mg/L	0.200	0.0167	1	04/24/23 12:14	04/26/23 11:19	7440-42-8H	
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Kansas City								
Barium	**219**	mg/kg	0.53	0.29	1	04/22/23 10:38	05/01/23 17:57	7440-39-3	
Cadmium	**0.59**	mg/kg	0.53	0.11	1	04/22/23 10:38	05/01/23 17:57	7440-43-9	
Copper	**10.2**	mg/kg	2.1	0.32	1	04/22/23 10:38	05/01/23 17:57	7440-50-8	
Lead	**9.1**	mg/kg	1.1	0.38	1	04/22/23 10:38	05/01/23 17:57	7439-92-1	
Nickel	**10.5**	mg/kg	0.53	0.25	1	04/22/23 10:38	05/01/23 17:57	7440-02-0	
Selenium	ND	mg/kg	1.6	0.79	1	04/22/23 10:38	05/01/23 17:57	7782-49-2	
Silver	ND	mg/kg	0.74	0.18	1	04/22/23 10:38	05/01/23 17:57	7440-22-4	
Zinc	**37.6**	mg/kg	10.5	1.4	1	04/22/23 10:38	05/01/23 17:57	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050 Pace Analytical Services - Kansas City								
Arsenic	**5.6**	mg/kg	1.1	0.19	10	04/22/23 10:38	04/25/23 09:19	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	0.0037	0.0022	1	04/18/23 16:27	04/26/23 11:54	83-32-9	
Anthracene	ND	mg/kg	0.0037	0.0021	1	04/18/23 16:27	04/26/23 11:54	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0037	0.0020	1	04/18/23 16:27	04/26/23 11:54	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0037	0.0015	1	04/18/23 16:27	04/26/23 11:54	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0037	0.0019	1	04/18/23 16:27	04/26/23 11:54	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0037	0.0019	1	04/18/23 16:27	04/26/23 11:54	207-08-9	
Chrysene	ND	mg/kg	0.0037	0.0019	1	04/18/23 16:27	04/26/23 11:54	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0037	0.0020	1	04/18/23 16:27	04/26/23 11:54	53-70-3	
Fluoranthene	ND	mg/kg	0.0037	0.0031	1	04/18/23 16:27	04/26/23 11:54	206-44-0	
Fluorene	ND	mg/kg	0.0037	0.0028	1	04/18/23 16:27	04/26/23 11:54	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0037	0.0019	1	04/18/23 16:27	04/26/23 11:54	193-39-5	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: NWAV #24
Pace Project No.: 60426353

Sample: SP 1 **Lab ID: 60426353001** Collected: 04/13/23 09:00 Received: 04/15/23 12:56 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	0.0037	0.0018	1	04/18/23 16:27	04/26/23 11:54	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0037	0.0026	1	04/18/23 16:27	04/26/23 11:54	91-57-6	
Naphthalene	ND	mg/kg	0.0037	0.0020	1	04/18/23 16:27	04/26/23 11:54	91-20-3	
Pyrene	ND	mg/kg	0.0037	0.0027	1	04/18/23 16:27	04/26/23 11:54	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	56	%	40-120		1	04/18/23 16:27	04/26/23 11:54	321-60-8	
Terphenyl-d14 (S)	56	%	45-130		1	04/18/23 16:27	04/26/23 11:54	1718-51-0	
8260C MSV 5035A Low Level	Analytical Method: EPA 8260C Preparation Method: EPA 5035A/5030B Pace Analytical Services - Kansas City								
Benzene	ND	mg/kg	0.0060	0.00055	1	04/19/23 11:54	04/19/23 15:38	71-43-2	
Ethylbenzene	ND	mg/kg	0.0060	0.0010	1	04/19/23 11:54	04/19/23 15:38	100-41-4	
Toluene	ND	mg/kg	0.024	0.0054	1	04/19/23 11:54	04/19/23 15:38	108-88-3	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0060	0.00083	1	04/19/23 11:54	04/19/23 15:38	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0060	0.00052	1	04/19/23 11:54	04/19/23 15:38	108-67-8	
Xylene (Total)	ND	mg/kg	0.018	0.0045	1	04/19/23 11:54	04/19/23 15:38	1330-20-7	
Surrogates									
Toluene-d8 (S)	104	%	80-120		1	04/19/23 11:54	04/19/23 15:38	2037-26-5	
4-Bromofluorobenzene (S)	101	%	83-119		1	04/19/23 11:54	04/19/23 15:38	460-00-4	
1,2-Dichlorobenzene-d4 (S)	101	%	80-120		1	04/19/23 11:54	04/19/23 15:38	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2974 Pace Analytical Services - Kansas City								
Percent Moisture	**10.2**	%	0.50	0.50	1		04/17/23 16:45		
Total Solids 2540 G-2011	Analytical Method: SM 2540G Preparation Method: SM 2540 G Pace National - Mt. Juliet								
Total Solids	**91.1**	%			1	04/22/23 17:05	04/22/23 17:18		
Wet Chemistry 7199	Analytical Method: EPA 7199 Preparation Method: 3060A Pace National - Mt. Juliet								
Chromium, Hexavalent	ND	mg/kg	1.10	0.280	1	04/21/23 11:53	04/24/23 01:54	18540-29-9	
Wet Chemistry 9045D	Analytical Method: EPA 9045D Preparation Method: 9045C/9045D Pace National - Mt. Juliet								
pH	**8.22**	Std. Units		0.10	1	04/21/23 20:00	04/21/23 22:32		H3
Wet Chemistry 9050AMod	Analytical Method: EPA 9050 Preparation Method: 9050A Pace National - Mt. Juliet								
Specific Conductance @ 25 C	**394**	umhos/cm	10.0	10.0	1	04/21/23 13:00	04/21/23 17:08		
Calculated Results	Analytical Method: Calculated Preparation Method: Calc Pace National - Mt. Juliet								
Sodium Adsorption Ratio	**0.537**				1	04/25/23 20:14	04/25/23 20:14	SAR	

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ANALYTICAL RESULTS

Project: NWAV #24
Pace Project No.: 60426353

Sample: SP 1 4' **Lab ID: 60426353002** Collected: 04/13/23 09:10 Received: 04/15/23 12:56 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	22.5	5.0	1	04/19/23 01:59	04/19/23 11:24		
TPH-DRO (C10-C28)	ND	mg/kg	11.3	5.0	1	04/19/23 01:59	04/19/23 11:24		
Surrogates									
n-Tetracosane (S)	63	%	31-152		1	04/19/23 01:59	04/19/23 11:24	646-31-1	
p-Terphenyl (S)	66	%	46-130		1	04/19/23 01:59	04/19/23 11:24	92-94-4	
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B Pace Analytical Services - Kansas City								
TPH-GRO	ND	mg/kg	11.6	1.4	1	04/20/23 13:54	04/21/23 00:36		
Surrogates									
4-Bromofluorobenzene (S)	85	%	66-130		1	04/20/23 13:54	04/21/23 00:36	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	**0.211**	mg/L	0.200	0.0167	1	04/24/23 12:14	04/26/23 11:22	7440-42-8H	
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Kansas City								
Barium	**245**	mg/kg	0.49	0.27	1	04/22/23 10:38	05/01/23 18:03	7440-39-3	
Cadmium	**0.57**	mg/kg	0.49	0.10	1	04/22/23 10:38	05/01/23 18:03	7440-43-9	
Copper	**10**	mg/kg	2.0	0.30	1	04/22/23 10:38	05/01/23 18:03	7440-50-8	
Lead	**9.4**	mg/kg	0.99	0.36	1	04/22/23 10:38	05/01/23 18:03	7439-92-1	
Nickel	**10.6**	mg/kg	0.49	0.23	1	04/22/23 10:38	05/01/23 18:03	7440-02-0	
Selenium	ND	mg/kg	1.5	0.74	1	04/22/23 10:38	05/01/23 18:03	7782-49-2	
Silver	ND	mg/kg	0.69	0.17	1	04/22/23 10:38	05/01/23 18:03	7440-22-4	
Zinc	**34.8**	mg/kg	9.9	1.3	1	04/22/23 10:38	05/01/23 18:03	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050 Pace Analytical Services - Kansas City								
Arsenic	**5.4**	mg/kg	0.99	0.18	10	04/22/23 10:38	04/25/23 09:06	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	0.0037	0.0023	1	04/18/23 16:27	04/26/23 12:36	83-32-9	M1
Anthracene	ND	mg/kg	0.0037	0.0021	1	04/18/23 16:27	04/26/23 12:36	120-12-7	R1
Benzo(a)anthracene	ND	mg/kg	0.0037	0.0020	1	04/18/23 16:27	04/26/23 12:36	56-55-3	R1
Benzo(a)pyrene	ND	mg/kg	0.0037	0.0015	1	04/18/23 16:27	04/26/23 12:36	50-32-8	R1
Benzo(b)fluoranthene	ND	mg/kg	0.0037	0.0020	1	04/18/23 16:27	04/26/23 12:36	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0037	0.0020	1	04/18/23 16:27	04/26/23 12:36	207-08-9	R1
Chrysene	ND	mg/kg	0.0037	0.0020	1	04/18/23 16:27	04/26/23 12:36	218-01-9	R1
Dibenz(a,h)anthracene	ND	mg/kg	0.0037	0.0020	1	04/18/23 16:27	04/26/23 12:36	53-70-3	M1
Fluoranthene	ND	mg/kg	0.0037	0.0031	1	04/18/23 16:27	04/26/23 12:36	206-44-0	
Fluorene	ND	mg/kg	0.0037	0.0028	1	04/18/23 16:27	04/26/23 12:36	86-73-7	M1
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0037	0.0020	1	04/18/23 16:27	04/26/23 12:36	193-39-5	R1

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ANALYTICAL RESULTS

Project: NWAV #24
Pace Project No.: 60426353

Sample: SP 1 4' **Lab ID: 60426353002** Collected: 04/13/23 09:10 Received: 04/15/23 12:56 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	0.0037	0.0018	1	04/18/23 16:27	04/26/23 12:36	90-12-0	M1
2-Methylnaphthalene	ND	mg/kg	0.0037	0.0026	1	04/18/23 16:27	04/26/23 12:36	91-57-6	M1
Naphthalene	ND	mg/kg	0.0037	0.0020	1	04/18/23 16:27	04/26/23 12:36	91-20-3	M1
Pyrene	ND	mg/kg	0.0037	0.0027	1	04/18/23 16:27	04/26/23 12:36	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	58	%	40-120		1	04/18/23 16:27	04/26/23 12:36	321-60-8	
Terphenyl-d14 (S)	58	%	45-130		1	04/18/23 16:27	04/26/23 12:36	1718-51-0	
8260C MSV 5035A Low Level	Analytical Method: EPA 8260C Preparation Method: EPA 5035A/5030B Pace Analytical Services - Kansas City								
Benzene	ND	mg/kg	0.0063	0.00058	1	04/19/23 11:54	04/19/23 15:58	71-43-2	
Ethylbenzene	ND	mg/kg	0.0063	0.0011	1	04/19/23 11:54	04/19/23 15:58	100-41-4	
Toluene	ND	mg/kg	0.025	0.0056	1	04/19/23 11:54	04/19/23 15:58	108-88-3	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0063	0.00087	1	04/19/23 11:54	04/19/23 15:58	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0063	0.00055	1	04/19/23 11:54	04/19/23 15:58	108-67-8	
Xylene (Total)	ND	mg/kg	0.019	0.0047	1	04/19/23 11:54	04/19/23 15:58	1330-20-7	
Surrogates									
Toluene-d8 (S)	104	%	80-120		1	04/19/23 11:54	04/19/23 15:58	2037-26-5	
4-Bromofluorobenzene (S)	100	%	83-119		1	04/19/23 11:54	04/19/23 15:58	460-00-4	
1,2-Dichlorobenzene-d4 (S)	99	%	80-120		1	04/19/23 11:54	04/19/23 15:58	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2974 Pace Analytical Services - Kansas City								
Percent Moisture	**12.5**	%	0.50	0.50	1		04/17/23 16:45		
Total Solids 2540 G-2011	Analytical Method: SM 2540G Preparation Method: SM 2540 G Pace National - Mt. Juliet								
Total Solids	**87.3**	%			1	04/22/23 17:05	04/22/23 17:18		
Wet Chemistry 7199	Analytical Method: EPA 7199 Preparation Method: 3060A Pace National - Mt. Juliet								
Chromium, Hexavalent	ND	mg/kg	1.15	0.292	1	04/21/23 11:53	04/24/23 01:59	18540-29-9	
Wet Chemistry 9045D	Analytical Method: EPA 9045D Preparation Method: 9045C/9045D Pace National - Mt. Juliet								
pH	**8.75**	Std. Units		0.10	1	04/21/23 20:00	04/21/23 22:32		H3
Wet Chemistry 9050AMod	Analytical Method: EPA 9050 Preparation Method: 9050A Pace National - Mt. Juliet								
Specific Conductance @ 25 C	**294**	umhos/cm	10.0	10.0	1	04/21/23 13:00	04/21/23 17:08		
Calculated Results	Analytical Method: Calculated Preparation Method: Calc Pace National - Mt. Juliet								
Sodium Adsorption Ratio	**1.63**				1	04/25/23 20:03	04/25/23 20:03	SAR	

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ANALYTICAL RESULTS

Project: NWAV #24
Pace Project No.: 60426353

Sample: SP 2 **Lab ID: 60426353003** Collected: 04/13/23 09:15 Received: 04/15/23 12:56 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)	**7.0J**	mg/kg	20.7	4.6	1	04/19/23 01:59	04/19/23 11:48		
TPH-DRO (C10-C28)	**5.5J**	mg/kg	10.3	4.6	1	04/19/23 01:59	04/19/23 11:48		
Surrogates									
n-Tetracosane (S)	61	%	31-152		1	04/19/23 01:59	04/19/23 11:48	646-31-1	
p-Terphenyl (S)	64	%	46-130		1	04/19/23 01:59	04/19/23 11:48	92-94-4	
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B Pace Analytical Services - Kansas City								
TPH-GRO	ND	mg/kg	11.1	1.4	1	04/20/23 13:54	04/21/23 00:50		
Surrogates									
4-Bromofluorobenzene (S)	84	%	66-130		1	04/20/23 13:54	04/21/23 00:50	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	**0.293**	mg/L	0.200	0.0167	1	04/24/23 12:14	04/26/23 11:25	7440-42-8H	
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Kansas City								
Barium	**140**	mg/kg	0.43	0.24	1	04/22/23 10:38	05/01/23 18:05	7440-39-3	
Cadmium	**0.61**	mg/kg	0.43	0.090	1	04/22/23 10:38	05/01/23 18:05	7440-43-9	
Copper	**10.5**	mg/kg	1.7	0.26	1	04/22/23 10:38	05/01/23 18:05	7440-50-8	
Lead	**9.7**	mg/kg	0.86	0.31	1	04/22/23 10:38	05/01/23 18:05	7439-92-1	
Nickel	**11.0**	mg/kg	0.43	0.20	1	04/22/23 10:38	05/01/23 18:05	7440-02-0	
Selenium	ND	mg/kg	1.3	0.65	1	04/22/23 10:38	05/01/23 18:05	7782-49-2	
Silver	ND	mg/kg	0.60	0.15	1	04/22/23 10:38	05/01/23 18:05	7440-22-4	
Zinc	**41.9**	mg/kg	8.6	1.1	1	04/22/23 10:38	05/01/23 18:05	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050 Pace Analytical Services - Kansas City								
Arsenic	**4.9**	mg/kg	0.86	0.16	10	04/22/23 10:38	04/25/23 09:21	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	0.0021	1	04/18/23 16:27	04/26/23 14:10	83-32-9	
Anthracene	ND	mg/kg	0.0035	0.0020	1	04/18/23 16:27	04/26/23 14:10	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0035	0.0019	1	04/18/23 16:27	04/26/23 14:10	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0035	0.0014	1	04/18/23 16:27	04/26/23 14:10	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0035	0.0018	1	04/18/23 16:27	04/26/23 14:10	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0035	0.0018	1	04/18/23 16:27	04/26/23 14:10	207-08-9	
Chrysene	ND	mg/kg	0.0035	0.0018	1	04/18/23 16:27	04/26/23 14:10	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0035	0.0018	1	04/18/23 16:27	04/26/23 14:10	53-70-3	
Fluoranthene	ND	mg/kg	0.0035	0.0029	1	04/18/23 16:27	04/26/23 14:10	206-44-0	
Fluorene	ND	mg/kg	0.0035	0.0026	1	04/18/23 16:27	04/26/23 14:10	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0035	0.0018	1	04/18/23 16:27	04/26/23 14:10	193-39-5	

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ANALYTICAL RESULTS

Project: NWAV #24
Pace Project No.: 60426353

Sample: SP 2 **Lab ID: 60426353003** Collected: 04/13/23 09:15 Received: 04/15/23 12:56 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	0.0035	0.0017	1	04/18/23 16:27	04/26/23 14:10	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0035	0.0024	1	04/18/23 16:27	04/26/23 14:10	91-57-6	
Naphthalene	ND	mg/kg	0.0035	0.0018	1	04/18/23 16:27	04/26/23 14:10	91-20-3	
Pyrene	ND	mg/kg	0.0035	0.0025	1	04/18/23 16:27	04/26/23 14:10	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	41	%	40-120		1	04/18/23 16:27	04/26/23 14:10	321-60-8	
Terphenyl-d14 (S)	39	%	45-130		1	04/18/23 16:27	04/26/23 14:10	1718-51-0	S0
8260C MSV 5035A Low Level	Analytical Method: EPA 8260C Preparation Method: EPA 5035A/5030B Pace Analytical Services - Kansas City								
Benzene	**0.00052J**	mg/kg	0.0055	0.00051	1	04/19/23 11:54	04/19/23 16:19	71-43-2	
Ethylbenzene	ND	mg/kg	0.0055	0.00096	1	04/19/23 11:54	04/19/23 16:19	100-41-4	
Toluene	ND	mg/kg	0.022	0.0049	1	04/19/23 11:54	04/19/23 16:19	108-88-3	
1,2,4-Trimethylbenzene	**0.0012J**	mg/kg	0.0055	0.00076	1	04/19/23 11:54	04/19/23 16:19	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0055	0.00048	1	04/19/23 11:54	04/19/23 16:19	108-67-8	
Xylene (Total)	ND	mg/kg	0.017	0.0041	1	04/19/23 11:54	04/19/23 16:19	1330-20-7	
Surrogates									
Toluene-d8 (S)	104	%	80-120		1	04/19/23 11:54	04/19/23 16:19	2037-26-5	
4-Bromofluorobenzene (S)	101	%	83-119		1	04/19/23 11:54	04/19/23 16:19	460-00-4	
1,2-Dichlorobenzene-d4 (S)	99	%	80-120		1	04/19/23 11:54	04/19/23 16:19	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2974 Pace Analytical Services - Kansas City								
Percent Moisture	**6.0**	%	0.50	0.50	1		04/17/23 16:45		
Total Solids 2540 G-2011	Analytical Method: SM 2540G Preparation Method: SM 2540 G Pace National - Mt. Juliet								
Total Solids	**94.1**	%			1	04/22/23 17:05	04/22/23 17:18		
Wet Chemistry 7199	Analytical Method: EPA 7199 Preparation Method: 3060A Pace National - Mt. Juliet								
Chromium, Hexavalent	ND	mg/kg	1.06	0.271	1	04/21/23 11:53	04/24/23 02:04	18540-29-9	
Wet Chemistry 9045D	Analytical Method: EPA 9045D Preparation Method: 9045C/9045D Pace National - Mt. Juliet								
pH	**7.97**	Std. Units		0.10	1	04/21/23 20:00	04/21/23 22:32		H3
Wet Chemistry 9050AMod	Analytical Method: EPA 9050 Preparation Method: 9050A Pace National - Mt. Juliet								
Specific Conductance @ 25 C	**298**	umhos/cm	10.0	10.0	1	04/21/23 13:00	04/21/23 17:08		
Calculated Results	Analytical Method: Calculated Preparation Method: Calc Pace National - Mt. Juliet								
Sodium Adsorption Ratio	**0.0732**				1	04/25/23 20:27	04/25/23 20:27	SAR	

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ANALYTICAL RESULTS

Project: NWAV #24
Pace Project No.: 60426353

Sample: SP 3 **Lab ID: 60426353004** Collected: 04/13/23 09:25 Received: 04/15/23 12:56 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)	**7.8J**	mg/kg	21.9	4.9	1	04/19/23 01:59	04/19/23 11:56		
TPH-DRO (C10-C28)	**6.9J**	mg/kg	10.9	4.9	1	04/19/23 01:59	04/19/23 11:56		
Surrogates									
n-Tetracosane (S)	64	%	31-152		1	04/19/23 01:59	04/19/23 11:56	646-31-1	
p-Terphenyl (S)	64	%	46-130		1	04/19/23 01:59	04/19/23 11:56	92-94-4	
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B Pace Analytical Services - Kansas City								
TPH-GRO	ND	mg/kg	11.1	1.4	1	04/20/23 13:54	04/21/23 01:06		
Surrogates									
4-Bromofluorobenzene (S)	88	%	66-130		1	04/20/23 13:54	04/21/23 01:06	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	**0.154J**	mg/L	0.200	0.0167	1	04/24/23 12:14	04/26/23 11:28	7440-42-8H	J
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Kansas City								
Barium	**141**	mg/kg	0.43	0.24	1	04/22/23 10:38	05/01/23 18:08	7440-39-3	
Cadmium	**0.54**	mg/kg	0.43	0.090	1	04/22/23 10:38	05/01/23 18:08	7440-43-9	
Copper	**10.7**	mg/kg	1.7	0.26	1	04/22/23 10:38	05/01/23 18:08	7440-50-8	
Lead	**8.4**	mg/kg	0.86	0.31	1	04/22/23 10:38	05/01/23 18:08	7439-92-1	
Nickel	**10.5**	mg/kg	0.43	0.20	1	04/22/23 10:38	05/01/23 18:08	7440-02-0	
Selenium	ND	mg/kg	1.3	0.64	1	04/22/23 10:38	05/01/23 18:08	7782-49-2	
Silver	ND	mg/kg	0.60	0.15	1	04/22/23 10:38	05/01/23 18:08	7440-22-4	
Zinc	**34.8**	mg/kg	8.6	1.1	1	04/22/23 10:38	05/01/23 18:08	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050 Pace Analytical Services - Kansas City								
Arsenic	**4.7**	mg/kg	0.86	0.16	10	04/22/23 10:38	04/25/23 09:24	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	0.0036	0.0022	1	04/18/23 16:27	04/26/23 14:48	83-32-9	
Anthracene	ND	mg/kg	0.0036	0.0021	1	04/18/23 16:27	04/26/23 14:48	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0036	0.0020	1	04/18/23 16:27	04/26/23 14:48	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0036	0.0015	1	04/18/23 16:27	04/26/23 14:48	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0036	0.0019	1	04/18/23 16:27	04/26/23 14:48	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0036	0.0019	1	04/18/23 16:27	04/26/23 14:48	207-08-9	
Chrysene	ND	mg/kg	0.0036	0.0019	1	04/18/23 16:27	04/26/23 14:48	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0036	0.0019	1	04/18/23 16:27	04/26/23 14:48	53-70-3	
Fluoranthene	ND	mg/kg	0.0036	0.0030	1	04/18/23 16:27	04/26/23 14:48	206-44-0	
Fluorene	ND	mg/kg	0.0036	0.0027	1	04/18/23 16:27	04/26/23 14:48	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0036	0.0019	1	04/18/23 16:27	04/26/23 14:48	193-39-5	

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ANALYTICAL RESULTS

Project: NWAV #24
Pace Project No.: 60426353

Sample: SP 3 **Lab ID: 60426353004** Collected: 04/13/23 09:25 Received: 04/15/23 12:56 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	0.0036	0.0017	1	04/18/23 16:27	04/26/23 14:48	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0036	0.0025	1	04/18/23 16:27	04/26/23 14:48	91-57-6	
Naphthalene	ND	mg/kg	0.0036	0.0019	1	04/18/23 16:27	04/26/23 14:48	91-20-3	
Pyrene	ND	mg/kg	0.0036	0.0026	1	04/18/23 16:27	04/26/23 14:48	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	66	%	40-120		1	04/18/23 16:27	04/26/23 14:48	321-60-8	
Terphenyl-d14 (S)	64	%	45-130		1	04/18/23 16:27	04/26/23 14:48	1718-51-0	
8260C MSV 5035A Low Level	Analytical Method: EPA 8260C Preparation Method: EPA 5035A/5030B Pace Analytical Services - Kansas City								
Benzene	ND	mg/kg	0.0061	0.00056	1	04/19/23 11:54	04/19/23 16:39	71-43-2	
Ethylbenzene	ND	mg/kg	0.0061	0.0011	1	04/19/23 11:54	04/19/23 16:39	100-41-4	
Toluene	ND	mg/kg	0.024	0.0054	1	04/19/23 11:54	04/19/23 16:39	108-88-3	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0061	0.00084	1	04/19/23 11:54	04/19/23 16:39	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0061	0.00053	1	04/19/23 11:54	04/19/23 16:39	108-67-8	
Xylene (Total)	ND	mg/kg	0.018	0.0045	1	04/19/23 11:54	04/19/23 16:39	1330-20-7	
Surrogates									
Toluene-d8 (S)	106	%	80-120		1	04/19/23 11:54	04/19/23 16:39	2037-26-5	
4-Bromofluorobenzene (S)	102	%	83-119		1	04/19/23 11:54	04/19/23 16:39	460-00-4	
1,2-Dichlorobenzene-d4 (S)	99	%	80-120		1	04/19/23 11:54	04/19/23 16:39	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2974 Pace Analytical Services - Kansas City								
Percent Moisture	**10.1**	%	0.50	0.50	1		04/17/23 16:45		
Total Solids 2540 G-2011	Analytical Method: SM 2540G Preparation Method: SM 2540 G Pace National - Mt. Juliet								
Total Solids	**91.0**	%			1	04/22/23 17:05	04/22/23 17:18		
Wet Chemistry 7199	Analytical Method: EPA 7199 Preparation Method: 3060A Pace National - Mt. Juliet								
Chromium, Hexavalent	ND	mg/kg	1.10	0.280	1	04/21/23 11:53	04/24/23 02:09	18540-29-9	
Wet Chemistry 9045D	Analytical Method: EPA 9045D Preparation Method: 9045C/9045D Pace National - Mt. Juliet								
pH	**8.26**	Std. Units		0.10	1	04/21/23 20:00	04/21/23 22:32		H3
Wet Chemistry 9050AMod	Analytical Method: EPA 9050 Preparation Method: 9050A Pace National - Mt. Juliet								
Specific Conductance @ 25 C	**169**	umhos/cm	10.0	10.0	1	04/21/23 13:00	04/21/23 17:08		
Calculated Results	Analytical Method: Calculated Preparation Method: Calc Pace National - Mt. Juliet								
Sodium Adsorption Ratio	**0.0681**				1	04/25/23 20:09	04/25/23 20:09	SAR	

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ANALYTICAL RESULTS

Project: NWAV #24
Pace Project No.: 60426353

Sample: SP 4 **Lab ID: 60426353005** Collected: 04/13/23 09:30 Received: 04/15/23 12:56 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)	**13.3J**	mg/kg	23.0	5.1	1	04/19/23 01:59	04/19/23 12:04		
TPH-DRO (C10-C28)	**17.3**	mg/kg	11.5	5.1	1	04/19/23 01:59	04/19/23 12:04		
Surrogates									
n-Tetracosane (S)	83	%	31-152		1	04/19/23 01:59	04/19/23 12:04	646-31-1	
p-Terphenyl (S)	83	%	46-130		1	04/19/23 01:59	04/19/23 12:04	92-94-4	
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B Pace Analytical Services - Kansas City								
TPH-GRO	ND	mg/kg	13.5	1.6	1	04/20/23 13:54	04/21/23 01:21		
Surrogates									
4-Bromofluorobenzene (S)	84	%	66-130		1	04/20/23 13:54	04/21/23 01:21	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	**0.260**	mg/L	0.200	0.0167	1	04/24/23 12:14	04/26/23 11:30	7440-42-8H	
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050 Pace Analytical Services - Kansas City								
Barium	**161**	mg/kg	0.45	0.25	1	04/22/23 10:38	05/01/23 18:10	7440-39-3	
Cadmium	**0.71**	mg/kg	0.45	0.094	1	04/22/23 10:38	05/01/23 18:10	7440-43-9	
Copper	**13.0**	mg/kg	1.8	0.27	1	04/22/23 10:38	05/01/23 18:10	7440-50-8	
Lead	**10.4**	mg/kg	0.89	0.32	1	04/22/23 10:38	05/01/23 18:10	7439-92-1	
Nickel	**13.5**	mg/kg	0.45	0.21	1	04/22/23 10:38	05/01/23 18:10	7440-02-0	
Selenium	ND	mg/kg	1.3	0.67	1	04/22/23 10:38	05/01/23 18:10	7782-49-2	
Silver	ND	mg/kg	0.63	0.15	1	04/22/23 10:38	05/01/23 18:10	7440-22-4	
Zinc	**42.2**	mg/kg	8.9	1.2	1	04/22/23 10:38	05/01/23 18:10	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050 Pace Analytical Services - Kansas City								
Arsenic	**6.9**	mg/kg	0.89	0.16	10	04/22/23 10:38	04/25/23 09:26	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	0.0037	0.0022	1	04/27/23 15:34	05/01/23 21:29	83-32-9	
Anthracene	ND	mg/kg	0.0037	0.0021	1	04/27/23 15:34	05/01/23 21:29	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0037	0.0020	1	04/27/23 15:34	05/01/23 21:29	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0037	0.0015	1	04/27/23 15:34	05/01/23 21:29	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0037	0.0019	1	04/27/23 15:34	05/01/23 21:29	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0037	0.0019	1	04/27/23 15:34	05/01/23 21:29	207-08-9	
Chrysene	ND	mg/kg	0.0037	0.0019	1	04/27/23 15:34	05/01/23 21:29	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0037	0.0020	1	04/27/23 15:34	05/01/23 21:29	53-70-3	
Fluoranthene	ND	mg/kg	0.0037	0.0030	1	04/27/23 15:34	05/01/23 21:29	206-44-0	
Fluorene	ND	mg/kg	0.0037	0.0028	1	04/27/23 15:34	05/01/23 21:29	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0037	0.0019	1	04/27/23 15:34	05/01/23 21:29	193-39-5	

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ANALYTICAL RESULTS

Project: NWAV #24
Pace Project No.: 60426353

Sample: SP 4 **Lab ID: 60426353005** Collected: 04/13/23 09:30 Received: 04/15/23 12:56 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	0.0037	0.0018	1	04/27/23 15:34	05/01/23 21:29	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0037	0.0026	1	04/27/23 15:34	05/01/23 21:29	91-57-6	
Naphthalene	ND	mg/kg	0.0037	0.0020	1	04/27/23 15:34	05/01/23 21:29	91-20-3	
Pyrene	ND	mg/kg	0.0037	0.0026	1	04/27/23 15:34	05/01/23 21:29	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	75	%	40-120		1	04/27/23 15:34	05/01/23 21:29	321-60-8	
Terphenyl-d14 (S)	73	%	45-130		1	04/27/23 15:34	05/01/23 21:29	1718-51-0	
8260C MSV 5035A Low Level	Analytical Method: EPA 8260C Preparation Method: EPA 5035A/5030B Pace Analytical Services - Kansas City								
Benzene	ND	mg/kg	0.0068	0.00062	1	04/19/23 11:54	04/19/23 16:59	71-43-2	
Ethylbenzene	ND	mg/kg	0.0068	0.0012	1	04/19/23 11:54	04/19/23 16:59	100-41-4	
Toluene	ND	mg/kg	0.027	0.0060	1	04/19/23 11:54	04/19/23 16:59	108-88-3	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0068	0.00093	1	04/19/23 11:54	04/19/23 16:59	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0068	0.00059	1	04/19/23 11:54	04/19/23 16:59	108-67-8	
Xylene (Total)	ND	mg/kg	0.020	0.0050	1	04/19/23 11:54	04/19/23 16:59	1330-20-7	
Surrogates									
Toluene-d8 (S)	105	%	80-120		1	04/19/23 11:54	04/19/23 16:59	2037-26-5	
4-Bromofluorobenzene (S)	103	%	83-119		1	04/19/23 11:54	04/19/23 16:59	460-00-4	
1,2-Dichlorobenzene-d4 (S)	99	%	80-120		1	04/19/23 11:54	04/19/23 16:59	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2974 Pace Analytical Services - Kansas City								
Percent Moisture	**15.2**	%	0.50	0.50	1		04/17/23 16:45		
Total Solids 2540 G-2011	Analytical Method: SM 2540G Preparation Method: SM 2540 G Pace National - Mt. Juliet								
Total Solids	**84.5**	%			1	04/22/23 17:05	04/22/23 17:18		
Wet Chemistry 7199	Analytical Method: EPA 7199 Preparation Method: 3060A Pace National - Mt. Juliet								
Chromium, Hexavalent	ND	mg/kg	1.18	0.302	1	04/21/23 11:53	04/24/23 02:25	18540-29-9	
Wet Chemistry 9045D	Analytical Method: EPA 9045D Preparation Method: 9045C/9045D Pace National - Mt. Juliet								
pH	**8.08**	Std. Units		0.10	1	04/21/23 20:00	04/21/23 22:32		H3
Wet Chemistry 9050AMod	Analytical Method: EPA 9050 Preparation Method: 9050A Pace National - Mt. Juliet								
Specific Conductance @ 25 C	**231**	umhos/cm	10.0	10.0	1	04/21/23 13:00	04/21/23 17:08		
Calculated Results	Analytical Method: Calculated Preparation Method: Calc Pace National - Mt. Juliet								
Sodium Adsorption Ratio	**0.0624**				1	04/25/23 20:33	04/25/23 20:33	SAR	

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QUALITY CONTROL DATA

Project: NWAV #24
Pace Project No.: 60426353

QC Batch: 842659 | Analysis Method: EPA 8015B
QC Batch Method: EPA 5035A/5030B | Analysis Description: Gasoline Range Organics
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004, 60426353005

METHOD BLANK: 3339734 Matrix: Solid
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004, 60426353005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH-GRO	mg/kg	ND	10.0	1.2	04/21/23 00:05	
4-Bromofluorobenzene (S)	%	93	66-130		04/21/23 00:05	

LABORATORY CONTROL SAMPLE: 3339735

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-GRO	mg/kg	50	47.5	95	70-130	
4-Bromofluorobenzene (S)	%			89	66-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3339736 3339737

Parameter	Units	60426357007 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	ND	47.8	47.8	40.0	41.0	82	84	70-130	2	25	
4-Bromofluorobenzene (S)	%						87	91	66-130			

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QUALITY CONTROL DATA

Project: NWAV #24
Pace Project No.: 60426353

QC Batch: 2045653
QC Batch Method: HWS Boron
Analysis Method: 6010B-NE493 Ch 2
Analysis Description: Metals (ICP) 6010B-NE493 Ch 2
Laboratory: Pace National - Mt. Juliet
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004, 60426353005

METHOD BLANK: R3917697-1 Matrix: Solid
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004, 60426353005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron, Hot Water Soluble	mg/L	ND	0.200	0.0167	04/26/23 10:44	

LABORATORY CONTROL SAMPLE & LCSD: R3917697-2 R3917697-3

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Boron, Hot Water Soluble	mg/L	1.00	1.03	1.03	103	103	80.0-120	0.260	20	

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QUALITY CONTROL DATA

Project: NWAV #24
Pace Project No.: 60426353

QC Batch: 843041
QC Batch Method: EPA 3050
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004, 60426353005

METHOD BLANK: 3341537 Matrix: Solid
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004, 60426353005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	mg/kg	ND	0.50	0.28	05/01/23 17:52	
Cadmium	mg/kg	ND	0.50	0.10	05/01/23 17:52	
Copper	mg/kg	ND	2.0	0.31	05/01/23 17:52	
Lead	mg/kg	ND	1.0	0.36	05/01/23 17:52	
Nickel	mg/kg	ND	0.50	0.24	05/01/23 17:52	
Selenium	mg/kg	ND	1.5	0.75	05/01/23 17:52	
Silver	mg/kg	ND	0.70	0.17	05/01/23 17:52	
Zinc	mg/kg	ND	10.0	1.3	05/01/23 17:52	

LABORATORY CONTROL SAMPLE: 3341538

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/kg	100	104	104	80-120	
Cadmium	mg/kg	100	102	102	80-120	
Copper	mg/kg	100	101	101	80-120	
Lead	mg/kg	100	103	103	80-120	
Nickel	mg/kg	100	105	105	80-120	
Selenium	mg/kg	100	88.4	88	80-120	
Silver	mg/kg	50	47.4	95	80-120	
Zinc	mg/kg	100	101	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3341539 3341540

Parameter	Units	60426353001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/kg	219	109	99.5	342	315	113	96	75-125	8	20	
Cadmium	mg/kg	0.59	109	99.5	95.9	86.0	87	86	75-125	11	20	
Copper	mg/kg	10.2	109	99.5	116	104	97	94	75-125	11	20	
Lead	mg/kg	9.1	109	99.5	105	95.1	88	86	75-125	10	20	
Nickel	mg/kg	10.5	109	99.5	109	97.3	90	87	75-125	11	20	
Selenium	mg/kg	ND	109	99.5	87.5	79.5	80	80	75-125	10	20	
Silver	mg/kg	ND	54.6	49.7	47.3	42.9	87	86	75-125	10	20	
Zinc	mg/kg	37.6	109	99.5	133	120	87	83	75-125	10	20	

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QUALITY CONTROL DATA

Project: NWAV #24
Pace Project No.: 60426353

QC Batch: 843042 — Analysis Method: EPA 6020
QC Batch Method: EPA 3050 — Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004, 60426353005

METHOD BLANK: 3341541 — Matrix: Solid
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004, 60426353005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/kg	ND	1.0	0.18	04/25/23 09:03	

LABORATORY CONTROL SAMPLE: 3341542

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3341543 3341544

Parameter	Units	60426353002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	5.4	98.6	102	100	103	96	96	75-125	3	20	

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QUALITY CONTROL DATA

Project: NWAV #24
Pace Project No.: 60426353

QC Batch: 842421
QC Batch Method: EPA 5035A/5030B
Analysis Method: EPA 8260C
Analysis Description: 8260C MSV 5035A Low Level
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004, 60426353005

METHOD BLANK: 3338687 Matrix: Solid
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004, 60426353005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	mg/kg	ND	0.0050	0.00069	04/19/23 15:17	
1,3,5-Trimethylbenzene	mg/kg	ND	0.0050	0.00043	04/19/23 15:17	
Benzene	mg/kg	ND	0.0050	0.00046	04/19/23 15:17	
Ethylbenzene	mg/kg	ND	0.0050	0.00087	04/19/23 15:17	
Toluene	mg/kg	ND	0.020	0.0044	04/19/23 15:17	
Xylene (Total)	mg/kg	ND	0.015	0.0037	04/19/23 15:17	
1,2-Dichlorobenzene-d4 (S)	%	99	80-120		04/19/23 15:17	
4-Bromofluorobenzene (S)	%	102	83-119		04/19/23 15:17	
Toluene-d8 (S)	%	106	80-120		04/19/23 15:17	

LABORATORY CONTROL SAMPLE: 3338688

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	mg/kg	1.2	1.3	108	79-121	
1,3,5-Trimethylbenzene	mg/kg	1.2	1.4	108	81-122	
Benzene	mg/kg	1.2	1.3	101	67-126	
Ethylbenzene	mg/kg	1.2	1.3	102	69-127	
Toluene	mg/kg	1.2	1.2	97	80-118	
Xylene (Total)	mg/kg	3.8	3.8	101	69-130	
1,2-Dichlorobenzene-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			96	83-119	
Toluene-d8 (S)	%			95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3338689 3338690

Parameter	Units	60426353001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2,4-Trimethylbenzene	mg/kg	ND	1.6	1.6	1.5	1.6	101	103	10-124	2	68	
1,3,5-Trimethylbenzene	mg/kg	ND	1.6	1.6	1.5	1.5	101	102	10-125	1	65	
Benzene	mg/kg	ND	1.6	1.6	1.4	1.4	92	95	17-134	3	53	
Ethylbenzene	mg/kg	ND	1.6	1.6	1.4	1.5	95	97	10-137	2	60	
Toluene	mg/kg	ND	1.6	1.6	1.3	1.4	89	90	13-131	1	60	
Xylene (Total)	mg/kg	ND	4.6	4.6	4.4	4.4	96	97	10-137	1	58	
1,2-Dichlorobenzene-d4 (S)	%						100	101	80-120			
4-Bromofluorobenzene (S)	%						100	100	83-119			
Toluene-d8 (S)	%						95	97	80-120			

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QUALITY CONTROL DATA

Project: NWAV #24
Pace Project No.: 60426353

QC Batch: 842084
QC Batch Method: EPA 3546
Analysis Method: EPA 8015B
Analysis Description: EPA 8015B
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004, 60426353005

METHOD BLANK: 3337608 Matrix: Solid
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004, 60426353005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
TPH-DRO (C10-C28)	mg/kg	ND	9.9	4.4	04/19/23 10:36	
TPH-RRO (C28-C36)	mg/kg	ND	19.8	4.4	04/19/23 10:36	
n-Tetracosane (S)	%	70	31-152		04/19/23 10:36	
p-Terphenyl (S)	%	73	46-130		04/19/23 10:36	

LABORATORY CONTROL SAMPLE: 3337609

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-DRO (C10-C28)	mg/kg	81.9	63.2	77	74-124	
n-Tetracosane (S)	%			79	31-152	
p-Terphenyl (S)	%			80	46-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3337610 3337611

Parameter	Units	60426353001 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	15.5	90.8	92.4	58.5	62.7	47	51	30-130	7	35	
n-Tetracosane (S)	%						62	67	31-152			
p-Terphenyl (S)	%						65	67	46-130			

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QUALITY CONTROL DATA

Project: NWAV #24
Pace Project No.: 60426353

QC Batch: 842085
QC Batch Method: EPA 3546
Analysis Method: EPA 8270 by SIM
Analysis Description: 8270/3546 MSSV PAH by SIM
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004

METHOD BLANK: 3337612 Matrix: Solid
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	mg/kg	ND	0.0032	0.0016	04/26/23 11:18	
2-Methylnaphthalene	mg/kg	ND	0.0032	0.0023	04/26/23 11:18	
Acenaphthene	mg/kg	ND	0.0032	0.0020	04/26/23 11:18	
Anthracene	mg/kg	ND	0.0032	0.0018	04/26/23 11:18	
Benzo(a)anthracene	mg/kg	0.0022J	0.0032	0.0018	04/26/23 11:18	
Benzo(a)pyrene	mg/kg	0.0024J	0.0032	0.0013	04/26/23 11:18	
Benzo(b)fluoranthene	mg/kg	0.0024J	0.0032	0.0017	04/26/23 11:18	
Benzo(k)fluoranthene	mg/kg	ND	0.0032	0.0017	04/26/23 11:18	
Chrysene	mg/kg	0.0022J	0.0032	0.0017	04/26/23 11:18	
Dibenz(a,h)anthracene	mg/kg	ND	0.0032	0.0017	04/26/23 11:18	
Fluoranthene	mg/kg	0.0047	0.0032	0.0027	04/26/23 11:18	
Fluorene	mg/kg	ND	0.0032	0.0024	04/26/23 11:18	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.0032	0.0017	04/26/23 11:18	
Naphthalene	mg/kg	ND	0.0032	0.0017	04/26/23 11:18	
Pyrene	mg/kg	0.0039	0.0032	0.0023	04/26/23 11:18	
2-Fluorobiphenyl (S)	%	69	40-120		04/26/23 11:18	
Terphenyl-d14 (S)	%	72	45-130		04/26/23 11:18	

LABORATORY CONTROL SAMPLE: 3337613

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	mg/kg	0.033	0.022	68	55-120	
2-Methylnaphthalene	mg/kg	0.033	0.022	68	55-120	
Acenaphthene	mg/kg	0.033	0.023	68	45-120	
Anthracene	mg/kg	0.033	0.024	72	50-120	
Benzo(a)anthracene	mg/kg	0.033	0.022	65	55-125	
Benzo(a)pyrene	mg/kg	0.033	0.023	68	45-120	
Benzo(b)fluoranthene	mg/kg	0.033	0.018	55	50-125	
Benzo(k)fluoranthene	mg/kg	0.033	0.025	76	55-120	
Chrysene	mg/kg	0.033	0.024	74	55-120	
Dibenz(a,h)anthracene	mg/kg	0.033	0.015	45	40-125	
Fluoranthene	mg/kg	0.033	0.025	74	50-125	
Fluorene	mg/kg	0.033	0.022	66	50-120	
Indeno(1,2,3-cd)pyrene	mg/kg	0.033	0.018	54	44-125	
Naphthalene	mg/kg	0.033	0.022	67	45-120	
Pyrene	mg/kg	0.033	0.026	79	50-125	
2-Fluorobiphenyl (S)	%			65	40-120	
Terphenyl-d14 (S)	%			64	45-130	

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QUALITY CONTROL DATA

Project: NWAV #24
Pace Project No.: 60426353

MATRIX SPIKE SAMPLE: 3337614

Parameter	Units	60426353002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	mg/kg	ND	0.038	0.023	61	50-145	
2-Methylnaphthalene	mg/kg	ND	0.038	0.024	63	50-120	
Acenaphthene	mg/kg	ND	0.038	0.022	59	10-150	
Anthracene	mg/kg	ND	0.038	0.025	65	10-160	
Benzo(a)anthracene	mg/kg	ND	0.038	0.023	60	10-160	
Benzo(a)pyrene	mg/kg	ND	0.038	0.021	55	10-150	
Benzo(b)fluoranthene	mg/kg	ND	0.038	0.020	52	10-165	
Benzo(k)fluoranthene	mg/kg	ND	0.038	0.023	61	10-165	
Chrysene	mg/kg	ND	0.038	0.023	61	10-150	
Dibenz(a,h)anthracene	mg/kg	ND	0.038	0.022	58	10-175	
Fluoranthene	mg/kg	ND	0.038	0.026	67	10-180	
Fluorene	mg/kg	ND	0.038	0.024	64	20-145	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.038	0.022	57	10-150	
Naphthalene	mg/kg	ND	0.038	0.023	60	10-165	
Pyrene	mg/kg	ND	0.038	0.025	66	10-180	
2-Fluorobiphenyl (S)	%				57	40-120	
Terphenyl-d14 (S)	%				55	45-130	

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QUALITY CONTROL DATA

Project: NWAV #24
Pace Project No.: 60426353

QC Batch: 844092
QC Batch Method: EPA 3546
Analysis Method: EPA 8270 by SIM
Analysis Description: 8270/3546 MSSV PAH by SIM
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60426353005

METHOD BLANK: 3345415 Matrix: Solid
Associated Lab Samples: 60426353005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	mg/kg	ND	0.0031	0.0015	05/02/23 09:39	
2-Methylnaphthalene	mg/kg	ND	0.0031	0.0022	05/02/23 09:39	
Acenaphthene	mg/kg	ND	0.0031	0.0019	05/02/23 09:39	
Anthracene	mg/kg	0.0034	0.0031	0.0018	05/02/23 09:39	
Benzo(a)anthracene	mg/kg	0.0082	0.0031	0.0017	05/02/23 09:39	
Benzo(a)pyrene	mg/kg	0.0080	0.0031	0.0013	05/02/23 09:39	
Benzo(b)fluoranthene	mg/kg	0.013	0.0031	0.0017	05/02/23 09:39	
Benzo(k)fluoranthene	mg/kg	0.0047	0.0031	0.0017	05/02/23 09:39	
Chrysene	mg/kg	0.0075	0.0031	0.0017	05/02/23 09:39	
Dibenz(a,h)anthracene	mg/kg	ND	0.0031	0.0017	05/02/23 09:39	
Fluoranthene	mg/kg	0.016	0.0031	0.0026	05/02/23 09:39	
Fluorene	mg/kg	ND	0.0031	0.0024	05/02/23 09:39	
Indeno(1,2,3-cd)pyrene	mg/kg	0.0046	0.0031	0.0017	05/02/23 09:39	
Naphthalene	mg/kg	ND	0.0031	0.0017	05/02/23 09:39	
Pyrene	mg/kg	0.013	0.0031	0.0023	05/02/23 09:39	
2-Fluorobiphenyl (S)	%	83	40-120		05/02/23 09:39	
Terphenyl-d14 (S)	%	78	45-130		05/02/23 09:39	

LABORATORY CONTROL SAMPLE: 3345416

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	mg/kg	0.032	0.027	85	55-120	
2-Methylnaphthalene	mg/kg	0.032	0.027	85	55-120	
Acenaphthene	mg/kg	0.032	0.027	86	45-120	
Anthracene	mg/kg	0.032	0.028	88	50-120	
Benzo(a)anthracene	mg/kg	0.032	0.029	91	55-125	
Benzo(a)pyrene	mg/kg	0.032	0.027	85	45-120	
Benzo(b)fluoranthene	mg/kg	0.032	0.029	90	50-125	
Benzo(k)fluoranthene	mg/kg	0.032	0.030	95	55-120	
Chrysene	mg/kg	0.032	0.029	92	55-120	
Dibenz(a,h)anthracene	mg/kg	0.032	0.027	85	40-125	
Fluoranthene	mg/kg	0.032	0.031	96	50-125	
Fluorene	mg/kg	0.032	0.028	88	50-120	
Indeno(1,2,3-cd)pyrene	mg/kg	0.032	0.028	87	44-125	
Naphthalene	mg/kg	0.032	0.026	83	45-120	
Pyrene	mg/kg	0.032	0.029	91	50-125	
2-Fluorobiphenyl (S)	%			84	40-120	
Terphenyl-d14 (S)	%			86	45-130	

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QUALITY CONTROL DATA

Project: NWAV #24
Pace Project No.: 60426353

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3345417 3345418

Parameter	Units	60426353005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	mg/kg	ND	0.038	0.038	0.027	0.023	71	60	50-145	16	61	
2-Methylnaphthalene	mg/kg	ND	0.038	0.038	0.027	0.023	72	61	50-120	17	61	
Acenaphthene	mg/kg	ND	0.038	0.038	0.028	0.024	73	63	10-150	16	42	
Anthracene	mg/kg	ND	0.038	0.038	0.028	0.024	74	64	10-160	15	54	
Benzo(a)anthracene	mg/kg	ND	0.038	0.038	0.029	0.025	76	65	10-160	16	62	
Benzo(a)pyrene	mg/kg	ND	0.038	0.038	0.027	0.023	70	60	10-150	16	66	
Benzo(b)fluoranthene	mg/kg	ND	0.038	0.038	0.028	0.024	73	64	10-165	14	61	
Benzo(k)fluoranthene	mg/kg	ND	0.038	0.038	0.033	0.024	86	62	10-165	33	53	
Chrysene	mg/kg	ND	0.038	0.038	0.029	0.025	75	65	10-150	16	57	
Dibenz(a,h)anthracene	mg/kg	ND	0.038	0.038	0.027	0.023	70	61	10-175	15	48	
Fluoranthene	mg/kg	ND	0.038	0.038	0.032	0.027	84	71	10-180	17	54	
Fluorene	mg/kg	ND	0.038	0.038	0.030	0.025	78	67	20-145	17	39	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.038	0.038	0.028	0.023	72	61	10-150	18	59	
Naphthalene	mg/kg	ND	0.038	0.038	0.027	0.022	70	59	10-165	18	54	
Pyrene	mg/kg	ND	0.038	0.038	0.029	0.025	76	65	10-180	16	61	
2-Fluorobiphenyl (S)	%						74	63	40-120			
Terphenyl-d14 (S)	%						73	65	45-130			

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QUALITY CONTROL DATA

Project: NWAV #24
Pace Project No.: 60426353

QC Batch: 841937
QC Batch Method: ASTM D2974
Analysis Method: ASTM D2974
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004, 60426353005

METHOD BLANK: 3337259 Matrix: Solid
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004, 60426353005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	0.50	04/17/23 16:45	

SAMPLE DUPLICATE: 3337260

Parameter	Units	60426355027 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	10.4	10.2	2	20	

SAMPLE DUPLICATE: 3337261

Parameter	Units	60426355029 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	10.0	10.1	1	20	

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QUALITY CONTROL DATA

Project: NWAV #24
Pace Project No.: 60426353

QC Batch: 2045413
QC Batch Method: SM 2540 G
Analysis Method: SM 2540G
Analysis Description: Total Solids 2540 G-2011
Laboratory: Pace National - Mt. Juliet
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004, 60426353005

METHOD BLANK: R3916513-1 Matrix: Solid
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004, 60426353005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Solids	%	0.00100			04/22/23 17:18	

LABORATORY CONTROL SAMPLE: R3916513-2

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

SAMPLE DUPLICATE: R3916513-3

Parameter	Units	60426353001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	%	91.1	90.6	0.468	10	

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QUALITY CONTROL DATA

Project: NWAV #24
Pace Project No.: 60426353

QC Batch: 2045352 — Analysis Method: EPA 7199
QC Batch Method: 3060A — Analysis Description: Wet Chemistry 7199
Laboratory: Pace National - Mt. Juliet
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004, 60426353005

METHOD BLANK: R3916419-1 Matrix: Solid
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004, 60426353005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium, Hexavalent	mg/kg	ND	1.00	0.255	04/24/23 01:20	

LABORATORY CONTROL SAMPLE: R3916419-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/kg	10.0	10.5	105	80.0-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: R3916419-5 R3916419-6

Parameter	Units	60426353005 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	23.7	23.7	17.9	18.5	75.8	78.3	75.0-125	3.23	20	

MATRIX SPIKE SAMPLE: R3916419-7

Parameter	Units	60426353005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/kg	ND	761	693	91.1	75.0-125	

SAMPLE DUPLICATE: R3916419-3

Parameter	Units	L1606425-09 Result	Dup Result	RPD	Max RPD	Qualifiers
Chromium, Hexavalent	mg/kg	ND	ND	0.00	20	

SAMPLE DUPLICATE: R3916419-8

Parameter	Units	L1606853-05 Result	Dup Result	RPD	Max RPD	Qualifiers
Chromium, Hexavalent	mg/kg	ND	ND	0.00	20	

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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9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: NWAV #24
Pace Project No.: 60426353

QC Batch: 2046581
QC Batch Method: 9045C/9045D
Analysis Method: EPA 9045D
Analysis Description: Wet Chemistry 9045D
Laboratory: Pace National - Mt. Juliet
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004, 60426353005

LABORATORY CONTROL SAMPLE: R3916113-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH	Std. Units	10.0	9.98	99.8	99.0-101	

SAMPLE DUPLICATE: R3916113-2

Parameter	Units	60426353005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	8.08	8.05	0.372	1	

SAMPLE DUPLICATE: R3916113-3

Parameter	Units	L1607178-01 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	7.02	7.03	0.142	1	

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QUALITY CONTROL DATA

Project: NWAV #24
Pace Project No.: 60426353

QC Batch: 2045126
QC Batch Method: 9050A
Analysis Method: EPA 9050
Analysis Description: Wet Chemistry 9050AMod
Laboratory: Pace National - Mt. Juliet
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004, 60426353005

METHOD BLANK: R3916056-1 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	04/21/23 17:08	

LABORATORY CONTROL SAMPLE: R3916056-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance @ 25 C	umhos/cm	1120	1050	93.5	85.0-115	

SAMPLE DUPLICATE: R3916056-3

Parameter	Units	L1606678-04 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25 C	umhos/cm	211	208	1.19	20	

SAMPLE DUPLICATE: R3916056-4

Parameter	Units	L1606853-04 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25 C	umhos/cm	2700	2760	2.12	20	

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QUALITY CONTROL DATA

Project: NWAV #24
Pace Project No.: 60426353

QC Batch: 2045126
QC Batch Method: EPA 9050
Analysis Method: EPA 9050
Analysis Description: Wet Chemistry 9050AMod
Laboratory: Pace National - Mt. Juliet
Associated Lab Samples: 60426353001, 60426353002, 60426353003, 60426353004, 60426353005

METHOD BLANK: R3916056-1 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	04/21/23 17:08	

LABORATORY CONTROL SAMPLE: R3916056-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance @ 25 C	umhos/cm	1120	1050	93.5	85.0-115	

SAMPLE DUPLICATE: R3916056-3

Parameter	Units	L1606678-04 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25 C	umhos/cm	211	208	1.19	20	

SAMPLE DUPLICATE: R3916056-4

Parameter	Units	L1606853-04 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25 C	umhos/cm	2700	2760	2.12	20	

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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QUALIFIERS

Project: NWAV #24
Pace Project No.: 60426353

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: 60426353001
[1] Wet Chemistry by Method 9045D - 8.22 at 19.8C
[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: 60426353002
[1] Wet Chemistry by Method 9045D - 8.75 at 19.8C
[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: 60426353003
[1] Wet Chemistry by Method 9045D - 7.97 at 19.8C
[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: 60426353004
[1] Wet Chemistry by Method 9045D - 8.26 at 19.7C
[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: 60426353005
[1] Wet Chemistry by Method 9045D - 8.08 at 19.7C
[1] Wet Chemistry by Method 9050AMod - at 25C

Sample: R3916056-1
[1] Wet Chemistry by Method 9050AMod - at 25C

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QUALIFIERS

Project: NWAV #24
Pace Project No.: 60426353

SAMPLE QUALIFIERS

Sample: R3916056-2
[1] Wet Chemistry by Method 9050AMod - at 25C
Sample: R3916056-3
[1] Wet Chemistry by Method 9050AMod - at 25C
Sample: R3916056-4
[1] Wet Chemistry by Method 9050AMod - at 25C
Sample: R3916113-1
[1] Wet Chemistry by Method 9045D - 9.98 at 19.2C
Sample: R3916113-2
[1] Wet Chemistry by Method 9045D - 8.05 at 19.7C
Sample: R3916113-3
[1] Wet Chemistry by Method 9045D - 7.03 at 19.5C
Sample: L1606678-04
[1] Wet Chemistry by Method 9050AMod - at 25C
Sample: L1606853-04
[1] Wet Chemistry by Method 9050AMod - at 25C
Sample: L1607178-01
[1] Wet Chemistry by Method 9045D - 7.02 at 19.5C

ANALYTE QUALIFIERS

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.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NWAV #24
Pace Project No.: 60426353

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60426353001	**SP 1**	EPA 3546	842084	EPA 8015B	842336
60426353002	**SP 1 4'**	EPA 3546	842084	EPA 8015B	842336
60426353003	**SP 2**	EPA 3546	842084	EPA 8015B	842336
60426353004	**SP 3**	EPA 3546	842084	EPA 8015B	842336
60426353005	**SP 4**	EPA 3546	842084	EPA 8015B	842336
60426353001	**SP 1**	EPA 5035A/5030B	842659	EPA 8015B	842790
60426353002	**SP 1 4'**	EPA 5035A/5030B	842659	EPA 8015B	842790
60426353003	**SP 2**	EPA 5035A/5030B	842659	EPA 8015B	842790
60426353004	**SP 3**	EPA 5035A/5030B	842659	EPA 8015B	842790
60426353005	**SP 4**	EPA 5035A/5030B	842659	EPA 8015B	842790
60426353001	**SP 1**	HWS Boron	2045653	6010B-NE493 Ch 2	2045653
60426353002	**SP 1 4'**	HWS Boron	2045653	6010B-NE493 Ch 2	2045653
60426353003	**SP 2**	HWS Boron	2045653	6010B-NE493 Ch 2	2045653
60426353004	**SP 3**	HWS Boron	2045653	6010B-NE493 Ch 2	2045653
60426353005	**SP 4**	HWS Boron	2045653	6010B-NE493 Ch 2	2045653
60426353001	**SP 1**	EPA 3050	843041	EPA 6010	843212
60426353002	**SP 1 4'**	EPA 3050	843041	EPA 6010	843212
60426353003	**SP 2**	EPA 3050	843041	EPA 6010	843212
60426353004	**SP 3**	EPA 3050	843041	EPA 6010	843212
60426353005	**SP 4**	EPA 3050	843041	EPA 6010	843212
60426353001	**SP 1**	EPA 3050	843042	EPA 6020	843215
60426353002	**SP 1 4'**	EPA 3050	843042	EPA 6020	843215
60426353003	**SP 2**	EPA 3050	843042	EPA 6020	843215
60426353004	**SP 3**	EPA 3050	843042	EPA 6020	843215
60426353005	**SP 4**	EPA 3050	843042	EPA 6020	843215
60426353001	**SP 1**	EPA 3546	842085	EPA 8270 by SIM	843724
60426353002	**SP 1 4'**	EPA 3546	842085	EPA 8270 by SIM	843724
60426353003	**SP 2**	EPA 3546	842085	EPA 8270 by SIM	843724
60426353004	**SP 3**	EPA 3546	842085	EPA 8270 by SIM	843724
60426353005	**SP 4**	EPA 3546	844092	EPA 8270 by SIM	844607
60426353001	**SP 1**	EPA 5035A/5030B	842421	EPA 8260C	842464
60426353002	**SP 1 4'**	EPA 5035A/5030B	842421	EPA 8260C	842464
60426353003	**SP 2**	EPA 5035A/5030B	842421	EPA 8260C	842464
60426353004	**SP 3**	EPA 5035A/5030B	842421	EPA 8260C	842464
60426353005	**SP 4**	EPA 5035A/5030B	842421	EPA 8260C	842464
60426353001	**SP 1**	ASTM D2974	841937		
60426353002	**SP 1 4'**	ASTM D2974	841937		
60426353003	**SP 2**	ASTM D2974	841937		
60426353004	**SP 3**	ASTM D2974	841937		
60426353005	**SP 4**	ASTM D2974	841937		
60426353001	**SP 1**	SM 2540 G	2045413	SM 2540G	2045413
60426353002	**SP 1 4'**	SM 2540 G	2045413	SM 2540G	2045413
60426353003	**SP 2**	SM 2540 G	2045413	SM 2540G	2045413
60426353004	**SP 3**	SM 2540 G	2045413	SM 2540G	2045413

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NWAV #24
Pace Project No.: 60426353

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60426353005	**SP 4**	SM 2540 G	2045413	SM 2540G	2045413
60426353001	**SP 1**	3060A	2045352	EPA 7199	2045352
60426353002	**SP 1 4'**	3060A	2045352	EPA 7199	2045352
60426353003	**SP 2**	3060A	2045352	EPA 7199	2045352
60426353004	**SP 3**	3060A	2045352	EPA 7199	2045352
60426353005	**SP 4**	3060A	2045352	EPA 7199	2045352
60426353001	**SP 1**	9045C/9045D	2046581	EPA 9045D	2046581
60426353002	**SP 1 4'**	9045C/9045D	2046581	EPA 9045D	2046581
60426353003	**SP 2**	9045C/9045D	2046581	EPA 9045D	2046581
60426353004	**SP 3**	9045C/9045D	2046581	EPA 9045D	2046581
60426353005	**SP 4**	9045C/9045D	2046581	EPA 9045D	2046581
60426353001	**SP 1**	9050A	2045126	EPA 9050	2045126
60426353002	**SP 1 4'**	9050A	2045126	EPA 9050	2045126
60426353003	**SP 2**	9050A	2045126	EPA 9050	2045126
60426353004	**SP 3**	9050A	2045126	EPA 9050	2045126
60426353005	**SP 4**	9050A	2045126	EPA 9050	2045126
60426353001	**SP 1**	Calc	2045648	Calculated	2045648
60426353002	**SP 1 4'**	Calc	2045648	Calculated	2045648
60426353003	**SP 2**	Calc	2045648	Calculated	2045648
60426353004	**SP 3**	Calc	2045648	Calculated	2045648
60426353005	**SP 4**	Calc	2045648	Calculated	2045648

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Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Sa	WO# : 60426353
	Revision: 2	Effective Date: 01/12/

60426353

Client Name: Mull Drilling

Courier: FedEx ☐ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☒ Other ☐

Tracking #: _____ 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 ☐

Thermometer Used: T-299 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 5.6 **Corr. Factor** +0.2 **Corrected** 5.8

Date and initials of person examining contents: BL 4/15

Temperature should be above freezing to 6°C

Chain of Custody present:	☒Yes ☐No ☐N/A	
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	
Samples arrived within holding time:	☒Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☒No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	
Sufficient volume:	☒Yes ☐No ☐N/A	
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	
Containers intact:	☒Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☒No ☐N/A	
Filtered volume received for dissolved tests?	☐Yes ☒No ☐N/A	
Sample labels match COC: Date / time / ID / analyses	☒Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: SL	☐Yes ☒No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) **LOT#:**	☐Yes ☐No ☒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)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☒No ☐N/A	
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	
Samples from USDA Regulated Area: State: SL	☐Yes ☒No ☐N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☒No ☐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: _____

Qualtrax Document ID: 30468

Pace Analytical
WWW.PACELABS.COM

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Mull Drilling Company	Report To:	James Beilman	Attention:	
Address:	1700 N Waterfront Pkwy	Copy To:		Company Name:	
Wichita, KS 67206				Address:	
Email:	jbeilman@mulldrilling.com	Purchase Order #:		Pace Quote:	
Phone:	316-364-6366 Fax:	Project Name:	~~9164~~ NWAV #24	Pace Project Manager:	nolie.wood@pacelabs.com,
Requested Due Date:		Project #:	NWAV #24	Pace Profile #:	15035, 2

Regulatory Agency	
State / Location	CO

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test	VOAS/SVOA PAH SIM	8015 DRO/GRO	6010/6020 metals	Paste EC, SAR, pH,	HW Boron, 7199 CrIV	Residual Chlorine (Y/N)	60426353
1	SP 1	SL	G	4/13/23	0900				4																	
2	SP1 4'	SL			0910																					
3	SP 2	SL			0915																					
4	SP 3	SL			0925																					
5	SP 4	SL			0930																					
6																										
7																										
8																										
9																										
10																										
11																										
12																										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Send 7199 CrIV, Saturated Paste EC, SAR, pH, and Hot Water Boron to Pace National		4/15/23	1033	BL Pace	4/15	1031	5.8	Y	Y	

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	J. Beilman					
SIGNATURE of SAMPLER:		DATE Signed: 4/13/23				

J075

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

☐ Samples Pre-Logged into eCOC.

State Of Origin: CO
Cert. Needed: ☐ Yes ☐ No
Owner Received Date: 4/15/2023 Results Requested By: 5/2/2023

Workorder: 60426353 **Workorder Name:** NWAV #24

Report To	Subcontract To
Heather Wilson Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 1(913)563-1407	Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	Requested Analysis: 7199 CrIV	Hot Water Boron	Saturated Paste ER,SAR,pH	LAB USE ONLY
1	SP 1	PS	4/13/2023 09:00	60426353001	Solid	1	X	X	X	-01
2	SP 1 4'	PS	4/13/2023 09:10	60426353002	Solid	1	X	X	X	-02
3	SP 2	PS	4/13/2023 09:15	60426353003	Solid	1	X	X	X	-03
4	SP 3	PS	4/13/2023 09:25	60426353004	Solid	1	X	X	X	-04
5	SP 4	PS	4/13/2023 09:30	60426353005	Solid	1	X	X	X	-05

U606850

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]	4/18/23 1700	[illegible]	04/19/23 0905
2				
3				

Comments

Cooler Temperature on Receipt 1.8 °C (MISC VI) **Custody Seal** Y or N **Received on Ice** Y or N **Samples Intact** Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Receipt Checklist

COC Seal Present/Intact:	Y N	If Applicable	
COC Signed/Accurate:	Y N	VOA Zero Headspace:	Y N
Bottles arrive intact:	Y N	Pres.Correct/Check:	Y N
Correct bottles used:	Y N		
Sufficient volume sent:	Y N		
RAD Screen <0.5 mR/hr:	Y N		

Attachment B

Flowline Environmental Screening Photos

NW Arapahoe Unit 24

API 05-017-07135

Remediation Project #27405

Flowline Assessment Photolog

Title/Sample ID:	FL01 @ 4’ (WH Location)

FL01 @ 4'

Attributes	
Date	2024-05-02T00:00:00
PIDReading	0.8
PhotoofPIDreadout	
IsPIDreadingover50ppm	No
Didyougrabsoilsample	
Photoofholetoobtainsample	

Title/Sample ID:	FL02 @ 4’

FL02 @ 4'

Attributes	
Date	2024-05-02T00:00:00
PIDReading	0.0
PhotoofPIDreadout	
IsPIDreadingover50ppm	No
Didyougrabsoilsample	
Photoofholetoobtainsample	

Title/Sample ID:	FL03 @ 4’

FL03 @ 4'

	Attributes
Date	2024-05-02T00:00:00
PIDReading	0.0
PhotoofPIDreadout	
IsPIDreadingover50ppm	No
Didyougrabsoilsample	
Photoofholetoobtainsample	

Title/Sample ID:	FL04 @ 4’

FL04 @ 4'

Attributes	
Date	2024-05-02T00:00:00
PIDReading	0.0
PhotoofPIDreadout	
IsPIDreadingover50ppm	No
Didyougrabsoilsample	
Photoofholetoobtainsample	

Title/Sample ID:	FL05 @ 4’

FL05 @ 4'

Attributes	
Date	2024-05-02T00:00:00
PIDReading	0.0
PhotoofPIDreadout	
IsPIDreadingover50ppm	No
Didyougrabsoilsample	
Photoofholetoobtainsample	

Title/Sample ID:	FL06 @ 4’

FL06 @ 4'

Attributes	
Date	2024-05-02T00:00:00
PIDReading	0.0
PhotoofPIDreadout	
IsPIDreadingover50ppm	No
Didyougrabsoilsample	
Photoofholetoobtainsample	

Title/Sample ID:	FL07 @ 4’

FL07 # 4'

Attributes	
Date	2024-05-02T00:00:00
PIDReading	0.0
PhotoofPIDreadout	
IsPIDreadingover50ppm	No
Didyougrabsoilsample	
Photoofholetoobtainsample	

Title/Sample ID:	FL08 @ 4’

FL08 @ 4'

Attributes	
Date	2024-05-02T00:00:00
PIDReading	0.0
PhotoofPIDreadout	
IsPIDreadingover50ppm	No
Didyougrabsoilsample	
Photoofholetoobtainsample	

Title/Sample ID:	FL09 @ 4’ (End Point)

FL09 @ 4'

Attributes	
Date	2024-05-02T00:00:00
PIDReading	0.0
PhotoofPIDreadout	
IsPIDreadingover50ppm	No
Didyougrabsoilsample	
Photoofholetoobtainsample	

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June 19, 2023

Mr. Jason Kosola, P.G.
Southeast Environmental Protection Specialist
Colorado Oil & Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver, Colorado 80203

RE: ***Northwest Arapahoe Unit #24***
COGCC Facility ID# 208200
Location Abandonment and Soils Investigation Results
Form 27 and Form 44 Submittal

Mr. Kosola:

Mull Drilling Co., Inc (Mull) is providing this report to the Colorado Oil and Gas Commission (COGCC) for environmental services that occurred at Northwest Arapahoe Unit #24. The location in question was the site of an older well that underperformed and was drilled in 1990. Shortly afterwards the location was temporarily abandoned. Mull mobilized this last quarter to the site to finalize the well abandonment process by cutting and capping the original casing at an appropriate depth below grade.

Site Location

In following proper abandonment procedures Mull performed an investigation of the flowlines in the area. It was determined that the process line that was attached to the Northwest Arapahoe #24 was abandoned in place shortly after it was drilled -- 1990. Mull is attaching an abandon in place request by the landowner to this submittal. Update to Mull's existing GIS file for the flowline has already occurred with a Form 44 submittal.

On April 13, 2023 a soils investigation occurred in order to verify the presence of any soil impacts. A licensed geologist mobilized to the location to confirm the presence of any soil impacts by taking samples with a photo ionization detector for headspace analysis and by taking soil samples in areas indicative of petroleum impacted locations. All samples conformed to Table 915-1 analysis. A total of five samples were taken, including one at depth and one in the assumed background area. All collected soil samples were submitted to Pace Laboratories of Kansas for analysis following approved chain of custody protocols.

Please see ***Figure I*** for the sampling locations. For tabulated results please look to the attached ***Table 915-1 – NWAU 24***.

Results of the investigation indicated that there were only marginal hydrocarbon impacts remaining. All samples were indicative of high Arsenic values, therefore Mull is disregarding it as a cleanup parameter. Additionally, one sample presented a slight exceedance for soils pH. However, this sample was located at a depth of four feet. Moreover, all locations sampled had elevated values. As a result, Mull will work with the landowner to apply a soil conditioner that will lower the pH of the area in question. This action will result in increased yield due to the slight lowering of soil hardness.

The field has already had the road to the wellhead removed via the landowner tilling up the area. However, it is likely in the coming weeks and months the landowner will plant a crop and completely erase any visible representation of hydrocarbon exploration in the area. Upon planting a crop, Mull will inform the division via Form 4 Sundry that reclamation is complete in the area. This Form 27 submittal serves as a request for closure of remedial services for the site.

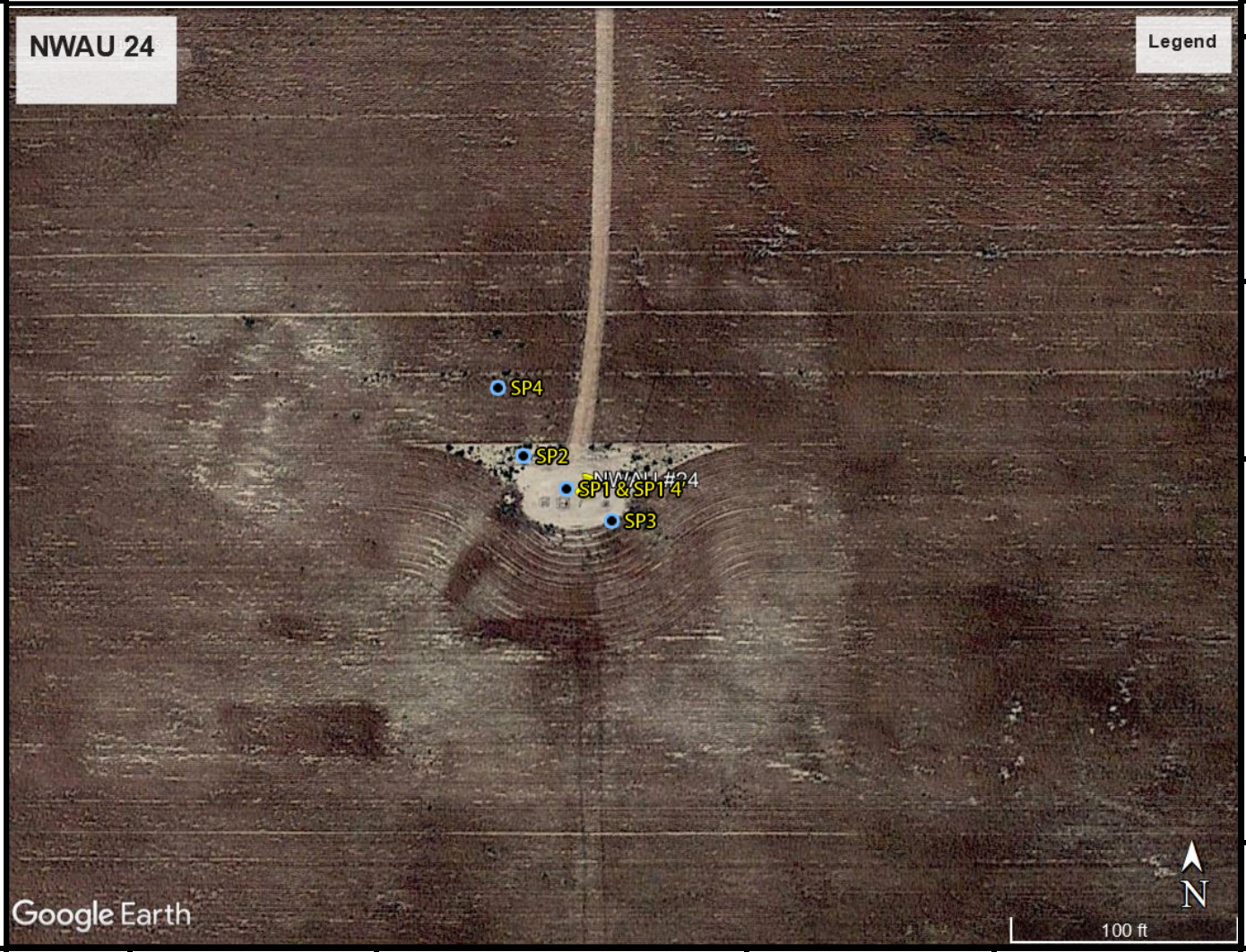
Should there be any questions or concerns feel free to contact us,

James Beilman, PG, CPG
Director – Safety & Environmental
Tel: +1 316.264.6366 (128)
Cell: +1 316.364.9203
JBeilman@Mulldrilling.com

Attachments:
Figure 1 – Sampling Points
Table 915-1 – NWAU 24

Figure 1: Sampling Points

NWAU #24



Legend

Highlighted Points are sampling locations

Regulatory Limits as COGCC promulgated table 915-1

Location:	Latitude: 38.870270	Longitude: -102.162765	**COGCC Facility #**	208200
State:	Colorado			
County:	Cheyenne			

NWAU 24 Table 915-1		4/13/2023				
CLEANUP CONCENTRATIONS		**SP 1**	**SP 1 4'**	**SP 2**	**SP 3**	**SP 4**
Contaminant of Concern	**Concentrations**	**38.870287; -102.162749**	**38.870287; -102.162749**	**38.870333; -102.162833**	**38.870252; -102.162697**	**38.870399; -102.162871**
Soil TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons)	500mg/kg	29.8	ND	12.5	14.7	30.6
Soils and Groundwater - liquid hydrocarbons including condensate and oil	below visual detection limits	ND	ND	ND	ND	ND
Soil Suitability for Reclamation						
Electrical conductivity (EC) (by saturated paste method)	<4mmhos/cm	0.394	0.294	0.298	0.169	0.231
Sodium adsorption ratio (SAR) (by saturated paste method)	<6	0.537	1.63	0.0732	0.0681	0.0624
pH (by saturated paste method)	6–8.3	8.22	8.75	7.97	8.26	8.08
boron (hot water soluble soil extract)	2mg/l	0.27	0.211	0.293	0.154J	0.26
Organic Compounds in Groundwater						
benzene	5µg/l	NA	NA	NA	NA	NA
toluene	560 to 1,000µg/l	NA	NA	NA	NA	NA
ethylbenzene	700µg/l	NA	NA	NA	NA	NA
xylenes (sum of o-, m- and p- isomers = total xylenes)	1,400 to 10,000µg/l	NA	NA	NA	NA	NA
naphthalene	140µg/l	NA	NA	NA	NA	NA
1,2,4-trimethylbenzene	67µg/l	NA	NA	NA	NA	NA
1,3,5-trimethylbenzene	67µg/l	NA	NA	NA	NA	NA
Groundwater Inorganic Parameters						
total dissolved solids (TDS)	<1.25 X local background	NA	NA	NA	NA	NA
chloride ion	250mg/l or <1.25 X local background	NA	NA	NA	NA	NA
sulfate ion	250mg/l or <1.25 X local background	NA	NA	NA	NA	NA

Soils	**Residential Soil Screening Level Concentrations (mg/kg)**	**Protection of Groundwater Soil Screening Level Concentrations (mg/kg)**					
Organic Compounds in Soils							
benzene	1.2	0.0026 (M)	ND	ND	ND	ND	ND
toluene	490	0.69 (M)	ND	ND	ND	ND	ND
ethylbenzene	5.8	0.78 (M)	ND	ND	ND	ND	ND
xylenes (sum of o-, m- and p- isomers = total xylenes)	58	9.9 (M)	ND	ND	ND	ND	ND
1,2,4-trimethylbenzene	30	0.0081 (R)	ND	ND	ND	ND	ND
1,3,5-trimethylbenzene	27	0.0087 (R)	ND	ND	ND	ND	ND
acenaphthene	360	0.55 (R)	ND	ND	ND	ND	ND
anthracene	1800	5.8 (R)	ND	ND	ND	ND	ND
benz(a)anthracene	1.1	0.011 (R)	ND	ND	ND	ND	ND
benzo(b)fluoranthene	1.1	0.3 (R)	ND	ND	ND	ND	ND
benzo(k)fluoranthene	11	2.9 (R)	ND	ND	ND	ND	ND
benzo(a)pyrene	0.11	0.24 (M)	ND	ND	ND	ND	ND
chrysene	110	9 (R)	ND	ND	ND	ND	ND
dibenzo(a,h)anthracene	0.11	0.096 (R)	ND	ND	ND	ND	ND
fluoranthene	240	8.9 (R)	ND	ND	ND	ND	ND
fluorene	240	0.54 (R)	ND	ND	ND	ND	ND
indeno(1,2,3-cd)pyrene	1.1	0.98 (R)	ND	ND	ND	ND	ND
1-methylnaphthalene	18	0.006 (R)	ND	ND	ND	ND	ND
2-methylnaphthalene	24	0.019 (R)	ND	ND	ND	ND	ND
naphthalene	2	0.0038 (R)	ND	ND	ND	ND	ND
pyrene	180	1.3 (R)	ND	ND	ND	ND	ND
Metals in Soils							
arsenic	0.68	0.29 (M)	5.6	5.4	4.9	4.7	6.9
barium	15000	82 (M)	219	245	140	141	161
cadmium	71	0.38 (M)	0.59	0.57	0.61	0.54	0.71
chromium (VI)	0.3	0.00067 (R)	ND	ND	ND	ND	ND
copper	3100	46 (M)	10.2	10	10.5	10.7	13
lead	400	14 (M)	9.1	9.4	9.7	8.4	10.4
nickel	1500	26 (R)	10.5	10.6	11	10.5	13.5
selenium	390	0.26 (M)	ND	ND	ND	ND	ND
silver	390	0.8 (R)	ND	ND	ND	ND	ND
zinc	23000	370 (R)	37.6	34.8	41.9	34.5	42.2

*The letter "(**R**)" following a protection of Groundwater soil screening level indicates the concentration is derived from a risk-based approach. The letter "(**M**)" following a protection of Groundwater soil screening level indicates the concentration is derived from the drinking water MCL.*

AGREEMENT FOR IN PLACE ABANDONMENT OF FLOWLINE

WHEREAS, Mull Drilling Company, Inc. installed a flowline connecting the Northwest Arapahoe Unit #24, located in the NW/4NW/4 Section 6, Township 14 South, Range 42 West, Cheyenne County, Colorado, to a Tank Battery located in the SW/4SE/4 Section 31, Township 13 South, Range 42 West, Cheyenne County, Colorado. Said flowline is approximately 2500 feet long.

Kyle G. Gerweck is the surface owner of the NW/4 & W/2NE/4 Section 6, Township 14 South, Range 42 West, Cheyenne County, Colorado and hereby grants Mull Drilling Company, Inc. permission to abandon said flowline in place, in an attempt to minimize impact to public health, safety, welfare, the environment and wildlife resources. Said abandonment shall conform to all appropriate procedures for in-place abandonment, as dictated by the Colorado Oil and Gas Commission (Series 1100 Rules).

EXECUTED the 26th day of October, 2022.

Kyle G. Gerweck

ACKNOWLEDGMENT

STATE OF Colorado)

ss:

COUNTY OF Cheyenne)

The foregoing instrument was subscribed and sworn before me this 26th day of October, 2022, by Kyle G. Gerweck.

Witness by hand and official seal:

11-15-2025
My Commission Expires:

Notary Public

BONNIE L HYLE
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20084042297
MY COMMISSION EXPIRES NOVEMBER 15, 2025