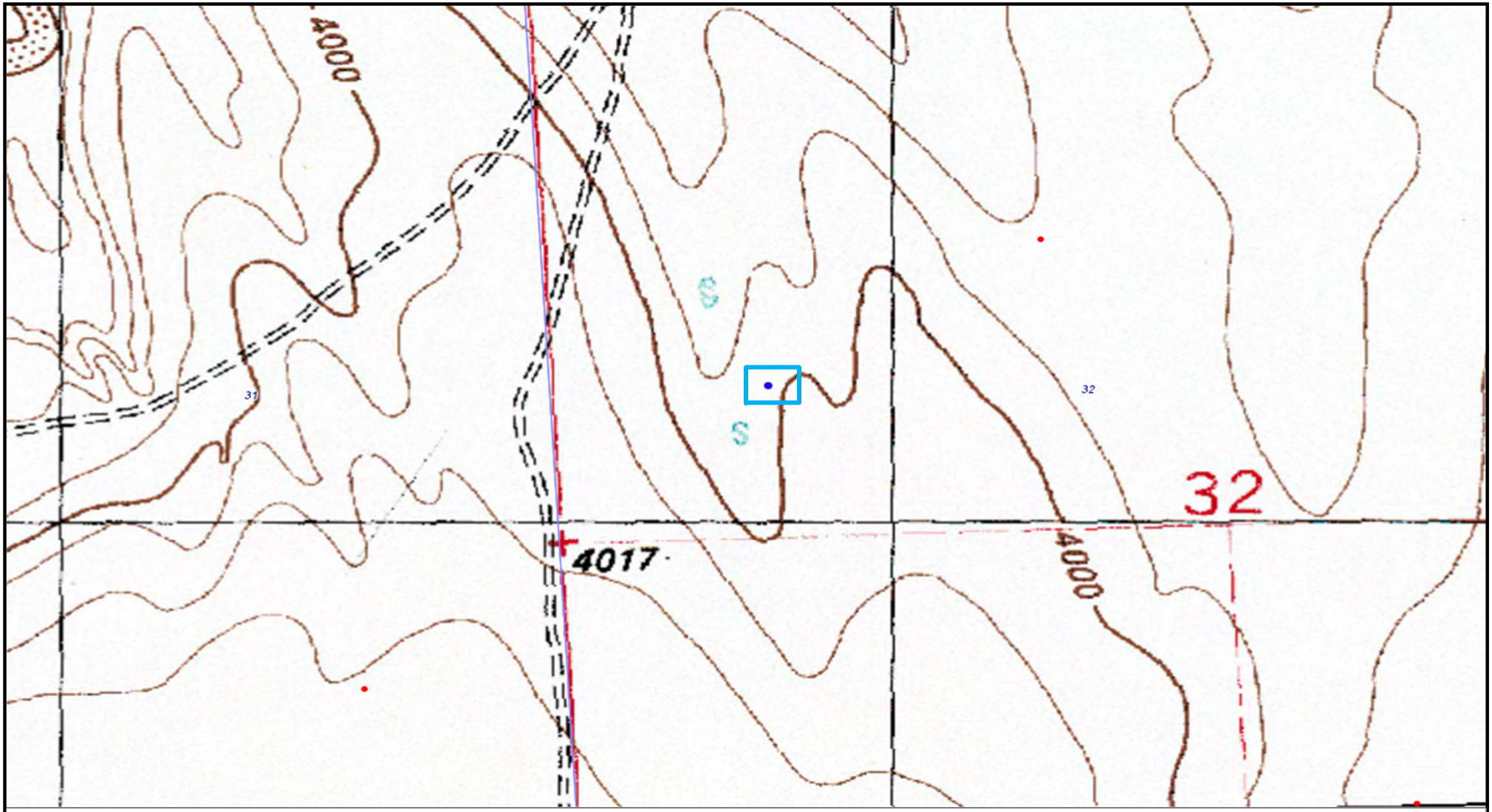
FIGURES

Figure 1: Topographic Site Location Map

Figure 2: Soil Sample Location Map



MULL DRILLING COMPANY, INC.
NORTHWEST ARAPAHOE UNIT #37
API 05-017-07151
SWNW S32, T13S R42W, CHEYENNE COUNTY
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.
NORTHWEST ARAPAHOE UNIT #37
API 05-017-07151
SWNW S32, T13S R42W, CHEYENNE COUNTY
2023 SOIL SAMPLE LOCATIONS

Legend

Soil Sample Locations
(Collected 4/13/2023)
*Map is not to scale. Aerial image from 2015

N

0 ft 50 ft

ARDOR

Prepared By:
Ardor Environmental LLC

December 28, 2023

TABLES

Table 1: 4/13/2023 Analytical Results

NWAU 37 Table 915-1		4/13/2023							
CLEANUP CONCENTRATIONS		**SP1 0'-1'**	**SP1 4'**	**SP2 0'-1'**	**SP3 0'-1'**	**SP4 0'-1'**	**SP5 0'-1' (Background)**	**SP6 0'-1' (Background)**	**DUPLICATE A**
Contaminant of Concern	**Concentrations**	**38.880577, -102.143284**	**38.880577, -102.143284**	**38.880475, -102.143108**	**38.880794, -102.143211**	**38.880406, -102.143348**	**38.880194, -102.142844**	**38.881013, -102.143673**	**38.880794, -102.143211**
Soil TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons)	500mg/kg	29.3J	6.9 J	16J	109.1	44.7	35J	42.6	49.1
PID READING	below visual detection limits	ND	ND	ND	ND	ND	ND	ND	ND
Soil Suitability for Reclamation									
Electrical conductivity (EC) (by saturated paste method)	<4mmhos/cm	0.319	1.7	0.162	0.275	0.223	0.138	0.268	0.221
Sodium adsorption ratio (SAR) (by saturated paste method)	<6	0.104	0.366	1.25	0.096	0.0553	0.0706	0.0553	0.0926
pH (by saturated paste method)	6–8.3	8.1	7.88	8.22	8.07	8.08	**8.33**	8.08	8.03
boron (hot water soluble soil extract)	2mg/l	0.289	0.36	0.301	0.244	0.233	0.180J	0.233	0.297
Organic Compounds in Groundwater									
benzene	5µg/l	NA	NA	NA	NA	NA	NA	NA	NA
toluene	560 to 1,000µg/l	NA	NA	NA	NA	NA	NA	NA	NA
ethylbenzene	700µg/l	NA	NA	NA	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	NA	NA	NA
naphthalene	140µg/l	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-trimethylbenzene	67µg/l	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-trimethylbenzene	67µg/l	NA	NA	NA	NA	NA	NA	NA	NA
Groundwater Inorganic Parameters									
total dissolved solids (TDS)	<1.25 X local background	NA	NA	NA	NA	NA	NA	NA	NA
chloride ion	250mg/l or <1.25 X local background	NA	NA	NA	NA	NA	NA	NA	NA
sulfate ion	250mg/l or <1.25 X local background	NA	NA	NA	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	0.00071J	ND	ND	ND	ND
toluene	490	0.69 (M)	ND	ND	ND	ND	ND	ND	ND	ND
ethylbenzene	5.8	0.78 (M)	ND	ND	ND	ND	ND	ND	ND	ND
xylenes (sum of o-, m- and p- isomers = total xylenes)	58	9.9 (M)	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-trimethylbenzene	30	0.0081 (R)	0.0013J	0.00080J	ND	ND	ND	ND	ND	ND
1,3,5-trimethylbenzene	27	0.0087 (R)	0.00052J	ND	ND	ND	ND	ND	0.0014J	ND
acenaphthene	360	0.55 (R)	ND	ND	ND	ND	ND	ND	ND	ND
anthracene	1800	5.8 (R)	ND	ND	ND	ND	ND	ND	ND	ND
benz(a)anthracene	1.1	0.011 (R)	ND	ND	ND	ND	ND	ND	ND	ND
benzo(b)fluoranthene	1.1	0.3 (R)	ND	ND	ND	ND	ND	ND	ND	ND
benzo(k)fluoranthene	11	2.9 (R)	ND	ND	ND	ND	ND	ND	ND	ND
benzo(a)pyrene	0.11	0.24 (M)	ND	ND	ND	ND	ND	ND	ND	ND
chrysene	110	9 (R)	ND	ND	ND	ND	ND	ND	ND	ND
dibenzo(a,h)anthracene	0.11	0.096 (R)	ND	ND	ND	ND	ND	ND	ND	ND
fluoranthene	240	8.9 (R)	ND	ND	ND	ND	ND	ND	ND	ND
fluorene	240	0.54 (R)	ND	ND	ND	ND	ND	ND	ND	ND
indeno(1,2,3-cd)pyrene	1.1	0.98 (R)	ND	ND	ND	ND	ND	ND	ND	ND
1-methylnaphthalene	18	0.006 (R)	ND	ND	ND	ND	ND	ND	ND	ND
2-methylnaphthalene	24	0.019 (R)	ND	ND	ND	ND	ND	ND	ND	ND
naphthalene	2	0.0038 (R)	ND	ND	ND	ND	ND	ND	ND	ND
pyrene	180	1.3 (R)	ND	ND	ND	ND	ND	ND	ND	ND
Metals in Soils										
arsenic	0.68	0.29 (M)	**4.5**	**4.9**	**6**	**4.5**	**4.7**	**4.5**	**4.1**	**4.3**
barium	15000	82 (M)	155	574	158	151	147	156	128	143
cadmium	71	0.38 (M)	0.6	0.57	0.64	0.51	0.54	0.51	0.51	0.49
chromium (VI)	0.3	0.00067 (R)	ND	ND	ND	ND	ND	ND	ND	ND
copper	3100	46 (M)	9.4	9.4	11.2	9.3	9.1	8.6	8	9.1
lead	400	14 (M)	15.1	8.2	9.4	10.9	8.6	7.6	8.1	14.6
nickel	1500	26 (R)	8.9	9.9	12.5	9.4	9.1	8.9	8.3	8.7
selenium	390	0.26 (M)	ND	ND	ND	ND	ND	ND	ND	ND
silver	390	0.8 (R)	ND	ND	ND	ND	ND	ND	ND	ND
zinc	23000	370 (R)	40.3	33.5	39.9	39	35.8	28.7	32.9	42.8

*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*
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 in Colorado at concentrations above ECMC Table 915-1, Local Clean-Up Level is 1.25xBG (4.3 mg/kg) = 5.375 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 #37
Pace Project No.: 60426359

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 #37
Pace Project No.: 60426359

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 #37
Pace Project No.: 60426359

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60426359001	**DG 1**	Solid	04/13/23 10:00	04/15/23 10:31
60426359002	**DG 1 4'**	Solid	04/13/23 10:05	04/15/23 10:31
60426359003	**DG 2**	Solid	04/13/23 10:15	04/15/23 10:31
60426359004	**DG 3**	Solid	04/13/23 10:30	04/15/23 10:31
60426359005	**DG 4**	Solid	04/13/23 10:40	04/15/23 10:31
60426359006	**DG 5**	Solid	04/13/23 10:50	04/15/23 10:31
60426359007	**DG 6**	Solid	04/13/23 11:00	04/15/23 10:31
60426359008	**DUPLICATE A**	Solid	04/13/23 11:00	04/15/23 10:31

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SAMPLE ANALYTE COUNT

Project: NWAV #37
Pace Project No.: 60426359

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60426359001	**DG 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
60426359002	**DG 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
60426359003	**DG 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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Lenexa, KS 66219
(913)599-5665

SAMPLE ANALYTE COUNT

Project: NWAV #37
Pace Project No.: 60426359

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9050	NTG	1	PAN
		Calculated	ZSA	1	PAN
60426359004	**DG 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
60426359005	**DG 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
60426359006	**DG 5**	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

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SAMPLE ANALYTE COUNT

Project: NWAV #37
Pace Project No.: 60426359

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 7199	VSS	1	PAN
		EPA 9045D	KAD	1	PAN
		EPA 9050	NTG	1	PAN
		Calculated	ZSA	1	PAN
60426359007	**DG 6**	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
60426359008	**DUPLICATE A**	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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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: NWAV #37
Pace Project No.: 60426359

Sample: DG 1 **Lab ID: 60426359001** Collected: 04/13/23 10:00 Received: 04/15/23 10:31 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)	**14.6J**	mg/kg	21.2	4.7	1	04/19/23 01:59	04/19/23 13:39		
TPH-DRO (C10-C28)	**14.7**	mg/kg	10.6	4.7	1	04/19/23 01:59	04/19/23 13:39		
Surrogates									
n-Tetracosane (S)	47	%	31-152		1	04/19/23 01:59	04/19/23 13:39	646-31-1	
p-Terphenyl (S)	46	%	46-130		1	04/19/23 01:59	04/19/23 13:39	92-94-4	
Gasoline Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 5035A/5030B								
	Pace Analytical Services - Kansas City								
TPH-GRO	**1.3J**	mg/kg	10.9	1.3	1	04/20/23 13:54	04/21/23 04:20		
Surrogates									
4-Bromofluorobenzene (S)	91	%	66-130		1	04/20/23 13:54	04/21/23 04:20	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	**0.289**	mg/L	0.200	0.0167	1	04/24/23 12:14	04/26/23 10:52	7440-42-8H	
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
	Pace Analytical Services - Kansas City								
Barium	**155**	mg/kg	0.45	0.25	1	04/22/23 10:38	05/01/23 18:33	7440-39-3	
Cadmium	**0.60**	mg/kg	0.45	0.094	1	04/22/23 10:38	05/01/23 18:33	7440-43-9	
Copper	**9.4**	mg/kg	1.8	0.28	1	04/22/23 10:38	05/01/23 18:33	7440-50-8	
Lead	**15.1**	mg/kg	0.90	0.32	1	04/22/23 10:38	05/01/23 18:33	7439-92-1	
Nickel	**8.9**	mg/kg	0.45	0.21	1	04/22/23 10:38	05/01/23 18:33	7440-02-0	
Selenium	ND	mg/kg	1.3	0.67	1	04/22/23 10:38	05/01/23 18:33	7782-49-2	
Silver	ND	mg/kg	0.63	0.16	1	04/22/23 10:38	05/01/23 18:33	7440-22-4	
Zinc	**40.3**	mg/kg	9.0	1.2	1	04/22/23 10:38	05/01/23 18:33	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
	Pace Analytical Services - Kansas City								
Arsenic	**4.5**	mg/kg	0.90	0.17	10	04/22/23 10:38	04/25/23 09:51	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	04/27/23 15:34	05/02/23 10:33	83-32-9	
Anthracene	ND	mg/kg	0.0035	0.0020	1	04/27/23 15:34	05/02/23 10:33	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0035	0.0019	1	04/27/23 15:34	05/02/23 10:33	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0035	0.0014	1	04/27/23 15:34	05/02/23 10:33	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0035	0.0018	1	04/27/23 15:34	05/02/23 10:33	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0035	0.0018	1	04/27/23 15:34	05/02/23 10:33	207-08-9	
Chrysene	ND	mg/kg	0.0035	0.0018	1	04/27/23 15:34	05/02/23 10:33	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0035	0.0019	1	04/27/23 15:34	05/02/23 10:33	53-70-3	
Fluoranthene	ND	mg/kg	0.0035	0.0029	1	04/27/23 15:34	05/02/23 10:33	206-44-0	
Fluorene	ND	mg/kg	0.0035	0.0026	1	04/27/23 15:34	05/02/23 10:33	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0035	0.0018	1	04/27/23 15:34	05/02/23 10:33	193-39-5	

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ANALYTICAL RESULTS

Project: NWAV #37
Pace Project No.: 60426359

Sample: DG 1 **Lab ID: 60426359001** Collected: 04/13/23 10:00 Received: 04/15/23 10:31 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	04/27/23 15:34	05/02/23 10:33	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0035	0.0024	1	04/27/23 15:34	05/02/23 10:33	91-57-6	
Naphthalene	ND	mg/kg	0.0035	0.0019	1	04/27/23 15:34	05/02/23 10:33	91-20-3	
Pyrene	ND	mg/kg	0.0035	0.0025	1	04/27/23 15:34	05/02/23 10:33	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	64	%	40-120		1	04/27/23 15:34	05/02/23 10:33	321-60-8	
Terphenyl-d14 (S)	64	%	45-130		1	04/27/23 15:34	05/02/23 10:33	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	0.0056	0.00052	1	04/19/23 12:18	04/19/23 22:19	71-43-2	
Ethylbenzene	ND	mg/kg	0.0056	0.00098	1	04/19/23 12:18	04/19/23 22:19	100-41-4	
Toluene	ND	mg/kg	0.023	0.0050	1	04/19/23 12:18	04/19/23 22:19	108-88-3	
1,2,4-Trimethylbenzene	**0.0013J**	mg/kg	0.0056	0.00078	1	04/19/23 12:18	04/19/23 22:19	95-63-6	
1,3,5-Trimethylbenzene	**0.00052J**	mg/kg	0.0056	0.00049	1	04/19/23 12:18	04/19/23 22:19	108-67-8	
Xylene (Total)	ND	mg/kg	0.017	0.0041	1	04/19/23 12:18	04/19/23 22:19	1330-20-7	
Surrogates									
Toluene-d8 (S)	106	%	80-120		1	04/19/23 12:18	04/19/23 22:19	2037-26-5	
4-Bromofluorobenzene (S)	101	%	83-119		1	04/19/23 12:18	04/19/23 22:19	460-00-4	
1,2-Dichlorobenzene-d4 (S)	99	%	80-120		1	04/19/23 12:18	04/19/23 22:19	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2974								
	Pace Analytical Services - Kansas City								
Percent Moisture	**7.1**	%	0.50	0.50	1		04/18/23 14:02		
Total Solids 2540 G-2011	Analytical Method: SM 2540G Preparation Method: SM 2540 G								
	Pace National - Mt. Juliet								
Total Solids	**91.9**	%			1	04/22/23 10:05	04/22/23 10:21		
Wet Chemistry 7199	Analytical Method: EPA 7199 Preparation Method: 3060A								
	Pace National - Mt. Juliet								
Chromium, Hexavalent	ND	mg/kg	1.09	0.277	1	04/23/23 13:41	04/25/23 01:20	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	04/20/23 16:00	04/20/23 18:57		H3
Wet Chemistry 9050AMod	Analytical Method: EPA 9050 Preparation Method: 9050A								
	Pace National - Mt. Juliet								
Specific Conductance @ 25 C	**319**	umhos/cm	10.0	10.0	1	04/22/23 08:00	04/22/23 10:46		
Calculated Results	Analytical Method: Calculated Preparation Method: Calc								
	Pace National - Mt. Juliet								
Sodium Adsorption Ratio	**0.104**				1	04/25/23 20:30	04/25/23 20:30	SAR	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NWAV #37
Pace Project No.: 60426359

Sample: DG 1 4' **Lab ID: 60426359002** Collected: 04/13/23 10:05 Received: 04/15/23 10:31 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	21.2	4.7	1	04/19/23 01:59	04/19/23 13:47		
TPH-DRO (C10-C28)	**6.9J**	mg/kg	10.6	4.7	1	04/19/23 01:59	04/19/23 13:47		
Surrogates									
n-Tetracosane (S)	59	%	31-152		1	04/19/23 01:59	04/19/23 13:47	646-31-1	
p-Terphenyl (S)	61	%	46-130		1	04/19/23 01:59	04/19/23 13:47	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	11.2	1.4	1	04/20/23 13:54	04/21/23 04:35		
Surrogates									
4-Bromofluorobenzene (S)	83	%	66-130		1	04/20/23 13:54	04/21/23 04:35	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	**0.360**	mg/L	0.200	0.0167	1	04/24/23 12:14	04/26/23 10:55	7440-42-8H	
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
	Pace Analytical Services - Kansas City								
Barium	**574**	mg/kg	0.48	0.26	1	04/22/23 10:38	05/01/23 18:35	7440-39-3	
Cadmium	**0.57**	mg/kg	0.48	0.10	1	04/22/23 10:38	05/01/23 18:35	7440-43-9	
Copper	**9.4**	mg/kg	1.9	0.29	1	04/22/23 10:38	05/01/23 18:35	7440-50-8	
Lead	**8.2**	mg/kg	0.95	0.34	1	04/22/23 10:38	05/01/23 18:35	7439-92-1	
Nickel	**9.9**	mg/kg	0.48	0.22	1	04/22/23 10:38	05/01/23 18:35	7440-02-0	
Selenium	ND	mg/kg	1.4	0.72	1	04/22/23 10:38	05/01/23 18:35	7782-49-2	
Silver	ND	mg/kg	0.67	0.16	1	04/22/23 10:38	05/01/23 18:35	7440-22-4	
Zinc	**33.5**	mg/kg	9.5	1.2	1	04/22/23 10:38	05/01/23 18:35	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
	Pace Analytical Services - Kansas City								
Arsenic	**4.9**	mg/kg	0.95	0.18	10	04/22/23 10:38	04/25/23 09:56	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	04/27/23 13:17	83-32-9	
Anthracene	ND	mg/kg	0.0035	0.0020	1	04/18/23 16:27	04/27/23 13:17	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0035	0.0019	1	04/18/23 16:27	04/27/23 13:17	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0035	0.0014	1	04/18/23 16:27	04/27/23 13:17	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0035	0.0019	1	04/18/23 16:27	04/27/23 13:17	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0035	0.0019	1	04/18/23 16:27	04/27/23 13:17	207-08-9	
Chrysene	ND	mg/kg	0.0035	0.0019	1	04/18/23 16:27	04/27/23 13:17	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0035	0.0019	1	04/18/23 16:27	04/27/23 13:17	53-70-3	
Fluoranthene	ND	mg/kg	0.0035	0.0029	1	04/18/23 16:27	04/27/23 13:17	206-44-0	
Fluorene	ND	mg/kg	0.0035	0.0027	1	04/18/23 16:27	04/27/23 13:17	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0035	0.0019	1	04/18/23 16:27	04/27/23 13:17	193-39-5	

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ANALYTICAL RESULTS

Project: NWAV #37
Pace Project No.: 60426359

Sample: DG 1 4' **Lab ID: 60426359002** Collected: 04/13/23 10:05 Received: 04/15/23 10:31 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	04/27/23 13:17	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0035	0.0025	1	04/18/23 16:27	04/27/23 13:17	91-57-6	
Naphthalene	ND	mg/kg	0.0035	0.0019	1	04/18/23 16:27	04/27/23 13:17	91-20-3	
Pyrene	ND	mg/kg	0.0035	0.0025	1	04/18/23 16:27	04/27/23 13:17	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	55	%	40-120		1	04/18/23 16:27	04/27/23 13:17	321-60-8	
Terphenyl-d14 (S)	60	%	45-130		1	04/18/23 16:27	04/27/23 13:17	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	0.0056	0.00052	1	04/19/23 12:18	04/19/23 22:40	71-43-2	
Ethylbenzene	ND	mg/kg	0.0056	0.00098	1	04/19/23 12:18	04/19/23 22:40	100-41-4	
Toluene	ND	mg/kg	0.023	0.0050	1	04/19/23 12:18	04/19/23 22:40	108-88-3	
1,2,4-Trimethylbenzene	**0.00080J**	mg/kg	0.0056	0.00078	1	04/19/23 12:18	04/19/23 22:40	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0056	0.00049	1	04/19/23 12:18	04/19/23 22:40	108-67-8	
Xylene (Total)	ND	mg/kg	0.017	0.0042	1	04/19/23 12:18	04/19/23 22:40	1330-20-7	
Surrogates									
Toluene-d8 (S)	106	%	80-120		1	04/19/23 12:18	04/19/23 22:40	2037-26-5	
4-Bromofluorobenzene (S)	102	%	83-119		1	04/19/23 12:18	04/19/23 22:40	460-00-4	
1,2-Dichlorobenzene-d4 (S)	100	%	80-120		1	04/19/23 12:18	04/19/23 22:40	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2974								
	Pace Analytical Services - Kansas City								
Percent Moisture	**6.3**	%	0.50	0.50	1		04/18/23 14:02		
Total Solids 2540 G-2011	Analytical Method: SM 2540G Preparation Method: SM 2540 G								
	Pace National - Mt. Juliet								
Total Solids	**93.7**	%			1	04/22/23 10:05	04/22/23 10:21		
Wet Chemistry 7199	Analytical Method: EPA 7199 Preparation Method: 3060A								
	Pace National - Mt. Juliet								
Chromium, Hexavalent	ND	mg/kg	1.07	0.272	1	04/23/23 13:41	04/25/23 01:25	18540-29-9	
Wet Chemistry 9045D	Analytical Method: EPA 9045D Preparation Method: 9045C/9045D								
	Pace National - Mt. Juliet								
pH	**7.88**	Std. Units		0.10	1	04/20/23 16:00	04/20/23 18:57		H3
Wet Chemistry 9050AMod	Analytical Method: EPA 9050 Preparation Method: 9050A								
	Pace National - Mt. Juliet								
Specific Conductance @ 25 C	**1700**	umhos/cm	10.0	10.0	1	04/22/23 08:00	04/22/23 10:46		
Calculated Results	Analytical Method: Calculated Preparation Method: Calc								
	Pace National - Mt. Juliet								
Sodium Adsorption Ratio	**0.366**				1	04/25/23 20:06	04/25/23 20:06	SAR	

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ANALYTICAL RESULTS

Project: NWAV #37
Pace Project No.: 60426359

Sample: DG 2 **Lab ID: 60426359003** Collected: 04/13/23 10:15 Received: 04/15/23 10:31 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)	**5.4J**	mg/kg	22.2	5.0	1	04/19/23 01:59	04/20/23 11:43		
TPH-DRO (C10-C28)	**10.6J**	mg/kg	11.1	5.0	1	04/19/23 01:59	04/20/23 11:43		
Surrogates									
n-Tetracosane (S)	75	%	31-152		1	04/19/23 01:59	04/20/23 11:43	646-31-1	
p-Terphenyl (S)	67	%	46-130		1	04/19/23 01:59	04/20/23 11:43	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	12.8	1.6	1	04/20/23 13:54	04/21/23 05:20		
Surrogates									
4-Bromofluorobenzene (S)	89	%	66-130		1	04/20/23 13:54	04/21/23 05:20	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	**0.301**	mg/L	0.200	0.0167	1	04/24/23 12:14	04/26/23 10:58	7440-42-8H	
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
	Pace Analytical Services - Kansas City								
Barium	**158**	mg/kg	0.52	0.29	1	04/22/23 10:38	05/01/23 18:44	7440-39-3	
Cadmium	**0.64**	mg/kg	0.52	0.11	1	04/22/23 10:38	05/01/23 18:44	7440-43-9	
Copper	**11.2**	mg/kg	2.1	0.32	1	04/22/23 10:38	05/01/23 18:44	7440-50-8	
Lead	**9.4**	mg/kg	1.0	0.38	1	04/22/23 10:38	05/01/23 18:44	7439-92-1	
Nickel	**12.5**	mg/kg	0.52	0.24	1	04/22/23 10:38	05/01/23 18:44	7440-02-0	
Selenium	ND	mg/kg	1.6	0.78	1	04/22/23 10:38	05/01/23 18:44	7782-49-2	
Silver	ND	mg/kg	0.73	0.18	1	04/22/23 10:38	05/01/23 18:44	7440-22-4	
Zinc	**39.9**	mg/kg	10.4	1.4	1	04/22/23 10:38	05/01/23 18:44	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
	Pace Analytical Services - Kansas City								
Arsenic	**6.0**	mg/kg	1.0	0.19	10	04/22/23 10:38	04/25/23 09:59	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	0.0037	0.0022	1	04/18/23 16:27	04/27/23 13:35	83-32-9	
Anthracene	ND	mg/kg	0.0037	0.0021	1	04/18/23 16:27	04/27/23 13:35	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0037	0.0020	1	04/18/23 16:27	04/27/23 13:35	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0037	0.0015	1	04/18/23 16:27	04/27/23 13:35	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0037	0.0019	1	04/18/23 16:27	04/27/23 13:35	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0037	0.0019	1	04/18/23 16:27	04/27/23 13:35	207-08-9	
Chrysene	ND	mg/kg	0.0037	0.0019	1	04/18/23 16:27	04/27/23 13:35	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0037	0.0020	1	04/18/23 16:27	04/27/23 13:35	53-70-3	
Fluoranthene	ND	mg/kg	0.0037	0.0031	1	04/18/23 16:27	04/27/23 13:35	206-44-0	
Fluorene	ND	mg/kg	0.0037	0.0028	1	04/18/23 16:27	04/27/23 13:35	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0037	0.0019	1	04/18/23 16:27	04/27/23 13:35	193-39-5	

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ANALYTICAL RESULTS

Project: NWAV #37
Pace Project No.: 60426359

Sample: DG 2 **Lab ID: 60426359003** Collected: 04/13/23 10:15 Received: 04/15/23 10:31 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	04/27/23 13:35	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0037	0.0026	1	04/18/23 16:27	04/27/23 13:35	91-57-6	
Naphthalene	ND	mg/kg	0.0037	0.0020	1	04/18/23 16:27	04/27/23 13:35	91-20-3	
Pyrene	ND	mg/kg	0.0037	0.0027	1	04/18/23 16:27	04/27/23 13:35	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	52	%	40-120		1	04/18/23 16:27	04/27/23 13:35	321-60-8	
Terphenyl-d14 (S)	55	%	45-130		1	04/18/23 16:27	04/27/23 13:35	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	0.0064	0.00059	1	04/19/23 12:18	04/19/23 22:59	71-43-2	
Ethylbenzene	ND	mg/kg	0.0064	0.0011	1	04/19/23 12:18	04/19/23 22:59	100-41-4	
Toluene	ND	mg/kg	0.026	0.0057	1	04/19/23 12:18	04/19/23 22:59	108-88-3	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0064	0.00088	1	04/19/23 12:18	04/19/23 22:59	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0064	0.00056	1	04/19/23 12:18	04/19/23 22:59	108-67-8	
Xylene (Total)	ND	mg/kg	0.019	0.0047	1	04/19/23 12:18	04/19/23 22:59	1330-20-7	
Surrogates									
Toluene-d8 (S)	104	%	80-120		1	04/19/23 12:18	04/19/23 22:59	2037-26-5	
4-Bromofluorobenzene (S)	101	%	83-119		1	04/19/23 12:18	04/19/23 22:59	460-00-4	
1,2-Dichlorobenzene-d4 (S)	101	%	80-120		1	04/19/23 12:18	04/19/23 22:59	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2974								
	Pace Analytical Services - Kansas City								
Percent Moisture	**12.6**	%	0.50	0.50	1		04/18/23 14:02		
Total Solids 2540 G-2011	Analytical Method: SM 2540G Preparation Method: SM 2540 G								
	Pace National - Mt. Juliet								
Total Solids	**91.3**	%			1	04/22/23 10:05	04/22/23 10:21		
Wet Chemistry 7199	Analytical Method: EPA 7199 Preparation Method: 3060A								
	Pace National - Mt. Juliet								
Chromium, Hexavalent	ND	mg/kg	1.10	0.279	1	04/23/23 13:41	04/25/23 01:30	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	04/20/23 16:00	04/20/23 18:57		H3
Wet Chemistry 9050AMod	Analytical Method: EPA 9050 Preparation Method: 9050A								
	Pace National - Mt. Juliet								
Specific Conductance @ 25 C	**162**	umhos/cm	10.0	10.0	1	04/22/23 08:00	04/22/23 10:46		
Calculated Results	Analytical Method: Calculated Preparation Method: Calc								
	Pace National - Mt. Juliet								
Sodium Adsorption Ratio	**1.25**				1	04/25/23 20:19	04/25/23 20:19	SAR	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: NWAV #37
Pace Project No.: 60426359

Sample: DG 3 **Lab ID: 60426359004** Collected: 04/13/23 10:30 Received: 04/15/23 10:31 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)	**70.4**	mg/kg	21.8	4.9	1	04/19/23 01:59	04/20/23 11:51		
TPH-DRO (C10-C28)	**38.7**	mg/kg	10.9	4.9	1	04/19/23 01:59	04/20/23 11:51		
Surrogates									
n-Tetracosane (S)	72	%	31-152		1	04/19/23 01:59	04/20/23 11:51	646-31-1	
p-Terphenyl (S)	59	%	46-130		1	04/19/23 01:59	04/20/23 11:51	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	11.8	1.4	1	04/20/23 13:54	04/21/23 05:35		
Surrogates									
4-Bromofluorobenzene (S)	84	%	66-130		1	04/20/23 13:54	04/21/23 05:35	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	**0.244**	mg/L	0.200	0.0167	1	04/24/23 12:14	04/26/23 11:01	7440-42-8H	
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
	Pace Analytical Services - Kansas City								
Barium	**151**	mg/kg	0.45	0.25	1	04/22/23 10:38	05/01/23 18:46	7440-39-3	
Cadmium	**0.51**	mg/kg	0.45	0.095	1	04/22/23 10:38	05/01/23 18:46	7440-43-9	
Copper	**9.3**	mg/kg	1.8	0.28	1	04/22/23 10:38	05/01/23 18:46	7440-50-8	
Lead	**10.9**	mg/kg	0.90	0.33	1	04/22/23 10:38	05/01/23 18:46	7439-92-1	
Nickel	**9.4**	mg/kg	0.45	0.21	1	04/22/23 10:38	05/01/23 18:46	7440-02-0	
Selenium	ND	mg/kg	1.4	0.68	1	04/22/23 10:38	05/01/23 18:46	7782-49-2	
Silver	ND	mg/kg	0.63	0.16	1	04/22/23 10:38	05/01/23 18:46	7440-22-4	
Zinc	**39.0**	mg/kg	9.0	1.2	1	04/22/23 10:38	05/01/23 18:46	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
	Pace Analytical Services - Kansas City								
Arsenic	**4.5**	mg/kg	0.90	0.17	10	04/22/23 10:38	04/25/23 10:01	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	0.0022	1	04/27/23 15:34	05/02/23 10:51	83-32-9	
Anthracene	ND	mg/kg	0.0035	0.0020	1	04/27/23 15:34	05/02/23 10:51	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0035	0.0019	1	04/27/23 15:34	05/02/23 10:51	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0035	0.0014	1	04/27/23 15:34	05/02/23 10:51	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0035	0.0019	1	04/27/23 15:34	05/02/23 10:51	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0035	0.0019	1	04/27/23 15:34	05/02/23 10:51	207-08-9	
Chrysene	ND	mg/kg	0.0035	0.0019	1	04/27/23 15:34	05/02/23 10:51	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0035	0.0019	1	04/27/23 15:34	05/02/23 10:51	53-70-3	
Fluoranthene	ND	mg/kg	0.0035	0.0029	1	04/27/23 15:34	05/02/23 10:51	206-44-0	
Fluorene	ND	mg/kg	0.0035	0.0027	1	04/27/23 15:34	05/02/23 10:51	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0035	0.0019	1	04/27/23 15:34	05/02/23 10:51	193-39-5	

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ANALYTICAL RESULTS

Project: NWAV #37
Pace Project No.: 60426359

Sample: DG 3 **Lab ID: 60426359004** Collected: 04/13/23 10:30 Received: 04/15/23 10:31 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	04/27/23 15:34	05/02/23 10:51	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0035	0.0025	1	04/27/23 15:34	05/02/23 10:51	91-57-6	
Naphthalene	ND	mg/kg	0.0035	0.0019	1	04/27/23 15:34	05/02/23 10:51	91-20-3	
Pyrene	ND	mg/kg	0.0035	0.0026	1	04/27/23 15:34	05/02/23 10:51	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	77	%	40-120		1	04/27/23 15:34	05/02/23 10:51	321-60-8	
Terphenyl-d14 (S)	87	%	45-130		1	04/27/23 15:34	05/02/23 10:51	1718-51-0	
8260C MSV 5035A Low Level	Analytical Method: EPA 8260C Preparation Method: EPA 5035A/5030B								
	Pace Analytical Services - Kansas City								
Benzene	**0.00071J**	mg/kg	0.0060	0.00055	1	04/19/23 12:18	04/19/23 23:20	71-43-2	
Ethylbenzene	ND	mg/kg	0.0060	0.0010	1	04/19/23 12:18	04/19/23 23:20	100-41-4	
Toluene	ND	mg/kg	0.024	0.0053	1	04/19/23 12:18	04/19/23 23:20	108-88-3	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0060	0.00082	1	04/19/23 12:18	04/19/23 23:20	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0060	0.00052	1	04/19/23 12:18	04/19/23 23:20	108-67-8	
Xylene (Total)	ND	mg/kg	0.018	0.0044	1	04/19/23 12:18	04/19/23 23:20	1330-20-7	
Surrogates									
Toluene-d8 (S)	106	%	80-120		1	04/19/23 12:18	04/19/23 23:20	2037-26-5	
4-Bromofluorobenzene (S)	102	%	83-119		1	04/19/23 12:18	04/19/23 23:20	460-00-4	
1,2-Dichlorobenzene-d4 (S)	100	%	80-120		1	04/19/23 12:18	04/19/23 23:20	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2974								
	Pace Analytical Services - Kansas City								
Percent Moisture	**9.3**	%	0.50	0.50	1		04/18/23 14:02		
Total Solids 2540 G-2011	Analytical Method: SM 2540G Preparation Method: SM 2540 G								
	Pace National - Mt. Juliet								
Total Solids	**91.5**	%			1	04/21/23 15:30	04/21/23 15:41		
Wet Chemistry 7199	Analytical Method: EPA 7199 Preparation Method: 3060A								
	Pace National - Mt. Juliet								
Chromium, Hexavalent	ND	mg/kg	1.09	0.279	1	04/23/23 13:41	04/25/23 01:35	18540-29-9	
Wet Chemistry 9045D	Analytical Method: EPA 9045D Preparation Method: 9045C/9045D								
	Pace National - Mt. Juliet								
pH	**8.07**	Std. Units		0.10	1	04/20/23 16:00	04/20/23 18:57		H3
Wet Chemistry 9050AMod	Analytical Method: EPA 9050 Preparation Method: 9050A								
	Pace National - Mt. Juliet								
Specific Conductance @ 25 C	**275**	umhos/cm	10.0	10.0	1	04/22/23 08:00	04/22/23 10:46		
Calculated Results	Analytical Method: Calculated Preparation Method: Calc								
	Pace National - Mt. Juliet								
Sodium Adsorption Ratio	**0.0960**				1	04/25/23 20:17	04/25/23 20:17	SAR	

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ANALYTICAL RESULTS

Project: NWAV #37
Pace Project No.: 60426359

Sample: DG 4 **Lab ID: 60426359005** Collected: 04/13/23 10:40 Received: 04/15/23 10:31 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)	**28.5**	mg/kg	21.7	4.9	1	04/19/23 01:59	04/20/23 11:59		
TPH-DRO (C10-C28)	**16.2**	mg/kg	10.8	4.9	1	04/19/23 01:59	04/20/23 11:59		
Surrogates									
n-Tetracosane (S)	134	%	31-152		1	04/19/23 01:59	04/20/23 11:59	646-31-1	
p-Terphenyl (S)	130	%	46-130		1	04/19/23 01:59	04/20/23 11:59	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	11.9	1.4	1	04/20/23 13:54	04/21/23 05:50		
Surrogates									
4-Bromofluorobenzene (S)	83	%	66-130		1	04/20/23 13:54	04/21/23 05:50	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	**0.233**	mg/L	0.200	0.0167	1	04/24/23 12:14	04/26/23 11:03	7440-42-8H	
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
	Pace Analytical Services - Kansas City								
Barium	**147**	mg/kg	0.46	0.26	1	04/22/23 10:38	05/01/23 18:48	7440-39-3	
Cadmium	**0.54**	mg/kg	0.46	0.097	1	04/22/23 10:38	05/01/23 18:48	7440-43-9	
Copper	**9.1**	mg/kg	1.9	0.28	1	04/22/23 10:38	05/01/23 18:48	7440-50-8	
Lead	**8.6**	mg/kg	0.93	0.33	1	04/22/23 10:38	05/01/23 18:48	7439-92-1	
Nickel	**9.1**	mg/kg	0.46	0.22	1	04/22/23 10:38	05/01/23 18:48	7440-02-0	
Selenium	ND	mg/kg	1.4	0.70	1	04/22/23 10:38	05/01/23 18:48	7782-49-2	
Silver	ND	mg/kg	0.65	0.16	1	04/22/23 10:38	05/01/23 18:48	7440-22-4	
Zinc	**35.8**	mg/kg	9.3	1.2	1	04/22/23 10:38	05/01/23 18:48	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
	Pace Analytical Services - Kansas City								
Arsenic	**4.7**	mg/kg	0.93	0.17	10	04/22/23 10:38	04/25/23 10:04	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	04/27/23 15:34	05/02/23 11:09	83-32-9	
Anthracene	ND	mg/kg	0.0035	0.0020	1	04/27/23 15:34	05/02/23 11:09	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0035	0.0019	1	04/27/23 15:34	05/02/23 11:09	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0035	0.0014	1	04/27/23 15:34	05/02/23 11:09	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0035	0.0018	1	04/27/23 15:34	05/02/23 11:09	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0035	0.0018	1	04/27/23 15:34	05/02/23 11:09	207-08-9	
Chrysene	ND	mg/kg	0.0035	0.0018	1	04/27/23 15:34	05/02/23 11:09	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0035	0.0019	1	04/27/23 15:34	05/02/23 11:09	53-70-3	
Fluoranthene	ND	mg/kg	0.0035	0.0029	1	04/27/23 15:34	05/02/23 11:09	206-44-0	
Fluorene	ND	mg/kg	0.0035	0.0026	1	04/27/23 15:34	05/02/23 11:09	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0035	0.0018	1	04/27/23 15:34	05/02/23 11:09	193-39-5	

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ANALYTICAL RESULTS

Project: NWAV #37
Pace Project No.: 60426359

Sample: DG 4 **Lab ID: 60426359005** Collected: 04/13/23 10:40 Received: 04/15/23 10:31 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	04/27/23 15:34	05/02/23 11:09	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0035	0.0025	1	04/27/23 15:34	05/02/23 11:09	91-57-6	
Naphthalene	ND	mg/kg	0.0035	0.0019	1	04/27/23 15:34	05/02/23 11:09	91-20-3	
Pyrene	ND	mg/kg	0.0035	0.0025	1	04/27/23 15:34	05/02/23 11:09	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	70	%	40-120		1	04/27/23 15:34	05/02/23 11:09	321-60-8	
Terphenyl-d14 (S)	74	%	45-130		1	04/27/23 15:34	05/02/23 11:09	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	0.0059	0.00054	1	04/19/23 12:18	04/19/23 23:40	71-43-2	
Ethylbenzene	ND	mg/kg	0.0059	0.0010	1	04/19/23 12:18	04/19/23 23:40	100-41-4	
Toluene	ND	mg/kg	0.024	0.0053	1	04/19/23 12:18	04/19/23 23:40	108-88-3	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0059	0.00082	1	04/19/23 12:18	04/19/23 23:40	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0059	0.00051	1	04/19/23 12:18	04/19/23 23:40	108-67-8	
Xylene (Total)	ND	mg/kg	0.018	0.0044	1	04/19/23 12:18	04/19/23 23:40	1330-20-7	
Surrogates									
Toluene-d8 (S)	105	%	80-120		1	04/19/23 12:18	04/19/23 23:40	2037-26-5	
4-Bromofluorobenzene (S)	101	%	83-119		1	04/19/23 12:18	04/19/23 23:40	460-00-4	
1,2-Dichlorobenzene-d4 (S)	98	%	80-120		1	04/19/23 12:18	04/19/23 23:40	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2974								
	Pace Analytical Services - Kansas City								
Percent Moisture	**8.7**	%	0.50	0.50	1		04/18/23 14:03		
Total Solids 2540 G-2011	Analytical Method: SM 2540G Preparation Method: SM 2540 G								
	Pace National - Mt. Juliet								
Total Solids	**89.1**	%			1	04/21/23 15:30	04/21/23 15:41		
Wet Chemistry 7199	Analytical Method: EPA 7199 Preparation Method: 3060A								
	Pace National - Mt. Juliet								
Chromium, Hexavalent	ND	mg/kg	1.12	0.286	1	04/23/23 13:41	04/25/23 01:41	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	04/20/23 16:00	04/20/23 18:57		H3
Wet Chemistry 9050AMod	Analytical Method: EPA 9050 Preparation Method: 9050A								
	Pace National - Mt. Juliet								
Specific Conductance @ 25 C	**223**	umhos/cm	10.0	10.0	1	04/22/23 08:00	04/22/23 10:46		
Calculated Results	Analytical Method: Calculated Preparation Method: Calc								
	Pace National - Mt. Juliet								
Sodium Adsorption Ratio	**0.0553**				1	04/25/23 20:00	04/25/23 20:00	SAR	

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ANALYTICAL RESULTS

Project: NWAV #37
Pace Project No.: 60426359

Sample: DG 5 **Lab ID: 60426359006** Collected: 04/13/23 10:50 Received: 04/15/23 10:31 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)	**19.0J**	mg/kg	21.4	4.8	1	04/19/23 01:59	04/20/23 12:07		
TPH-DRO (C10-C28)	**16.0**	mg/kg	10.7	4.8	1	04/19/23 01:59	04/20/23 12:07		
Surrogates									
n-Tetracosane (S)	57	%	31-152		1	04/19/23 01:59	04/20/23 12:07	646-31-1	
p-Terphenyl (S)	51	%	46-130		1	04/19/23 01:59	04/20/23 12:07	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	11.4	1.4	1	04/20/23 13:54	04/21/23 06:05		
Surrogates									
4-Bromofluorobenzene (S)	84	%	66-130		1	04/20/23 13:54	04/21/23 06:05	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	**0.180J**	mg/L	0.200	0.0167	1	04/24/23 12:14	04/26/23 11:06	7440-42-8H	J
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
	Pace Analytical Services - Kansas City								
Barium	**156**	mg/kg	0.49	0.27	1	04/22/23 10:38	05/01/23 19:01	7440-39-3	
Cadmium	**0.51**	mg/kg	0.49	0.10	1	04/22/23 10:38	05/01/23 19:01	7440-43-9	
Copper	**8.6**	mg/kg	2.0	0.30	1	04/22/23 10:38	05/01/23 19:01	7440-50-8	
Lead	**7.6**	mg/kg	0.98	0.35	1	04/22/23 10:38	05/01/23 19:01	7439-92-1	
Nickel	**8.9**	mg/kg	0.49	0.23	1	04/22/23 10:38	05/01/23 19:01	7440-02-0	
Selenium	ND	mg/kg	1.5	0.74	1	04/22/23 10:38	05/01/23 19:01	7782-49-2	
Silver	ND	mg/kg	0.68	0.17	1	04/22/23 10:38	05/01/23 19:01	7440-22-4	
Zinc	**28.7**	mg/kg	9.8	1.3	1	04/22/23 10:38	05/01/23 19:01	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
	Pace Analytical Services - Kansas City								
Arsenic	**4.5**	mg/kg	0.98	0.18	10	04/22/23 10:38	04/25/23 10:14	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	0.0020	1	04/27/23 15:34	05/02/23 11:27	83-32-9	
Anthracene	ND	mg/kg	0.0033	0.0019	1	04/27/23 15:34	05/02/23 11:27	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0033	0.0018	1	04/27/23 15:34	05/02/23 11:27	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0033	0.0014	1	04/27/23 15:34	05/02/23 11:27	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0033	0.0018	1	04/27/23 15:34	05/02/23 11:27	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0033	0.0018	1	04/27/23 15:34	05/02/23 11:27	207-08-9	
Chrysene	ND	mg/kg	0.0033	0.0018	1	04/27/23 15:34	05/02/23 11:27	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0033	0.0018	1	04/27/23 15:34	05/02/23 11:27	53-70-3	
Fluoranthene	ND	mg/kg	0.0033	0.0028	1	04/27/23 15:34	05/02/23 11:27	206-44-0	
Fluorene	ND	mg/kg	0.0033	0.0025	1	04/27/23 15:34	05/02/23 11:27	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0033	0.0018	1	04/27/23 15:34	05/02/23 11:27	193-39-5	

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ANALYTICAL RESULTS

Project: NWAV #37
Pace Project No.: 60426359

Sample: DG 5 **Lab ID: 60426359006** Collected: 04/13/23 10:50 Received: 04/15/23 10:31 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	0.0016	1	04/27/23 15:34	05/02/23 11:27	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0033	0.0023	1	04/27/23 15:34	05/02/23 11:27	91-57-6	
Naphthalene	ND	mg/kg	0.0033	0.0018	1	04/27/23 15:34	05/02/23 11:27	91-20-3	
Pyrene	ND	mg/kg	0.0033	0.0024	1	04/27/23 15:34	05/02/23 11:27	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	67	%	40-120		1	04/27/23 15:34	05/02/23 11:27	321-60-8	
Terphenyl-d14 (S)	70	%	45-130		1	04/27/23 15:34	05/02/23 11:27	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	0.0057	0.00052	1	04/19/23 12:18	04/20/23 00:01	71-43-2	
Ethylbenzene	ND	mg/kg	0.0057	0.00098	1	04/19/23 12:18	04/20/23 00:01	100-41-4	
Toluene	ND	mg/kg	0.023	0.0050	1	04/19/23 12:18	04/20/23 00:01	108-88-3	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0057	0.00078	1	04/19/23 12:18	04/20/23 00:01	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0057	0.00049	1	04/19/23 12:18	04/20/23 00:01	108-67-8	
Xylene (Total)	ND	mg/kg	0.017	0.0042	1	04/19/23 12:18	04/20/23 00:01	1330-20-7	
Surrogates									
Toluene-d8 (S)	105	%	80-120		1	04/19/23 12:18	04/20/23 00:01	2037-26-5	
4-Bromofluorobenzene (S)	101	%	83-119		1	04/19/23 12:18	04/20/23 00:01	460-00-4	
1,2-Dichlorobenzene-d4 (S)	100	%	80-120		1	04/19/23 12:18	04/20/23 00:01	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2974								
	Pace Analytical Services - Kansas City								
Percent Moisture	**7.0**	%	0.50	0.50	1		04/19/23 11:30		
Total Solids 2540 G-2011	Analytical Method: SM 2540G Preparation Method: SM 2540 G								
	Pace National - Mt. Juliet								
Total Solids	**91.0**	%			1	04/21/23 15:30	04/21/23 15:41		
Wet Chemistry 7199	Analytical Method: EPA 7199 Preparation Method: 3060A								
	Pace National - Mt. Juliet								
Chromium, Hexavalent	ND	mg/kg	1.10	0.280	1	04/23/23 13:41	04/25/23 01:46	18540-29-9	
Wet Chemistry 9045D	Analytical Method: EPA 9045D Preparation Method: 9045C/9045D								
	Pace National - Mt. Juliet								
pH	**8.33**	Std. Units		0.10	1	04/20/23 16:00	04/20/23 18:57		H3
Wet Chemistry 9050AMod	Analytical Method: EPA 9050 Preparation Method: 9050A								
	Pace National - Mt. Juliet								
Specific Conductance @ 25 C	**138**	umhos/cm	10.0	10.0	1	04/22/23 08:00	04/22/23 10:46		
Calculated Results	Analytical Method: Calculated Preparation Method: Calc								
	Pace National - Mt. Juliet								
Sodium Adsorption Ratio	**0.0706**				1	04/25/23 19:58	04/25/23 19:58	SAR	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NWAV #37
Pace Project No.: 60426359

Sample: DG 6 **Lab ID: 60426359007** Collected: 04/13/23 11:00 Received: 04/15/23 10:31 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)	**26.2**	mg/kg	21.1	4.7	1	04/19/23 01:59	04/20/23 12:15		
TPH-DRO (C10-C28)	**16.4**	mg/kg	10.6	4.7	1	04/19/23 01:59	04/20/23 12:15		
Surrogates									
n-Tetracosane (S)	64	%	31-152		1	04/19/23 01:59	04/20/23 12:15	646-31-1	
p-Terphenyl (S)	57	%	46-130		1	04/19/23 01:59	04/20/23 12:15	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	11.4	1.4	1	04/20/23 13:54	04/21/23 06:20		
Surrogates									
4-Bromofluorobenzene (S)	89	%	66-130		1	04/20/23 13:54	04/21/23 06:20	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	**0.233**	mg/L	0.200	0.0167	1	04/24/23 12:14	04/26/23 11:09	7440-42-8H	
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
	Pace Analytical Services - Kansas City								
Barium	**128**	mg/kg	0.43	0.24	1	04/22/23 10:38	05/01/23 19:08	7440-39-3	
Cadmium	**0.51**	mg/kg	0.43	0.091	1	04/22/23 10:38	05/01/23 19:08	7440-43-9	
Copper	**8.0**	mg/kg	1.7	0.27	1	04/22/23 10:38	05/01/23 19:08	7440-50-8	
Lead	**8.1**	mg/kg	0.87	0.31	1	04/22/23 10:38	05/01/23 19:08	7439-92-1	
Nickel	**8.3**	mg/kg	0.43	0.20	1	04/22/23 10:38	05/01/23 19:08	7440-02-0	
Selenium	ND	mg/kg	1.3	0.65	1	04/22/23 10:38	05/01/23 19:08	7782-49-2	
Silver	ND	mg/kg	0.61	0.15	1	04/22/23 10:38	05/01/23 19:08	7440-22-4	
Zinc	**32.9**	mg/kg	8.7	1.1	1	04/22/23 10:38	05/01/23 19:08	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
	Pace Analytical Services - Kansas City								
Arsenic	**4.1**	mg/kg	0.87	0.16	10	04/22/23 10:38	04/25/23 10:16	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	0.0020	1	04/27/23 15:34	05/02/23 11:45	83-32-9	
Anthracene	ND	mg/kg	0.0034	0.0019	1	04/27/23 15:34	05/02/23 11:45	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0034	0.0018	1	04/27/23 15:34	05/02/23 11:45	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0034	0.0014	1	04/27/23 15:34	05/02/23 11:45	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0034	0.0018	1	04/27/23 15:34	05/02/23 11:45	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0034	0.0018	1	04/27/23 15:34	05/02/23 11:45	207-08-9	
Chrysene	ND	mg/kg	0.0034	0.0018	1	04/27/23 15:34	05/02/23 11:45	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0034	0.0018	1	04/27/23 15:34	05/02/23 11:45	53-70-3	
Fluoranthene	ND	mg/kg	0.0034	0.0028	1	04/27/23 15:34	05/02/23 11:45	206-44-0	
Fluorene	ND	mg/kg	0.0034	0.0025	1	04/27/23 15:34	05/02/23 11:45	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0034	0.0018	1	04/27/23 15:34	05/02/23 11:45	193-39-5	

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ANALYTICAL RESULTS

Project: NWAV #37
Pace Project No.: 60426359

Sample: DG 6 **Lab ID: 60426359007** Collected: 04/13/23 11:00 Received: 04/15/23 10:31 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	0.0016	1	04/27/23 15:34	05/02/23 11:45	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0034	0.0024	1	04/27/23 15:34	05/02/23 11:45	91-57-6	
Naphthalene	ND	mg/kg	0.0034	0.0018	1	04/27/23 15:34	05/02/23 11:45	91-20-3	
Pyrene	ND	mg/kg	0.0034	0.0024	1	04/27/23 15:34	05/02/23 11:45	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	57	%	40-120		1	04/27/23 15:34	05/02/23 11:45	321-60-8	
Terphenyl-d14 (S)	60	%	45-130		1	04/27/23 15:34	05/02/23 11:45	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	0.0057	0.00052	1	04/19/23 12:18	04/20/23 00:21	71-43-2	
Ethylbenzene	ND	mg/kg	0.0057	0.00099	1	04/19/23 12:18	04/20/23 00:21	100-41-4	
Toluene	ND	mg/kg	0.023	0.0051	1	04/19/23 12:18	04/20/23 00:21	108-88-3	
1,2,4-Trimethylbenzene	**0.0014J**	mg/kg	0.0057	0.00079	1	04/19/23 12:18	04/20/23 00:21	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0057	0.00050	1	04/19/23 12:18	04/20/23 00:21	108-67-8	
Xylene (Total)	ND	mg/kg	0.017	0.0042	1	04/19/23 12:18	04/20/23 00:21	1330-20-7	
Surrogates									
Toluene-d8 (S)	106	%	80-120		1	04/19/23 12:18	04/20/23 00:21	2037-26-5	
4-Bromofluorobenzene (S)	102	%	83-119		1	04/19/23 12:18	04/20/23 00:21	460-00-4	
1,2-Dichlorobenzene-d4 (S)	101	%	80-120		1	04/19/23 12:18	04/20/23 00:21	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2974								
	Pace Analytical Services - Kansas City								
Percent Moisture	**6.9**	%	0.50	0.50	1		04/19/23 11:30		
Total Solids 2540 G-2011	Analytical Method: SM 2540G Preparation Method: SM 2540 G								
	Pace National - Mt. Juliet								
Total Solids	**90.6**	%			1	04/21/23 15:30	04/21/23 15:41		
Wet Chemistry 7199	Analytical Method: EPA 7199 Preparation Method: 3060A								
	Pace National - Mt. Juliet								
Chromium, Hexavalent	ND	mg/kg	1.10	0.282	1	04/23/23 13:41	04/25/23 01:56	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	04/20/23 16:00	04/20/23 18:57		H3
Wet Chemistry 9050AMod	Analytical Method: EPA 9050 Preparation Method: 9050A								
	Pace National - Mt. Juliet								
Specific Conductance @ 25 C	**268**	umhos/cm	10.0	10.0	1	04/22/23 08:00	04/22/23 10:46		
Calculated Results	Analytical Method: Calculated Preparation Method: Calc								
	Pace National - Mt. Juliet								
Sodium Adsorption Ratio	**0.0553**				1	04/25/23 20:11	04/25/23 20:11	SAR	

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ANALYTICAL RESULTS

Project: NWAV #37
Pace Project No.: 60426359

Sample: DUPLICATE A **Lab ID: 60426359008** Collected: 04/13/23 11:00 Received: 04/15/23 10:31 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)	**31.3**	mg/kg	21.3	4.8	1	04/19/23 01:59	04/20/23 12:23		
TPH-DRO (C10-C28)	**17.8**	mg/kg	10.6	4.8	1	04/19/23 01:59	04/20/23 12:23		
Surrogates									
n-Tetracosane (S)	72	%	31-152		1	04/19/23 01:59	04/20/23 12:23	646-31-1	
p-Terphenyl (S)	62	%	46-130		1	04/19/23 01:59	04/20/23 12:23	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	10.3	1.3	1	04/20/23 13:54	04/21/23 06:35		
Surrogates									
4-Bromofluorobenzene (S)	84	%	66-130		1	04/20/23 13:54	04/21/23 06:35	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	**0.297**	mg/L	0.200	0.0167	1	04/24/23 12:14	04/26/23 11:17	7440-42-8H	
6010 MET ICP Red. Interference	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
	Pace Analytical Services - Kansas City								
Barium	**143**	mg/kg	0.44	0.24	1	04/22/23 10:38	05/01/23 19:10	7440-39-3	
Cadmium	**0.49**	mg/kg	0.44	0.092	1	04/22/23 10:38	05/01/23 19:10	7440-43-9	
Copper	**9.1**	mg/kg	1.7	0.27	1	04/22/23 10:38	05/01/23 19:10	7440-50-8	
Lead	**14.6**	mg/kg	0.87	0.32	1	04/22/23 10:38	05/01/23 19:10	7439-92-1	
Nickel	**8.7**	mg/kg	0.44	0.21	1	04/22/23 10:38	05/01/23 19:10	7440-02-0	
Selenium	ND	mg/kg	1.3	0.66	1	04/22/23 10:38	05/01/23 19:10	7782-49-2	
Silver	ND	mg/kg	0.61	0.15	1	04/22/23 10:38	05/01/23 19:10	7440-22-4	
Zinc	**42.8**	mg/kg	8.7	1.1	1	04/22/23 10:38	05/01/23 19:10	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3050								
	Pace Analytical Services - Kansas City								
Arsenic	**4.3**	mg/kg	0.87	0.16	10	04/22/23 10:38	04/25/23 10:24	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	0.0034	0.0021	1	04/27/23 15:34	05/02/23 12:03	83-32-9	
Anthracene	ND	mg/kg	0.0034	0.0019	1	04/27/23 15:34	05/02/23 12:03	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.0034	0.0019	1	04/27/23 15:34	05/02/23 12:03	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.0034	0.0014	1	04/27/23 15:34	05/02/23 12:03	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.0034	0.0018	1	04/27/23 15:34	05/02/23 12:03	205-99-2	
Benzo(k)fluoranthene	ND	mg/kg	0.0034	0.0018	1	04/27/23 15:34	05/02/23 12:03	207-08-9	
Chrysene	ND	mg/kg	0.0034	0.0018	1	04/27/23 15:34	05/02/23 12:03	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.0034	0.0018	1	04/27/23 15:34	05/02/23 12:03	53-70-3	
Fluoranthene	ND	mg/kg	0.0034	0.0028	1	04/27/23 15:34	05/02/23 12:03	206-44-0	
Fluorene	ND	mg/kg	0.0034	0.0026	1	04/27/23 15:34	05/02/23 12:03	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.0034	0.0018	1	04/27/23 15:34	05/02/23 12:03	193-39-5	

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ANALYTICAL RESULTS

Project: NWAV #37
Pace Project No.: 60426359

Sample: DUPLICATE A **Lab ID: 60426359008** Collected: 04/13/23 11:00 Received: 04/15/23 10:31 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	0.0017	1	04/27/23 15:34	05/02/23 12:03	90-12-0	
2-Methylnaphthalene	ND	mg/kg	0.0034	0.0024	1	04/27/23 15:34	05/02/23 12:03	91-57-6	
Naphthalene	ND	mg/kg	0.0034	0.0018	1	04/27/23 15:34	05/02/23 12:03	91-20-3	
Pyrene	ND	mg/kg	0.0034	0.0025	1	04/27/23 15:34	05/02/23 12:03	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	69	%	40-120		1	04/27/23 15:34	05/02/23 12:03	321-60-8	
Terphenyl-d14 (S)	74	%	45-130		1	04/27/23 15:34	05/02/23 12:03	1718-51-0	
8260C MSV 5035A Low Level	Analytical Method: EPA 8260C Preparation Method: EPA 5035A/5030B								
	Pace Analytical Services - Kansas City								
Benzene	**0.00063J**	mg/kg	0.0056	0.00052	1	04/19/23 12:18	04/20/23 00:41	71-43-2	
Ethylbenzene	ND	mg/kg	0.0056	0.00098	1	04/19/23 12:18	04/20/23 00:41	100-41-4	
Toluene	ND	mg/kg	0.023	0.0050	1	04/19/23 12:18	04/20/23 00:41	108-88-3	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0056	0.00078	1	04/19/23 12:18	04/20/23 00:41	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0056	0.00049	1	04/19/23 12:18	04/20/23 00:41	108-67-8	
Xylene (Total)	ND	mg/kg	0.017	0.0042	1	04/19/23 12:18	04/20/23 00:41	1330-20-7	
Surrogates									
Toluene-d8 (S)	106	%	80-120		1	04/19/23 12:18	04/20/23 00:41	2037-26-5	
4-Bromofluorobenzene (S)	101	%	83-119		1	04/19/23 12:18	04/20/23 00:41	460-00-4	
1,2-Dichlorobenzene-d4 (S)	99	%	80-120		1	04/19/23 12:18	04/20/23 00:41	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2974								
	Pace Analytical Services - Kansas City								
Percent Moisture	**6.2**	%	0.50	0.50	1		04/19/23 11:30		
Total Solids 2540 G-2011	Analytical Method: SM 2540G Preparation Method: SM 2540 G								
	Pace National - Mt. Juliet								
Total Solids	**92.9**	%			1	04/21/23 15:30	04/21/23 15:41		
Wet Chemistry 7199	Analytical Method: EPA 7199 Preparation Method: 3060A								
	Pace National - Mt. Juliet								
Chromium, Hexavalent	ND	mg/kg	1.08	0.275	1	04/23/23 13:41	04/25/23 02:32	18540-29-9	
Wet Chemistry 9045D	Analytical Method: EPA 9045D Preparation Method: 9045C/9045D								
	Pace National - Mt. Juliet								
pH	**8.03**	Std. Units		0.10	1	04/20/23 16:00	04/20/23 18:57		H3
Wet Chemistry 9050AMod	Analytical Method: EPA 9050 Preparation Method: 9050A								
	Pace National - Mt. Juliet								
Specific Conductance @ 25 C	**221**	umhos/cm	10.0	10.0	1	04/22/23 08:00	04/22/23 10:46		
Calculated Results	Analytical Method: Calculated Preparation Method: Calc								
	Pace National - Mt. Juliet								
Sodium Adsorption Ratio	**0.0926**				1	04/25/23 20:36	04/25/23 20:36	SAR	

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QUALITY CONTROL DATA

Project: NWAV #37
Pace Project No.: 60426359

QC Batch: 842659
QC Batch Method: EPA 5035A/5030B
Analysis Method: EPA 8015B
Analysis Description: Gasoline Range Organics
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426359001, 60426359002, 60426359003, 60426359004, 60426359005, 60426359006, 60426359007, 60426359008

METHOD BLANK: 3339734 Matrix: Solid
Associated Lab Samples: 60426359001, 60426359002, 60426359003, 60426359004, 60426359005, 60426359006, 60426359007, 60426359008

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 #37
Pace Project No.: 60426359

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: 60426359001, 60426359002, 60426359003, 60426359004, 60426359005, 60426359006, 60426359007, 60426359008

METHOD BLANK: R3917697-1
Matrix: Solid
Associated Lab Samples: 60426359001, 60426359002, 60426359003, 60426359004, 60426359005, 60426359006, 60426359007, 60426359008

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 #37
Pace Project No.: 60426359

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: 60426359001, 60426359002, 60426359003, 60426359004, 60426359005

METHOD BLANK: 3341537
Matrix: Solid
Associated Lab Samples: 60426359001, 60426359002, 60426359003, 60426359004, 60426359005

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 #37
Pace Project No.: 60426359

QC Batch: 843044
QC Batch Method: EPA 3050
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426359006, 60426359007, 60426359008

METHOD BLANK: 3341547
Matrix: Solid
Associated Lab Samples: 60426359006, 60426359007, 60426359008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	mg/kg	ND	0.50	0.28	05/01/23 18:57	
Cadmium	mg/kg	ND	0.50	0.10	05/01/23 18:57	
Copper	mg/kg	ND	2.0	0.31	05/01/23 18:57	
Lead	mg/kg	ND	1.0	0.36	05/01/23 18:57	
Nickel	mg/kg	ND	0.50	0.24	05/01/23 18:57	
Selenium	mg/kg	ND	1.5	0.75	05/01/23 18:57	
Silver	mg/kg	ND	0.70	0.17	05/01/23 18:57	
Zinc	mg/kg	ND	10.0	1.3	05/01/23 18:57	

LABORATORY CONTROL SAMPLE: 3341548

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/kg	100	105	105	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	104	104	80-120	
Selenium	mg/kg	100	89.8	90	80-120	
Silver	mg/kg	50	47.1	94	80-120	
Zinc	mg/kg	100	101	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3341549 3341550

Parameter	Units	60426359006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/kg	156	92.7	101	246	261	97	104	75-125	6	20	
Cadmium	mg/kg	0.51	92.7	101	83.6	91.6	90	90	75-125	9	20	
Copper	mg/kg	8.6	92.7	101	100	108	99	98	75-125	7	20	
Lead	mg/kg	7.6	92.7	101	91.0	99.1	90	90	75-125	9	20	
Nickel	mg/kg	8.9	92.7	101	93.8	101	92	91	75-125	7	20	
Selenium	mg/kg	ND	92.7	101	78.6	84.1	84	83	75-125	7	20	
Silver	mg/kg	ND	46.4	50.8	42.2	45.3	91	89	75-125	7	20	
Zinc	mg/kg	28.7	92.7	101	111	119	89	89	75-125	7	20	

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QUALITY CONTROL DATA

Project: NWAV #37
Pace Project No.: 60426359

QC Batch: 843042
QC Batch Method: EPA 3050
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426359001, 60426359002, 60426359003, 60426359004, 60426359005

METHOD BLANK: 3341541 Matrix: Solid
Associated Lab Samples: 60426359001, 60426359002, 60426359003, 60426359004, 60426359005

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 #37
Pace Project No.: 60426359

QC Batch: 843045
QC Batch Method: EPA 3050
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426359006, 60426359007, 60426359008

METHOD BLANK: 3341551 Matrix: Solid
Associated Lab Samples: 60426359006, 60426359007, 60426359008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/kg	ND	1.0	0.18	04/25/23 10:09	

LABORATORY CONTROL SAMPLE: 3341552

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	100	101	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3341553 3341554

Parameter	Units	60426359007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	4.1	91	89.5	93.4	90.3	98	96	75-125	3	20	

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QUALITY CONTROL DATA

Project: NWAV #37
Pace Project No.: 60426359

QC Batch: 842422
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: 60426359001, 60426359002, 60426359003, 60426359004, 60426359005, 60426359006, 60426359007, 60426359008

METHOD BLANK: 3338691
Matrix: Solid
Associated Lab Samples: 60426359001, 60426359002, 60426359003, 60426359004, 60426359005, 60426359006, 60426359007, 60426359008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	mg/kg	ND	0.0050	0.00069	04/19/23 21:59	
1,3,5-Trimethylbenzene	mg/kg	ND	0.0050	0.00043	04/19/23 21:59	
Benzene	mg/kg	ND	0.0050	0.00046	04/19/23 21:59	
Ethylbenzene	mg/kg	ND	0.0050	0.00087	04/19/23 21:59	
Toluene	mg/kg	ND	0.020	0.0044	04/19/23 21:59	
Xylene (Total)	mg/kg	ND	0.015	0.0037	04/19/23 21:59	
1,2-Dichlorobenzene-d4 (S)	%	100	80-120		04/19/23 21:59	
4-Bromofluorobenzene (S)	%	103	83-119		04/19/23 21:59	
Toluene-d8 (S)	%	105	80-120		04/19/23 21:59	

LABORATORY CONTROL SAMPLE: 3338692

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	mg/kg	1.2	1.3	105	79-121	
1,3,5-Trimethylbenzene	mg/kg	1.2	1.3	104	81-122	
Benzene	mg/kg	1.2	1.2	98	67-126	
Ethylbenzene	mg/kg	1.2	1.2	98	69-127	
Toluene	mg/kg	1.2	1.2	92	80-118	
Xylene (Total)	mg/kg	3.8	3.7	100	69-130	
1,2-Dichlorobenzene-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			99	83-119	
Toluene-d8 (S)	%			96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3338693 3338694

Parameter	Units	60426359001 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	0.0013J	1.4	1.4	1.5	1.5	102	101	10-124	1	68	
1,3,5-Trimethylbenzene	mg/kg	0.00052J	1.4	1.4	1.5	1.5	101	101	10-125	0	65	
Benzene	mg/kg	ND	1.4	1.4	1.3	1.3	93	93	17-134	0	53	
Ethylbenzene	mg/kg	ND	1.4	1.4	1.4	1.4	95	95	10-137	1	60	
Toluene	mg/kg	ND	1.4	1.4	1.3	1.3	88	88	13-131	1	60	
Xylene (Total)	mg/kg	ND	4.3	4.3	4.1	4.2	95	97	10-137	1	58	
1,2-Dichlorobenzene-d4 (S)	%						102	100	80-120			
4-Bromofluorobenzene (S)	%						100	101	83-119			
Toluene-d8 (S)	%						96	97	80-120			

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QUALITY CONTROL DATA

Project: NWAV #37
Pace Project No.: 60426359

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: 60426359001, 60426359002, 60426359003, 60426359004, 60426359005, 60426359006, 60426359007, 60426359008

METHOD BLANK: 3337608 Matrix: Solid
Associated Lab Samples: 60426359001, 60426359002, 60426359003, 60426359004, 60426359005, 60426359006, 60426359007, 60426359008

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 #37
Pace Project No.: 60426359

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: 60426359002, 60426359003

METHOD BLANK: 3337612
Matrix: Solid
Associated Lab Samples: 60426359002, 60426359003

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 #37
Pace Project No.: 60426359

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 #37
Pace Project No.: 60426359

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: 60426359001, 60426359004, 60426359005, 60426359006, 60426359007, 60426359008

METHOD BLANK: 3345415
Matrix: Solid
Associated Lab Samples: 60426359001, 60426359004, 60426359005, 60426359006, 60426359007, 60426359008

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 #37
Pace Project No.: 60426359

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 #37
Pace Project No.: 60426359

QC Batch: 842215
QC Batch Method: ASTM D2974
Analysis Method: ASTM D2974
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426359001, 60426359002, 60426359003, 60426359004, 60426359005

METHOD BLANK: 3338062 Matrix: Solid
Associated Lab Samples: 60426359001, 60426359002, 60426359003, 60426359004, 60426359005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	0.50	04/18/23 14:02	

SAMPLE DUPLICATE: 3338063

Parameter	Units	60426359001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	7.1	7.2	2	20	

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QUALITY CONTROL DATA

Project: NWAV #37
Pace Project No.: 60426359

QC Batch: 842436
QC Batch Method: ASTM D2974
Analysis Method: ASTM D2974
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426359006, 60426359007, 60426359008

METHOD BLANK: 3338729 Matrix: Solid
Associated Lab Samples: 60426359006, 60426359007, 60426359008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	0.50	04/19/23 11:29	

SAMPLE DUPLICATE: 3338730

Parameter	Units	60426359006 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	7.0	7.0	0	20	

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QUALITY CONTROL DATA

Project: NWAV #37
Pace Project No.: 60426359

QC Batch: 2045681
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: 60426359001, 60426359002, 60426359003

METHOD BLANK: R3916459-1
Matrix: Solid
Associated Lab Samples: 60426359001, 60426359002, 60426359003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Solids	%	0.00500			04/22/23 10:21	

LABORATORY CONTROL SAMPLE: R3916459-2

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

SAMPLE DUPLICATE: R3916459-3

Parameter	Units	L1606824-05 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	%	94.5	94.7	0.171	10	

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QUALITY CONTROL DATA

Project: NWAV #37
Pace Project No.: 60426359

QC Batch: 2045686
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: 60426359004, 60426359005, 60426359006, 60426359007, 60426359008

METHOD BLANK: R3916166-1 Matrix: Solid
Associated Lab Samples: 60426359004, 60426359005, 60426359006, 60426359007, 60426359008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Solids	%	0.00200			04/21/23 15:41	

LABORATORY CONTROL SAMPLE: R3916166-2

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

SAMPLE DUPLICATE: R3916166-3

Parameter	Units	60426359006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	%	91.0	91.1	0.180	10	

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QUALITY CONTROL DATA

Project: NWAV #37
Pace Project No.: 60426359

QC Batch: 2045863
QC Batch Method: 3060A
Analysis Method: EPA 7199
Analysis Description: Wet Chemistry 7199
Laboratory: Pace National - Mt. Juliet
Associated Lab Samples: 60426359001, 60426359002, 60426359003, 60426359004, 60426359005, 60426359006, 60426359007, 60426359008

METHOD BLANK: R3916820-1 Matrix: Solid
Associated Lab Samples: 60426359001, 60426359002, 60426359003, 60426359004, 60426359005, 60426359006, 60426359007, 60426359008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium, Hexavalent	mg/kg	ND	1.00	0.255	04/25/23 00:15	

LABORATORY CONTROL SAMPLE: R3916820-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/kg	10.0	9.66	96.6	80.0-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: R3916820-6 R3916820-7

Parameter	Units	60426359007 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	22.1	22.1	19.7	18.7	89.0	84.8	75.0-125	4.77	20	

MATRIX SPIKE SAMPLE: R3916820-8

Parameter	Units	60426359007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/kg	ND	708	780	110	75.0-125	

SAMPLE DUPLICATE: R3916820-3

Parameter	Units	L1606824-02 Result	Dup Result	RPD	Max RPD	Qualifiers
Chromium, Hexavalent	mg/kg	0.337	0.385J	13.2	20	J

SAMPLE DUPLICATE: R3916820-4

Parameter	Units	60426359006 Result	Dup Result	RPD	Max RPD	Qualifiers
Chromium, Hexavalent	mg/kg	ND	ND	0.00	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: NWAV #37
Pace Project No.: 60426359

QC Batch: 2045836
QC Batch Method: 9045C/9045D
Analysis Method: EPA 9045D
Analysis Description: Wet Chemistry 9045D
Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 60426359001, 60426359002, 60426359003, 60426359004, 60426359005, 60426359006, 60426359007, 60426359008

LABORATORY CONTROL SAMPLE: R3915607-1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH	Std. Units	10.0	10.0	100	99.0-101	

SAMPLE DUPLICATE: R3915607-2

Parameter	Units	60426359001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	8.10	8.06	0.495	1	

SAMPLE DUPLICATE: R3915607-3

Parameter	Units	L1607138-04 Result	Dup Result	RPD	Max RPD	Qualifiers
pH	Std. Units	8.28	8.34	0.722	1	

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QUALITY CONTROL DATA

Project: NWAV #37
Pace Project No.: 60426359

QC Batch: 2046679
QC Batch Method: 9050A
Analysis Method: EPA 9050
Analysis Description: Wet Chemistry 9050AMod
Laboratory: Pace National - Mt. Juliet
Associated Lab Samples: 60426359001, 60426359002, 60426359003, 60426359004, 60426359005, 60426359006, 60426359007, 60426359008

METHOD BLANK: R3916178-1
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	04/22/23 10:46	

LABORATORY CONTROL SAMPLE: R3916178-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance @ 25 C	umhos/cm	1120	1100	97.9	85.0-115	

SAMPLE DUPLICATE: R3916178-3

Parameter	Units	L1606669-02 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25 C	umhos/cm	148	144	2.66	20	

SAMPLE DUPLICATE: R3916178-4

Parameter	Units	60426359003 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25 C	umhos/cm	162	161	0.0619	20	

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QUALITY CONTROL DATA

Project: NWAV #37
Pace Project No.: 60426359

QC Batch: 2046679
QC Batch Method: EPA 9050
Analysis Method: EPA 9050
Analysis Description: Wet Chemistry 9050AMod
Laboratory: Pace National - Mt. Juliet
Associated Lab Samples: 60426359001, 60426359002, 60426359003, 60426359004, 60426359005, 60426359006, 60426359007, 60426359008

METHOD BLANK: R3916178-1 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	04/22/23 10:46	

LABORATORY CONTROL SAMPLE: R3916178-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance @ 25 C	umhos/cm	1120	1100	97.9	85.0-115	

SAMPLE DUPLICATE: R3916178-3

Parameter	Units	L1606669-02 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25 C	umhos/cm	148	144	2.66	20	

SAMPLE DUPLICATE: R3916178-4

Parameter	Units	60426359003 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance @ 25 C	umhos/cm	162	161	0.0619	20	

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QUALIFIERS

Project: NWAV #37
Pace Project No.: 60426359

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.

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TNI - The NELAC Institute.

SAMPLE QUALIFIERS

Sample: 60426359001
- [1] Wet Chemistry by Method 9045D - 8.1 at 20.7C
- [1] Wet Chemistry by Method 9050AMod - at 25C

Sample: 60426359002
- [1] Wet Chemistry by Method 9045D - 7.88 at 21C
- [1] Wet Chemistry by Method 9050AMod - at 25C

Sample: 60426359003
- [1] Wet Chemistry by Method 9045D - 8.22 at 20.8C
- [1] Wet Chemistry by Method 9050AMod - at 25C

Sample: 60426359004
- [1] Wet Chemistry by Method 9045D - 8.07 at 20.5C
- [1] Wet Chemistry by Method 9050AMod - at 25C

Sample: 60426359005
- [1] Wet Chemistry by Method 9045D - 8.08 at 19.9C
- [1] Wet Chemistry by Method 9050AMod - at 25C

Sample: 60426359006
- [1] Wet Chemistry by Method 9045D - 8.33 at 19.9C

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QUALIFIERS

Project: NWAV #37
Pace Project No.: 60426359

SAMPLE QUALIFIERS

Sample: 60426359006
[1] Wet Chemistry by Method 9050AMod - at 25C
Sample: 60426359007
[1] Wet Chemistry by Method 9045D - 8.08 at 20.2C
[1] Wet Chemistry by Method 9050AMod - at 25C
Sample: 60426359008
[1] Wet Chemistry by Method 9045D - 8.03 at 20.3C
[1] Wet Chemistry by Method 9050AMod - at 25C
Sample: R3915607-1
[1] Wet Chemistry by Method 9045D - 10.01 at 18.9C
Sample: R3915607-2
[1] Wet Chemistry by Method 9045D - 8.06 at 20.8C
Sample: R3915607-3
[1] Wet Chemistry by Method 9045D - 8.34 at 19.5C
Sample: R3916178-1
[1] Wet Chemistry by Method 9050AMod - at 25C
Sample: R3916178-2
[1] Wet Chemistry by Method 9050AMod - at 25C
Sample: R3916178-3
[1] Wet Chemistry by Method 9050AMod - at 25C
Sample: R3916178-4
[1] Wet Chemistry by Method 9050AMod - at 25C
Sample: L1606669-02
[1] Wet Chemistry by Method 9050AMod - at 25C
Sample: L1607138-04
[1] Wet Chemistry by Method 9045D - 8.28 at 19.6C

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NWAV #37
Pace Project No.: 60426359

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60426359001	**DG 1**	EPA 3546	842084	EPA 8015B	842336
60426359002	**DG 1 4'**	EPA 3546	842084	EPA 8015B	842336
60426359003	**DG 2**	EPA 3546	842084	EPA 8015B	842336
60426359004	**DG 3**	EPA 3546	842084	EPA 8015B	842336
60426359005	**DG 4**	EPA 3546	842084	EPA 8015B	842336
60426359006	**DG 5**	EPA 3546	842084	EPA 8015B	842336
60426359007	**DG 6**	EPA 3546	842084	EPA 8015B	842336
60426359008	**DUPLICATE A**	EPA 3546	842084	EPA 8015B	842336
60426359001	**DG 1**	EPA 5035A/5030B	842659	EPA 8015B	842790
60426359002	**DG 1 4'**	EPA 5035A/5030B	842659	EPA 8015B	842790
60426359003	**DG 2**	EPA 5035A/5030B	842659	EPA 8015B	842790
60426359004	**DG 3**	EPA 5035A/5030B	842659	EPA 8015B	842790
60426359005	**DG 4**	EPA 5035A/5030B	842659	EPA 8015B	842790
60426359006	**DG 5**	EPA 5035A/5030B	842659	EPA 8015B	842790
60426359007	**DG 6**	EPA 5035A/5030B	842659	EPA 8015B	842790
60426359008	**DUPLICATE A**	EPA 5035A/5030B	842659	EPA 8015B	842790
60426359001	**DG 1**	HWS Boron	2045653	6010B-NE493 Ch 2	2045653
60426359002	**DG 1 4'**	HWS Boron	2045653	6010B-NE493 Ch 2	2045653
60426359003	**DG 2**	HWS Boron	2045653	6010B-NE493 Ch 2	2045653
60426359004	**DG 3**	HWS Boron	2045653	6010B-NE493 Ch 2	2045653
60426359005	**DG 4**	HWS Boron	2045653	6010B-NE493 Ch 2	2045653
60426359006	**DG 5**	HWS Boron	2045653	6010B-NE493 Ch 2	2045653
60426359007	**DG 6**	HWS Boron	2045653	6010B-NE493 Ch 2	2045653
60426359008	**DUPLICATE A**	HWS Boron	2045653	6010B-NE493 Ch 2	2045653
60426359001	**DG 1**	EPA 3050	843041	EPA 6010	843212
60426359002	**DG 1 4'**	EPA 3050	843041	EPA 6010	843212
60426359003	**DG 2**	EPA 3050	843041	EPA 6010	843212
60426359004	**DG 3**	EPA 3050	843041	EPA 6010	843212
60426359005	**DG 4**	EPA 3050	843041	EPA 6010	843212
60426359006	**DG 5**	EPA 3050	843044	EPA 6010	843216
60426359007	**DG 6**	EPA 3050	843044	EPA 6010	843216
60426359008	**DUPLICATE A**	EPA 3050	843044	EPA 6010	843216
60426359001	**DG 1**	EPA 3050	843042	EPA 6020	843215
60426359002	**DG 1 4'**	EPA 3050	843042	EPA 6020	843215
60426359003	**DG 2**	EPA 3050	843042	EPA 6020	843215
60426359004	**DG 3**	EPA 3050	843042	EPA 6020	843215
60426359005	**DG 4**	EPA 3050	843042	EPA 6020	843215
60426359006	**DG 5**	EPA 3050	843045	EPA 6020	843217
60426359007	**DG 6**	EPA 3050	843045	EPA 6020	843217
60426359008	**DUPLICATE A**	EPA 3050	843045	EPA 6020	843217
60426359001	**DG 1**	EPA 3546	844092	EPA 8270 by SIM	844607
60426359002	**DG 1 4'**	EPA 3546	842085	EPA 8270 by SIM	843724
60426359003	**DG 2**	EPA 3546	842085	EPA 8270 by SIM	843724
60426359004	**DG 3**	EPA 3546	844092	EPA 8270 by SIM	844607

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NWAV #37
Pace Project No.: 60426359

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60426359005	**DG 4**	EPA 3546	844092	EPA 8270 by SIM	844607
60426359006	**DG 5**	EPA 3546	844092	EPA 8270 by SIM	844607
60426359007	**DG 6**	EPA 3546	844092	EPA 8270 by SIM	844607
60426359008	**DUPLICATE A**	EPA 3546	844092	EPA 8270 by SIM	844607
60426359001	**DG 1**	EPA 5035A/5030B	842422	EPA 8260C	842465
60426359002	**DG 1 4'**	EPA 5035A/5030B	842422	EPA 8260C	842465
60426359003	**DG 2**	EPA 5035A/5030B	842422	EPA 8260C	842465
60426359004	**DG 3**	EPA 5035A/5030B	842422	EPA 8260C	842465
60426359005	**DG 4**	EPA 5035A/5030B	842422	EPA 8260C	842465
60426359006	**DG 5**	EPA 5035A/5030B	842422	EPA 8260C	842465
60426359007	**DG 6**	EPA 5035A/5030B	842422	EPA 8260C	842465
60426359008	**DUPLICATE A**	EPA 5035A/5030B	842422	EPA 8260C	842465
60426359001	**DG 1**	ASTM D2974	842215		
60426359002	**DG 1 4'**	ASTM D2974	842215		
60426359003	**DG 2**	ASTM D2974	842215		
60426359004	**DG 3**	ASTM D2974	842215		
60426359005	**DG 4**	ASTM D2974	842215		
60426359006	**DG 5**	ASTM D2974	842436		
60426359007	**DG 6**	ASTM D2974	842436		
60426359008	**DUPLICATE A**	ASTM D2974	842436		
60426359001	**DG 1**	SM 2540 G	2045681	SM 2540G	2045681
60426359002	**DG 1 4'**	SM 2540 G	2045681	SM 2540G	2045681
60426359003	**DG 2**	SM 2540 G	2045681	SM 2540G	2045681
60426359004	**DG 3**	SM 2540 G	2045686	SM 2540G	2045686
60426359005	**DG 4**	SM 2540 G	2045686	SM 2540G	2045686
60426359006	**DG 5**	SM 2540 G	2045686	SM 2540G	2045686
60426359007	**DG 6**	SM 2540 G	2045686	SM 2540G	2045686
60426359008	**DUPLICATE A**	SM 2540 G	2045686	SM 2540G	2045686
60426359001	**DG 1**	3060A	2045863	EPA 7199	2045863
60426359002	**DG 1 4'**	3060A	2045863	EPA 7199	2045863
60426359003	**DG 2**	3060A	2045863	EPA 7199	2045863
60426359004	**DG 3**	3060A	2045863	EPA 7199	2045863
60426359005	**DG 4**	3060A	2045863	EPA 7199	2045863
60426359006	**DG 5**	3060A	2045863	EPA 7199	2045863
60426359007	**DG 6**	3060A	2045863	EPA 7199	2045863
60426359008	**DUPLICATE A**	3060A	2045863	EPA 7199	2045863
60426359001	**DG 1**	9045C/9045D	2045836	EPA 9045D	2045836
60426359002	**DG 1 4'**	9045C/9045D	2045836	EPA 9045D	2045836
60426359003	**DG 2**	9045C/9045D	2045836	EPA 9045D	2045836
60426359004	**DG 3**	9045C/9045D	2045836	EPA 9045D	2045836
60426359005	**DG 4**	9045C/9045D	2045836	EPA 9045D	2045836
60426359006	**DG 5**	9045C/9045D	2045836	EPA 9045D	2045836
60426359007	**DG 6**	9045C/9045D	2045836	EPA 9045D	2045836
60426359008	**DUPLICATE A**	9045C/9045D	2045836	EPA 9045D	2045836
60426359001	**DG 1**	9050A	2046679	EPA 9050	2046679

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NWAV #37
Pace Project No.: 60426359

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60426359002	**DG 1 4'**	9050A	2046679	EPA 9050	2046679
60426359003	**DG 2**	9050A	2046679	EPA 9050	2046679
60426359004	**DG 3**	9050A	2046679	EPA 9050	2046679
60426359005	**DG 4**	9050A	2046679	EPA 9050	2046679
60426359006	**DG 5**	9050A	2046679	EPA 9050	2046679
60426359007	**DG 6**	9050A	2046679	EPA 9050	2046679
60426359008	**DUPLICATE A**	9050A	2046679	EPA 9050	2046679
60426359001	**DG 1**	Calc	2045648	Calculated	2045648
60426359002	**DG 1 4'**	Calc	2045648	Calculated	2045648
60426359003	**DG 2**	Calc	2045648	Calculated	2045648
60426359004	**DG 3**	Calc	2045648	Calculated	2045648
60426359005	**DG 4**	Calc	2045648	Calculated	2045648
60426359006	**DG 5**	Calc	2045648	Calculated	2045648
60426359007	**DG 6**	Calc	2045648	Calculated	2045648
60426359008	**DUPLICATE A**	Calc	2045648	Calculated	2045648

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Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_San	WO#: 60426359
	Revision: 2	Effective Date: 01/12/

60426359

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** 0.5 **Corr. Factor** +0.2 **Corrected** 0.7

Date and initials of person examining contents: 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: _____

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical® WWW.PACELABS.COM

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.

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:	~~945-1~~ NWAV #37	Pace Project Manager:	nolie.wood@pacelabs.com,
Requested Due Date:		Project #:	NWAV #37	Pace Profile #:	15035, 2

Regulatory Agency	
State / Location	
CO	

Requested Analysis Filtered (Y/N)

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	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other ice	Analyses Test Y/N	VOAS/SVOA PAH SIM	8015 DRO/GRO	6010/6020 metals	Paste EC, SAR, pH,	HW Boron, 7199 CrIV	Residual Chlorine (Y/N)	60426359
1	DG 2	SL	G	4/13/23	⊗	1000			4	✓															
2	DG 1 4'					1005																			
3	DG 2					1015																			
4	DG 3					1030																			
5	DG 4					1040																			
6	DG 5					1050																			
7	DG 6					1100																			
8	Duplicate A				-	-																			
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	James Beilman	4/13/23	1032	[illegible]	4/16	1031	0.7	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: [signature]	DATE Signed: 4/13/23				

J077

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: 60426359 **Workorder Name:** NWAV #37

Report To

Heather Wilson
Pace Analytical Kansas
9608 Loiret Blvd.
Lenexa, KS 66219
Phone 1(913)563-1407

Subcontract To

Pace National
12065 Lebanon Rd
Mt. Juliet, TN 37122
Phone (615) 758-5858

Requested Analysis

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved						7199 CrIV	Hot Water Boron	Saturated Paste EC,SAR,pH										LAB USE ONLY
																								L1606844
1	DG 1	PS	4/13/2023 10:00	60426359001	Solid	1						X	X	X										-01
2	DG 1 4'	PS	4/13/2023 10:05	60426359002	Solid	1						X	X	X										-02
3	DG 2	PS	4/13/2023 10:15	60426359003	Solid	1						X	X	X										-03
4	DG 3	PS	4/13/2023 10:30	60426359004	Solid	1						X	X	X										-04
5	DG 4	PS	4/13/2023 10:40	60426359005	Solid	1						X	X	X										-05
6	DG 5	PS	4/13/2023 10:50	60426359006	Solid	1						X	X	X										-06
7	DG 6	PS	4/13/2023 11:00	60426359007	Solid	1						X	X	X										-07
8	DUPLICATE A	PS	4/13/2023 11:00	60426359008	Solid	1						X	X	X										-08

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]	4/18/23 1:20	[illegible]	04/19/23 0905
2				
3				

Comments

Cooler Temperature on Receipt NSLM 1.2 °C | **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 complete as is since this information is available in the owner laboratory.

Sample Receipt Checklist

COC Seal Present/Intact: ___Y___N
COC Signed/Accurate: ___Y___N
Bottles arrive intact: ___Y___N
Correct bottles used: ___Y___N
Sufficient volume sent: ___Y___N
RAD Screen <0.5 mR/hr: ___Y___N

If Applicable
VOA Zero Headspace: ___Y___N
Pres.Correct/Check: ___Y___N