

UIC – I - 5

**ANNUAL
REPORT**

2019

Annual Class I Well Report for 2019

June 1st, 2020

Agua Moss, LLC

PO Box 600

Farmington, NM 87499

Permit UICI-005

API 30-045-28653

Submitted By:

Philana Thompson

Regulatory Compliance Specialist

Merrion Oil & Gas

610 Reilly Ave

Farmington, NM 87401

505-486-1171 cell

pthompson@merrion.bz

Summary of Operations

At the request of the NMOCD and permit requirements, a Reservoir Pressure Evaluation Test (RPE) was performed on the Sunco SWD #1 Class I injection well (UICI-5-0) on 09/23/2019. Below is a summary of findings from the Reservoir Pressure Evaluation Test.

BH & MIT test conducted, both successful 9/23/2019

Appendices

Appendix A

Monthly Injection/disposal volumes
MAX and Average injection PSI

Appendix B

Quarterly Chemical Analyses Data

Appendix C

MIT
BH Test
Reservoir Pressure Evaluation

Appendix D

Charts
C-138s

Appendix E

AOR

Appendix F

Monitor Well

Appendix A

Quarterly
Injection Report

	Average Pressure (psig)	Maximum Pressure (psig)	Minimum Pressure (psig)	Average Flow (gpm)	Maxium Flow (gpm)	Minimum Flow (gpm)	Average Annular Pressure (psig)	Maximum Annular Pressure (psig)	Minimum Annular Pressure (psig)	Average Volume (bpd)	Maximum Volume (bpd)	Minimum Volume (bpd)	Volume (barrels)	Total Cumulative Volume (barrels)	
													Previous year	14957142	
Jan-2019	1925	1950	1900	22.26875	23.42083333	21.1166667	0	0	0	763.5	803	724	1527	14958669	
Feb-2019	1400	1500	1300	0	0	0	0	0	0	0	0	0	0	14958669	
Mar-2019	1680	1900	1400	14.09722222	25.75416667	6.70833333	0	0	0	483.3333333	883	230	1450	14960119	
													Previous Quarter	14960119	
Apr-2019	1566.667	1900	1400	24.99583333	24.99583333	24.9958333	0	0	0	857	857	857	857	14960976	
May-2019	1487.5	1950	1250	33.45416667	33.45416667	33.4541667	0	0	0	1147	1147	1147	1147	14962123	
Jun-2019	1412.5	1900	1250	12.19166667	12.19166667	12.1916667	0	0	0	418	418	418	418	14962541	
													Previous Quarter	14962541	
Jul-19	1433.333	1800	1250	16.39166667	16.39166667	16.3916667	0	0	0	562	562	562	562	14963103	
Aug-19	1300	1850	750	47.48333333	47.48333333	47.4833333	0	0	0	1628	1628	1628	1628	14964731	
Sep-19	1250	1250	1250	0	0	0	0	0	0	0	0	0	0	14964731	
													Previous Quarter	14964731	
Oct-2019	1953.333	2750	1250	56.63628205	103.3666667	2.31583333	0	0	0	1941.815385	3544	79.4	25243.6	14989974.6	
Nov-2019	2257.5	2300	2050	47.09541667	103.1333333	16.0416667	0	0	0	1614.7	3536	550	32294	15022268.6	
Dec-2019	2286.538	2350	2150	64.75224359	100.8	19.0458333	0	0	0	2220.076923	3456	653	28861	15051129.6	
												Total for year	93987.6	15145117.2	Life Of well injected

Re

WH	AP	
1/1/19		0
1/2/19		
1/3/19		
1/4/19		
1/5/19		
1/6/19		
1/7/19		
1/8/19	1900	
1/9/19		
1/10/19	1950	
1/11/19		
1/12/19		
1/13/19		
1/14/19		
1/15/19		
1/16/19		
1/17/19		
1/18/19		
1/19/19		
1/20/19		
1/21/19		
1/22/19		
1/23/19		
1/24/19		
1/25/19		
1/26/19		
1/27/19		
1/28/19		
1/29/19		
1/30/19		
1/31/19		
1925	0	AVG
1900	0	MIN
1950	0	MAX

WH	AP	
2/1/19		0
2/2/19		
2/3/19		
2/4/19		
2/5/19		
2/6/19		
2/7/19		
2/8/19		
2/9/19		
2/10/19		
2/11/19		
2/12/19	1500	
2/13/19		
2/14/19		
2/15/19		
2/16/19		
2/17/19		
2/18/19		
2/19/19		
2/20/19		
2/21/19	1300	
2/22/19		
2/23/19		
2/24/19		
2/25/19		
2/26/19		
2/27/19		
2/28/19		
1400	0	AVG
1300	0	MIN
1500	0	MAX

WH	AP	
3/1/19		0
3/2/19		
3/3/19		
3/4/19		
3/5/19		
3/6/19	1700	
3/7/19		
3/8/19	1500	
3/9/19		
3/10/19		
3/11/19		
3/12/19		
3/13/19	1900	
3/14/19		
3/15/19		
3/16/19		
3/17/19		
3/18/19		
3/19/19		
3/20/19	1900	
3/21/19		
3/22/19		
3/23/19		
3/24/19		
3/25/19		
3/26/19		
3/27/19	1400	
3/28/19		
3/29/19		
3/30/19		
3/31/19		
1680	0	AVG
1400	0	MIN
1900	0	MAX

WH	AP	
4/1/19		0
4/2/19		
4/3/19	1400	
4/4/19		
4/5/19		
4/6/19		
4/7/19		
4/8/19		
4/9/19		
4/10/19		
4/11/19		
4/12/19		
4/13/19		
4/14/19		
4/15/19		
4/16/19		
4/17/19	1900	
4/18/19		
4/19/19	1400	
4/20/19		
4/21/19		
4/22/19		
4/23/19		
4/24/19		
4/25/19		
4/26/19		
4/27/19		
4/28/19		
4/29/19		
4/30/19		
1566.667	0	AVG
1400	0	MIN
1900	0	MAX

WH	AP	
5/1/19		0
5/2/19		
5/3/19		
5/4/19		
5/5/19		
5/6/19		
5/7/19		
5/8/19	1950	
5/9/19		
5/10/19		
5/11/19		
5/12/19		
5/13/19		
5/14/19		
5/15/19	1500	
5/16/19		
5/17/19		
5/18/19		
5/19/19		
5/20/19		
5/21/19		
5/22/19		
5/23/19	1250	
5/24/19		
5/25/19		
5/26/19		
5/27/19		
5/28/19		
5/29/19	1250	
5/30/19		
5/31/19		
1487.5	0	AVG
1250	0	MIN
1950	0	MAX

WH	AP	
6/1/19		0
6/2/19		
6/3/19		
6/4/19		
6/5/19		
6/6/19	1250	
6/7/19		
6/8/19		
6/9/19		
6/10/19		
6/11/19		
6/12/19		
6/13/19	1250	
6/14/19		
6/15/19		
6/16/19		
6/17/19		
6/18/19		
6/19/19	1250	
6/20/19		
6/21/19		
6/22/19		
6/23/19		
6/24/19		
6/25/19		
6/26/19	1900	
6/27/19		
6/28/19		
6/29/19		
6/30/19		
1412.5	0	AVG
1250	0	MIN
1900	0	MAX

WH	AP	
7/1/19		0
7/2/19		
7/3/19		
7/4/19		
7/5/19		
7/6/19		
7/7/19		
7/8/19		
7/9/19		
7/10/19		
7/11/19		
7/12/19		
7/13/19		
7/14/19		
7/15/19		
7/16/19	1250	
7/17/19		
7/18/19		
7/19/19		
7/20/19		
7/21/19		
7/22/19		
7/23/19	1250	
7/24/19		
7/25/19		
7/26/19		
7/27/19		
7/28/19	1800	
7/29/19		
7/30/19		
7/31/19		
1433.333	0	AVG
1250	0	MIN
1800	0	MAX

WH	AP	
8/1/19		0
8/2/19		
8/3/19	1850	
8/4/19		
8/5/19		
8/6/19		
8/7/19		
8/8/19	750	
8/9/19		
8/10/19		
8/11/19		
8/12/19		
8/13/19		
8/14/19		
8/15/19		
8/16/19		
8/17/19		
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8/22/19		
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8/24/19		
8/25/19		
8/26/19		
8/27/19		
8/28/19		
8/29/19		
8/30/19		
8/31/19		
1300	0	AVG
750	0	MIN
1850	0	MAX

WH	AP	
9/1/19		0
9/2/19		
9/3/19		
9/4/19	1250	
9/5/19		
9/6/19		
9/7/19		
9/8/19		
9/9/19		
9/10/19		
9/11/19		
9/12/19		
9/13/19		
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9/15/19		
9/16/19		
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9/22/19		
9/23/19		
9/24/19		
9/25/19		
9/26/19		
9/27/19		
9/28/19		
9/29/19		
9/30/19		
1250	0	AVG
1250	0	MIN
1250	0	MAX

WH	AP	
10/1/19		0
10/2/19	1250	
10/3/19		
10/4/19		
10/5/19		
10/6/19		
10/7/19		
10/8/19		
10/9/19		
10/10/19		
10/11/19		
10/12/19		
10/13/19		
10/14/19		
10/15/19	1250	
10/16/19		
10/17/19	1650	
10/18/19	1900	
10/19/19	2000	
10/20/19	1700	
10/21/19	1700	
10/22/19	2250	
10/23/19	2250	
10/24/19	2250	
10/25/19	2150	
10/26/19		
10/27/19		
10/28/19	1650	
10/29/19	2250	
10/30/19	2750	
10/31/19	2300	
1953.333	0	AVG
1250	0	MIN
2750	0	MAX

WH	AP	
11/1/19	2250	0
11/2/19		
11/3/19		
11/4/19		
11/5/19	2250	
11/6/19	2300	
11/7/19	2200	
11/8/19	2300	
11/9/19		
11/10/19		
11/11/19	2250	
11/12/19	2300	
11/13/19	2200	
11/14/19	2300	
11/15/19	2200	
11/16/19		
11/17/19	2200	
11/18/19	2250	
11/19/19	2300	
11/20/19	2300	
11/21/19	2050	
11/22/19	2300	
11/23/19		
11/24/19		
11/25/19		
11/26/19	2300	
11/27/19	2300	
11/28/19	2300	
11/29/19	2300	
11/30/19		
2257.5	0	AVG
2050	0	MIN
2300	0	MAX

WH	AP	
12/1/19		0
12/2/19		
12/3/19		
12/4/19	2325	
12/5/19	2325	
12/6/19	2325	
12/7/19		
12/8/19		
12/9/19	2300	
12/10/19	2300	
12/11/19	2350	
12/12/19	2350	
12/13/19	2150	
12/14/19		
12/15/19		
12/16/19		
12/17/19	2200	
12/18/19		
12/19/19		
12/20/19		
12/21/19		
12/22/19	2275	
12/23/19	2325	
12/24/19	2200	
12/25/19		
12/26/19		
12/27/19		
12/28/19		
12/29/19		
12/30/19		
12/31/19		
2286.538	0	AVG
2150	0	MIN
2350	0	MAX

Appendix B

May 13, 2019

Ms. Shacie Murray
Agua Moss LLC
P.O. Box 600
Farmington, New Mexico 87499

**Re: Sunco Disposal #1
Injection Water Quality Monitoring
1st Quarter 2019**

Dear Ms. Murray:

This report summarizes the sample collection, field screening, and laboratory analysis of the injection water at the Agua Moss LLC Sunco Disposal #1 facility for the 1st Quarter 2019. Injection water of the Class I Sunco Disposal #1 well is assessed on a quarterly basis in accordance with 20.6.5207(B) NMAC.

Field Activities

Rule Engineering, LLC (Rule) personnel collected one injection water sample (S-9) from the process line inside the pump building at the location on April 9, 2019. Injection water was discharged directly from the valve of the process line into laboratory sample containers and a clean container for field screening.

Sample Collection and Field Screening Procedures

The injection water sample (S-9) was field screened for time sensitive parameters including pH, temperature, reduction potential, specific conductance, and total dissolved solids. Field screening was conducted utilizing a handheld water quality meter calibrated on the day of use with laboratory grade standards.

The sampled injection water was placed into laboratory supplied containers, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico.

Field Screening and Laboratory Analytical Results

The field screening and laboratory analytical results are summarized in the attached Table 1.

QA/QC Considerations

Field measurements for time sensitive parameters including pH, temperature, reduction potential, and specific conductance more accurately reflect the characteristics of the injection water than laboratory results for these parameters due to their rapidly changing nature when removed from the stable environment of

the process line. The hold time qualifier is indicated on the laboratory report for pH as the hold time of 15 minutes from collection was exceeded during transport prior to analysis. Similarly, the hold time was exceeded for reduction potential and corrosivity by pH.

A dilution due to matrix qualifier is indicated on the laboratory report for total dissolved solids.

Closure and Limitations

This report is prepared for the exclusive use of Agua Moss LLC and is subject to the terms, conditions, and limitations stated in Rule's report and Service Agreement with Agua Moss LLC. All work has been performed in accordance with generally accepted professional environmental consulting practices. No other warranty is expressed or implied.

Rule Engineering appreciates the opportunity to provide services to Agua Moss LLC. If you have any questions, please contact me at (505) 325-1055.

Sincerely,
Rule Engineering, LLC



Heather M. Woods, P.G.
Area Manager/Geologist

Attachments:

Table 1. Summary of Field Screening and Laboratory Analytical Results
Laboratory Analytical Reports (Hall: 1904573)

Table 1. Summary of Field Screening and Laboratory Analytical Results

Sample ID	S-9		Units	Toxicity Characteristic Concentrations
Collection Date	4/9/2019			
Analyte	Laboratory Results	Field Results		
pH	5.39 H	6.32	su	
Temperature	--	18.1	°C	
Reduction Potential	95.0 H	-228	mV	
Specific Conductance	5,500	6,381	µmhos/cm	
Specific Gravity	1.002	--		
Total Dissolved Solids	4,170 D	4,147	mg/L	
Bicarbonate (As CaCO ₃)	744.4	--	mg/L	
Carbonate (As CaCO ₃)	<2.000	--	mg/L	
Fluoride	<0.50	--	mg/L	
Chloride	1,400	--	mg/L	
Bromide	4.1	--	mg/L	
Phosphorus, Orthophosphate	<2.5	--	mg/L	
Sulfate	55	--	mg/L	
Nitrogen, Nitrate (as N)	<0.50	--	mg/L	
Nitrogen, Nitrite (as N)	<0.50	--	mg/L	
Calcium	100	--	mg/L	
Magnesium	10	--	mg/L	
Potassium	72	--	mg/L	
Sodium	910	--	mg/L	
Reactive Cyanide	<0.00500	--	mg/L	
Reactive Sulfide	0.185	--	mg/L	
Flashpoint	Did not flash at 170°F	--		
Corrosivity by pH	5.45 H	--	su	
Arsenic	<0.50	--	mg/L	5.0 mg/L
Barium	<100	--	mg/L	100.0 mg/L
Benzene	<0.50	--	mg/L	0.5 mg/L
Cadmium	<1.0	--	mg/L	1.0 mg/L
Carbon tetrachloride	<0.50	--	mg/L	0.5 mg/L
Chlordane	<0.030	--	mg/L	0.03 mg/L
Chlorobenzene	<100	--	mg/L	100.0 mg/L
Chloroform	<6.0	--	mg/L	6.0 mg/L
Chromium	<5.0	--	mg/L	5.0 mg/L
Cresols, Total	<200	--	mg/L	200 mg/L
1,4-Dichlorobenzene	<7.5	--	mg/L	7.5 mg/L
1,2-Dichloroethane	<0.50	--	mg/L	0.5 mg/L
1,1-Dichloroethene	<0.70	--	mg/L	0.7 mg/L
2,4-Dinitrotoluene	<0.13	--	mg/L	0.13 mg/L
Hexachlorobenzene	<0.13	--	mg/L	0.13 mg/L
Hexachlorobutadiene	<0.50	--	mg/L	0.5 mg/L
Hexachloroethane	<3.0	--	mg/L	3.0 mg/L
Lead	<0.50	--	mg/L	5.0 mg/L
Mercury	<0.020	--	mg/L	0.2 mg/L
Methyl ethyl ketone	<200	--	mg/L	200.0 mg/L
2-Methylphenol	<200	--	mg/L	
3+4-Methylphenol	<200	--	mg/L	
Nitrobenzene	<2.0	--	mg/L	2.0 mg/L
Pentachlorophenol	<100	--	mg/L	100.0 mg/L
Pyridine	<5.0	--	mg/L	5.0 mg/L
Selenium	<0.10	--	mg/L	1.0 mg/L
Silver	<5.0	--	mg/L	5.0 mg/L
Tetrachloroethylene	<0.70	--	mg/L	0.7 mg/L
Trichloroethylene	<0.50	--	mg/L	0.5 mg/L
2,4,5-Trichlorophenol	<400	--	mg/L	400.0 mg/L
2,4,6-Trichlorophenol	<2.0	--	mg/L	2.0 mg/L
Vinyl chloride	<0.20	--	mg/L	0.2 mg/L

Notes: su - standard units

°C - degrees Celcius

°F - degrees Fahrenheit

mV - millivolts

µmhos/cm - micromohs per centimeter

mg/L - milligrams per liter

H - Holding times for preparation or analysis exceeded

D - Sample diluted due to matrix

S - % Recovery outside of range due to dilution or matrix

1.00

Concentration exceeds the Toxicity Characteristic Concentration



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

May 07, 2019

Heather Woods
Rule Engineering LLC
501 Airport Dr., Ste 205
Farmington, NM 87401
TEL: (505) 325-1055
FAX

RE: Sunco Disposal 1

OrderNo.: 1904573

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 1 sample(s) on 4/10/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1904573

Date Reported: 5/7/2019

CLIENT: Rule Engineering LLC

Client Sample ID: S-9 (4/9/19)

Project: Sunco Disposal 1

Collection Date: 4/9/2019 3:22:00 PM

Lab ID: 1904573-001

Matrix: AQUEOUS

Received Date: 4/10/2019 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8081: PESTICIDES TCLP							Analyst: JME
Chlordane	ND	0.030		mg/L	1	4/22/2019 10:20:05 AM	44354
Surr: Decachlorobiphenyl	60.6	29.4-99.8		%Rec	1	4/22/2019 10:20:05 AM	44354
Surr: Tetrachloro-m-xylene	81.9	20.7-100		%Rec	1	4/22/2019 10:20:05 AM	44354
EPA 200.8: METALS							Analyst: pmf
Arsenic	ND	0.50		mg/L	5	4/17/2019 7:47:27 PM	44318
Lead	ND	0.50	*	mg/L	5	4/17/2019 7:47:27 PM	44318
Selenium	ND	0.10		mg/L	5	4/23/2019 5:59:04 PM	44318
EPA METHOD 8270C TCLP							Analyst: JDC
2-Methylphenol	ND	200		mg/L	1	4/16/2019 7:35:50 PM	44352
3+4-Methylphenol	ND	200		mg/L	1	4/16/2019 7:35:50 PM	44352
2,4-Dinitrotoluene	ND	0.13		mg/L	1	4/16/2019 7:35:50 PM	44352
Hexachlorobenzene	ND	0.13		mg/L	1	4/16/2019 7:35:50 PM	44352
Hexachlorobutadiene	ND	0.50		mg/L	1	4/16/2019 7:35:50 PM	44352
Hexachloroethane	ND	3.0		mg/L	1	4/16/2019 7:35:50 PM	44352
Nitrobenzene	ND	2.0		mg/L	1	4/16/2019 7:35:50 PM	44352
Pentachlorophenol	ND	100		mg/L	1	4/16/2019 7:35:50 PM	44352
Pyridine	ND	5.0		mg/L	1	4/16/2019 7:35:50 PM	44352
2,4,5-Trichlorophenol	ND	400		mg/L	1	4/16/2019 7:35:50 PM	44352
2,4,6-Trichlorophenol	ND	2.0		mg/L	1	4/16/2019 7:35:50 PM	44352
Cresols, Total	ND	200		mg/L	1	4/16/2019 7:35:50 PM	44352
Surr: 2-Fluorophenol	59.7	15-82.5		%Rec	1	4/16/2019 7:35:50 PM	44352
Surr: Phenol-d5	50.3	15-74.2		%Rec	1	4/16/2019 7:35:50 PM	44352
Surr: 2,4,6-Tribromophenol	87.9	18.6-118		%Rec	1	4/16/2019 7:35:50 PM	44352
Surr: Nitrobenzene-d5	93.7	30.4-106		%Rec	1	4/16/2019 7:35:50 PM	44352
Surr: 2-Fluorobiphenyl	69.8	15-104		%Rec	1	4/16/2019 7:35:50 PM	44352
Surr: 4-Terphenyl-d14	49.6	15-133		%Rec	1	4/16/2019 7:35:50 PM	44352
SPECIFIC GRAVITY							Analyst: JRR
Specific Gravity	1.002	0			1	4/23/2019 11:01:00 AM	R59402
EPA METHOD 300.0: ANIONS							Analyst: smb
Fluoride	ND	0.50		mg/L	5	4/10/2019 9:40:14 PM	R59038
Chloride	1400	50	*	mg/L	100	4/22/2019 8:40:12 PM	R59347
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	4/10/2019 9:40:14 PM	R59038
Bromide	4.1	0.50		mg/L	5	4/10/2019 9:40:14 PM	R59038
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	4/10/2019 9:40:14 PM	R59038
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	4/10/2019 9:40:14 PM	R59038
Sulfate	55	2.5		mg/L	5	4/10/2019 9:40:14 PM	R59038
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904573**

Date Reported: 5/7/2019

CLIENT: Rule Engineering LLC

Client Sample ID: S-9 (4/9/19)

Project: Sunco Disposal 1

Collection Date: 4/9/2019 3:22:00 PM

Lab ID: 1904573-001

Matrix: AQUEOUS

Received Date: 4/10/2019 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	5500	5.0		µmhos/c	1	4/15/2019 2:29:58 PM	R59181
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO ₃)	744.4	20.00		mg/L Ca	1	4/15/2019 2:29:58 PM	R59181
Carbonate (As CaCO ₃)	ND	2.000		mg/L Ca	1	4/15/2019 2:29:58 PM	R59181
Total Alkalinity (as CaCO ₃)	744.4	20.00		mg/L Ca	1	4/15/2019 2:29:58 PM	R59181
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	4170	200	*D	mg/L	1	4/15/2019 11:31:00 AM	44294
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	5.39		H	pH units	1	4/15/2019 2:29:58 PM	R59181
EPA METHOD 200.7: METALS							Analyst: ELS
Barium	ND	100	*	mg/L	10	4/26/2019 12:50:47 PM	44318
Cadmium	ND	1.0		mg/L	1	4/26/2019 12:42:49 PM	44318
Chromium	ND	5.0	*	mg/L	1	4/26/2019 12:42:49 PM	44318
Silver	ND	5.0		mg/L	1	4/26/2019 12:42:49 PM	44318
EPA METHOD 245.1: MERCURY							Analyst: pmf
Mercury	ND	0.020		mg/L	1	4/18/2019 8:38:18 PM	44411
EPA METHOD 6010B: DISSOLVED METALS							Analyst: rde
Calcium	100	10		mg/L	10	4/26/2019 5:03:33 PM	B59501
Magnesium	10	1.0		mg/L	1	4/26/2019 5:02:13 PM	B59501
Potassium	72	1.0		mg/L	1	4/26/2019 5:02:13 PM	B59501
Sodium	910	10		mg/L	10	4/26/2019 5:03:33 PM	B59501
TCLP VOLATILES BY 8260B							Analyst: RAA
Benzene	ND	0.50		mg/L	200	4/15/2019 6:03:00 PM	T59147
1,2-Dichloroethane (EDC)	ND	0.50		mg/L	200	4/15/2019 6:03:00 PM	T59147
2-Butanone	ND	200		mg/L	200	4/15/2019 6:03:00 PM	T59147
Carbon Tetrachloride	ND	0.50		mg/L	200	4/15/2019 6:03:00 PM	T59147
Chloroform	ND	6.0		mg/L	200	4/15/2019 6:03:00 PM	T59147
1,4-Dichlorobenzene	ND	7.5		mg/L	200	4/15/2019 6:03:00 PM	T59147
1,1-Dichloroethene	ND	0.70		mg/L	200	4/15/2019 6:03:00 PM	T59147
Tetrachloroethene (PCE)	ND	0.70		mg/L	200	4/15/2019 6:03:00 PM	T59147
Trichloroethene (TCE)	ND	0.50		mg/L	200	4/15/2019 6:03:00 PM	T59147
Vinyl chloride	ND	0.20		mg/L	200	4/15/2019 6:03:00 PM	T59147
Chlorobenzene	ND	100		mg/L	200	4/15/2019 6:03:00 PM	T59147
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	200	4/15/2019 6:03:00 PM	T59147
Surr: 4-Bromofluorobenzene	99.9	70-130		%Rec	200	4/15/2019 6:03:00 PM	T59147
Surr: Dibromofluoromethane	102	70-130		%Rec	200	4/15/2019 6:03:00 PM	T59147

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904573**

Date Reported: 5/7/2019

CLIENT: Rule Engineering LLC

Client Sample ID: S-9 (4/9/19)

Project: Sunco Disposal 1

Collection Date: 4/9/2019 3:22:00 PM

Lab ID: 1904573-001

Matrix: AQUEOUS

Received Date: 4/10/2019 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
TCLP VOLATILES BY 8260B							Analyst: RAA
Surr: Toluene-d8	93.9	70-130		%Rec	200	4/15/2019 6:03:00 PM	T59147

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

1904573-001F S-9 (4/9/19)

Collected date/time: 04/09/19 15:22

SAMPLE RESULTS - 01

L1088428

ONE LAB. NATIONWIDE.



Wet Chemistry by Method 4500 CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Reactive Cyanide	ND		0.00500	1	04/18/2019 14:54	<u>WG1267301</u>

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	su				date / time	
Corrosivity by pH	5.45	<u>T8</u>		1	04/12/2019 16:00	<u>WG1264389</u>

Sample Narrative:

L1088428-01 WG1264389: 5.45 at 18.2C

Wet Chemistry by Method 9034-9030B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Reactive Sulfide	0.185		0.0500	1	04/12/2019 18:57	<u>WG1265262</u>

Wet Chemistry by Method D93/1010A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	deg F				date / time	
Flashpoint	DNF at 170			1	04/18/2019 16:00	<u>WG1268377</u>



ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1088428

DATE/TIME:

04/18/19 17:50

1904573-001G S-9 (4/9/19)

Collected date/time: 04/09/19 15:22

SAMPLE RESULTS - 02

L1088428

ONE LAB. NATIONWIDE.



Wet Chemistry by Method 2580

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	mV			date / time	
ORP	95.0	T8	1	04/16/2019 10:40	WG1266602



ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1088428

DATE/TIME:

04/18/19 17:50

WG1266602

Wet Chemistry by Method 2580

QUALITY CONTROL SUMMARY

L1088428-02

ONE LAB. NATIONWIDE.



L1088428-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1088428-02 04/16/19 10:40 • (DUP) R3402066-2 04/16/19 10:40

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
ORP	mV 95.0	mV 94.0	1	% 1.06	%	% 20

Laboratory Control Sample (LCS)

(LCS) R3402066-1 04/16/19 10:40

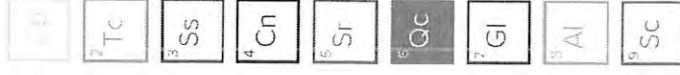
Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
ORP	mV 228	mV 228	% 100	% 95.7-104	

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1088428

DATE/TIME:
04/18/19 17:50



WG1267301

Wet Chemistry by Method 4500 CN E-2011

Method Blank (MB)

QUALITY CONTROL SUMMARY

L1088428-01

ONE LAB. NATIONWIDE.



(MB) R3403111-1 04/18/19 14:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Cyanide	0.00198	J	0.00180	0.00500

L1087446-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1087446-02 04/18/19 14:35 • (DUP) R3403111-3 04/18/19 14:36

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Reactive Cyanide	0.0143	0.0136	1	5.02		20

L1088572-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1088572-02 04/18/19 15:00 • (DUP) R3403111-6 04/18/19 15:01

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Reactive Cyanide	U	0.000	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3403111-2 04/18/19 14:31

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Reactive Cyanide	0.100	0.0976	97.6	85.0-115	

L1087630-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1087630-02 04/18/19 14:37 • (MS) R3403111-4 04/18/19 14:38 • (MSD) R3403111-5 04/18/19 14:39

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Reactive Cyanide	0.100	ND	0.0969	0.0927	1	75.0-125			4.43	20

L1088572-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1088572-03 04/18/19 15:02 • (MS) R3403111-7 04/18/19 15:03 • (MSD) R3403111-8 04/18/19 15:04

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Reactive Cyanide	0.100	0.00626	0.0828	0.0877	1	75.0-125			5.75	20

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1088428

DATE/TIME:

04/18/19 17:50

WG1264389

Wet Chemistry by Method 4500H+ B-2011

QUALITY CONTROL SUMMARY

L1088428-01

ONE LAB. NATIONWIDE.



Laboratory Control Sample (LCS)

(LCS) R3401318-1 04/12/19 16:00

Analyte	Spike Amount		LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su			%	
Corrosivity by pH	10.0	10.0	10.0	100	99.0-101	

Sample Narrative:

LCS: 10.02 at 18.3C

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1088428

DATE/TIME:
04/18/19 17:50

1	2	3	4	5	6	7	8	9
	Tc	Ss	Cn	Sr	Qc	Gl	Al	Sc

WG1265262

Wet Chemistry by Method 9034-9030B

QUALITY CONTROL SUMMARY

L1088428-01

ONE LAB, NATIONWIDE



Method Blank (MB)

(MB) R3401369-1 04/12/19 18:56

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Sulfide	U		0.00650	0.0500

Laboratory Control Sample (LCS)

(LCS) R3401369-2 04/12/19 18:56

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Reactive Sulfide	0.500	0.493	98.6	85.0-115	

1	2	3	4	5	6	7	8	9
	Tc	Ss	Cn	Sr	Qc	Gl	Al.	Sc

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1088428

DATE/TIME:
04/18/19 17:50

WG1268377

Wet Chemistry by Method D93/1010A

QUALITY CONTROL SUMMARY

L1088428-01

ONE LAB. NATIONWIDE.



L1088428-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1088428-01 04/18/19 16:00 • (DUP) R3403156-2 04/18/19 16:00

Analyte	Original Result		DUP Result		Dilution	DUP RPD		DUP Qualifier		DUP RPD Limits	
	deg F	DNF at 170	deg F	DNF at 170		%	0.000	%		%	10
Flashpoint	DNF at 170		DNF at 170		1		0.000				

Laboratory Control Sample (LCS)

(LCS) R3403156-1 04/18/19 16:00

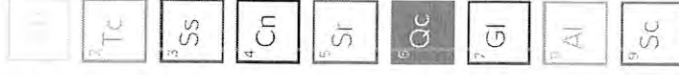
Analyte	Spike Amount		LCS Result		LCS Rec.		Rec. Limits		LCS Qualifier	
	deg F	82.0	deg F	83.4	%	102	%	96.0-104		
Flashpoint										

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1088428

DATE/TIME:
04/18/19 17:50





Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
T8	Sample(s) received past/too close to holding time expiration.

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904573

07-May-19

Client: Rule Engineering LLC

Project: Sunco Disposal 1

Sample ID: MB-44318	SampType: MBLK	TestCode: EPA Method 200.7: Metals								
Client ID: PBW	Batch ID: 44318	RunNo: 59216								
Prep Date: 4/12/2019	Analysis Date: 4/17/2019	SeqNo: 1993778	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Silver	ND	0.0050								

Sample ID: LLCS-44318	SampType: LCSLL	TestCode: EPA Method 200.7: Metals								
Client ID: BatchQC	Batch ID: 44318	RunNo: 59216								
Prep Date: 4/12/2019	Analysis Date: 4/17/2019	SeqNo: 1993779	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0020	0.0020	0.002000	0	100	50	150			
Cadmium	0.0022	0.0020	0.002000	0	111	50	150			
Chromium	ND	0.0060	0.006000	0	97.5	50	150			
Silver	ND	0.0050	0.005000	0	86.6	50	150			

Sample ID: LCS-44318	SampType: LCS	TestCode: EPA Method 200.7: Metals								
Client ID: LCSW	Batch ID: 44318	RunNo: 59216								
Prep Date: 4/12/2019	Analysis Date: 4/17/2019	SeqNo: 1993780	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	95.1	85	115			
Cadmium	0.50	0.0020	0.5000	0	101	85	115			
Chromium	0.49	0.0060	0.5000	0	98.4	85	115			
Silver	0.095	0.0050	0.1000	0	95.0	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904573

07-May-19

Client: Rule Engineering LLC

Project: Sunco Disposal 1

Sample ID: MB-44318	SampType: MBLK	TestCode: EPA 200.8: Metals
Client ID: PBW	Batch ID: 44318	RunNo: 59239
Prep Date: 4/12/2019	Analysis Date: 4/17/2019	SeqNo: 1994857 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Arsenic	ND	0.0010
Lead	ND	0.00050

Sample ID: MSLLLCS-44318	SampType: LCSLL	TestCode: EPA 200.8: Metals
Client ID: BatchQC	Batch ID: 44318	RunNo: 59239
Prep Date: 4/12/2019	Analysis Date: 4/17/2019	SeqNo: 1994859 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Arsenic	ND	0.0010 0.001000 0 97.8 50 150
Lead	ND	0.00050 0.0005000 0 90.3 50 150

Sample ID: MSLCS-44318	SampType: LCS	TestCode: EPA 200.8: Metals
Client ID: LCSW	Batch ID: 44318	RunNo: 59239
Prep Date: 4/12/2019	Analysis Date: 4/17/2019	SeqNo: 1994861 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Arsenic	0.025	0.0010 0.02500 0 98.5 85 115
Lead	0.012	0.00050 0.01250 0 94.8 85 115

Sample ID: MB-44318	SampType: MBLK	TestCode: EPA 200.8: Metals
Client ID: PBW	Batch ID: 44318	RunNo: 59385
Prep Date: 4/12/2019	Analysis Date: 4/23/2019	SeqNo: 2000621 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Selenium	ND	0.0010

Sample ID: MSLLLCS-44318	SampType: LCSLL	TestCode: EPA 200.8: Metals
Client ID: BatchQC	Batch ID: 44318	RunNo: 59385
Prep Date: 4/12/2019	Analysis Date: 4/23/2019	SeqNo: 2000622 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Selenium	ND	0.0010 0.001000 0 95.5 50 150

Sample ID: MSLCS-44318	SampType: LCS	TestCode: EPA 200.8: Metals
Client ID: LCSW	Batch ID: 44318	RunNo: 59385
Prep Date: 4/12/2019	Analysis Date: 4/23/2019	SeqNo: 2000627 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Selenium	0.025	0.0010 0.02500 0 99.8 85 115

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904573

07-May-19

Client: Rule Engineering LLC

Project: Sunco Disposal 1

Sample ID: MB-44411	SampType: MBLK	TestCode: EPA Method 245.1: Mercury
Client ID: PBW	Batch ID: 44411	RunNo: 59288
Prep Date: 4/17/2019	Analysis Date: 4/18/2019	SeqNo: 1996307 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND 0.00020	

Sample ID: LCS-44411	SampType: LCS	TestCode: EPA Method 245.1: Mercury
Client ID: LCSW	Batch ID: 44411	RunNo: 59288
Prep Date: 4/17/2019	Analysis Date: 4/18/2019	SeqNo: 1996308 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0049 0.00020 0.005000 0 97.4 80 120	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904573

07-May-19

Client: Rule Engineering LLC

Project: Sunco Disposal 1

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R59038	RunNo: 59038								
Prep Date:	Analysis Date: 4/10/2019	SeqNo: 1988170 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R59038	RunNo: 59038								
Prep Date:	Analysis Date: 4/10/2019	SeqNo: 1988171 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	103	90	110			
Nitrogen, Nitrite (As N)	0.98	0.10	1.000	0	97.9	90	110			
Bromide	2.4	0.10	2.500	0	95.3	90	110			
Nitrogen, Nitrate (As N)	2.6	0.10	2.500	0	104	90	110			
Phosphorus, Orthophosphate (As P)	4.8	0.50	5.000	0	96.7	90	110			
Sulfate	10	0.50	10.00	0	99.5	90	110			

Sample ID: LCSd	SampType: LCSD	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS02	Batch ID: R59038	RunNo: 59038								
Prep Date:	Analysis Date: 4/10/2019	SeqNo: 1988172 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.53	0.10	0.5000	0	105	90	110	1.85	20	
Nitrogen, Nitrite (As N)	0.99	0.10	1.000	0	99.3	90	110	1.41	20	
Bromide	2.4	0.10	2.500	0	95.9	90	110	0.595	20	
Nitrogen, Nitrate (As N)	2.6	0.10	2.500	0	105	90	110	0.704	20	
Phosphorus, Orthophosphate (As P)	4.9	0.50	5.000	0	97.6	90	110	0.937	20	
Sulfate	10	0.50	10.00	0	100	90	110	0.641	20	

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R59347	RunNo: 59347								
Prep Date:	Analysis Date: 4/22/2019	SeqNo: 1998585 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904573

07-May-19

Client: Rule Engineering LLC

Project: Sunco Disposal 1

Sample ID: LCS		SampType: lcs		TestCode: EPA Method 300.0: Anions						
Client ID: LCSW		Batch ID: R59347		RunNo: 59347						
Prep Date:		Analysis Date: 4/22/2019		SeqNo: 1998586		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	94.8	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904573

07-May-19

Client: Rule Engineering LLC

Project: Sunco Disposal 1

Sample ID: MB-44354	SampType: MBLK	TestCode: EPA Method 8081: Pesticides TCLP
Client ID: PBW	Batch ID: 44354	RunNo: 59324
Prep Date: 4/16/2019	Analysis Date: 4/22/2019	SeqNo: 1998010 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chlordane	ND	0.030
Surr: Decachlorobiphenyl	0.0020	0.002500 79.3 29.4 99.8
Surr: Tetrachloro-m-xylene	0.0017	0.002500 67.2 20.7 100

Sample ID: LCS-44354	SampType: LCS	TestCode: EPA Method 8081: Pesticides TCLP
Client ID: LCSW	Batch ID: 44354	RunNo: 59324
Prep Date: 4/16/2019	Analysis Date: 4/22/2019	SeqNo: 1998011 Units: %Rec
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: Decachlorobiphenyl	0.0017	0.002500 66.0 29.4 99.8
Surr: Tetrachloro-m-xylene	0.0013	0.002500 50.9 20.7 100

Sample ID: 1904573-001BMS	SampType: MS	TestCode: EPA Method 8081: Pesticides TCLP
Client ID: S-9 (4/9/19)	Batch ID: 44354	RunNo: 59324
Prep Date: 4/16/2019	Analysis Date: 4/22/2019	SeqNo: 1998013 Units: %Rec
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: Decachlorobiphenyl	0.0016	0.002500 62.2 29.4 99.8
Surr: Tetrachloro-m-xylene	0.0016	0.002500 64.0 20.7 100

Sample ID: 1904573-001BMSD	SampType: MSD	TestCode: EPA Method 8081: Pesticides TCLP
Client ID: S-9 (4/9/19)	Batch ID: 44354	RunNo: 59324
Prep Date: 4/16/2019	Analysis Date: 4/22/2019	SeqNo: 1998014 Units: %Rec
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: Decachlorobiphenyl	0.0016	0.002500 64.9 29.4 99.8 0 0
Surr: Tetrachloro-m-xylene	0.0014	0.002500 56.4 20.7 100 0 0

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904573

07-May-19

Client: Rule Engineering LLC

Project: Sunco Disposal 1

Sample ID: 100ng lcs		SampType: LCS			TestCode: TCLP Volatiles by 8260B					
Client ID: LCSW		Batch ID: T59147			RunNo: 59147					
Prep Date:		Analysis Date: 4/15/2019			SeqNo: 1992083		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.021	0.010	0.02000	0	105	70	130			
1,1-Dichloroethene	0.020	0.010	0.02000	0	100	70	130			
Trichloroethene (TCE)	0.020	0.010	0.02000	0	99.5	70	130			
Chlorobenzene	0.021	0.010	0.02000	0	106	70	130			
Surr: 1,2-Dichloroethane-d4	0.0097		0.01000		97.1	70	130			
Surr: 4-Bromofluorobenzene	0.0099		0.01000		99.2	70	130			
Surr: Dibromofluoromethane	0.0098		0.01000		97.9	70	130			
Surr: Toluene-d8	0.0093		0.01000		92.7	70	130			

Sample ID: rb1		SampType: MBLK		TestCode: TCLP Volatiles by 8260B						
Client ID: PBW		Batch ID: T59147		RunNo: 59147						
Prep Date:		Analysis Date: 4/15/2019		SeqNo: 1992084			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.50								
1,2-Dichloroethane (EDC)	ND	0.50								
2-Butanone	ND	200								
Carbon Tetrachloride	ND	0.50								
Chloroform	ND	6.0								
1,4-Dichlorobenzene	ND	7.5								
1,1-Dichloroethene	ND	0.70								
Tetrachloroethene (PCE)	ND	0.70								
Trichloroethene (TCE)	ND	0.50								
Vinyl chloride	ND	0.20								
Chlorobenzene	ND	100								
Surr: 1,2-Dichloroethane-d4	0.0098		0.01000		98.5	70	130			
Surr: 4-Bromofluorobenzene	0.0097		0.01000		96.8	70	130			
Surr: Dibromofluoromethane	0.0098		0.01000		97.8	70	130			
Surr: Toluene-d8	0.0093		0.01000		92.8	70	130			

Sample ID: 1904573-001ams	SampType: MS			TestCode: TCLP Volatiles by 8260B						
Client ID: S-9 (4/9/19)	Batch ID: T59147			RunNo: 59147						
Prep Date:	Analysis Date: 4/15/2019			SeqNo: 1992087			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.9	0.00017	4.000	0.4816	109	70	130			
1,1-Dichloroethene	4.2	0.00021	4.000	0	106	67.6	130			
Trichloroethene (TCE)	4.2	0.00017	4.000	0	104	70	130			
Chlorobenzene	4.1	0.00019	4.000	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	2.1		2.000		104	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904573

07-May-19

Client: Rule Engineering LLC

Project: Sunco Disposal 1

Sample ID: 1904573-001ams		SampType: MS		TestCode: TCLP Volatiles by 8260B						
Client ID: S-9 (4/9/19)		Batch ID: T59147		RunNo: 59147						
Prep Date:		Analysis Date: 4/15/2019		SeqNo: 1992087		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	2.0		2.000		100	70	130			
Surr: Dibromofluoromethane	2.0		2.000		101	70	130			
Surr: Toluene-d8	1.9		2.000		94.0	70	130			

Sample ID: 1904573-001amsd	SampType: MSD		TestCode: TCLP Volatiles by 8260B							
Client ID: S-9 (4/9/19)	Batch ID: T59147		RunNo: 59147							
Prep Date:	Analysis Date: 4/15/2019		SeqNo: 1992088		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.6	0.00017	4.000	0.4816	104	70	130	4.71	20	
1,1-Dichloroethene	4.0	0.00021	4.000	0	98.8	67.6	130	7.27	20	
Trichloroethene (TCE)	4.0	0.00017	4.000	0	99.1	70	130	4.93	20	
Chlorobenzene	3.9	0.00019	4.000	0	98.0	70	130	4.22	20	
Surr: 1,2-Dichloroethane-d4	2.0		2.000		100	70	130	0	0	
Surr: 4-Bromofluorobenzene	2.0		2.000		100	70	130	0	0	
Surr: Dibromofluoromethane	2.0		2.000		102	70	130	0	0	
Surr: Toluene-d8	1.9		2.000		93.5	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904573

07-May-19

Client: Rule Engineering LLC

Project: Sunco Disposal 1

Sample ID: 1904573-001bms	SampType: MS			TestCode: EPA Method 8270C TCLP						
Client ID: S-9 (4/9/19)	Batch ID: 44352			RunNo: 59191						
Prep Date: 4/16/2019	Analysis Date: 4/16/2019			SeqNo: 1993152			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylphenol	0.078	0.010	0.1000	0	77.9	23.9	129			
3+4-Methylphenol	0.19	0.010	0.2000	0.03030	78.1	15	167			
2,4-Dinitrotoluene	0.071	0.010	0.1000	0	70.5	15	147			
Hexachlorobenzene	0.075	0.010	0.1000	0	75.2	41.4	136			
Hexachlorobutadiene	0.040	0.010	0.1000	0	40.1	16.2	134			
Hexachloroethane	0.036	0.010	0.1000	0	36.2	20.6	124			
Nitrobenzene	0.076	0.010	0.1000	0	76.4	39.5	134			
Pentachlorophenol	0.066	0.010	0.1000	0	66.0	15	137			
Pyridine	0.034	0.010	0.1000	0	33.8	15	129			
2,4,5-Trichlorophenol	0.076	0.010	0.1000	0	75.9	15	158			
2,4,6-Trichlorophenol	0.082	0.010	0.1000	0	81.7	15	153			
Cresols, Total	0.27	0.010	0.3000	0.03030	81.1	10.6	179			
Surr: 2-Fluorophenol	0.11		0.2000		53.8	15	82.5			
Surr: Phenol-d5	0.098		0.2000		48.8	15	74.2			
Surr: 2,4,6-Tribromophenol	0.15		0.2000		76.1	18.6	118			
Surr: Nitrobenzene-d5	0.077		0.1000		77.2	30.4	106			
Surr: 2-Fluorobiphenyl	0.056		0.1000		55.5	15	104			
Surr: 4-Terphenyl-d14	0.049		0.1000		49.1	15	133			

Sample ID: 1904573-001Bmsd	SampType: MSD			TestCode: EPA Method 8270C TCLP						
Client ID: S-9 (4/9/19)	Batch ID: 44352			RunNo: 59211						
Prep Date: 4/16/2019	Analysis Date: 4/17/2019			SeqNo: 1994250			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylphenol	0.061	0.010	0.1000	0	61.3	23.9	129	23.9	20	R
3+4-Methylphenol	0.14	0.010	0.2000	0.03030	56.5	15	167	26.1	20	R
2,4-Dinitrotoluene	0.061	0.010	0.1000	0	61.0	15	147	14.5	23.2	
Hexachlorobenzene	0.069	0.010	0.1000	0	69.2	41.4	136	8.23	20	
Hexachlorobutadiene	0.036	0.010	0.1000	0	36.2	16.2	134	10.4	20	
Hexachloroethane	0.032	0.010	0.1000	0	31.7	20.6	124	13.4	31.3	
Nitrobenzene	0.068	0.010	0.1000	0	67.8	39.5	134	12.0	26.6	
Pentachlorophenol	0.055	0.010	0.1000	0	55.0	15	137	18.2	27.9	
Pyridine	0.050	0.010	0.1000	0	50.0	15	129	38.6	47.4	
2,4,5-Trichlorophenol	0.059	0.010	0.1000	0	58.6	15	158	25.7	36.9	
2,4,6-Trichlorophenol	0.061	0.010	0.1000	0	61.2	15	153	28.7	37.2	
Cresols, Total	0.21	0.010	0.3000	0.03030	60.7	10.6	179	25.2	27.4	
Surr: 2-Fluorophenol	0.083		0.2000		41.3	15	82.5	0	0	
Surr: Phenol-d5	0.077		0.2000		38.5	15	74.2	0	0	
Surr: 2,4,6-Tribromophenol	0.14		0.2000		69.1	18.6	118	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904573

07-May-19

Client: Rule Engineering LLC

Project: Sunco Disposal 1

Sample ID: 1904573-001Bmsd		SampType: MSD		TestCode: EPA Method 8270C TCLP						
Client ID:	S-9 (4/9/19)	Batch ID: 44352		RunNo: 59211						
Prep Date:	4/16/2019	Analysis Date: 4/17/2019		SeqNo: 1994250		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Nitrobenzene-d5	0.069		0.1000		69.3	30.4	106	0	0	
Surr: 2-Fluorobiphenyl	0.047		0.1000		46.7	15	104	0	0	
Surr: 4-Terphenyl-d14	0.043		0.1000		42.6	15	133	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904573

07-May-19

Client: Rule Engineering LLC

Project: Sunco Disposal 1

Sample ID: lcs-1 99.0uS eC	SampType: LCS		TestCode: SM2510B: Specific Conductance							
Client ID: LCSW	Batch ID: R59181		RunNo: 59181							
Prep Date:	Analysis Date: 4/15/2019		SeqNo: 1992495		Units: µmhos/cm					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	99	5.0	99.00	0	100	85	115			

Sample ID: lcsd-1 99.0uS eC	SampType: LCSD		TestCode: SM2510B: Specific Conductance							
Client ID: LCSS02	Batch ID: R59181		RunNo: 59181							
Prep Date:	Analysis Date: 4/15/2019		SeqNo: 1992496		Units: µmhos/cm					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	99	5.0	99.00	0	100	85	115	0.101	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904573

07-May-19

Client: Rule Engineering LLC

Project: Sunco Disposal 1

Sample ID: MB-B	SampType: MBLK	TestCode: EPA Method 6010B: Dissolved Metals								
Client ID: PBW	Batch ID: B59501	RunNo: 59501								
Prep Date:	Analysis Date: 4/26/2019	SeqNo: 2004695	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID: LCS-B	SampType: LCS	TestCode: EPA Method 6010B: Dissolved Metals								
Client ID: LCSW	Batch ID: B59501	RunNo: 59501								
Prep Date:	Analysis Date: 4/26/2019	SeqNo: 2004696	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	46	1.0	50.00	0	91.8	80	120			
Magnesium	46	1.0	50.00	0	92.9	80	120			
Potassium	47	1.0	50.00	0	93.4	80	120			
Sodium	47	1.0	50.00	0	94.8	80	120			

Sample ID: LCSD-B	SampType: LCSD	TestCode: EPA Method 6010B: Dissolved Metals								
Client ID: LCSS02	Batch ID: B59501	RunNo: 59501								
Prep Date:	Analysis Date: 4/26/2019	SeqNo: 2004697	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	45	1.0	50.00	0	89.7	80	120	11.3	20	
Magnesium	45	1.0	50.00	0	90.5	80	120	10.5	20	
Potassium	46	1.0	50.00	0	91.0	80	120	8.73	20	
Sodium	46	1.0	50.00	0	92.1	80	120	8.91	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904573

07-May-19

Client: Rule Engineering LLC

Project: Sunco Disposal 1

Sample ID: mb-1 alk	SampType: MBLK	TestCode: SM2320B: Alkalinity
Client ID: PBW	Batch ID: R59181	RunNo: 59181
Prep Date:	Analysis Date: 4/15/2019	SeqNo: 1992526 Units: mg/L CaCO3
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Alkalinity (as CaCO3)	ND	20.00

Sample ID: lcs-1 alk	SampType: LCS	TestCode: SM2320B: Alkalinity
Client ID: LCSW	Batch ID: R59181	RunNo: 59181
Prep Date:	Analysis Date: 4/15/2019	SeqNo: 1992527 Units: mg/L CaCO3
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Alkalinity (as CaCO3)	79.84	20.00 80.00 0 99.8 90 110

Sample ID: lcsd-1 alk	SampType: LCSD	TestCode: SM2320B: Alkalinity
Client ID: LCSS02	Batch ID: R59181	RunNo: 59181
Prep Date:	Analysis Date: 4/15/2019	SeqNo: 1992528 Units: mg/L CaCO3
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Alkalinity (as CaCO3)	77.16	20.00 80.00 0 96.4 90 110 3.41 20

Sample ID: mb-2 alk	SampType: MBLK	TestCode: SM2320B: Alkalinity
Client ID: PBW	Batch ID: R59181	RunNo: 59181
Prep Date:	Analysis Date: 4/15/2019	SeqNo: 1992550 Units: mg/L CaCO3
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Alkalinity (as CaCO3)	ND	20.00

Sample ID: lcs-2 alk	SampType: LCS	TestCode: SM2320B: Alkalinity
Client ID: LCSW	Batch ID: R59181	RunNo: 59181
Prep Date:	Analysis Date: 4/15/2019	SeqNo: 1992551 Units: mg/L CaCO3
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Alkalinity (as CaCO3)	77.60	20.00 80.00 0 97.0 90 110

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904573

07-May-19

Client: Rule Engineering LLC

Project: Sunco Disposal 1

Sample ID: MB-44294	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: PBW	Batch ID: 44294	RunNo: 59143								
Prep Date: 4/11/2019	Analysis Date: 4/15/2019	SeqNo: 1990973	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: LCS-44294	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: LCSW	Batch ID: 44294	RunNo: 59143								
Prep Date: 4/11/2019	Analysis Date: 4/15/2019	SeqNo: 1990974	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1040	20.0	1000	0	104	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Sample Log-In Check List

Client Name: **RULE ENGINEERING LL**

Work Order Number: **1904573**

RcptNo: 1

Received By: **Erin Melendrez**

4/10/2019 8:10:00 AM

UAG

Completed By: **Erin Melendrez**

4/10/2019 12:01:50 PM

UAG

Reviewed By: **YG u/10/19**

LB: TWM 4-10-19

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☒ No ☒ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH:

(3) (<2 or >12 unless noted)

Adjusted? W

Checked by: TWM 4-10-19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks: Added 1.0ml HNO₃ to 001E to achieve desired pH.

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.6	Good	Yes			
2	4.8	Good	Yes			
3	2.2	Good	Yes			

Characteristic of toxicity using the Toxicity Characteristic Leaching Procedure, EPA SW-846
Test Method 1311 (see Table 1, 40 CFR 261.24(b)).

QUARTERLY MONITORING LIST			
EPA HW No.	Contaminant	SW-846 Methods	Regulatory Level (mg/L)
D004	Arsenic	1311	5.0
D005	Barium	1311	100.0
D018	Benzene	8021B	0.5
D006	Cadmium	1311	1.0
D019	Carbon tetrachloride	8021B 8260B	0.5
D020	Chlordane	8081A	0.03
D021	Chlorobenzene	8021B 8260B	100.0
D022	Chloroform	8021B 8260B	6.0
D007	Chromium	1311	5.0
D023	o-Cresol	8270D	200.0
D024	m-Cresol	8270D	200.0
D025	p-Cresol	8270D	200.0
D026	Cresol	8270D	200.0
D027	1,4-Dichlorobenzene	8021B 8121 8260B 8270D	7.5
D028	1,2-Dichloroethane	8021B 8260B	0.5
D029	1,1-Dichloroethylene	8021B 8260B	0.7
D030	2,4-Dinitrotoluene	8091 8270D	0.13
D032	Hexachlorobenzene	8121	0.13
D033	Hexachlorobutadiene	8021B 8121 8260B	0.5
D034	Hexachloroethane	8121	3.0
D008	Lead	1311	5.0
D009	Mercury	7470A 7471B	0.2
D035	Methyl ethyl ketone	8015B 8260B	200.0

D036	Nitrobenzene	8091 8270D	2.0
D037	Pentachlorophenol	8041	100.0
D038	Pyridine	8260B 8270D	5.0
D010	Selenium	1311	1.0
D011	Silver	1311	5.0
D039	Tetrachloroethylene	8260B	0.7
D040	Trichloroethylene	8021B 8260B	0.5
D041	2,4,5-Trichlorophenol	8270D	400.0
D042	2,4,6-Trichlorophenol	8041A 8270D	2.0
D043	Vinyl chloride	8021B 8260B	0.2

*If o-, m-, and p-cresol concentrations cannot be differentiated, then the total cresol (D026) concentration is used.
The regulatory level of total cresol is 200 mg/L.
If the quantitation limit is greater than the regulatory level, then the quantitation limit becomes the regulatory level.
If metals (dissolved), the EPA 1311 TCLP Laboratory Method is required with the exception of Mercury (total).*

ADDITIONALLY:

RCI, specific conductance, specific gravity, ORP, and general water quality parameters (general chemistry/cations and anions, including: fluoride, calcium, potassium, magnesium, sodium bicarbonate, carbonate, chloride, sulfate, total dissolved solids, cation/anion balance, pH, and bromide) using the methods specified at 40 CFR 136.3.

July 3, 2019

Ms. Shacie Murray
Agua Moss LLC
P.O. Box 600
Farmington, New Mexico 87499

**Re: Sunco Disposal #1
Injection Water Quality Monitoring
2nd Quarter 2019**

Dear Ms. Murray:

This report summarizes the sample collection, field screening, and laboratory analysis of the injection water at the Agua Moss LLC Sunco Disposal #1 facility for the 2nd Quarter 2019. Injection water of the Class I Sunco Disposal #1 well is assessed on a quarterly basis in accordance with 20.6.5207(B) NMAC.

Field Activities

Rule Engineering, LLC (Rule) personnel collected one injection water sample (S-10) from the process line inside the pump building at the location on June 5, 2019. Injection water was discharged directly from the valve of the process line into laboratory sample containers and a clean container for field screening.

Sample Collection and Field Screening Procedures

The injection water sample (S-10) was field screened for time sensitive parameters including pH, temperature, reduction potential, specific conductance, and total dissolved solids. Field screening was conducted utilizing a handheld water quality meter calibrated on the day of use with laboratory grade standards.

The sampled injection water was placed into laboratory supplied containers, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico.

Field Screening and Laboratory Analytical Results

The field screening and laboratory analytical results are summarized in the attached Table 1.

QA/QC Considerations

Field measurements for time sensitive parameters including pH, temperature, reduction potential, and specific conductance more accurately reflect the characteristics of the injection water than laboratory results for these parameters due to their rapidly changing nature when removed from the stable environment of

the process line. The hold time qualifier is indicated on the laboratory report for pH as the hold time of 15 minutes from collection was exceeded during transport prior to analysis. Similarly, the hold time was exceeded for reduction potential and corrosivity by pH.

A dilution due to matrix qualifier is indicated on the laboratory report for total dissolved solids.

Closure and Limitations

This report is prepared for the exclusive use of Agua Moss LLC and is subject to the terms, conditions, and limitations stated in Rule's report and Service Agreement with Agua Moss LLC. All work has been performed in accordance with generally accepted professional environmental consulting practices. No other warranty is expressed or implied.

Rule Engineering appreciates the opportunity to provide services to Agua Moss LLC. If you have any questions, please contact me at (505) 325-1055.

Sincerely,
Rule Engineering, LLC



Heather M. Woods, P.G.
Area Manager/Geologist

Attachments:

Table 1. Summary of Field Screening and Laboratory Analytical Results
Laboratory Analytical Reports (Hall: 1906280)

Table 1. Summary of Field Screening and Laboratory Analytical Results

Sample ID	S-10		Units	Toxicity Characteristic Concentrations
Collection Date	6/5/2019			
Analyte	Laboratory Results	Field Results		
pH	6.05 H	6.44	su	
Temperature	--	18.0	°C	
Reduction Potential	-26.0 H	-195	mV	
Specific Conductance	8,400	6,381	µmhos/cm	
Specific Gravity	1.005	--		
Total Dissolved Solids	8,260 D	6,880	mg/L	
Bicarbonate (As CaCO ₃)	1,453	--	mg/L	
Carbonate (As CaCO ₃)	<5.000	--	mg/L	
Flouride	<5.0	--	mg/L	
Chloride	860	--	mg/L	
Bromide	1.6	--	mg/L	
Phosphorus, Orthophosphate	<2.5	--	mg/L	
Sulfate	2,100	--	mg/L	
Nitrogen, Nitrate (as N)	<0.50	--	mg/L	
Nitrogen, Nitrite (as N)	<0.50	--	mg/L	
Calcium	560	--	mg/L	
Magnesium	9.7	--	mg/L	
Potassium	68	--	mg/L	
Sodium	1,600	--	mg/L	
Reactive Cyanide	0.0114	--	mg/L	
Reactive Sulfide	0.506	--	mg/L	
Flashpoint	Did not flash at 170°F	--		
Corrosivity by pH	5.88 H	--	su	
Arsenic	<0.10	--	mg/L	5.0 mg/L
Barium	0.15	--	mg/L	100.0 mg/L
Benzene	0.290	--	mg/L	0.5 mg/L
Cadmium	<0.010	--	mg/L	1.0 mg/L
Carbon tetrachloride	<0.020	--	mg/L	0.5 mg/L
Chlordane	<0.030	--	mg/L	0.03 mg/L
Chlorobenzene	<0.020	--	mg/L	100.0 mg/L
Chloroform	<0.020	--	mg/L	6.0 mg/L
Chromium	<0.030	--	mg/L	5.0 mg/L
Cresols, Total	<200	--	mg/L	200 mg/L
1,4-Dichlorobenzene	<0.020	--	mg/L	7.5 mg/L
1,2-Dichloroethane	<0.020	--	mg/L	0.5 mg/L
1,1-Dichloroethene	<0.020	--	mg/L	0.7 mg/L
2,4-Dinitroltoluene	<0.13	--	mg/L	0.13 mg/L
Hexachlorobenzene	<0.13	--	mg/L	0.13 mg/L
Hexachlorobutadiene	<0.50	--	mg/L	0.5 mg/L
Hexachloroethane	<3.0	--	mg/L	3.0 mg/L
Lead	<0.025	--	mg/L	5.0 mg/L
Mercury	<0.00020	--	mg/L	0.2 mg/L
Methyl ethyl ketone	3.100	--	mg/L	200.0 mg/L
Nitrobenzene	<2.0	--	mg/L	2.0 mg/L
Pentachlorophenol	<100	--	mg/L	100.0 mg/L
Pyridine	<5.0	--	mg/L	5.0 mg/L
Selenium	<0.25	--	mg/L	1.0 mg/L
Silver	<0.025	--	mg/L	5.0 mg/L
Tetrachloroethylene	<0.020	--	mg/L	0.7 mg/L
Trichloroethylene	<0.020	--	mg/L	0.5 mg/L
2,4,5-Trichlorophenol	<400	--	mg/L	400.0 mg/L
2,4,6-Trichlorophenol	<2.0	--	mg/L	2.0 mg/L
Vinyl chloride	<0.020	--	mg/L	0.2 mg/L

Notes: su - standard units
 °C - degrees Celcius
 °F - degrees Farenheit
 mV - millivolts
 µmhos/cm - micromohs per centimeter
 mg/L - milligrams per liter
 H - Holding times for preparation or analysis exceeded
 D - Sample diluted due to matrix
 S - % Recovery outside of range due to dilution or matix

1.00

Concentration exceeds the Toxicity Characteristic Conce



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 03, 2019

Heather Woods
Rule Engineering LLC
501 Airport Dr., Ste 205
Farmington, NM 87401
TEL: (505) 325-1055
FAX

RE: Agua Moss Sunco Disposal 1

OrderNo.: 1906280

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/6/2019 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued June 20, 2019.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906280

Date Reported: 7/3/2019

CLIENT: Rule Engineering LLC

Client Sample ID: S-10 (6/5/19)

Project: Agua Moss Sunco Disposal 1

Collection Date: 6/5/2019 10:13:00 AM

Lab ID: 1906280-001

Matrix: AQUEOUS

Received Date: 6/6/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8081: PESTICIDES TCLP							Analyst: JME
Chlordane	ND	0.030		mg/L	1	6/13/2019 2:10:16 PM	45511
Surr: Decachlorobiphenyl	55.7	29.4-99.8		%Rec	1	6/13/2019 2:10:16 PM	45511
Surr: Tetrachloro-m-xylene	55.7	20.7-100		%Rec	1	6/13/2019 2:10:16 PM	45511
EPA METHOD 8270C TCLP							Analyst: DAM
2-Methylphenol	ND	200		mg/L	1	6/13/2019 3:21:55 PM	45549
3+4-Methylphenol	ND	200		mg/L	1	6/13/2019 3:21:55 PM	45549
2,4-Dinitrotoluene	ND	0.13		mg/L	1	6/13/2019 3:21:55 PM	45549
Hexachlorobenzene	ND	0.13		mg/L	1	6/13/2019 3:21:55 PM	45549
Hexachlorobutadiene	ND	0.50		mg/L	1	6/13/2019 3:21:55 PM	45549
Hexachloroethane	ND	3.0		mg/L	1	6/13/2019 3:21:55 PM	45549
Nitrobenzene	ND	2.0		mg/L	1	6/13/2019 3:21:55 PM	45549
Pentachlorophenol	ND	100		mg/L	1	6/13/2019 3:21:55 PM	45549
Pyridine	ND	5.0		mg/L	1	6/13/2019 3:21:55 PM	45549
2,4,5-Trichlorophenol	ND	400		mg/L	1	6/13/2019 3:21:55 PM	45549
2,4,6-Trichlorophenol	ND	2.0		mg/L	1	6/13/2019 3:21:55 PM	45549
Cresols, Total	ND	200		mg/L	1	6/13/2019 3:21:55 PM	45549
Surr: 2-Fluorophenol	54.2	15-82.5		%Rec	1	6/13/2019 3:21:55 PM	45549
Surr: Phenol-d5	44.3	15-74.2		%Rec	1	6/13/2019 3:21:55 PM	45549
Surr: 2,4,6-Tribromophenol	79.5	18.6-118		%Rec	1	6/13/2019 3:21:55 PM	45549
Surr: Nitrobenzene-d5	85.8	30.4-106		%Rec	1	6/13/2019 3:21:55 PM	45549
Surr: 2-Fluorobiphenyl	66.8	15-104		%Rec	1	6/13/2019 3:21:55 PM	45549
Surr: 4-Terphenyl-d14	80.5	15-133		%Rec	1	6/13/2019 3:21:55 PM	45549
SPECIFIC GRAVITY							Analyst: JRR
Specific Gravity	1.005	0			1	7/2/2019 10:32:00 AM	R61110
EPA METHOD 300.0: ANIONS							Analyst: smb
Fluoride	ND	5.0		mg/L	50	6/18/2019 6:04:24 PM	R60755
Chloride	860	25		mg/L	50	6/18/2019 6:04:24 PM	R60755
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	6/7/2019 6:09:43 AM	A60477
Bromide	1.6	0.50		mg/L	5	6/7/2019 6:09:43 AM	A60477
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	6/7/2019 6:09:43 AM	A60477
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	6/7/2019 6:09:43 AM	A60477
Sulfate	2100	25		mg/L	50	6/18/2019 6:04:24 PM	R60755
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	8400	5.0		µmhos/c	1	6/10/2019 11:37:09 AM	R60535
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	1453	50.00		mg/L Ca	2.5	6/10/2019 5:50:01 PM	R60535
Carbonate (As CaCO3)	ND	5.000		mg/L Ca	2.5	6/10/2019 5:50:01 PM	R60535

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1906280**

Date Reported: 7/3/2019

CLIENT: Rule Engineering LLC

Client Sample ID: S-10 (6/5/19)

Project: Agua Moss Sunco Disposal 1

Collection Date: 6/5/2019 10:13:00 AM

Lab ID: 1906280-001

Matrix: AQUEOUS

Received Date: 6/6/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SM2320B: ALKALINITY							Analyst: JRR
Total Alkalinity (as CaCO3)	1453	50.00		mg/L Ca	2.5	6/10/2019 5:50:01 PM	R60535
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	8260	200	*D	mg/L	1	6/12/2019 7:28:00 PM	45517
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	6.05		H	pH units	1	6/10/2019 11:37:09 AM	R60535
EPA METHOD 7470: MERCURY							Analyst: rde
Mercury	ND	0.00020		mg/L	1	6/13/2019 4:30:32 PM	45565
EPA METHOD 6010B: DISSOLVED METALS							Analyst: ELS
Calcium	560	20		mg/L	20	6/12/2019 9:38:45 AM	A60581
Magnesium	9.7	5.0		mg/L	5	6/12/2019 9:37:00 AM	A60581
Potassium	68	5.0		mg/L	5	6/12/2019 9:37:00 AM	A60581
Sodium	1600	20		mg/L	20	6/12/2019 9:38:45 AM	A60581
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: ELS
Arsenic	ND	0.10		mg/L	5	6/14/2019 9:54:17 AM	45452
Barium	0.15	0.10		mg/L	5	6/12/2019 11:03:47 AM	45452
Cadmium	ND	0.010		mg/L	5	6/12/2019 11:03:47 AM	45452
Chromium	ND	0.030		mg/L	5	6/12/2019 11:03:47 AM	45452
Lead	ND	0.025		mg/L	5	6/12/2019 11:03:47 AM	45452
Selenium	ND	0.25		mg/L	5	6/12/2019 11:03:47 AM	45452
Silver	ND	0.025		mg/L	5	6/12/2019 11:03:47 AM	45452
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	290	20		µg/L	20	6/11/2019 10:17:00 PM	R60588
1,2-Dichloroethane (EDC)	ND	20		µg/L	20	6/11/2019 10:17:00 PM	R60588
2-Butanone	3100	200		µg/L	20	6/11/2019 10:17:00 PM	R60588
Carbon Tetrachloride	ND	20		µg/L	20	6/11/2019 10:17:00 PM	R60588
Chlorobenzene	ND	20		µg/L	20	6/11/2019 10:17:00 PM	R60588
Chloroform	ND	20		µg/L	20	6/11/2019 10:17:00 PM	R60588
1,4-Dichlorobenzene	ND	20		µg/L	20	6/11/2019 10:17:00 PM	R60588
1,1-Dichloroethene	ND	20		µg/L	20	6/11/2019 10:17:00 PM	R60588
Hexachlorobutadiene	ND	20		µg/L	20	6/11/2019 10:17:00 PM	R60588
Tetrachloroethene (PCE)	ND	20		µg/L	20	6/11/2019 10:17:00 PM	R60588
Trichloroethene (TCE)	ND	20		µg/L	20	6/11/2019 10:17:00 PM	R60588
Vinyl chloride	ND	20		µg/L	20	6/11/2019 10:17:00 PM	R60588
Surr: 1,2-Dichloroethane-d4	121	70-130		%Rec	20	6/11/2019 10:17:00 PM	R60588
Surr: 4-Bromofluorobenzene	99.3	70-130		%Rec	20	6/11/2019 10:17:00 PM	R60588
Surr: Dibromofluoromethane	110	70-130		%Rec	20	6/11/2019 10:17:00 PM	R60588

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1906280**

Date Reported: 7/3/2019

CLIENT: Rule Engineering LLC

Client Sample ID: S-10 (6/5/19)

Project: Agua Moss Sunco Disposal 1

Collection Date: 6/5/2019 10:13:00 AM

Lab ID: 1906280-001

Matrix: AQUEOUS

Received Date: 6/6/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Surr: Toluene-d8	95.9	70-130		%Rec	20	6/11/2019 10:17:00 PM	R60588

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

1906280-001G S-10 (6/5/19)

SAMPLE RESULTS - 01

ONE LAB. NATIONWIDE.



Collected date/time: 06/05/19 10:13

L1106556

Wet Chemistry by Method 2580

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	mV			date / time	
ORP	-26.0	<u>T8</u>	1	06/15/2019 12:00	<u>WG1296217</u>



ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1106556

DATE/TIME:

06/18/19 11:48



Collected date/time: 06/05/19 10:13

L1106556

Wet Chemistry by Method 4500 CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Reactive Cyanide	0.0114		0.00500	1	06/17/2019 14:42	<u>WG1296587</u>

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
Corrosivity by pH	5.88	<u>T8</u>	1	06/13/2019 12:30	<u>WG1294270</u>

Sample Narrative:

L1106556-02 WG1294270: 5.88 at 14.7C

Wet Chemistry by Method 9034-9030B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Reactive Sulfide	0.506		0.0500	1	06/08/2019 14:04	<u>WG1292982</u>

Wet Chemistry by Method D93/1010A

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	deg F			date / time	
Flashpoint	DNF at 170		1	06/10/2019 16:23	<u>WG1293396</u>



ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1106556

DATE/TIME:

06/18/19 11:48

WG1296217

Wet Chemistry by Method 2580

QUALITY CONTROL SUMMARY

L1106555-01

ONE LAB. NATIONWIDE.



L1106555-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1106555-01 06/15/19 12:00 • (DUP) R3421337-2 06/15/19 12:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
ORP	mV 231	mV 228	1	% 1.31		% 20

Laboratory Control Sample (LCS)

(LCS) R3421337-1 06/15/19 12:00

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
ORP	mV 228	mV 229	% 100	% 95.7-104	

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1106556

DATE/TIME:

06/18/19 11:48



WG1296587

Wet Chemistry by Method 4500 CN E-2011

Method Blank (MB)

QUALITY CONTROL SUMMARY

L1106556-02

ONE LAB. NATIONWIDE



(MB) R3421749-1 06/17/19 14:22

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Cyanide	U		0.00180	0.00500

L1106934-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1106934-02 06/17/19 14:46 • (DUP) R3421749-5 06/17/19 14:47

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Reactive Cyanide	0.0174	0.0174	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3421749-2 06/17/19 14:23

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Reactive Cyanide	0.100	0.0913	91.3	85.0-115	

L1105761-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1105761-01 06/17/19 14:29 • (MS) R3421749-3 06/17/19 14:30 • (MSD) R3421749-4 06/17/19 14:31

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Reactive Cyanide	0.100	ND	0.0916	0.0791	89.0	76.5	1	75.0-125			14.6	20

L1106934-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1106934-03 06/17/19 14:48 • (MS) R3421749-7 06/17/19 15:22 • (MSD) R3421749-6 06/17/19 14:51

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Reactive Cyanide	0.100	0.0245	0.0638	0.116	39.3	91.5	1	75.0-125	J6	J3	58.1	20

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1106556

DATE/TIME:

06/18/19 11:48

WG1294270

Wet Chemistry by Method 4500H+ B-2011

QUALITY CONTROL SUMMARY

ONE LAB. NATIONWIDE.



L1106556-02

L1106556-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1106556-02 06/13/19 12:30 • (DUP) R3420716-2 06/13/19 12:30

Analyte	Original Result		DUP Result		Dilution	DUP RPD		DUP Qualifier	DUP RPD Limits
	SU		SU			%			
Corrosivity by pH	5.88		5.89		1	0.170			1

Sample Narrative:

OS: 5.88 at 14.7C

DUP: 5.89 at 17.4C

Laboratory Control Sample (LCS)

(LCS) R3420716-1 06/13/19 12:30

Analyte	Spike Amount		LCS Result		LCS Rec.		Rec. Limits		LCS Qualifier
	SU		SU		%		%		
Corrosivity by pH	10.0		9.99		99.9		99.0-101		

Sample Narrative:

LCS: 9.99 at 20.4C

ACCOUNT:

Hall Environmental Analysis Laboratory

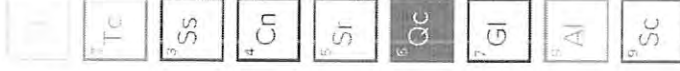
PROJECT:

SDG:

L1106556

DATE/TIME:

06/18/19 11:48



WG1292982

Wet Chemistry by Method 9034-9030B

QUALITY CONTROL SUMMARY

L1106556-02

ONE LAB. NATIONWIDE.



Method Blank (MB)

(MB) R3419167-1 06/08/19 13:53

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Sulfide	U		0.00650	0.0500

Laboratory Control Sample (LCS)

(LCS) R3419167-2 06/08/19 13:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Reactive Sulfide	0.500	0.472	94.4	85.0-115	

7
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

11
Al

9
Sc

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1106556

DATE/TIME:

06/18/19 11:48

WG1293396

Wet Chemistry by Method D93/1010A

QUALITY CONTROL SUMMARY

L1106556-02

ONE LAB. NATIONWIDE.



L1104715-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1104715-01 06/10/19 16:23 • (DUP) R3419626-2 06/10/19 16:23

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Flashpoint	deg F DNF at 170	deg F DNF at 170	1	% 0.000		% 10

L1107019-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1107019-01 06/10/19 16:23 • (DUP) R3419626-3 06/10/19 16:23

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Flashpoint	deg F DNF at 170	deg F DNF at 170	1	% 0.000		% 10

Laboratory Control Sample (LCS)

(LCS) R3419626-1 06/10/19 16:23

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Flashpoint	deg F 82.0	deg F 84.8	% 103	% 96.0-104	

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1106556

DATE/TIME:

06/18/19 11:48

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906280

03-Jul-19

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A60477	RunNo: 60477								
Prep Date:	Analysis Date: 6/6/2019	SeqNo: 2045834 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								

Sample ID: LCS	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A60477	RunNo: 60477								
Prep Date:	Analysis Date: 6/7/2019	SeqNo: 2045835 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.93	0.10	1.000	0	93.3	90	110			
Bromide	2.4	0.10	2.500	0	94.9	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	98.8	90	110			
Phosphorus, Orthophosphate (As P)	4.7	0.50	5.000	0	94.1	90	110			

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R60755	RunNo: 60755								
Prep Date:	Analysis Date: 6/18/2019	SeqNo: 2055939 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R60755	RunNo: 60755								
Prep Date:	Analysis Date: 6/18/2019	SeqNo: 2055940 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	99.5	90	110			
Chloride	5.0	0.50	5.000	0	99.1	90	110			
Sulfate	10	0.50	10.00	0	102	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906280

03-Jul-19

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: 100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW	Batch ID: R60588			RunNo: 60588						
Prep Date:	Analysis Date: 6/11/2019			SeqNo: 2050116			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	19	1.0	20.00	0	96.5	70	130			
Chlorobenzene	20	1.0	20.00	0	99.8	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	93.0	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	96.7	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		111	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.0	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.4		10.00		93.8	70	130			

Sample ID: RB		SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW		Batch ID: R60588		RunNo: 60588						
Prep Date:		Analysis Date: 6/11/2019		SeqNo: 2050119			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906280

03-Jul-19

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: RB	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R60588	RunNo: 60588								
Prep Date:	Analysis Date: 6/11/2019	SeqNo: 2050119	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906280

03-Jul-19

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: RB	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R60588	RunNo: 60588								
Prep Date:	Analysis Date: 6/11/2019	SeqNo: 2050119	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		113	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.0	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.0		10.00		90.3	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906280

03-Jul-19

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: 1906280-001cms	SampType: MS		TestCode: EPA Method 8270C TCLP							
Client ID: S-10 (6/5/19)	Batch ID: 45549		RunNo: 60640							
Prep Date: 6/12/2019	Analysis Date: 6/13/2019		SeqNo: 2051837		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylphenol	0.073	0.0010	0.1000	0	73.2	30.5	98.2			
3+4-Methylphenol	0.15	0.0010	0.2000	0.01028	68.5	27.4	98.6			
2,4-Dinitrotoluene	0.069	0.0010	0.1000	0	68.7	34.3	87.4			
Hexachlorobenzene	0.072	0.0010	0.1000	0	72.5	36.5	100			
Hexachlorobutadiene	0.042	0.0010	0.1000	0	41.6	15	108			
Hexachloroethane	0.039	0.0010	0.1000	0	39.3	15	90.7			
Nitrobenzene	0.072	0.0010	0.1000	0	71.8	39	100			
Pentachlorophenol	0.059	0.0010	0.1000	0	58.7	15	97.5			
Pyridine	0.049	0.0010	0.1000	0	49.0	15	65.8			
2,4,5-Trichlorophenol	0.070	0.0010	0.1000	0	70.0	36.1	109			
2,4,6-Trichlorophenol	0.071	0.0010	0.1000	0	70.7	37.8	104			
Cresols, Total	0.22	0.0010	0.3000	0.01028	70.1	10.6	179			
Surr: 2-Fluorophenol	0.11		0.2000		54.1	15	82.5			
Surr: Phenol-d5	0.092		0.2000		46.1	15	74.2			
Surr: 2,4,6-Tribromophenol	0.15		0.2000		75.8	18.6	118			
Surr: Nitrobenzene-d5	0.079		0.1000		78.8	30.4	106			
Surr: 2-Fluorobiphenyl	0.063		0.1000		62.7	15	104			
Surr: 4-Terphenyl-d14	0.074		0.1000		73.6	15	133			

Sample ID: 1906280-001cmsd	SampType: MSD			TestCode: EPA Method 8270C TCLP						
Client ID: S-10 (6/5/19)	Batch ID: 45549			RunNo: 60640						
Prep Date: 6/12/2019	Analysis Date: 6/13/2019			SeqNo: 2051838			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylphenol	0.067	0.0010	0.1000	0	66.7	30.5	98.2	9.27	44.3	
3+4-Methylphenol	0.14	0.0010	0.2000	0.01028	64.8	27.4	98.6	5.24	50	
2,4-Dinitrotoluene	0.065	0.0010	0.1000	0	65.0	34.3	87.4	5.50	45.1	
Hexachlorobenzene	0.067	0.0010	0.1000	0	66.8	36.5	100	8.19	47.2	
Hexachlorobutadiene	0.038	0.0010	0.1000	0	38.0	15	108	8.99	43.4	
Hexachloroethane	0.037	0.0010	0.1000	0	36.8	15	90.7	6.62	39.2	
Nitrobenzene	0.068	0.0010	0.1000	0	67.9	39	100	5.58	42.1	
Pentachlorophenol	0.059	0.0010	0.1000	0	58.6	15	97.5	0.171	50	
Pyridine	0.053	0.0010	0.1000	0	53.5	15	65.8	8.70	50	
2,4,5-Trichlorophenol	0.067	0.0010	0.1000	0	66.6	36.1	109	5.04	49.7	
2,4,6-Trichlorophenol	0.066	0.0010	0.1000	0	66.2	37.8	104	6.63	47	
Cresols, Total	0.21	0.0010	0.3000	0.01028	67.2	10.6	179	3.98	27.4	
Surr: 2-Fluorophenol	0.12		0.2000		58.1	15	82.5	0	0	
Surr: Phenol-d5	0.084		0.2000		41.9	15	74.2	0	0	
Surr: 2,4,6-Tribromophenol	0.14		0.2000		71.6	18.6	118	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906280

03-Jul-19

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: 1906280-001cmsd		SampType: MSD		TestCode: EPA Method 8270C TCLP						
Client ID: S-10 (6/5/19)		Batch ID: 45549		RunNo: 60640						
Prep Date: 6/12/2019		Analysis Date: 6/13/2019		SeqNo: 2051838		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Nitrobenzene-d5	0.083		0.1000		82.7	30.4	106	0	0	
Surr: 2-Fluorobiphenyl	0.067		0.1000		66.7	15	104	0	0	
Surr: 4-Terphenyl-d14	0.072		0.1000		72.1	15	133	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906280

03-Jul-19

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: Ics-1 99.0uS eC	SampType: Ics	TestCode: SM2510B: Specific Conductance								
Client ID: LCSW	Batch ID: R60535	RunNo: 60535								
Prep Date:	Analysis Date: 6/10/2019	SeqNo: 2048171	Units: µmhos/cm							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	98	5.0	99.00	0	99.4	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906280

03-Jul-19

Client: Rule Engineering LLC
Project: Agua Moss Sunco Disposal 1

Sample ID: MB-45565	SampType: MBLK	TestCode: EPA Method 7470: Mercury
Client ID: PBW	Batch ID: 45565	RunNo: 60638
Prep Date: 6/13/2019	Analysis Date: 6/13/2019	SeqNo: 2051695 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND 0.00020	

Sample ID: LCS-45565	SampType: LCS	TestCode: EPA Method 7470: Mercury
Client ID: LCSW	Batch ID: 45565	RunNo: 60638
Prep Date: 6/13/2019	Analysis Date: 6/13/2019	SeqNo: 2051696 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0051 0.00020 0.005000 0 101 80 120	

Sample ID: 1906280-001FMS	SampType: MS	TestCode: EPA Method 7470: Mercury
Client ID: S-10 (6/5/19)	Batch ID: 45565	RunNo: 60638
Prep Date: 6/13/2019	Analysis Date: 6/13/2019	SeqNo: 2051698 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0046 0.00020 0.005000 .00004977 91.5 75 125	

Sample ID: 1906280-001FMSD	SampType: MSD	TestCode: EPA Method 7470: Mercury
Client ID: S-10 (6/5/19)	Batch ID: 45565	RunNo: 60638
Prep Date: 6/13/2019	Analysis Date: 6/13/2019	SeqNo: 2051699 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0045 0.00020 0.005000 .00004977 89.8 75 125 1.86 20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906280

03-Jul-19

Client: Rule Engineering LLC
Project: Agua Moss Sunco Disposal 1

Sample ID: MB-A	SampType: MBLK	TestCode: EPA Method 6010B: Dissolved Metals								
Client ID: PBW	Batch ID: A60581	RunNo: 60581								
Prep Date:	Analysis Date: 6/12/2019	SeqNo: 2049715	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID: LCS-A	SampType: LCS	TestCode: EPA Method 6010B: Dissolved Metals								
Client ID: LCSW	Batch ID: A60581	RunNo: 60581								
Prep Date:	Analysis Date: 6/12/2019	SeqNo: 2049716	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	48	1.0	50.00	0	96.8	80	120			
Magnesium	49	1.0	50.00	0	98.2	80	120			
Potassium	49	1.0	50.00	0	98.0	80	120			
Sodium	49	1.0	50.00	0	98.2	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906280

03-Jul-19

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: MB-45452	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 45452	RunNo: 60581								
Prep Date: 6/7/2019	Analysis Date: 6/12/2019	SeqNo: 2049712	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	ND	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID: LCS-45452	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 45452	RunNo: 60581								
Prep Date: 6/7/2019	Analysis Date: 6/12/2019	SeqNo: 2049713	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.48	0.020	0.5000	0	96.3	80	120			
Barium	0.47	0.020	0.5000	0	94.3	80	120			
Cadmium	0.49	0.0020	0.5000	0	97.7	80	120			
Chromium	0.48	0.0060	0.5000	0	96.8	80	120			
Lead	0.50	0.0050	0.5000	0	100	80	120			
Selenium	0.49	0.050	0.5000	0	97.7	80	120			
Silver	0.097	0.0050	0.1000	0	97.5	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906280

03-Jul-19

Client: Rule Engineering LLC
Project: Agua Moss Sunco Disposal 1

Sample ID: mb-1 alk	SampType: mblk	TestCode: SM2320B: Alkalinity								
Client ID: PBW	Batch ID: R60535	RunNo: 60535								
Prep Date:	Analysis Date: 6/10/2019	SeqNo: 2048188	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: lcs-1 alk	SampType: lcs	TestCode: SM2320B: Alkalinity								
Client ID: LCSW	Batch ID: R60535	RunNo: 60535								
Prep Date:	Analysis Date: 6/10/2019	SeqNo: 2048189	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	76.60	20.00	80.00	0	95.8	90	110			

Sample ID: mb-2 alk	SampType: mblk	TestCode: SM2320B: Alkalinity								
Client ID: PBW	Batch ID: R60535	RunNo: 60535								
Prep Date:	Analysis Date: 6/10/2019	SeqNo: 2048211	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: lcs-2 alk	SampType: lcs	TestCode: SM2320B: Alkalinity								
Client ID: LCSW	Batch ID: R60535	RunNo: 60535								
Prep Date:	Analysis Date: 6/10/2019	SeqNo: 2048212	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	77.76	20.00	80.00	0	97.2	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906280

03-Jul-19

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: MB-45517	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: PBW	Batch ID: 45517	RunNo: 60603								
Prep Date: 6/11/2019	Analysis Date: 6/12/2019	SeqNo: 2050453	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: LCS-45517	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: LCSW	Batch ID: 45517	RunNo: 60603								
Prep Date: 6/11/2019	Analysis Date: 6/12/2019	SeqNo: 2050454	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1020	20.0	1000	0	102	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Sample Log-In Check List

Client Name: RULE ENGINEERING LL

Work Order Number: 1906280

RcptNo: 1

Received By: Erin Melendrez 6/6/2019 8:05:00 AM

Completed By: Erin Melendrez 6/6/2019 11:30:56 AM

Reviewed By: ID 6/6/19

UAG
UAG

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☒ No ☒ *6-6-19*
9. VOA vials have zero headspace? Yes ☒ *7/2/19* No ☐ No VOA Vials ☒ *no of 7/2/19*
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels? Yes ☒ No ☐
(Note discrepancies on chain of custody)
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met? Yes ☒ No ☐
(If no, notify customer for authorization.)

of preserved bottles checked for pH: 32
(<2 or >12 unless noted)
Adjusted? yes/NO
Checked by: JJC 6-6-19/ENM
6/6/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks: *~ 0.4ml HNO3 was added to 601E ~ 1.0m HNO3 was added to 601F for <2 pH for metals analysis.*

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.1	Good	Yes			
2	2.5	Good	Yes			
3	1.6	Good	Yes			

JJC 6-6-19

Characteristic of toxicity using the Toxicity Characteristic Leaching Procedure, EPA SW-846
Test Method 1311 (see Table 1, 40 CFR 261.24(b)).

QUARTERLY MONITORING LIST			
EPA HW No.	Contaminant	SW-846 Methods	Regulatory Level (mg/L)
D004	Arsenic	1311	5.0
D005	Barium	1311	100.0
D018	Benzene	8021B	0.5
D006	Cadmium	1311	1.0
D019	Carbon tetrachloride	8021B 8260B	0.5
D020	Chlordane	8081A	0.03
D021	Chlorobenzene	8021B 8260B	100.0
D022	Chloroform	8021B 8260B	6.0
D007	Chromium	1311	5.0
D023	o-Cresol	8270D	200.0
D024	m-Cresol	8270D	200.0
D025	p-Cresol	8270D	200.0
D026	Cresol	8270D	200.0
D027	1,4-Dichlorobenzene	8021B 8121 8260B 8270D	7.5
D028	1,2-Dichloroethane	8021B 8260B	0.5
D029	1,1-Dichloroethylene	8021B 8260B	0.7
D030	2,4-Dinitrotoluene	8091 8270D	0.13
D032	Hexachlorobenzene	8121	0.13
D033	Hexachlorobutadiene	8021B 8121 8260B	0.5
D034	Hexachloroethane	8121	3.0
D008	Lead	1311	5.0
D009	Mercury	7470A 7471B	0.2
D035	Methyl ethyl ketone	8015B 8260B	200.0

Sunco Disposal #1
Quarterly Laboratory Analytical List
Page 2

D036	—	Nitrobenzene	8091 8270D	2.0
D037	—	Pentachlorophenol	8041	100.0
D038	—	Pyridine	8260B 8270D	5.0
D010	—	Selenium	1311	1.0
D011	—	Silver	1311	5.0
D039	—	Tetrachloroethylene	8260B	0.7
D040	—	Trichloroethylene	8021B 8260B	0.5
D041	—	2,4,5-Trichlorophenol	8270D	400.0
D042	—	2,4,6-Trichlorophenol	8041A 8270D	2.0
D043	—	Vinyl chloride	8021B 8260B	0.2

If o-, m-, and p-cresol concentrations cannot be differentiated, then the total cresol (D026) concentration is used.

The regulatory level of total cresol is 200 mg/L.

If the quantitation limit is greater than the regulatory level, then the quantitation limit becomes the regulatory level.

If metals (dissolved), the EPA 1311 TCLP Laboratory Method is required with the exception of Mercury (total).

ADDITIONALLY:

RCI, specific conductance, specific gravity, ORP, and general water quality parameters (general chemistry/cations and anions, including: fluoride, calcium, potassium, magnesium, sodium bicarbonate, carbonate, chloride, sulfate, total dissolved solids, cation/anion balance, pH, and bromide) using the methods specified at 40 CFR 136.3.

October 25, 2019

Ms. Shacie Murray
Agua Moss LLC
P.O. Box 600
Farmington, New Mexico 87499

**Re: Sunco Disposal #1
Injection Water Quality Monitoring
3rd Quarter 2019**

Dear Ms. Murray:

This report summarizes the sample collection, field screening, and laboratory analysis of the injection water at the Agua Moss LLC Sunco Disposal #1 facility for the 3rd Quarter 2019. Injection water of the Class I Sunco Disposal #1 well is assessed on a quarterly basis in accordance with 20.6.5207(B) NMAC.

Field Activities

Rule Engineering, LLC (Rule) personnel collected one injection water sample (S-11) from the storage tanks on September 23, 2019. Note: The sample was not collected from the process line inside the pump building as is usual procedure due to equipment issues. Injection water was discharged directly from the valve of the tank into laboratory sample containers and a clean container for field screening.

Sample Collection and Field Screening Procedures

The injection water sample (S-11) was field screened for time sensitive parameters including pH, temperature, reduction potential, specific conductance, and total dissolved solids. Field screening was conducted utilizing a handheld water quality meter calibrated on the day of use with laboratory grade standards.

The sampled injection water was placed into laboratory supplied containers, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico.

Field Screening and Laboratory Analytical Results

The field screening and laboratory analytical results are summarized in the attached Table 1.

QA/QC Considerations

Field measurements for time sensitive parameters including pH, temperature, reduction potential, and specific conductance more accurately reflect the characteristics of the injection water than laboratory results for these parameters

due to their rapidly changing nature when removed from the stable environment of the process line. The hold time qualifier is indicated on the laboratory report for pH as the hold time of 15 minutes from collection was exceeded during transport prior to analysis. Similarly, the hold time was exceeded for reduction potential and corrosivity by pH.

A dilution due to matrix qualifier is indicated on the laboratory report for total dissolved solids. Also, a laboratory control spike qualifier is indicated for pyridine.

Closure and Limitations

This report is prepared for the exclusive use of Agua Moss LLC and is subject to the terms, conditions, and limitations stated in Rule's report and Service Agreement with Agua Moss LLC. All work has been performed in accordance with generally accepted professional environmental consulting practices. No other warranty is expressed or implied.

Rule Engineering appreciates the opportunity to provide services to Agua Moss LLC. If you have any questions, please contact me at (505) 325-1055.

Sincerely,
Rule Engineering, LLC



Heather M. Woods, P.G.
Area Manager/Geologist

Attachments:

Table 1. Summary of Field Screening and Laboratory Analytical Results
Laboratory Analytical Reports (Hall: 1909E10)

Table 1. Summary of Field Screening and Laboratory Analytical Results

Sample ID	S-11		Units	Toxicity Characteristic Concentrations
Collection Date	9/23/2019			
Analyte	Laboratory Results	Field Results		
pH	5.21 H	6.21	su	
Temperature	--	13.3	°C	
Reduction Potential	174 H	123	mV	
Specific Conductance	36,000	32,300	µmhos/cm	
Specific Gravity	1.016	--		
Total Dissolved Solids	12,000 D	10,500	mg/L	
Bicarbonate (As CaCO ₃)	780.0	--	mg/L	
Carbonate (As CaCO ₃)	<2.000	--	mg/L	
Flouride	<2.0	--	mg/L	
Chloride	12,000	--	mg/L	
Bromide	55	--	mg/L	
Phosphorus, Orthophosphate	<2.5 H	--	mg/L	
Sulfate	<2.5	--	mg/L	
Nitrate + Nitrite (as N)	<10	--	mg/L	
Calcium	520	--	mg/L	
Magnesium	50	--	mg/L	
Potassium	120	--	mg/L	
Sodium	7,300	--	mg/L	
Reactive Cyanide	0.00571	--	mg/L	
Reactive Sulfide	2.67	--	mg/L	
Flashpoint	Did not flash at 170°F	--		
Corrosivity by pH	5.21 H	--	su	
Arsenic	<5.0	--	mg/L	5.0 mg/L
Barium	<100	--	mg/L	100.0 mg/L
Benzene	<0.50	--	mg/L	0.5 mg/L
Cadmium	<1.0	--	mg/L	1.0 mg/L
Carbon tetrachloride	<0.50	--	mg/L	0.5 mg/L
Chlordane	<0.030	--	mg/L	0.03 mg/L
Chlorobenzene	<100	--	mg/L	100.0 mg/L
Chloroform	<6.0	--	mg/L	6.0 mg/L
Chromium	<5.0	--	mg/L	5.0 mg/L
Cresols, Total	<200	--	mg/L	200 mg/L
1,4-Dichlorobenzene	<7.5	--	mg/L	7.5 mg/L
1,2-Dichloroethane	<0.50	--	mg/L	0.5 mg/L
1,1-Dichloroethene	<0.70	--	mg/L	0.7 mg/L
2,4-Dinitrotoluene	<0.13	--	mg/L	0.13 mg/L
Hexachlorobenzene	<0.13	--	mg/L	0.13 mg/L
Hexachlorobutadiene	<0.50	--	mg/L	0.5 mg/L
Hexachloroethane	<3.0	--	mg/L	3.0 mg/L
Lead	<5.0	--	mg/L	5.0 mg/L
Mercury	<0.020	--	mg/L	0.2 mg/L
Methyl ethyl ketone	<200	--	mg/L	200.0 mg/L
Nitrobenzene	<2.0	--	mg/L	2.0 mg/L
Pentachlorophenol	<100	--	mg/L	100.0 mg/L
Pyridine	<5.0 S	--	mg/L	5.0 mg/L
Selenium	<1.0	--	mg/L	1.0 mg/L
Silver	<5.0	--	mg/L	5.0 mg/L
Tetrachloroethylene	<0.70	--	mg/L	0.7 mg/L
Trichloreoethylene	<0.50	--	mg/L	0.5 mg/L
2,4,5-Trichlorophenol	<400	--	mg/L	400.0 mg/L
2,4,6-Trichlorophenol	<2.0	--	mg/L	2.0 mg/L
Vinyl chloride	<0.20	--	mg/L	0.2 mg/L

Notes: su - standard units

°C - degrees Celcius

°F - degrees Farenheit

mV - millivolts

µmhos/cm - micromohs per centimeter

mg/L - milligrams per liter

H - Holding times for preparation or analysis exceeded

D - Sample diluted due to matrix

S - % Recovery outside of range due to dilution or matix

1.00

Concentration exceeds the Toxicity Characteristic Concer



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 23, 2019

Heather Woods
Rule Engineering LLC
501 Airport Dr., Ste 205
Farmington, NM 87401
TEL: (505) 325-1055
FAX

RE: Agua Moss Sunco Disposal 1

OrderNo.: 1909E10

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/24/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Case Narrative

WO#: 1909E10
Date: 10/23/2019

CLIENT: Rule Engineering LLC
Project: Agua Moss Sunco Disposal 1

Analytical Notes Regarding EPA Method 8270:

The Laboratory control spike (LCS) for pyridine had a low recovery when compared to the laboratory SOP.

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1909E10

Date Reported: 10/23/2019

CLIENT: Rule Engineering LLC

Client Sample ID: S-11 (09/23/19)

Project: Agua Moss Sunco Disposal 1

Collection Date: 9/23/2019 9:20:00 AM

Lab ID: 1909E10-001

Matrix: AQUEOUS

Received Date: 9/24/2019 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8081: PESTICIDES TCLP							Analyst: JME
Chlordane	ND	0.030		mg/L	1	10/3/2019 3:22:57 PM	47778
Endrin	ND	0.020		mg/L	1	10/3/2019 3:22:57 PM	47778
gamma-BHC (Lindane)	ND	0.40		mg/L	1	10/3/2019 3:22:57 PM	47778
Heptachlor	ND	0.0080		mg/L	1	10/3/2019 3:22:57 PM	47778
Heptachlor epoxide	ND	0.0080		mg/L	1	10/3/2019 3:22:57 PM	47778
Methoxychlor	ND	10		mg/L	1	10/3/2019 3:22:57 PM	47778
Toxaphene	ND	0.50		mg/L	1	10/3/2019 3:22:57 PM	47778
Surr: Decachlorobiphenyl	64.6	29.4-99.8		%Rec	1	10/3/2019 3:22:57 PM	47778
Surr: Tetrachloro-m-xylene	112	20.7-100	S	%Rec	1	10/3/2019 3:22:57 PM	47778
EPA METHOD 8270C TCLP							Analyst: DAM
2-Methylphenol	ND	200		mg/L	1	10/1/2019 5:30:39 PM	47803
3+4-Methylphenol	ND	200		mg/L	1	10/1/2019 5:30:39 PM	47803
2,4-Dinitrotoluene	ND	0.13		mg/L	1	10/1/2019 5:30:39 PM	47803
Hexachlorobenzene	ND	0.13		mg/L	1	10/1/2019 5:30:39 PM	47803
Hexachlorobutadiene	ND	0.50		mg/L	1	10/1/2019 5:30:39 PM	47803
Hexachloroethane	ND	3.0		mg/L	1	10/1/2019 5:30:39 PM	47803
Nitrobenzene	ND	2.0		mg/L	1	10/1/2019 5:30:39 PM	47803
Pentachlorophenol	ND	100		mg/L	1	10/1/2019 5:30:39 PM	47803
Pyridine	ND	5.0		mg/L	1	10/1/2019 5:30:39 PM	47803
2,4,5-Trichlorophenol	ND	400		mg/L	1	10/1/2019 5:30:39 PM	47803
2,4,6-Trichlorophenol	ND	2.0		mg/L	1	10/1/2019 5:30:39 PM	47803
Cresols, Total	ND	200		mg/L	1	10/1/2019 5:30:39 PM	47803
Surr: 2-Fluorophenol	28.1	15-82.5		%Rec	1	10/1/2019 5:30:39 PM	47803
Surr: Phenol-d5	27.9	15-74.2		%Rec	1	10/1/2019 5:30:39 PM	47803
Surr: 2,4,6-Tribromophenol	52.1	18.6-118		%Rec	1	10/1/2019 5:30:39 PM	47803
Surr: Nitrobenzene-d5	45.0	30.4-106		%Rec	1	10/1/2019 5:30:39 PM	47803
Surr: 2-Fluorobiphenyl	43.1	15-104		%Rec	1	10/1/2019 5:30:39 PM	47803
Surr: 4-Terphenyl-d14	60.2	15-133		%Rec	1	10/1/2019 5:30:39 PM	47803
NOTES:							
*See Case Narrative							
SPECIFIC GRAVITY							Analyst: JRR
Specific Gravity	1.016	0			1	10/17/2019 2:09:00 PM	R63759
EPA METHOD 300.0: ANIONS							Analyst: MRA
Fluoride	ND	2.0		mg/L	20	9/27/2019 1:38:39 PM	R63294
Chloride	12000	500		mg/L	1E+	10/7/2019 11:18:10 AM	R63492
Bromide	55	2.0		mg/L	20	9/27/2019 1:38:39 PM	R63294
Phosphorus, Orthophosphate (As P)	ND	2.5	H	mg/L	5	9/27/2019 1:25:47 PM	R63294
Sulfate	ND	2.5		mg/L	5	9/27/2019 1:25:47 PM	R63294

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1909E10**

Date Reported: **10/23/2019**

CLIENT: Rule Engineering LLC

Client Sample ID: S-11 (09/23/19)

Project: Agua Moss Sunco Disposal 1

Collection Date: 9/23/2019 9:20:00 AM

Lab ID: 1909E10-001

Matrix: AQUEOUS

Received Date: 9/24/2019 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Nitrate+Nitrite as N	ND	10		mg/L	50	10/7/2019 11:31:01 AM	R63492
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	36000	25		µmhos/c	5	10/3/2019 10:17:35 AM	R63435
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO ₃)	780.0	20.00		mg/L Ca	1	10/1/2019 11:41:23 AM	R63331
Carbonate (As CaCO ₃)	ND	2.000		mg/L Ca	1	10/1/2019 11:41:23 AM	R63331
Total Alkalinity (as CaCO ₃)	780.0	20.00		mg/L Ca	1	10/1/2019 11:41:23 AM	R63331
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: JMT
Total Dissolved Solids	12000	100	*D	mg/L	1	9/30/2019 4:25:00 PM	47784
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	5.21		H	pH units	1	10/1/2019 11:41:23 AM	R63331
EPA METHOD 200.7: DISSOLVED METALS							Analyst: bcv
Calcium	520	10		mg/L	10	10/15/2019 2:00:41 PM	A63726
Magnesium	50	1.0		mg/L	1	10/15/2019 1:58:33 PM	A63726
Potassium	120	10		mg/L	10	10/15/2019 2:00:41 PM	A63726
Sodium	7300	100		mg/L	100	10/15/2019 2:02:33 PM	A63726
EPA METHOD 7470: MERCURY							Analyst: rde
Mercury	ND	0.020		mg/L	1	9/30/2019 4:45:48 PM	47814
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: bcv
Arsenic	ND	5.0		mg/L	10	10/21/2019 2:22:34 PM	47871
Barium	ND	100		mg/L	100	10/10/2019 4:27:39 PM	47871
Cadmium	ND	1.0		mg/L	2	10/8/2019 12:57:40 PM	47871
Chromium	ND	5.0		mg/L	2	10/8/2019 12:57:40 PM	47871
Lead	ND	5.0		mg/L	10	10/21/2019 2:22:34 PM	47871
Selenium	ND	1.0		mg/L	10	10/10/2019 4:22:43 PM	47871
Silver	ND	5.0		mg/L	2	10/8/2019 12:57:40 PM	47871
TCLP VOLATILES BY 8260B							Analyst: RAA
Benzene	ND	0.50		mg/L	200	9/27/2019 10:31:00 PM	T63253
1,2-Dichloroethane (EDC)	ND	0.50		mg/L	200	9/27/2019 10:31:00 PM	T63253
2-Butanone	ND	200		mg/L	200	9/27/2019 10:31:00 PM	T63253
Carbon Tetrachloride	ND	0.50		mg/L	200	9/27/2019 10:31:00 PM	T63253
Chloroform	ND	6.0		mg/L	200	9/27/2019 10:31:00 PM	T63253
1,4-Dichlorobenzene	ND	7.5		mg/L	200	9/27/2019 10:31:00 PM	T63253
1,1-Dichloroethene	ND	0.70		mg/L	200	9/27/2019 10:31:00 PM	T63253
Tetrachloroethene (PCE)	ND	0.70		mg/L	200	9/27/2019 10:31:00 PM	T63253

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1909E10**

Date Reported: **10/23/2019**

CLIENT: Rule Engineering LLC

Client Sample ID: S-11 (09/23/19)

Project: Agua Moss Sunco Disposal 1

Collection Date: 9/23/2019 9:20:00 AM

Lab ID: 1909E10-001

Matrix: AQUEOUS

Received Date: 9/24/2019 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
TCLP VOLATILES BY 8260B							Analyst: RAA
Trichloroethene (TCE)	ND	0.50		mg/L	200	9/27/2019 10:31:00 PM	T63253
Vinyl chloride	ND	0.20		mg/L	200	9/27/2019 10:31:00 PM	T63253
Chlorobenzene	ND	100		mg/L	200	9/27/2019 10:31:00 PM	T63253
Surr: 1,2-Dichloroethane-d4	93.5	70-130		%Rec	200	9/27/2019 10:31:00 PM	T63253
Surr: 4-Bromofluorobenzene	99.0	70-130		%Rec	200	9/27/2019 10:31:00 PM	T63253
Surr: Dibromofluoromethane	96.3	70-130		%Rec	200	9/27/2019 10:31:00 PM	T63253
Surr: Toluene-d8	95.5	70-130		%Rec	200	9/27/2019 10:31:00 PM	T63253

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

October 04, 2019

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Hall Environmental Analysis Laboratory

Sample Delivery Group: L1143780
Samples Received: 09/27/2019
Project Number:
Description:

Report To:

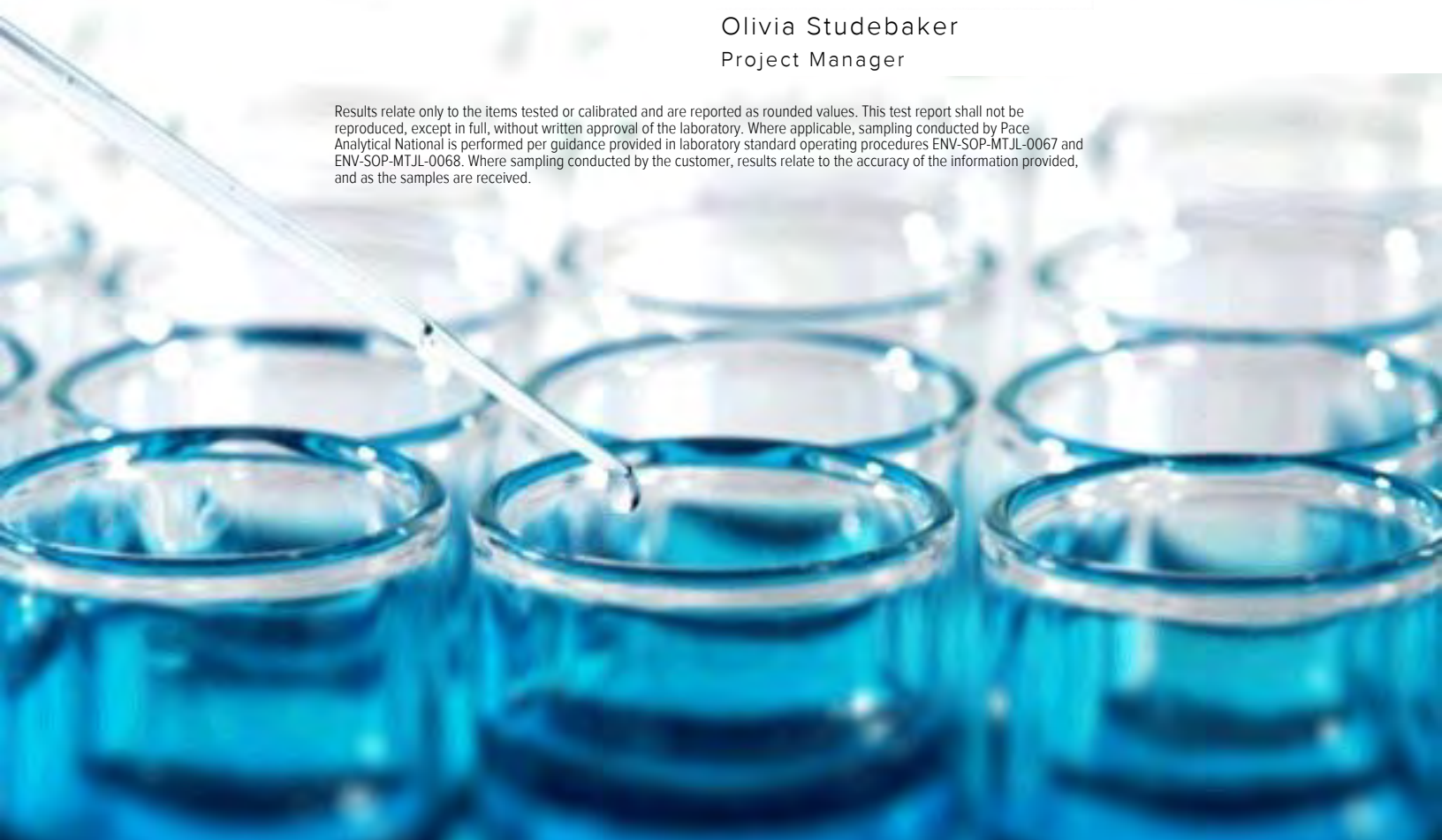
4901 Hawkins NE
Albuquerque, NM 87109

Entire Report Reviewed By:



Olivia Studebaker
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.





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Sc: Sample Chain of Custody	14



SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



1909E10-001G S-11 (09/23/19) L1143780-01 GW

Collected by

Collected date/time

Received date/time

09/23/19 09:20

09/27/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2580	WG1355483	1	10/01/19 17:40	10/01/19 17:40	MJA	Mt. Juliet, TN

¹Cp

²Tc

³Ss

1909E10-001H S-11 (09/23/19) L1143780-02 WW

Collected by

Collected date/time

Received date/time

09/23/19 09:20

09/27/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500 CN E-2011	WG1354514	1	09/30/19 12:40	09/30/19 18:49	SDL	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG1353677	1	09/28/19 15:00	09/28/19 15:00	MSP	Mt. Juliet, TN
Wet Chemistry by Method 9034-9030B	WG1354516	2	09/30/19 11:54	09/30/19 11:54	MJA	Mt. Juliet, TN
Wet Chemistry by Method D93/1010A	WG1357111	1	10/04/19 13:05	10/04/19 13:05	MJA	Mt. Juliet, TN

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1143780

DATE/TIME:

10/04/19 16:41

PAGE:

3 of 15



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Olivia Studebaker
Project Manager

Project Narrative

All Reactive Cyanide results reported in the attached report were determined as totals using method 9012B.

All Reactive Sulfide results reported in the attached report were determined as totals using method 9034/9030B.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Wet Chemistry by Method 2580

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
ORP	174	T8	1	10/01/2019 17:40	WG1355483

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Wet Chemistry by Method 4500 CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Cyanide	0.00571		0.00500	1	09/30/2019 18:49	WG1354514

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Corrosivity by pH	5.21	T8		1	09/28/2019 15:00	WG1353677

Sample Narrative:

L1143780-02 WG1353677: 5.21 at 22C

Wet Chemistry by Method 9034-9030B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Sulfide	2.67		0.100	2	09/30/2019 11:54	WG1354516

Wet Chemistry by Method D93/1010A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Flashpoint	DNF at 170			1	10/04/2019 13:05	WG1357111



L1143780-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1143780-01 10/01/19 17:40 • (DUP) R3456540-2 10/01/19 17:40

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mV	mV		%		%
ORP	174	175	1	0.573		20

Laboratory Control Sample (LCS)

(LCS) R3456540-1 10/01/19 17:40

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mV	mV	%	%	
ORP	228	225	98.7	95.7-104	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3456160-1 09/30/19 18:23

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Cyanide	U		0.00180	0.00500

Laboratory Control Sample (LCS)

(LCS) R3456160-2 09/30/19 18:24

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Reactive Cyanide	0.100	0.102	102	85.0-115	

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc



L1143780-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1143780-02 09/28/19 15:00 • (DUP) R3455644-4 09/28/19 15:00

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
Corrosivity by pH	5.21	5.20	1	0.192		1

Sample Narrative:

OS: 5.21 at 22C

DUP: 5.2 at 22C

L1143969-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1143969-02 09/28/19 15:00 • (DUP) R3455644-14 09/28/19 15:00

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	su	su		%		%
Corrosivity by pH	5.66	5.64	1	0.354		1

Sample Narrative:

OS: 5.66 at 21.7C

DUP: 5.64 at 22.5C

Laboratory Control Sample (LCS)

(LCS) R3455644-1 09/28/19 15:00

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	su	su	%	%	
Corrosivity by pH	10.0	9.99	99.9	99.0-101	

Sample Narrative:

LCS: 9.99 at 21.7C

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc



Method Blank (MB)

(MB) R3455920-1 09/30/19 11:53

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Sulfide	U		0.00650	0.0500

Laboratory Control Sample (LCS)

(LCS) R3455920-2 09/30/19 11:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Reactive Sulfide	0.500	0.488	97.6	85.0-115	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



L1143970-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1143970-01 10/04/19 13:05 • (DUP) R3457762-2 10/04/19 13:05

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	deg F	deg F		%		%
Flashpoint	170	170	1	0.000		10

Laboratory Control Sample (LCS)

(LCS) R3457762-1 10/04/19 13:05

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	deg F	deg F	%	%	
Flashpoint	82.0	82.5	101	96.0-104	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

T8	Sample(s) received past/too close to holding time expiration.
----	---

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

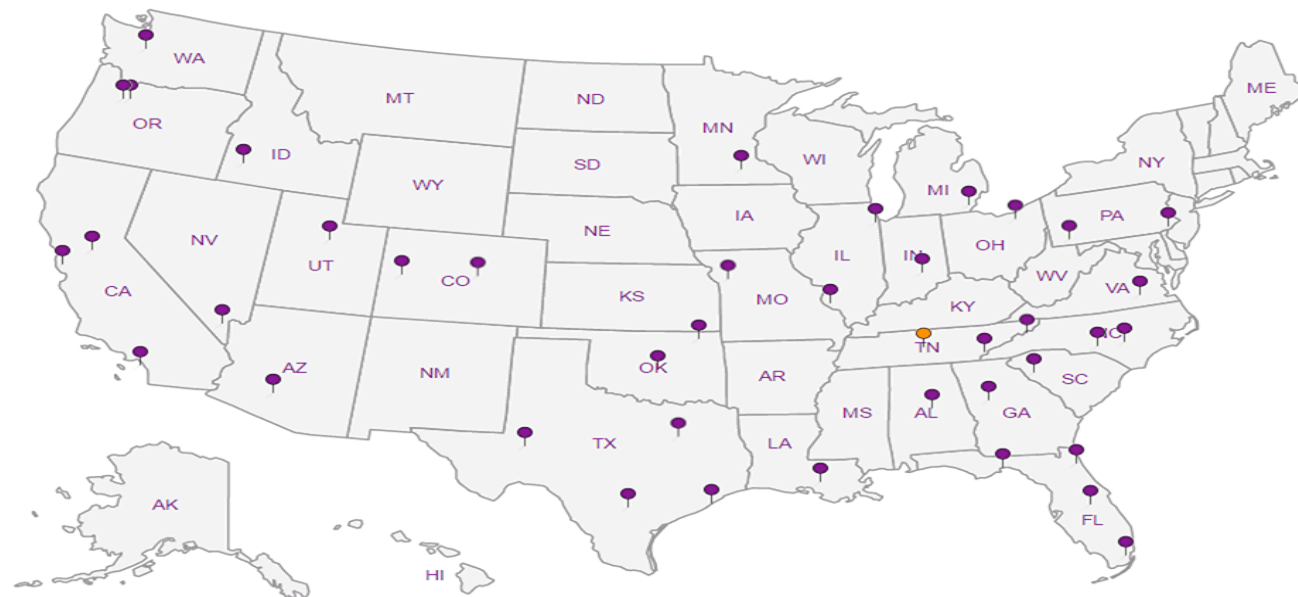
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.





CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenvironmental.com

C010

SUB CONTRACTOR: ESC PACE		COMPANY: ESC PACE		PHONE: (800) 767-5859	FAX: (615) 758-5859
ADDRESS: 12065 Lebanon Rd		ACCOUNT #:			
CITY, STATE, ZIP: Mt. Juliet, TN 37122					
ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE
1	1909E10-001G	5-11 (09/23/19)	125HDP	Aqueous	9/23/2019 9:20:00 AM
2	1909E10-001H	5-11 (09/23/19)	500HDPE	Aqueous	9/23/2019 9:20:00 AM
					# CONTAINERS
					1
					3
					RCI
					712
					ANALYTICAL COMMENTS
					L1143780-01
					02

RAD SCREEN: <0.5 mR/hr

Fedex 4510 1668 9881

Y cantinas

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By: yuo	Date: 9/25/2019	Time: 11:09 AM	Received By: [Signature]	Date: 9/27/19	Time: 6:45
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
TAT: Standard			RUSH	Next BD	2nd BD
					3rd BD
REPORT TRANSMITTAL DESIRED: ☐ HARD COPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE					
FOR LAB USE ONLY Temp of samples 3.940-3.942 Attempt to Cool?					
Comments:					

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client:	HALLENVANN		L1143780
Cooler Received/Opened On:	9/27/19	Temperature:	3.9
Received By:	Adam Burns		
Signature:			
Receipt Check List			
COC Seal Present / Intact?	NP	Yes	No
COC Signed / Accurate?	/	/	
Bottles arrive intact?		/	
Correct bottles used?		/	
Sufficient volume sent?		/	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?		/	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1909E10

23-Oct-19

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: A63726	RunNo: 63726								
Prep Date:	Analysis Date: 10/15/2019	SeqNo: 2178013 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: A63726	RunNo: 63726								
Prep Date:	Analysis Date: 10/15/2019	SeqNo: 2178014 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0	0.5000	0	103	50	150			
Magnesium	ND	1.0	0.5000	0	102	50	150			
Potassium	ND	1.0	0.5000	0	111	50	150			
Sodium	ND	1.0	0.5000	0	92.6	50	150			

Sample ID: LCS	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: A63726	RunNo: 63726								
Prep Date:	Analysis Date: 10/15/2019	SeqNo: 2178015 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	52	1.0	50.00	0	104	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Potassium	51	1.0	50.00	0	102	85	115			
Sodium	51	1.0	50.00	0	103	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1909E10

23-Oct-19

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R63294	RunNo: 63294								
Prep Date:	Analysis Date: 9/27/2019	SeqNo: 2160136 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R63294	RunNo: 63294								
Prep Date:	Analysis Date: 9/27/2019	SeqNo: 2160137 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.54	0.10	0.5000	0	108	90	110			
Bromide	2.5	0.10	2.500	0	98.2	90	110			
Phosphorus, Orthophosphate (As P	4.6	0.50	5.000	0	91.8	90	110			
Sulfate	9.6	0.50	10.00	0	96.2	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R63492	RunNo: 63492								
Prep Date:	Analysis Date: 10/7/2019	SeqNo: 2169249 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R63492	RunNo: 63492								
Prep Date:	Analysis Date: 10/7/2019	SeqNo: 2169250 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	95.1	90	110			
Nitrate+Nitrite as N	3.3	0.20	3.500	0	95.4	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R63492	RunNo: 63492								
Prep Date:	Analysis Date: 10/7/2019	SeqNo: 2169268 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1909E10

23-Oct-19

Client: Rule Engineering LLC
Project: Agua Moss Sunco Disposal 1

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R63492	RunNo: 63492								
Prep Date:	Analysis Date: 10/7/2019	SeqNo: 2169269	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	93.1	90	110			
Nitrate+Nitrite as N	3.3	0.20	3.500	0	94.7	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1909E10

23-Oct-19

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: MB-47778		SampType: MBLK		TestCode: EPA Method 8081: Pesticides TCLP						
Client ID: PBW		Batch ID: 47778		RunNo: 63412						
Prep Date: 9/27/2019		Analysis Date: 10/3/2019		SeqNo: 2165286			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chlordane	ND	0.030								
Endrin	ND	0.020								
gamma-BHC (Lindane)	ND	0.40								
Heptachlor	ND	0.0080								
Heptachlor epoxide	ND	0.0080								
Methoxychlor	ND	10								
Toxaphene	ND	0.50								
Surr: Decachlorobiphenyl	0.0015		0.002500		61.2	29.4	99.8			
Surr: Tetrachloro-m-xylene	0.0013		0.002500		53.4	20.7	100			

Sample ID: LCS-47778		SampType: LCS			TestCode: EPA Method 8081: Pesticides TCLP					
Client ID: LCSW		Batch ID: 47778			RunNo: 63412					
Prep Date: 9/27/2019		Analysis Date: 10/3/2019			SeqNo: 2165287		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Endrin	0.00041	0.00010	0.0005000	0	82.5	44.5	113			
gamma-BHC (Lindane)	0.00036	0.00010	0.0005000	0	72.7	38.2	107			
Heptachlor	0.00037	0.00010	0.0005000	0	74.0	36.4	105			
Heptachlor epoxide	0.00038	0.00010	0.0005000	0	77.0	40	111			
Methoxychlor	0.00039	0.00010	0.0005000	0	79.0	34.3	112			
Surr: Decachlorobiphenyl	0.0018		0.002500		73.3	29.4	99.8			
Surr: Tetrachloro-m-xylene	0.0016		0.002500		63.1	20.7	100			

Sample ID: 1909E10-001CMS		SampType: MS		TestCode: EPA Method 8081: Pesticides TCLP						
Client ID: S-11 (09/23/19)		Batch ID: 47778		RunNo: 63412						
Prep Date: 9/27/2019		Analysis Date: 10/3/2019		SeqNo: 2165289		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Endrin	0.00055	0.00010	0.0005000	0	111	28.7	157			
gamma-BHC (Lindane)	0.00029	0.00010	0.0005000	0	58.8	32.3	162			
Heptachlor	0.00070	0.00010	0.0005000	0	139	29.6	161			
Heptachlor epoxide	0.00069	0.00010	0.0005000	0	139	32.9	155			
Methoxychlor	0.00059	0.00010	0.0005000	0	117	33.6	153			
Surr: Decachlorobiphenyl	0.0018		0.002500		71.9	29.4	99.8			
Surr: Tetrachloro-m-xylene	0.0031		0.002500		122	20.7	100			S

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1909E10

23-Oct-19

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: 1909E10-001CMSD		SampType: MSD		TestCode: EPA Method 8081: Pesticides TCLP						
Client ID: S-11 (09/23/19)		Batch ID: 47778		RunNo: 63412						
Prep Date: 9/27/2019		Analysis Date: 10/3/2019		SeqNo: 2165290		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Endrin	0.00040	0.00010	0.0005000	0	79.1	28.7	157	33.2	20	R
gamma-BHC (Lindane)	0.00035	0.00010	0.0005000	0	69.4	32.3	162	16.4	20	
Heptachlor	0.00063	0.00010	0.0005000	0	127	29.6	161	9.38	20	
Heptachlor epoxide	0.00060	0.00010	0.0005000	0	121	32.9	155	14.0	20	
Methoxychlor	0.00042	0.00010	0.0005000	0	83.9	33.6	153	33.0	20	R
Surr: Decachlorobiphenyl	0.0016		0.002500		65.1	29.4	99.8	0	0	
Surr: Tetrachloro-m-xylene	0.0026		0.002500		104	20.7	100	0	0	S

Sample ID: MB-47778		SampType: MBLK			TestCode: EPA Method 8081: Pesticides TCLP					
Client ID: PBW		Batch ID: 47778			RunNo: 63412					
Prep Date: 9/27/2019		Analysis Date: 10/3/2019			SeqNo: 2165333		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chlordane	ND	0.030								
Endrin	ND	0.020								
gamma-BHC (Lindane)	ND	0.40								
Heptachlor	ND	0.0080								
Heptachlor epoxide	ND	0.0080								
Methoxychlor	ND	10								
Toxaphene	ND	0.50								
Surr: Decachlorobiphenyl	0.0016		0.002500		63.0	29.4	99.8			
Surr: Tetrachloro-m-xylene	0.0014		0.002500		55.9	20.7	100			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1909E10

23-Oct-19

Client: Rule Engineering LLC
Project: Agua Moss Sunco Disposal 1

Sample ID: 100ng lcs	SampType: LCS		TestCode: TCLP Volatiles by 8260B							
Client ID: LCSW	Batch ID: T63253		RunNo: 63253							
Prep Date:	Analysis Date: 9/27/2019		SeqNo: 2160244		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.018	0.00017	0.02000	0	91.6	70	130			
1,1-Dichloroethene	0.018	0.00021	0.02000	0	89.0	70	130			
Trichloroethene (TCE)	0.018	0.00017	0.02000	0	88.5	70	130			
Chlorobenzene	0.019	0.00019	0.02000	0	95.8	70	130			
Surr: 1,2-Dichloroethane-d4	0.0094		0.01000		94.2	70	130			
Surr: 4-Bromofluorobenzene	0.0097		0.01000		97.5	70	130			
Surr: Dibromofluoromethane	0.0096		0.01000		96.4	70	130			
Surr: Toluene-d8	0.0093		0.01000		93.1	70	130			

Sample ID: rb	SampType: MBLK		TestCode: TCLP Volatiles by 8260B							
Client ID: PBW	Batch ID: T63253		RunNo: 63253							
Prep Date:	Analysis Date: 9/27/2019		SeqNo: 2160245		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.50								
1,2-Dichloroethane (EDC)	ND	0.50								
2-Butanone	ND	200								
Carbon Tetrachloride	ND	0.50								
Chloroform	ND	6.0								
1,4-Dichlorobenzene	ND	7.5								
1,1-Dichloroethene	ND	0.70								
Tetrachloroethene (PCE)	ND	0.70								
Trichloroethene (TCE)	ND	0.50								
Vinyl chloride	ND	0.20								
Chlorobenzene	ND	100								
Surr: 1,2-Dichloroethane-d4	0.0096		0.01000		95.7	70	130			
Surr: 4-Bromofluorobenzene	0.0099		0.01000		98.8	70	130			
Surr: Dibromofluoromethane	0.0097		0.01000		97.2	70	130			
Surr: Toluene-d8	0.0094		0.01000		94.2	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1909E10

23-Oct-19

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: Ics-1 99.8uS eC	SampType: Ics	TestCode: SM2510B: Specific Conductance								
Client ID: LCSW	Batch ID: R63435	RunNo: 63435								
Prep Date:	Analysis Date: 10/3/2019	SeqNo: 2166257	Units: µmhos/cm							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	100	5.0	99.80	0	99.7	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1909E10

23-Oct-19

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: MB-47814	SampType: MBLK	TestCode: EPA Method 7470: Mercury
Client ID: PBW	Batch ID: 47814	RunNo: 63308
Prep Date: 9/30/2019	Analysis Date: 9/30/2019	SeqNo: 2160459 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND 0.00020	

Sample ID: LCS-47814	SampType: LCS	TestCode: EPA Method 7470: Mercury
Client ID: LCSW	Batch ID: 47814	RunNo: 63308
Prep Date: 9/30/2019	Analysis Date: 9/30/2019	SeqNo: 2160460 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0052 0.00020 0.005000 0 104 80 120	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1909E10

23-Oct-19

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: MB-47871	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 47871	RunNo: 63528								
Prep Date: 10/1/2019	Analysis Date: 10/8/2019	SeqNo: 2170125			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	ND	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID: LCS-47871	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 47871	RunNo: 63528								
Prep Date: 10/1/2019	Analysis Date: 10/8/2019	SeqNo: 2170147			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.45	0.020	0.5000	0	89.1	80	120			
Cadmium	0.46	0.0020	0.5000	0	91.6	80	120			
Chromium	0.45	0.0060	0.5000	0	90.0	80	120			
Lead	0.47	0.0050	0.5000	0	93.7	80	120			
Selenium	0.46	0.050	0.5000	0	91.6	80	120			
Silver	0.093	0.0050	0.1000	0	93.4	80	120			

Sample ID: 1909E10-001FMS	SampType: MS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: S-11 (09/23/19)	Batch ID: 47871	RunNo: 63528								
Prep Date: 10/1/2019	Analysis Date: 10/8/2019	SeqNo: 2170197			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.45	0.0040	0.5000	0	90.3	75	125			
Chromium	0.42	0.012	0.5000	0.008788	82.8	75	125			
Silver	0.096	0.010	0.1000	0	96.0	75	125			

Sample ID: 1909E10-001FMSD	SampType: MSD	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: S-11 (09/23/19)	Batch ID: 47871	RunNo: 63528								
Prep Date: 10/1/2019	Analysis Date: 10/8/2019	SeqNo: 2170198			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.43	0.0040	0.5000	0	86.3	75	125	4.57	20	
Chromium	0.39	0.012	0.5000	0.008788	77.0	75	125	7.07	20	
Silver	0.094	0.010	0.1000	0	94.0	75	125	2.03	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1909E10

23-Oct-19

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: MB-47871	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 47871	RunNo: 63528								
Prep Date: 10/1/2019	Analysis Date: 10/8/2019	SeqNo: 2170238 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID: LCS-47871	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 47871	RunNo: 63528								
Prep Date: 10/1/2019	Analysis Date: 10/8/2019	SeqNo: 2170240 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.45	0.020	0.5000	0	90.6	80	120			
Cadmium	0.47	0.0020	0.5000	0	93.4	80	120			
Chromium	0.46	0.0060	0.5000	0	92.4	80	120			
Selenium	0.44	0.050	0.5000	0	88.8	80	120			
Silver	0.093	0.0050	0.1000	0	93.4	80	120			

Sample ID: MB-47871	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 47871	RunNo: 63528								
Prep Date: 10/1/2019	Analysis Date: 10/8/2019	SeqNo: 2170260 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	ND	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID: LCS-47871	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 47871	RunNo: 63528								
Prep Date: 10/1/2019	Analysis Date: 10/8/2019	SeqNo: 2170262 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.47	0.020	0.5000	0	94.5	80	120			
Cadmium	0.48	0.0020	0.5000	0	96.4	80	120			
Chromium	0.48	0.0060	0.5000	0	96.1	80	120			
Lead	0.48	0.0050	0.5000	0	95.7	80	120			
Selenium	0.46	0.050	0.5000	0	91.4	80	120			
Silver	0.096	0.0050	0.1000	0	96.2	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1909E10

23-Oct-19

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: MB-47871	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 47871	RunNo: 63599								
Prep Date: 10/1/2019	Analysis Date: 10/10/2019	SeqNo: 2172996	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID: LCS-47871	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 47871	RunNo: 63599								
Prep Date: 10/1/2019	Analysis Date: 10/10/2019	SeqNo: 2172998	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.45	0.020	0.5000	0	89.9	80	120			
Barium	0.45	0.020	0.5000	0	89.8	80	120			
Cadmium	0.43	0.0020	0.5000	0	86.8	80	120			
Chromium	0.43	0.0060	0.5000	0	86.8	80	120			
Lead	0.44	0.0050	0.5000	0	88.4	80	120			
Selenium	0.44	0.050	0.5000	0	88.0	80	120			
Silver	0.089	0.0050	0.1000	0	89.3	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1909E10

23-Oct-19

Client: Rule Engineering LLC
Project: Agua Moss Sunco Disposal 1

Sample ID: mb-1 alk	SampType: mblk	TestCode: SM2320B: Alkalinity								
Client ID: PBW	Batch ID: R63331	RunNo: 63331								
Prep Date:	Analysis Date: 10/1/2019	SeqNo: 2163337	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: lcs-1 alk	SampType: lcs	TestCode: SM2320B: Alkalinity								
Client ID: LCSW	Batch ID: R63331	RunNo: 63331								
Prep Date:	Analysis Date: 10/1/2019	SeqNo: 2163338	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.56	20.00	80.00	0	98.2	90	110			

Sample ID: mb-2 alk	SampType: mblk	TestCode: SM2320B: Alkalinity								
Client ID: PBW	Batch ID: R63331	RunNo: 63331								
Prep Date:	Analysis Date: 10/1/2019	SeqNo: 2163360	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: lcs-2 alk	SampType: lcs	TestCode: SM2320B: Alkalinity								
Client ID: LCSW	Batch ID: R63331	RunNo: 63331								
Prep Date:	Analysis Date: 10/1/2019	SeqNo: 2163361	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	80.04	20.00	80.00	0	100	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1909E10

23-Oct-19

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: 1909E10-001DDUP		SampType: DUP		TestCode: Specific Gravity						
Client ID: S-11 (09/23/19)		Batch ID: R63759		RunNo: 63759						
Prep Date:		Analysis Date: 10/17/2019		SeqNo: 2179551		Units:				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Specific Gravity	1.018	0						0.148	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1909E10

23-Oct-19

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: MB-47784	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: PBW	Batch ID: 47784	RunNo: 63316								
Prep Date: 9/27/2019	Analysis Date: 9/30/2019	SeqNo: 2160853		Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: LCS-47784	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: LCSW	Batch ID: 47784	RunNo: 63316								
Prep Date: 9/27/2019	Analysis Date: 9/30/2019	SeqNo: 2160854		Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1000	20.0	1000	0	100	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Sample Log-In Check List

Client Name: **RULE ENGINEERING LL**

Work Order Number: **1909E10**

RcptNo: 1

Received By: **Erin Melendrez** 9/24/2019 8:10:00 AM

Completed By: **Yazmine Garduno** 9/25/2019 10:30:02 AM

Reviewed By: **IO** 9/26/19

[Handwritten signatures]

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☒ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved bottles checked for pH: **3:2**
(<2 or >2 unless noted)
Adjusted? **yes**
Checked by: **DAD 9/26/19**

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks: **For metals analysis added ~1.0mL HNO₃ to sample DDIF for pH 2.**

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.9	Good				
2	3.6	Good				

Chain-of-Custody Record

Client: Rule Engineering

Mailing Address: 501 Airport Dr. Ste 205
Farmington, NM 87401
 Phone #: (505) 716-2787
 email or Fax#: hwoods@ruleengineering.com

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Date	Time	Matrix	Sample Name
9/23/19	0920	1520	5-11 (09/23/19) / (1) 500ml Plastic HNO ₃
			(1) 500ml Plastic NaOH
			(1) 500ml Plastic Zincacetic
			(2) 500ml Plastic NaOH
			(1) 125ml Plastic H ₂ SO ₄
			(1) 125ml Plastic HNO ₃
			(5) 1L Amber Glass Non
			(3) 40ml VOA HCl

Date: 9/23/19 Time: 1704 Relinquished by: Heather M. Woods

Date: 9/23/19 Time: 1811 Relinquished by: Christina Walters

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: Agua Moss Surco Disposal #1

Project #: Agua Moss Surco Disposal #1

Project Manager: Heather Woods

Sampler: Heather Woods

On Ice: ☒ Yes ☐ No

of Coolers: 2

Cooler Temp (including CF): 1.1-0.2 (CF) = 0.9°C
3.8-0.2 (CF) = 3.6°C

Container Type and # HEAL No. 1904 F10

Preservative Type -001

(1) 500ml Plastic HNO₃

(1) 500ml Plastic NaOH

(1) 500ml Plastic Zincacetic

(2) 500ml Plastic NaOH

(1) 125ml Plastic H₂SO₄

(1) 125ml Plastic HNO₃

(5) 1L Amber Glass Non

(3) 40ml VOA HCl

Received by: Christina Walters Date: 9/23/19 Time: 1704

Received by: Christina Walters Date: 9/24/19 Time: 0810

Remarks:

Direct Bill to Agua Moss
Rates per Andy



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX / MTBE / TMBs (8021)	TPH: 8015D (GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
									<u>See Attached</u>
									<u>X</u>

February 18, 2020

Ms. Shacie Murray
Agua Moss LLC
P.O. Box 600
Farmington, New Mexico 87499

**Re: Sunco Disposal #1
Injection Water Quarterly Monitoring
4th Quarter 2019**

Dear Ms. Murray:

This report summarizes the sample collection, field screening, and laboratory analysis of the injection water at the Agua Moss LLC Sunco Disposal #1 well for the 4th Quarter 2019. Injection water of the Class I Sunco Disposal #1 well is assessed on a quarterly basis in accordance with 20.6.5207(B) NMAC.

Field Activities

Rule Engineering, LLC (Rule) personnel collected one injection water sample (S-12) from the process line inside the pump building at the location on December 23, 2019. Injection water was discharged directly from the valve of the process line into laboratory sample containers and a clean container for field screening.

Sample Collection and Field Screening Procedures

The injection water sample (S-12) was field screened for time sensitive parameters including pH, temperature, reduction potential, specific conductance, and total dissolved solids. Field screening was conducted utilizing a handheld water quality meter calibrated on the day of use with laboratory grade standards.

The sampled injection water was placed into laboratory supplied containers, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico.

Field Screening and Laboratory Analytical Results

The field screening and laboratory analytical results are summarized in the attached Table 1.

QA/QC Considerations

Field measurements for time sensitive parameters including pH, temperature, reduction potential, and specific conductance more accurately reflect the characteristics of the injection water than laboratory results for these parameters due to their rapidly changing nature when removed from the stable environment of

the process line. The hold time qualifier is indicated on the laboratory report for pH as the hold time of 15 minutes from collection was exceeded during transport prior to analysis. Similarly, the hold time was exceeded for corrosivity by pH and reduction potential.

A dilution due to matrix qualifier is indicated on the laboratory report for total dissolved solids, reactive cyanide, and reactive sulfide.

A low spike value was reported for reactive sulfide indicating the sample matrix interfered with the analysis.

Closure and Limitations

This report is prepared for the exclusive use of Agua Moss LLC and is subject to the terms, conditions, and limitations stated in Rule's report and Service Agreement with Agua Moss LLC. All work has been performed in accordance with generally accepted professional environmental consulting practices. No other warranty is expressed or implied.

Rule Engineering appreciates the opportunity to provide services to Agua Moss LLC. If you have any questions, please contact me at (505) 325-1055.

Sincerely,
Rule Engineering, LLC



Heather M. Woods, P.G.
Area Manager/Geologist

Attachments:

Table 1. Summary of Field Screening and Laboratory Analytical Results
Laboratory Analytical Reports (Hall: 1912C38)

Table 1. Summary of Field Screening and Laboratory Analytical Results

Sample ID	S-12		Units	Toxicity Characteristic Concentrations
Collection Date	12/23/2019			
Analyte	Laboratory Results	Field Results		
pH	7.15 H	7.82	su	
Temperature	--	20.6	°C	
Reduction Potential	40.0 H	-192.7	mV	
Specific Conductance	66,000	56,000	µmhos/cm	
Specific Gravity	1.018	--		
Total Dissolved Solids	31,000 D	36,211	mg/L	
Bicarbonate (As CaCO ₃)	628.9	--	mg/L	
Carbonate (As CaCO ₃)	<2.000	--	mg/L	
Flouride	<1.0	--	mg/L	
Chloride	17,000	--	mg/L	
Bromide	90	--	mg/L	
Phosphorus, Orthophosphate	<5.0	--	mg/L	
Sulfate	6.8	--	mg/L	
Nitrogen, Nitrate (as N)	<10			
Nitrogen, Nitrite (as N)	<10	--	mg/L	
Calcium	190	--	mg/L	
Magnesium	60	--	mg/L	
Potassium	53	--	mg/L	
Sodium	12,000	--	mg/L	
Reactive Cyanide	<0.00500 D S	--	mg/L	
Reactive Sulfide	0.207 D	--	mg/L	
Flashpoint	Did not flash at 170°F	--		
Corrosivity by pH	12.6 H	--	su	
Arsenic	<0.020	--	mg/L	5.0 mg/L
Barium	14	--	mg/L	100.0 mg/L
Benzene	13	--	mg/L	0.5 mg/L
Cadmium	<0.0020	--	mg/L	1.0 mg/L
Carbon tetrachloride	<0.50	--	mg/L	0.5 mg/L
Chlordane	<0.30	--	mg/L	0.03 mg/L
Chlorobenzene	<100	--	mg/L	100.0 mg/L
Chloroform	<6.0	--	mg/L	6.0 mg/L
Chromium	<0.0060	--	mg/L	5.0 mg/L
Cresols, Total	<200	--	mg/L	200 mg/L
1,4-Dichlorobenzene	<7.5	--	mg/L	7.5 mg/L
1,2-Dichloroethane	<0.50	--	mg/L	0.5 mg/L
1,1-Dichloroethene	<0.70	--	mg/L	0.7 mg/L
2,4-Dinitrotoluene	<0.13	--	mg/L	0.13 mg/L
Hexachlorobenzene	<0.13	--	mg/L	0.13 mg/L
Hexachlorobutadiene	<0.50	--	mg/L	0.5 mg/L
Hexachloroethane	<3.0	--	mg/L	3.0 mg/L
Lead	<0.0050	--	mg/L	5.0 mg/L
Mercury	<0.00020	--	mg/L	0.2 mg/L
Methyl ethyl ketone	<200	--	mg/L	200.0 mg/L
Nitrobenzene	<2.0	--	mg/L	2.0 mg/L
Pentachlorophenol	<100	--	mg/L	100.0 mg/L
Pyridine	<5.0	--	mg/L	5.0 mg/L
Selenium	<0.050	--	mg/L	1.0 mg/L
Silver	<0.0050	--	mg/L	5.0 mg/L
Tetrachloroethylene	<0.70	--	mg/L	0.7 mg/L
Trichloreethylene	<0.50	--	mg/L	0.5 mg/L
2,4,5-Trichlorophenol	<400	--	mg/L	400.0 mg/L
2,4,6-Trichlorophenol	<2.0	--	mg/L	2.0 mg/L
Vinyl chloride	<0.20	--	mg/L	0.2 mg/L

Notes: su - standard units
°C - degrees Celsius
°F - degrees Fahrenheit
mV - millivolts
µmhos/cm - micromohs per centimeter
mg/L - milligrams per liter
H - Holding times for preparation or analysis exceeded
D - Sample diluted due to matrix
S - % Recovery outside of range due to dilution or matrix

1.00

Exceeds the Toxicity Characteristic Concentration



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 14, 2020

Heather Woods
Rule Engineering LLC
501 Airport Dr., Ste 205
Farmington, NM 87401
TEL: (505) 325-1055
FAX:

RE: Agua Moss Sunco Disposal 1

OrderNo.: 1912C38

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/24/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Case Narrative

WO#: 1912C38
Date: 1/14/2020

CLIENT: Rule Engineering LLC
Project: Agua Moss Sunco Disposal 1

Analytical Comments Regarding 8270:

The laboratory control spike (LCS) was spiked with the standard compound list, instead of the TCLP compound list. The spike used passed all QC parameters.

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912C38

Date Reported: 1/14/2020

CLIENT: Rule Engineering LLC

Client Sample ID: S-12 (12/23/19)

Project: Agua Moss Sunco Disposal 1

Collection Date: 12/23/2019 9:10:00 AM

Lab ID: 1912C38-001

Matrix: AQUEOUS

Received Date: 12/24/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8081: PESTICIDES TCLP							Analyst: JME
Chlordane	ND	0.30		mg/L	1	1/2/2020 1:03:54 PM	49550
Surr: Decachlorobiphenyl	70.4	29.4-99.8		%Rec	1	1/2/2020 1:03:54 PM	49550
Surr: Tetrachloro-m-xylene	68.8	20.7-100		%Rec	1	1/2/2020 1:03:54 PM	49550
EPA METHOD 8270C TCLP							Analyst: JDC
2-Methylphenol	ND	200		mg/L	1	1/3/2020 12:50:43 PM	49534
3+4-Methylphenol	ND	200		mg/L	1	1/3/2020 12:50:43 PM	49534
2,4-Dinitrotoluene	ND	0.13		mg/L	1	1/3/2020 12:50:43 PM	49534
Hexachlorobenzene	ND	0.13		mg/L	1	1/3/2020 12:50:43 PM	49534
Hexachlorobutadiene	ND	0.50		mg/L	1	1/3/2020 12:50:43 PM	49534
Hexachloroethane	ND	3.0		mg/L	1	1/3/2020 12:50:43 PM	49534
Nitrobenzene	ND	2.0		mg/L	1	1/3/2020 12:50:43 PM	49534
Pentachlorophenol	ND	100		mg/L	1	1/3/2020 12:50:43 PM	49534
Pyridine	ND	5.0		mg/L	1	1/3/2020 12:50:43 PM	49534
2,4,5-Trichlorophenol	ND	400		mg/L	1	1/3/2020 12:50:43 PM	49534
2,4,6-Trichlorophenol	ND	2.0		mg/L	1	1/3/2020 12:50:43 PM	49534
Cresols, Total	ND	200		mg/L	1	1/3/2020 12:50:43 PM	49534
Surr: 2-Fluorophenol	35.4	15-82.5		%Rec	1	1/3/2020 12:50:43 PM	49534
Surr: Phenol-d5	31.4	15-74.2		%Rec	1	1/3/2020 12:50:43 PM	49534
Surr: 2,4,6-Tribromophenol	61.9	18.6-118		%Rec	1	1/3/2020 12:50:43 PM	49534
Surr: Nitrobenzene-d5	59.7	30.4-106		%Rec	1	1/3/2020 12:50:43 PM	49534
Surr: 2-Fluorobiphenyl	59.3	15-104		%Rec	1	1/3/2020 12:50:43 PM	49534
Surr: 4-Terphenyl-d14	56.1	15-133		%Rec	1	1/3/2020 12:50:43 PM	49534
SPECIFIC GRAVITY							Analyst: JRR
Specific Gravity	1.018	0			1	12/30/2019 1:29:00 PM	R65470
EPA METHOD 300.0: ANIONS							Analyst: CJS
Fluoride	ND	1.0		mg/L	10	12/24/2019 4:34:15 PM	R65404
Chloride	17000	1000		mg/L	2E+	1/2/2020 8:47:34 PM	R65543
Nitrogen, Nitrite (As N)	ND	10		mg/L	100	12/24/2019 4:46:39 PM	R65404
Bromide	90	10		mg/L	100	12/24/2019 4:46:39 PM	R65404
Nitrogen, Nitrate (As N)	ND	10		mg/L	100	12/24/2019 4:46:39 PM	R65404
Phosphorus, Orthophosphate (As P)	ND	5.0		mg/L	10	12/24/2019 4:34:15 PM	R65404
Sulfate	6.8	5.0		mg/L	10	12/24/2019 4:34:15 PM	R65404
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	66000	250		µmhos/c	50	12/31/2019 11:02:22 AM	R65519
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	628.9	20.00		mg/L Ca	1	12/27/2019 4:21:34 PM	R65457
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	12/27/2019 4:21:34 PM	R65457

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912C38

Date Reported: 1/14/2020

CLIENT: Rule Engineering LLC

Client Sample ID: S-12 (12/23/19)

Project: Agua Moss Sunco Disposal 1

Collection Date: 12/23/2019 9:10:00 AM

Lab ID: 1912C38-001

Matrix: AQUEOUS

Received Date: 12/24/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SM2320B: ALKALINITY							Analyst: JRR
Total Alkalinity (as CaCO ₃)	628.9	20.00		mg/L Ca	1	12/27/2019 4:21:34 PM	R65457
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	31000	200	*D	mg/L	1	12/27/2019 1:59:00 PM	49522
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	7.15		H	pH units	1	12/27/2019 4:21:34 PM	R65457
EPA METHOD 7470: MERCURY							Analyst: pmf
Mercury	ND	0.00020		mg/L	1	1/7/2020 4:50:57 PM	49667
EPA METHOD 6010B: DISSOLVED METALS							Analyst: pmf
Calcium	190	10		mg/L	10	12/30/2019 7:23:26 PM	C65484
Magnesium	60	1.0		mg/L	1	12/30/2019 7:21:30 PM	C65484
Potassium	53	1.0		mg/L	1	12/30/2019 7:21:30 PM	C65484
Sodium	12000	200		mg/L	200	1/9/2020 10:54:06 AM	A65667
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: ELS
Arsenic	ND	0.020		mg/L	1	1/9/2020 8:27:11 AM	49581
Barium	14	0.40		mg/L	20	1/9/2020 8:44:35 AM	49581
Cadmium	ND	0.0020		mg/L	1	1/9/2020 8:27:11 AM	49581
Chromium	ND	0.0060		mg/L	1	1/9/2020 8:27:11 AM	49581
Lead	ND	0.0050		mg/L	1	1/9/2020 8:27:11 AM	49581
Selenium	ND	0.050		mg/L	1	1/9/2020 8:27:11 AM	49581
Silver	ND	0.0050		mg/L	1	1/9/2020 8:27:11 AM	49581
TCLP VOLATILES BY 8260B							Analyst: JMR
Benzene	13	0.50		mg/L	200	12/27/2019 2:56:04 AM	T65432
1,2-Dichloroethane (EDC)	ND	0.50		mg/L	200	12/27/2019 2:56:04 AM	T65432
2-Butanone	ND	200		mg/L	200	12/27/2019 2:56:04 AM	T65432
Carbon Tetrachloride	ND	0.50		mg/L	200	12/27/2019 2:56:04 AM	T65432
Chloroform	ND	6.0		mg/L	200	12/27/2019 2:56:04 AM	T65432
1,4-Dichlorobenzene	ND	7.5		mg/L	200	12/27/2019 2:56:04 AM	T65432
1,1-Dichloroethene	ND	0.70		mg/L	200	12/27/2019 2:56:04 AM	T65432
Tetrachloroethene (PCE)	ND	0.70		mg/L	200	12/27/2019 2:56:04 AM	T65432
Trichloroethene (TCE)	ND	0.50		mg/L	200	12/27/2019 2:56:04 AM	T65432
Vinyl chloride	ND	0.20		mg/L	200	12/27/2019 2:56:04 AM	T65432
Chlorobenzene	ND	100		mg/L	200	12/27/2019 2:56:04 AM	T65432
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	200	12/27/2019 2:56:04 AM	T65432
Surr: 4-Bromofluorobenzene	95.6	70-130		%Rec	200	12/27/2019 2:56:04 AM	T65432
Surr: Dibromofluoromethane	103	70-130		%Rec	200	12/27/2019 2:56:04 AM	T65432
Surr: Toluene-d8	100	70-130		%Rec	200	12/27/2019 2:56:04 AM	T65432

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory

Sample Delivery Group: L1174401
Samples Received: 12/27/2019
Project Number:
Description:

Report To:

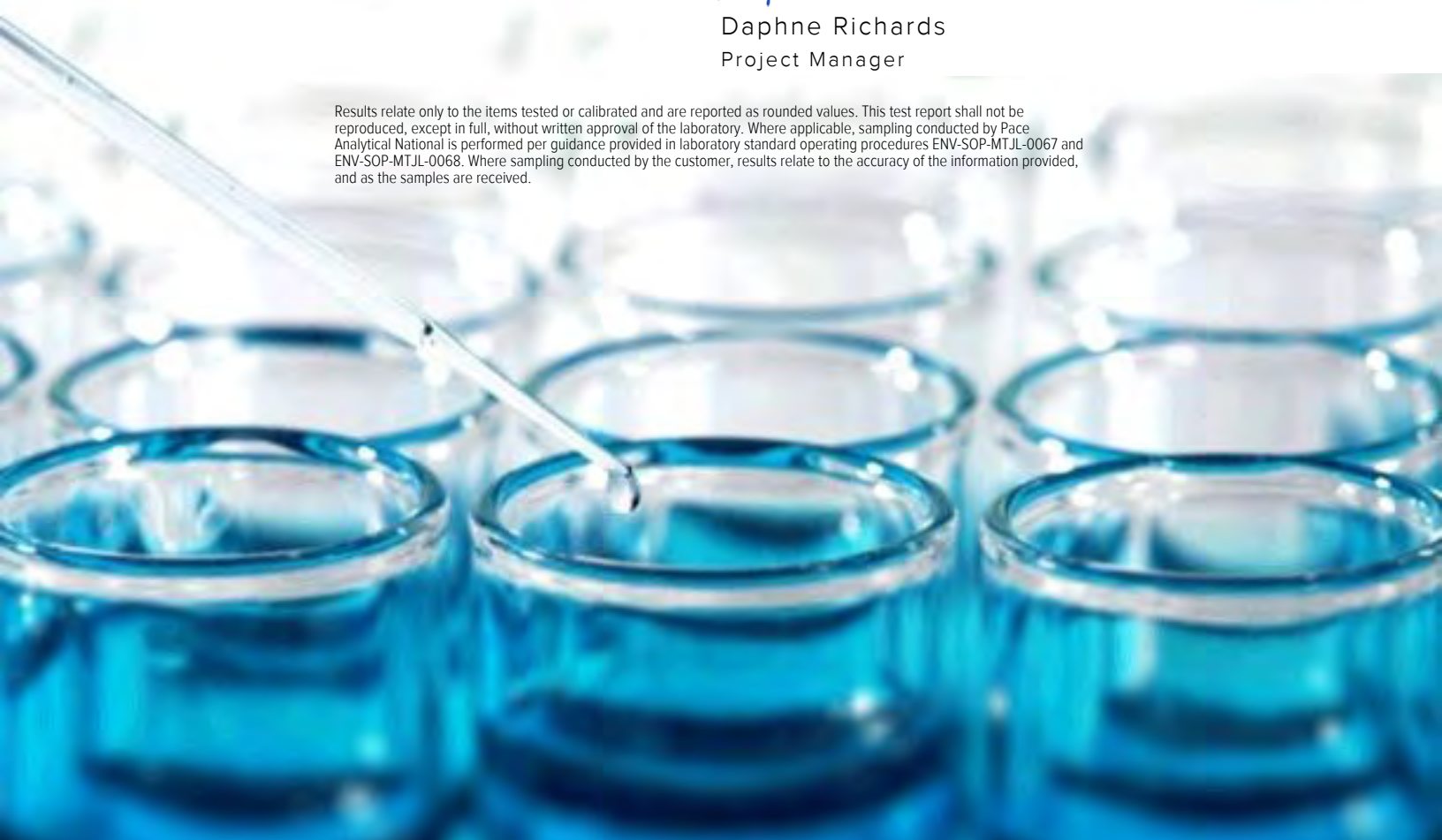
4901 Hawkins NE
Albuquerque, NM 87109

Entire Report Reviewed By:



Daphne Richards
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.





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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



1912C38-001G S-12 (12/23/19) L1174401-01 GW

Collected by

Collected date/time

Received date/time

12/23/19 09:10

12/27/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2580	WG1405525	1	01/03/20 21:20	01/03/20 21:20	AKA	Mt. Juliet, TN

1912C38-001H S-12 (12/23/19) L1174401-02 WW

Collected by

Collected date/time

Received date/time

12/23/19 09:10

12/27/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500 CN E-2011	WG1405495	1	01/03/20 11:09	01/06/20 14:07	JER	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG1403958	1	12/30/19 11:00	12/30/19 11:00	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9034-9030B	WG1403193	1	12/27/19 16:07	12/27/19 16:07	NJM	Mt. Juliet, TN
Wet Chemistry by Method D93/1010A	WG1406380	1	01/06/20 14:38	01/06/20 14:38	SL	Mt. Juliet, TN

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1174401

DATE/TIME:

01/07/20 16:04

PAGE:

3 of 15



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne Richards
Project Manager

Project Narrative

All Reactive Cyanide results reported in the attached report were determined as totals using method 9012B.

All Reactive Sulfide results reported in the attached report were determined as totals using method 9034/9030B.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Wet Chemistry by Method 2580

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
ORP	40.0	T8	1	01/03/2020 21:20	WG1405525

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Collected date/time: 12/23/19 09:10

L1174401

Wet Chemistry by Method 4500 CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Cyanide	ND	J3 J6	0.00500	1	01/06/2020 14:07	WG1405495

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Corrosivity by pH	12.6	T8	1	12/30/2019 11:00	WG1403958

Sample Narrative:

L1174401-02 WG1403958: 12.55 at 25.1C

Wet Chemistry by Method 9034-9030B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Sulfide	0.207	J6	0.0500	1	12/27/2019 16:07	WG1403193

Wet Chemistry by Method D93/1010A

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Flashpoint	DNF at 170		1	01/06/2020 14:38	WG1406380



L1174401-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1174401-01 01/03/20 21:20 • (DUP) R3487979-2 01/03/20 21:20					
Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	<u>DUP Qualifier</u> DUP Diff Limits mV
ORP	40.0	41.0	1	2.47	20

Laboratory Control Sample (LCS)

(LCS) R3487979-1 01/03/20 21:20					
Analyte	Spike Amount mV	LCS Result mV	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
ORP	105	104	99.0	86.0-105	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3488347-1 01/06/20 13:53

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Cyanide	U		0.00180	0.00500

L1175074-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1175074-02 01/06/20 14:20 • (DUP) R3488347-6 01/06/20 14:21

Analyte	Original Result		DUP Result		DUP RPD		DUP Qualifier		DUP RPD Limits	
	mg/l		mg/l		%			%	%	
Reactive Cyanide	ND		0.000		1	0.000			20	

L1174352-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1174352-01 01/06/20 14:02 • (DUP) R3488347-9 01/06/20 14:30

Analyte	Original Result		DUP Result		DUP RPD		DUP Qualifier		DUP RPD Limits	
	mg/l		mg/l		%			%	%	
Reactive Cyanide	U		0.000		1	0.000			20	

Laboratory Control Sample (LCS)

(LCS) R3488347-2 01/06/20 13:54

Analyte	Spike Amount		LCS Result		Rec. Limits		LCS Qualifier	
	mg/l		mg/l		%			
Reactive Cyanide	0.100		0.0991		99.1	85.0-115		

L1174401-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1174401-02 01/06/20 14:07 • (MS) R3488347-4 01/06/20 14:08 • (MSD) R3488347-5 01/06/20 14:09

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Reactive Cyanide	0.100	ND	0.00414	0.00558	4.14	5.58	1	75.0-125	J6	J3 J6	29.6	20

L1175074-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1175074-05 01/06/20 14:24 • (MS) R3488347-7 01/06/20 14:25 • (MSD) R3488347-8 01/06/20 14:26

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Reactive Cyanide	0.100	ND	0.0691	0.0991	69.1	99.1	1	75.0-125	J6	J3	35.7	20



Laboratory Control Sample (LCS)

(LCS) R3486873-1 12/30/19 11:00

Analyte	Spike Amount		LCS Result		LCS Rec.		Rec. Limits		LCS Qualifier	
	SU		SU		%		%			
Corrosivity by pH	10.0		9.99		99.9		99.0-101			

Sample Narrative:

LCS: 9.99 at 19.3C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3486422-1 12/27/19 15:41

Analyte	MB Result mg/l	<u>MB Qualifier</u> mg/l	MB MDL mg/l	MB RDL mg/l
Reactive Sulfide	U	0.00650	0.0500	

L1174401-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1174401-02 12/27/19 16:07 • (DUP) R3486422-3 12/27/19 16:08

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u> %	DUP RPD Limits %
Reactive Sulfide	0.207	0.199	1	3.94		20

Laboratory Control Sample (LCS)

(LCS) R3486422-2 12/27/19 15:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u> %
Reactive Sulfide	0.500	0.566	113	85.0-115	

L1174401-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1174401-02 12/27/19 16:07 • (MS) R3486422-4 12/27/19 16:09 • (MSD) R3486422-5 12/27/19 16:09

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	Dilution	Rec. Limits %	<u>MS Qualifier</u> %	<u>MSD Qualifier</u> %	RPD %	RPD Limits %
Reactive Sulfide	1.00	0.207	0.774	0.840	1	80.0-120	J6	J6	8.18	20



L1175049-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1175049-01 01/06/20 14:38 • (DUP) R3488341-3 01/06/20 14:38

Analyte	Original Result deg F	DUP Result deg F	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Flashpoint	87.4	89.4	1	2.26		10

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3488341-1 01/06/20 14:38 • (LCSD) R3488341-2 01/06/20 14:38

Analyte	Spike Amount deg F	LCS Result deg F	LCSD Result deg F	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD	RPD Limits %
Flashpoint	82.0	82.4	82.4	100	100	97.0-103			0.000	10

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

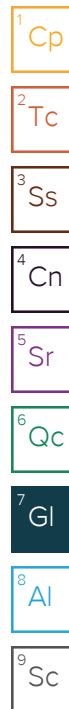
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.





Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

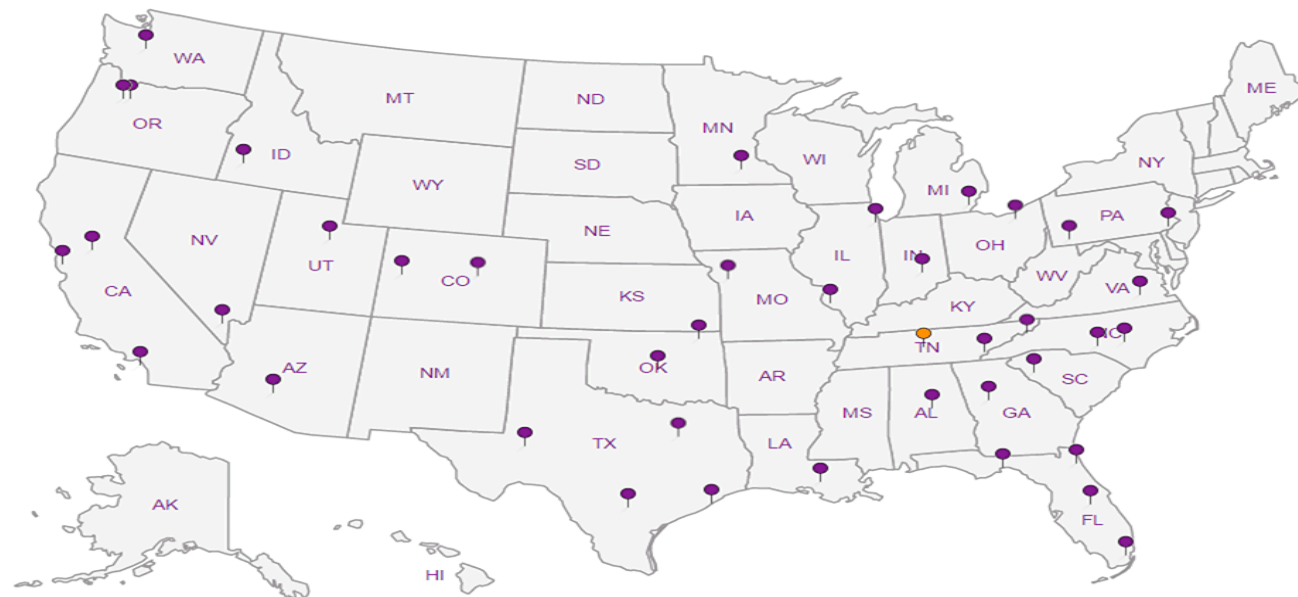
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.





CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenvironmental.com

SUB CONTRACTOR: ESC PACE		COMPANY: ESC PACE		PHONE: (800) 767-5859	FAX: (615) 758-5859
ADDRESS: 12065 Lebanon Rd		ACCOUNT #:			
CITY, STATE, ZIP: Mt. Juliet, TN 37122					

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	1912C38-001G	S-12 (12/23/19)	125HDP	Aqueous	12/23/2019 9:10:00 AM	1	Oxidation Reduction Potential
2	1912C38-001H	S-12 (12/23/19)	500HDPE	Aqueous	12/23/2019 9:10:00 AM	3	RCI

1174401-01
02

RAD SCREEN: <0.5 mR/hr

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

C080

4516 1669 2226 NoTB 4 Total

Relinquished By: <u>IT-O</u>	Date: <u>12/24/2019</u>	Time: <u>9:29 AM</u>	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By: <u>[Signature]</u>	Date: <u>12-27-19</u>	Time: <u>830</u>

TAT: ☒ Standard ☐ RUSH	Next BD ☐ 2nd BD ☐ 3rd BD ☐
---	--

REPORT TRANSMITTAL DESIRED: ☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE	
FOR LAB USE ONLY Temp of samples: <u>02-1201</u> °C Attempt to Cool? <u>Y</u>	
Comments: <u>LOUSE</u>	

Pace Analytical National Center for Testing & Innovation Cooler Receipt Form

Client:	HALLENAM	L1174461
Cooler Received/Opened On:	12 / 27 / 19	Temperature: 3.1
Received By:	Michael Pappas	
Signature:		
Receipt Check List		
COC Seal Present / Intact?	NP	Yes / No
COC Signed / Accurate?		Yes / No
Bottles arrive intact?		Yes / No
Correct bottles used?		Yes / No
Sufficient volume sent?		Yes / No
If Applicable		Yes / No
VOA Zero headspace?		Yes / No
Preservation Correct / Checked?		Yes / No

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912C38

14-Jan-20

Client: Rule Engineering LLC
Project: Agua Moss Sunco Disposal 1

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R65404	RunNo: 65404								
Prep Date:	Analysis Date: 12/24/2019	SeqNo: 2246802		Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R65404	RunNo: 65404								
Prep Date:	Analysis Date: 12/24/2019	SeqNo: 2246803		Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	100	90	110			
Nitrogen, Nitrite (As N)	0.95	0.10	1.000	0	94.9	90	110			
Bromide	2.5	0.10	2.500	0	98.9	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Phosphorus, Orthophosphate (As P)	4.7	0.50	5.000	0	94.0	90	110			
Sulfate	9.8	0.50	10.00	0	97.7	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R65543	RunNo: 65543								
Prep Date:	Analysis Date: 1/2/2020	SeqNo: 2251528		Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R65543	RunNo: 65543								
Prep Date:	Analysis Date: 1/2/2020	SeqNo: 2251529		Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.5	0.50	5.000	0	90.6	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912C38

14-Jan-20

Client: Rule Engineering LLC
Project: Agua Moss Sunco Disposal 1

Sample ID: 100ng lcs	SampType: LCS		TestCode: TCLP Volatiles by 8260B							
Client ID: LCSW	Batch ID: T65432		RunNo: 65432							
Prep Date:	Analysis Date: 12/26/2019		SeqNo: 2247699		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.018	0.0025	0.02000	0	91.9	70	130			
1,1-Dichloroethene	0.018	0.0035	0.02000	0	91.0	70	130			
Trichloroethene (TCE)	0.017	0.0025	0.02000	0	83.3	70	130			
Chlorobenzene	ND	0.50	0.02000	0	93.2	70	130			
Surr: 1,2-Dichloroethane-d4	0.0093		0.01000		93.2	70	130			
Surr: 4-Bromofluorobenzene	0.0093		0.01000		93.0	70	130			
Surr: Dibromofluoromethane	0.010		0.01000		101	70	130			
Surr: Toluene-d8	0.0097		0.01000		97.2	70	130			

Sample ID: rb	SampType: MBLK		TestCode: TCLP Volatiles by 8260B							
Client ID: PBW	Batch ID: T65432		RunNo: 65432							
Prep Date:	Analysis Date: 12/26/2019		SeqNo: 2247702		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.0025								
1,2-Dichloroethane (EDC)	ND	0.0025								
2-Butanone	ND	1.0								
Carbon Tetrachloride	ND	0.0025								
Chloroform	ND	0.030								
1,4-Dichlorobenzene	ND	0.038								
1,1-Dichloroethene	ND	0.0035								
Tetrachloroethene (PCE)	ND	0.0035								
Trichloroethene (TCE)	ND	0.0025								
Vinyl chloride	ND	0.0010								
Chlorobenzene	ND	0.50								
Surr: 1,2-Dichloroethane-d4	0.0098		0.01000		98.3	70	130			
Surr: 4-Bromofluorobenzene	0.0096		0.01000		95.7	70	130			
Surr: Dibromofluoromethane	0.010		0.01000		100	70	130			
Surr: Toluene-d8	0.010		0.01000		102	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912C38

14-Jan-20

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: mb-49534	SampType: MBLK	TestCode: EPA Method 8270C TCLP								
Client ID: PBW	Batch ID: 49534	RunNo: 65564								
Prep Date: 12/27/2019	Analysis Date: 1/3/2020	SeqNo: 2252212 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylphenol	ND	200								
3+4-Methylphenol	ND	200								
2,4-Dinitrotoluene	ND	0.13								
Hexachlorobenzene	ND	0.13								
Hexachlorobutadiene	ND	0.50								
Hexachloroethane	ND	3.0								
Nitrobenzene	ND	2.0								
Pentachlorophenol	ND	100								
Pyridine	ND	5.0								
2,4,5-Trichlorophenol	ND	400								
2,4,6-Trichlorophenol	ND	2.0								
Cresols, Total	ND	200								
Surr: 2-Fluorophenol	0.10		0.2000		51.6	15	82.5			
Surr: Phenol-d5	0.085		0.2000		42.3	15	74.2			
Surr: 2,4,6-Tribromophenol	0.14		0.2000		70.9	18.6	118			
Surr: Nitrobenzene-d5	0.078		0.1000		77.8	30.4	106			
Surr: 2-Fluorobiphenyl	0.074		0.1000		73.7	15	104			
Surr: 4-Terphenyl-d14	0.069		0.1000		68.7	15	133			

Sample ID: lcs-49534	SampType: LCS	TestCode: EPA Method 8270C TCLP								
Client ID: LCSW	Batch ID: 49534	RunNo: 65564								
Prep Date: 12/27/2019	Analysis Date: 1/3/2020	SeqNo: 2252213 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylphenol	ND	0.0010	0.1000	0	0	33.8	121			S
3+4-Methylphenol	ND	0.0010	0.2000	0	0	33.6	109			S
2,4-Dinitrotoluene	0.058	0.0010	0.1000	0	57.9	50.4	124			
Hexachlorobenzene	ND	0.0010	0.1000	0	0	50.1	120			S
Hexachlorobutadiene	ND	0.0010	0.1000	0	0	16.1	103			S
Hexachloroethane	ND	0.0010	0.1000	0	0	15	94.2			S
Nitrobenzene	ND	0.0010	0.1000	0	0	32.4	125			S
Pentachlorophenol	0.11	0.0010	0.1000	0	111	44.6	114			
Pyridine	ND	0.0010	0.1000	0	0	15	67			S
2,4,5-Trichlorophenol	ND	0.0010	0.1000	0	0	49.4	118			S
2,4,6-Trichlorophenol	ND	0.0010	0.1000	0	0	50.3	116			S
Cresols, Total	0.067	0.0010	0.3000	0	22.4	33.8	109			S
Surr: 2-Fluorophenol	0.078		0.2000		39.1	15	82.5			
Surr: Phenol-d5	0.069		0.2000		34.5	15	74.2			
Surr: 2,4,6-Tribromophenol	0.12		0.2000		60.9	18.6	118			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912C38

14-Jan-20

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: Ics-49534		SampType: LCS		TestCode: EPA Method 8270C TCLP						
Client ID: LCSW		Batch ID: 49534		RunNo: 65564						
Prep Date: 12/27/2019		Analysis Date: 1/3/2020		SeqNo: 2252213			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Nitrobenzene-d5	0.074		0.1000		73.5	30.4	106			
Surr: 2-Fluorobiphenyl	0.063		0.1000		63.3	15	104			
Surr: 4-Terphenyl-d14	0.061		0.1000		61.4	15	133			

Sample ID: 1912C38-001Cms	SampType: MS	TestCode: EPA Method 8270C TCLP								
Client ID: S-12 (12/23/19)	Batch ID: 49534	RunNo: 65564								
Prep Date: 12/27/2019	Analysis Date: 1/3/2020	SeqNo: 2252215			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylphenol	0.020	0.0010	0.1000	0.02138	-1.58	30.5	98.2			S
3+4-Methylphenol	0.022	0.0010	0.2000	0.02406	-1.26	27.4	98.6			S
2,4-Dinitrotoluene	0.055	0.0010	0.1000	0	54.6	34.3	87.4			
Hexachlorobenzene	ND	0.0010	0.1000	0	0	36.5	100			S
Hexachlorobutadiene	ND	0.0010	0.1000	0	0	15	108			S
Hexachloroethane	ND	0.0010	0.1000	0	0	15	90.7			S
Nitrobenzene	ND	0.0010	0.1000	0	0	39	100			S
Pentachlorophenol	0.10	0.0010	0.1000	0	105	15	97.5			S
Pyridine	ND	0.0010	0.1000	0	0	15	65.8			S
2,4,5-Trichlorophenol	ND	0.0010	0.1000	0	0	36.1	109			S
2,4,6-Trichlorophenol	ND	0.0010	0.1000	0	0	37.8	104			S
Cresols, Total	0.12	0.0010	0.3000	0.06734	17.7	27.1	99.8			S
Surr: 2-Fluorophenol	0.069		0.2000		34.3	15	82.5			
Surr: Phenol-d5	0.059		0.2000		29.6	15	74.2			
Surr: 2,4,6-Tribromophenol	0.12		0.2000		57.6	18.6	118			
Surr: Nitrobenzene-d5	0.061		0.1000		60.5	30.4	106			
Surr: 2-Fluorobiphenyl	0.057		0.1000		57.4	15	104			
Surr: 4-Terphenyl-d14	0.055		0.1000		54.7	15	133			

Sample ID: 1912C38-001Cmsd		SampType: MSD		TestCode: EPA Method 8270C TCLP							
Client ID: S-12 (12/23/19)		Batch ID: 49534		RunNo: 65564							
Prep Date: 12/27/2019		Analysis Date: 1/3/2020		SeqNo: 2252217		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
2-Methylphenol	0.028	0.0010	0.1000	0.02138	6.48	30.5	98.2	33.8	44.3	S	
3+4-Methylphenol	0.030	0.0010	0.2000	0.02406	2.81	27.4	98.6	31.8	50	S	
2,4-Dinitrotoluene	0.072	0.0010	0.1000	0	72.5	34.3	87.4	28.2	45.1		
Hexachlorobenzene	ND	0.0010	0.1000	0	0	36.5	100	0	47.2	S	
Hexachlorobutadiene	ND	0.0010	0.1000	0	0	15	108	0	43.4	S	
Hexachloroethane	ND	0.0010	0.1000	0	0	15	90.7	0	39.2	S	
Nitrobenzene	ND	0.0010	0.1000	0	0	39	100	0	42.1	S	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912C38

14-Jan-20

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: 1912C38-001Cmsd		SampType: MSD		TestCode: EPA Method 8270C TCLP						
Client ID: S-12 (12/23/19)		Batch ID: 49534		RunNo: 65564						
Prep Date: 12/27/2019		Analysis Date: 1/3/2020		SeqNo: 2252217		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Pentachlorophenol	0.14	0.0010	0.1000	0	145	15	97.5	32.3	50	S
Pyridine	ND	0.0010	0.1000	0	0	15	65.8	0	50	S
2,4,5-Trichlorophenol	ND	0.0010	0.1000	0	0	36.1	109	0	49.7	S
2,4,6-Trichlorophenol	ND	0.0010	0.1000	0	0	37.8	104	0	47	S
Cresols, Total	0.17	0.0010	0.3000	0.06734	32.9	27.1	99.8	31.9	27.4	R
Surr: 2-Fluorophenol	0.10		0.2000		50.0	15	82.5	0	0	
Surr: Phenol-d5	0.082		0.2000		41.0	15	74.2	0	0	
Surr: 2,4,6-Tribromophenol	0.16		0.2000		79.1	18.6	118	0	0	
Surr: Nitrobenzene-d5	0.090		0.1000		90.2	30.4	106	0	0	
Surr: 2-Fluorobiphenyl	0.076		0.1000		75.8	15	104	0	0	
Surr: 4-Terphenyl-d14	0.071		0.1000		71.1	15	133	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912C38

14-Jan-20

Client: Rule Engineering LLC
Project: Agua Moss Sunco Disposal 1

Sample ID: Ics-1 99.9uS eC	SampType: Ics	TestCode: SM2510B: Specific Conductance								
Client ID: LCSW	Batch ID: R65519	RunNo: 65519								
Prep Date:	Analysis Date: 12/31/2019	SeqNo: 2250748	Units: µmhos/cm							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	100	5.0	99.90	0	99.7	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912C38

14-Jan-20

Client: Rule Engineering LLC
Project: Agua Moss Sunco Disposal 1

Sample ID: MB-49667	SampType: MBLK	TestCode: EPA Method 7470: Mercury
Client ID: PBW	Batch ID: 49667	RunNo: 65616
Prep Date: 1/7/2020	Analysis Date: 1/7/2020	SeqNo: 2253871 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND	0.00020

Sample ID: LCSLL-49667	SampType: LCSLL	TestCode: EPA Method 7470: Mercury
Client ID: BatchQC	Batch ID: 49667	RunNo: 65616
Prep Date: 1/7/2020	Analysis Date: 1/7/2020	SeqNo: 2253872 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND	0.00020 0.0001500 0 76.7 50 150

Sample ID: LCS-49667	SampType: LCS	TestCode: EPA Method 7470: Mercury
Client ID: LCSW	Batch ID: 49667	RunNo: 65616
Prep Date: 1/7/2020	Analysis Date: 1/7/2020	SeqNo: 2253873 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0049	0.00020 0.005000 0 97.5 80 120

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912C38

14-Jan-20

Client: Rule Engineering LLC
Project: Agua Moss Sunco Disposal 1

Sample ID: MB-C	SampType: MBLK	TestCode: EPA Method 6010B: Dissolved Metals								
Client ID: PBW	Batch ID: C65484	RunNo: 65484								
Prep Date:	Analysis Date: 12/30/2019	SeqNo: 2249798 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								

Sample ID: LCS-C	SampType: LCS	TestCode: EPA Method 6010B: Dissolved Metals								
Client ID: LCSW	Batch ID: C65484	RunNo: 65484								
Prep Date:	Analysis Date: 12/30/2019	SeqNo: 2249800 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	46	1.0	50.00	0	93.0	80	120			
Magnesium	47	1.0	50.00	0	94.2	80	120			
Potassium	47	1.0	50.00	0	93.9	80	120			

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 6010B: Dissolved Metals								
Client ID: PBW	Batch ID: A65667	RunNo: 65667								
Prep Date:	Analysis Date: 1/9/2020	SeqNo: 2255583 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID: LCS	SampType: LCS	TestCode: EPA Method 6010B: Dissolved Metals								
Client ID: LCSW	Batch ID: A65667	RunNo: 65667								
Prep Date:	Analysis Date: 1/9/2020	SeqNo: 2255584 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	50	1.0	50.00	0	101	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912C38

14-Jan-20

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: MB-49581	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 49581	RunNo: 65605								
Prep Date: 12/31/2019	Analysis Date: 1/7/2020	SeqNo: 2253387 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Silver	ND	0.0050								

Sample ID: LCS-49581	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 49581	RunNo: 65605								
Prep Date: 12/31/2019	Analysis Date: 1/7/2020	SeqNo: 2253389 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.020	0.5000	0	98.5	80	120			
Cadmium	0.49	0.0020	0.5000	0	97.7	80	120			
Chromium	0.47	0.0060	0.5000	0	94.4	80	120			
Silver	0.10	0.0050	0.1000	0	99.9	80	120			

Sample ID: MB-49581	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 49581	RunNo: 65667								
Prep Date: 12/31/2019	Analysis Date: 1/9/2020	SeqNo: 2255549 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Lead	ND	0.0050								
Selenium	ND	0.050								

Sample ID: LCS-49581	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 49581	RunNo: 65667								
Prep Date: 12/31/2019	Analysis Date: 1/9/2020	SeqNo: 2255550 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.46	0.020	0.5000	0	91.3	80	120			
Lead	0.48	0.0050	0.5000	0	96.6	80	120			
Selenium	0.45	0.050	0.5000	0	89.9	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912C38

14-Jan-20

Client: Rule Engineering LLC
Project: Agua Moss Sunco Disposal 1

Sample ID: mb-1 alk	SampType: mblk	TestCode: SM2320B: Alkalinity								
Client ID: PBW	Batch ID: R65457	RunNo: 65457								
Prep Date:	Analysis Date: 12/27/2019	SeqNo: 2248616	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: lcs-1 alk	SampType: lcs	TestCode: SM2320B: Alkalinity								
Client ID: LCSW	Batch ID: R65457	RunNo: 65457								
Prep Date:	Analysis Date: 12/27/2019	SeqNo: 2248617	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.12	20.00	80.00	0	98.9	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912C38

14-Jan-20

Client: Rule Engineering LLC

Project: Agua Moss Sunco Disposal 1

Sample ID: MB-49522	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: PBW	Batch ID: 49522	RunNo: 65445								
Prep Date: 12/25/2019	Analysis Date: 12/27/2019	SeqNo: 2248074		Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: LCS-49522	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: LCSW	Batch ID: 49522	RunNo: 65445								
Prep Date: 12/25/2019	Analysis Date: 12/27/2019	SeqNo: 2248075		Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1020	20.0	1000	0	102	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **RULE ENGINEERING LL**

Work Order Number: **1912C38**

RcptNo: 1

Received By: **Desiree Dominguez** 12/24/2019 8:30:00 AM

Completed By: **Isaiah Ortiz** 12/24/2019 9:23:55 AM

Reviewed By: **ENM**

12/24/19

ID-2
I-OK

Chain of Custody

1. Is Chain of Custody sufficiently complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. Received at least 1 vial with headspace $<1/4"$ for AQ VOA? Yes ☐ No ☐ NA ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: 5
(<2 or >12 unless noted)

Adjusted? NO

Checked by: DM 12/24/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.9	Good	Not Present			

Chain-of-Custody Record

Client: Rule Engineering

Mailing Address: 501 Airport Dr, Ste 205
Farmington, NM 87401
 Phone #: (505) 716-2787

email or Fax#: hwoods@ruleengineering.com

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:
Agua Moss
Sinco Disposal #1
 Project #:

Project Manager:

Heather Woods

Sampler: Heather Woods

On Ice: ☒ Yes ☐ No

of Coolers: 1

Cooler Temp (including CF): 0.8 + 0.1 = 0.9 (°C)

Container Type and #

Preservative Type

HEAL No.

(1) 500 mL Plastic HNO₃
(1) 500 mL Plastic NaOH
(1) 500 mL Plastic Zinc acetate NaOH
(2) 500 mL Plastic Non
(1) 125 mL Plastic H₂SO₄
(1) 125 mL Plastic HNO₃ Filtered
(5) 1L Glass Non
(3) 40 mL VOA HCl

1917038
-001

Sample Name

Water
S-12 (12/23/19)

Date

12/23/19
0910

Relinquished by:

Heather H. Woods

Date:

12/23/19
1537

Relinquished by:

Wit War

Date:

12/23/19
1810

Received by:

Wit War

Date

12/23/19
1537

Received by:

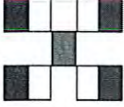
Wit War

Date

12/24/19
8:30

Remarks:

Direct Bill to Agua Moss
Rates per Andy



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX / MTBE / TMB's (8021)
 TPH: 8015D (GRO / DRO / MRO)
 8081 Pesticides/8082 PCB's
 EDB (Method 504.1)
 PAHs by 8310 or 8270SIMS
 RCRA 8 Metals
 Cl, F, Br, NO₃, NO₂, PO₄, SO₄
 8260 (VOA)
 8270 (Semi-VOA)
 Total Coliform (Present/Absent)

See Attached

Characteristic of toxicity using the Toxicity Characteristic Leaching Procedure, EPA SW-846
Test Method 1311 (see Table 1, 40 CFR 261.24(b)).

QUARTERLY MONITORING LIST			
EPA HW No.	Contaminant	SW-846 Methods	Regulatory Level (mg/L)
D004	Arsenic	1311	5.0
D005	Barium	1311	100.0
D018	Benzene	8021B	0.5
D006	Cadmium	1311	1.0
D019	Carbon tetrachloride	8021B 8260B	0.5
D020	Chlordane	8081A	0.03
D021	Chlorobenzene	8021B 8260B	100.0
D022	Chloroform	8021B 8260B	6.0
D007	Chromium	1311	5.0
D023	o-Cresol	8270D	200.0
D024	m-Cresol	8270D	200.0
D025	p-Cresol	8270D	200.0
D026	Cresol	8270D	200.0
D027	1,4-Dichlorobenzene	8021B 8121 8260B 8270D	7.5
D028	1,2-Dichloroethane	8021B 8260B	0.5
D029	1,1-Dichloroethylene	8021B 8260B	0.7
D030	2,4-Dinitrotoluene	8091 8270D	0.13
D032	Hexachlorobenzene	8121	0.13
D033	Hexachlorobutadiene	8021B 8121 8260B	0.5
D034	Hexachloroethane	8121	3.0
D008	Lead	1311	5.0
D009	Mercury	7470A 7471B	0.2
D035	Methyl ethyl ketone	8015B 8260B	200.0

D036	Nitrobenzene	8091 8270D	2.0
D037	Pentachlorophenol	8041	100.0
D038	Pyridine	8260B 8270D	5.0

D010	Selenium	1311	1.0
D011	Silver	1311	5.0
D039	Tetrachloroethylene	8260B	0.7
D040	Trichloroethylene	8021B 8260B	0.5
D041	2,4,5-Trichlorophenol	8270D	400.0
D042	2,4,6-Trichlorophenol	8041A 8270D	2.0
D043	Vinyl chloride	8021B 8260B	0.2

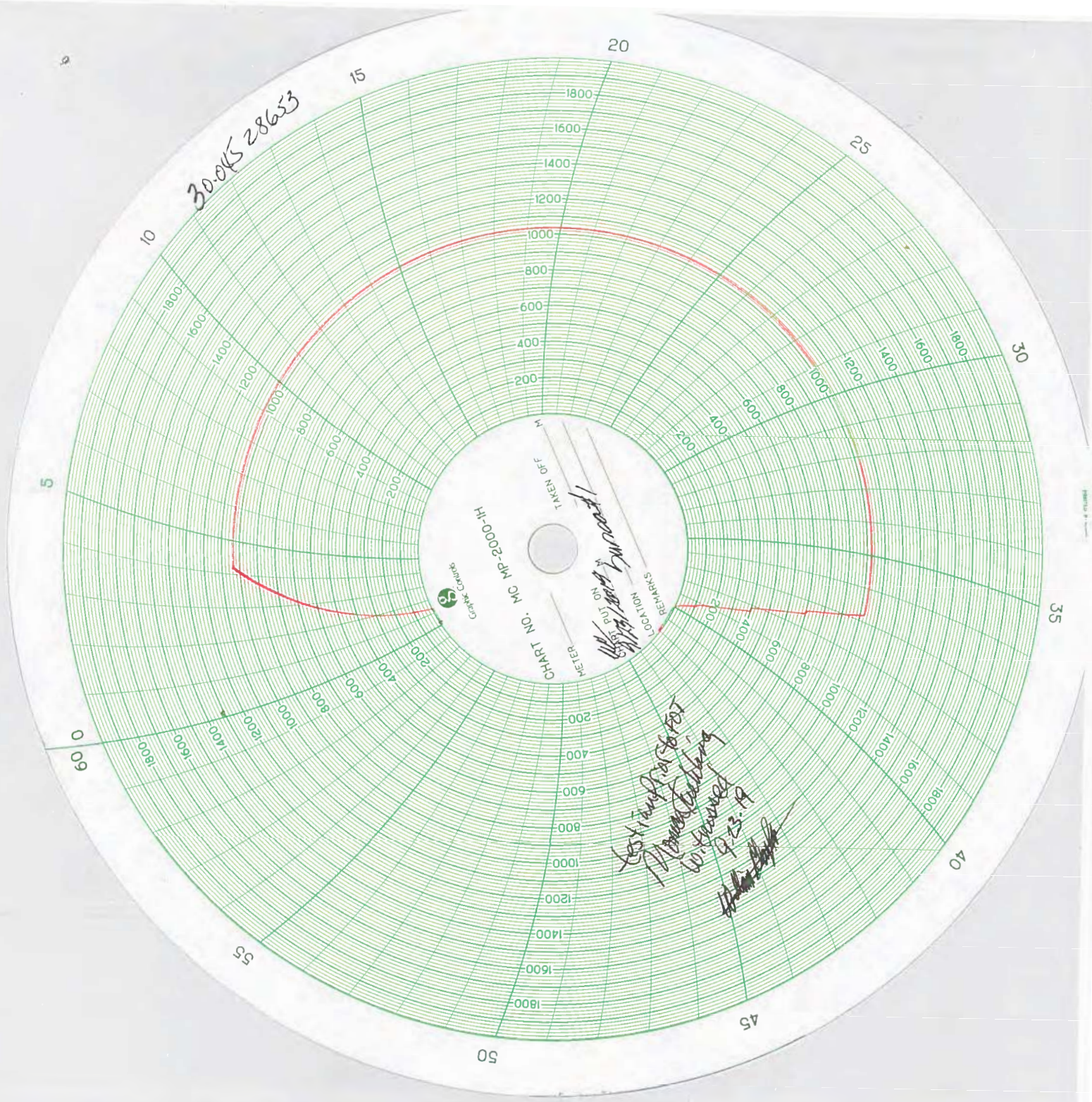
*If o-, m-, and p-cresol concentrations cannot be differentiated, then the total cresol (D026) concentration is used.
The regulatory level of total cresol is 200 mg/L.
If the quantitation limit is greater than the regulatory level, then the quantitation limit becomes the regulatory level.
If metals (dissolved), the EPA 1311 TCLP Laboratory Method is required with the exception of Mercury (total).*

ADDITIONALLY:

RCI, specific conductance, specific gravity, ORP, and general water quality parameters (general chemistry/cations and anions, including: fluoride, calcium, potassium, magnesium, sodium bicarbonate, carbonate, chloride, sulfate, total dissolved solids, cation/anion balance, pH, and bromide) using the methods specified at 40 CFR 136.3.

Appendix C

30-045 28653



5011 and 10.5 for
Monsieur
W. G. G. G. G.
9-23-19
H. G. G. G.

JADE SALES & SERVICE, INC.

(505) 325-6173

CONTENT AND METER REPORT

GAS

FROM

MERRION OIL + GAS

STA NO.

202A-175391

LEASE

MOG TEST METER #1

SYSTEM

LEGAL

GAS

DESCR.

TO

DATE

9/23/19

TIME

7:15 Am

EFFECTIVE

DATE

9/23/19

OF TEST

OF TEST

METER DATA

RECORDER DATA

AP CALIBRATION

TYPE
CONNECTION

FLG

PIPE

☐ 0

☐ 1

FLOW
COMPUTER

APP
DW

ATMOS
DW

FOUND

LEFT

METER

TUBE

SIZE

☒

☐

RECORDER

SIN OR MFG

BARTON
#2000

0

0.0

0.0

ORIFICE

INSTALLED

☒

☐

DIFF

RANGE

—

2000

1990.0

2000.0

ORIFICE

REMOVED

☒

☐

STATIC

RANGE

0-2000 #

1000

995.0

1000.0

ORIFICE

SIN

☒

☐

TEMP

RANGE

—

1600

1592.5

1600.0

AV

DIFF

AV

STATIC

400

397.5

400.0

SAMPLE

TAKEN

YES

NO

☐

☒

TYPE

OF

TEST

CHECK

☒

SETTLE

☐

ORIFICE

☐

0

0.0

0.0

TESTER

ARON ESTRADA

WITNESS

DP CALIBRATION

APP
DW

FOUND

LEFT

REMARKS —

TEMP CALIBRATION

THERM

FOUND

LEFT



Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, September 25, 2019 5:01 PM
To: 'Ryan Davis'
Cc: Ryan Merrion; Philana Thompson; Kuehling, Monica, EMNRD; Griswold, Jim, EMNRD; Wade, Gabriel, EMNRD
Subject: UICI-005 UIC Class I (NH) SUNCO Well No. 1 (API# 30-045-28653) Only Commercial Disposal Well, Agua Moss, LLC: MIT 9-23-2019
Attachments: Chart Recorder Calibration Sheet 9-23-19.pdf; MIT 9-23-19.pdf; MIT A 9-23-19.pdf

Ryan, et al.:

The New Mexico Oil Conservation Division (OCD) observes the OCD witnessed MIT by Monica Kuehling on 9/23/2019 pressure differential was $\sim \pm 1\%$ on the attached MIT chart(s), which indicates the above subject injection well passed the MIT. The Bradenhead Test was also successful.

FYI: OCD MITs consist of 2-parts, the annulus MIT (IMIT) and the Bradenhead (EMIT).

Please contact me if you have questions.

Thank you for your cooperation.

From: Ryan Davis <rdavis@merrion.bz>
Sent: Wednesday, September 25, 2019 4:31 PM
To: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
Cc: Ryan Merrion <ryan@merrion.bz>; Philana Thompson <pthompson@merrion.bz>; Kuehling, Monica, EMNRD <monica.kuehling@state.nm.us>
Subject: Re: [EXT] Sunco

Carl,

Here is the calibration sheet for the chart recorder used for the MIT this week on the Sunco SWD. Please let me know if you have any questions.

Thanks,

Ryan Davis

Operations Manager



(W) 505-215-3292



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

AZTEC DISTRICT OFFICE

1000 RIO BRAZOS ROAD

AZTEC NM 87410

(505) 334-6178 FAX: (505) 334-6170

[http://emnrd.state.nm.us/ocd/District III/3district.htm](http://emnrd.state.nm.us/ocd/District%20III/3district.htm)

NMOCd

24 2019

DISTRICT III

BRADENHEAD TEST REPORT

(submit 1 copy to above address)

Date of Test 9.23.19 Operator Aqua Moss LLC API #30-0 45-28653

Property Name Sunco Disposal Well No. 1 Location: Unit E Section 2 Township 29 Range 12

Well Status (Shut-In or Producing) Initial PSI: Tubing 1200 Intermediate N/A Casing 690 Bradenhead 0

OPEN BRADENHEAD AND INTERMEDIATE TO ATMOSPHERE INDIVIDUALLY FOR 15 MINUTES EACH

Testing	PRESSURE			INTERM	
	BH	Bradenhead Int	Csg	Int	Csg
TIME					
5 min	0		690		
10 min	0		690		
15 min	0		690		
20 min					
25 min					
30 min					

FLOW CHARACTERISTICS	
BRADENHEAD	INTERMEDIATE
Steady Flow	
Surges	
Down to Nothing	
Nothing	/
Gas	
Gas & Water	
Water	

If bradenhead flowed water, check all of the descriptions that apply below:

CLEAR _____ FRESH _____ SALTY _____ SULFUR _____ BLACK _____

5 MINUTE SHUT-IN PRESSURE

BRADENHEAD 0

INTERMEDIATE N/A

REMARKS:

Nothing when opened. Nothing when opened after
5 min shut in

By [Signature]

Witness [Signature]

(Position)

E-mail address _____

Sunco SWD #1

30-045-28653

Class I Disposal: UICI-5-0

2019 Reservoir Pressure Evaluation

Agua Moss, LLC

P.O Box 600

Farmington, NM 87499

ORGID 247130

Report Components:

1. Facility Operator Information
 - a. Agua Moss, LLC
 - b. PO Box 600 Farmington, NM 87499
 - c. OGRID 247130
2. Well Information:
 - a. UIC Permit # UICI-5-0
 - b. Class I
 - c. Sunco Disposal #1
 - d. 30-045-28653
 - e. UL E, Sec 2, T29N, R12W 1595 FNL & 1005 FWL San Juan County
3. Current Wellbore Diagram: **Attached** (page 4)
4. Copy of Electronic Log: **Previously submitted 1992** (page 5)
5. Copy of Porosity Log: **Previously submitted 1992** (page 6-7)
6. See attached Reservoir Pressure Evaluation analysis
 - a. Reservoir Pressure Evaluation Procedure (page 8)
 - b. Analysis (page 12)
 - c. Results (page 13)
7. Results Comparison attached (page 13)
8. The raw test data will be kept on file for a period of 3-year and will be made available to the NMOCD upon written request. (page 13)
9. Conclusions (page 14)
10. Any pressure or temperature anomaly: One pressure anomaly was seen on 09/09/25/2019 at 9 am due to a plug in the line from the well head to pressure recorders.
11. Plots attached
 - a. Calculated BH Pressure vs Time (page 12)
 - b. Injection Volumes and Surface Pressure (page 15)
12. NO PVT data necessary, wellbore fluid is fresh-to-slightly saline water. No significant hydrocarbons present that would alter the density, compressibility and/or viscosity of the fluid.
 - a. See attached partial report of the Second Quarter WQ Report (page 16-20)
13. The Agua Moss, LLC internal Daily Injection Reports were used to determine the appropriate injection history to use for the analysis. A summary of those reports (January 2019 through September 2019) are attached. (page 21-23)
14. The Sunco Disposal #1 has injected approximately 16,297,839 bbls into the point lookout formation from 1994 through August 2019. The offset well McGrath SWD #4 API 30-045-25923 was plugged 7/25/2013. Cumulative injection 1994-7/2013 27,746,479 bbls.
15. 1 Mile AOR:
 - a. AOR 1 mile (page 24)
 - b. AOR 1 mile well data (page 25-29)

- c. The McGrath #4 was the only offset well that was injecting into the Point Lookout formation within 1 mile. This well was plugged 7/25/2013.
- 16. Geological information was provided in the 2012 Permit renewal and approved in 2012.
- 17. Offset Wells: One offset well that was completed in the same injection interval was the McGrath #4. This well was plugged 7/2013 and therefore was not impacted.
- 18. Chronological listing of the daily, testing activities (Operations Log) attached (page 26)
 - a. Date of Test: **Monday September 23rd, 2019 through Friday September 27th, 2019**
 - b. Type of injection fluid: **Produced water**
 - c. Total shut-in time: **105 hours**
 - d. Final BH static pressure at the end of the RPE: **2939 psi**
- 19. Location of the shut in valve: **A wing valve located on the well's Christmas Tree was closed to begin the RPE Test.**
- 20. Pressure Gauges: (see attached)
 - a. Crystal XP2i gauge (page 31)
 - i. Pressure Range: **0-2000 psig**
 - ii. Last Calibration: **9/17/19**
 - b. Barton #2000 Chart Recorder (page 32)
 - i. Pressure Range: **0-2000 psig**
 - ii. Last Calibration: **9/23/19**

Wellbore Schematic:

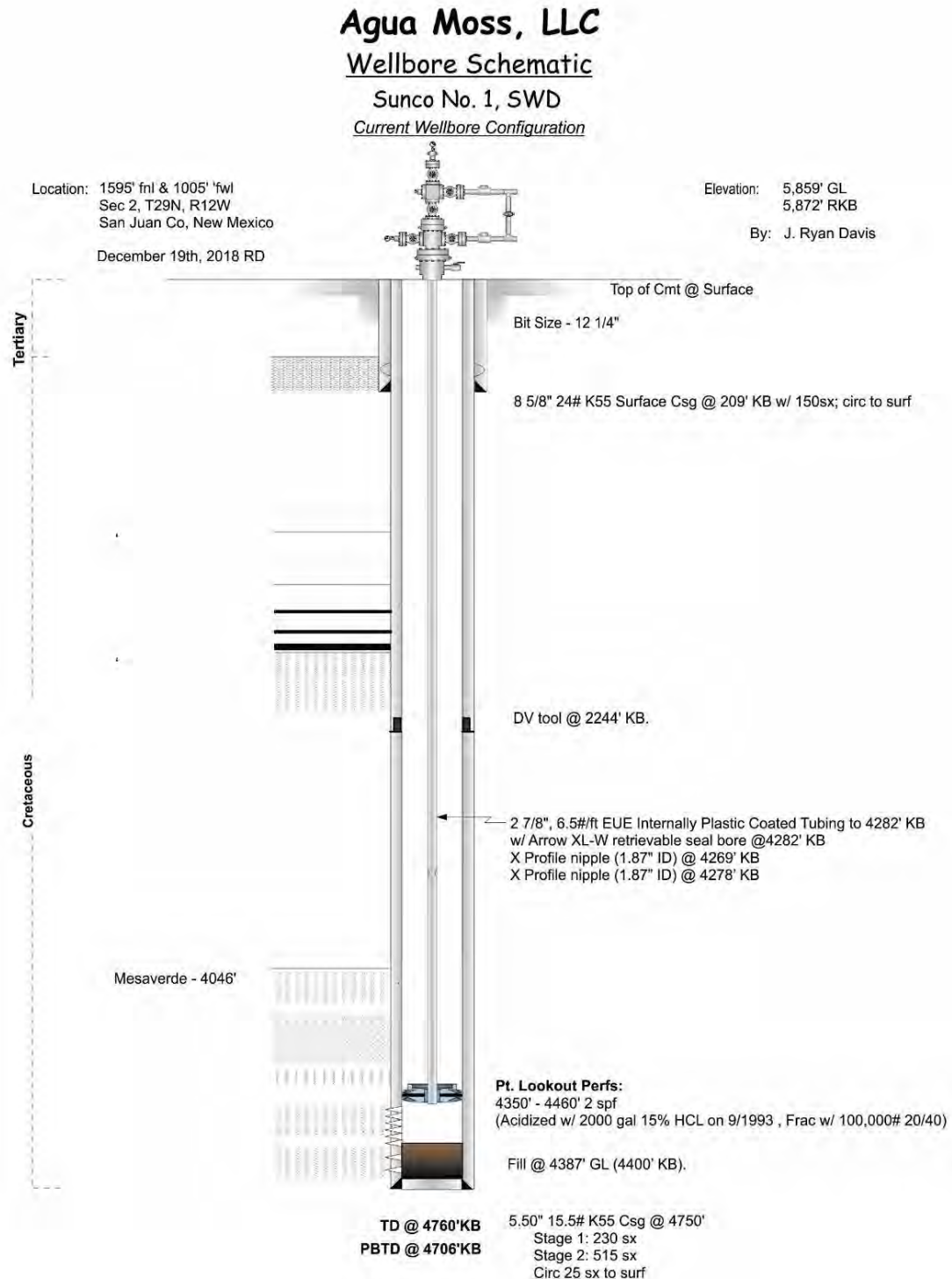
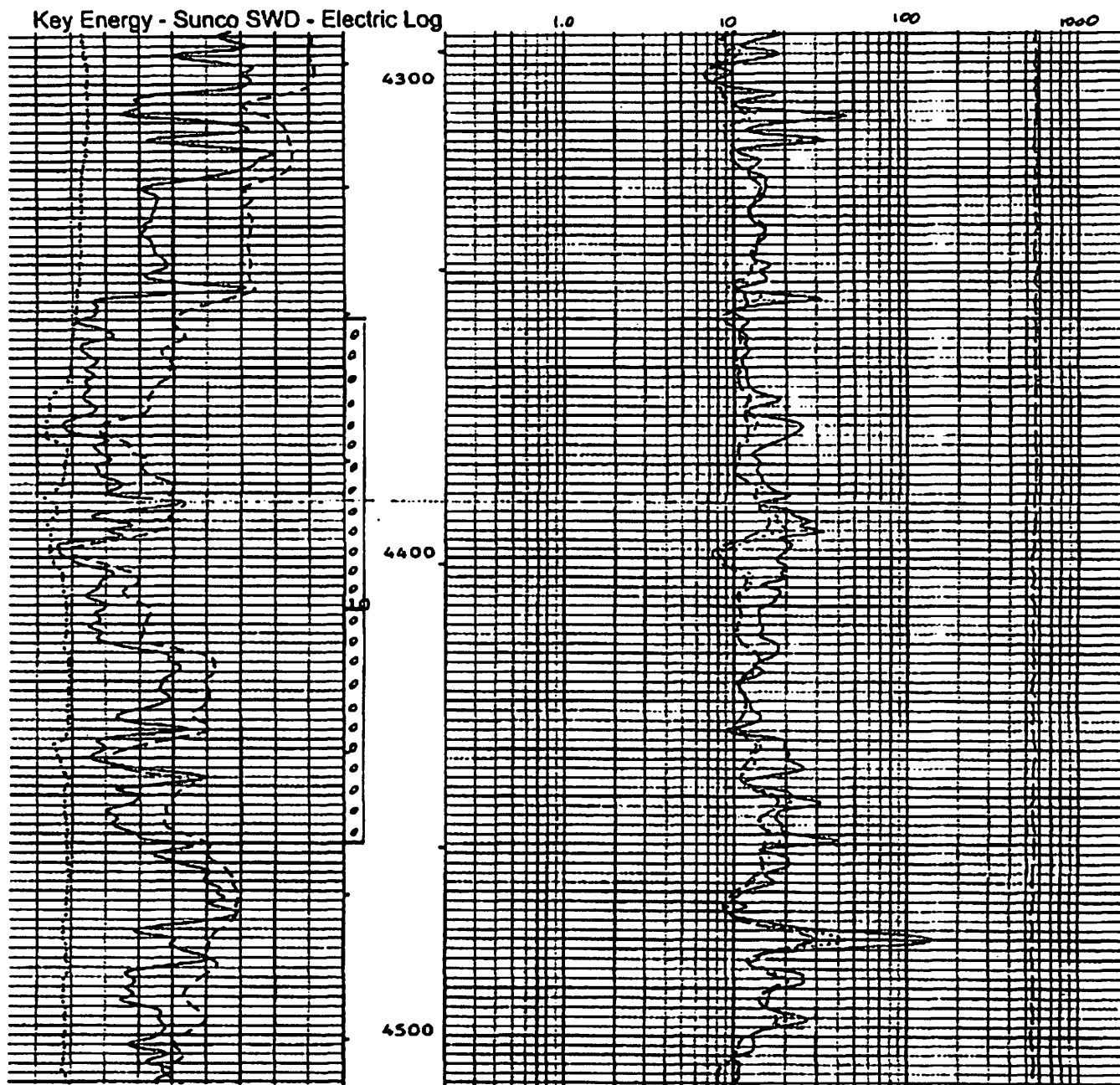


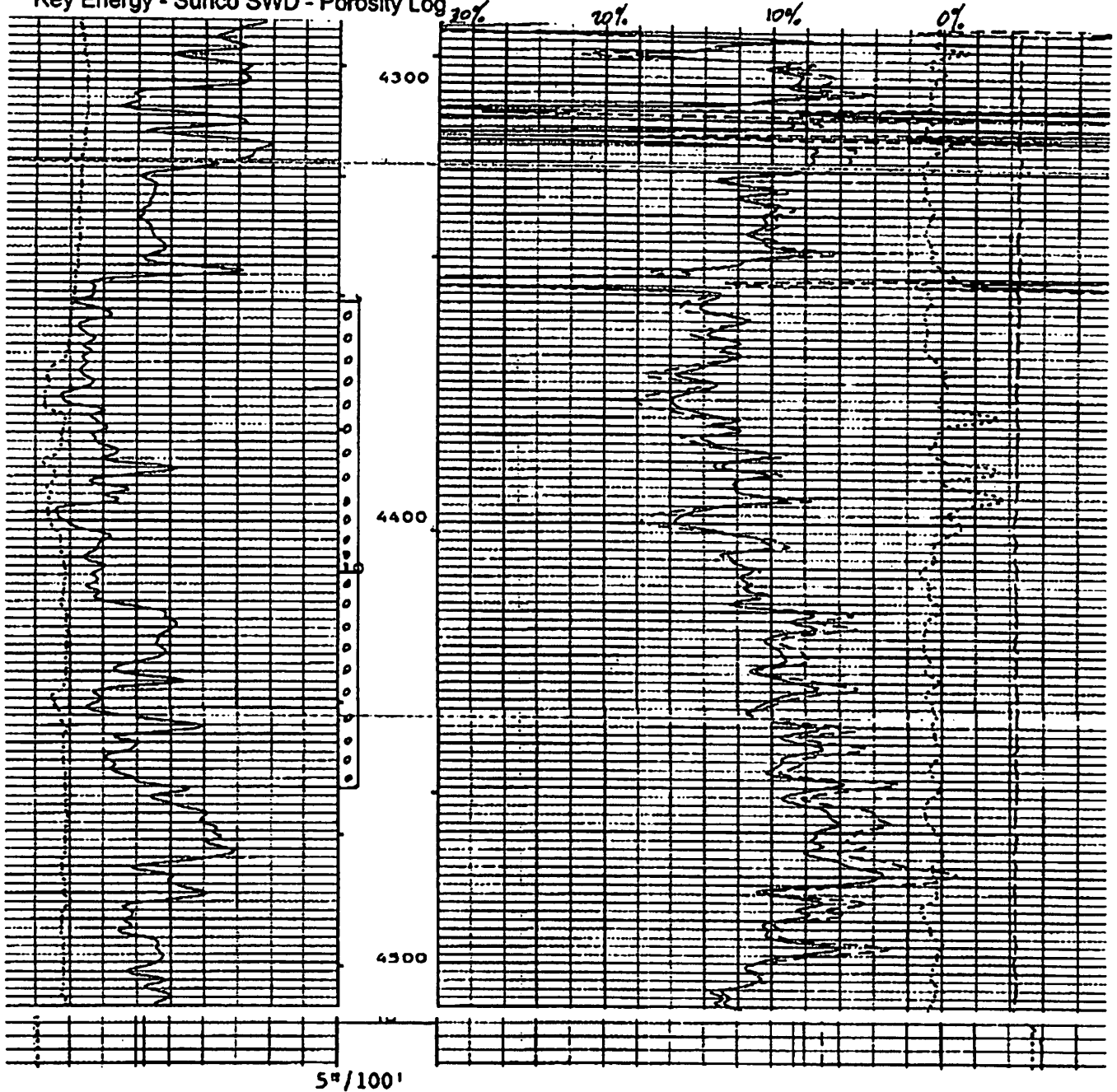
Figure 1: Wellbore Schematic

Key Energy - Sunco SWD - Electric Log



		TENS(LBF)	
		10000	0.0
CAL(IN)		SFLU(OHMM)	
3.0000	16.000	20000	2000.0
GR(GAP)		LD(OHMM)	
1.0	200.00	20000	2000.0
SP(MV)		ILM(OHMM)	
80.00	20.000	20000	2000.0

Key Energy - Sunco SWD - Porosity Log



CP 32.6

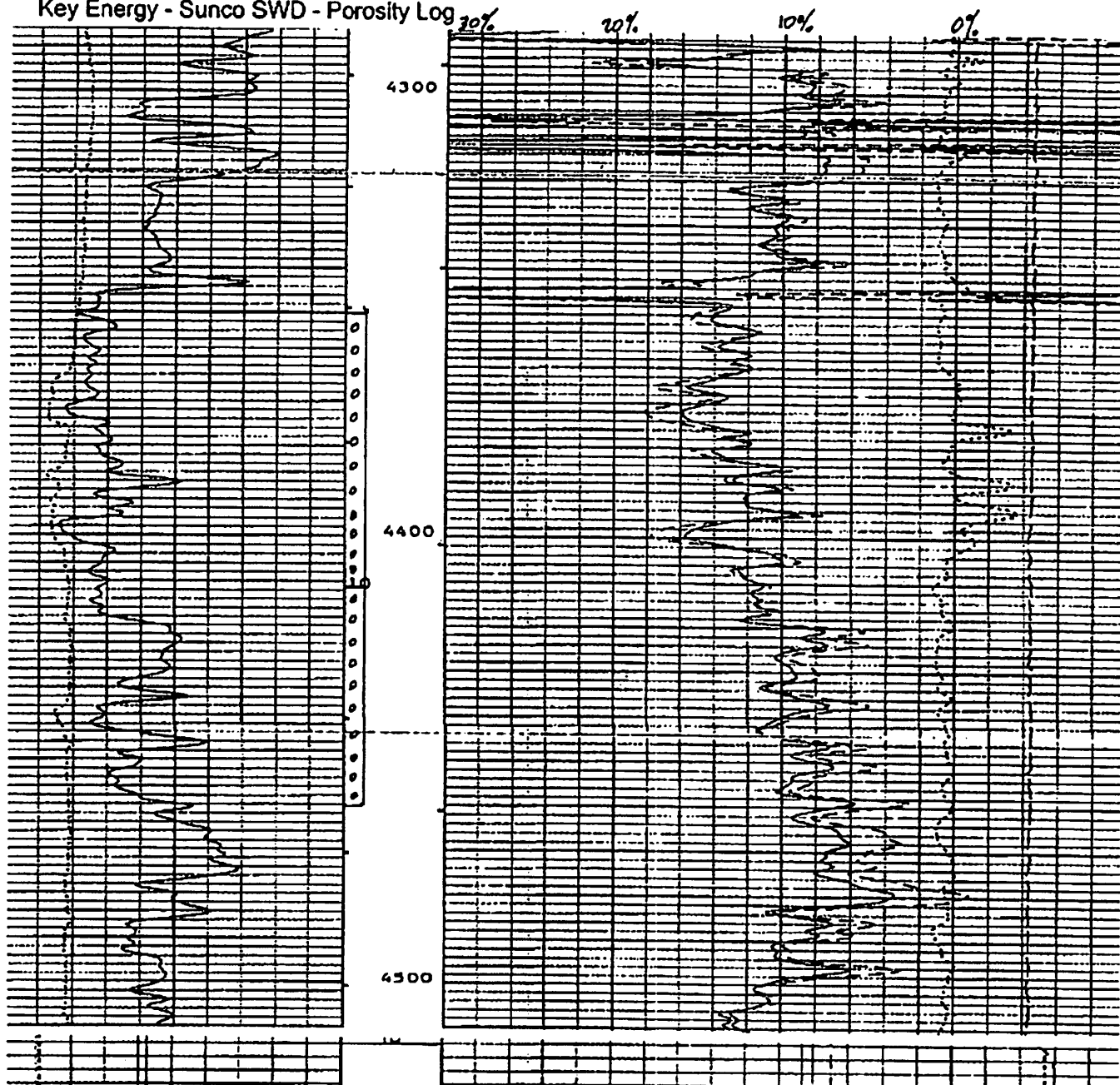
FILE 6

01-FEB-1992 20:21

(UP)

		CPHQ(G/C3)	
		2500	25000
		TENS(LBF)	
		10000	0.0
CALI(IN.)		RHO(B/G/C3)	
8.0000	18.000	2.0000	3.0000
GR(GAP)		DPH(V/V)	
0.0	200.00	30000	-1000

Key Energy - Sunco SWD - Porosity Log



5"/100'

CP 32.6

FILE 6

01-FEB-1992 20:21

(UP)

		DRHQ(G/C3)	
		2500	25000
		TENS(LBF)	
		10000	0.0
CALI(N.I)		RHO(B(G/C3))	
8.0000	16.000	2.0000	3.0000
GR(GAP)		DPHI(V/V)	
0.0	200.00	30000	-1000

Well Information			
Well:	Sunco Disposal 1	Field:	Mesaverde SWD
Location:	1595' fnl & 1005' fwl S2, T29N, R12W San Juan Co. New Mexico	Elevations:	5859' GL 5872' RKB
		Depths:	4706' KB PBTD 4760' KB TD
		Engineer:	J. Ryan Davis (505.324.5335)
API:	30-045-28653	Date:	September 12, 2019
Surface Casing:	8- 5/8" @ 209' KB w/ 150sx; Circ to surface	Production Casing:	5-1/2" @ 4750' KB w/ 230 sx stage 1, 515 sx stage 2, circ 25 sx to surf, DV tool @ 2244' KB
Tubulars:	2- 7/8" 6.5# EUE (Epoxy Coated) @ 4282' KB	Packer:	Arrow XL-W retrievable seal bore @ 4282' KB.
Perforations (MV)		4350-4460' KB 2 spf (2000 gals 15% HCL, Frac w/ 100,000# 20/40)	
Additional Perforations			
Perforations (MV)		None	

Version 3: Static Reservoir Pressure Version Procedure subject to change based on changing well conditions.

Proposed Test Schedule:

Date	Event	Remarks
Monday, September 23 rd , 2019	Check conditions, check pressures and perform MIT	TD, Fill, Restrictions, check tubing pressure 9 am
Friday, September 27 th , 2019	5 days of tbg pressure monitoring	Conclude test at 5pm

Test Considerations:

- V.1 The pressure acquisition will be performed with pressure gauges at the surface. Pressure readings will be taken and recorded twice per day.
- V.2 There will be adequate storage capacity for waste water for the duration of the test.
- V.3 There is one offset well completed in the Point Lookout disposal formation. The McGrath #4 is a class II disposal operated by ConocoPhillips approx 1.25 miles to the north west of the Sunco #1. The well has been P&A'd, so there will not be any injection activity from offset wells during the test.
- V.4 Crown valve is currently in-place on the Sunco #1 wellhead. The slickline work will be performed through a lubricator prior to the test.
- V.5 A shut-in valve is located on the injection riser approx 3-feet from the wellhead. This valve can be shut to isolated the tubing at the wellhead.
- V.6 Bottomhole pressure will not be collected directly but calculated from the surface pressure collected using the appropriate gradient. The use of surface pressure for the test is justified by the fact that the well will maintain a positive pressure at the surface during the entire test (injection and pressure falloff).
- V.7 A test log will be kept during the test and submitted with the FOT results. The log will include key events with date and times.
- Gauge ring run
 - Tag depth
 - Well isolation

- Pressure recordings

V.8 In addition surface pressures will be recorded continuously using a chart recorder during the test.

V.9 A Crystal XP2i Series Digital Test gauge will be utilized for the data collection. The gauge has a 0-3000 psi pressure range with 0.1% reading accuracy.

Reservoir Pressure Evaluation Test Procedure:

Prepare Well for Test

1. Perform MIT
2. Setup pressure recording chart and digital gauge
3. MIRU wireline
4. RIH w/ Gauge ring to SN
5. POOH w/ Gauge ring and PU impression block (or something to run thru SN)
6. RIH tag and record fill depth ***Note: (2018-9-12 Amendment- Tagged fill with wireline at 4387'. Contacted NMOCD Jim G. who then directed us to Will Jones. Will gave permission to conduct the FOT with the additional fill covering perfs. FOT will be executed once C103 is approved.)***

Conduct Pressure Monitoring

1. Ensure surface gauges are configured properly
2. Shut down injection pumps and isolate the well at the wellhead
3. Record surface tubing pressure data over a 5 day period, Pressure reading will be taken twice a day AM and PM
 - a. Bottomhole pressures will be calculated and compiled for the test for review
 - b. The bottomholw pressures will be compared to historic reservoir pressures extrapolated from FOT data
4. Put well back into service for normal operation

Submit 1 Copy To Appropriate District
Office
District I - (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II - (575) 748-1283
811 S. First St., Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV - (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised July 18, 2013

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO. 30-045-28653
5. Indicate Type of Lease STATE ☐ FEE ☒
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name Sunco Disposal
8. Well Number 1
9. OGRID Number 247130
10. Pool name or Wildcat SWD-MV

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)	
1. Type of Well: Oil Well ☐ Gas Well ☐ Other SWD Class I	
2. Name of Operator Agua Moss, LLC	
3. Address of Operator PO Box 600 Farmington, NM 87499	
4. Well Location Unit Letter <u>E</u> : <u>1595</u> feet from the <u>North</u> line and <u>1005</u> feet from the <u>West</u> line Section <u>2</u> Township <u>29N</u> Range <u>12W</u> NMPM County <u>San Juan</u>	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 5859'	

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
DOWNHOLE COMMINGLE ☐			
CLOSED-LOOP SYSTEM ☐			
OTHER: ☐		OTHER: FOT ☒	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Agua Moss, LLC proposes to perform the following reservoir pressure evaluation test in place of the FOT. Please see the attached procedure.

Spud Date: Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Philana Thompson TITLE Regulatory Compliance Spec DATE 9/13/19

Type or print name Philana Thompson E-mail address: pthompson@merrion.bz PHONE: 505-486-1171

For State Use Only

APPROVED BY: Carol J. Chavez TITLE Environmental Engineer DATE 9/13/19
Conditions of Approval (if any):

- 1) Contact DO3 to schedule date & time of MIT w/ orig. chart, calibration sht. sent to OCD-SF
- 2) If tag fill above perf. interval, clean fill out of well prior to running FOT Plan.

At the request of the NMOCD and permit requirements, a Reservoir Pressure Evaluation Test (RPE) was performed on the Sunco SWD #1 Class I injection well (UICI-5-0) on **09/23/2019**. Below is a summary of findings from the Reservoir Pressure Evaluation Test.

Procedure:

A digital Crystal XP2i gauge was installed in parallel with a two pin pressure recording chart meter. Injection pumps were shut down and well was isolated at the wellhead. Bottom hole pressure (BHP) was calculated based on the June 5, 2019 specific gravity measurement and the top perf depth with reference to ground level. The initial calculated BHP was 2,938 psi at a depth of 4,362' GL. The pressure from the Crystal XP2i was recorded twice per day and the pressure was charted continually over a 5 day period. The final calculated bottom hole pressure was 2,939 psi on 09/27/2019 at 6 pm.

Analysis:

The surface pressure data was compiled in excel and analyzed. The BHP was calculated using a 0.435 psi/ft. A pressure dip occurred 09/25/2019 at 9 am due to a plug in the line from the well head to pressure recorders. The line was disconnected, cleaned out and put back into service.

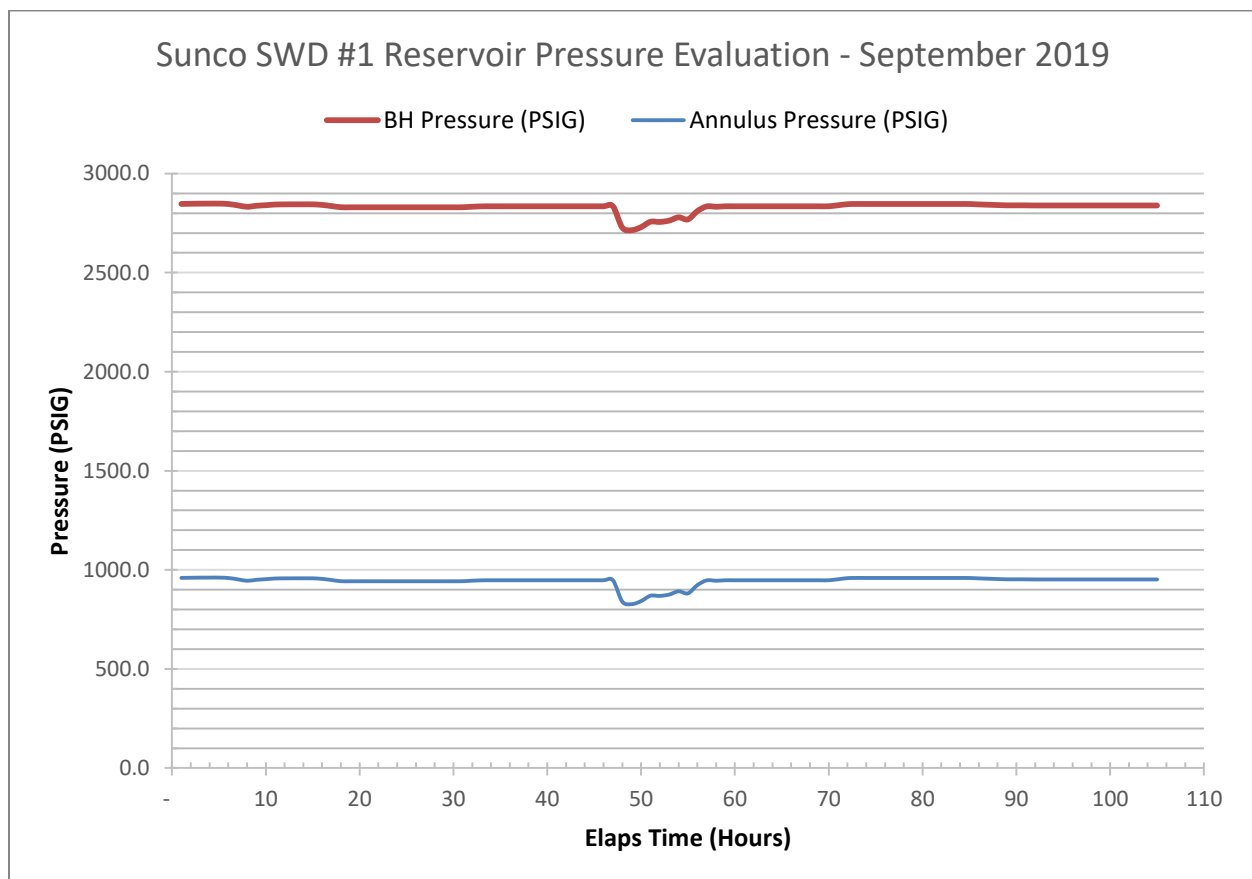


Figure 2 Calculated BH Pressure vs. Time

Results:

The well maintained a positive pressure during the entire RPE Test allowing a BHP to be calculated from the surface pressure readings collected. The average calculated BHP was 2,939 psi. The steady reservoir pressure observed during the RPE indicates that reservoir was in a near static state. This is due to the small amount of injection that has occurred this year and an ample shut in period prior the RPE Test. The RPE test this year was conducted with fill over a portion of the perforations.

Comparison with past Falloff Tests:

The results from the 2019 RPE were compiled with previous FOT results from the facility and are shown below in Table 2.

Table 1: Results Comparison

	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>
Rate (bbl/day)		3292	3150	3132	3340	4500			
P* (psi)	2939¹	3479	3273	3114	3283	3231	3242	3176	3258
K (md)		10.8	10.4	11.5	15.8	13.6	10.2	20.7	
S		-6.0	-6.0	-5.93	-5.97	-7.18	-7.23	-6.79	
Radius of Inv (ft)		1690	1790	1430	1580	1450	1250	1750	1620
Frac ½ Length (ft)		598	517	594	467	893	926	596	688
Boundary		None	none	none	none	648, 1520	755	987	none

Agua Moss did not conduct tests prior to 2015 and is relying on the 2010 report submitted by Key Energy, the past operator, for those results. The following observations were derived from a comparison of the results:

1. The surface pressures collected were relatively consistent indicating that the reservoir has equalized and the calculated BHP is representative of a static reservoir pressure.
2. The calculated BHP was within an expected range and was below the extrapolated reservoir pressures from the previous FOTs.

The raw test data obtain during the 2019 RPE test will be kept on file for a period of three (3) years and will be available upon request.

¹ The pressure shown for 2019 is a bottom hole pressure calculated based on surface pressure and a fluid gradient. This pressure is being compared to the extrapolated reservoir pressures from previously completed Falloff Test. The comparison is being used to gauge the current condition of the injection interval to ensure the interval is suitable for continued injection operations.

Conclusions:

Based on the above analysis and results comparison, Agua Moss believes the Sunco SWD #1 2018 RPE was successfully completed. The results do not show indications of concern in continuing the current waste injection operations. The calculated BHP from the test was less than the previous FOT extrapolated reservoir pressures. This lower pressure is due to the low volume injected this year and indicates that the reservoir is still very suitable for continued injection.

Sunco Injection Volumes and Surface Pressures

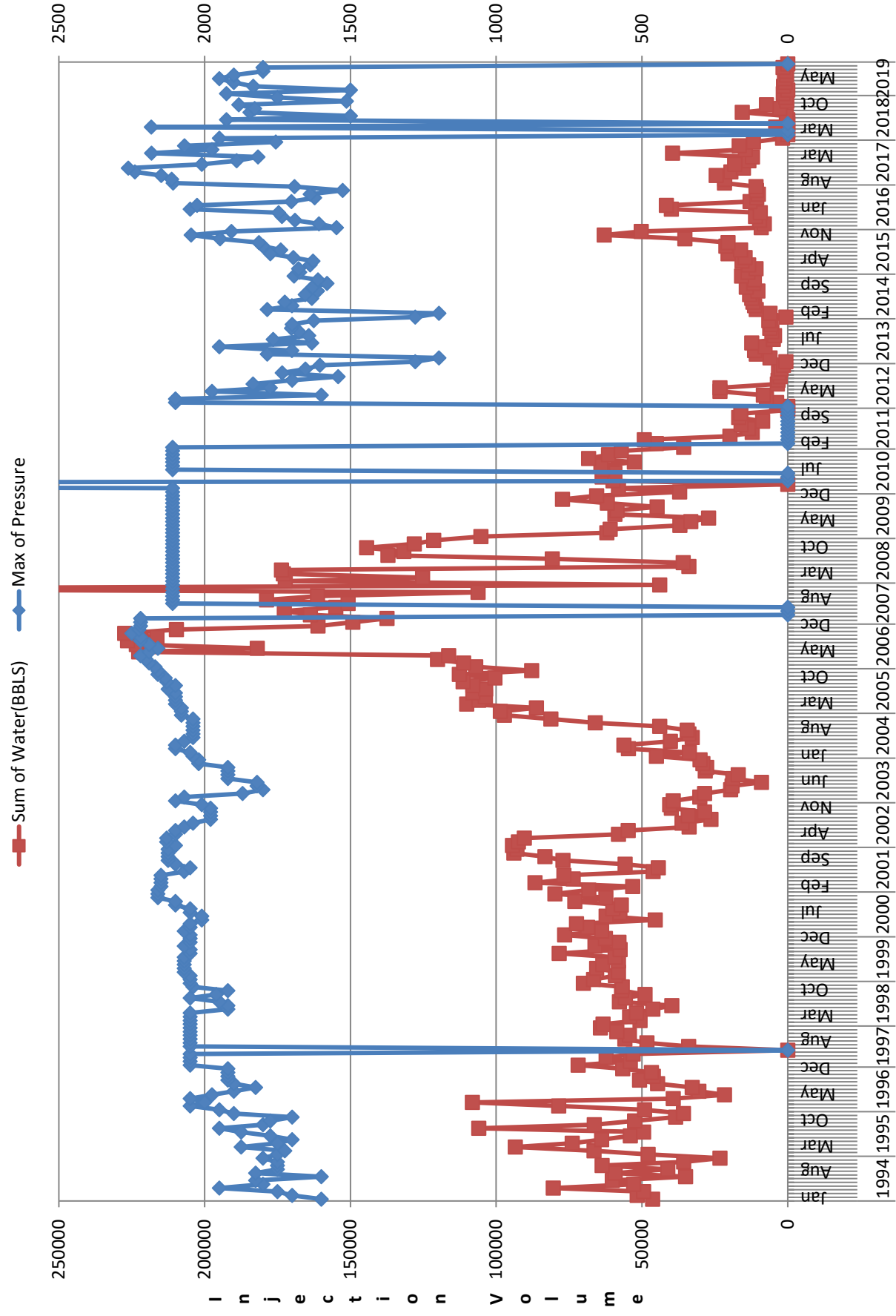


Figure 2 Injection and Pressure Plot

July 3, 2019

Ms. Shacie Murray
Agua Moss LLC
P.O. Box 600
Farmington, New Mexico 87499

**Re: Sunco Disposal #1
Injection Water Quality Monitoring
2nd Quarter 2019**

Dear Ms. Murray:

This report summarizes the sample collection, field screening, and laboratory analysis of the injection water at the Agua Moss LLC Sunco Disposal #1 facility for the 2nd Quarter 2019. Injection water of the Class I Sunco Disposal #1 well is assessed on a quarterly basis in accordance with 20.6.5207(B) NMAC.

Field Activities

Rule Engineering, LLC (Rule) personnel collected one injection water sample (S-10) from the process line inside the pump building at the location on June 5, 2019. Injection water was discharged directly from the valve of the process line into laboratory sample containers and a clean container for field screening.

Sample Collection and Field Screening Procedures

The injection water sample (S-10) was field screened for time sensitive parameters including pH, temperature, reduction potential, specific conductance, and total dissolved solids. Field screening was conducted utilizing a handheld water quality meter calibrated on the day of use with laboratory grade standards.

The sampled injection water was placed into laboratory supplied containers, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico.

Field Screening and Laboratory Analytical Results

The field screening and laboratory analytical results are summarized in the attached Table 1.

QA/QC Considerations

Field measurements for time sensitive parameters including pH, temperature, reduction potential, and specific conductance more accurately reflect the characteristics of the injection water than laboratory results for these parameters due to their rapidly changing nature when removed from the stable environment of

the process line. The hold time qualifier is indicated on the laboratory report for pH as the hold time of 15 minutes from collection was exceeded during transport prior to analysis. Similarly, the hold time was exceeded for reduction potential and corrosivity by pH.

A dilution due to matrix qualifier is indicated on the laboratory report for total dissolved solids.

Closure and Limitations

This report is prepared for the exclusive use of Agua Moss LLC and is subject to the terms, conditions, and limitations stated in Rule's report and Service Agreement with Agua Moss LLC. All work has been performed in accordance with generally accepted professional environmental consulting practices. No other warranty is expressed or implied.

Rule Engineering appreciates the opportunity to provide services to Agua Moss LLC. If you have any questions, please contact me at (505) 325-1055.

Sincerely,
Rule Engineering, LLC



Heather M. Woods, P.G.
Area Manager/Geologist

Attachments:

Table 1. Summary of Field Screening and Laboratory Analytical Results
Laboratory Analytical Reports (Hall: 1906280)

Table 1. Summary of Field Screening and Laboratory Analytical Results

Sample ID	S-10		Units	Toxicity Characteristic Concentrations
Collection Date	6/5/2019			
Analyte	Laboratory Results	Field Results		
pH	6.05 H	6.44	su	
Temperature	--	18.0	°C	
Reduction Potential	-26.0 H	-195	mV	
Specific Conductance	8,400	6,381	µmhos/cm	
Specific Gravity	1.005	--		
Total Dissolved Solids	8,260 D	6,880	mg/L	
Bicarbonate (As CaCO ₃)	1,453	--	mg/L	
Carbonate (As CaCO ₃)	<5.000	--	mg/L	
Flouride	<5.0	--	mg/L	
Chloride	860	--	mg/L	
Bromide	1.6	--	mg/L	
Phosphorus, Orthophosphate	<2.5	--	mg/L	
Sulfate	2,100	--	mg/L	
Nitrogen, Nitrate (as N)	<0.50	--	mg/L	
Nitrogen, Nitrite (as N)	<0.50	--	mg/L	
Calcium	560	--	mg/L	
Magnesium	9.7	--	mg/L	
Potassium	68	--	mg/L	
Sodium	1,600	--	mg/L	
Reactive Cyanide	0.0114	--	mg/L	
Reactive Sulfide	0.506	--	mg/L	
Flashpoint	Did not flash at 170°F	--		
Corrosivity by pH	5.88 H	--	su	
Arsenic	<0.10	--	mg/L	5.0 mg/L
Barium	0.15	--	mg/L	100.0 mg/L
Benzene	0.290	--	mg/L	0.5 mg/L
Cadmium	<0.010	--	mg/L	1.0 mg/L
Carbon tetrachloride	<0.020	--	mg/L	0.5 mg/L
Chlordane	<0.030	--	mg/L	0.03 mg/L
Chlorobenzene	<0.020	--	mg/L	100.0 mg/L
Chloroform	<0.020	--	mg/L	6.0 mg/L
Chromium	<0.030	--	mg/L	5.0 mg/L
Cresols, Total	<200	--	mg/L	200 mg/L
1,4-Dichlorobenzene	<0.020	--	mg/L	7.5 mg/L
1,2-Dichloroethane	<0.020	--	mg/L	0.5 mg/L
1,1-Dichloroethene	<0.020	--	mg/L	0.7 mg/L
2,4-Dinitroltoluene	<0.13	--	mg/L	0.13 mg/L
Hexachlorobenzene	<0.13	--	mg/L	0.13 mg/L
Hexachlorobutadiene	<0.50	--	mg/L	0.5 mg/L
Hexachloroethane	<3.0	--	mg/L	3.0 mg/L
Lead	<0.025	--	mg/L	5.0 mg/L
Mercury	<0.00020	--	mg/L	0.2 mg/L
Methyl ethyl ketone	3.100	--	mg/L	200.0 mg/L
Nitrobenzene	<2.0	--	mg/L	2.0 mg/L
Pentachlorophenol	<100	--	mg/L	100.0 mg/L
Pyridine	<5.0	--	mg/L	5.0 mg/L
Selenium	<0.25	--	mg/L	1.0 mg/L
Silver	<0.025	--	mg/L	5.0 mg/L
Tetrachloroethylene	<0.020	--	mg/L	0.7 mg/L
Trichloroethylene	<0.020	--	mg/L	0.5 mg/L
2,4,5-Trichlorophenol	<400	--	mg/L	400.0 mg/L
2,4,6-Trichlorophenol	<2.0	--	mg/L	2.0 mg/L
Vinyl chloride	<0.020	--	mg/L	0.2 mg/L

Notes: su - standard units
°C - degrees Celcius
°F - degrees Farenheit
mV - millivolts
µmhos/cm - micromohs per centimeter
mg/L - milligrams per liter
H - Holding times for preparation or analysis exceeded
D - Sample diluted due to matrix
S - % Recovery outside of range due to dilution or matix

1.00

Concentration exceeds the Toxicity Characteristic Conce



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 03, 2019

Heather Woods
Rule Engineering LLC
501 Airport Dr., Ste 205
Farmington, NM 87401
TEL: (505) 325-1055
FAX

RE: Agua Moss Sunco Disposal 1

OrderNo.: 1906280

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/6/2019 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued June 20, 2019.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906280

Date Reported: 7/3/2019

CLIENT: Rule Engineering LLC

Client Sample ID: S-10 (6/5/19)

Project: Agua Moss Sunco Disposal 1

Collection Date: 6/5/2019 10:13:00 AM

Lab ID: 1906280-001

Matrix: AQUEOUS

Received Date: 6/6/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8081: PESTICIDES TCLP							Analyst: JME
Chlordane	ND	0.030		mg/L	1	6/13/2019 2:10:16 PM	45511
Surr: Decachlorobiphenyl	55.7	29.4-99.8		%Rec	1	6/13/2019 2:10:16 PM	45511
Surr: Tetrachloro-m-xylene	55.7	20.7-100		%Rec	1	6/13/2019 2:10:16 PM	45511
EPA METHOD 8270C TCLP							Analyst: DAM
2-Methylphenol	ND	200		mg/L	1	6/13/2019 3:21:55 PM	45549
3+4-Methylphenol	ND	200		mg/L	1	6/13/2019 3:21:55 PM	45549
2,4-Dinitrotoluene	ND	0.13		mg/L	1	6/13/2019 3:21:55 PM	45549
Hexachlorobenzene	ND	0.13		mg/L	1	6/13/2019 3:21:55 PM	45549
Hexachlorobutadiene	ND	0.50		mg/L	1	6/13/2019 3:21:55 PM	45549
Hexachloroethane	ND	3.0		mg/L	1	6/13/2019 3:21:55 PM	45549
Nitrobenzene	ND	2.0		mg/L	1	6/13/2019 3:21:55 PM	45549
Pentachlorophenol	ND	100		mg/L	1	6/13/2019 3:21:55 PM	45549
Pyridine	ND	5.0		mg/L	1	6/13/2019 3:21:55 PM	45549
2,4,5-Trichlorophenol	ND	400		mg/L	1	6/13/2019 3:21:55 PM	45549
2,4,6-Trichlorophenol	ND	2.0		mg/L	1	6/13/2019 3:21:55 PM	45549
Cresols, Total	ND	200		mg/L	1	6/13/2019 3:21:55 PM	45549
Surr: 2-Fluorophenol	54.2	15-82.5		%Rec	1	6/13/2019 3:21:55 PM	45549
Surr: Phenol-d5	44.3	15-74.2		%Rec	1	6/13/2019 3:21:55 PM	45549
Surr: 2,4,6-Tribromophenol	79.5	18.6-118		%Rec	1	6/13/2019 3:21:55 PM	45549
Surr: Nitrobenzene-d5	85.8	30.4-106		%Rec	1	6/13/2019 3:21:55 PM	45549
Surr: 2-Fluorobiphenyl	66.8	15-104		%Rec	1	6/13/2019 3:21:55 PM	45549
Surr: 4-Terphenyl-d14	80.5	15-133		%Rec	1	6/13/2019 3:21:55 PM	45549
SPECIFIC GRAVITY							Analyst: JRR
Specific Gravity	1.005	0			1	7/2/2019 10:32:00 AM	R61110
EPA METHOD 300.0: ANIONS							Analyst: smb
Fluoride	ND	5.0		mg/L	50	6/18/2019 6:04:24 PM	R60755
Chloride	860	25		mg/L	50	6/18/2019 6:04:24 PM	R60755
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	6/7/2019 6:09:43 AM	A60477
Bromide	1.6	0.50		mg/L	5	6/7/2019 6:09:43 AM	A60477
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	6/7/2019 6:09:43 AM	A60477
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	6/7/2019 6:09:43 AM	A60477
Sulfate	2100	25		mg/L	50	6/18/2019 6:04:24 PM	R60755
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	8400	5.0		µmhos/c	1	6/10/2019 11:37:09 AM	R60535
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	1453	50.00		mg/L Ca	2.5	6/10/2019 5:50:01 PM	R60535
Carbonate (As CaCO3)	ND	5.000		mg/L Ca	2.5	6/10/2019 5:50:01 PM	R60535

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

WH	AP
1/1/19	0
1/2/19	
1/3/19	
1/4/19	
1/5/19	
1/6/19	
1/7/19	
1/8/19	1900
1/9/19	
1/10/19	1950
1/11/19	
1/12/19	
1/13/19	1500
1/14/19	
1/15/19	
1/16/19	
1/17/19	
1/18/19	
1/19/19	
1/20/19	
1/21/19	1300
1/22/19	
1/23/19	
1/24/19	
1/25/19	
1/26/19	
1/27/19	
1/28/19	1400
1/29/19	
1/30/19	
1/31/19	
	1925
	0
	AVG
1900	0
1950	0
	MIN
	MAX

WH	AP
2/1/19	0
2/2/19	
2/3/19	
2/4/19	
2/5/19	
2/6/19	
2/7/19	1700
2/8/19	1500
2/9/19	
2/10/19	
2/11/19	
2/12/19	1500
2/13/19	
2/14/19	1900
2/15/19	
2/16/19	
2/17/19	
2/18/19	
2/19/19	
2/20/19	1900
2/21/19	
2/22/19	
2/23/19	
2/24/19	
2/25/19	
2/26/19	
2/27/19	
2/28/19	
2/29/19	
2/30/19	
2/31/19	
	1680
	0
	AVG
1400	0
1500	0
	MIN
	MAX

WH	AP
3/1/19	0
3/2/19	
3/3/19	
3/4/19	1400
3/5/19	
3/6/19	
3/7/19	1700
3/8/19	1500
3/9/19	
3/10/19	
3/11/19	
3/12/19	
3/13/19	
3/14/19	1900
3/15/19	
3/16/19	
3/17/19	
3/18/19	
3/19/19	
3/20/19	1900
3/21/19	
3/22/19	
3/23/19	
3/24/19	
3/25/19	
3/26/19	
3/27/19	
3/28/19	1400
3/29/19	
3/30/19	
3/31/19	
	1680
	0
	AVG
1400	0
1900	0
	MIN
	MAX

WH	AP
4/1/19	0
4/2/19	
4/3/19	1400
4/4/19	
4/5/19	
4/6/19	
4/7/19	
4/8/19	
4/9/19	
4/10/19	
4/11/19	
4/12/19	
4/13/19	
4/14/19	
4/15/19	
4/16/19	1900
4/17/19	
4/18/19	
4/19/19	1400
4/20/19	
4/21/19	
4/22/19	
4/23/19	
4/24/19	
4/25/19	
4/26/19	
4/27/19	
4/28/19	
4/29/19	
4/30/19	
	1566.667
	0
	AVG
1400	0
1900	0
	MIN
	MAX

WH	AP
5/1/19	0
5/2/19	
5/3/19	
5/4/19	
5/5/19	
5/6/19	
5/7/19	
5/8/19	1950
5/9/19	
5/10/19	
5/11/19	
5/12/19	
5/13/19	
5/14/19	
5/15/19	1500
5/16/19	
5/17/19	
5/18/19	
5/19/19	
5/20/19	
5/21/19	
5/22/19	
5/23/19	1250
5/24/19	
5/25/19	
5/26/19	
5/27/19	
5/28/19	
5/29/19	1250
5/30/19	
5/31/19	
	1487.5
	0
	AVG
1250	0
1950	0
	MIN
	MAX

WH	AP
6/1/19	0
6/2/19	
6/3/19	
6/4/19	
6/5/19	
6/6/19	1250
6/7/19	
6/8/19	
6/9/19	
6/10/19	
6/11/19	
6/12/19	
6/13/19	1250
6/14/19	
6/15/19	
6/16/19	
6/17/19	
6/18/19	
6/19/19	1250
6/20/19	
6/21/19	
6/22/19	
6/23/19	
6/24/19	
6/25/19	
6/26/19	1900
6/27/19	
6/28/19	
6/29/19	
6/30/19	
	1412.5
	0
	AVG
1250	0
1900	0
	MIN
	MAX

WH	AP
7/1/19	0
7/2/19	
7/3/19	
7/4/19	
7/5/19	
7/6/19	
7/7/19	
7/8/19	
7/9/19	
7/10/19	
7/11/19	
7/12/19	
7/13/19	
7/14/19	
7/15/19	
7/16/19	1250
7/17/19	
7/18/19	
7/19/19	
7/20/19	
7/21/19	
7/22/19	
7/23/19	1250
7/24/19	
7/25/19	
7/26/19	
7/27/19	
7/28/19	1800
7/29/19	
7/30/19	
7/31/19	
	1433.333
	0
	AVG
1250	0
1800	0
	MIN
	MAX

WH	AP
8/1/19	0
8/2/19	
8/3/19	1850
8/4/19	
8/5/19	
8/6/19	
8/7/19	
8/8/19	750
8/9/19	
8/10/19	
8/11/19	
8/12/19	
8/13/19	
8/14/19	
8/15/19	
8/16/19	
8/17/19	
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8/23/19	
8/24/19	
8/25/19	
8/26/19	
8/27/19	
8/28/19	
8/29/19	
8/30/19	
8/31/19	
	1300
	0
	AVG
750	0
1850	0
	MIN
	MAX

WH	AP
9/1/19	0
9/2/19	
9/3/19	
9/4/19	1250
9/5/19	
9/6/19	
9/7/19	
9/8/19	
9/9/19	
9/10/19	
9/11/19	
9/12/19	
9/13/19	
9/14/19	
9/15/19	
9/16/19	
9/17/19	
9/18/19	
9/19/19	
9/20/19	
9/21/19	
9/22/19	
9/23/19	
9/24/19	
9/25/19	
9/26/19	
9/27/19	
9/28/19	
9/29/19	
9/30/19	
	1250
	0
	AVG
1250	0
1250	0
	MIN
	MAX

Quarterly Injection Report

[illegible]

Sunco RPE Daily Operations Log			
Date	Time	Surface Pressure (PSIG)	Comments
9/23/2019	7:00 AM		RU wire line
9/23/2019	8:00 AM		2.31" gauge ring run to 4256' WLM
9/23/2019	9:00 AM		1.50" impression block to 4363' WLM, showed sand
9/23/2019	10:00 AM		Isolate well, install pressure gauge and chart
9/23/2019	10:30 AM	1040.2	
9/23/2019	6:00 PM	1041	
9/24/2019	10:30 AM	1041.1	
9/24/2019	6:00 PM	1040.8	
9/25/2019	10:30 AM	1000.8	when first put gauge on.
9/25/2019	10:35 AM	815	second time. Had plug in line see picture.
9/25/2019	6:00 PM	1041	
9/26/2019	10:30 AM	1040.9	
9/26/2019	6:00 PM	1041.2	
9/27/2019	10:30 AM	1041.1	
9/27/2019	6:00 PM	1041	Remove chart recorder



Customer Information

Walsh Engineering & Production Corp.
7415 E. Main St.
Farmington, NM 87402

Tech: George Reid
PO #: TBD
Account #: WEP103

Instrument Identification

Description: Digital Test Gauge
Manufacture: Crystal
Accuracy: Manufacture's Specifications

Model: 2KPSIXP2i
Serial #: 868054

Certification Information

Reason For Service: Maintenance of Accuracy
Type Of Calibration: Pneumatic Gauge
As Found Condition: In Tolerance
As Left Condition: In Tolerance
Procedure: 1000898

Attested By: 
Technician: Steve Olsen
Cal Date: 17-Sept-2019
Cal Due: 17-Sept-2020
Temperature: 23 +/- 3.0° C
Relative Humidity: 20% - 60%

Technician Remarks: Previous calibration by MESA on 04/29/2016

This instrument has been calibrated using standards with accuracies traceable to the National Institute of Standards and Technology, derived from natural physical constants, derived from ratio measurements, or compared consensus standards.

MESA MEASUREMENT's calibrations, as applicable, are performed in compliance with the requirements of ANSI/NCSL Z540-1-1994, ISO 10012-1 & ISO/IEC 17025 Quality Standards.

The results contained herein relate only to the item calibrated. Calibration due dates appearing on the Certificate of Calibration and label are determined by the client for administrative purposes and do not imply continued conformance to specification.

Calibration Data

Range	: 0 to 2000 PSIG
Stated Accuracy	: +/- 0.1% of R or 0.02% of F.S, whichever is greater

Standard	: PM600-A20M
Serial No.	: 3247007

Step	Reference's Indicated Value	As Found Gauge's Reading	As Left Gauge's Reading	Acceptance Minimum	Limits Maximum
1	0.00	0.0	0.0	-0.4	0.4
2	2000.00	2000.3	2000.1	1998.0	2002.0
3	1800.00	1800.3	1800.0	1798.2	1801.8
4	1600.00	1600.3	1600.0	1598.4	1601.6
5	1400.00	1400.2	1400.0	1398.6	1401.4
6	1200.00	1200.2	1200.0	1198.8	1201.2
7	1000.00	1000.1	1000.0	999.0	1001.0
8	800.00	800.1	800.0	799.2	800.8
9	600.00	600.0	600.0	599.4	600.6
10	400.00	400.0	400.0	399.6	400.4
11	200.00	200.0	200.0	199.6	200.4
1	0.00	0.0	0.0	-0.4	0.4
Multiplier:		1.00050	1.00033		

Technician Remarks: New batteries were installed.

JADE SALES & SERVICE, INC.

(505) 325-6173

CONTENT AND METER REPORT

GAS

FROM

MERRION OIL + GAS

STA NO.

202A-175391

LEASE

MOG TEST METER #1

SYSTEM

LEGAL

GAS

DESCR.

TO

DATE

9/23/19

TIME

7:15 Am

EFFECTIVE

DATE

9/23/19

METER DATA

RECORDER DATA

AP CALIBRATION

TYPE CONNECTION	FLG ☐ 0 ☐ 1	PIPE ☐ 1	FLOW COMPUTER ☐	APP D W	ATMOS D W	FOUND	LEFT
METER TUBE SIZE	▲		RECORDER S/N OR MFG	0		0.0	0.0
ORIFICE INSTALLED	▲		DIFF RANGE	2000		1990.0	2000.0
ORIFICE REMOVED	▲		STATIC RANGE	1000		995.0	1000.0
ORIFICE S/N	▲		TEMP RANGE	1600		1592.5	1600.0
AV DIFF			AV STATIC	400		397.5	400.0
SAMPLE TAKEN	YES ☐	NO ☒	TYPE OF TEST	0		0.0	0.0
			CHECK ☒	SETTLE ☐	ORIFICE ☐		

TESTER

ARON ESTRADA

WITNESS

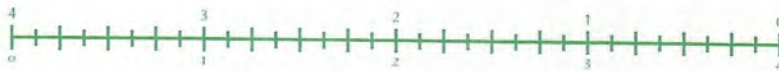
DP CALIBRATION

APP D W FOUND LEFT

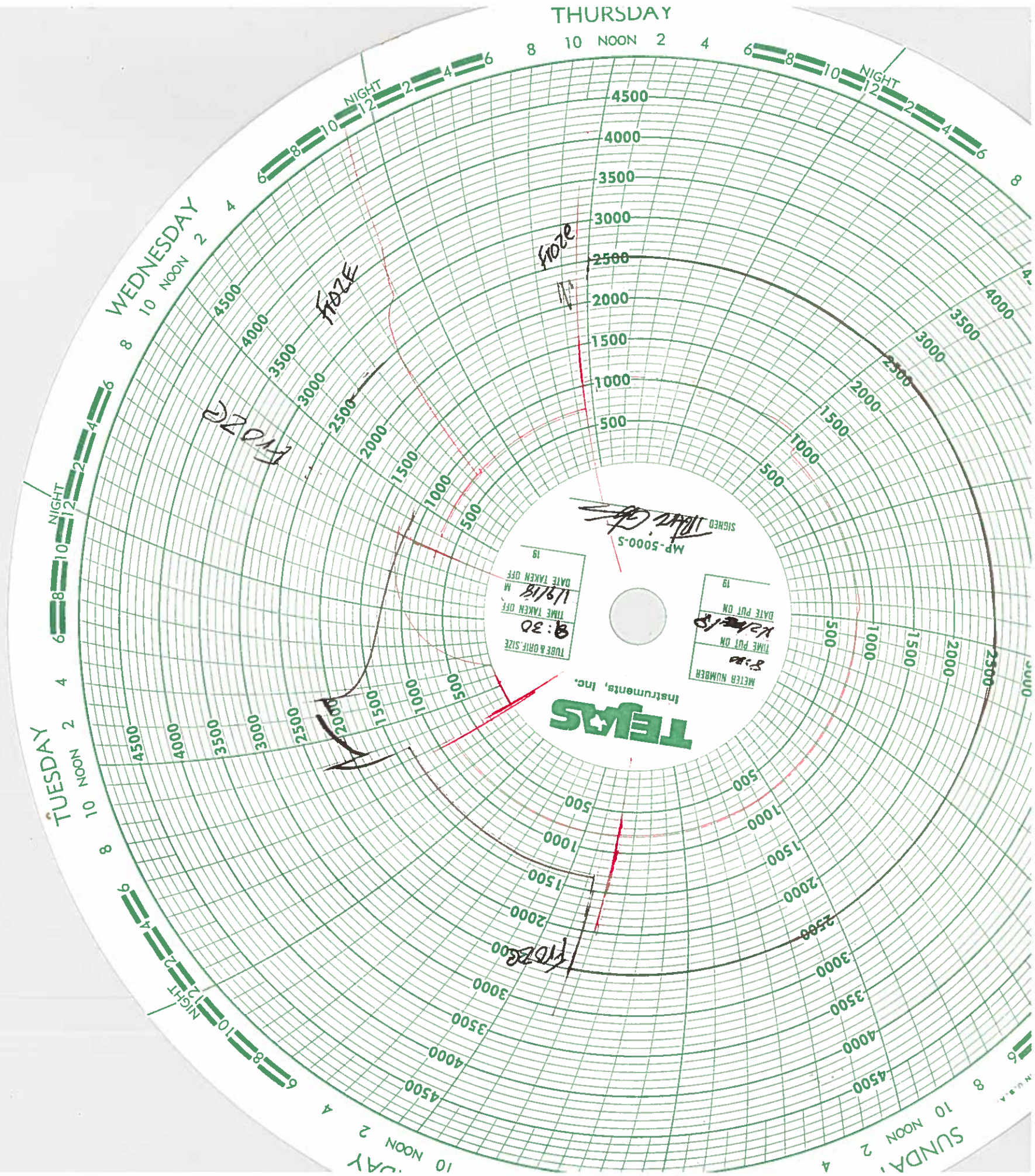
REMARKS —

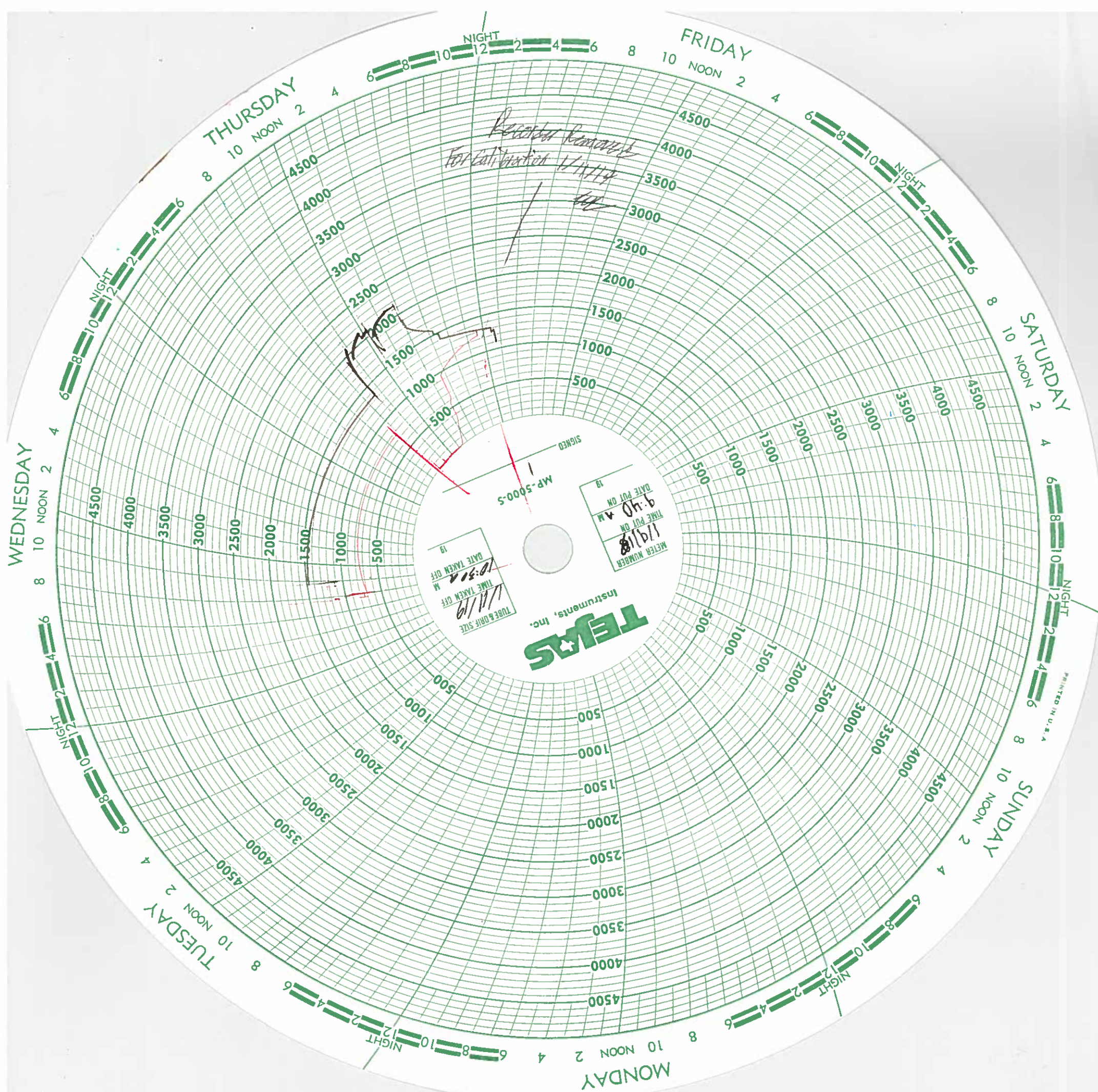
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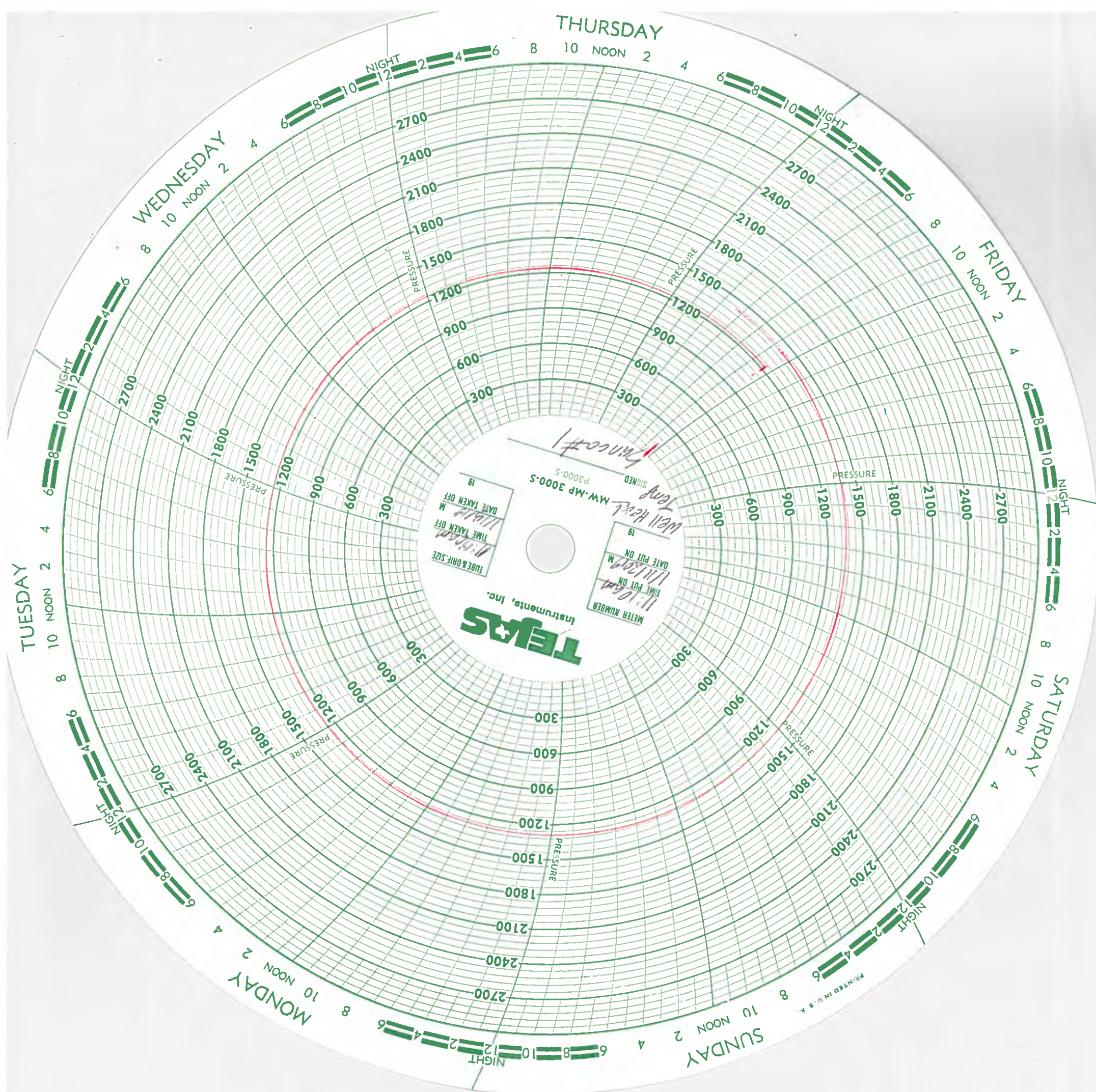
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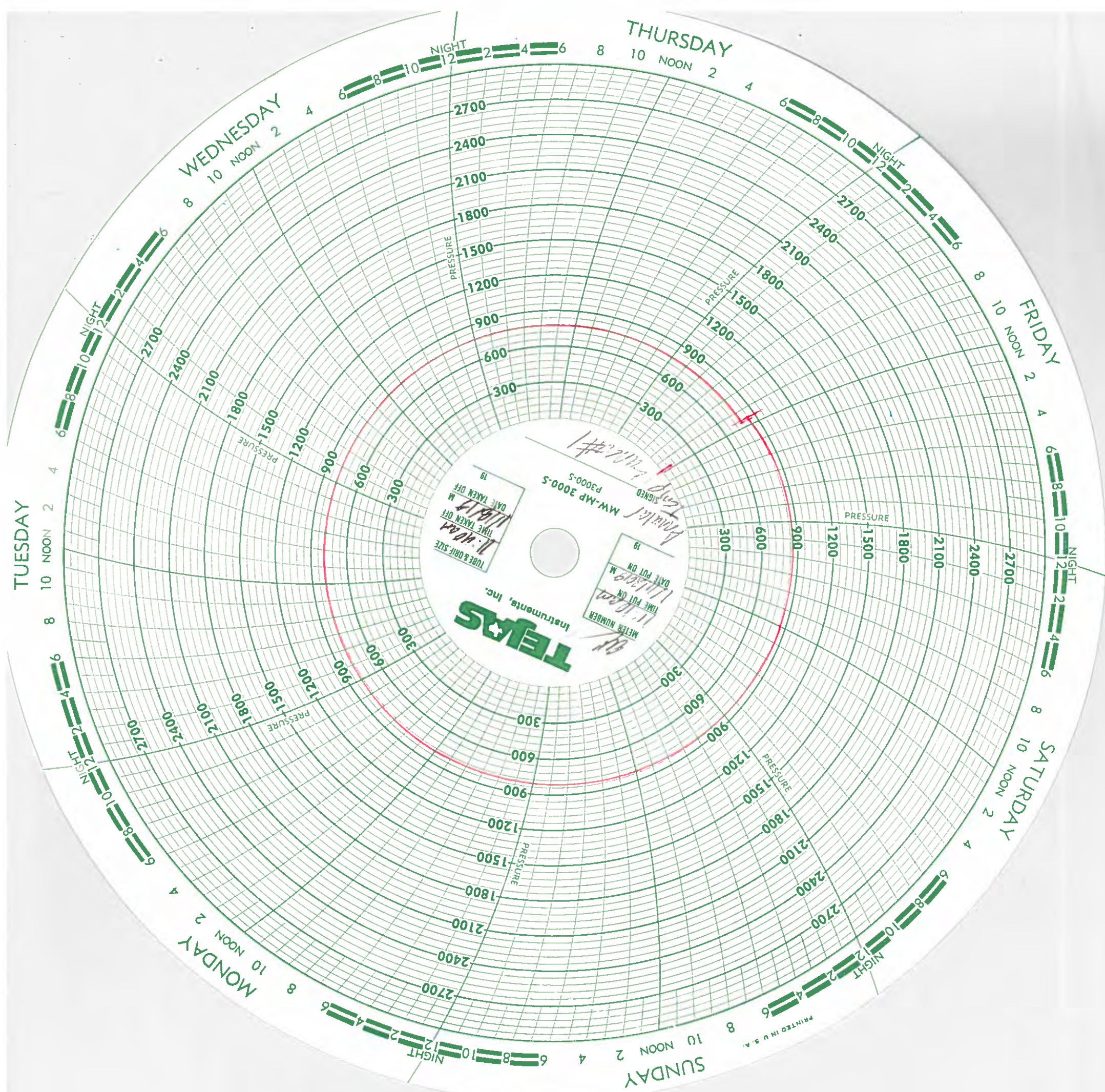


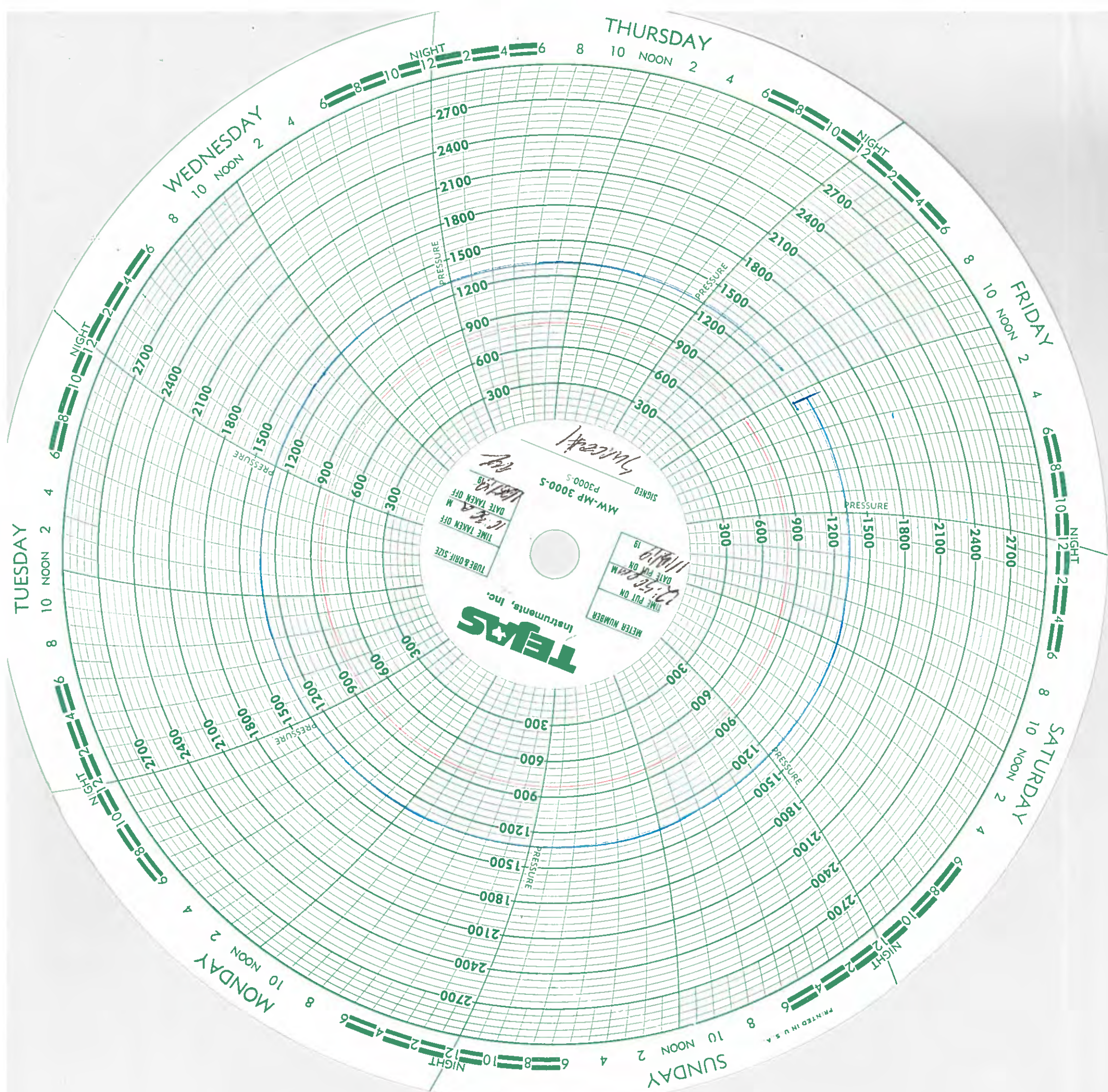
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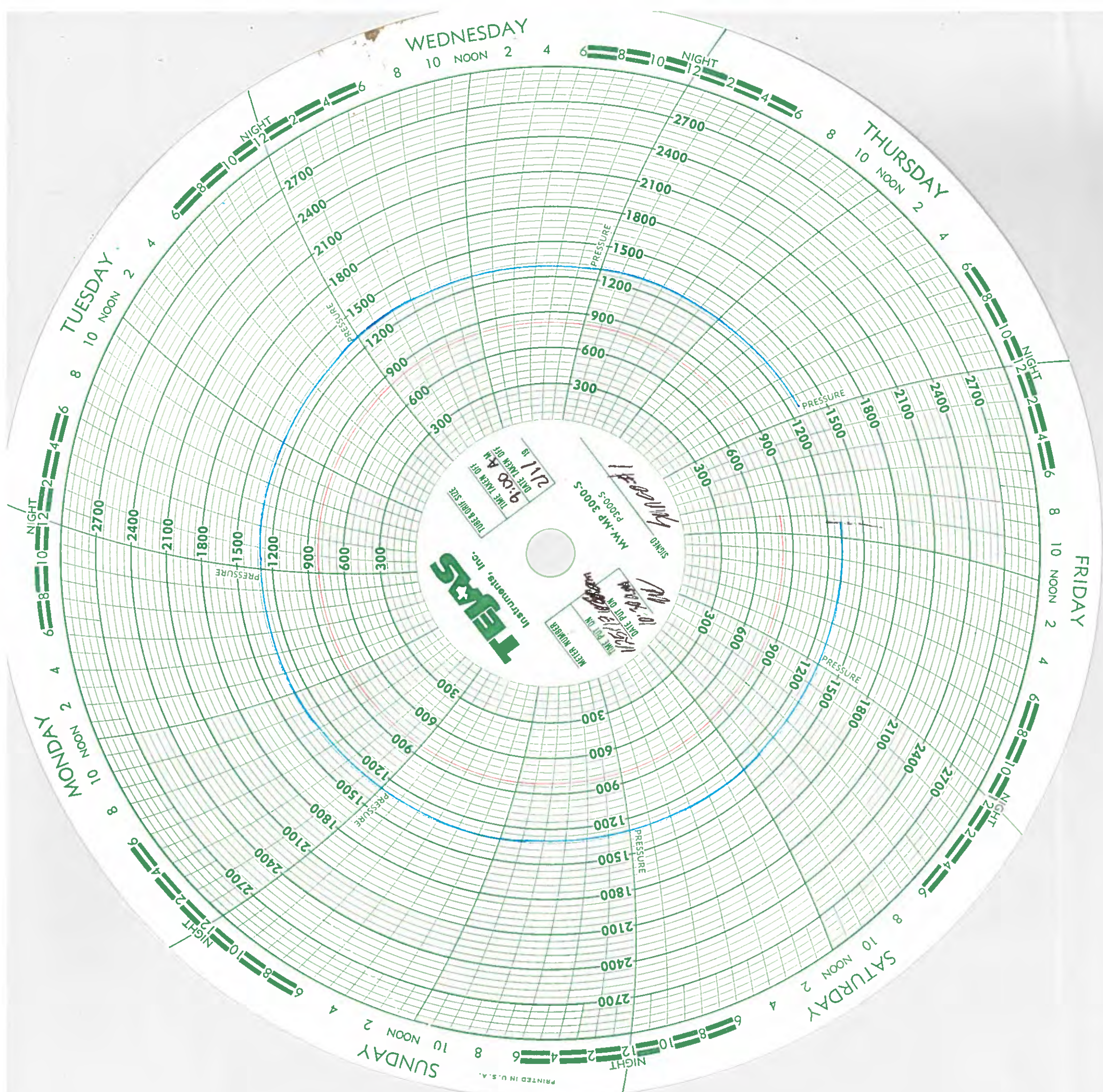


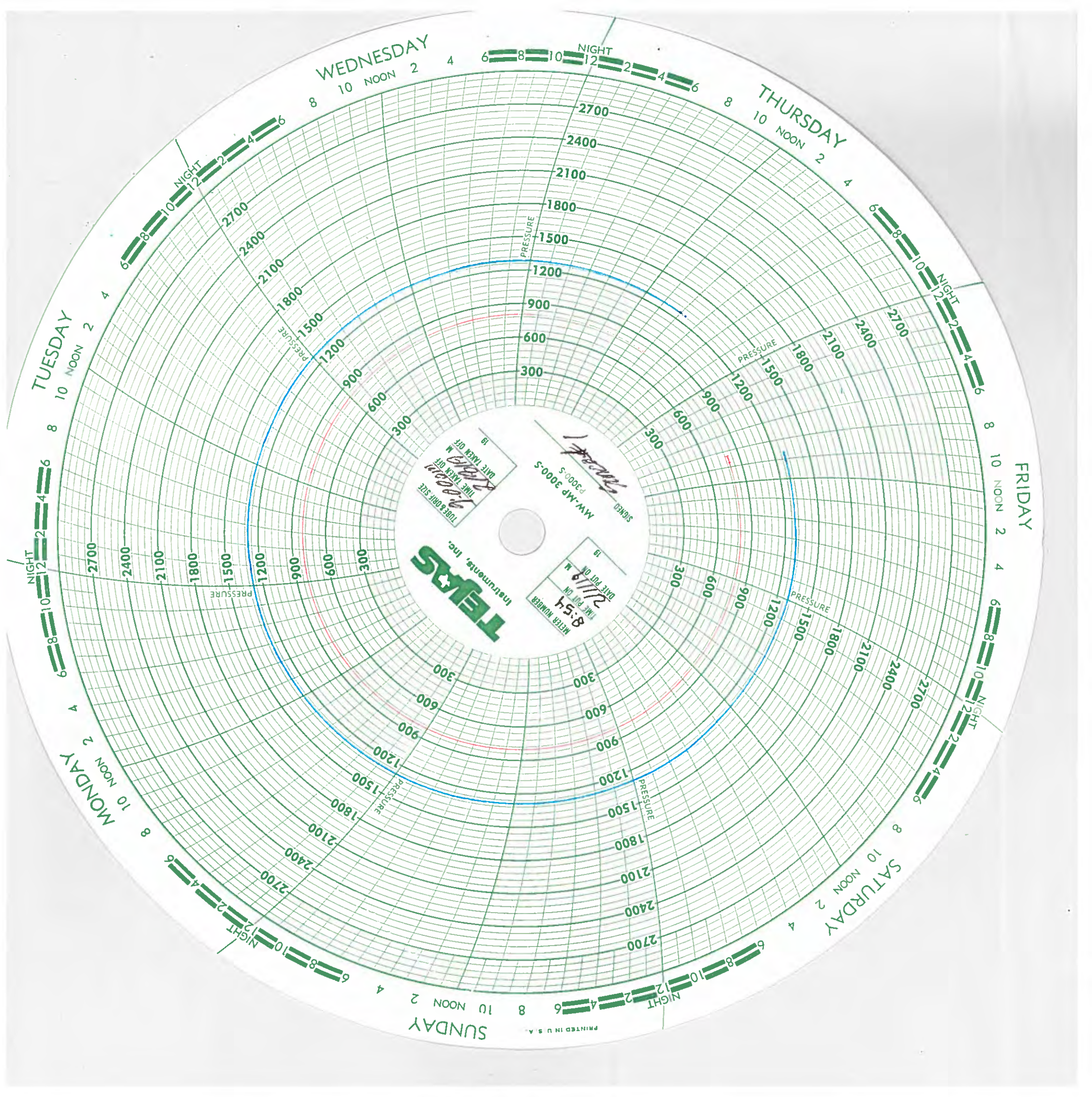












MONDAY
8 10 NOON 2 4 6

NIGHT
12 2 4 6 8 10

SUNDAY
8 10 NOON 2 4 6

PRINTED IN U.S.A.

TUESDAY
8 10 NOON 2 4 6

8

10 NOON

SATURDAY
8 10 NOON 2 4 6

NIGHT
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NIGHT

WEDNESDAY
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10 NOON

FRIDAY
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10 NOON

THURSDAY
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STETAL
Instruments, Inc.

METER NUMBER

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DATE PUT ON

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DATE TAKEN OFF

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TUBE & ONE SIZE

TIME TAKEN OFF

DATE TAKEN OFF

M

DATE TAKEN OFF

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MW-MP 3000-S
P3000-S

SIGNED

[Signature]

PRESSURE

2700

2400

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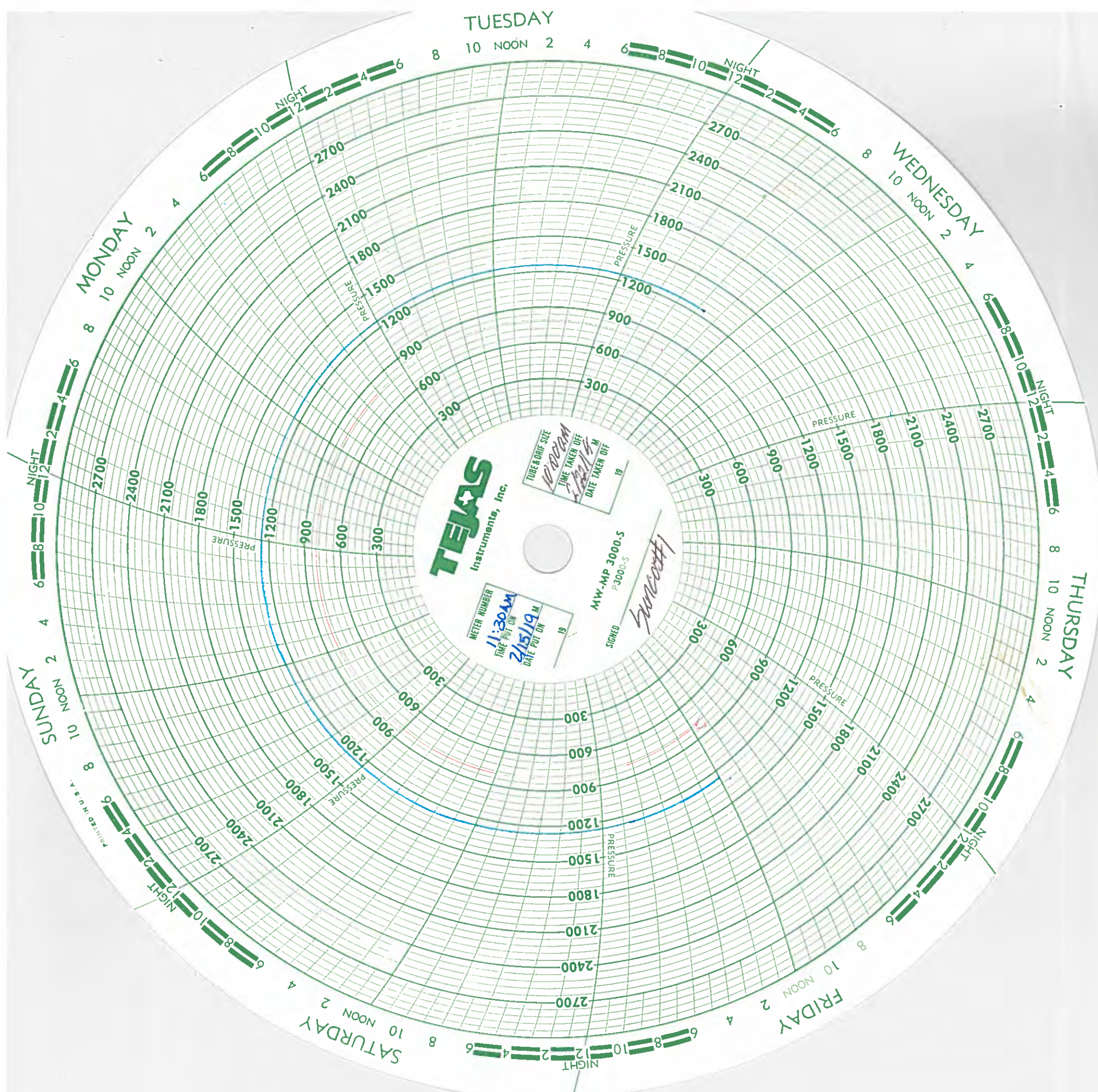
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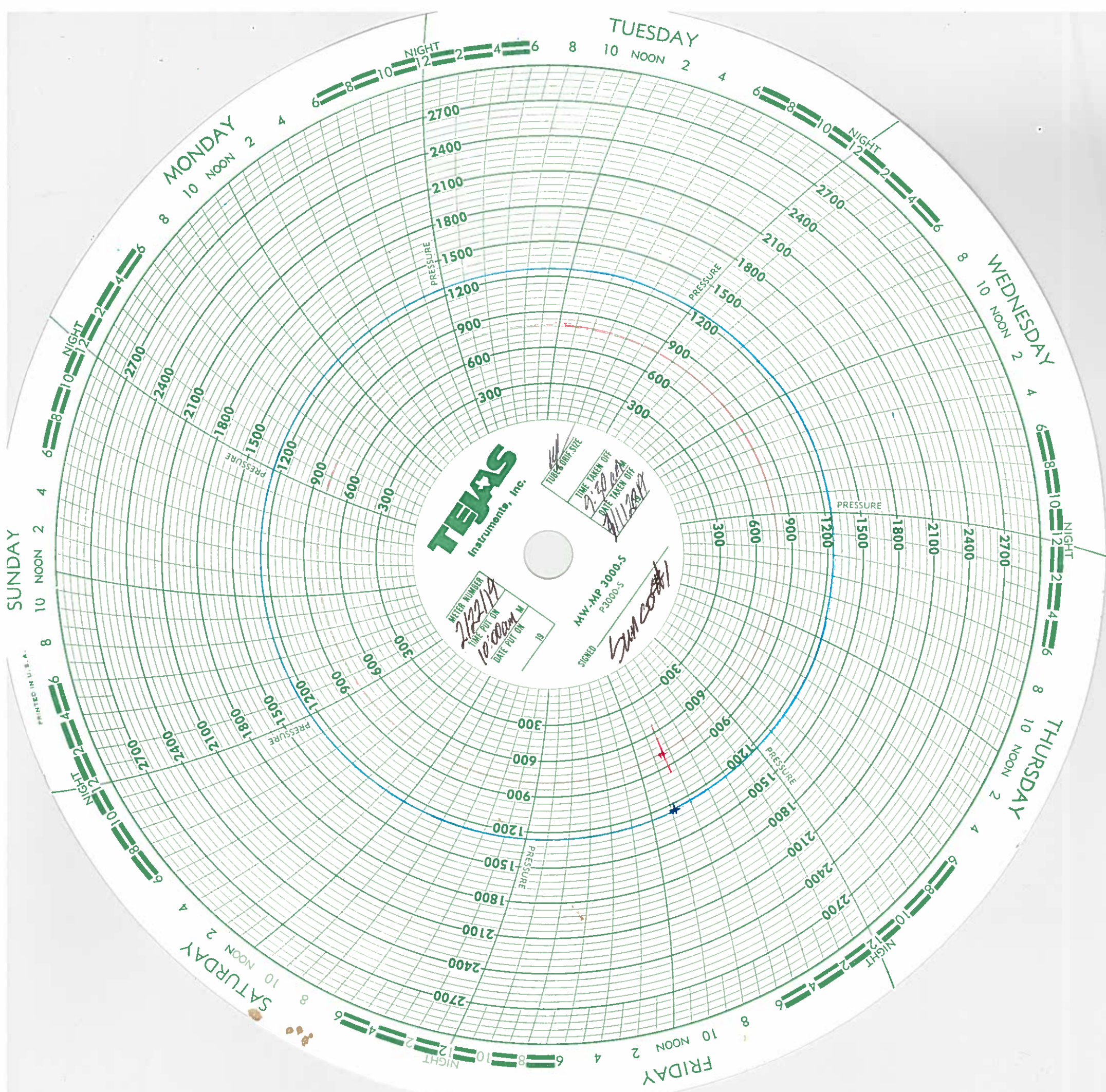
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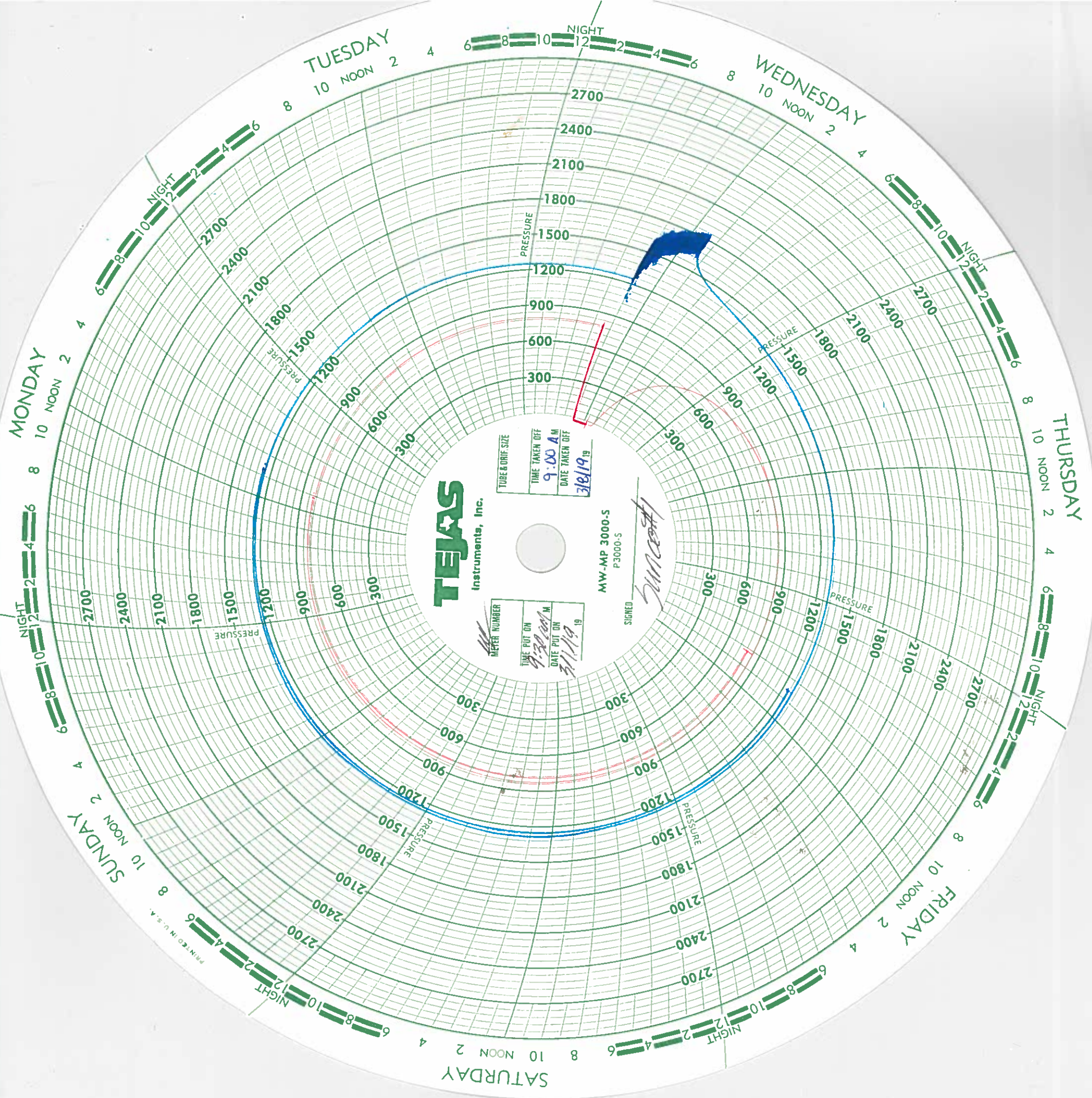
900

600

300







TEJAS
Instruments, Inc.

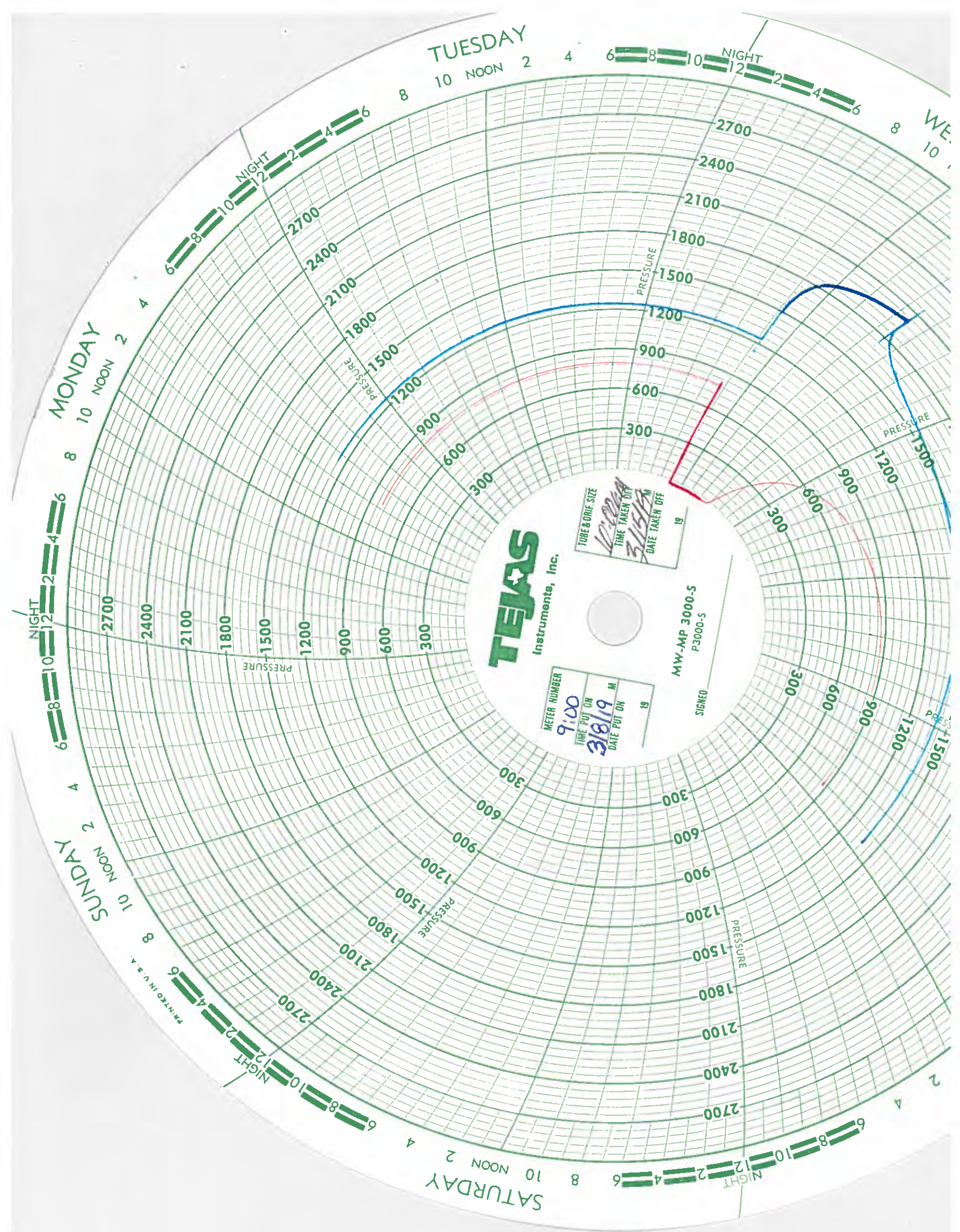
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9:00 AM
DATE TAKEN OFF
3/8/19

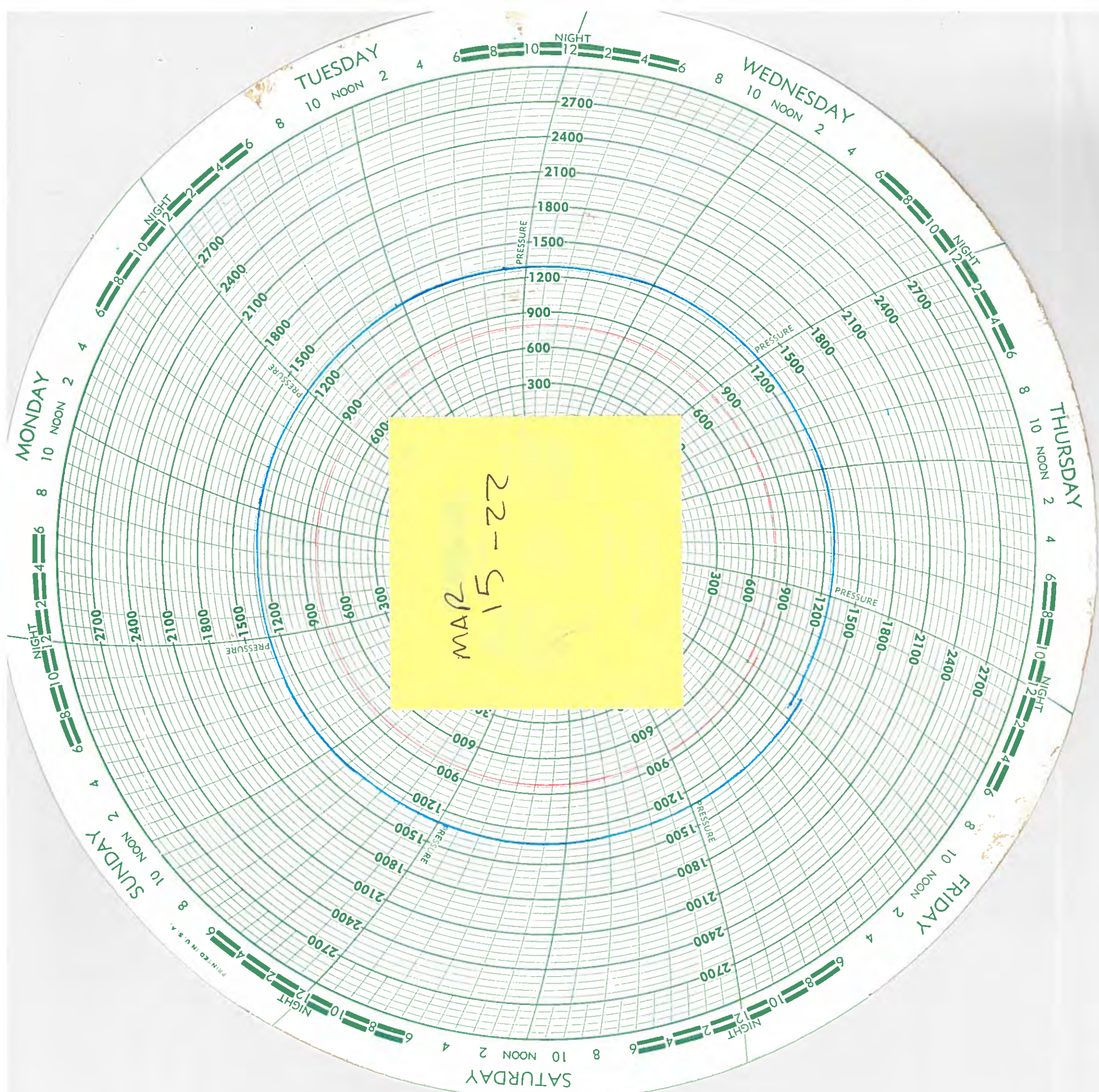
METER NUMBER
TIME PUT ON
9:30 AM
DATE PUT ON
3/1/19

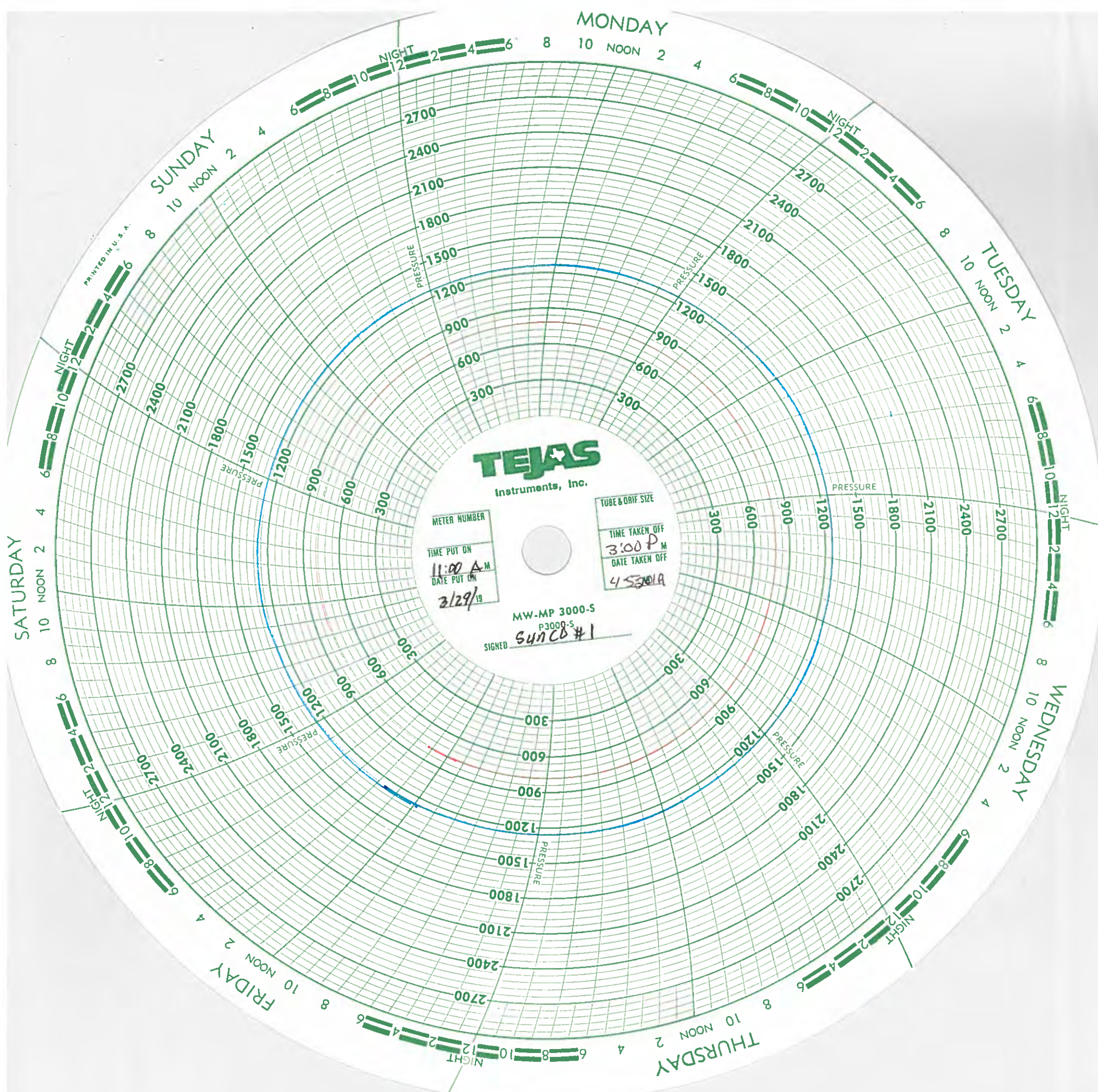
MW-MP 3000-S
P3000-S

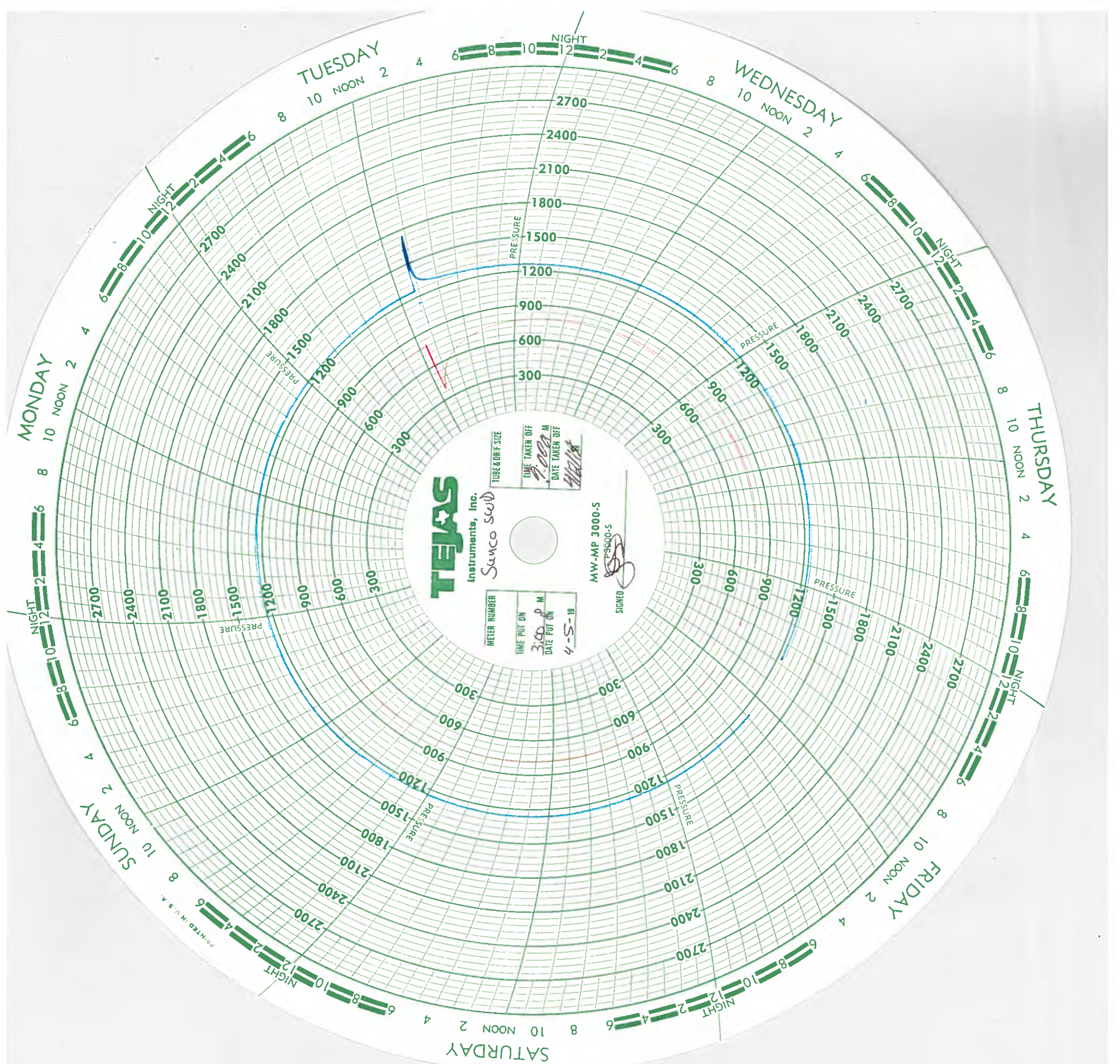
SIGNED
Suncoast

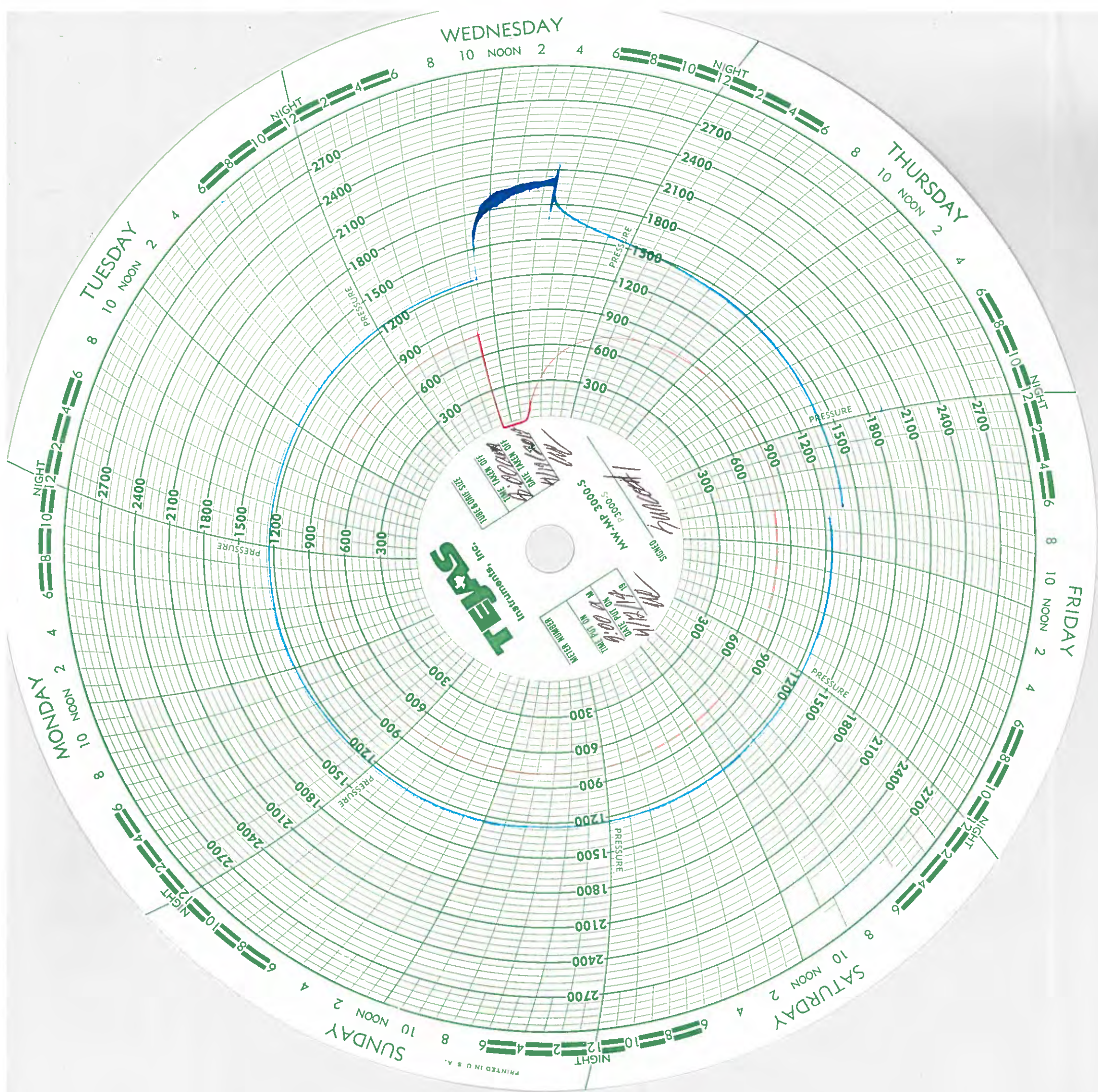
PRINTED IN U.S.A.

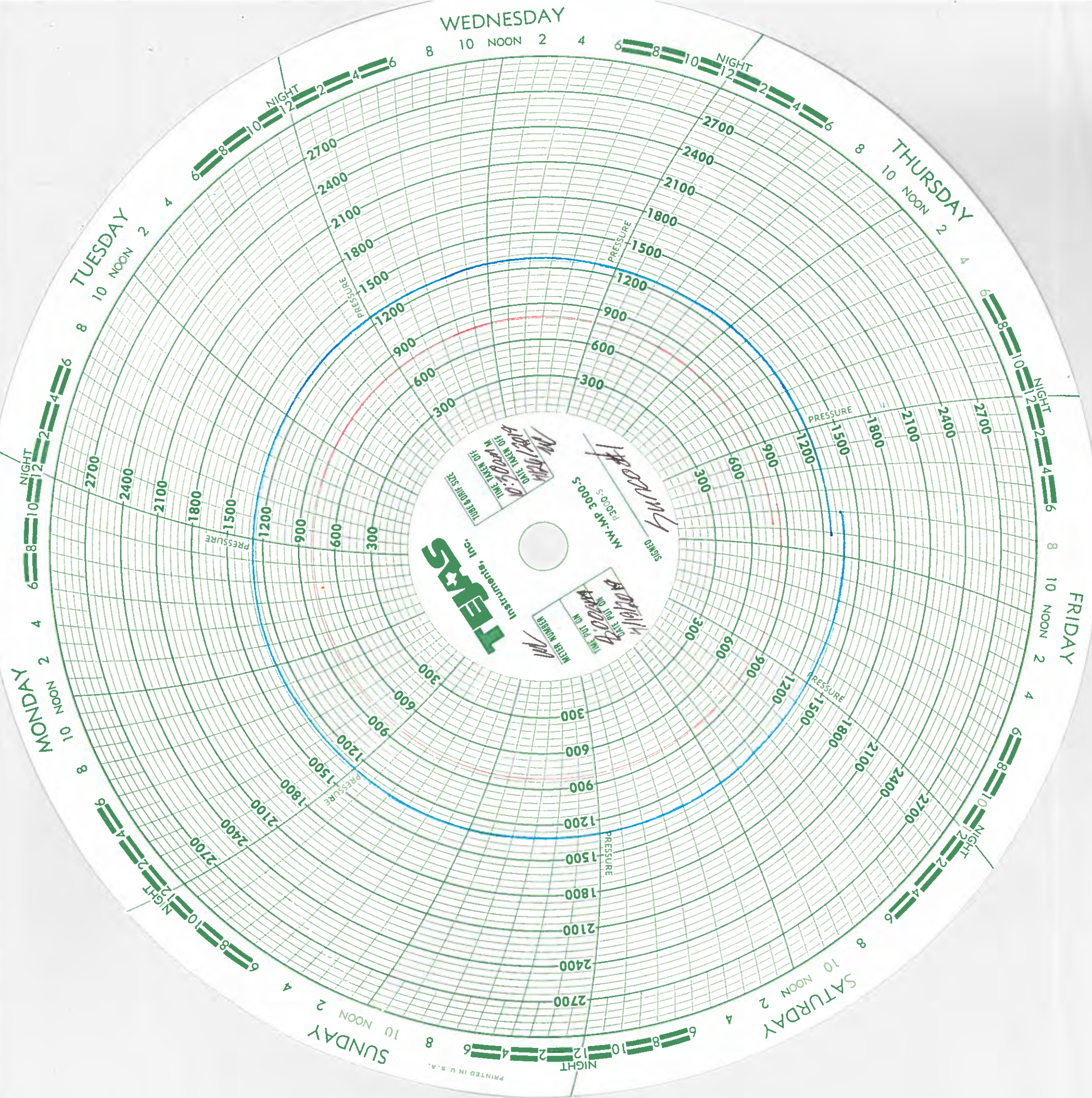












WEDNESDAY

THURSDAY

FRIDAY

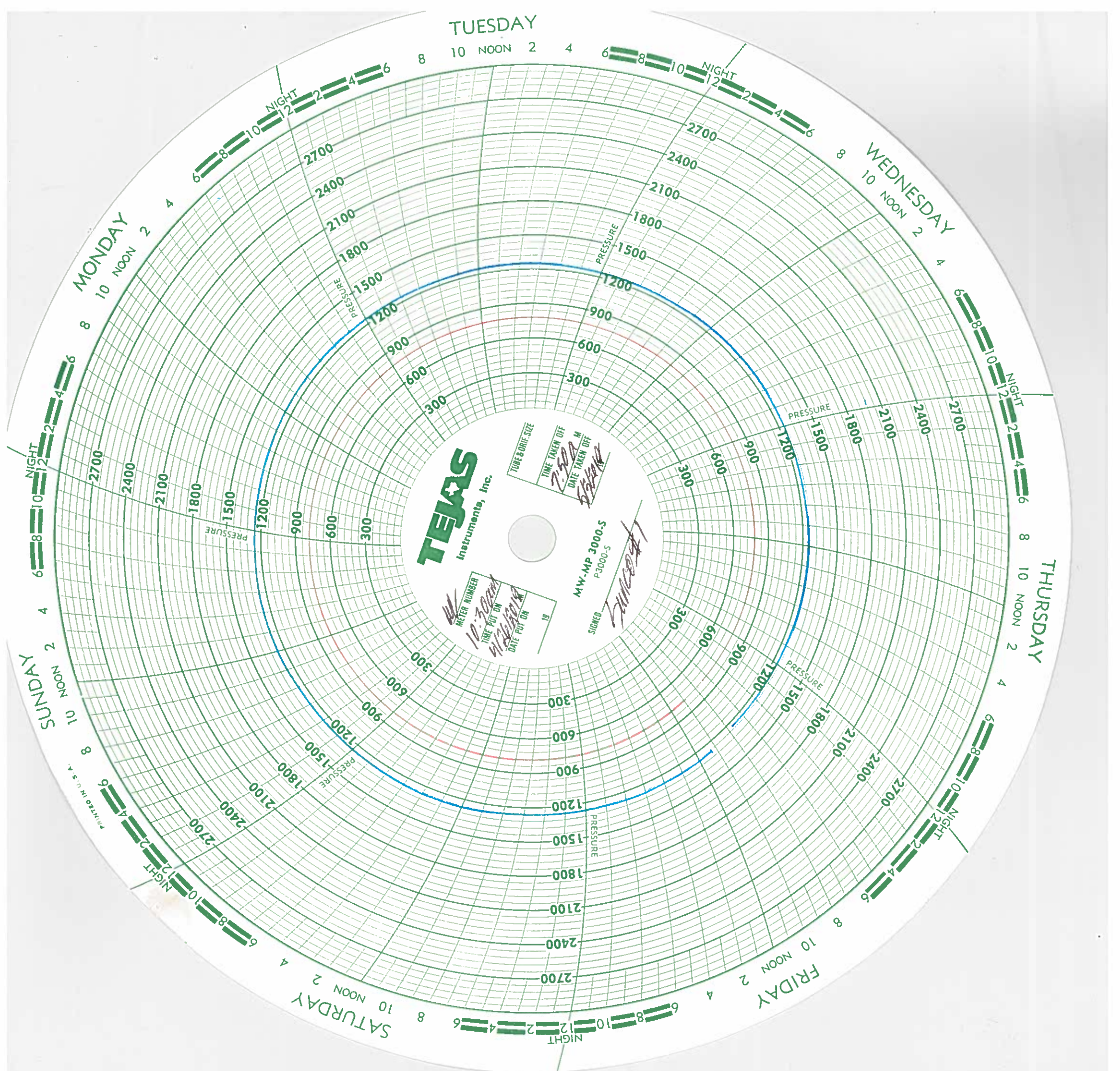
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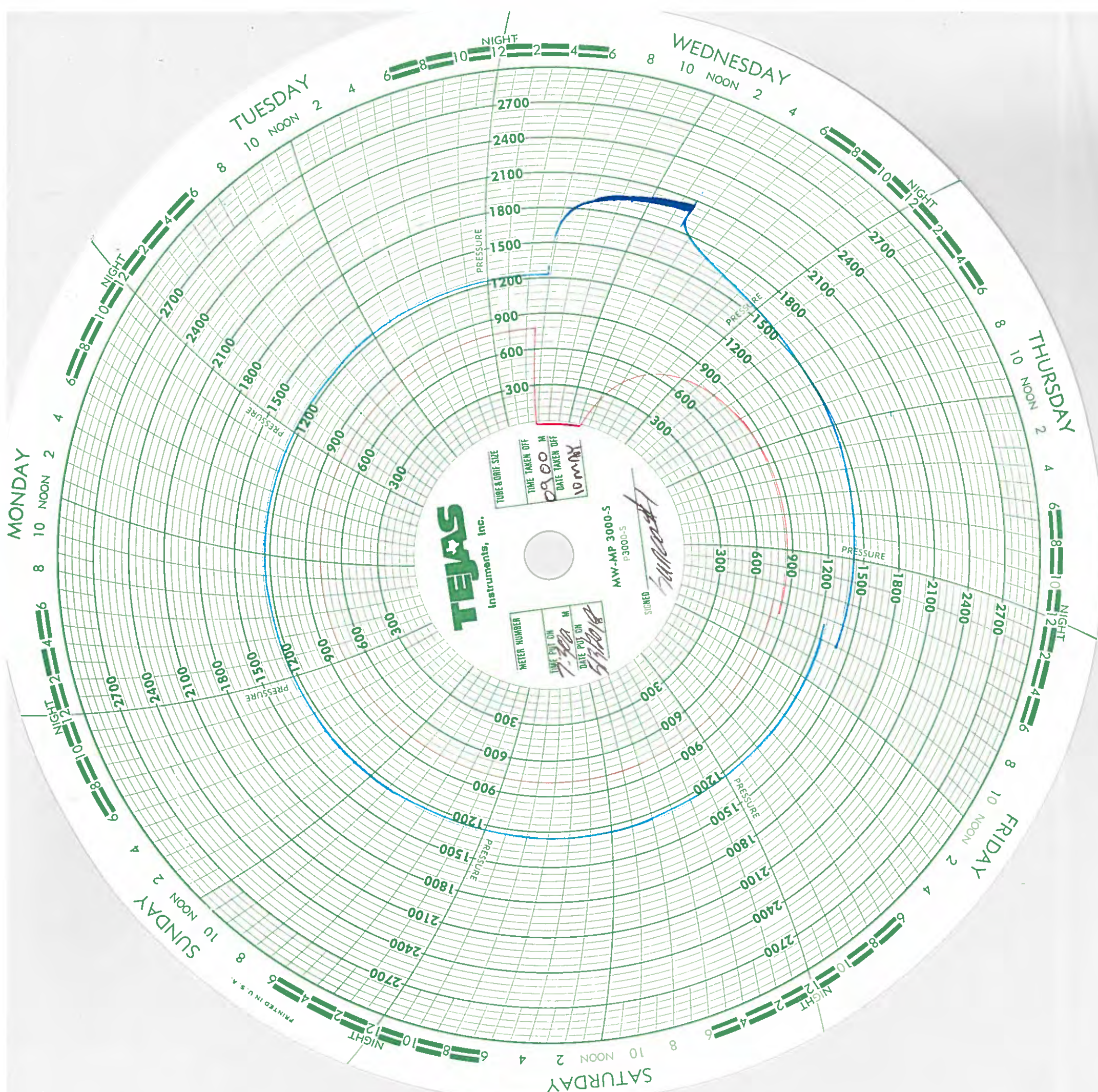
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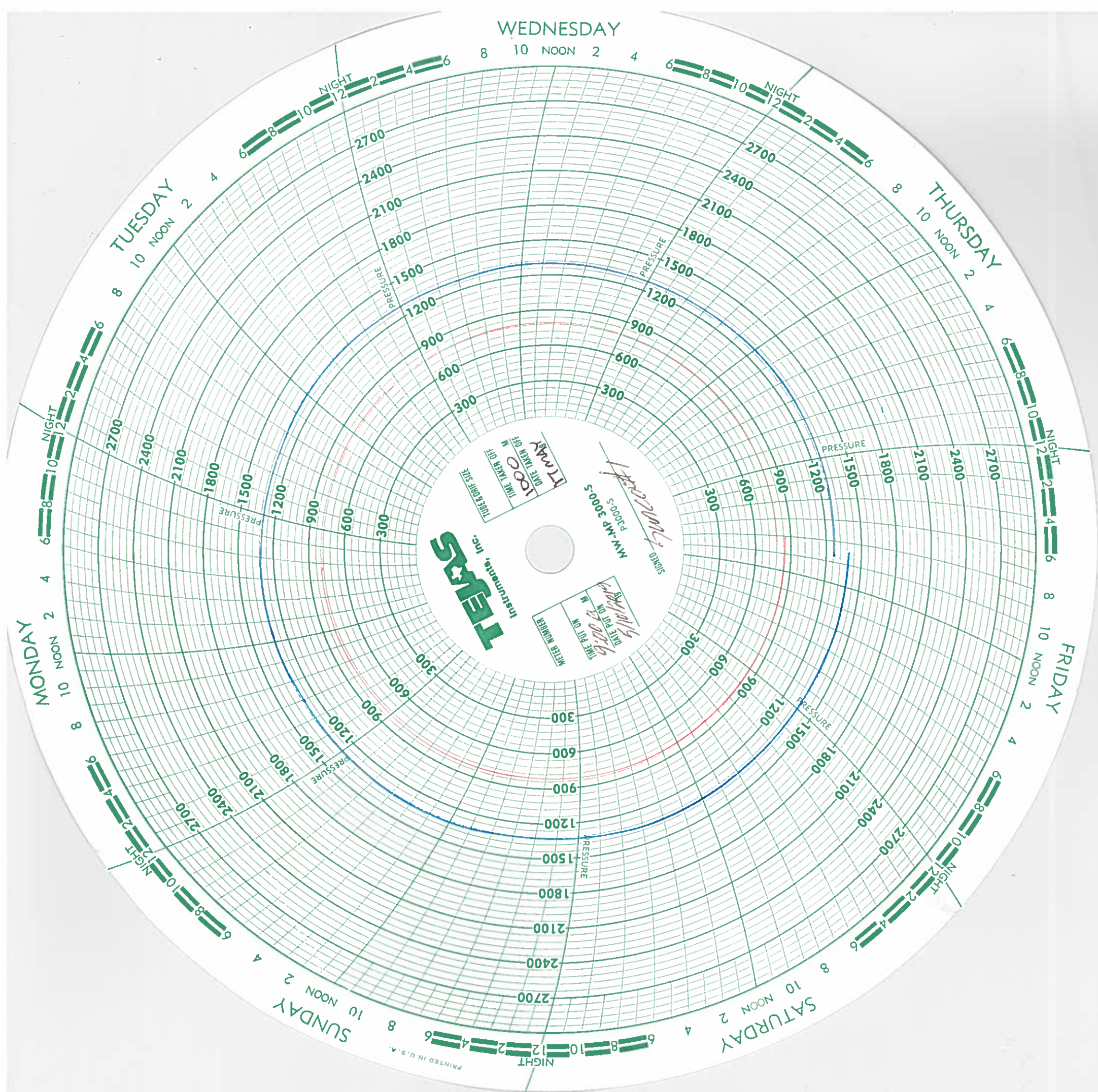
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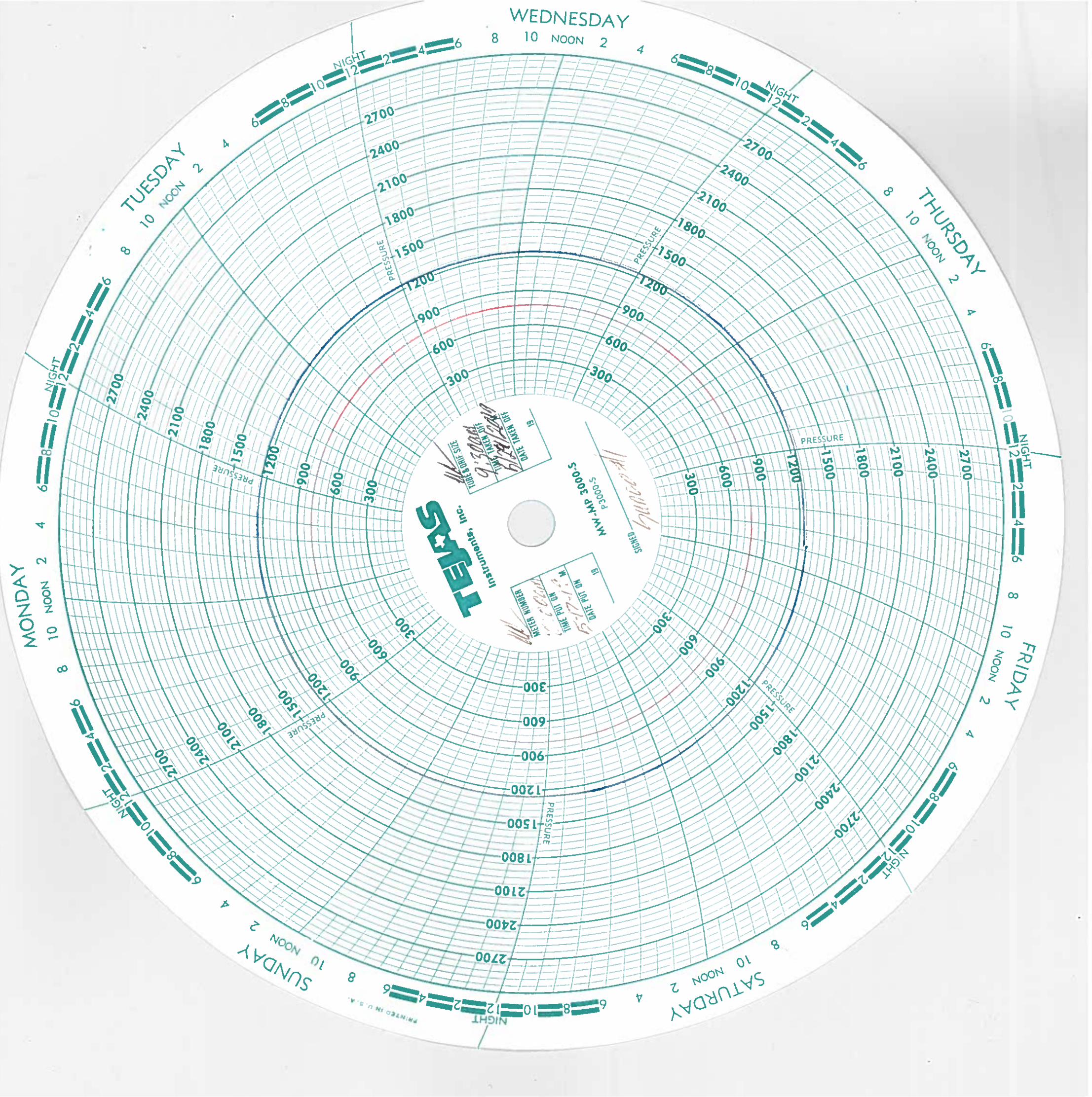
MONDAY

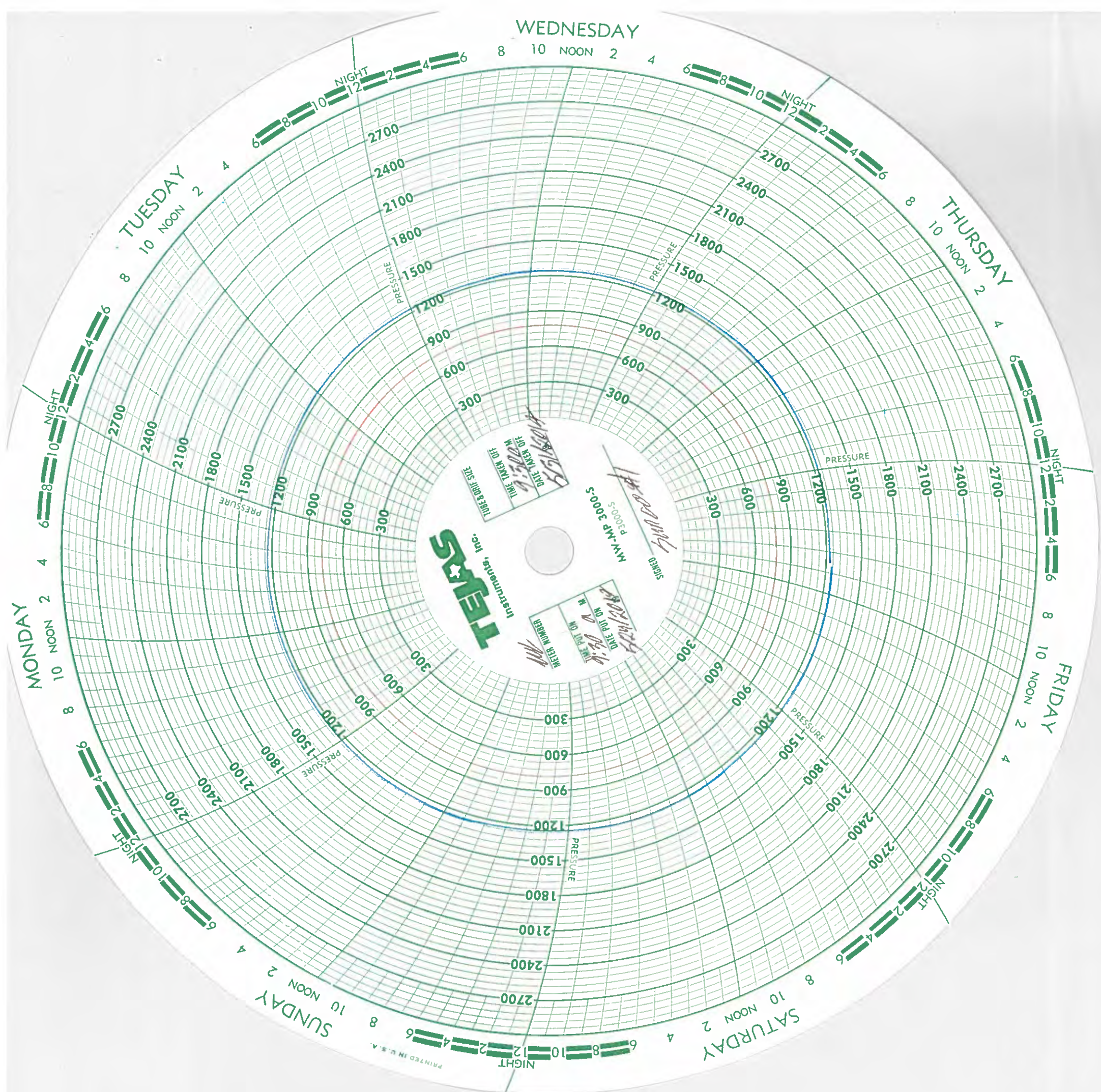
PRINTED IN U.S.A.

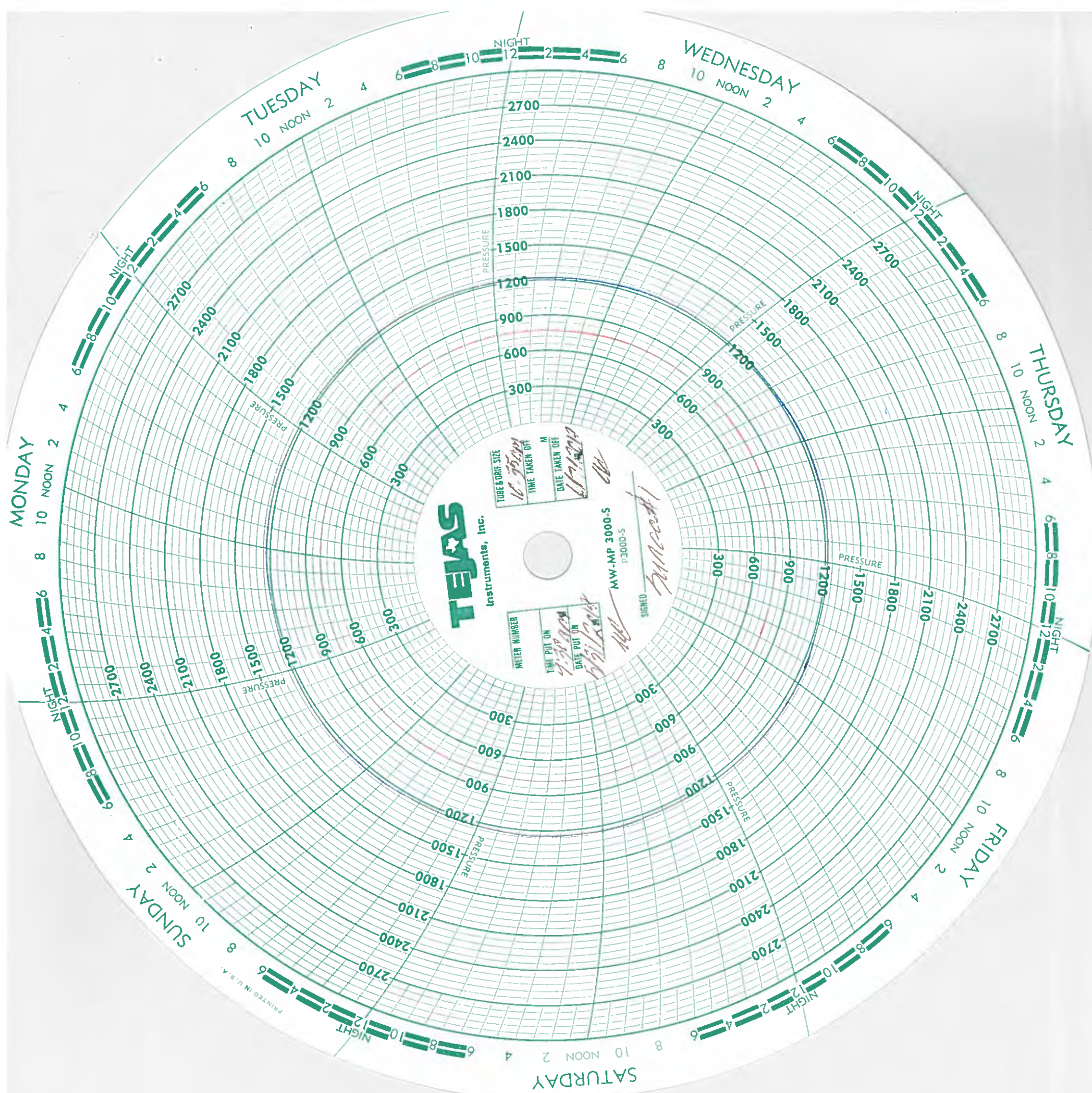












PRINTED IN U.S.A.

SUNDAY

MONDAY

TUESDAY

WEDNESDAY

THURSDAY

FRIDAY

TEXAS
Instruments, Inc.

METER NUMBER
TIME PUT ON
DATE PUT ON
6/12/2014
ME

MW-MP 3000-S
P3000-S
SIGNED
HUNCOCK

TUBE & ORIF SIZE
TIME TAKEN OFF
DATE TAKEN OFF
6/14/2014
ME

PRESSURE

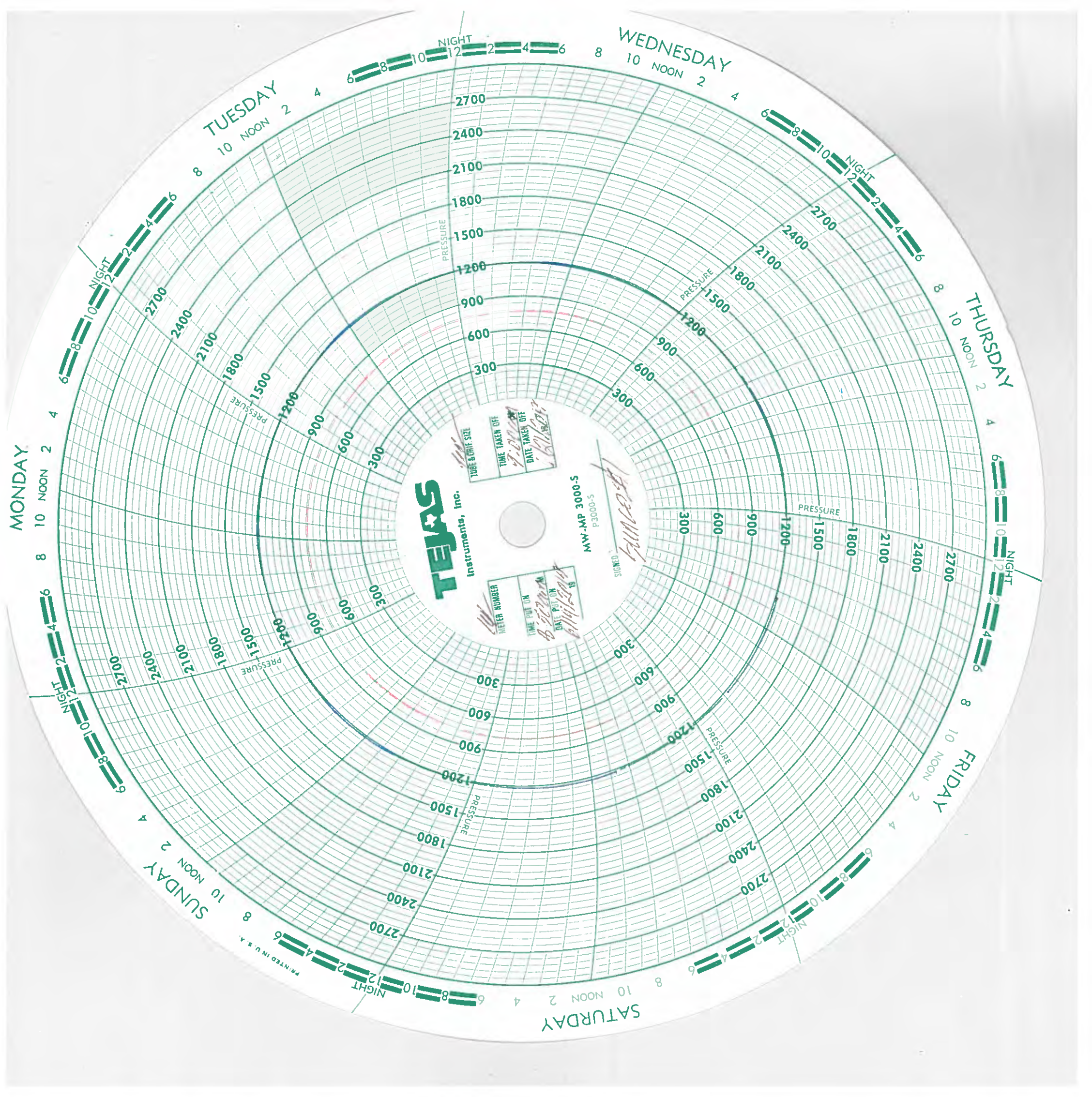
PRESSURE

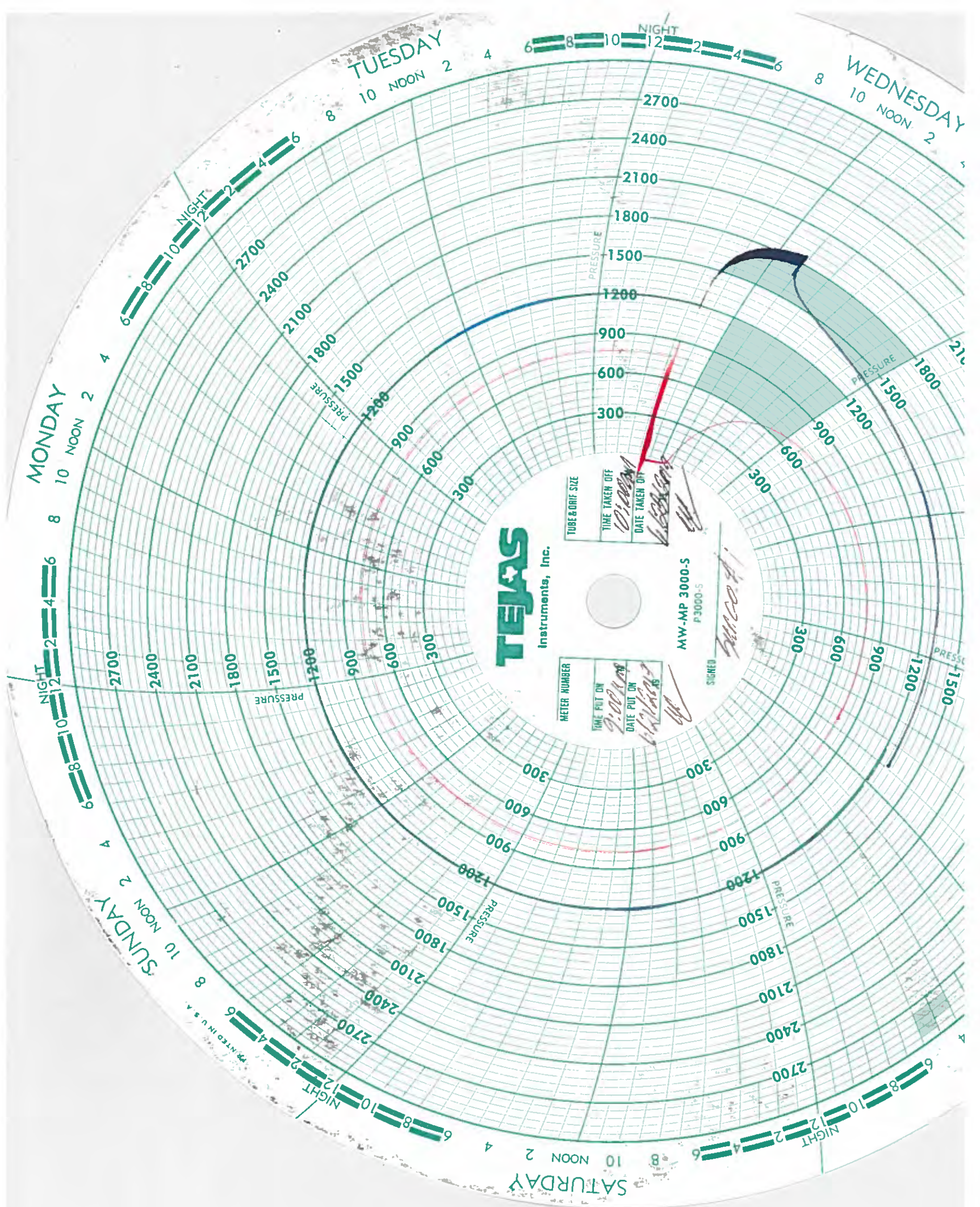
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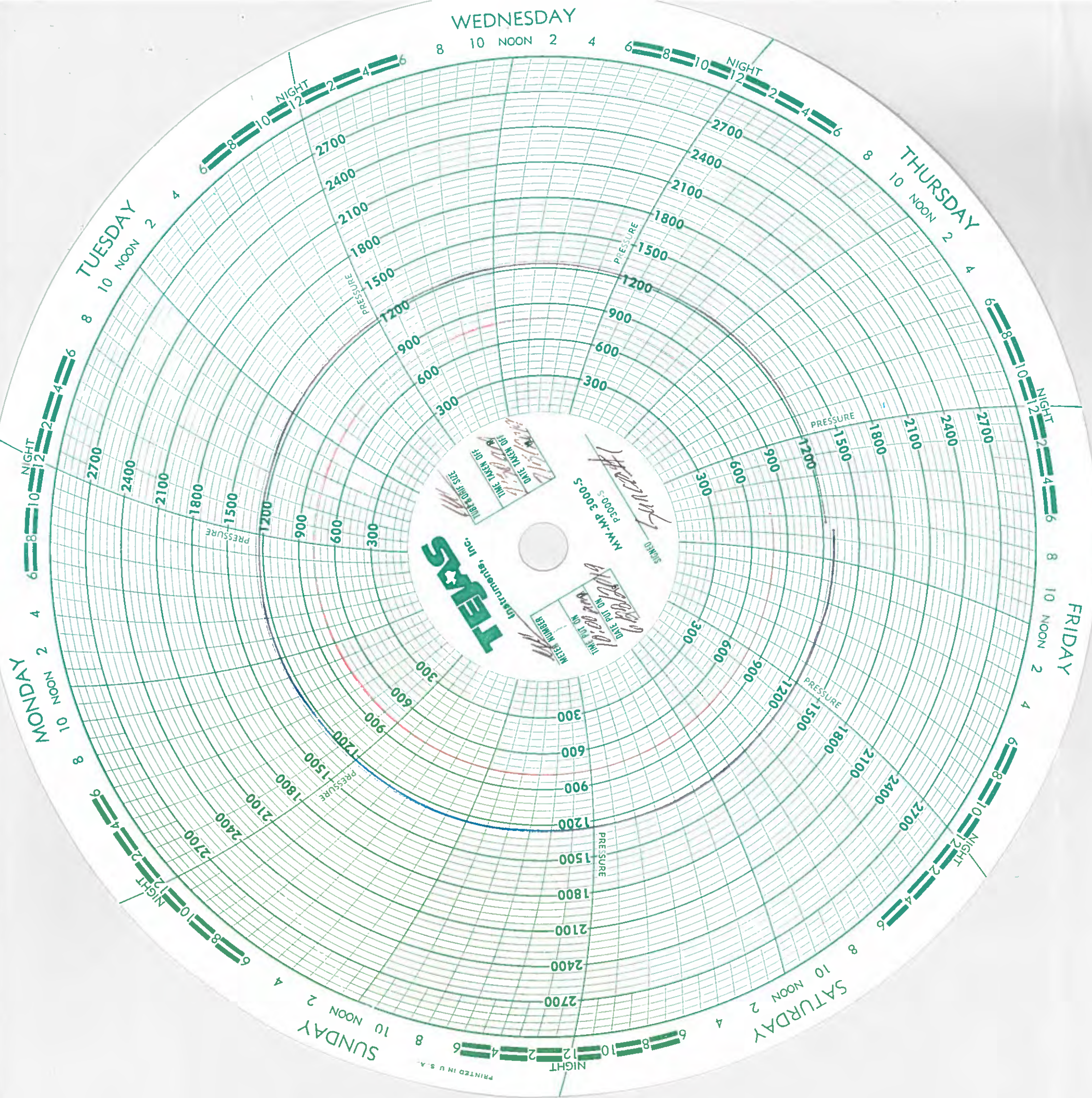
PRESSURE

PRESSURE

PRESSURE







WEDNESDAY

8 10 NOON 2 4

6 8 10 NIGHT 12 2 4 6

THURSDAY

8 10 NOON 2 4

6 8 10 NIGHT 12 2 4 6

FRIDAY

8 10 NOON 2 4

6 8 10 NIGHT 12 2 4 6

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SUNDAY

8 10 NOON 2 4

6 8 10 NIGHT 12 2 4 6

MONDAY

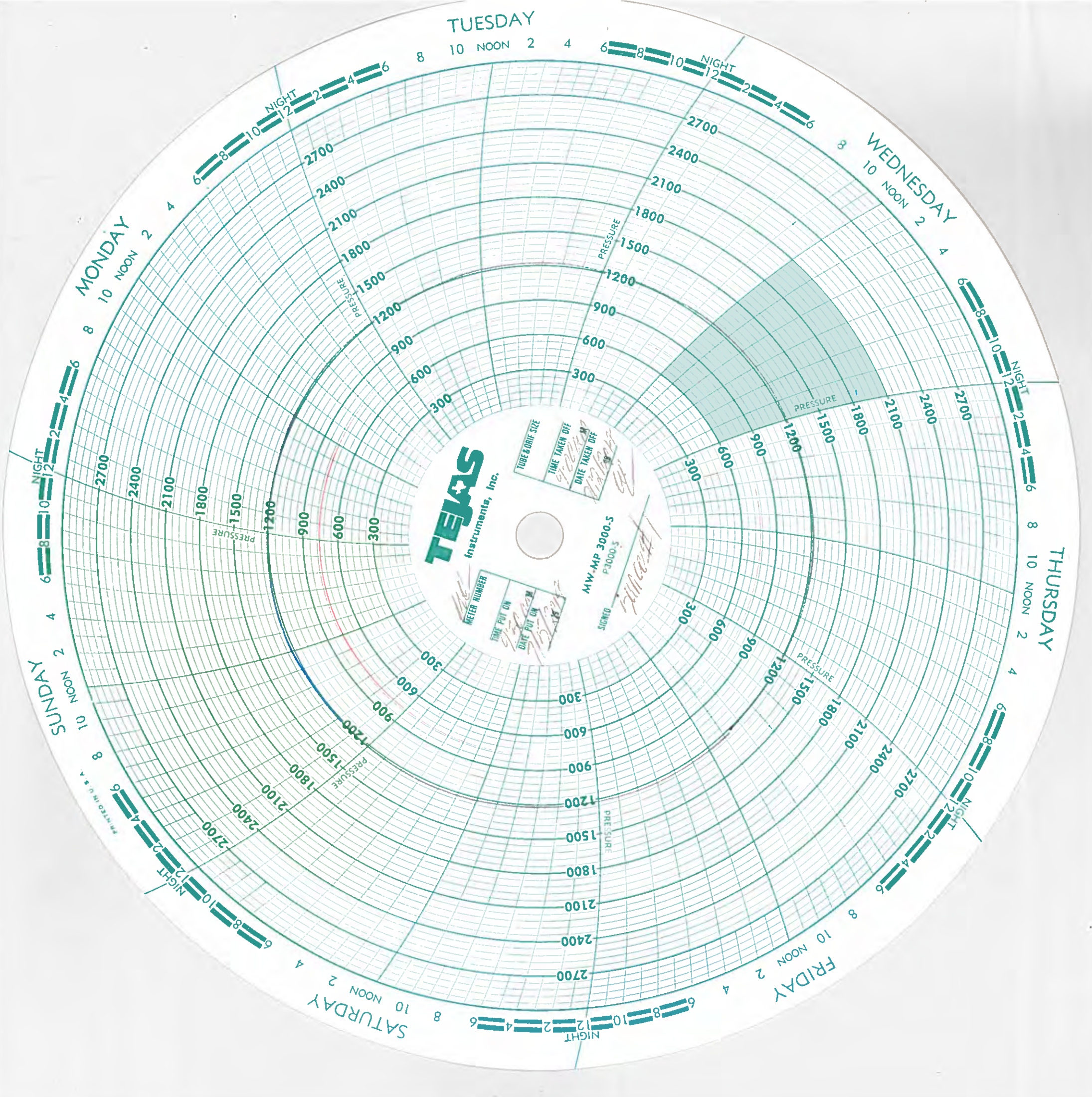
8 10 NOON 2 4

6 8 10 NIGHT 12 2 4 6

TUESDAY

8 10 NOON 2 4

6 8 10 NIGHT 12 2 4 6

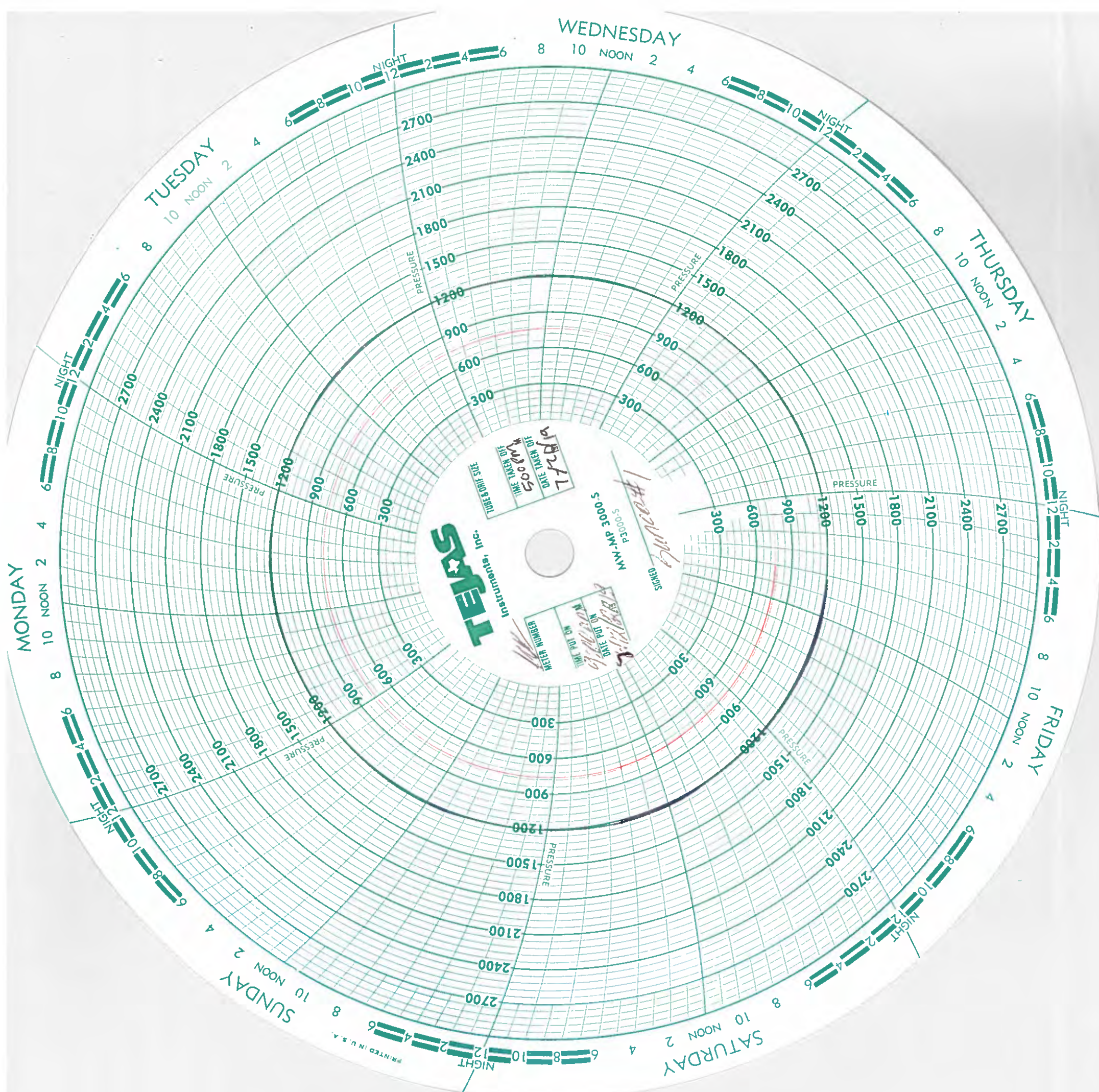


TEXAS
Instruments, Inc.

METER NUMBER
TIME PUT ON
DATE PUT ON

TUBE & ORIF SIZE
TIME TAKEN OFF
DATE TAKEN OFF

MW-MP 3000-S
S-0000
S-0000
SIGNED



MONDAY

12 2 4 6 8 10 NOON

NIGHT 12 10 8 6 4 2

TUESDAY

12 2 4 6 8 10 NOON

WEDNESDAY

12 2 4 6 8 10 NOON

THURSDAY

12 2 4 6 8 10 NOON

FRIDAY

12 2 4 6 8 10 NOON

SATURDAY

12 2 4 6 8 10 NOON

SUNDAY

12 2 4 6 8 10 NOON

TEJAS
Instruments, Inc.

TUBE & DRIFT SIZE

TIME TAKEN OFF

DATE TAKEN OFF

METER NUMBER

TIME PUT ON

DATE PUT ON

S-000033
S-000024

SIGNED

W. J. ...

2700
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PRESSURE

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PRESSURE

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PRESSURE

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PRESSURE

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PRESSURE

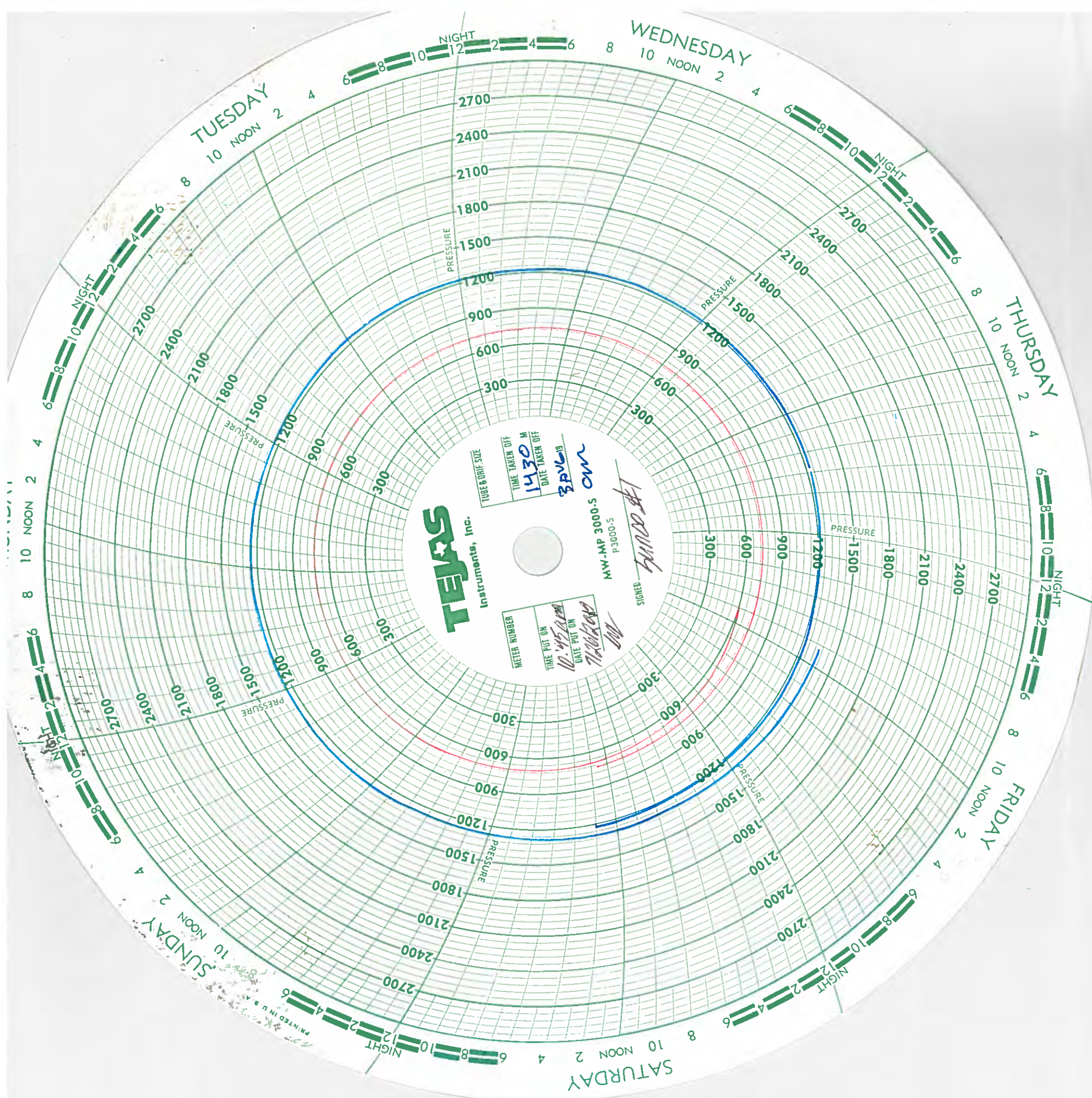
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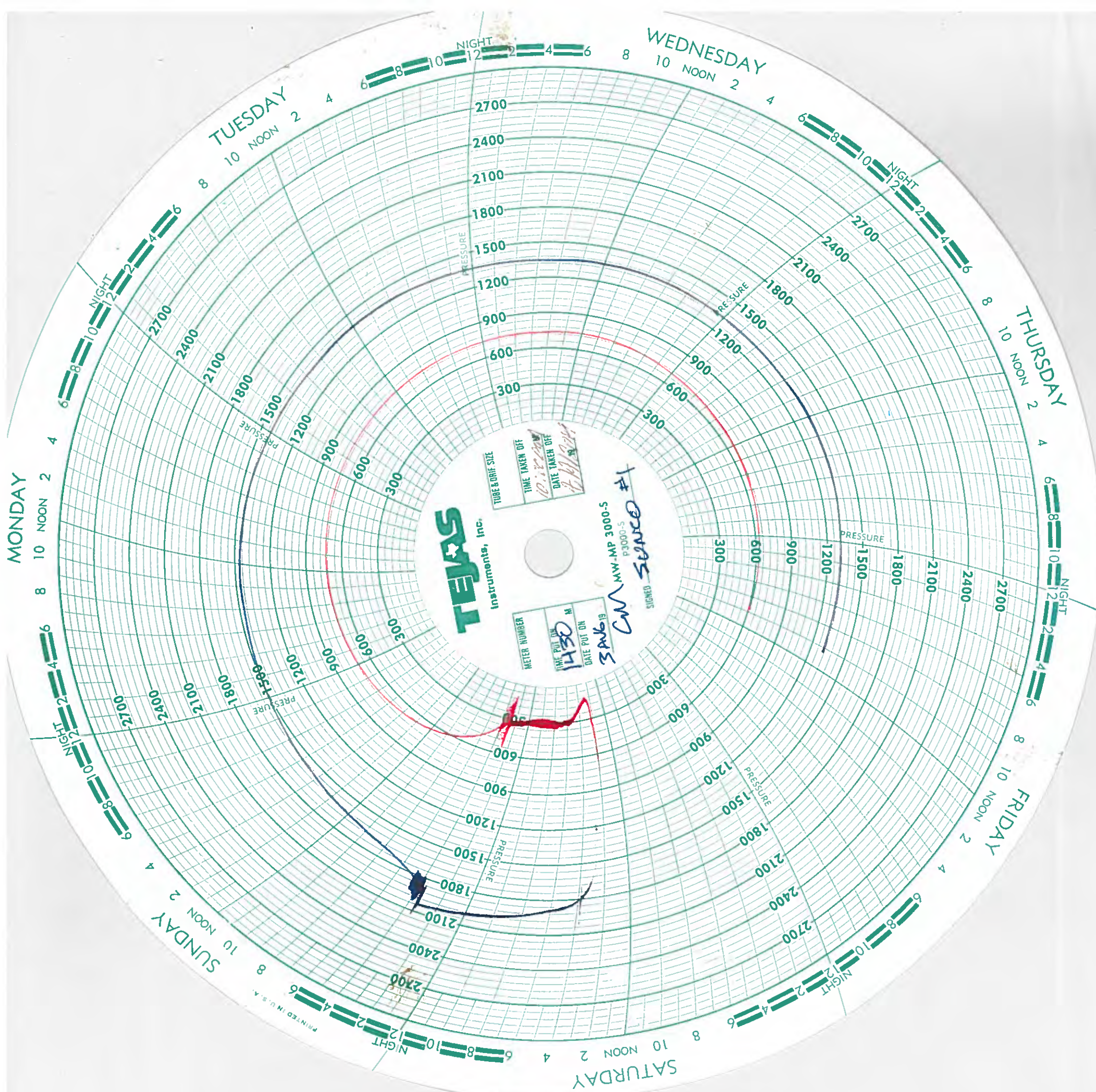
PRESSURE

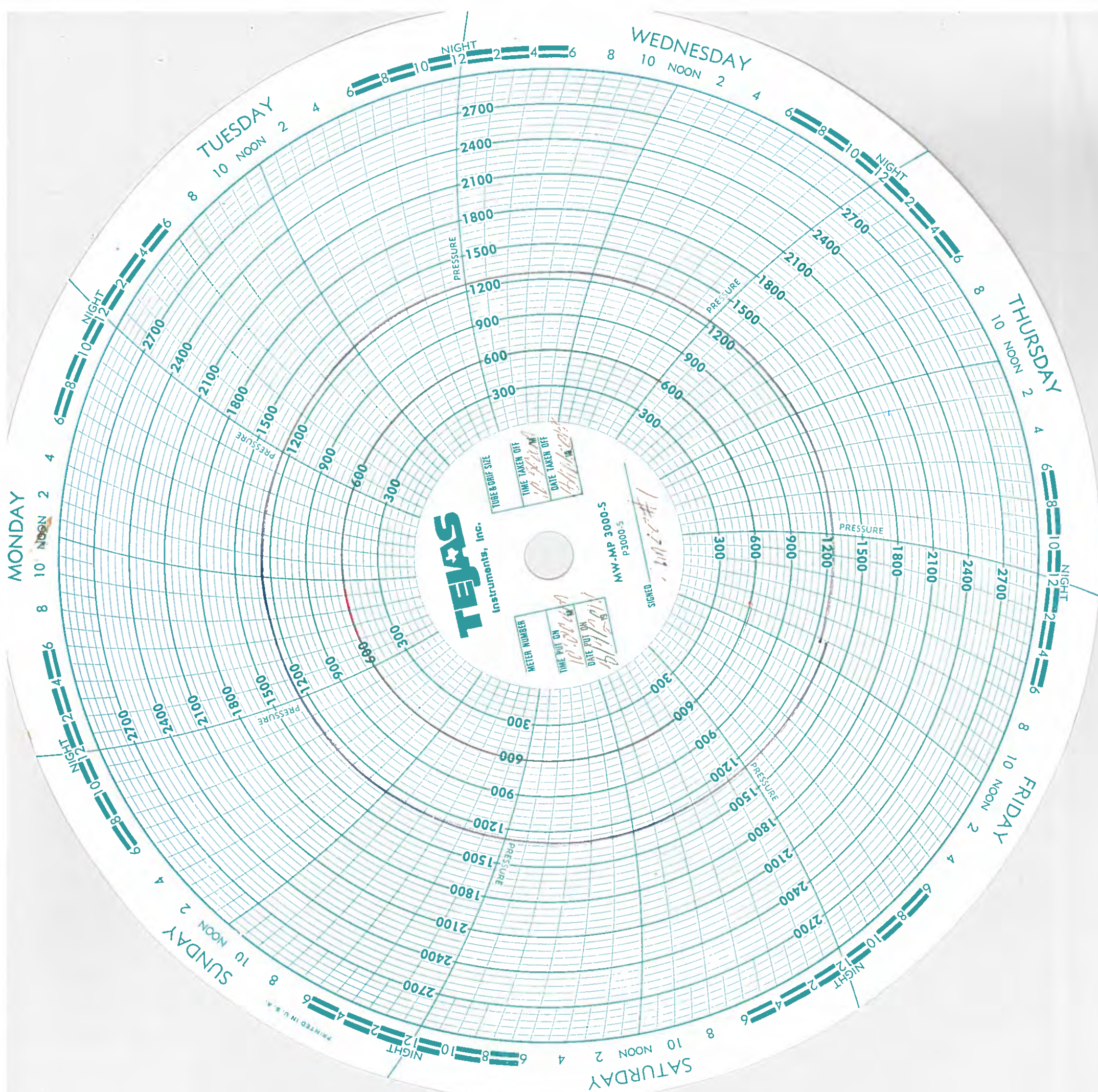
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2400
2100
1800
1500
1200
900
600
300

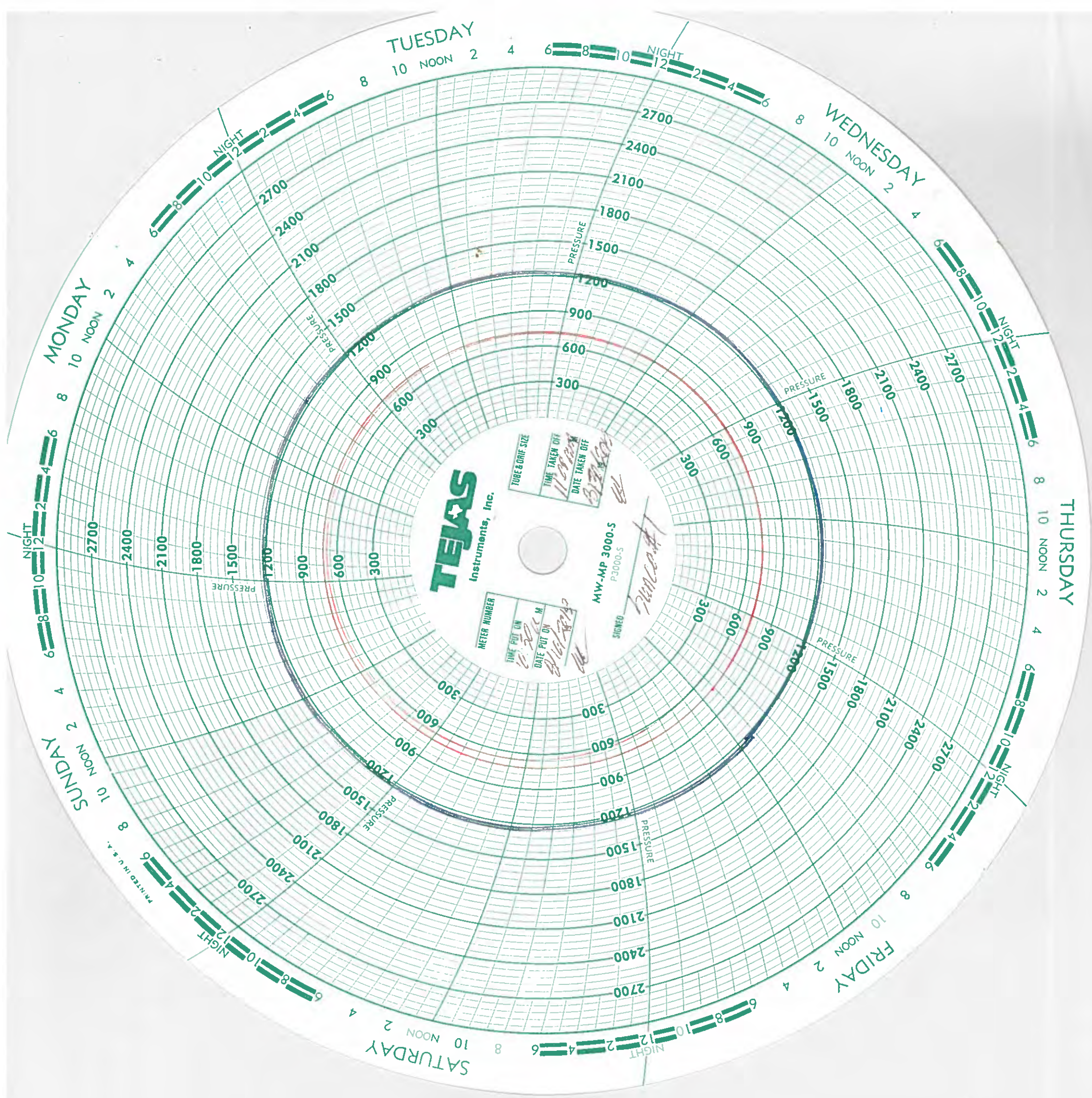
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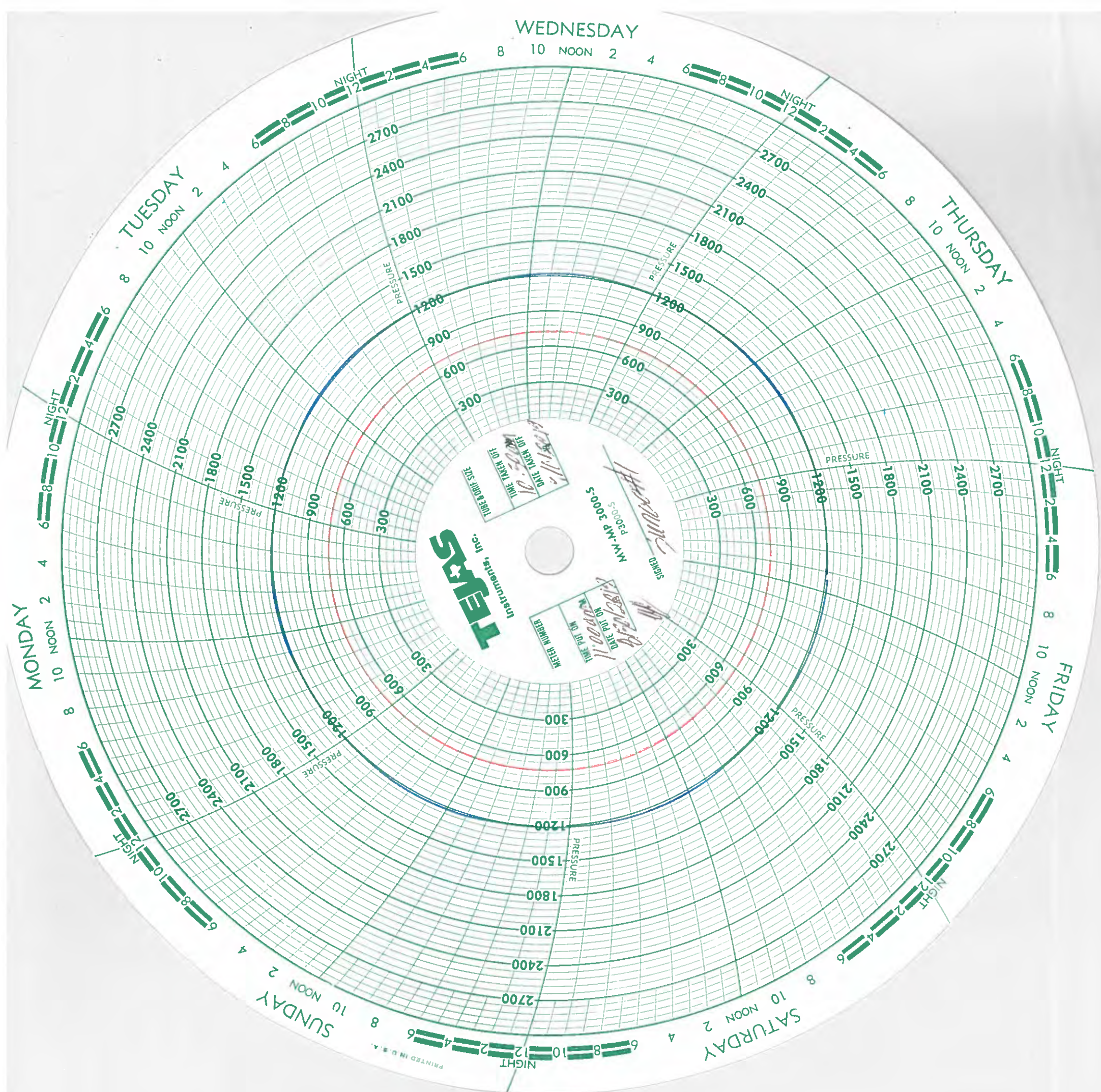
PRINTED IN U.S.A.

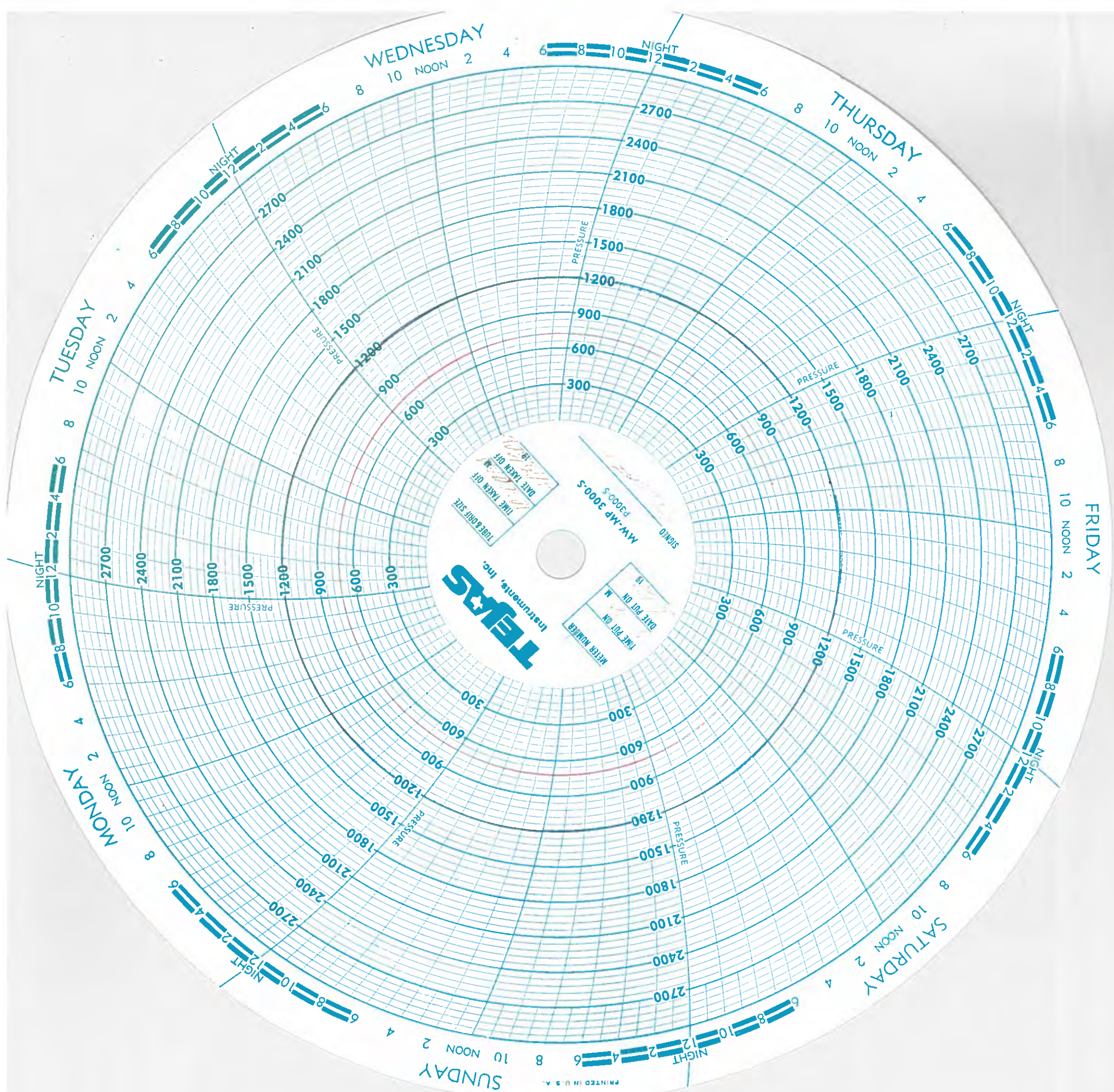


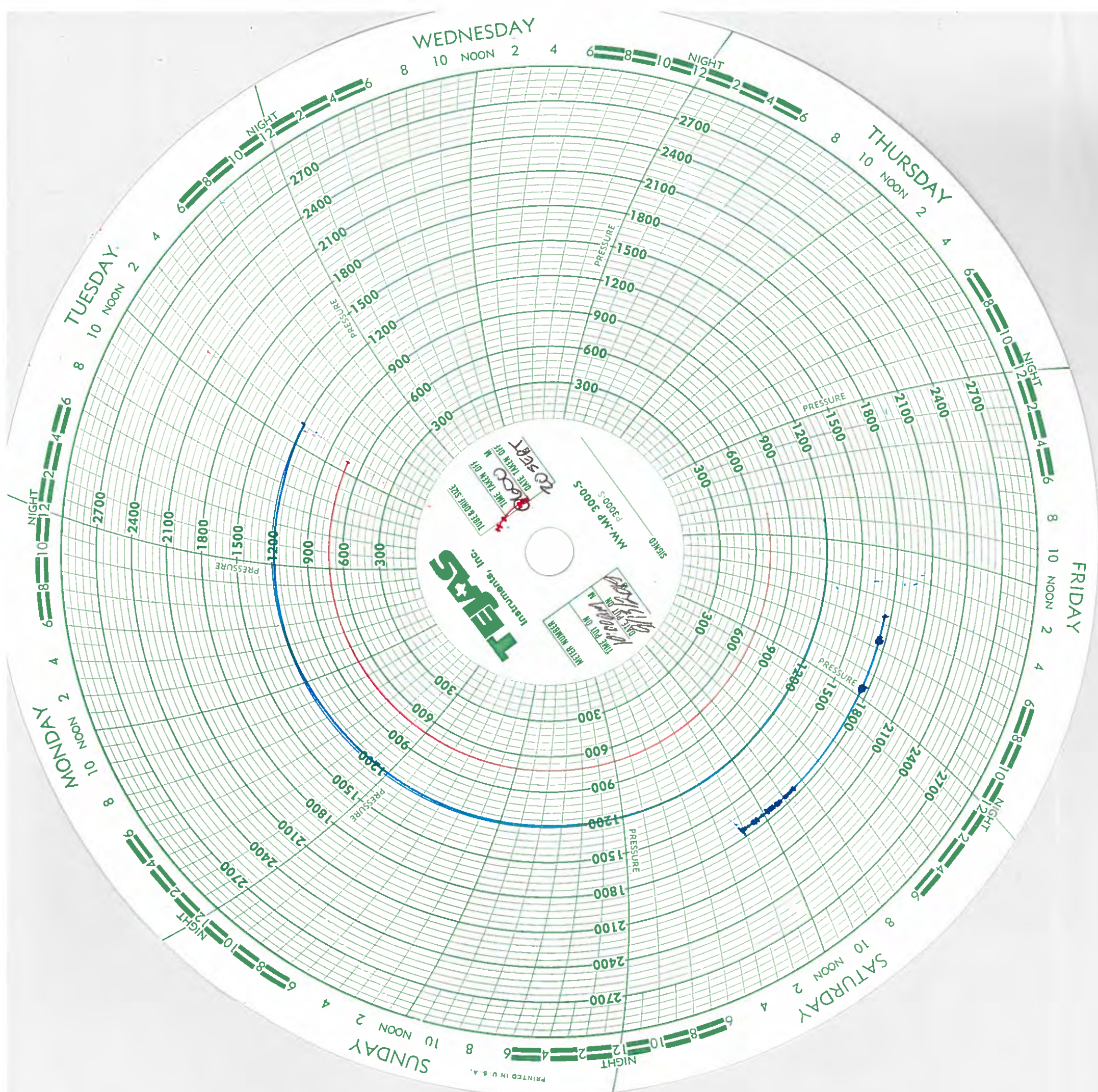


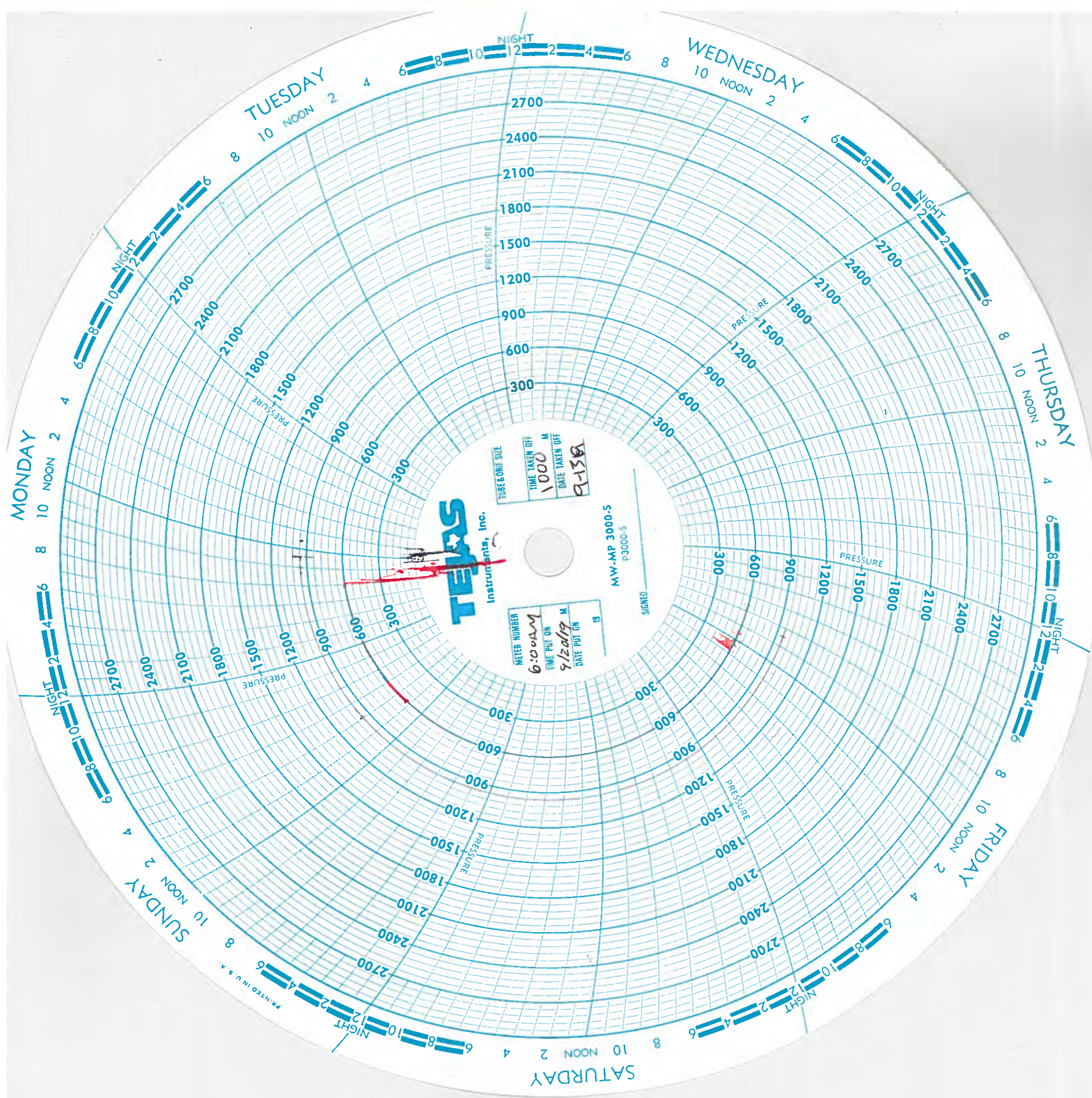


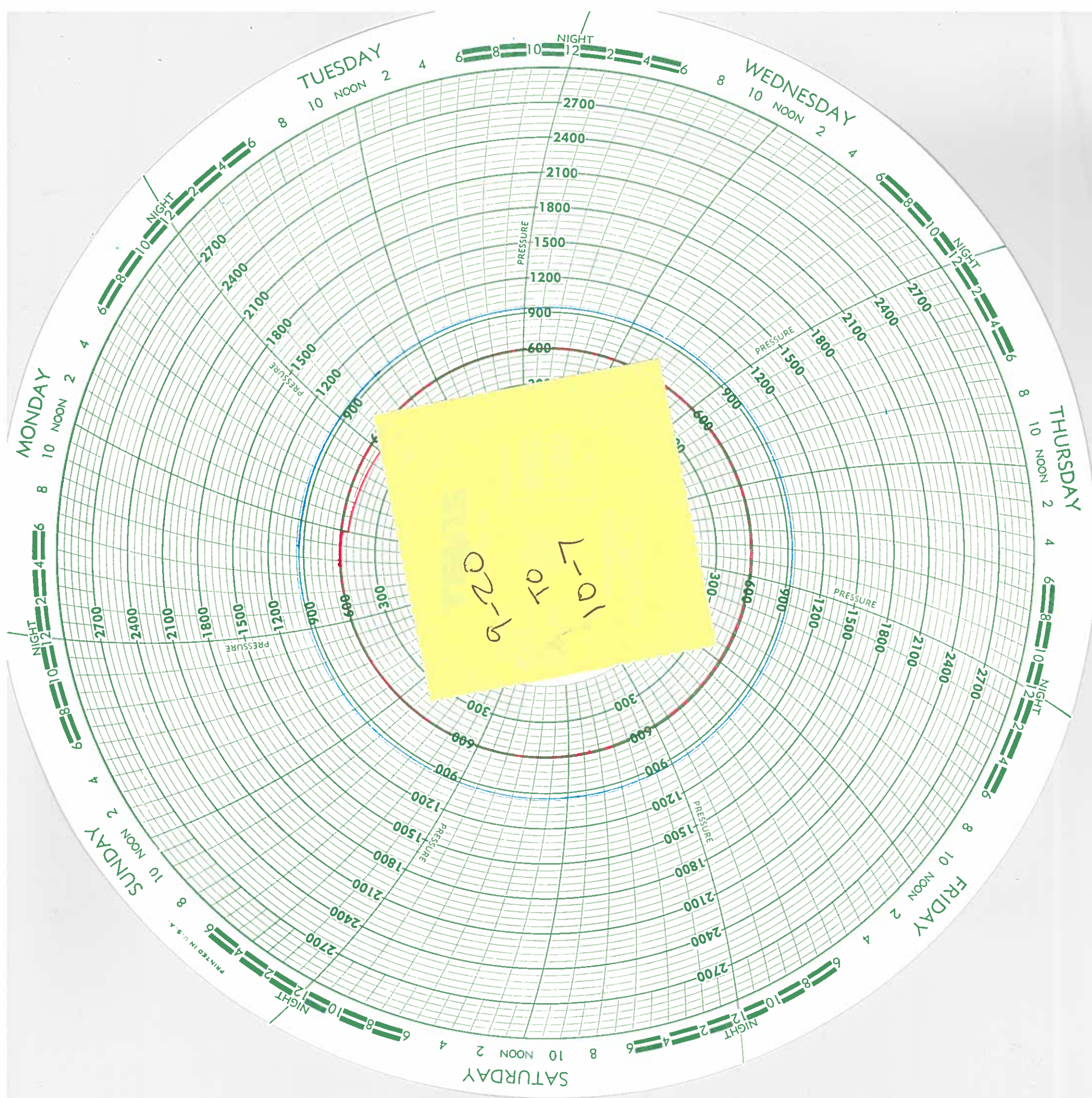


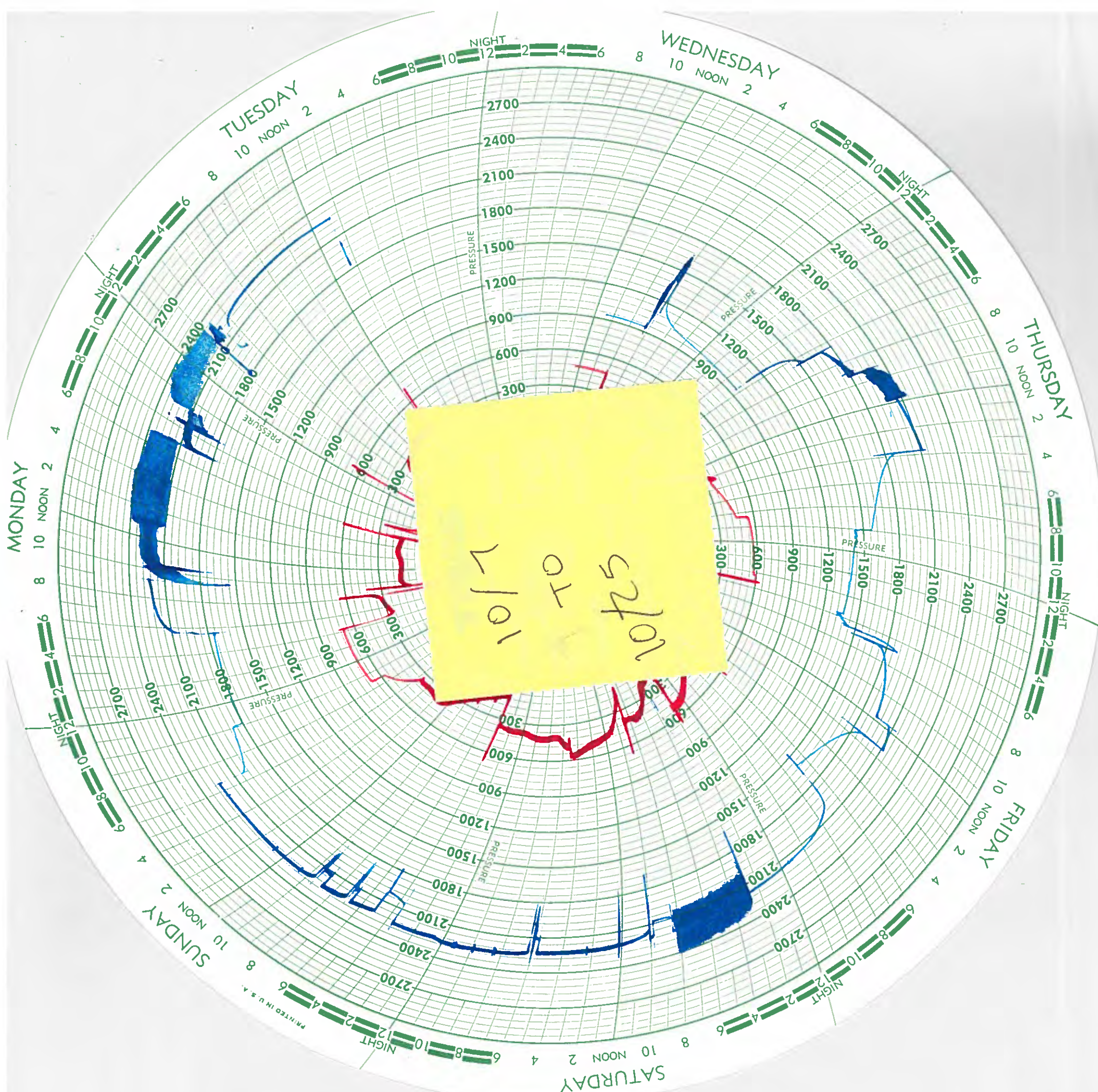


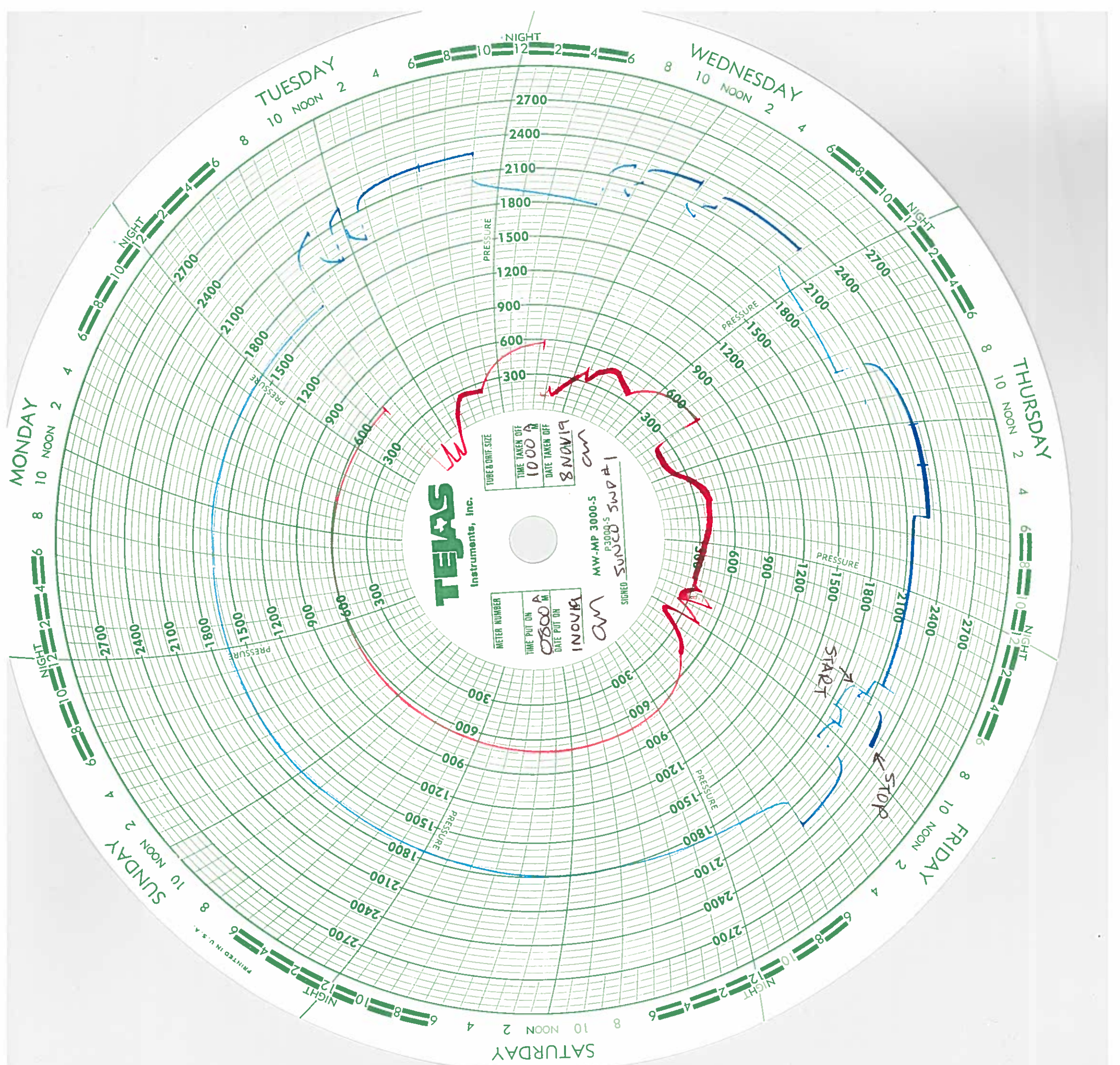












MONDAY

TUESDAY

WEDNESDAY

THURSDAY

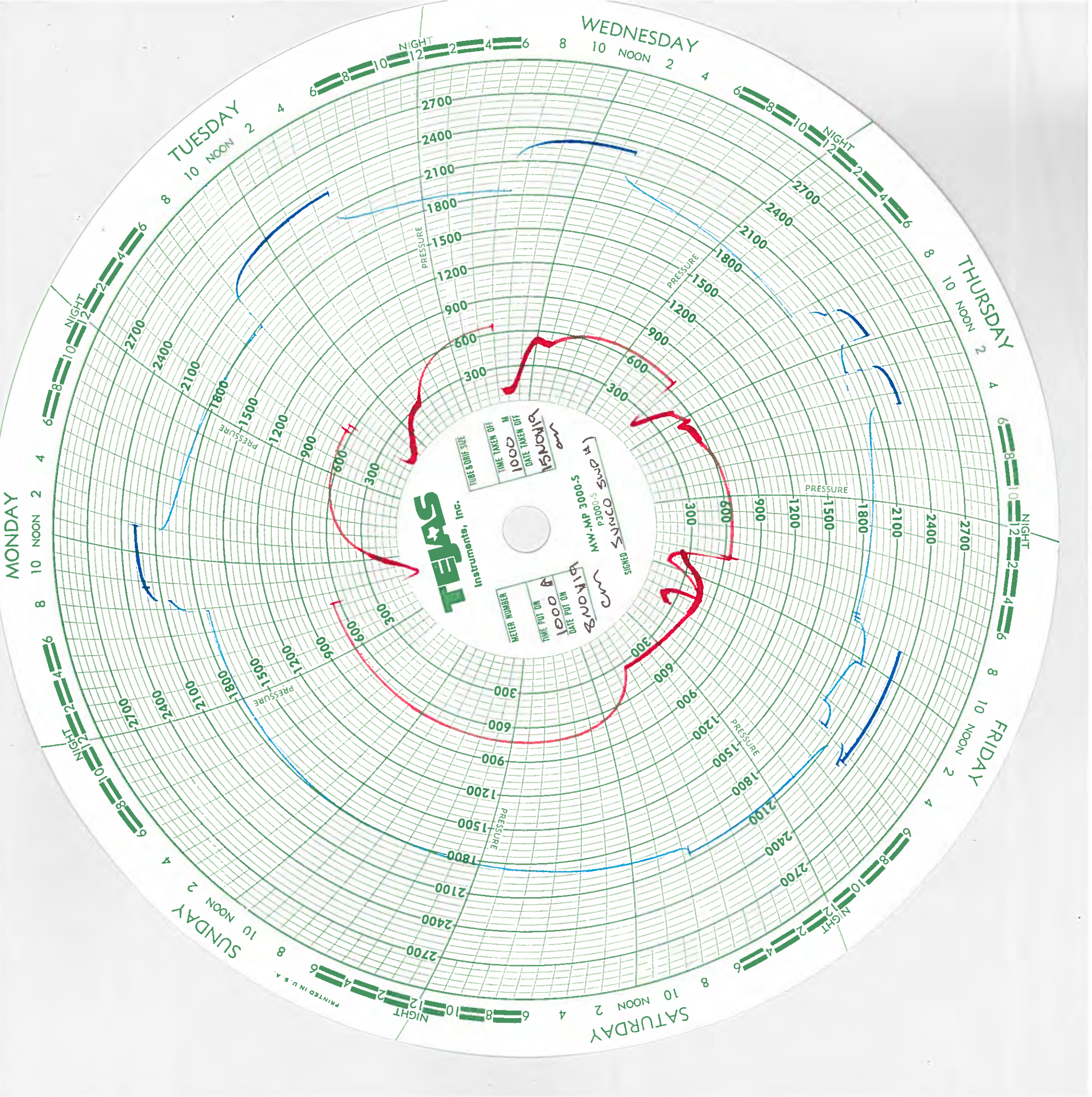
FRIDAY

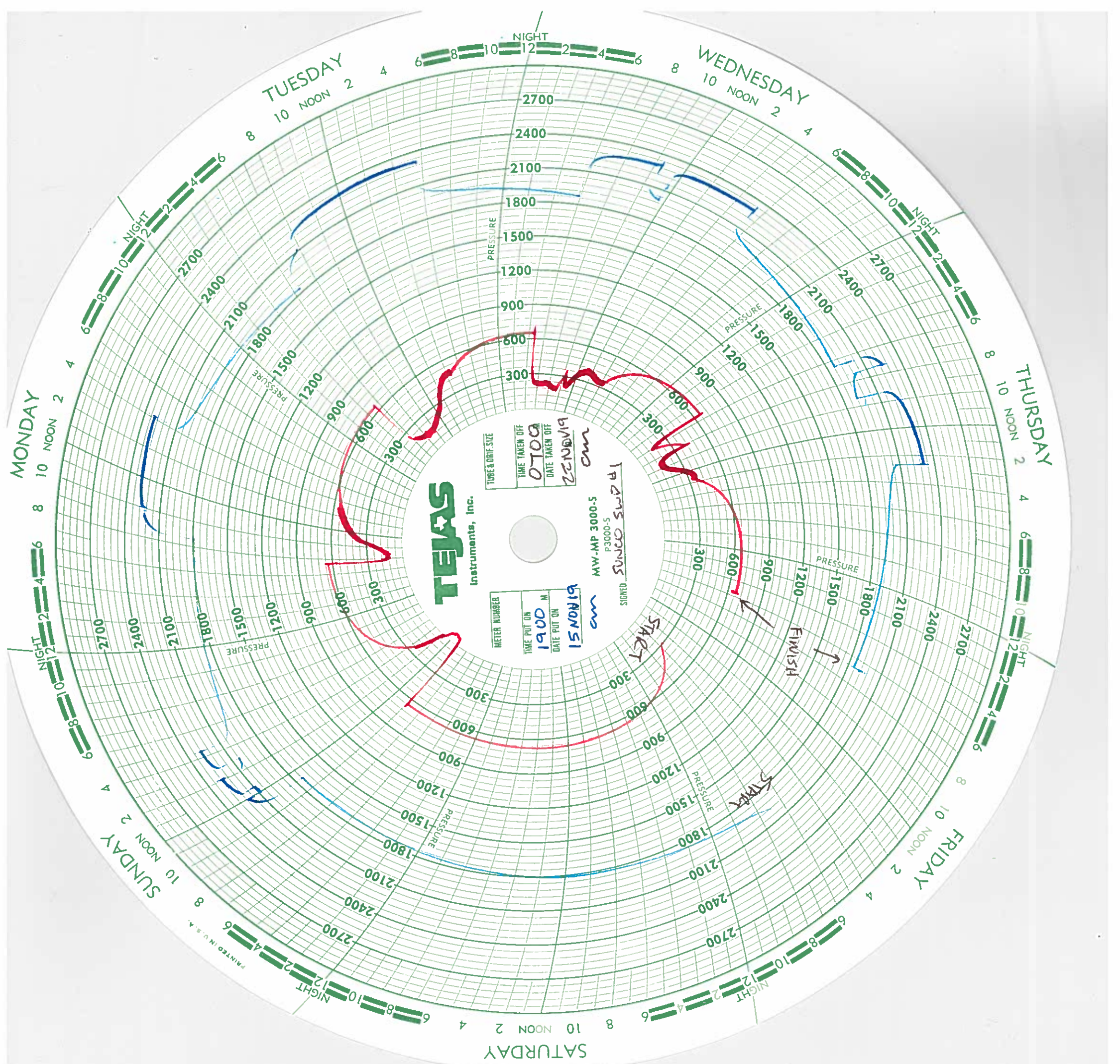
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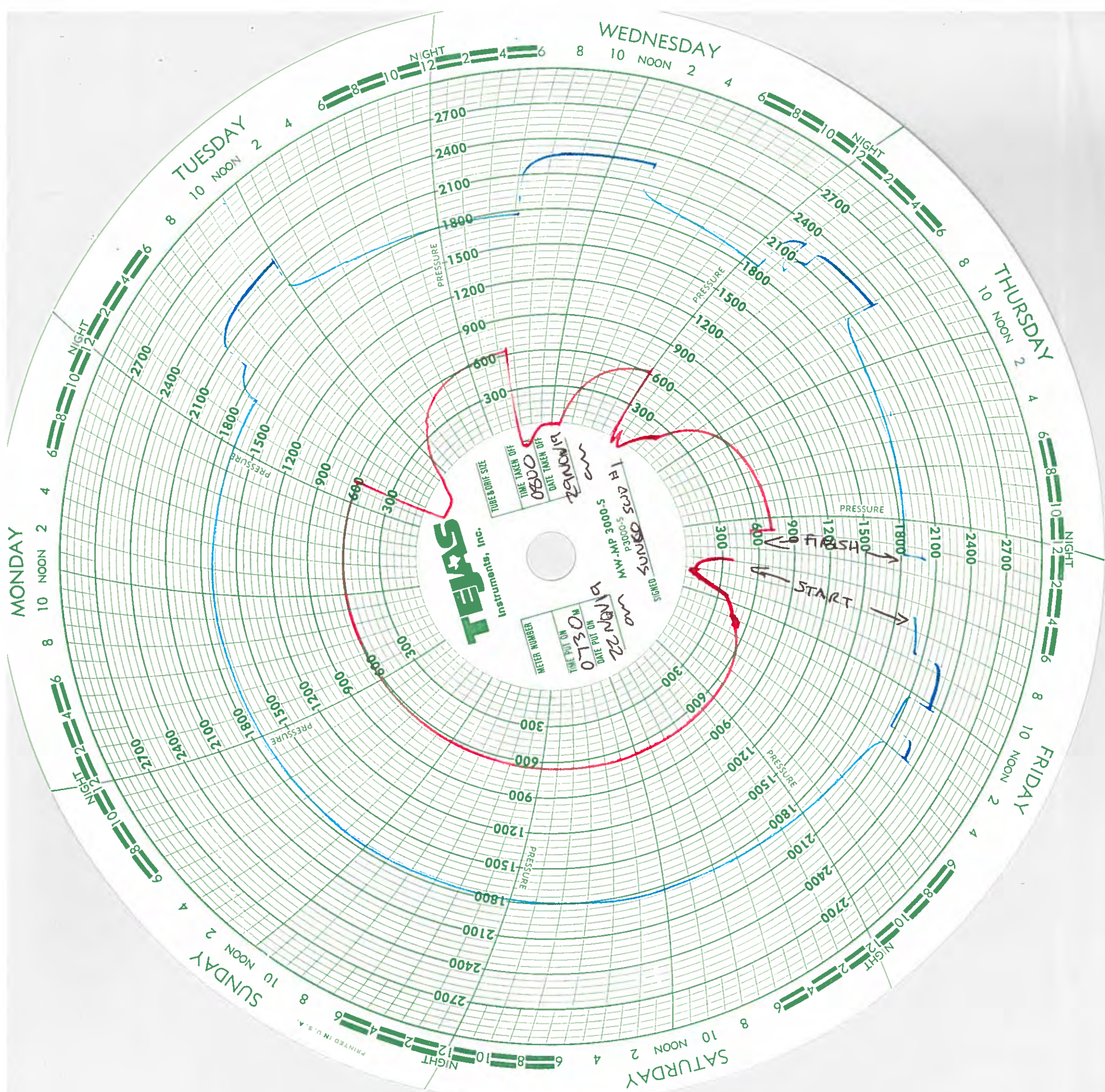
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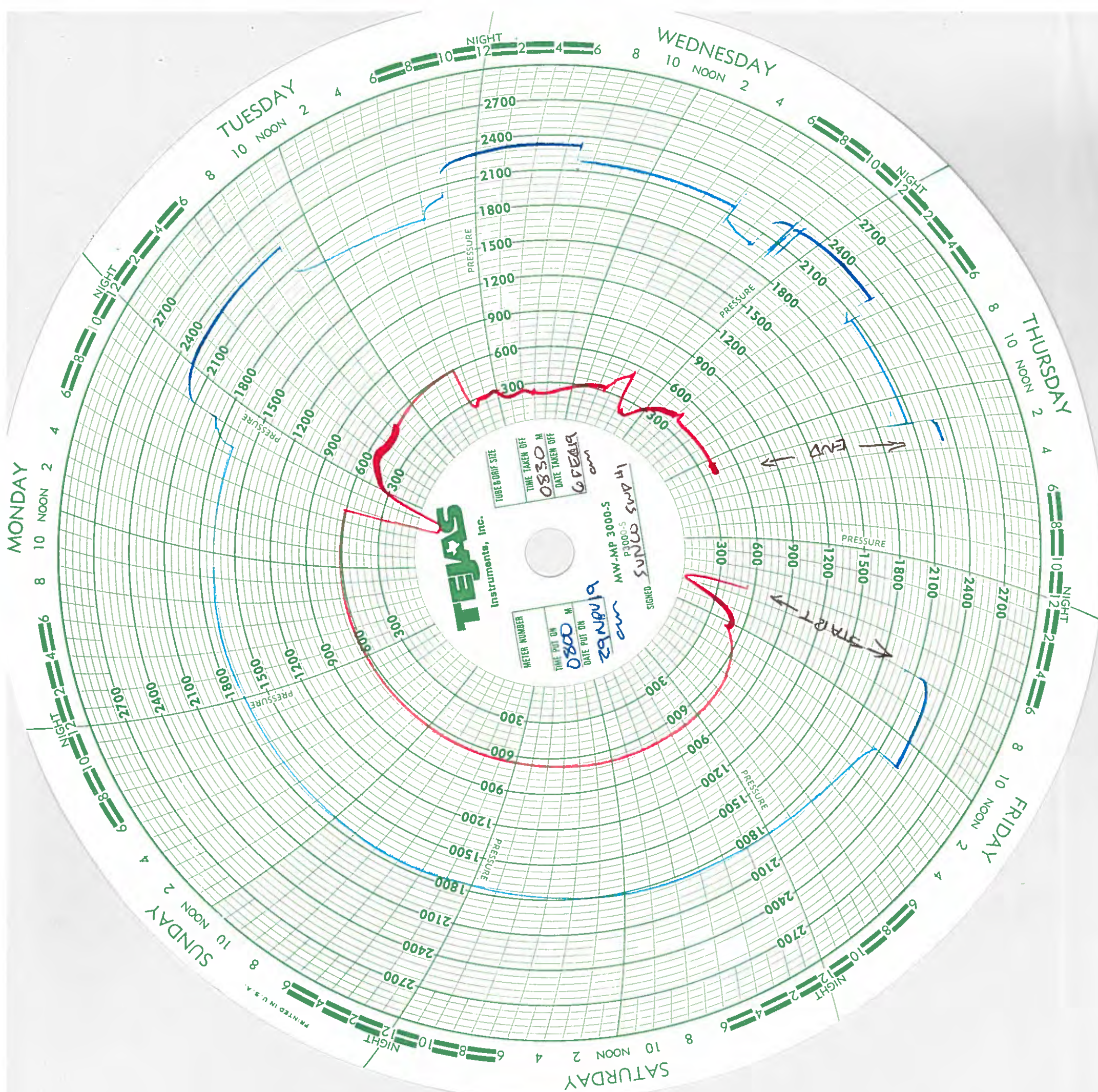
STET
Instruments, Inc.

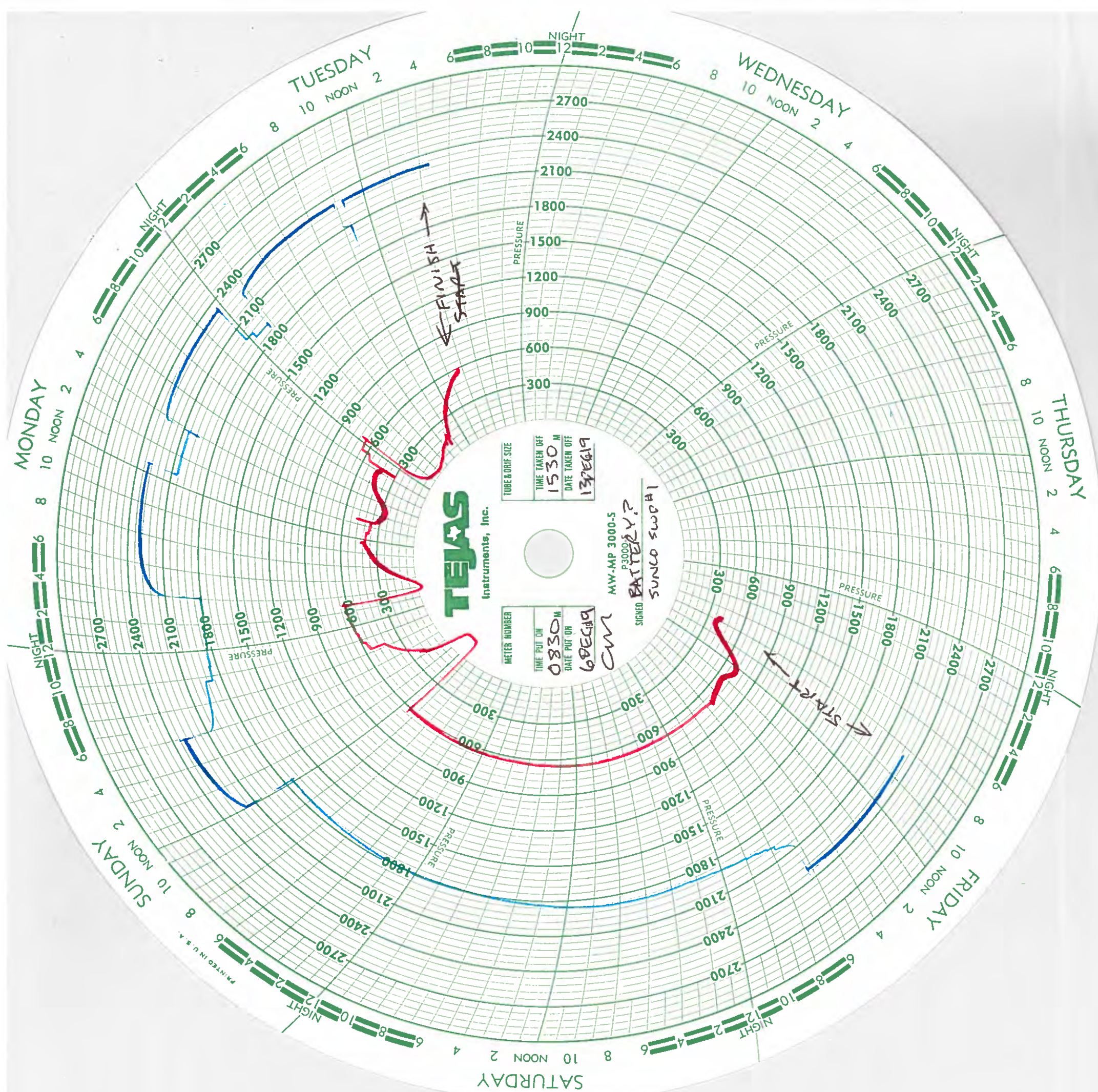
TUBE & GRIFF SIZE	
TIME TAKEN OFF	MA
DATE TAKEN OFF	10/10/19
SIGNED	
LA DMS OMINS	
S-0003 DP-WM	
S-0003	
METER NUMBER	
TIME PUT ON	10/10/19
DATE PUT ON	10/10/19

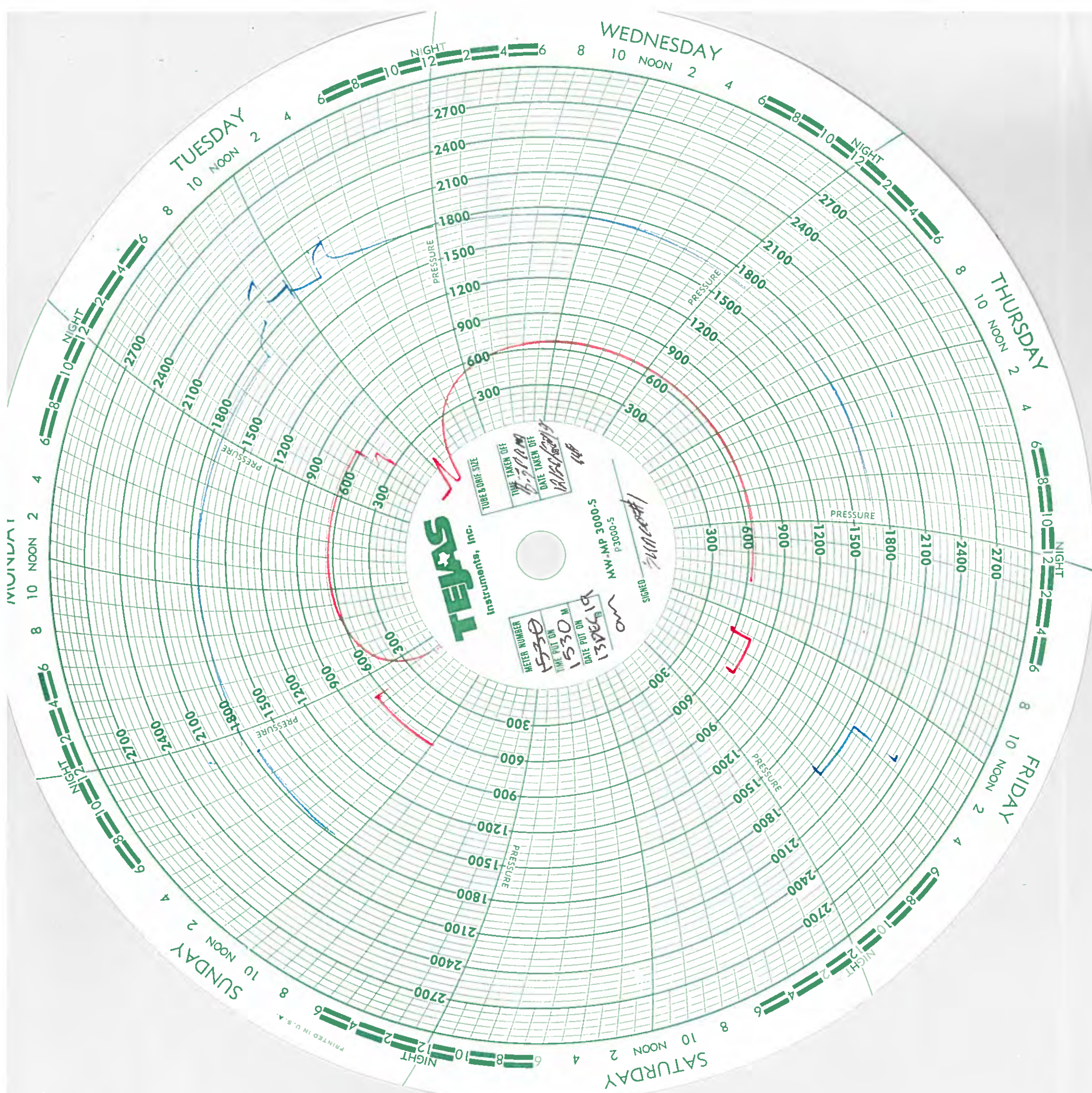


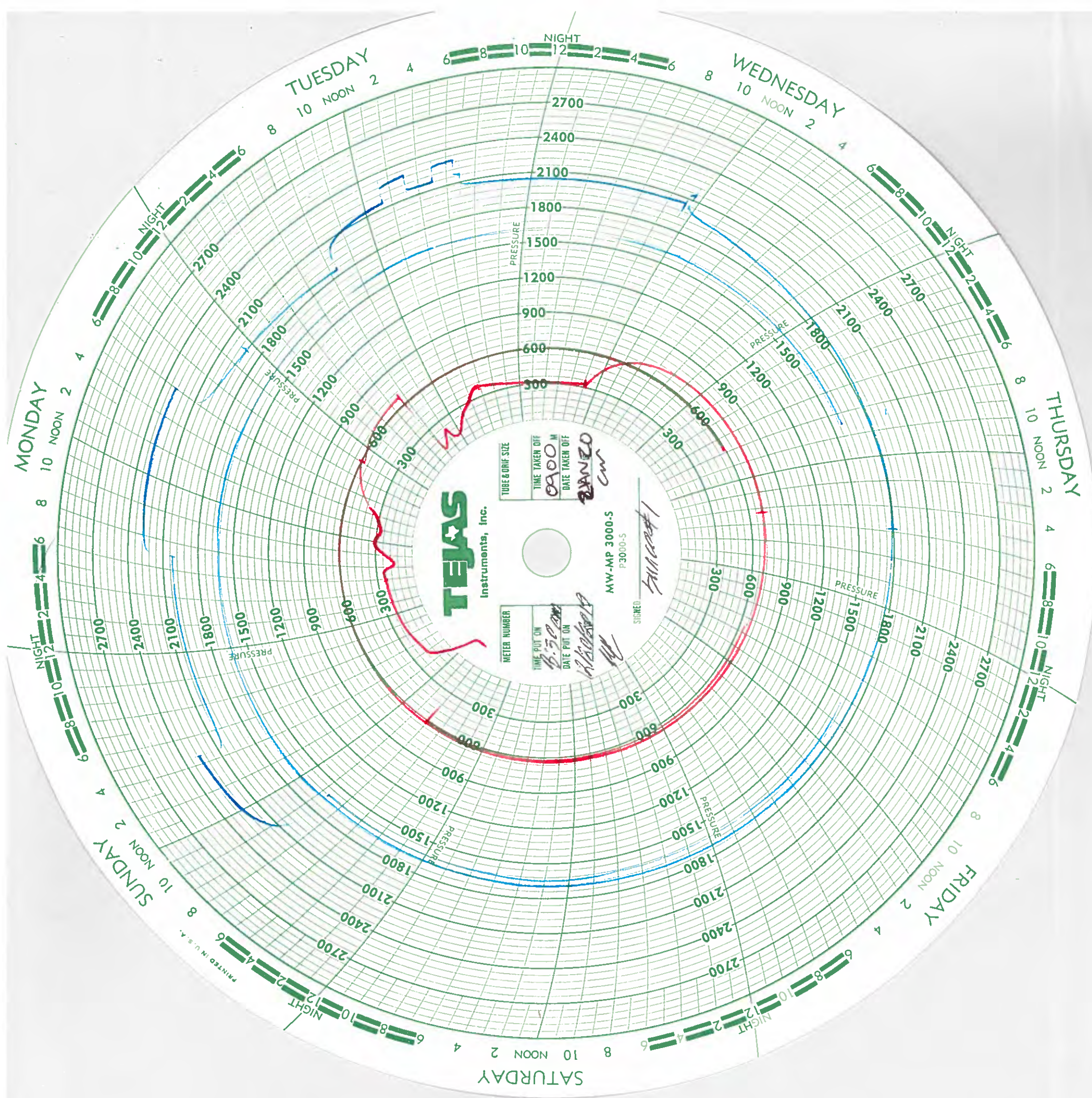


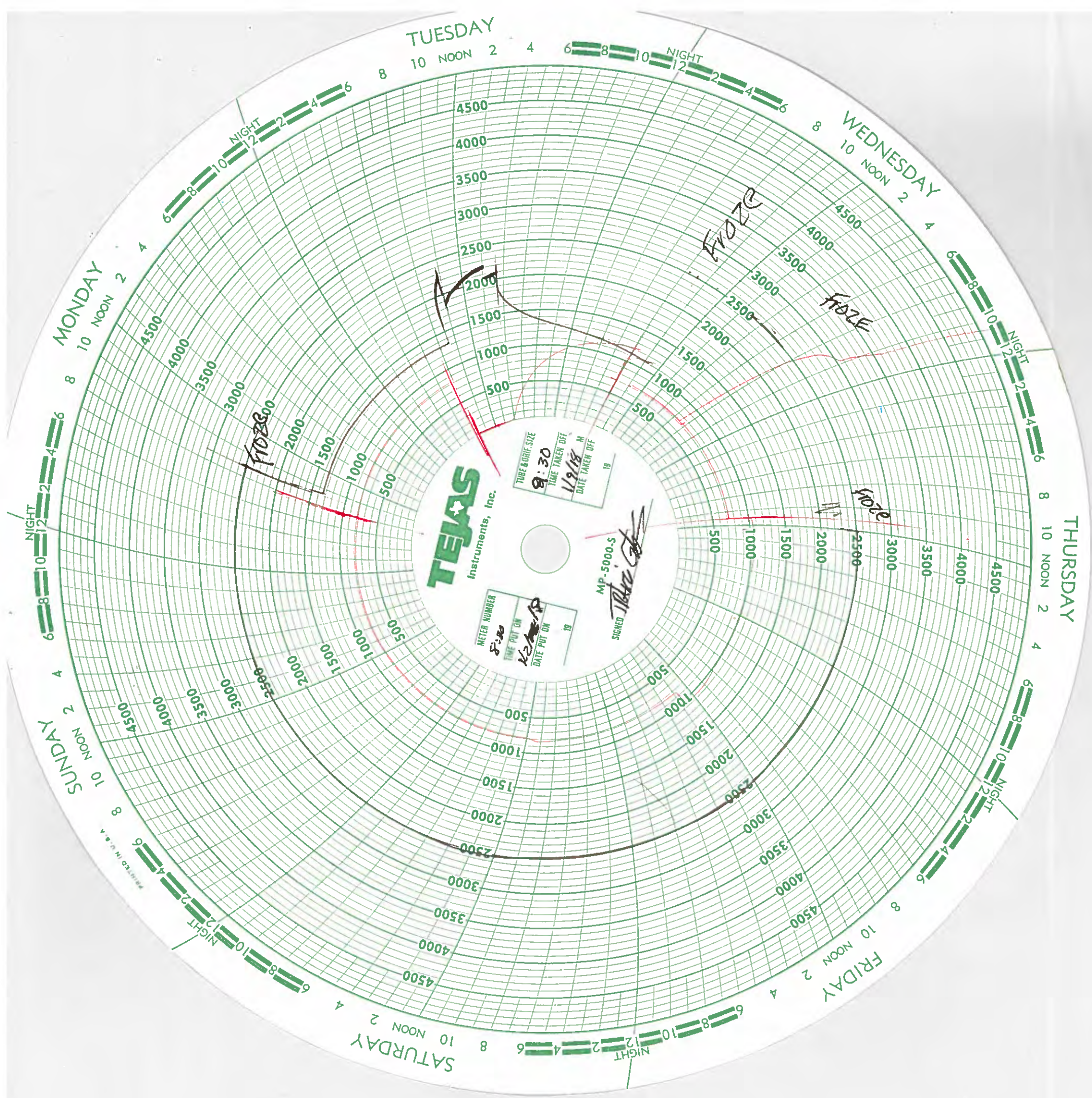












TUESDAY

WEDNESDAY

THURSDAY

FRIDAY

SATURDAY

MONDAY

SUNDAY

TEXAS
Instruments, Inc.

SIGNED
MP-5000-S

TUBE & ORIF. SIZE
9:30
TIME TAKEN OFF
11/9/18
DATE TAKEN OFF

METER NUMBER
8:30
TIME PUT ON
12/1/18
DATE PUT ON

FROZE

FROZE

FROZE

FROZE

Good 111 8/21/2019

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised August 1, 2011

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

HEAVY OIL SOLUTIONS, 531 ROVER BLVD, LOS ALAMOS NM 87547

2. Originating Site:

HEAVY OIL SOLUTIONS, 5101 COLLEGE BLVD, FARMINGTON, NM 87402

3. Location of Material (Street Address, City, State or ULSTR):

HEAVY OIL SOLUTIONS, 5101 COLLEGE BLVD, FARMINGTON NM 87402

4. Source and Description of Waste:

PRODUCED WATER FROM OIL UPGRADING PROCESS DEVELOPMENT PILOT

Estimated Volume 4/21 yd³ / bbls Known Volume (to be entered by the operator at the end of the haul) yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, STEVE YARRLO, representative or authorized agent for HEAVY OIL SOLUTIONS do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, STEVE YARRLO, representative for HEAVY OIL SOLUTIONS do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter:

M&R Trucking

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: Sunco Disposal #1 UICI-5-0

Address of Facility: SW/4 NW/4 Section 2, T29N, R12W San Juan County, Crouch Mesa Facility

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: Philana Thompson

TITLE: Regulatory Compliance Specialist

DATE: 9/6/18

SIGNATURE: [Signature]
Surface Waste Management Facility Authorized Agent

TELEPHONE NO.: 505-486-1171

District I
1625 N French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised August 1, 2011

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Heavy Oil Solutions, Inc., 5101 College Blvd, Farmington NM 87402

2. Originating Site:

Heavy Oil Solutions Engineering Development Laboratory

3. Location of Material (Street Address, City, State or ULSTR):

5101 College Blvd, Farmington NM 87402

4. Source and Description of Waste:

Oily water from oil upgrading pilot plant

Estimated Volume 20 bbl $\text{yd}^3 / \text{bbls}$ Known Volume (to be entered by the operator at the end of the haul) 20 bbl $\text{yd}^3 / \text{bbls}$

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Stephen Yarbro, representative or authorized agent for Heavy Oil Solutions, Inc. do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Stephen Yarbro, representative for Heavy Oil Solutions, Inc. do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter:

M&R Trucking

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: Sunco Disposal #1 UICI-5-0

Address of Facility: SW/4 NW/4 Section 2, T29N, R12W San Juan County, Crouch Mesa Facility

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: Philana Thompson

TITLE: Regulatory Compliance Specialist

DATE: 9/6/18

SIGNATURE: Philana Thompson

TELEPHONE NO.: 505-486-1171

Surface Waste Management Facility Authorized Agent

Analytical Report

Report Summary

Client: Heavy Oil Solutions

Samples Received: 10/11/2019

Job Number: 17014-0001

Work Order: P910060

Project Name/Location: No Recycle

Report Reviewed By:



Date: 10/17/19

Walter Hinchman, Laboratory Director



Envirotech Inc. certifies the test results meet all requirements of TNI unless footnoted otherwise.
Statement of Data Authenticity: Envirotech, Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.
Envirotech, Inc. holds the Utah TNI certification NM009792018-1 for the data reported.
Envirotech, Inc. holds the Texas TNI certification T104704557-19-2 for the data reported.

Heavy Oil Solutions
531 Rover BLVD
Los Alamos NM, 87547

Project Name: No Recycle
Project Number: 17014-0001
Project Manager: Alyssa House

Reported:
10/17/19 13:19

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
PW-100919	P910060-01A	Aqueous	10/10/19	10/11/19	Poly 500mL; HNO ₃

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Heavy Oil Solutions
 531 Rover BLVD
 Los Alamos NM, 87547

Project Name: No Recycle
 Project Number: 17014-0001
 Project Manager: Alyssa House

Reported:
 10/17/19 13:19

PW-100919
P910060-01 (Water)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Metals by 6010									
Arsenic	ND	0.0600	mg/L	3	1942022	10/16/19	10/16/19	EPA 6010C	
Barium	ND	0.750	mg/L	3	1942022	10/16/19	10/16/19	EPA 6010C	
Cadmium	ND	0.0300	mg/L	3	1942022	10/16/19	10/16/19	EPA 6010C	
Chromium	ND	0.0600	mg/L	3	1942022	10/16/19	10/16/19	EPA 6010C	
Lead	ND	0.0300	mg/L	3	1942022	10/16/19	10/16/19	EPA 6010C	
Selenium	ND	0.150	mg/L	3	1942022	10/16/19	10/16/19	EPA 6010C	
Silver	ND	0.0300	mg/L	3	1942022	10/16/19	10/16/19	EPA 6010C	
Total Mercury by EPA 7470A									
Mercury	ND	0.200	ug/L	1	1942005	10/14/19	10/15/19	EPA 7470A	

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Heavy Oil Solutions
 531 Rover BLVD
 Los Alamos NM, 87547

 Project Name: No Recycle
 Project Number: 17014-0001
 Project Manager: Alyssa House

 Reported:
 10/17/19 13:19

Total Metals by 6010 - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 1942022 - Metals Water Hotblock Digestion EPA 3010A/200.2
Blank (1942022-BLK1)

Prepared: 10/16/19 0 Analyzed: 10/16/19 1

Arsenic	ND	0.0200	mg/L
Barium	ND	0.250	"
Cadmium	ND	0.0100	"
Chromium	ND	0.0200	"
Lead	ND	0.0100	"
Selenium	ND	0.0500	"
Silver	ND	0.0100	"

LCS (1942022-BS1)

Prepared: 10/16/19 0 Analyzed: 10/16/19 1

Arsenic	0.465	0.0200	mg/L	0.500	92.9	80-120
Barium	12.9	0.250	"	12.5	103	80-120
Cadmium	0.236	0.0100	"	0.250	94.5	80-120
Chromium	0.984	0.0200	"	1.00	98.4	80-120
Lead	0.255	0.0100	"	0.250	102	80-120
Selenium	1.22	0.0500	"	1.25	97.7	80-120
Silver	0.0910	0.0100	"	0.100	91.0	80-120

Matrix Spike (1942022-MS1)

Source: P910060-01

Prepared: 10/16/19 0 Analyzed: 10/16/19 1

Arsenic	1.38	0.0600	mg/L	1.50	ND	92.1	75-125
Barium	36.8	0.750	"	37.5	ND	98.2	75-125
Cadmium	0.695	0.0300	"	0.750	ND	92.6	75-125
Chromium	2.91	0.0600	"	3.00	ND	96.9	75-125
Lead	0.740	0.0300	"	0.750	ND	98.6	75-125
Selenium	3.66	0.150	"	3.75	ND	97.7	75-125
Silver	0.272	0.0300	"	0.300	ND	90.5	75-125

Matrix Spike Dup (1942022-MSD1)

Source: P910060-01

Prepared: 10/16/19 0 Analyzed: 10/16/19 1

Arsenic	1.46	0.0600	mg/L	1.50	ND	97.4	75-125	5.62	20
Barium	39.9	0.750	"	37.5	ND	106	75-125	8.13	20
Cadmium	0.735	0.0300	"	0.750	ND	98.0	75-125	5.71	20
Chromium	3.07	0.0600	"	3.00	ND	102	75-125	5.41	20
Lead	0.784	0.0300	"	0.750	ND	105	75-125	5.87	20
Selenium	3.87	0.150	"	3.75	ND	103	75-125	5.57	20
Silver	0.287	0.0300	"	0.300	ND	95.5	75-125	5.38	20

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Heavy Oil Solutions
 531 Rover BLVD
 Los Alamos NM, 87547

 Project Name: No Recycle
 Project Number: 17014-0001
 Project Manager: Alyssa House

 Reported:
 10/17/19 13:19

Total Mercury by EPA 7470A - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1942005 - Mercury Water Digestion KMNO4										
Blank (1942005-BLK1)				Prepared: 10/14/19 1 Analyzed: 10/15/19 0						
Mercury	ND	0.200	ug/L							
LCS (1942005-BS1)				Prepared: 10/14/19 1 Analyzed: 10/15/19 0						
Mercury	2.02	0.200	ug/L	2.00		101	80-120			
Matrix Spike (1942005-MS1)				Source: P910033-01 Prepared: 10/14/19 1 Analyzed: 10/15/19 0						
Mercury	1.48	0.200	ug/L	2.00	ND	74.0	75-125			M2
Matrix Spike Dup (1942005-MSD1)				Source: P910033-01 Prepared: 10/14/19 1 Analyzed: 10/15/19 0						
Mercury	1.50	0.200	ug/L	2.00	ND	74.8	75-125	1.06	20	M2

QC Summary Report
Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

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Heavy Oil Solutions
531 Rover BLVD
Los Alamos NM, 87547

Project Name: No Recycle
Project Number: 17014-0001
Project Manager: Alyssa House

Reported:
10/17/19 13:19

Notes and Definitions

M2 Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

** Methods marked with ** are non-accredited methods.

Soil data is reported on an "as received" weight basis, unless reported otherwise.

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Client: Heavy Oil Solutions
 No Recycle
 Project Manager: Alyssa House
 Address: 5101 College Blvd - QCB 5059
 City, State, Zip Farmington, NM 87402
 Phone: 505.566.3713
 Email: steve.alysa.house@heavyoilsolutions.com

Report Attention

Report due by:
 Attention:
 Address:
 City, State, Zip
 Phone:
 Email:

Lab Use Only

Lab WO# P910060 Job Number 1704-0001
 EPA Program

Analysis and Method

State

NM CO UT AZ

X

Remarks

R1CRA

Hardness

Silica

Oil & Grease

TDS

TSS

PONA

Water in oil

Karl Fisher for

BS&W

Sulfur

Density

C7 Insolubles

Lab Number

PW-100919

1

A

1

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by:

Relinquished by: (Signature)

Date

Time

Relinquished by: (Signature)

Date

Time

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above

oratory with this COC. The following information is limited to the information provided for on this report.

Ph (505) 632-0615 Fax (505) 632-1665

Ph (970) 259-0615 Fax (800) 362-1079

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

5796 US Highway 64, Farmington, NM 87401

envirotech

Analytical Laboratory

Page 7 of 7

Analytical Report

Report Summary

Client: Heavy Oil Solutions

Chain Of Custody Number:

Samples Received: 8/21/2018 2:45:00PM

Job Number: 17014-0001

Work Order: P808039

Project Name/Location: No Recycle

Report Reviewed By:



Date: 8/28/18

Walter Hinchman, Laboratory Director



Date: 8/28/18

Tim Cain, Project Manager



Envirotech Inc. certifies the test results meet all requirements of TNI unless footnoted otherwise.

Statement of Data Authenticity: Envirotech, Inc. attests the data reported has not been altered in any way.

Partial or Incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

Envirotech, Inc. currently holds the appropriate and available Utah TNI certification NM009782018-1 for the data reported.

Heavy Oil Solutions
531 Rover BLVD
Los Alamos NM, 87547

Project Name: No Recycle
Project Number: 17014-0001
Project Manager: Steve Yarbrow

Reported:
08/28/18 14:55

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
0921-01	P808039-01A	Aqueous	08/21/18	08/21/18	Poly 500mL

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Heavy Oil Solutions
 531 Rover BLVD
 Los Alamos NM, 87547

 Project Name: No Recycle
 Project Number: 17014-0001
 Project Manager: Steve Yarbrow

 Reported:
 08/28/18 14:55

0921-01
P808039-01 (Water)

Reporting

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-------	-------	----------	-------	----------	----------	--------	-------

Corrosivity

pH @25°C	7.94		pH Units	1	1834019	08/24/18 10:20	08/24/18 12:36	9045D/9040 C	III
----------	------	--	----------	---	---------	----------------	----------------	-----------------	-----

Waste Characteristic

Flash Point	>95		°C	1	1834022	08/24/18	08/24/18	ASTM D93-10a	
Reactivity	Negative		N/A	1	1834021	08/24/18	08/24/18	Reactivity**	

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Heavy Oil Solutions
 531 Rover BLVD
 Los Alamos NM, 87547

 Project Name: No Recycle
 Project Number: 17014-0001
 Project Manager: Steve Yarbrow

 Reported:
 08/28/18 14:55

Corrosivity - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 1834019 - Wet Chemistry Preparation

LCS (1834019-BS1)

Prepared & Analyzed 08/24/18 1

pH	8.01	pH Units	8.00	100	98.75-101.25
----	------	----------	------	-----	--------------

Duplicate (1834019-DUP1)

Source: P808039-01

Prepared & Analyzed 08/24/18 1

pH	7.99	pH Units	7.94	0.628	20
----	------	----------	------	-------	----

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5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fx (505) 632-1865

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (970) 259-0615 Fr (800) 362-1879

 envirotech-inc.com
 laboratory@envirotech-inc.com

Heavy Oil Solutions
 531 Rover BLVD
 Los Alamos NM, 87547

Project Name: No Recycle
 Project Number: 17014-0001
 Project Manager: Steve Yarbrow

Reported:
 08/28/18 14:55

Waste Characteristic - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch: 1833022 - Wet Chemistry Preparation

LCS (1833022-BS1)

Prepared & Analyzed 08/17/18 1

Flash Point	66	°C	65.0	102	95-105
-------------	----	----	------	-----	--------

Duplicate (1833022-DUP1)

Source: P808032-03

Prepared & Analyzed 08/17/18 1

Flash Point	-95	°C	0	20
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Heavy Oil Solutions
531 Rover BLVD
Los Alamos NM, 87547

Project Name: No Recycle
Project Number: 17014-0001
Project Manager: Steve Yarbrow

Reported:
08/28/18 14:55

Notes and Definitions

HI Sample was received after regulatory hold-time exceeded for target analyte.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

** Methods marked with ** are non-accredited methods.

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5796 US Highway 64, Farmington, NM 87401

Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com

Project Information

Chain of Custody

Page 1 of 7

Client: Heavy Oil Solutions Project: No Recycle Project Manager: Steve Yarbro Address: 5101 College Blvd - QCB 5314 City, State, Zip: Farmington, NM 87402 Phone: 505.412.2934 Email: steve.yarbro@heavyoil.com				Report Attention Report due by: Attention: Address: City, State, Zip: Phone: Email:				Lab Use Only Lab WO# P808031 Job Number 1701-0001 Analysis and Method Karl Fischer Water Density Viscosity C.N.H total sulfur BSAW Bromine # REM				EPA Program TAT 1D 3D RCRA CWA SDWA State NM CO UT AZ			
Time Sampled 1030		Date Sampled 08/21		Matrix A		No Containers 1		Sample ID 0921-1		Lab Number 1		Remarks TO INCLUDE PH, IGNITABILITY, CORROSION AND REACTIVITY PER SITE-VL 8/22/18 TL			

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: *NE*

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
<i>Steve Yarbro</i>	8/21/18	1445	<i>Steve Yarbro</i>	8/21/18	1445
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other

Notes: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client's expense. The report for the analysis of the above laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA



5796 US Highway 64, Farmington, NM 87401
 Phone: (505) 412-2934 Fax: (505) 412-2935
 Text: (505) 254-4415 Fax: (505) 254-1079

Analytical Report

Report Summary

Client: Heavy Oil Solutions
Chain Of Custody Number:
Samples Received: 9/9/2018 11:57:00AM
Job Number: 17014-0001
Work Order: P809014
Project Name/Location: No Recycle

Report Reviewed By:



Date: 9/13/18

Walter Hinchman, Laboratory Director



Date: 9/13/18

Tim Cain, Project Manager



Envirotech Inc. certifies the test results meet all requirements of TNI unless footnoted otherwise.
Statement of Data Authenticity: Envirotech, Inc. attests the data reported has not been altered in any way.
Partial or Incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.
Envirotech, Inc. currently holds the appropriate and available Utah TNI certification NM009792018-1 for the data reported.

Heavy Oil Solutions
531 Rover BLVD
Los Alamos NM, 87547

Project Name: No Recycle
Project Number: 17014-0001
Project Manager: Steve Yarbro

Reported:
09/13/18 16:48

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Paint Filter - Prod Water	P809014-01A	Aqueous	09/10/18	09/09/18	Poly 500mL

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envirotech-inc.com
Laboratory@envirotech-inc.com

Heavy Oil Solutions	Project Name:	No Recycle	
531 Rover BLVD	Project Number:	17014-0001	Reported:
Los Alamos NM, 87547	Project Manager:	Steve Yarbrow	09/13/18 16:48

Paint Filter - Prod Water
P809014-01 (Water)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Wet Chemistry

Paint Filter Test	100		ml	1	1837027	09/13/18	09/13/18	EPA 9095B	
-------------------	-----	--	----	---	---------	----------	----------	-----------	--

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envirotech-inc.com

labdirector@envirotech-inc.com

Heavy Oil Solutions
531 Rover BLVD
Los Alamos NM, 87547

Project Name: No Recycle
Project Number: 17014-0001
Project Manager: Steve Yarbrow

Reported:
09/13/18 16:48

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
RPD Relative Percent Difference
** Methods marked with ** are non-accredited methods.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

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Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
laboratory@envirotech-inc.com

Project Information

Chain of Custody

Page 1 of 1

Client: Heavy Oil Solutions Project: No Recycle Project Manager: Steve Yarbro Address: 5101 College Blvd - QCB 5314 City, State, Zip: Farmington, NM 87402 Phone: 505.412.2934 Email: steve.yarbro@heavyoilsolutions.com				Report due by: Attention: Address: City, State, Zip: Phone: Email:				Lab Use Only Lab WO# P809614 Job Number 170148801				EPA Program TAT 1D 3D RCRA CWA SDWA			
Time Sampled 9:00 AM Date Sampled 9/18/18 Matrix A No Containers 1 Sample ID Paint Test - Prod Water 1st Run 9/18/18 2nd Run 9/18/18				Analysis and Method High Temp SimDist Density C7 Insolubles C.N.H Bromine Number Water in Oil TSS Oil & Grease Silica Hardness PAINT TEST				State NM CO UT AZ Remarks X							
Additional Instructions: Vis ice cooler															
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: Mike Brown															
Relinquished by: (Signature) Ken Haddad Date 9/18/18 Time 11:57				Received by: (Signature) [Signature] Date 9/18/18 Time 11:57				Lab Use Only Received on ice: Y / N T1 T2 T3 AVG Temp °C 11.0							
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, Q - Other Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.															



District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

Form C-138
Revised August 1, 2011

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Heavy Oil Solutions, Inc., 5101 College Blvd, Farmington NM 87402

2. Originating Site:

Heavy Oil Solutions Engineering Development Laboratory

3. Location of Material (Street Address, City, State or ULSTR):

5101 College Blvd, Farmington NM 87402

4. Source and Description of Waste:

Oily water from oil upgrading pilot plant

Estimated Volume 20 bbl yd³ / bbls Known Volume (to be entered by the operator at the end of the haul) 20 bbl yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Stephen Yarbro, representative or authorized agent for Heavy Oil Solutions, Inc. do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Stephen Yarbro, representative for Heavy Oil Solutions, Inc. do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter:

M&R Trucking

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: Sunco Disposal #1 UICI-5-0

Address of Facility: SW/4 NW/4 Section 2, T29N, R12W San Juan County, Crouch Mesa Facility

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: Philana Thompson

TITLE: Regulatory Compliance Specialist

DATE: 9/6/18

SIGNATURE: 
Surface Waste Management Facility Authorized Agent

TELEPHONE NO.: 505-486-1171

Analytical Report

Report Summary

Client: Heavy Oil Solutions

Samples Received: 10/11/2019

Job Number: 17014-0001

Work Order: P910060

Project Name/Location: No Recycle

Report Reviewed By:



Date: 10/17/19

Walter Hinchman, Laboratory Director



Envirotech Inc. certifies the test results meet all requirements of TNI unless footnoted otherwise.
Statement of Data Authenticity: Envirotech, Inc, attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.
Envirotech, Inc, holds the Utah TNI certification NM009792018-1 for the data reported.
Envirotech, Inc, holds the Texas TNI certification T104704557-19-2 for the data reported.

Heavy Oil Solutions
531 Rover BLVD
Los Alamos NM, 87547

Project Name: No Recycle
Project Number: 17014-0001
Project Manager: Alyssa House

Reported:
10/17/19 13:19

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
PW-100919	P910060-01A	Aqueous	10/10/19	10/11/19	Poly 500mL; HNO3

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Heavy Oil Solutions
 531 Rover BLVD
 Los Alamos NM, 87547

 Project Name: No Recycle
 Project Number: 17014-0001
 Project Manager: Alyssa House

 Reported:
 10/17/19 13:19

PW-100919
P910060-01 (Water)

Reporting

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Metals by 6010									
Arsenic	ND	0.0600	mg/L	3	1942022	10/16/19	10/16/19	EPA 6010C	
Barium	ND	0.750	mg/L	3	1942022	10/16/19	10/16/19	EPA 6010C	
Cadmium	ND	0.0300	mg/L	3	1942022	10/16/19	10/16/19	EPA 6010C	
Chromium	ND	0.0600	mg/L	3	1942022	10/16/19	10/16/19	EPA 6010C	
Lead	ND	0.0300	mg/L	3	1942022	10/16/19	10/16/19	EPA 6010C	
Selenium	ND	0.150	mg/L	3	1942022	10/16/19	10/16/19	EPA 6010C	
Silver	ND	0.0300	mg/L	3	1942022	10/16/19	10/16/19	EPA 6010C	
Total Mercury by EPA 7470A									
Mercury	ND	0.200	ug/L	1	1942005	10/14/19	10/15/19	EPA 7470A	

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Heavy Oil Solutions
531 Rover BLVD
Los Alamos NM, 87547

Project Name: No Recycle
Project Number: 17014-0001
Project Manager: Alyssa House

Reported:
10/17/19 13:19

Total Metals by 6010 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 1942022 - Metals Water Hotblock Digestion EPA 3010A/200.2

Blank (1942022-BLK1)

Prepared: 10/16/19 0 Analyzed: 10/16/19 1

Arsenic	ND	0.0200	mg/L
Barium	ND	0.250	"
Cadmium	ND	0.0100	"
Chromium	ND	0.0200	"
Lead	ND	0.0100	"
Selenium	ND	0.0500	"
Silver	ND	0.0100	"

LCS (1942022-BS1)

Prepared: 10/16/19 0 Analyzed: 10/16/19 1

Arsenic	0.465	0.0200	mg/L	0.500		92.9	80-120
Barium	12.9	0.250	"	12.5		103	80-120
Cadmium	0.236	0.0100	"	0.250		94.5	80-120
Chromium	0.984	0.0200	"	1.00		98.4	80-120
Lead	0.255	0.0100	"	0.250		102	80-120
Selenium	1.22	0.0500	"	1.25		97.7	80-120
Silver	0.0910	0.0100	"	0.100		91.0	80-120

Matrix Spike (1942022-MS1)

Source: P910060-01

Prepared: 10/16/19 0 Analyzed: 10/16/19 1

Arsenic	1.38	0.0600	mg/L	1.50	ND	92.1	75-125
Barium	36.8	0.750	"	37.5	ND	98.2	75-125
Cadmium	0.695	0.0300	"	0.750	ND	92.6	75-125
Chromium	2.91	0.0600	"	3.00	ND	96.9	75-125
Lead	0.740	0.0300	"	0.750	ND	98.6	75-125
Selenium	3.66	0.150	"	3.75	ND	97.7	75-125
Silver	0.272	0.0300	"	0.300	ND	90.5	75-125

Matrix Spike Dup (1942022-MSD1)

Source: P910060-01

Prepared: 10/16/19 0 Analyzed: 10/16/19 1

Arsenic	1.46	0.0600	mg/L	1.50	ND	97.4	75-125	5.62	20
Barium	39.9	0.750	"	37.5	ND	106	75-125	8.13	20
Cadmium	0.735	0.0300	"	0.750	ND	98.0	75-125	5.71	20
Chromium	3.07	0.0600	"	3.00	ND	102	75-125	5.41	20
Lead	0.784	0.0300	"	0.750	ND	105	75-125	5.87	20
Selenium	3.87	0.150	"	3.75	ND	103	75-125	5.57	20
Silver	0.287	0.0300	"	0.300	ND	95.5	75-125	5.38	20

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Heavy Oil Solutions
 531 Rover BLVD
 Los Alamos NM, 87547

 Project Name: No Recycle
 Project Number: 17014-0001
 Project Manager: Alyssa House

 Reported:
 10/17/19 13:19

Total Mercury by EPA 7470A - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1942005 - Mercury Water Digestion KMNO4										
Blank (1942005-BLK1)				Prepared: 10/14/19 Analyzed: 10/15/19 0						
Mercury	ND	0.200	ug/L							
LCS (1942005-BS1)				Prepared: 10/14/19 Analyzed: 10/15/19 0						
Mercury	2.02	0.200	ug/L	2.00		101	80-120			
Matrix Spike (1942005-MS1)				Source: P910033-01 Prepared: 10/14/19 Analyzed: 10/15/19 0						
Mercury	1.48	0.200	ug/L	2.00	ND	74.0	75-125			M2
Matrix Spike Dup (1942005-MSD1)				Source: P910033-01 Prepared: 10/14/19 Analyzed: 10/15/19 0						
Mercury	1.50	0.200	ug/L	2.00	ND	74.8	75-125	1.06	20	M2

QC Summary Report
Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

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Heavy Oil Solutions
531 Rover BLVD
Los Alamos NM, 87547

Project Name: No Recycle
Project Number: 17014-0001
Project Manager: Alyssa House

Reported:
10/17/19 13:19

Notes and Definitions

M2 Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

** Methods marked with ** are non-accredited methods.

Soil data is reported on an "as received" weight basis, unless reported otherwise.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

Client: Heavy Oil Solutions
No Recycle
Project Manager: Alyssa House
Address: 5101 College Blvd - QCB 5059
City, State, Zip Farmington, NM 87402
Phone: 505.566.3713
Email: steve.alyssa.house@heavyoilsolutions.com

Time Sampled	Date Sampled	Matrix	No Containers	Sample ID	Lab Number	C7 Insol	Density	Sulfur	BS&W	Karl Fisher water in	PONA	TSS	TDS	Oil & Grease	Silica	Hardness	RICRA	Remarks
8:00	10/10/19	A	1	PW-100919	1												X	

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

3002 to 5/17/19
Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site:

MAPL Huerfano Pumping Station

3. Location of Material (Street Address, City, State or ULSTR):

UL L Section 21 Township 26 North Range 10 West; 36.471831, -107.908114

4. Source and Description of Waste:

Source: Water/Oil from the Non Exempt WasteWater Tanks and from the compressor skid drains.

Description: Non Exempt/Non Hazardous Water from the compressor skids.

Estimated Volume **80** yd³ bbls Known Volume (to be entered by the operator at the end of the haul) _____ yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long *Thomas Long*, representative or authorized agent for Enterprise Products Operating do hereby

Generator Signature

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long *Thomas Long*, representative for Enterprise Products Operating authorize Gandy Corporation, Inc. to complete

Generator Signature

the required testing/sign the Generator Waste Testing Certification.

I, _____, representative for Gandy Corporation, Inc. do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: To Be Determined

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: * Gandy Marley, Inc. 7210 E. Second Street Roswell, NM 88202; Permit # NM-711-1-0020

Address of Facility: Sec 4,5,8,9 T11S, R 31E

Method of Treatment and/or Disposal:

☒ Evaporation ☐ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ **APPROVED**

☐ **DENIED (Must Be Maintained As Permanent Record)**

PRINT NAME: _____

TITLE: _____ DATE: _____

SIGNATURE: _____

TELEPHONE NO.: _____



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

May 17, 2018

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-7535
FAX

RE: Huerfano

OrderNo.: 1805469

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 5/9/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1805469

Date Reported: 5/17/2018

CLIENT: Souder, Miller and Associates

Client Sample ID: Huerfano

Project: Huerfano

Collection Date: 5/8/2018 3:21:00 PM

Lab ID: 1805469-001

Matrix: AQUEOUS

Received Date: 5/9/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 7470: MERCURY							
						Analyst: rde	
Mercury	ND	0.20		mg/L	1	5/11/2018 9:38:36 AM	38054
EPA 6010B: TOTAL RECOVERABLE METALS							
						Analyst: JLF	
Arsenic	ND	5.0		mg/L	1	5/11/2018 5:50:00 PM	38044
Barium	ND	100		mg/L	1	5/11/2018 5:50:00 PM	38044
Cadmium	ND	1.0		mg/L	1	5/11/2018 5:50:00 PM	38044
Chromium	ND	5.0		mg/L	1	5/11/2018 5:50:00 PM	38044
Lead	ND	5.0		mg/L	1	5/11/2018 5:50:00 PM	38044
Selenium	ND	1.0		mg/L	1	5/11/2018 5:50:00 PM	38044
Silver	ND	5.0		mg/L	1	5/11/2018 8:27:39 PM	38044
EPA METHOD 8270C: PAHS							
						Analyst: DAM	
Naphthalene	ND	50	D	µg/L	1	5/16/2018 11:53:55 AM	38085
1-Methylnaphthalene	ND	50	D	µg/L	1	5/16/2018 11:53:55 AM	38085
2-Methylnaphthalene	ND	50	D	µg/L	1	5/16/2018 11:53:55 AM	38085
Acenaphthylene	ND	50	D	µg/L	1	5/16/2018 11:53:55 AM	38085
Acenaphthene	ND	50	D	µg/L	1	5/16/2018 11:53:55 AM	38085
Fluorene	ND	50	D	µg/L	1	5/16/2018 11:53:55 AM	38085
Phenanthrene	ND	50	D	µg/L	1	5/16/2018 11:53:55 AM	38085
Anthracene	ND	50	D	µg/L	1	5/16/2018 11:53:55 AM	38085
Fluoranthene	ND	50	D	µg/L	1	5/16/2018 11:53:55 AM	38085
Pyrene	ND	50	D	µg/L	1	5/16/2018 11:53:55 AM	38085
Benz(a)anthracene	ND	50	D	µg/L	1	5/16/2018 11:53:55 AM	38085
Chrysene	ND	50	D	µg/L	1	5/16/2018 11:53:55 AM	38085
Benzo(b)fluoranthene	ND	1000	D	µg/L	20	5/16/2018 1:38:36 PM	38085
Benzo(k)fluoranthene	ND	1000	D	µg/L	20	5/16/2018 1:38:36 PM	38085
Benzo(a)pyrene	ND	1000	D	µg/L	20	5/16/2018 1:38:36 PM	38085
Dibenz(a,h)anthracene	ND	1000	D	µg/L	20	5/16/2018 1:38:36 PM	38085
Benzo(g,h,i)perylene	ND	1000	D	µg/L	20	5/16/2018 1:38:36 PM	38085
Indeno(1,2,3-cd)pyrene	ND	1000	D	µg/L	20	5/16/2018 1:38:36 PM	38085
Surr: N-hexadecane	63.5	18.7-145	D	%Rec	1	5/16/2018 11:53:55 AM	38085
Surr: Benzo(e)pyrene	0	28.2-137	SD	%Rec	20	5/16/2018 1:38:36 PM	38085
EPA METHOD 8260B: VOLATILES							
						Analyst: RAA	
Benzene	ND	0.50		mg/L	200	5/10/2018 1:46:00 AM	B51142
Toluene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
Ethylbenzene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
1,2,4-Trimethylbenzene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
1,3,5-Trimethylbenzene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
1,2-Dichloroethane (EDC)	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1805469

Date Reported: 5/17/2018

CLIENT: Souder, Miller and Associates

Client Sample ID: Huerfano

Project: Huerfano

Collection Date: 5/8/2018 3:21:00 PM

Lab ID: 1805469-001

Matrix: AQUEOUS

Received Date: 5/9/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,2-Dibromoethane (EDB)	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
Naphthalene	ND	0.40		mg/L	200	5/10/2018 1:46:00 AM	B51142
1-Methylnaphthalene	ND	0.80		mg/L	200	5/10/2018 1:46:00 AM	B51142
2-Methylnaphthalene	ND	0.80		mg/L	200	5/10/2018 1:46:00 AM	B51142
Acetone	ND	2.0		mg/L	200	5/10/2018 1:46:00 AM	B51142
Bromobenzene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
Bromodichloromethane	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
Bromoform	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
Bromomethane	ND	0.60		mg/L	200	5/10/2018 1:46:00 AM	B51142
2-Butanone	ND	2.0		mg/L	200	5/10/2018 1:46:00 AM	B51142
Carbon disulfide	ND	2.0		mg/L	200	5/10/2018 1:46:00 AM	B51142
Carbon Tetrachloride	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
Chlorobenzene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
Chloroethane	ND	0.40		mg/L	200	5/10/2018 1:46:00 AM	B51142
Chloroform	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
Chloromethane	ND	0.60		mg/L	200	5/10/2018 1:46:00 AM	B51142
2-Chlorotoluene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
4-Chlorotoluene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
cis-1,2-DCE	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
cis-1,3-Dichloropropene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
1,2-Dibromo-3-chloropropane	ND	0.40		mg/L	200	5/10/2018 1:46:00 AM	B51142
Dibromochloromethane	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
Dibromomethane	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
1,2-Dichlorobenzene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
1,3-Dichlorobenzene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
1,4-Dichlorobenzene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
Dichlorodifluoromethane	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
1,1-Dichloroethane	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
1,1-Dichloroethene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
1,2-Dichloropropane	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
1,3-Dichloropropane	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
2,2-Dichloropropane	ND	0.40		mg/L	200	5/10/2018 1:46:00 AM	B51142
1,1-Dichloropropene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
Hexachlorobutadiene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
2-Hexanone	ND	2.0		mg/L	200	5/10/2018 1:46:00 AM	B51142
Isopropylbenzene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
4-Isopropyltoluene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
4-Methyl-2-pentanone	ND	2.0		mg/L	200	5/10/2018 1:46:00 AM	B51142
Methylene Chloride	ND	0.60		mg/L	200	5/10/2018 1:46:00 AM	B51142

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1805469

Date Reported: 5/17/2018

CLIENT: Souder, Miller and Associates

Client Sample ID: Huerfano

Project: Huerfano

Collection Date: 5/8/2018 3:21:00 PM

Lab ID: 1805469-001

Matrix: AQUEOUS

Received Date: 5/9/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
n-Butylbenzene	ND	0.60		mg/L	200	5/10/2018 1:46:00 AM	B51142
n-Propylbenzene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
sec-Butylbenzene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
Styrene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
tert-Butylbenzene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
1,1,1,2-Tetrachloroethane	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
1,1,2,2-Tetrachloroethane	ND	0.40		mg/L	200	5/10/2018 1:46:00 AM	B51142
Tetrachloroethene (PCE)	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
trans-1,2-DCE	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
trans-1,3-Dichloropropene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
1,2,3-Trichlorobenzene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
1,2,4-Trichlorobenzene	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
1,1,1-Trichloroethane	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
1,1,2-Trichloroethane	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
Trichloroethene (TCE)	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
Trichlorofluoromethane	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
1,2,3-Trichloropropane	ND	0.40		mg/L	200	5/10/2018 1:46:00 AM	B51142
Vinyl chloride	ND	0.20		mg/L	200	5/10/2018 1:46:00 AM	B51142
Xylenes, Total	ND	0.30		mg/L	200	5/10/2018 1:46:00 AM	B51142
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	200	5/10/2018 1:46:00 AM	B51142
Surr: 4-Bromofluorobenzene	112	70-130		%Rec	200	5/10/2018 1:46:00 AM	B51142
Surr: Dibromofluoromethane	107	70-130		%Rec	200	5/10/2018 1:46:00 AM	B51142
Surr: Toluene-d8	114	70-130		%Rec	200	5/10/2018 1:46:00 AM	B51142

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pI Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

1805469-001D HUERFANO

SAMPLE RESULTS - 01

ONE LAB. NATIONWIDE

Collected date/time: 05/08/18 13:21

1992739

Wet Chemistry by Method 4500 CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Cyanide	ND		0.00500	1	05/11/2018 13:43	WG1109881

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Corrosivity by pH	5.79	T8		1	05/11/2018 10:30	WG1109937

Sample Narrative:

1992739-01 WG1109937 5.79 at 10.5C

Wet Chemistry by Method 9034-9030B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Sulfide	0.949		0.0500	1	05/10/2018 22:26	WG1109629

Wet Chemistry by Method D93/1010A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Flashpoint	DNF at 170			1	05/15/2018 12:55	WG1110144

Cd

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

1992739

DATE/TIME:

05/15/18 13:51

WG1109881

Wet Chemistry by Method 4500 CN E-2011

QUALITY CONTROL SUMMARY

L992739-01

ONE LAB NATIONWIDE

Method Blank (MB)

(MB) R3309046-1 05/11/18 13:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Cyanide	U		0.00180	0.00500

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3309046-2 05/11/18 13:15 • (LCSD) R3309046-3 05/11/18 13:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	LCSD Result mg/l	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Reactive Cyanide	0.100	0.102	102	0.0955	95.5	85.0-115			5.58	20

Cp	Tc	Ss	Cn	St	Coc	Gl	Al	Sc
----	----	----	----	----	-----	----	----	----

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L992739

DATE/TIME:

05/15/18 13:51

W61109937

Wet Chemistry by Method 4500H+ B-2011

QUALITY CONTROL SUMMARY

1992739-01

ONE LAB NATIONWIDE

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3308957-1 05/11/18 10:30 • (LCSD) R3308957-2 05/11/18 10:30

Analyte	Spike Amount	SJ	LCS Result	SU	LCSD Result	LCS Rec.	%	LCSD Rec.	%	Rec Limits	LCS Qualifier	LCSD Qualifier	RPD	%	RPD Limits
Conductivity by pH	10.0	9.97	9.97	9.97	9.97	99.7	99.7	99.7	99.7	99.0-101	0.000	0.000	1	1	

Sample Narrative:

LCS: 9.97 at 19.4C

LCSD: 9.97 at 19.5C

1	2	3	4	5	6	7	8	9
Cp	Tc	Ss	Cn	Sr	Qc	Gl	Al	Sc

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L992739

DATE/TIME:

05/15/18 13:51

WG1109629

Wet Chemistry by Method 9034-90308

QUALITY CONTROL SUMMARY

1992739-01

ONE LAB. NATIONWIDE

Method Blank (MB)

(MB) R3308826-1 05/10/18 22:15

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Sulfide	U	0.00550	0.00500	

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCS-D)

(LCS) R3308826-2 05/10/18 22:15 • (LCS-D) R3308826-3 05/10/18 22:16

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCSD Result mg/l	LCSD Rec. %	RPD %	RPD Limits %
Reactive Sulfide	0.500	0.511	102	85.0-115	0.515	103	0.760	20

L991900-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L991900-01 05/10/18 22:21 • (MS) R3308826-5 05/10/18 22:24 • (MSD) R3308826-6 05/10/18 22:24

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier J6	MSD Qualifier J6	RPD %	RPD Limits %
Reactive Sulfide	1.00	ND	0.525	0.502	48.7	46.4	1	50.0-120	J6	J6	4.48	20

ACCOUNT:

Holt Environmental Analysis Laboratory

PROJECT:

SDG:

L992739

DATE/TIME:

05/15/18 13:51

W6110144

Wet Chemistry by Method D93/1010A

QUALITY CONTROL SUMMARY

L992739-01

ONE LAB. NATIONWIDE

L991890-02 Original Sample (OS) • Duplicate (DUP)

(OS) L991890-02 05/15/18 12:55 • (DUP) R3309886-3 05/15/18 12:55

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Flashpoint	deg F DNF at 170	deg F DNF at 170	1	% 0.000	%	% 10

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3309886-1 05/15/18 12:55 • (LCSD) R3309886-2 05/15/18 12:55

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCSD Qualifier	RPD	RPD Limits
Flashpoint	deg F 82.0	deg F 82.8	deg F 82.8	% 101	% 101	% 96.0-104	% 0.000	% 10	% 10

CP
Tc
Ss
Cn
Sr
Gc
Gl
Al
Sc

ACCOUNT:
Field Environmental Analysis Laboratory

PROJECT:

SDG:
L992739

DATE/TIME:
05/15/18 13:51



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.
Qualifier	Description
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.



ACCOUNT:

Hill Environmental Analysis Laboratory

PROJECT:

SDG:

L992734

DATE/TIME:

05/15/08 13:51

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1805469

17-May-18

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID	100ng lcs2	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	B51142	RunNo:	51142					
Prep Date:		Analysis Date:	5/10/2018	SeqNo:	1662299	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	108	70	130			
Toluene	22	1.0	20.00	0	108	70	130			
Chlorobenzene	22	1.0	20.00	0	110	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	113	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		111	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		111	70	130			
Surr: Dibromofluoromethane	11		10.00		112	70	130			
Surr: Toluene-d8	11		10.00		111	70	130			

Sample ID	rb2	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID:	PBW	Batch ID: B51142		RunNo: 51142						
Prep Date:		Analysis Date: 5/10/2018		SeqNo: 1662300		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1805469

17-May-18

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID	rb2	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID:	PBW	Batch ID: B51142		RunNo: 51142						
Prep Date:		Analysis Date: 5/10/2018		SeqNo: 1662300		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	C	Value above quantitation range
II	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1805469

17-May-18

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID	rb2	SampType	MBLK	TestCode	EPA Method 8260B: VOLATILES					
Client ID	PBW	Batch ID	B51142	RunNo	51142					
Prep Date		Analysis Date	5/10/2018	SeqNo	1662300	Units	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		109	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		109	70	130			
Surr: Dibromofluoromethane	11		10.00		112	70	130			
Surr: Toluene-d8	11		10.00		111	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1805469

17-May-18

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID	lcs-38085		SampType: LCS	TestCode: EPA Method 8270C: PAHs						
Client ID:	LCSW		Batch ID: 38085	RunNo: 51313						
Prep Date:	5/14/2018		Analysis Date: 5/16/2018	SeqNo: 1668506		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	15	0.50	20.00	0	74.2	28.6	113			
1-Methylnaphthalene	15	0.50	20.00	0	73.8	27	113			
2-Methylnaphthalene	15	0.50	20.00	0	74.0	26.3	112			
Acenaphthylene	16	0.50	20.00	0	79.4	36.2	114			
Acenaphthene	16	0.50	20.00	0	81.2	35.6	116			
Fluorene	17	0.50	20.00	0	84.1	38.4	116			
Phenanthrene	17	0.50	20.00	0	85.0	42.3	118			
Anthracene	18	0.50	20.00	0	89.6	42.2	117			
Fluoranthene	19	0.50	20.00	0	93.8	42.5	118			
Pyrene	20	0.50	20.00	0	98.7	40.8	121			
Benz(a)anthracene	20	0.50	20.00	0	97.6	43	118			
Chrysene	19	0.50	20.00	0	93.8	39.4	119			
Benzo(b)fluoranthene	23	0.50	20.00	0	116	47.8	115			S
Benzo(k)fluoranthene	22	0.50	20.00	0	108	40.5	120			
Benzo(a)pyrene	20	0.50	20.00	0	101	41.5	115			
Dibenz(a,h)anthracene	20	0.50	20.00	0	101	48.6	115			
Benzo(g,h,i)perylene	19	0.50	20.00	0	95.1	42	119			
Indeno(1,2,3-cd)pyrene	20	0.50	20.00	0	102	42.9	118			
Surr: N-hexadecane	67		87.60		76.3	18.7	145			
Surr: Benzo(e)pyrene	21		20.00		106	28.2	137			

Sample ID	lcsd-38085		SampType: LCSD	TestCode: EPA Method 8270C: PAHs						
Client ID:	LCSS02		Batch ID: 38085	RunNo: 51313						
Prep Date:	5/14/2018		Analysis Date: 5/16/2018	SeqNo: 1668507		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	16	0.50	20.00	0	78.6	28.6	113	5.76	40.7	
1-Methylnaphthalene	17	0.50	20.00	0	84.1	27	113	13.0	38.4	
2-Methylnaphthalene	16	0.50	20.00	0	82.4	26.3	112	10.7	25.5	
Acenaphthylene	18	0.50	20.00	0	88.0	36.2	114	10.3	34.1	
Acenaphthene	18	0.50	20.00	0	87.8	35.6	116	7.81	32.1	
Fluorene	19	0.50	20.00	0	95.2	38.4	116	12.4	28	
Phenanthrene	18	0.50	20.00	0	89.6	42.3	118	5.27	37.4	
Anthracene	19	0.50	20.00	0	94.9	42.2	117	5.75	36.2	
Fluoranthene	20	0.50	20.00	0	99.8	42.5	118	6.20	26.6	
Pyrene	21	0.50	20.00	0	104	40.8	121	5.23	26.8	
Benz(a)anthracene	21	0.50	20.00	0	103	43	118	5.09	25.1	
Chrysene	20	0.50	20.00	0	102	39.4	119	8.08	23.3	
Benzo(b)fluoranthene	22	0.50	20.00	0	112	47.8	115	3.06	22.5	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1805469

17-May-18

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID	lcsd-38085	SampType: LCSD		TestCode: EPA Method 8270C: PAHs						
Client ID:	LCSS02	Batch ID: 38085		RunNo: 51313						
Prep Date:	5/14/2018	Analysis Date: 5/16/2018		SeqNo: 1668507		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	24	0.50	20.00	0	121	40.5	120	10.8	30.9	S
Benzo(a)pyrene	21	0.50	20.00	0	104	41.5	115	3.22	23.2	
Dibenz(a,h)anthracene	20	0.50	20.00	0	100	48.6	115	0.199	26.5	
Benzo(g,h,i)perylene	19	0.50	20.00	0	96.1	42	119	1.05	30.7	
Indeno(1,2,3-cd)pyrene	21	0.50	20.00	0	106	42.9	118	3.95	25.4	
Surr: N-hexadecane	73		87.60		83.0	18.7	145	0	0	
Surr: Benzo(e)pyrene	21		20.00		105	28.2	137	0	0	

Sample ID	mb-38085	SampType:	MBLK	TestCode:	EPA Method 8270C: PAHs					
Client ID:	PBW	Batch ID:	38085	RunNo:	51313					
Prep Date:	5/14/2018	Analysis Date:	5/16/2018	SeqNo:	1668508	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	0.50								
2-Methylnaphthalene	ND	0.50								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
Pyrene	ND	0.50								
Benz(a)anthracene	ND	0.50								
Chrysene	ND	0.50								
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	74		87.60		84.5	18.7	145			
Surr: Benzo(e)pyrene	21		20.00		106	28.2	137			

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1805469

17-May-18

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID	MB-38054	SampType	MBLK	TestCode	EPA Method 7470: Mercury					
Client ID	PBW	Batch ID	38054	RunNo	51205					
Prep Date	5/10/2018	Analysis Date	5/11/2018	SeqNo	1664313	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-38054	SampType	LCS	TestCode	EPA Method 7470: Mercury					
Client ID	LCSW	Batch ID	38054	RunNo	51205					
Prep Date	5/10/2018	Analysis Date	5/11/2018	SeqNo	1664314	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.8	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not in Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1805469

17-May-18

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID	MB-38044	SampType:	MBLK	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	PBW	Batch ID:	38044	RunNo:	51217					
Prep Date:	5/10/2018	Analysis Date:	5/11/2018	SeqNo:	1664542	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	ND	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID	LCS-38044	SampType:	LCS	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	LCSW	Batch ID:	38044	RunNo:	51217					
Prep Date:	5/10/2018	Analysis Date:	5/11/2018	SeqNo:	1664544	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.44	0.020	0.5000	0	88.7	80	120			
Barium	0.47	0.020	0.5000	0	94.1	80	120			
Cadmium	0.48	0.0020	0.5000	0	95.9	80	120			
Chromium	0.45	0.0060	0.5000	0	89.6	80	120			
Lead	0.46	0.0050	0.5000	0	91.5	80	120			
Selenium	0.48	0.050	0.5000	0	96.3	80	120			
Silver	0.082	0.0050	0.1000	0	82.1	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

Sample Log-In Check List

Client Name SMA-FARM

Work Order Number: 1805469

RcptNo: 1

Received By: Anne Thorne 5/9/2018 7:00:00 AM

Completed By: Anne Thorne 5/9/2018 8:24:47 AM

Reviewed By: *my*

Labeled by: *Amos 05/09/18*

Amos

Amos

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐

2. How was the sample delivered? Courier ☒

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐

4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐

5. Sample(s) in proper container(s)? Yes ☒ No ☐

6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐

7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐

8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐

9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐

10. Were any sample containers received broken? Yes ☐ No ☒

11. Does paperwork match bottle labels? Yes ☒ No ☐

(Note discrepancies on chain of custody)

12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐

13. Is it clear what analyses were requested? Yes ☒ No ☐

14. Were all holding times able to be met? Yes ☒ No ☐

(If no, notify customer for authorization)

of preserved bottles checked for pH: 1 2
(if > 12 unless noted)

Adjusted? —

Checked by: Amos 05/09/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified

Date

By Whom

Via

☐ eMail

☐ Phone

☐ Fax

☐ In Person

Regarding

Client Instructions

16. Additional remarks

17. Cooler Information

Cooler No	Temp (°C)	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.4	Good	Yes			

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site:

MAPL Huerfano Pumping Station

3. Location of Material (Street Address, City, State or ULSTR):

UL L Section 21 Township 26 North Range 10 West; 36.471831, -107.908114

4. Source and Description of Waste:

Source: Water/Oil from the Non Exempt WasteWater Tanks and from the compressor skid drains.

Description: Non Exempt/Non Hazardous Water from the compressor skids.

Estimated Volume 80 yd³ Known Volume (to be entered by the operator at the end of the haul) _____ yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long, representative or authorized agent for Enterprise Products Operating do hereby

Generator Signature

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long, representative for Enterprise Products Operating authorize to complete

Generator Signature

the required testing/sign the Generator Waste Testing Certification.

I, _____, representative for Agua Moss, LLC do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

6. Transporter: To Be Determined

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: *Agua Moss, LLC - Permit #: NM-01-009

Address of Facility: SW/4 NW/4 Section 2, Township 29N, Range Crouch Mesa, NM

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: _____

TITLE: _____ DATE: _____

SIGNATURE: _____

TELEPHONE NO.: _____

Surface Waste Management Facility Authorized Agent



*Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com*

December 03, 2019

Ashley Maxwell

Souder, Miller and Associates

401 W. Broadway

Farmington, NM 87401

TEL: (505) 325-5667

FAX: (505) 327-1496

RE: Huerfano

OrderNo.: 1911679

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 11/15/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911679

Date Reported: 12/3/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Huerfano

Project: Huerfano

Collection Date: 11/14/2019 10:22:00 AM

Lab ID: 1911679-001

Matrix: AQUEOUS

Received Date: 11/15/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 7470: MERCURY							Analyst: rde
Mercury	ND	0.020		mg/L	1	11/22/2019 10:36:46 AM	48955
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: rde
Arsenic	ND	5.0		mg/L	1	11/25/2019 4:00:30 PM	48826
Barium	ND	100		mg/L	1	11/25/2019 12:59:21 PM	48826
Cadmium	ND	1.0		mg/L	1	11/25/2019 12:59:21 PM	48826
Chromium	ND	5.0		mg/L	1	11/25/2019 12:59:21 PM	48826
Lead	ND	5.0		mg/L	1	11/25/2019 12:59:21 PM	48826
Selenium	ND	1.0		mg/L	1	11/25/2019 12:59:21 PM	48826
Silver	ND	5.0		mg/L	1	11/25/2019 12:59:21 PM	48826
EPA METHOD 8270C: PAHS							Analyst: JDC
Naphthalene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
1-Methylnaphthalene	ND	10	D	µg/L	1	11/25/2019 4:36:18 PM	48934
2-Methylnaphthalene	ND	10	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Acenaphthylene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Acenaphthene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Fluorene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Phenanthrene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Anthracene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Fluoranthene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Pyrene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Benz(a)anthracene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Chrysene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Benzo(b)fluoranthene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Benzo(k)fluoranthene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Benzo(a)pyrene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Dibenz(a,h)anthracene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Benzo(g,h,i)perylene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Indeno(1,2,3-cd)pyrene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Surr: N-hexadecane	84.6	20.4-126	D	%Rec	1	11/25/2019 4:36:18 PM	48934
Surr: Benzo(e)pyrene	72.4	21.4-126	D	%Rec	1	11/25/2019 4:36:18 PM	48934
EPA METHOD 8260B: VOLATILES							Analyst: JMR
Benzene	ND	0.50		mg/L	200	11/15/2019 4:58:30 PM	R64562
Toluene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Ethylbenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2,4-Trimethylbenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,3,5-Trimethylbenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2-Dichloroethane (EDC)	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911679

Date Reported: 12/3/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Huerfano

Project: Huerfano

Collection Date: 11/14/2019 10:22:00 AM

Lab ID: 1911679-001

Matrix: AQUEOUS

Received Date: 11/15/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: JMR
1,2-Dibromoethane (EDB)	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Naphthalene	ND	0.40		mg/L	200	11/15/2019 4:58:30 PM	R64562
1-Methylnaphthalene	ND	0.80		mg/L	200	11/15/2019 4:58:30 PM	R64562
2-Methylnaphthalene	ND	0.80		mg/L	200	11/15/2019 4:58:30 PM	R64562
Acetone	ND	2.0		mg/L	200	11/15/2019 4:58:30 PM	R64562
Bromobenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Bromodichloromethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Bromoform	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Bromomethane	ND	0.60		mg/L	200	11/15/2019 4:58:30 PM	R64562
2-Butanone	ND	2.0		mg/L	200	11/15/2019 4:58:30 PM	R64562
Carbon disulfide	ND	2.0		mg/L	200	11/15/2019 4:58:30 PM	R64562
Carbon Tetrachloride	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Chlorobenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Chloroethane	ND	0.40		mg/L	200	11/15/2019 4:58:30 PM	R64562
Chloroform	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Chloromethane	ND	0.60		mg/L	200	11/15/2019 4:58:30 PM	R64562
2-Chlorotoluene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
4-Chlorotoluene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
cis-1,2-DCE	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
cis-1,3-Dichloropropene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2-Dibromo-3-chloropropane	ND	0.40		mg/L	200	11/15/2019 4:58:30 PM	R64562
Dibromochloromethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Dibromomethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2-Dichlorobenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,3-Dichlorobenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,4-Dichlorobenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Dichlorodifluoromethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,1-Dichloroethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,1-Dichloroethene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2-Dichloropropane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,3-Dichloropropane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
2,2-Dichloropropane	ND	0.40		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,1-Dichloropropene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Hexachlorobutadiene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
2-Hexanone	ND	2.0		mg/L	200	11/15/2019 4:58:30 PM	R64562
Isopropylbenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
4-Isopropyltoluene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
4-Methyl-2-pentanone	ND	2.0		mg/L	200	11/15/2019 4:58:30 PM	R64562
Methylene Chloride	ND	0.60		mg/L	200	11/15/2019 4:58:30 PM	R64562

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQT Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- D Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RT Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911679

Date Reported: 12/3/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Hucrfano

Project: Huerfano

Collection Date: 11/14/2019 10:22:00 AM

Lab ID: 1911679-001

Matrix: AQUEOUS

Received Date: 11/15/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: JMR
n-Butylbenzene	ND	0.60		mg/L	200	11/15/2019 4:58:30 PM	R64562
n-Propylbenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
sec-Butylbenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Styrene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
tert-Butylbenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,1,1,2-Tetrachloroethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,1,2,2-Tetrachloroethane	ND	0.40		mg/L	200	11/15/2019 4:58:30 PM	R64562
Tetrachloroethene (PCE)	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
trans-1,2-DCE	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
trans-1,3-Dichloropropene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2,3-Trichlorobenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2,4-Trichlorobenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,1,1-Trichloroethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,1,2-Trichloroethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Trichloroethene (TCE)	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Trichlorofluoromethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2,3-Trichloropropane	ND	0.40		mg/L	200	11/15/2019 4:58:30 PM	R64562
Vinyl chloride	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Xylenes, Total	ND	0.30		mg/L	200	11/15/2019 4:58:30 PM	R64562
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	200	11/15/2019 4:58:30 PM	R64562
Surr: 4-Bromofluorobenzene	94.8	70-130		%Rec	200	11/15/2019 4:58:30 PM	R64562
Surr: Dibromofluoromethane	107	70-130		%Rec	200	11/15/2019 4:58:30 PM	R64562
Surr: Toluene-d8	107	70-130		%Rec	200	11/15/2019 4:58:30 PM	R64562

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

ANALYTICAL REPORT

November 29, 2019

Hall Environmental Analysis Laboratory

Sample Delivery Group: L1162234

Samples Received: 11/19/2019

Project Number:

Description:

Report To:

4901 Hawkins NE
Albuquerque, NM 87109

Entire Report Reviewed By:



Daphne Richards
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



1911679-001D HUERFANO L1162234-01 WW

Collected by
Collected date/time
Received date/time

11/14/19 10:22
11/19/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500 CN E-2011	WG1386291	1	11/24/19 11:16	11/24/19 21:46	JER	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG1383247	1	11/19/19 19:45	11/19/19 19:45	MSP	Mt. Juliet, TN
Wet Chemistry by Method 9034-90308	WG1384494	1	11/21/19 18:09	11/21/19 18:09	MJA	Mt. Juliet, TN
Wet Chemistry by Method D931010A	WG1387079	1	11/26/19 17:15	11/26/19 17:15	MJA	Mt. Juliet, TN

1 C

2 T

3 S

4 C

5 S

6 G

7 G

8 A

9 S



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne Richards
Project Manager

Project Narrative

All Reactive Cyanide results reported in the attached report were determined as totals using method 9012B.

All Reactive Sulfide results reported in the attached report were determined as totals using method 9034/9030B.

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Collected date/time: 11/14/19 10:22

L1162234

Wet Chemistry by Method 4500 CN E-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Reactive Cyanide	ND	<u>J4</u>	0.00500	1	11/24/2019 21:46	WG1386291

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result su	Qualifier	RDL	Dilution	Analysis date / time	Batch
Corrosivity by pH	5.41	<u>T8</u>	1	11/19/2019 19:45	WG1383247	

Sample Narrative:

L1162234-01 WG1383247: 5.41 at 18.3C

Wet Chemistry by Method 9034-9030B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Reactive Sulfide	0.125		0.0500	1	11/21/2019 18:09	WG1384494

Wet Chemistry by Method D93/1010A

Analyte	Result deg F	Qualifier	RDL	Dilution	Analysis date / time	Batch
Flashpoint	131		1	11/26/2019 17:15	WG1387079	

2185-01 Original Sample (OS) • Duplicate (DUP)

L1162185-01 11/19/19 19:45 • (DUP) R3473880-10 11/19/19 19:45

Original Result		DUP Result	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
te	SU	8.75	8.75	1	0.000	1
sivity by pH						

Ie Narrative:
: 8.75 at 18.8C
P: 8.75 at 18.8C

2234-01 Original Sample (OS) • Duplicate (DUP)

L1162234-01 11/19/19 19:45 • (DUP) R3473880-16 11/19/19 19:45

Original Result		DUP Result	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
te	SU	5.41	5.41	1	0.000	1
sivity by pH						

Ie Narrative:
: 5.41 at 18.3C
P: 5.41 at 18.4C

2243-01 Original Sample (OS) • Duplicate (DUP)

L1162243-01 11/19/19 19:45 • (DUP) R3473880-17 11/19/19 19:45

Original Result		DUP Result	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
te	SU	6.75	6.79	1	0.591	1
sivity by pH						

Ie Narrative:
: 6.75 at 18.5C
P: 6.79 at 18.8C

oratory Control Sample (LCS)

R3473880-1 11/19/19 19:45

Spike Amount		LCS Result	LCS Rec. %	Rec. Limits %	LCS Qualifier
te	SU	10.0	9.92	99.2	99.0-101
sivity by pH					

Ie Narrative:
S: 9.92 at 19.1C

Blank (MB)

R3474776-1 11/21/19 17:59

	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Iodine Sulfide	U		0.00650	0.0500

	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Iodine Sulfide	0.500	0.532	106	85-115	

Oratory Control Sample (LCS)

R3474776-2 11/21/19 17:59

	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Iodine Sulfide	0.500	0.532	106	85-115	

Op

2Tc

3Ss

4Cn

5Sr

6Cc

7Gl

8Al

9Sc

2185-01 Original Sample (OS) • Duplicate (DUP)

L1162185-01 11/26/19 17:15 • (DUP) R3476638-2 11/26/19 17:15

te	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	deg F	deg F	%	%		%
joint	131	125	1	4.69		10

2234-01 Original Sample (OS) • Duplicate (DUP)

L1162234-01 11/26/19 17:15 • (DUP) R3476638-3 11/26/19 17:15

te	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	deg F	deg F	%	%		%
joint	131	136	1	3.75		10

2243-01 Original Sample (OS) • Duplicate (DUP)

L1162243-01 11/26/19 17:15 • (DUP) R3476638-4 11/26/19 17:15

te	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	deg F	deg F	%	%		%
joint	131	135	1	3.01		10

2558-01 Original Sample (OS) • Duplicate (DUP)

L1162558-01 11/26/19 17:15 • (DUP) R3476638-5 11/26/19 17:15

te	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	deg F	deg F	%	%		%
joint	116	127	1	9.06		10

4862-01 Original Sample (OS) • Duplicate (DUP)

L1164862-01 11/26/19 17:15 • (DUP) R3476638-6 11/26/19 17:15

te	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	deg F	deg F	%	%		%
joint	123	124	1	0.810		10

oratory Control Sample (LCS)

R3476638-1 11/26/19 17:15

le	Spike Amount		LCS Result		LCS Rec.		Rec. Limits		LCS Qualifier	
	deg F		deg F		%		%			
joint	82.0		83.0		101		96.0-104			

OK

2Tc

3Ss

4Cn

5Sr

6Gc

7Gl

8Al

9Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.
Qualifier	Description
J4	The associated batch QC was outside the established quality control range for accuracy.
T8	Sample(s) received past/too close to holding time expiration.

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Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	EB7487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E 10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	B4004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.





CHAIN OF CUSTODY RECORD

HALLEN ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenenvironmental.com

SUB CONTRACTOR	ESC PACE	COMPANY	ESC PACE	PHONE	(800) 767-5859	FAX	(615) 758-5859
ADDRESS:	12065 Lebanon Rd						
CITY, STATE, ZIP	Mt. Juliet, TN 37122						

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	1202
1	1911679-001D	Huerfano	500HDPE	Aqueous	11/14/2019 10:22:00 AM	3	Reactivity, Corrosivity and Ignitability ** 7 Day TAT **

ANALYTICAL COMMENTS

11/22/19

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By: <u>DB3</u>	Date: 11/15/2019	Time: 8:38 AM	Received By:	Date:	Time:	REPORT TRANSMITTAL DESIRED ☐ HARD COPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By: <u>N Taylor</u>	Date: 11/15/19	Time: 8:15	FOR LAB USE ONLY <u>Good</u> RAD SCREEN: <0.5 mR/hr Temp of samples 23-132.2 AS Attempt to Cool
TAT:	Standard ☐	Next BD ☐	2nd BD ☐	3rd BD ☐	Comments:	

Tracy #450 1669 1988

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client:	Hallen	11/19/19	Temperature: 22
Cooler Received/Opened On:	11/19/19	Temperature: 22	
Received By: Willie Taylor	845		
Signature:			
Receipt Check List			
COC Seal Present / Intact?		Yes	No
COC Signed / Accurate?		Yes	No
Bottles arrive intact?		Yes	No
Correct bottles used?		Yes	No
Sufficient volume sent?		Yes	No
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?		Yes	No

Face Analytical
National Center for Testing & Innovation

LogIn #: L1162234	Client: HALLENVANM	Date: 11/19/19	Evaluated by: Matt S
-------------------	--------------------	----------------	----------------------

Non-Conformance (check applicable items)

Sample integrity	Chain of Custody Clarification		
Parameter(s) past holding time	LogIn Clarification Needed		
Temperature not in range	Chain of custody is incomplete		Insufficient packing material around container
Improper container type	Please specify Metals requested.		Insufficient packing material inside cooler
pH not in range.	Please specify TCLP requested.		Improper handling by carrier (FedEx / UPS / Con
Insufficient sample volume.	Received additional samples not listed on coc.		Sample was frozen
Sample is biphasic.	Sample ids on containers do not match ids on coc		Container lid not intact
Vials received with headspace.	Trip Blank not received.		If no Chain of Custody:
Broken container	Client did not "X" analysis.		Received by:
Broken container	Chain of Custody is missing		Date/Time:
Sufficient sample remains			Temp./Cont Rec./pH:
			Carrier:
			Tracking#

LogIn Comments: Received FLASH in HDPE

Client informed by:	Call	Email	Voice Mail	Date: 11/19	Time: 1201
TSR Initials: DR	Client Contact:				

Qualify and proceed with analysis

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911679

03-Dec-19

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R64562	RunNo: 64562								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210714 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.4	70	130			
Toluene	19	1.0	20.00	0	97.2	70	130			
Chlorobenzene	20	1.0	20.00	0	102	70	130			
1,1-Dichloroethene	17	1.0	20.00	0	82.7	70	130			
Trichloroethene (TCE)	16	1.0	20.00	0	81.7	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.9	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		92.0	70	130			
Surr: Dibromofluoromethane	11		10.00		105	70	130			
Surr: Toluene-d8	11		10.00		105	70	130			

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64562	RunNo: 64562								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210733 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911679

03-Dec-19

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID: rb1	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R64562			RunNo: 64562						
Prep Date:	Analysis Date: 11/15/2019			SeqNo: 2210733		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

H Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911679

03-Dec-19

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID: rb1	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R64562		RunNo: 64562							
Prep Date:	Analysis Date: 11/15/2019		SeqNo: 2210733		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.8	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		92.9	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	11		10.00		109	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911679

03-Dec-19

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID: mb-48934	SampType: MBLK	TestCode: EPA Method 8270C: PAHs								
Client ID: PBW	Batch ID: 48934	RunNo: 64751								
Prep Date: 11/21/2019	Analysis Date: 11/25/2019	SeqNo: 2219189 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	1.0								
2-Methylnaphthalene	ND	1.0								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
Pyrene	ND	0.50								
Benz(a)anthracene	ND	0.50								
Chrysene	ND	0.50								
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	61		87.60		69.2	20.4	126			
Surr: Benzo(e)pyrene	13		20.00		64.5	21.4	126			

Sample ID: lcs-48934	SampType: LCS	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSW	Batch ID: 48934	RunNo: 64751								
Prep Date: 11/21/2019	Analysis Date: 11/25/2019	SeqNo: 2219191 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	15	0.50	20.00	0	73.8	41.8	97.8			
1-Methylnaphthalene	14	1.0	20.00	0	68.3	44.7	104			
2-Methylnaphthalene	14	1.0	20.00	0	72.4	45	101			
Acenaphthylene	15	0.50	20.00	0	72.8	51.2	102			
Acenaphthene	14	0.50	20.00	0	71.8	53.2	101			
Fluorene	15	0.50	20.00	0	75.1	57.6	106			
Phenanthrene	15	0.50	20.00	0	75.6	57.6	109			
Anthracene	15	0.50	20.00	0	73.2	56.1	98.9			
Fluoranthene	16	0.50	20.00	0	81.9	61.4	114			
Pyrene	16	0.50	20.00	0	78.7	58	110			
Benz(a)anthracene	15	0.50	20.00	0	76.6	60	102			
Chrysene	14	0.50	20.00	0	70.9	50.8	93.4			
Benzo(b)fluoranthene	15	0.50	20.00	0	74.0	56.2	118			

Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- D Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911679

03-Dec-19

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID: Ics-48934	SampType: LCS		TestCode: EPA Method 8270C: PAHs							
Client ID: LCSW	Batch ID: 48934		RunNo: 64751							
Prep Date: 11/21/2019	Analysis Date: 11/25/2019		SeqNo: 2219191				Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	15	0.50	20.00	0	75.7	57.7	119			
Benzo(a)pyrene	15	0.50	20.00	0	75.0	55.5	114			
Dibenz(a,h)anthracene	15	0.50	20.00	0	75.5	53	110			
Benzo(g,h,i)perylene	15	0.50	20.00	0	74.8	55	113			
Indeno(1,2,3-cd)pyrene	15	0.50	20.00	0	75.5	51.2	115			
Surr: N-hexadecane	67		87.60		76.4	20.4	126			
Surr: Benzo(e)pyrene	14		20.00		68.3	21.4	126			

Sample ID: Icsd-48934	SampType: LCSD		TestCode: EPA Method 8270C: PAHs							
Client ID: LCSS02	Batch ID: 48934		RunNo: 64751							
Prep Date: 11/21/2019	Analysis Date: 11/25/2019		SeqNo: 2219192		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	15	0.50	20.00	0	74.2	41.8	97.8	0.541	25.4	
1-Methylnaphthalene	15	1.0	20.00	0	73.8	44.7	104	7.74	21.5	
2-Methylnaphthalene	15	1.0	20.00	0	76.0	45	101	4.85	25.2	
Acenaphthylene	17	0.50	20.00	0	83.4	51.2	102	13.6	30.3	
Acenaphthene	16	0.50	20.00	0	81.6	53.2	101	12.8	28.1	
Fluorene	17	0.50	20.00	0	83.5	57.6	106	10.6	33	
Phenanthrene	15	0.50	20.00	0	74.8	57.6	109	1.06	24.5	
Anthracene	15	0.50	20.00	0	76.6	56.1	98.9	4.54	26.9	
Fluoranthene	17	0.50	20.00	0	83.2	61.4	114	1.57	21.8	
Pyrene	15	0.50	20.00	0	77.1	58	110	2.05	27	
Benzo(a)anthracene	14	0.50	20.00	0	72.5	60	102	5.50	27.4	
Chrysene	14	0.50	20.00	0	68.6	50.8	93.4	3.30	20.4	
Benzo(b)fluoranthene	15	0.50	20.00	0	77.4	56.2	118	4.49	22.5	
Benzo(k)fluoranthene	17	0.50	20.00	0	83.3	57.7	119	9.56	24.1	
Benzo(a)pyrene	16	0.50	20.00	0	78.3	55.5	114	4.31	27.3	
Dibenz(a,h)anthracene	16	0.50	20.00	0	78.5	53	110	3.90	18.5	
Benzo(g,h,i)perylene	16	0.50	20.00	0	79.4	55	113	5.97	28.4	
Indeno(1,2,3-cd)pyrene	16	0.50	20.00	0	81.5	51.2	115	7.64	21.8	
Surr: N-hexadecane	70		87.60		79.8	20.4	126	0	0	
Surr: Benzo(e)pyrene	14		20.00		71.8	21.4	126	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
II Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911679

03-Dec-19

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID: MB-48955	SampType: MBLK	TestCode: EPA Method 7470: Mercury
Client ID: PBW	Batch ID: 48955	RunNo: 64701
Prep Date: 11/21/2019	Analysis Date: 11/22/2019	SeqNo: 2217075 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND 0.00020	

Sample ID: LCS-48955	SampType: LCS	TestCode: EPA Method 7470: Mercury
Client ID: LCSW	Batch ID: 48955	RunNo: 64701
Prep Date: 11/21/2019	Analysis Date: 11/22/2019	SeqNo: 2217080 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0048 0.00020 0.005000 0 96.7 80 120	

Qualifiers:

* Value exceeds Maximum Contaminant Level
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911679

03-Dec-19

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID: MB-48826	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 48826	RunNo: 64774								
Prep Date: 11/15/2019	Analysis Date: 11/25/2019	SeqNo: 2219763			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	ND	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID: LCS-48826	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 48826	RunNo: 64774								
Prep Date: 11/15/2019	Analysis Date: 11/25/2019	SeqNo: 2219768			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.47	0.020	0.5000	0	94.6	80	120			
Cadmium	0.49	0.0020	0.5000	0	97.1	80	120			
Chromium	0.47	0.0060	0.5000	0	95.0	80	120			
Lead	0.50	0.0050	0.5000	0	100	80	120			
Selenium	0.54	0.050	0.5000	0	107	80	120			
Silver	0.095	0.0050	0.1000	0	95.0	80	120			

Sample ID: MB-48826	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 48826	RunNo: 64774								
Prep Date: 11/15/2019	Analysis Date: 11/25/2019	SeqNo: 2219851			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								

Sample ID: LCS-48826	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 48826	RunNo: 64774								
Prep Date: 11/15/2019	Analysis Date: 11/25/2019	SeqNo: 2219853			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.50	0.020	0.5000	0	99.7	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pII Not In Range
RL Reporting Limit



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1911679

RcptNo: 1

Received By: Juan Rojas

11/15/2019 8:00:00 AM

Completed By: Desiree Dominguez

11/15/2019 8:37:26 AM

Reviewed By: ENM

11/15/19

DD

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐

2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐

4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐

5. Sample(s) in proper container(s)? Yes ☒ No ☐

6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐

7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐

8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐

9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐

10. Were any sample containers received broken? Yes ☐ No ☒

11. Does paperwork match bottle labels? Yes ☒ No ☐

(Note discrepancies on chain of custody)

12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐

13. Is it clear what analyses were requested? Yes ☒ No ☐

14. Were all holding times able to be met? Yes ☒ No ☐

(If no, notify customer for authorization.)

of preserved
bottles checked
for pH:

Adjusted?

Checked by:

00
(<2 or >12 unless noted)
no

DM 11/15/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:

Date:

By Whom:

Via:

☐ eMail

☐ Phone

☐ Fax

☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.6	Good	Yes			

Chain-of-Custody Record

ent: SMA

Address: 401 W Broadway
Albuquerque NM 87401
 one #: 508225 7535

ail or Fax#: Ashley maxwell

/QC Package:

Standard ☐ Level 4 (Full Validation)

reditation: ☐ Az Compliance

NELAC ☐ Other

EDD (Type)

Sampler: RW

On Ice: ☒ Yes ☐ No

of Coolers: 1

Cooler Temp (including cp): 0.8-0.2=0.6

Container Type and #

Preservative Type

HEAL No. 1911649

various vapors - DO1

Time Matrix Sample Name

11/19 10:22 Ashley Huerfano

Time: Relinquished by: gla

Time: Relinquished by:

Time: Relinquished by:

Time: Relinquished by:

Time: Relinquished by:

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

Huerfano

Project #:

Project Manager:

Ashley Maxwell



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX / MTBE / TMB's (8021)

TPH:8015D(GRO / DRO / MRO)

8081 Pesticides/8082 PCB's

EDB (Method 504.1)

PAHs by 8310 or 8270SIMS

RCRA 8 Metals

Cl, F, Br, NO₃, NO₂, PO₄, SO₄

8260 (VOA)

8270 (Semi-VOA)

Total Coliform (Present/Absent)

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

Remarks: 8260 Full list

Tap Compound at TAP Unit

Invoice Enterprise

11/15/19 8:00

11/15/19 8:00

11/15/19 8:00

11/15/19 8:00

11/15/19 8:00

11/15/19 8:00

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



*Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com*

December 12, 2019

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-5667
FAX (505) 327-1496

RE: Huerfano

OrderNo.: 1911679

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 11/15/2019 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued December 03, 2019.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 1911675

Date Reported: 12/12/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: Huerfano

Project: Huerfano

Collection Date: 11/14/2019 10:22:00 AM

Lab ID: 1911679-001

Matrix: AQUEOUS

Received Date: 11/15/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 7470: MERCURY							Analyst: rde
Mercury	ND	0.020		mg/L	1	11/22/2019 10:36:46 AM	48955
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: rde
Arsenic	ND	5.0		mg/L	1	11/25/2019 4:00:30 PM	48826
Barium	ND	100		mg/L	1	11/25/2019 12:59:21 PM	48826
Cadmium	ND	1.0		mg/L	1	11/25/2019 12:59:21 PM	48826
Chromium	ND	5.0		mg/L	1	11/25/2019 12:59:21 PM	48826
Lead	ND	5.0		mg/L	1	11/25/2019 12:59:21 PM	48826
Selenium	ND	1.0		mg/L	1	11/25/2019 12:59:21 PM	48826
Silver	ND	5.0		mg/L	1	11/25/2019 12:59:21 PM	48826
EPA METHOD 8270C: PAHS							Analyst: JDC
Naphthalene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
1-Methylnaphthalene	ND	10	D	µg/L	1	11/25/2019 4:36:18 PM	48934
2-Methylnaphthalene	ND	10	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Acenaphthylene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Acenaphthene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Fluorene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Phenanthrene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Anthracene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Fluoranthene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Pyrene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Benz(a)anthracene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Chrysene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Benzo(b)fluoranthene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Benzo(k)fluoranthene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Benzo(a)pyrene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Dibenz(a,h)anthracene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Benzo(g,h,i)perylene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Indeno(1,2,3-cd)pyrene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Surr: N-hexadecane	84.6	20.4-126	D	%Rec	1	11/25/2019 4:36:18 PM	48934
Surr: Benzo(e)pyrene	72.4	21.4-126	D	%Rec	1	11/25/2019 4:36:18 PM	48934
EPA METHOD 8260B: VOLATILES							Analyst: JMR
Benzene	ND	0.50		mg/L	200	11/15/2019 4:58:30 PM	R64562
Toluene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Ethylbenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2,4-Trimethylbenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,3,5-Trimethylbenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2-Dichloroethane (EDC)	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Value above quantitation range
II	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Limit
S	% Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911679

Date Reported: 12/12/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Huerfano

Project: Huerfano

Collection Date: 11/14/2019 10:22:00 AM

Lab ID: 1911679-001

Matrix: AQUEOUS

Received Date: 11/15/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: JMR
1,2-Dibromoethane (EDB)	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Naphthalene	ND	0.40		mg/L	200	11/15/2019 4:58:30 PM	R64562
1-Methylnaphthalene	ND	0.80		mg/L	200	11/15/2019 4:58:30 PM	R64562
2-Methylnaphthalene	ND	0.80		mg/L	200	11/15/2019 4:58:30 PM	R64562
Acetone	ND	2.0		mg/L	200	11/15/2019 4:58:30 PM	R64562
Bromobenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Bromodichloromethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Bromoform	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Bromomethane	ND	0.60		mg/L	200	11/15/2019 4:58:30 PM	R64562
2-Butanone	ND	2.0		mg/L	200	11/15/2019 4:58:30 PM	R64562
Carbon disulfide	ND	2.0		mg/L	200	11/15/2019 4:58:30 PM	R64562
Carbon Tetrachloride	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Chlorobenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Chloroethane	ND	0.40		mg/L	200	11/15/2019 4:58:30 PM	R64562
Chloroform	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Chloromethane	ND	0.60		mg/L	200	11/15/2019 4:58:30 PM	R64562
2-Chlorotoluene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
4-Chlorotoluene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
cis-1,2-DCE	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
cis-1,3-Dichloropropene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2-Dibromo-3-chloropropane	ND	0.40		mg/L	200	11/15/2019 4:58:30 PM	R64562
Dibromochloromethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Dibromomethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2-Dichlorobenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,3-Dichlorobenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,4-Dichlorobenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Dichlorodifluoromethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,1-Dichloroethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,1-Dichloroethene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2-Dichloropropane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,3-Dichloropropane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
2,2-Dichloropropane	ND	0.40		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,1-Dichloropropene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Hexachlorobutadiene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
2-Hexanone	ND	2.0		mg/L	200	11/15/2019 4:58:30 PM	R64562
Isopropylbenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
4-Isopropyltoluene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
4-Methyl-2-pentanone	ND	2.0		mg/L	200	11/15/2019 4:58:30 PM	R64562
Methylene Chloride	ND	0.60		mg/L	200	11/15/2019 4:58:30 PM	R64562

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	DB Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Value above quantitation range
II	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation range
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQT	Practical Quantitative Limit	RI Reporting Limit
S	% Recovery outside of range due to dilution or matrix	

Hill Environmental Analysis Laboratory, Inc.

Date Reported: 12/12/2019

HILL ENVIRONMENTAL ANALYSIS AND ASSOCIATES

Client Sample ID: HUEFANO

Project: Huerfano

Collection Date: 11/14/2019 10:22:00 AM

Lab ID: 1911679-001

Matrix: AQUEOUS

Received Date: 11/15/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: JMR
n-Propylbenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
sec-Butylbenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Styrene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
tert-Butylbenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,1,1,2-Tetrachloroethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,1,2,2-Tetrachloroethane	ND	0.40		mg/L	200	11/15/2019 4:58:30 PM	R64562
Tetrachloroethene (PCE)	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
trans-1,2-DCE	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
trans-1,3-Dichloropropene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2,3-Trichlorobenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2,4-Trichlorobenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,1,1-Trichloroethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,1,2-Trichloroethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Trichloroethene (TCE)	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Trichlorofluoromethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2,3-Trichloropropane	ND	0.40		mg/L	200	11/15/2019 4:58:30 PM	R64562
Vinyl chloride	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Xlenes, Total	ND	0.30		mg/L	200	11/15/2019 4:58:30 PM	R64562
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	200	11/15/2019 4:58:30 PM	R64562
Surr: 4-Bromofluorobenzene	94.8	70-130		%Rec	200	11/15/2019 4:58:30 PM	R64562
Surr: Dibromofluoromethane	107	70-130		%Rec	200	11/15/2019 4:58:30 PM	R64562
Surr: Toluene-d8	107	70-130		%Rec	200	11/15/2019 4:58:30 PM	R64562

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample not in Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

ANALYTICAL REPORT

Full Environmental Analysis Laboratory

Sample Delivery Group: L1162234

Samples Received: 11/19/2019

Project Number:

1162234-001

4901 Hawkins NE

4901 Hawkins NE



Project Manager

Reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Face Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and





Cp: Cover Page	1
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1911679-001D HUERFANO L1162234-01	5
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Wet Chemistry by Method 4500 CN E-2011	6
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Sc: Sample Chain of Custody	12





1911679-001D HUERFANO L1162234-01 WW

Collected by

Collected date/time

Received date/time

11/14/19 10:22

11/19/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500H+ B-2011	WG1383247	1	11/19/19 19:45	11/19/19 19:45	MSP	Mt. Juliet, TN
Wet Chemistry by Method 9034-90308	WG1384494	1	11/21/19 18:09	11/21/19 18:09	MJA	Mt. Juliet TN

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All samples received at the correct laboratory, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or noted within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples are within established criteria except where addressed in this data narrative. A non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne Richards
Project Manager

Report Revision History

Version 1 11/29/19 09:06 AM

Project Narrative

All Reactive Sulfide results reported in the attached report were determined as totals using method 9034/9030B.

T

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Wet Chemistry by Method 4500 CN E-2011

Analyte	mg/l	mg/l	date / time	
Ammonia, Ammonia	4.1	J4	0.00500	11/19/2019 21:45
				WG1386291

Wet Chemistry by Method 4500H+ B-2011

Analyte	mg/l	mg/l	date / time	
Corrosivity by pH	5.41	T8	1	11/19/2019 19:45
				WG1383247

L1162234-01 WG1383247- 5.41 at 18.3C

Wet Chemistry by Method 9034-9030B

Result	Qualifier	RDL	Dilution	Analysis	Batch
					WG1384494

Wet Chemistry by Method D93/1010A

Analyte	deg F	deg F	date / time	
		Q		WG1393561

- 1 C
- 2 T
- 3 S
- 4 C
- 5 S
- 6 C
- 7 G
- 8 A
- 9 S

i2185-01 Original Sample (OS) • Duplicate (DUP)

Case	Time	Age	Ref	Result	Initiator	PRPD	DUP	er	10
62181	11:15	15:45	PJ R2	10:10	19:19				

2234-01 Original Sample (OS) • Duplicate (DUP)

6223	1800	1945	JP) RC	30-16	1979				
		Ori	result	Result	dilation	P RPD	<u>DUP</u>	er	rd
		SII							

2243-01 Original Sample (OS) • Duplicate (DUP)

C22A	I H/O	19:45	JP) RC	30-17	19:19
			Ori	result	ilution
			P RPd	DUP	er
			SU		RD

Laboratory Control Sample (LCS)

34731 - 1 ' 11 194	Sp	Count	Result	CS Re	Re	Qualif
	su				%	

hod Blank (MB)

34747. 1 W21 17:59

	MB	#	<u>Justified</u>	vB MD _i	MB
	mg			ng/l	mg
+ Sulfide	U			0.065	0.0

oratory Control Sample (LCS)

134707 -2 11/5 19 17:5'

	Spill amount	Result	CS Result	Rec %	ts	Qualification
1. Salt	0.5 mg	2	106	85		

Tc ³ Ss ⁴ Cn ⁵ Sr ⁶ Qc ⁷ Gl ⁸ Al ⁹ Sc

7589-01 Original Sample (OS) • Duplicate (DUP)

1167589-01 12/10/19 17:31 • JJP R34 107-2 1 10/19 17:31

Origin	Result	F	Result	Dilution	DUP RPD	DUP Q	Filter	D1 RPD
deg	deg	F	F		%			%
74.4		1	1	1	1000			10

oratory Control Sample (LCS)

234809 12/10/19 17:31

Spike	Amount	Result	LCS Rec.	Rec.	Units	Qualifier
deg		F	%	%		
82.0	1	1	103	97.0	%	

Co

2Tc

3Ss

4Cn

5Sr

Oc

7Gl

8Al

9Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
rec.	recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J4	The associated batch QC was outside the established quality control range for accuracy.
Q	Sample was prepared and/or analyzed past holding time as defined in the method. Concentrations should be considered minimum values.
T8	Sample(s) received past/too close to holding time expiration.

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Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	FN-0197	North Carolina	ENV373
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	100000	Rhode Island	LA000356
Kansas	E-10277	South Carolina	B4004
Kentucky ^{1,6}	90010	South Dakota	n/a
Kentucky ²	16	Texas	T104704245-18-15
Louisiana ¹	LA180010	Texas ³	LAB0152
Maine	TN0002	Utah	TN00003
Massachusetts	MA-TN003	Vermont	VI-2000
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	100000	Wisconsin	9980939910
Missouri	340	Wyoming	A2LA
Montana	CERT0086		

Third Party Federal Accreditations

AZLA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
AZLA – ISO 17025 ⁵	1461.02	DOD	1461.01
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.





CHAIN OF CUSTODY RECORD

Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenvironmental.com

SLID CONTRACTOR:	ESC PACE	COMPANY:	ESC PACE	PHONE:	(800) 767-5859	FAX:	(615) 758-5859
ADDRESS:	12065 Lebanon Rd			ACCOUNT #:	EMAIL:		
CITY, STATE, ZIP:	Mt. Juliet, TN 37122						

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	1202
1	1911679-001D	Huerfano	500HDPE	Aqueous	11/14/2019 10:22:00 AM	3	Reactivity, Corrosivity and Ignitability ** 7 Day TAT **

ANALYTICAL COMMENTS

11/22/19 - 61

SPECIAL INSTRUCTIONS / COMMENTS:

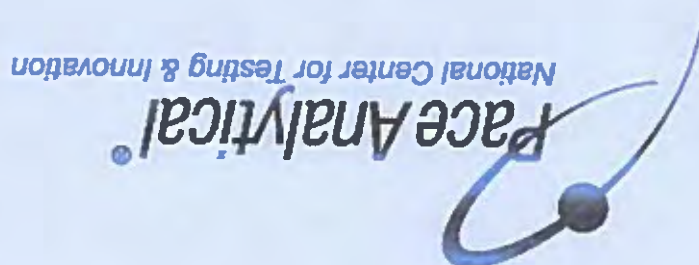
Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Refiniquished By:	Date:	Time:	Received By:	Date:	Time:	REPORT TRANSMITTAL DESIRED	
Refiniquished By:	Date:	Time:	Received By:	Date:	Time:	☐ HARD COPY (extra cost)	☐ FAX ☐ EMAIL ☐ ONLINE
Refiniquished By:	Date:	Time:	Received By:	Date:	Time:	FOR LAB USE ONLY	
TAT:	Standard	☐ RUSH	Next BD	2nd BD	3rd BD	RAD SCREEN: <0.5 mR/hr	
Temp of samples 23-24.25 C Attempt to Cool							
Comments:							

11/22/19 10:22 AM

Pace Analytical National Center for Testing & Innovation Cooler Receipt Form

Client:	Hallen	162234
Cooler Received/Opened On:	11/14/19	Temperature: 22
Received By:	Willie Taylor	845
Signature:		
Receipt Check List		
	NP	Yes No
COC Seal Present / Intact?		/
COC Signed / Accurate?		/
Bottles arrive intact?		/
Correct bottles used?		162234
Sufficient volume sent?		
If Applicable		
VOA Zero headspace?		
Preservation Correct / Checked?		



LogIn #: L1162234	Client: HALENVANM	Date: 11/19/19	Evaluated by: Matt S
-------------------	-------------------	----------------	----------------------

Non-Conformance (check applicable items)

Sample Integrity	Chain of Custody Clarification	
Parameter(s) past holding time	LogIn Clarification Needed	
Temperature not in range	Chain of custody is incomplete	
Improper container type	Please specify Metals requested	
pH not in range.	Please specify TCLP requested	
Insufficient sample volume.	Received additional samples not listed on coc.	
Sample is biphasic.	Sample ids on containers do not match ids on coc	
Vials received with headspace.	Trip Blank not received.	
Broken container	Client did not "X" analysis.	
Broken container	Chain of Custody is missing	
Sufficient sample remains	Temp./Cont. Rec./pH:	
	Carrier:	
	Tracking#	

LogIn Comments: Received FLASH in HDPE

Client informed by:	Call	Email	Voice Mail	Date: 11/19	Time: 1201
TSR Initials: DR	Client Contact:				

LogIn Instructions

Qualify and proceed with analysis

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911679

12-Dec-19

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R64562	RunNo: 64562								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210714			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.4	70	130			
Toluene	19	1.0	20.00	0	97.2	70	130			
Chlorobenzene	20	1.0	20.00	0	102	70	130			
1,1-Dichloroethene	17	1.0	20.00	0	82.7	70	130			
Trichloroethene (TCE)	16	1.0	20.00	0	81.7	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.9	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		92.0	70	130			
Surr: Dibromofluoromethane	11		10.00		105	70	130			
Surr: Toluene-d8	11		10.00		105	70	130			

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64562	RunNo: 64562								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210733			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911679

12-Dec-19

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID: rb1	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R64562		RunNo: 64562							
Prep Date:	Analysis Date: 11/15/2019		SeqNo: 2210733		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

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- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911679

12-Dec-19

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID: rb1	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R64562		RunNo: 64562							
Prep Date:	Analysis Date: 11/15/2019		SeqNo: 2210733		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.8	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		92.9	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	11		10.00		109	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

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E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911679

12-Dec-19

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID: mb-48934	SampType: MBLK	TestCode: EPA Method 8270C: PAHs								
Client ID: PBW	Batch ID: 48934	RunNo: 64751								
Prep Date: 11/21/2019	Analysis Date: 11/25/2019	SeqNo: 2219189 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	1.0								
2-Methylnaphthalene	ND	1.0								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
Pyrene	ND	0.50								
Benz(a)anthracene	ND	0.50								
Chrysene	ND	0.50								
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	61		87.60		69.2	20.4	126			
Surr: Benzo(e)pyrene	13		20.00		64.5	21.4	126			

Sample ID: lcs-48934	SampType: LCS	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSW	Batch ID: 48934	RunNo: 64751								
Prep Date: 11/21/2019	Analysis Date: 11/25/2019	SeqNo: 2219191			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	15	0.50	20.00	0	73.8	41.8	97.8			
1-Methylnaphthalene	14	1.0	20.00	0	68.3	44.7	104			
2-Methylnaphthalene	14	1.0	20.00	0	72.4	45	101			
Acenaphthylene	15	0.50	20.00	0	72.8	51.2	102			
Acenaphthene	14	0.50	20.00	0	71.8	53.2	101			
Fluorene	15	0.50	20.00	0	75.1	57.6	106			
Phenanthrene	15	0.50	20.00	0	75.6	57.6	109			
Anthracene	15	0.50	20.00	0	73.2	56.1	98.9			
Fluoranthene	16	0.50	20.00	0	81.9	61.4	114			
Pyrene	16	0.50	20.00	0	78.7	58	110			
Benz(a)anthracene	15	0.50	20.00	0	76.6	60	102			
Chrysene	14	0.50	20.00	0	70.9	50.8	93.4			
Benzo(b)fluoranthene	15	0.50	20.00	0	74.0	56.2	118			

Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911679

12-Dec-19

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID: Ics-48934	SampType: LCS		TestCode: EPA Method 8270C: PAHs							
Client ID: LCSW	Batch ID: 48934		RunNo: 64751							
Prep Date: 11/21/2019	Analysis Date: 11/25/2019		SeqNo: 2219191				Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	15	0.50	20.00	0	75.7	57.7	119			
Benzo(a)pyrene	15	0.50	20.00	0	75.0	55.5	114			
Dibenz(a,h)anthracene	15	0.50	20.00	0	75.5	53	110			
Benzo(g,h,i)perylene	15	0.50	20.00	0	74.8	55	113			
Indeno(1,2,3-cd)pyrene	15	0.50	20.00	0	75.5	51.2	115			
Surr: N-hexadecane	67		87.60		76.4	20.4	126			
Surr: Benzo(e)pyrene	14		20.00		68.3	21.4	126			

Sample ID: Icsd-48934	SampType: LCSD		TestCode: EPA Method 8270C: PAHs							
Client ID: LCSS02	Batch ID: 48934		RunNo: 64751							
Prep Date: 11/21/2019	Analysis Date: 11/25/2019		SeqNo: 2219192		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	15	0.50	20.00	0	74.2	41.8	97.8	0.541	25.4	
1-Methylnaphthalene	15	1.0	20.00	0	73.8	44.7	104	7.74	21.5	
2-Methylnaphthalene	15	1.0	20.00	0	76.0	45	101	4.85	25.2	
Acenaphthylene	17	0.50	20.00	0	83.4	51.2	102	13.6	30.3	
Acenaphthene	16	0.50	20.00	0	81.6	53.2	101	12.8	28.1	
Fluorene	17	0.50	20.00	0	83.5	57.6	106	10.6	33	
Phenanthrene	15	0.50	20.00	0	74.8	57.6	109	1.06	24.5	
Anthracene	15	0.50	20.00	0	76.6	56.1	98.9	4.54	26.9	
Fluoranthene	17	0.50	20.00	0	83.2	61.4	114	1.57	21.8	
Pyrene	15	0.50	20.00	0	77.1	58	110	2.05	27	
Benzo(a)anthracene	14	0.50	20.00	0	72.5	60	102	5.50	27.4	
Chrysene	14	0.50	20.00	0	68.6	50.8	93.4	3.30	20.4	
Benzo(b)fluoranthene	15	0.50	20.00	0	77.4	56.2	118	4.49	22.5	
Benzo(k)fluoranthene	17	0.50	20.00	0	83.3	57.7	119	9.56	24.1	
Benzo(a)pyrene	16	0.50	20.00	0	78.3	55.5	114	4.31	27.3	
Dibenz(a,h)anthracene	16	0.50	20.00	0	78.5	53	110	3.90	18.5	
Benzo(g,h,i)perylene	16	0.50	20.00	0	79.4	55	113	5.97	28.4	
Indeno(1,2,3-cd)pyrene	16	0.50	20.00	0	81.5	51.2	115	7.64	21.8	
Surr: N-hexadecane	70		87.60		79.8	20.4	126	0	0	
Surr: Benzo(e)pyrene	14		20.00		71.8	21.4	126	0	0	

Qualifiers:

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- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911679

12-Dec-19

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID: MB-48955	SampType: MBLK	TestCode: EPA Method 7470: Mercury
Client ID: PBW	Batch ID: 48955	RunNo: 64701
Prep Date: 11/21/2019	Analysis Date: 11/22/2019	SeqNo: 2217075 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND 0.00020	

Sample ID: LCS-48955	SampType: LCS	TestCode: EPA Method 7470: Mercury
Client ID: LCSW	Batch ID: 48955	RunNo: 64701
Prep Date: 11/21/2019	Analysis Date: 11/22/2019	SeqNo: 2217080 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0048 0.00020 0.005000 0 96.7 80 120	

Qualifiers:

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PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

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J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911670

12-Dec-19

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID: MB-48826	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 48826	RunNo: 64774								
Prep Date: 11/15/2019	Analysis Date: 11/25/2019	SeqNo: 2219763	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	ND	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID: LCS-48826	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 48826	RunNo: 64774								
Prep Date: 11/15/2019	Analysis Date: 11/25/2019	SeqNo: 2219768	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.47	0.020	0.5000	0	94.6	80	120			
Cadmium	0.49	0.0020	0.5000	0	97.1	80	120			
Chromium	0.47	0.0060	0.5000	0	95.0	80	120			
Lead	0.50	0.0050	0.5000	0	100	80	120			
Selenium	0.54	0.050	0.5000	0	107	80	120			
Silver	0.095	0.0050	0.1000	0	95.0	80	120			

Sample ID: MB-48826	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 48826	RunNo: 64774								
Prep Date: 11/15/2019	Analysis Date: 11/25/2019	SeqNo: 2219851	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								

Sample ID: LCS-48826	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 48826	RunNo: 64774								
Prep Date: 11/15/2019	Analysis Date: 11/25/2019	SeqNo: 2219853	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.50	0.020	0.5000	0	99.7	80	120			

Qualifiers:

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- RL Reporting Limit

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1911679

RcptNo: 1

Received By: Juan Rojas

11/15/2019 8:00:00 AM

Completed By: Desiree Dominguez

11/15/2019 8:37:26 AM

Reviewed By: ENM

11/15/19

DP2

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐

2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐

4. Were all samples received at a temperature of >0° C to 6.0° C Yes ☒ No ☐ NA ☐

5. Sample(s) in proper container(s)? Yes ☒ No ☐

6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐

7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐

8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐

9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐

10. Were any sample containers received broken? Yes ☐ No ☒

11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐

12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐

13. Is it clear what analyses were requested? Yes ☒ No ☐

14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH:

(≤2 or ≥12 unless noted)

Adjusted? no

Checked by: DM 11/15/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:

Date:

By Whom:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.6	Good	Yes			

2019

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Enterprise Field Services LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site:

Hart Canyon Val Verde Compressor Station

3. Location of Material (Street Address, City, State or ULSTR):

UL I Section 20 Township 31 North Range 10 West; 36.881168, -107.901603, San Juan County, NM

4. Source and Description of Waste:

Source: Water/Oil from the Non Exempt WasteWater Tanks and from the compressor skid drains.

Description: Non Exempt/Non Hazardous Water from the compressor skids.

Estimated Volume 60 yd³ bbls Known Volume (to be entered by the operator at the end of the haul) _____ yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long *Thomas Long*, representative or authorized agent for Enterprise Products Operating do hereby

Generator Signature

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long *Thomas Long*, representative for Enterprise Products Operating authorize to complete

Generator Signature

the required testing/sign the Generator Waste Testing Certification.

I, _____, representative for Agua Moss, LLC do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: To be determined

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: ***Agua Moss, LLC - Permit #: NM-01-009**

Address of Facility: SW/4 NW/4 Section 2, Township 29N, Range Crouch Mesa, NM

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: _____

TITLE: _____

DATE: _____

SIGNATURE: _____

TELEPHONE NO.: _____

Surface Waste Management Facility Authorized Agent



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 08, 2019

Ashley Maxwell

Souder, Miller and Associates

401 W. Broadway

Farmington, NM 87401

TEL: (505) 325-7535

FAX

RE: Hart V V

OrderNo.: 1812A58

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/19/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman'.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1812A58

Date Reported: 1/8/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Hart VV

Project: Hart V V

Collection Date: 12/18/2018 10:55:00 AM

Lab ID: 1812A58-001

Matrix: AQUEOUS

Received Date: 12/19/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 7470: MERCURY							Analyst: pmf
Mercury	ND	0.00020		mg/L	1	12/26/2018 6:33:54 PM	42310
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: rde
Arsenic	ND	5.0		mg/L	5	12/26/2018 2:40:28 PM	42228
Barium	ND	100		mg/L	5	12/26/2018 2:40:28 PM	42228
Cadmium	ND	1.0		mg/L	5	12/26/2018 2:40:28 PM	42228
Chromium	ND	5.0		mg/L	5	12/28/2018 12:10:49 PM	42228
Lead	ND	5.0		mg/L	5	12/26/2018 2:40:28 PM	42228
Selenium	ND	1.0		mg/L	5	12/26/2018 2:40:28 PM	42228
Silver	ND	5.0		mg/L	5	12/26/2018 2:40:28 PM	42228
EPA METHOD 8270C: PAHS							Analyst: DAM
Naphthalene	ND	50		µg/L	10	1/3/2019 12:53:06 PM	42257
1-Methylnaphthalene	ND	100		µg/L	10	1/3/2019 12:53:06 PM	42257
2-Methylnaphthalene	ND	100		µg/L	10	1/3/2019 12:53:06 PM	42257
Acenaphthylene	ND	50		µg/L	10	1/3/2019 12:53:06 PM	42257
Acenaphthene	ND	50		µg/L	10	1/3/2019 12:53:06 PM	42257
Fluorene	ND	50		µg/L	10	1/3/2019 12:53:06 PM	42257
Phenanthrene	ND	50		µg/L	10	1/3/2019 12:53:06 PM	42257
Anthracene	ND	50		µg/L	10	1/3/2019 12:53:06 PM	42257
Fluoranthene	ND	50		µg/L	10	1/3/2019 12:53:06 PM	42257
Pyrene	ND	50		µg/L	10	1/3/2019 12:53:06 PM	42257
Benz(a)anthracene	ND	50		µg/L	10	1/3/2019 12:53:06 PM	42257
Chrysene	ND	50		µg/L	10	1/3/2019 12:53:06 PM	42257
Benzo(b)fluoranthene	ND	50		µg/L	10	1/3/2019 12:53:06 PM	42257
Benzo(k)fluoranthene	ND	50		µg/L	10	1/3/2019 12:53:06 PM	42257
Benzo(a)pyrene	ND	50		µg/L	10	1/3/2019 12:53:06 PM	42257
Dibenz(a,h)anthracene	ND	50		µg/L	10	1/3/2019 12:53:06 PM	42257
Benzo(g,h,i)perylene	ND	50		µg/L	10	1/3/2019 12:53:06 PM	42257
Indeno(1,2,3-cd)pyrene	ND	50		µg/L	10	1/3/2019 12:53:06 PM	42257
Surr: N-hexadecane	0	35.2-113	S	%Rec	10	1/3/2019 12:53:06 PM	42257
Surr: Benzo(e)pyrene	0	48.3-123	S	%Rec	10	1/3/2019 12:53:06 PM	42257
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	0.50		mg/L	200	12/21/2018 2:19:00 AM	W56508
Toluene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
Ethylbenzene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
1,2,4-Trimethylbenzene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
1,3,5-Trimethylbenzene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
1,2-Dichloroethane (EDC)	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1812A58

Date Reported: 1/8/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Hart VV

Project: Hart V V

Collection Date: 12/18/2018 10:55:00 AM

Lab ID: 1812A58-001

Matrix: AQUEOUS

Received Date: 12/19/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,2-Dibromoethane (EDB)	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
Naphthalene	ND	0.40		mg/L	200	12/21/2018 2:19:00 AM	W56508
1-Methylnaphthalene	ND	0.80		mg/L	200	12/21/2018 2:19:00 AM	W56508
2-Methylnaphthalene	ND	0.80		mg/L	200	12/21/2018 2:19:00 AM	W56508
Acetone	2.3	2.0		mg/L	200	12/21/2018 2:19:00 AM	W56508
Bromobenzene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
Bromodichloromethane	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
Bromoform	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
Bromomethane	ND	0.60		mg/L	200	12/21/2018 2:19:00 AM	W56508
2-Butanone	ND	2.0		mg/L	200	12/21/2018 2:19:00 AM	W56508
Carbon disulfide	ND	2.0		mg/L	200	12/21/2018 2:19:00 AM	W56508
Carbon Tetrachloride	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
Chlorobenzene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
Chloroethane	ND	0.40		mg/L	200	12/21/2018 2:19:00 AM	W56508
Chloroform	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
Chloromethane	ND	0.60		mg/L	200	12/21/2018 2:19:00 AM	W56508
2-Chlorotoluene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
4-Chlorotoluene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
cis-1,2-DCE	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
cis-1,3-Dichloropropene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
1,2-Dibromo-3-chloropropane	ND	0.40		mg/L	200	12/21/2018 2:19:00 AM	W56508
Dibromochloromethane	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
Dibromomethane	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
1,2-Dichlorobenzene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
1,3-Dichlorobenzene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
1,4-Dichlorobenzene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
Dichlorodifluoromethane	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
1,1-Dichloroethane	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
1,1-Dichloroethene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
1,2-Dichloropropane	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
1,3-Dichloropropane	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
2,2-Dichloropropane	ND	0.40		mg/L	200	12/21/2018 2:19:00 AM	W56508
1,1-Dichloropropene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
Hexachlorobutadiene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
2-Hexanone	ND	2.0		mg/L	200	12/21/2018 2:19:00 AM	W56508
Isopropylbenzene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
4-Isopropyltoluene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
4-Methyl-2-pentanone	ND	2.0		mg/L	200	12/21/2018 2:19:00 AM	W56508
Methylene Chloride	ND	0.60		mg/L	200	12/21/2018 2:19:00 AM	W56508

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1812A58

Date Reported: 1/8/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Hart VV

Project: Hart V V

Collection Date: 12/18/2018 10:55:00 AM

Lab ID: 1812A58-001

Matrix: AQUEOUS

Received Date: 12/19/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
n-Butylbenzene	ND	0.60		mg/L	200	12/21/2018 2:19:00 AM	W56508
n-Propylbenzene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
sec-Butylbenzene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
Styrene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
tert-Butylbenzene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
1,1,1,2-Tetrachloroethane	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
1,1,2,2-Tetrachloroethane	ND	0.40		mg/L	200	12/21/2018 2:19:00 AM	W56508
Tetrachloroethene (PCE)	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
trans-1,2-DCE	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
trans-1,3-Dichloropropene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
1,2,3-Trichlorobenzene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
1,2,4-Trichlorobenzene	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
1,1,1-Trichloroethane	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
1,1,2-Trichloroethane	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
Trichloroethene (TCE)	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
Trichlorofluoromethane	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
1,2,3-Trichloropropane	ND	0.40		mg/L	200	12/21/2018 2:19:00 AM	W56508
Vinyl chloride	ND	0.20		mg/L	200	12/21/2018 2:19:00 AM	W56508
Xylenes, Total	ND	0.30		mg/L	200	12/21/2018 2:19:00 AM	W56508
Surr: 1,2-Dichloroethane-d4	95.1	70-130		%Rec	200	12/21/2018 2:19:00 AM	W56508
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	200	12/21/2018 2:19:00 AM	W56508
Surr: Dibromofluoromethane	95.0	70-130		%Rec	200	12/21/2018 2:19:00 AM	W56508
Surr: Toluene-d8	99.6	70-130		%Rec	200	12/21/2018 2:19:00 AM	W56508

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

1812A58-001D HART VV

Collected date/time: 12/18/18 10:55

SAMPLE RESULTS - 01

L1055190

ONE LAB. NATIONWIDE



Wet Chemistry by Method 4500 CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Cyanide	0.0525		0.00500	1	12/27/2018 10:32	WG1215794

Wet Chemistry by Method 9034-9030B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Sulfide	0.786		0.0500	1	12/24/2018 07:38	WG1215283

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Corrosivity by pH	7.08	T8	1	12/21/2018 12:05	WG1214549

Sample Narrative:

L1055190-01 WG1214549: 7.08 at 13.1C

Wet Chemistry by Method D93/1010A

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Flashpoint	DNF at 170		1	12/26/2018 16:19	WG1215925

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1055190

DATE/TIME:

12/27/18 14:02

WG1215794

Wet Chemistry by Method 4500 CN E-2011

QUALITY CONTROL SUMMARY

ONE LAB. NATIONWIDE

Method Blank (MB)

(MB) R337498-1 12/27/18 10:00

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Cyanide	U		0.00180	0.00500

Sample Narrative:

BLANK: HIGH ALT FAILED, ONLY REPORTING SAMPLES <0.1 (WHICH IS THE IV OF THE LCS 2ND SOURCE AND PASSED)

Laboratory Control Sample (LCS)

(LCS) R337498-2 12/27/18 10:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Reactive Cyanide	0.100	0.101	101	85.0-115	

ACCOUNT:
Hill Environmental Analysis Laboratory

PROJECT:

SOL:
L1055190DATE/TIME:
12/27/18 14:02

WG1215283

Wet Chemistry by Method 9034-9030B

QUALITY CONTROL SUMMARY

L1055190-01

ONE LAB, NATION-WIDE

Method Blank (MB)

(MB) R3370841-1 12/24/18 07:38

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Sulfide	U		0.00650	0.0570

L1055190-01 Original Sample (OS) • Duplicate (DUP)

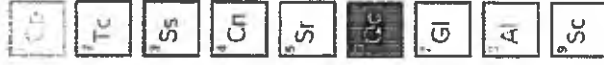
(OS) L1055190-01 12/24/18 07:38 • (DUP) R3370841-3 12/24/18 07:39

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Reactive Sulfide	0.786	0.796	1	1.26		20

Laboratory Control Sample (LCS)

(LCS) R3370841-2 12/24/18 07:38

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Reactive Sulfide	0.500	0.546	109	85-115	

ACCOUNT:
Hill Environmental Analysis Laboratory

PROJECT:

SDG:
L1055190DATE/TIME:
12/27/18 14:02

WG1214549

Wet Chemistry by Method 9040C

QUALITY CONTROL SUMMARY

L1055190-01

ONE LAB. NATIONWIDE

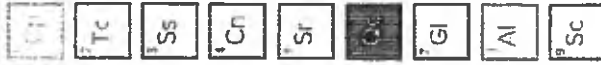
Laboratory Control Sample (LCS)

(LCS) R33704011 12/21/18 12:05

Analyte	Spike Amount		LCS Result	LCS Rec.		Rec. Limits	LCS Qualifier
	SI	SI	SI	%	%	%	
Conductivity by pH	10.0	9.95	9.95	99.5	99.0-101		

Sample Narrative:

LCS, 9.95 at 18.1C



ACCOUNT: Hall Environmental Analysis Laboratory

PROJECT:

SDG: L1055190

DATE/TIME: 12/27/18 14:02

WG1215925

Wet Chemistry by Method D93/1010A

QUALITY CONTROL SUMMARY

1055190-01

ONE LAB NATIONWIDE

L1055190-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1055190-01 12/26/18 16:19 • (DUP) R3371338-2 12/26/18 16:19

Analyte	Original Result	DUP Result	DUP RPD	DUP Qualifier	DUP RPD Limits
Flashpoint	deg F DNF at 170	deg F DNF at 170	% 0.000		% 10

L1055848-05 Original Sample (OS) • Duplicate (DUP)

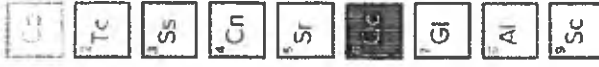
(OS) L1055848-05 12/26/18 16:19 • (DUP) R3371338-3 12/26/18 16:19

Analyte	Original Result	DUP Result	DUP RPD	DUP Qualifier	DUP RPD Limits
Flashpoint	deg F DNF at 170	deg F DNF at 170	% 0.000		% 10

Laboratory Control Sample (LCS)

(LCS) R3371338-1 12/26/18 16:19

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Flashpoint	deg F 82.0	deg F 82.3	% 100	% 96.0-104	

ACCOUNT:
Halt Environmental Analysis Laboratory

PROJECT:

SDG:
L1055190DATE/TIME:
12/27/18 14:02

GLOSSARY OF TERMS

ONE LAB. NATIONWIDE



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control of possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

TB	Sample(s) received past/too close to holding time expiration.
----	---

Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷U

⁸AI

⁹Sc

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
11055190

DATE/TIME:
12/27/18 14:02

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812A58

08-Jan-19

Client: Souder, Miller and Associates

Project: Hart V V

Sample ID	100ng lcs2	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: W56508			RunNo: 56508					
Prep Date:		Analysis Date: 12/20/2018			SeqNo: 1889981		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.1	70	130			
Toluene	20	1.0	20.00	0	99.1	70	130			
Chlorobenzene	20	1.0	20.00	0	100	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	98.5	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	93.4	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.7	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID	rb2	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID:	PBW	Batch ID: W56508		RunNo: 56508						
Prep Date:		Analysis Date: 12/20/2018		SeqNo: 1889982		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812A58

08-Jan-19

Client: Souder, Miller and Associates

Project: Hart V V

Sample ID: rb2	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: W56508		RunNo: 56508							
Prep Date:	Analysis Date: 12/20/2018		SeqNo: 1889982		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812A58

08-Jan-19

Client: Souder, Miller and Associates

Project: Hart V V

Sample ID	rb2	SampType	MBLK	TestCode	EPA Method 8260B: VOLATILES					
Client ID	PBW	Batch ID	W56508	RunNo	56508					
Prep Date		Analysis Date	12/20/2018	SeqNo	1889982	Units	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.8	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.3		10.00		92.6	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812A58

08-Jan-19

Client: Souder, Miller and Associates

Project: Hart V V

Sample ID	ics-42257	SampType: LCS		TestCode: EPA Method 8270C: PAHs						
Client ID:	LCSW	Batch ID: 42257		RunNo: 56737						
Prep Date:	12/21/2018	Analysis Date: 1/3/2019		SeqNo: 1898945		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	15	0.50	20.00	0	74.6	29.6	105			
1-Methylnaphthalene	15	1.0	20.00	0	76.2	33.4	112			
2-Methylnaphthalene	15	1.0	20.00	0	74.7	28.6	108			
Acenaphthylene	15	0.50	20.00	0	75.0	35.7	116			
Acenaphthene	15	0.50	20.00	0	72.6	32.4	118			
Fluorene	14	0.50	20.00	0	72.4	35.6	118			
Phenanthrene	17	0.50	20.00	0	85.0	36.3	130			
Anthracene	17	0.50	20.00	0	85.5	34.8	135			
Fluoranthene	17	0.50	20.00	0	86.6	41	136			
Pyrene	17	0.50	20.00	0	85.1	44.8	136			
Benz(a)anthracene	17	0.50	20.00	0	85.9	41.1	136			
Chrysene	14	0.50	20.00	0	68.7	37.9	132			
Benzo(b)fluoranthene	16	0.50	20.00	0	78.1	39	144			
Benzo(k)fluoranthene	15	0.50	20.00	0	76.4	40	144			
Benzo(a)pyrene	15	0.50	20.00	0	72.8	36.8	137			
Dibenz(a,h)anthracene	15	0.50	20.00	0	72.9	31.5	141			
Benzo(g,h,i)perylene	16	0.50	20.00	0	79.7	32.9	138			
Indeno(1,2,3-cd)pyrene	16	0.50	20.00	0	79.6	40.9	143			
Surr: N-hexadecane	66		87.60		75.5	35.2	113			
Surr: Benzo(e)pyrene	16		20.00		79.6	48.3	123			

Sample ID	ics-42293	SampType:	LCS	TestCode:	EPA Method 8270C: PAHs					
Client ID:	LCSW	Batch ID:	42293	RunNo:	56737					
Prep Date:	12/26/2018	Analysis Date:	1/3/2019	SeqNo:	1898946	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: N-hexadecane	66		87.60		75.5	35.2	113			
Surr: Benzo(e)pyrene	16		20.00		78.5	48.3	123			

Sample ID	icsd-42257	SampType: LCSD			TestCode: EPA Method 8270C: PAHs					
Client ID:	LCSS02	Batch ID: 42257			RunNo: 56737					
Prep Date:	12/21/2018	Analysis Date: 1/3/2019			SeqNo: 1898947		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	13	0.50	20.00	0	64.6	29.6	105	14.4	68.7	
1-Methylnaphthalene	13	1.0	20.00	0	65.0	33.4	112	15.9	66	
2-Methylnaphthalene	12	1.0	20.00	0	61.9	28.6	108	18.7	68.7	
Acenaphthylene	12	0.50	20.00	0	62.0	35.7	116	19.0	64.9	
Acenaphthene	12	0.50	20.00	0	59.0	32.4	118	20.7	53.2	
Fluorene	12	0.50	20.00	0	61.3	35.6	118	16.6	62.4	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RI Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812A58

08-Jan-19

Client: Souder, Miller and Associates

Project: Hart V V

Sample ID	Icsd-42257	SampType: LCSD			TestCode: EPA Method 8270C: PAHs					
Client ID:	LCSS02	Batch iD: 42257			RunNo: 56737					
Prep Date:	12/21/2018	Analysis Date: 1/3/2019			SeqNo: 1898947		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phenanthrene	14	0.50	20.00	0	72.0	36.3	130	16.6	62.6	
Anthracene	14	0.50	20.00	0	70.3	34.8	135	19.5	62.4	
Fluoranthene	15	0.50	20.00	0	73.0	41	136	17.0	59.4	
Pyrene	14	0.50	20.00	0	68.8	44.8	136	21.2	55.4	
Benz(a)anthracene	14	0.50	20.00	0	68.3	41.1	136	22.8	56.6	
Chrysene	11	0.50	20.00	0	56.8	37.9	132	19.0	51.9	
Benzo(b)fluoranthene	14	0.50	20.00	0	67.6	39	144	14.4	59.1	
Benzo(k)fluoranthene	14	0.50	20.00	0	68.1	40	144	11.5	57	
Benzo(a)pyrene	13	0.50	20.00	0	65.5	36.8	137	10.6	60.2	
Dibenz(a,h)anthracene	12	0.50	20.00	0	61.7	31.5	141	16.6	64.7	
Benzo(g,h,i)perylene	14	0.50	20.00	0	71.9	32.9	138	10.3	61.5	
Indeno(1,2,3-cd)pyrene	14	0.50	20.00	0	72.4	40.9	143	9.47	61.1	
Surr: N-hexadecane	51		87.60		57.7	35.2	113	0	0	
Surr: Benzo(e)pyrene	13		20.00		65.9	48.3	123	0	0	

Sample ID	lcsd-42293	SampType:	LCSD	TestCode:	EPA Method 8270C: PAHs					
Client ID:	LCSS02	Batch ID:	42293	RunNo:	56737					
Prep Date:	12/26/2018	Analysis Date:	1/3/2019	SeqNo:	1898948	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: N-hexadecane	62		87.60		70.8	35.2	113	0	0	
Surr: Benzo(e)pyrene	16		20.00		80.9	48.3	123	0	0	

Sample ID	mb-42257	SampType:	MBLK	TestCode:	EPA Method 8270C: PAHs					
Client ID:	PBW	Batch ID:	42257	RunNo:	56737					
Prep Date:	12/21/2018	Analysis Date:	1/3/2019	SeqNo:	1898949	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	1.0								
2-Methylnaphthalene	ND	1.0								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
Pyrene	ND	0.50								
Benz(a)anthracene	ND	0.50								
Chrysene	ND	0.50								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812A58

08-Jan-19

Client: Souder, Miller and Associates

Project: Hart V V

Sample ID	mb-42257	SampType: MBLK		TestCode: EPA Method 8270C: PAHs						
Client ID:	PBW	Batch ID: 42257		RunNo: 56737						
Prep Date:	12/21/2018	Analysis Date: 1/3/2019		SeqNo: 1898949			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	47		87.60		53.2	35.2	113			
Surr: Benzo(e)pyrene	10		20.00		52.3	48.3	123			

Sample ID	mb-42293	SampType	MBLK		TestCode	EPA Method 8270C: PAHs				
Client ID	PBW	Batch ID	42293		RunNo	56737				
Prep Date	12/26/2018	Analysis Date	1/3/2019		SeqNo	1898950	Units	%Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: N-hexadecane	64		87.60		73.0	35.2	113			
Surr: Benzo(e)pyrene	15		20.00		72.8	48.3	123			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812A58

08-Jan-19

Client: Souder, Miller and Associates

Project: Hart V V

Sample ID	MB-42310	SampType	MBLK	TestCode	EPA Method 7470: Mercury					
Client ID	PBW	Batch ID	42310	RunNo	56609					
Prep Date	12/26/2018	Analysis Date	12/26/2018	SeqNo	1893944	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-42310	SampType	LCS	TestCode	EPA Method 7470: Mercury					
Client ID	LCSW	Batch ID	42310	RunNo	56609					
Prep Date	12/26/2018	Analysis Date	12/26/2018	SeqNo	1893945	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0054	0.00020	0.005000	0	108	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pII Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812A58

08-Jan-19

Client: Souder, Miller and Associates

Project: Hart V V

Sample ID	MB-42228	SampType	MBLK	TestCode	EPA 6010B: Total Recoverable Metals					
Client ID	PBW	Batch ID	42228	RunNo	56631					
Prep Date	12/20/2018	Analysis Date	12/26/2018	SeqNo	1894530	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	ND	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID	LCS-42228	SampType	LCS	TestCode	EPA 6010B: Total Recoverable Metals					
Client ID	LCSW	Batch ID	42228	RunNo	56631					
Prep Date	12/20/2018	Analysis Date	12/26/2018	SeqNo	1894531	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.50	0.020	0.5000	0	101	80	120			
Barium	0.50	0.020	0.5000	0	101	80	120			
Cadmium	0.51	0.0020	0.5000	0	102	80	120			
Chromium	0.50	0.0060	0.5000	0	101	80	120			
Lead	0.50	0.0050	0.5000	0	99.2	80	120			
Selenium	0.49	0.050	0.5000	0	98.8	80	120			
Silver	0.10	0.0050	0.1000	0	102	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1812A58

RcptNo: 1

Received By: Anne Thorne 12/19/2018 8:00:00 AM

Anne Thorne

Completed By: Anne Thorne 12/19/2018 10:45:40 AM

Anne Thorne

Reviewed By: DAD 12/19/18

Labeled by: JAB 12/19/18

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐

2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐

4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐

5. Sample(s) in proper container(s)? Yes ☒ No ☐

6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐

7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐

8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐

9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐

10. Were any sample containers received broken? Yes ☐ No ☒

11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐

12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐

13. Is it clear what analyses were requested? Yes ☒ No ☐

14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: 1:3

Adjusted? No

Checked by: JAB 12/19/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:

Date

By Whom:

Via:

☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.4	Good	Yes			

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

2019
Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site:

Pump Canyon Compressor Station

3. Location of Material (Street Address, City, State or ULSTR):

UL K Section 24 Township 30 North Range 9 West; 36.795082, -107.733534

4. Source and Description of Waste:

Source: Water/Oil from the Non Exempt WasteWater Tanks and from the compressor skid drains.

Description: Non Exempt/Non Hazardous Water from the compressor skids.

Estimated Volume 100 yd³ / bbls Known Volume (to be entered by the operator at the end of the haul) _____ yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long, representative or authorized agent for Enterprise Products Operating do hereby

Generator Signature

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long, representative for Enterprise Products Operating authorize to complete

Generator Signature

the required testing/sign the Generator Waste Testing Certification.

I, _____, representative for Agua Moss, LLC do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

6. Transporter: To Be Determined

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: *Agua Moss, LLC - Permit #: NM-01-009

Address of Facility: SW/4 NW/4 Section 2, Township 29N, Range Crouch Mesa, NM

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME:

TITLE:

DATE:

SIGNATURE:

TELEPHONE NO.:

Surface Waste Management Facility Authorized Agent



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

March 25, 2016

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-5667
FAX

RE: Pump Canyon CS

OrderNo.: 1603839

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/16/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1603839

Date Reported: 3/25/2016

CLIENT: Souder, Miller and Associates

Client Sample ID: Pump Canyon Non Exempt

Project: Pump Canyon CS

Collection Date: 3/15/2016 1:11:00 PM

Lab ID: 1603839-001

Matrix: AQUEOUS

Received Date: 3/16/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C TCLP							Analyst: DAM
2-Methylphenol	ND	200		mg/L	1	3/17/2016 7:42:15 PM	24302
3+4-Methylphenol	ND	200		mg/L	1	3/17/2016 7:42:15 PM	24302
Phenol	ND	200		mg/L	1	3/17/2016 7:42:15 PM	24302
2,4-Dinitrotoluene	ND	0.13		mg/L	1	3/17/2016 7:42:15 PM	24302
Hexachlorobenzene	ND	0.13		mg/L	1	3/17/2016 7:42:15 PM	24302
Hexachlorobutadiene	ND	0.50		mg/L	1	3/17/2016 7:42:15 PM	24302
Hexachloroethane	ND	3.0		mg/L	1	3/17/2016 7:42:15 PM	24302
Nitrobenzene	ND	2.0		mg/L	1	3/17/2016 7:42:15 PM	24302
Pentachlorophenol	ND	100		mg/L	1	3/17/2016 7:42:15 PM	24302
Pyridine	ND	5.0		mg/L	1	3/17/2016 7:42:15 PM	24302
2,4,5-Trichlorophenol	ND	400		mg/L	1	3/17/2016 7:42:15 PM	24302
2,4,6-Trichlorophenol	ND	2.0		mg/L	1	3/17/2016 7:42:15 PM	24302
Cresols, Total	ND	200		mg/L	1	3/17/2016 7:42:15 PM	24302
Surr: 2-Fluorophenol	48.5	15-124		%Rec	1	3/17/2016 7:42:15 PM	24302
Surr: Phenol-d5	37.5	15-118		%Rec	1	3/17/2016 7:42:15 PM	24302
Surr: 2,4,6-Tribromophenol	55.5	15-148		%Rec	1	3/17/2016 7:42:15 PM	24302
Surr: Nitrobenzene-d5	86.4	40.6-124		%Rec	1	3/17/2016 7:42:15 PM	24302
Surr: 2-Fluorobiphenyl	81.6	35.7-128		%Rec	1	3/17/2016 7:42:15 PM	24302
Surr: 4-Terphenyl-d14	64.1	18.8-115		%Rec	1	3/17/2016 7:42:15 PM	24302
EPA METHOD 7470: MERCURY							Analyst: pmf
Mercury	ND	0.00080		mg/L	1	3/18/2016 11:09:50 AM	24317
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: MED
Arsenic	ND	0.20		mg/L	1	3/21/2016 9:08:53 AM	24322
Barium	ND	0.20		mg/L	1	3/21/2016 9:08:53 AM	24322
Cadmium	0.043	0.020		mg/L	1	3/21/2016 9:08:53 AM	24322
Chromium	0.067	0.060		mg/L	1	3/21/2016 9:08:53 AM	24322
Lead	0.089	0.050		mg/L	1	3/21/2016 9:08:53 AM	24322
Selenium	ND	0.50		mg/L	1	3/21/2016 9:08:53 AM	24322
Silver	ND	0.050		mg/L	1	3/21/2016 9:08:53 AM	24322
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Benzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Toluene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Ethylbenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,2,4-Trimethylbenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,3,5-Trimethylbenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,2-Dichloroethane (EDC)	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,2-Dibromoethane (EDB)	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1603839

Date Reported: 3/25/2016

CLIENT: Souder, Miller and Associates

Client Sample ID: Pump Canyon Non Exempt

Project: Pump Canyon CS

Collection Date: 3/15/2016 1:11:00 PM

Lab ID: 1603839-001

Matrix: AQUEOUS

Received Date: 3/16/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst: DJF		
Naphthalene	ND	0.40		mg/L	200	3/23/2016 8:08:35 PM	R33024
1-Methylnaphthalene	ND	0.80		mg/L	200	3/23/2016 8:08:35 PM	R33024
2-Methylnaphthalene	ND	0.80		mg/L	200	3/23/2016 8:08:35 PM	R33024
Acetone	4.8	2.0		mg/L	200	3/23/2016 8:08:35 PM	R33024
Bromobenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Bromodichloromethane	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Bromoform	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Bromomethane	ND	0.60		mg/L	200	3/23/2016 8:08:35 PM	R33024
2-Butanone	ND	2.0		mg/L	200	3/23/2016 8:08:35 PM	R33024
Carbon disulfide	ND	2.0		mg/L	200	3/23/2016 8:08:35 PM	R33024
Carbon Tetrachloride	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Chlorobenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Chloroethane	ND	0.40		mg/L	200	3/23/2016 8:08:35 PM	R33024
Chloroform	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Chloromethane	ND	0.60		mg/L	200	3/23/2016 8:08:35 PM	R33024
2-Chlorotoluene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
4-Chlorotoluene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
cis-1,2-DCE	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
cis-1,3-Dichloropropene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,2-Dibromo-3-chloropropane	ND	0.40		mg/L	200	3/23/2016 8:08:35 PM	R33024
Dibromochloromethane	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Dibromomethane	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,2-Dichlorobenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,3-Dichlorobenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,4-Dichlorobenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Dichlorodifluoromethane	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,1-Dichloroethane	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,1-Dichloroethene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,2-Dichloropropane	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,3-Dichloropropane	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
2,2-Dichloropropane	ND	0.40		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,1-Dichloropropene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Hexachlorobutadiene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
2-Hexanone	ND	2.0		mg/L	200	3/23/2016 8:08:35 PM	R33024
Isopropylbenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
4-Isopropyltoluene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
4-Methyl-2-pentanone	ND	2.0		mg/L	200	3/23/2016 8:08:35 PM	R33024
Methylene Chloride	ND	0.60		mg/L	200	3/23/2016 8:08:35 PM	R33024
n-Butylbenzene	ND	0.60		mg/L	200	3/23/2016 8:08:35 PM	R33024

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 2 of 8
	D Sample Diluted Due to Matrix	E Value above quantitation range	
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits	
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1603839

Date Reported: 3/25/2016

CLIENT: Souder, Miller and Associates

Client Sample ID: Pump Canyon Non Exempt

Project: Pump Canyon CS

Collection Date: 3/15/2016 1:11:00 PM

Lab ID: 1603839-001

Matrix: AQUEOUS

Received Date: 3/16/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
n-Propylbenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
sec-Butylbenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Styrene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
tert-Butylbenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,1,1,2-Tetrachloroethane	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,1,2,2-Tetrachloroethane	ND	0.40		mg/L	200	3/23/2016 8:08:35 PM	R33024
Tetrachloroethene (PCE)	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
trans-1,2-DCE	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
trans-1,3-Dichloropropene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,2,3-Trichlorobenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,2,4-Trichlorobenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,1,1-Trichloroethane	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,1,2-Trichloroethane	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Trichloroethene (TCE)	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Trichlorofluoromethane	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,2,3-Trichloropropane	ND	0.40		mg/L	200	3/23/2016 8:08:35 PM	R33024
Vinyl chloride	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Xylenes, Total	ND	0.30		mg/L	200	3/23/2016 8:08:35 PM	R33024
Surr: 1,2-Dichloroethane-d4	94.2	70-130		%Rec	200	3/23/2016 8:08:35 PM	R33024
Surr: 4-Bromofluorobenzene	108	70-130		%Rec	200	3/23/2016 8:08:35 PM	R33024
Surr: Dibromofluoromethane	98.6	70-130		%Rec	200	3/23/2016 8:08:35 PM	R33024
Surr: Toluene-d8	99.1	70-130		%Rec	200	3/23/2016 8:08:35 PM	R33024

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1603839

25-Mar-16

Client: Souder, Miller and Associates

Project: Pump Canyon CS

Sample ID	rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R33024			RunNo: 33024					
Prep Date:		Analysis Date: 3/23/2016			SeqNo: 1013063		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1603839

25-Mar-16

Client: Souder, Miller and Associates

Project: Pump Canyon CS

Sample ID	rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R33024			RunNo: 33024					
Prep Date:		Analysis Date: 3/23/2016			SeqNo: 1013063		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.3	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		114	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.6	70	130			
Surr: Toluene-d8	9.9		10.00		99.1	70	130			

Sample ID	100ng lcs b	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R33024			RunNo: 33024					
Prep Date:		Analysis Date: 3/23/2016			SeqNo: 1013064		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	110	70	130			
Toluene	22	1.0	20.00	0	109	70	130			
Chlorobenzene	21	1.0	20.00	0	105	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1603839

25-Mar-16

Client: Souder, Miller and Associates

Project: Pump Canyon CS

Sample ID 100ng lcs b	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW	Batch ID: R33024			RunNo: 33024						
Prep Date:	Analysis Date: 3/23/2016			SeqNo: 1013064		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	21	1.0	20.00	0	107	70	130			
Trichloroethene (TCE)	22	1.0	20.00	0	110	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		110	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1603839

25-Mar-16

Client: Souder, Miller and Associates

Project: Pump Canyon CS

Sample ID	MB-24317	SampType:	MBLK	TestCode:	EPA Method 7470: Mercury					
Client ID:	PBW	Batch ID:	24317	RunNo:	32894					
Prep Date:	3/17/2016	Analysis Date:	3/18/2016	SeqNo:	1008338	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-24317		SampType:	LCS		TestCode:	EPA Method 7470: Mercury				
Client ID:	LCSW		Batch ID:	24317		RunNo:	32894				
Prep Date:	3/17/2016		Analysis Date:	3/18/2016		SeqNo:	1008339		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.0051	0.00020	0.005000	0	102	80	120				

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1603839

25-Mar-16

Client: Souder, Miller and Associates

Project: Pump Canyon CS

Sample ID	MB-24322	SampType:	MBLK	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	PBW	Batch ID:	24322	RunNo:	32920					
Prep Date:	3/17/2016	Analysis Date:	3/21/2016	SeqNo:	1009590	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	ND	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID	LCS-24322	SampType:	LCS	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	LCSW	Batch ID:	24322	RunNo:	32920					
Prep Date:	3/17/2016	Analysis Date:	3/21/2016	SeqNo:	1009591	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.48	0.020	0.5000	0	96.0	80	120			
Barium	0.46	0.020	0.5000	0	92.0	80	120			
Cadmium	0.47	0.0020	0.5000	0	93.6	80	120			
Chromium	0.46	0.0060	0.5000	0	91.5	80	120			
Lead	0.46	0.0050	0.5000	0	91.4	80	120			
Selenium	0.46	0.050	0.5000	0	91.6	80	120			
Silver	0.097	0.0050	0.1000	0	97.4	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1603839

RcptNo: 1

Received by/date: *im* *03/16/16*

Logged By: Anne Thorne 3/16/2016 7:45:00 AM *Am Thorne*

Completed By: Anne Thorne 3/16/2016 *Am Thorne*

Reviewed By: *03-16-16*

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐
of preserved bottles checked for pH: *1*
Adjusted? *NO* (*or >12 unless noted*)
Checked by: *aj*

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks: _____

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

March 25, 2016

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-5667
FAX

RE: Pump Canyon CS

OrderNo.: 1603839

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/16/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1603839

Date Reported: 3/25/2016

CLIENT: Souder, Miller and Associates

Client Sample ID: Pump Canyon Non Exempt

Project: Pump Canyon CS

Collection Date: 3/15/2016 1:11:00 PM

Lab ID: 1603839-001

Matrix: AQUEOUS

Received Date: 3/16/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C TCLP							Analyst: DAM
2-Methylphenol	ND	200		mg/L	1	3/17/2016 7:42:15 PM	24302
3+4-Methylphenol	ND	200		mg/L	1	3/17/2016 7:42:15 PM	24302
Phenol	ND	200		mg/L	1	3/17/2016 7:42:15 PM	24302
2,4-Dinitrotoluene	ND	0.13		mg/L	1	3/17/2016 7:42:15 PM	24302
Hexachlorobenzene	ND	0.13		mg/L	1	3/17/2016 7:42:15 PM	24302
Hexachlorobutadiene	ND	0.50		mg/L	1	3/17/2016 7:42:15 PM	24302
Hexachloroethane	ND	3.0		mg/L	1	3/17/2016 7:42:15 PM	24302
Nitrobenzene	ND	2.0		mg/L	1	3/17/2016 7:42:15 PM	24302
Pentachlorophenol	ND	100		mg/L	1	3/17/2016 7:42:15 PM	24302
Pyridine	ND	5.0		mg/L	1	3/17/2016 7:42:15 PM	24302
2,4,5-Trichlorophenol	ND	400		mg/L	1	3/17/2016 7:42:15 PM	24302
2,4,6-Trichlorophenol	ND	2.0		mg/L	1	3/17/2016 7:42:15 PM	24302
Cresols, Total	ND	200		mg/L	1	3/17/2016 7:42:15 PM	24302
Surr: 2-Fluorophenol	48.5	15-124		%Rec	1	3/17/2016 7:42:15 PM	24302
Surr: Phenol-d5	37.5	15-118		%Rec	1	3/17/2016 7:42:15 PM	24302
Surr: 2,4,6-Tribromophenol	55.5	15-148		%Rec	1	3/17/2016 7:42:15 PM	24302
Surr: Nitrobenzene-d5	86.4	40.6-124		%Rec	1	3/17/2016 7:42:15 PM	24302
Surr: 2-Fluorobiphenyl	81.6	35.7-128		%Rec	1	3/17/2016 7:42:15 PM	24302
Surr: 4-Terphenyl-d14	64.1	18.8-115		%Rec	1	3/17/2016 7:42:15 PM	24302
EPA METHOD 7470: MERCURY							Analyst: pmf
Mercury	ND	0.00080		mg/L	1	3/18/2016 11:09:50 AM	24317
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: MED
Arsenic	ND	0.20		mg/L	1	3/21/2016 9:08:53 AM	24322
Barium	ND	0.20		mg/L	1	3/21/2016 9:08:53 AM	24322
Cadmium	0.043	0.020		mg/L	1	3/21/2016 9:08:53 AM	24322
Chromium	0.067	0.060		mg/L	1	3/21/2016 9:08:53 AM	24322
Lead	0.089	0.050		mg/L	1	3/21/2016 9:08:53 AM	24322
Selenium	ND	0.50		mg/L	1	3/21/2016 9:08:53 AM	24322
Silver	ND	0.050		mg/L	1	3/21/2016 9:08:53 AM	24322
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Benzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Toluene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Ethylbenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,2,4-Trimethylbenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,3,5-Trimethylbenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,2-Dichloroethane (EDC)	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,2-Dibromoethane (EDB)	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1603839

Date Reported: 3/25/2016

CLIENT: Souder, Miller and Associates

Client Sample ID: Pump Canyon Non Exempt

Project: Pump Canyon CS

Collection Date: 3/15/2016 1:11:00 PM

Lab ID: 1603839-001

Matrix: AQUEOUS

Received Date: 3/16/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Naphthalene	ND	0.40		mg/L	200	3/23/2016 8:08:35 PM	R33024
1-Methylnaphthalene	ND	0.80		mg/L	200	3/23/2016 8:08:35 PM	R33024
2-Methylnaphthalene	ND	0.80		mg/L	200	3/23/2016 8:08:35 PM	R33024
Acetone	4.8	2.0		mg/L	200	3/23/2016 8:08:35 PM	R33024
Bromobenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Bromodichloromethane	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Bromoform	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Bromomethane	ND	0.60		mg/L	200	3/23/2016 8:08:35 PM	R33024
2-Butanone	ND	2.0		mg/L	200	3/23/2016 8:08:35 PM	R33024
Carbon disulfide	ND	2.0		mg/L	200	3/23/2016 8:08:35 PM	R33024
Carbon Tetrachloride	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Chlorobenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Chloroethane	ND	0.40		mg/L	200	3/23/2016 8:08:35 PM	R33024
Chloroform	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Chloromethane	ND	0.60		mg/L	200	3/23/2016 8:08:35 PM	R33024
2-Chlorotoluene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
4-Chlorotoluene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
cis-1,2-DCE	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
cis-1,3-Dichloropropene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,2-Dibromo-3-chloropropane	ND	0.40		mg/L	200	3/23/2016 8:08:35 PM	R33024
Dibromochloromethane	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Dibromomethane	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,2-Dichlorobenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,3-Dichlorobenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,4-Dichlorobenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Dichlorodifluoromethane	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,1-Dichloroethane	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,1-Dichloroethene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,2-Dichloropropane	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,3-Dichloropropane	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
2,2-Dichloropropane	ND	0.40		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,1-Dichloropropene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Hexachlorobutadiene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
2-Hexanone	ND	2.0		mg/L	200	3/23/2016 8:08:35 PM	R33024
Isopropylbenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
4-Isopropyltoluene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
4-Methyl-2-pentanone	ND	2.0		mg/L	200	3/23/2016 8:08:35 PM	R33024
Methylene Chloride	ND	0.60		mg/L	200	3/23/2016 8:08:35 PM	R33024
n-Butylbenzene	ND	0.60		mg/L	200	3/23/2016 8:08:35 PM	R33024

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank	Page 2 of 8
	D Sample Diluted Due to Matrix	F Value above quantitation range	
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits	
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1603839

Date Reported: 3/25/2016

CLIENT: Souder, Miller and Associates

Client Sample ID: Pump Canyon Non Exempt

Project: Pump Canyon CS

Collection Date: 3/15/2016 1:11:00 PM

Lab ID: 1603839-001

Matrix: AQUEOUS

Received Date: 3/16/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
n-Propylbenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
sec-Butylbenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Styrene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
tert-Butylbenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,1,1,2-Tetrachloroethane	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,1,2,2-Tetrachloroethane	ND	0.40		mg/L	200	3/23/2016 8:08:35 PM	R33024
Tetrachloroethene (PCE)	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
trans-1,2-DCE	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
trans-1,3-Dichloropropene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,2,3-Trichlorobenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,2,4-Trichlorobenzene	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,1,1-Trichloroethane	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,1,2-Trichloroethane	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Trichloroethene (TCE)	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Trichlorofluoromethane	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
1,2,3-Trichloropropane	ND	0.40		mg/L	200	3/23/2016 8:08:35 PM	R33024
Vinyl chloride	ND	0.20		mg/L	200	3/23/2016 8:08:35 PM	R33024
Xylenes, Total	ND	0.30		mg/L	200	3/23/2016 8:08:35 PM	R33024
Surr: 1,2-Dichloroethane-d4	94.2	70-130		%Rec	200	3/23/2016 8:08:35 PM	R33024
Surr: 4-Bromofluorobenzene	108	70-130		%Rec	200	3/23/2016 8:08:35 PM	R33024
Surr: Dibromofluoromethane	98.6	70-130		%Rec	200	3/23/2016 8:08:35 PM	R33024
Surr: Toluene-d8	99.1	70-130		%Rec	200	3/23/2016 8:08:35 PM	R33024

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1603839

25-Mar-16

Client: Souder, Miller and Associates

Project: Pump Canyon CS

Sample ID	rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R33024			RunNo: 33024					
Prep Date:		Analysis Date: 3/23/2016			SeqNo: 1013063		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pI Not In Range |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1603839

25-Mar-16

Client: Souder, Miller and Associates

Project: Pump Canyon CS

Sample ID	rb	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID:	PBW	Batch ID: R33024		RunNo: 33024						
Prep Date:		Analysis Date: 3/23/2016		SeqNo: 1013063		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.3	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		114	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.6	70	130			
Surr: Toluene-d8	9.9		10.00		99.1	70	130			

Sample ID	100ng lcs b	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R33024	RunNo:	33024					
Prep Date:		Analysis Date:	3/23/2016	SeqNo:	1013064	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	110	70	130			
Toluene	22	1.0	20.00	0	109	70	130			
Chlorobenzene	21	1.0	20.00	0	105	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not in Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1603839

25-Mar-16

Client: Souder, Miller and Associates

Project: Pump Canyon CS

Sample ID 100ng lcs b	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW	Batch ID: R33024			RunNo: 33024						
Prep Date:	Analysis Date: 3/23/2016			SeqNo: 1013064		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	21	1.0	20.00	0	107	70	130			
Trichloroethene (TCE)	22	1.0	20.00	0	110	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		110	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pI Not In Range |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1603839

25-Mar-16

Client: Souder, Miller and Associates

Project: Pump Canyon CS

Sample ID	MB-24317	SampType	MBLK	TestCode	EPA Method 7470: Mercury					
Client ID	PBW	Batch ID	24317	RunNo	32894					
Prep Date	3/17/2016	Analysis Date	3/18/2016	SeqNo	1008338	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-24317	SampType	LCS	TestCode	EPA Method 7470: Mercury					
Client ID	LCSW	Batch ID	24317	RunNo	32894					
Prep Date	3/17/2016	Analysis Date	3/18/2016	SeqNo	1008339	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	102	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pII Not In Range |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1603839

25-Mar-16

Client: Souder, Miller and Associates

Project: Pump Canyon CS

Sample ID	MB-24322	SampType:	MBLK	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	PBW	Batch ID:	24322	RunNo:	32920					
Prep Date:	3/17/2016	Analysis Date:	3/21/2016	SeqNo:	1009590	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	ND	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID	LCS-24322	SampType:	LCS	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	LCSW	Batch ID:	24322	RunNo:	32920					
Prep Date:	3/17/2016	Analysis Date:	3/21/2016	SeqNo:	1009591	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.48	0.020	0.5000	0	96.0	80	120			
Barium	0.46	0.020	0.5000	0	92.0	80	120			
Cadmium	0.47	0.0020	0.5000	0	93.6	80	120			
Chromium	0.46	0.0060	0.5000	0	91.5	80	120			
Lead	0.46	0.0050	0.5000	0	91.4	80	120			
Selenium	0.46	0.050	0.5000	0	91.6	80	120			
Silver	0.097	0.0050	0.1000	0	97.4	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1803839

RcptNo: 1

Received by/date: *1 m* *03/16/16*

Logged By: Anne Thorne

3/16/2016 7:45:00 AM

Anne Thorne

Completed By: Anne Thorne

3/16/2016

Anne Thorne

Reviewed By: *03/16/16*

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐
- # of preserved bottles checked for pH: *1* (or >12 unless noted)
Adjusted? *NO*
Checked by: *aj*

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes			

Chain-of-Custody Record

Ident: SMA

Mailing Address: 461 W. Broadway

Farmington NM 87401

Phone #: 505 325-2535

Fax #: 505 325-2535

Package: Sander Miller Co.

Standard ☐ Level 4 (Full Validation)

Accreditation ☐ Other

NE LAP ☐ Other

EDD (Type) _____

Date Time Matrix Sample Request ID

Feb 13:11 H2O Pump Canyon Ext

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

Pump Canyon CS

Project #:

Project Manager:

Tom Long
Asheley Watson

Sampler: Randy Watson

On Ice: ☒ Yes ☐ No

Sample Temperature: 23-10°F = 1.3

Container Type and #

1603839

Preservative Type

Various Various

HEAL No.

201

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX + MTBE + TMBs (8021)

BTEX + MTBE + TPH (Gas only)

TPH 8015B (GRO / DRO / MRO)

TPH (Method 418.1)

EDB (Method 504.1)

PAHs (8310 or 8270-SIMS)

RCRA 8 Metals

Anions (F, Cl, NO₃, NO₂, PO₄, SO₄)

8081 Pesticides / 8082 PCBs

8260B (VOA)

8270 (Semi-VOA)

Air Bubbles (Y or N)

Remarks:

8260 Full List's Report Telf
Inv. Enterprise
CC: Tom Long / Enterprise

Received by: Ant-Block

Date Time 3/15/10 1735

Received by: Ant-Block

Date Time 03/16/10 0745

Relinquished by: Randy Watson

Time: 1735

Relinquished by: Christina Watson

Time: 1847

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly noted on the analytical report.

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Good till 9/6/2020

Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site:

MAPL Dove Creek Pumping Station

3. Location of Material (Street Address, City, State or ULSTR):

UL A Section 9 Township 41 North Range 19 West; 37.836707, -108.959287, -106.190538

4. Source and Description of Waste:

Source: Water/Oil from the Non Exempt WasteWater Tanks and from the compressor skid drains.

Description: Non Exempt/Non Hazardous Water from the compressor skids.

Estimated Volume 80 yd³ bbls Known Volume (to be entered by the operator at the end of the haul) yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long, representative or authorized agent for Enterprise Products Operating do hereby

Generator Signature

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long, representative for Enterprise Products Operating authorizes Agua Moss, LLC. to complete

Generator Signature

the required testing/sign the Generator Waste Testing Certification.

I, representative for Agua Moss, LLC. do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: To Be Determined

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: *Agua Moss, LLC - Permit #: NM-01-009

Address of Facility: SW/4 NW/4 Section 2, Township 29N, Range Crouch Mesa, NM

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME:

TITLE:

DATE:

SIGNATURE:

TELEPHONE NO.:

Surface Waste Management Facility Authorized Agent



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 06, 2019

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-5667
FAX (505) 327-1496

RE: Dove Creek

OrderNo.: 1908C24

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/21/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908C24

Date Reported: 9/6/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Dove Creek

Project: Dove Creek

Collection Date: 8/20/2019 10:33:00 AM

Lab ID: 1908C24-001

Matrix: AQUEOUS

Received Date: 8/21/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 7470: MERCURY							Analyst: rde
Mercury	ND	0.020		mg/L	1	8/26/2019 6:02:41 PM	47048
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: bcv
Arsenic	ND	5.0		mg/L	1	8/27/2019 12:52:32 PM	47018
Barium	ND	100		mg/L	1	8/27/2019 12:52:32 PM	47018
Cadmium	ND	1.0		mg/L	1	8/27/2019 12:52:32 PM	47018
Chromium	ND	5.0		mg/L	1	8/27/2019 12:52:32 PM	47018
Lead	ND	5.0		mg/L	1	8/27/2019 12:52:32 PM	47018
Selenium	ND	1.0		mg/L	1	8/27/2019 12:52:32 PM	47018
Silver	ND	5.0		mg/L	1	8/27/2019 12:52:32 PM	47018
EPA METHOD 8270C: PAHS							Analyst: DAM
Naphthalene	ND	5.0	D	µg/L	10	9/3/2019 9:16:11 PM	47086
1-Methylnaphthalene	ND	10	D	µg/L	10	9/3/2019 9:16:11 PM	47086
2-Methylnaphthalene	ND	10	D	µg/L	10	9/3/2019 9:16:11 PM	47086
Acenaphthylene	ND	5.0	D	µg/L	10	9/3/2019 9:16:11 PM	47086
Acenaphthene	ND	5.0	D	µg/L	10	9/3/2019 9:16:11 PM	47086
Fluorene	ND	5.0	D	µg/L	10	9/3/2019 9:16:11 PM	47086
Phenanthrene	ND	5.0	D	µg/L	10	9/3/2019 9:16:11 PM	47086
Anthracene	ND	5.0	D	µg/L	10	9/3/2019 9:16:11 PM	47086
Fluoranthene	ND	5.0	D	µg/L	10	9/3/2019 9:16:11 PM	47086
Pyrene	ND	5.0	D	µg/L	10	9/3/2019 9:16:11 PM	47086
Benz(a)anthracene	ND	5.0	D	µg/L	10	9/3/2019 9:16:11 PM	47086
Chrysene	ND	5.0	D	µg/L	10	9/3/2019 9:16:11 PM	47086
Benzo(b)fluoranthene	ND	5.0	D	µg/L	10	9/3/2019 9:16:11 PM	47086
Benzo(k)fluoranthene	ND	5.0	D	µg/L	10	9/3/2019 9:16:11 PM	47086
Benzo(a)pyrene	ND	5.0	D	µg/L	10	9/3/2019 9:16:11 PM	47086
Dibenz(a,h)anthracene	ND	5.0	D	µg/L	10	9/3/2019 9:16:11 PM	47086
Benzo(g,h,i)perylene	ND	5.0	D	µg/L	10	9/3/2019 9:16:11 PM	47086
Indeno(1,2,3-cd)pyrene	ND	5.0	D	µg/L	10	9/3/2019 9:16:11 PM	47086
Surr: N-hexadecane	0	20.4-126	SD	%Rec	10	9/3/2019 9:16:11 PM	47086
Surr: Benzo(e)pyrene	0	21.4-126	SD	%Rec	10	9/3/2019 9:16:11 PM	47086
EPA METHOD 8260B: VOLATILES							Analyst: CCM
Benzene	ND	0.50		mg/L	10	8/26/2019 6:11:00 PM	R62416
Toluene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
Ethylbenzene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
1,2,4-Trimethylbenzene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
1,3,5-Trimethylbenzene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
1,2-Dichloroethane (EDC)	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Folding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908C24

Date Reported: 9/6/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Dove Creek

Project: Dove Creek

Collection Date: 8/20/2019 10:33:00 AM

Lab ID: 1908C24-001

Matrix: AQUEOUS

Received Date: 8/21/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: CCM
1,2-Dibromoethane (EDB)	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
Naphthalene	ND	0.40		mg/L	10	8/26/2019 6:11:00 PM	R62416
1-Methylnaphthalene	ND	0.80		mg/L	10	8/26/2019 6:11:00 PM	R62416
2-Methylnaphthalene	ND	0.80		mg/L	10	8/26/2019 6:11:00 PM	R62416
Acetone	ND	2.0		mg/L	10	8/26/2019 6:11:00 PM	R62416
Bromobenzene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
Bromodichloromethane	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
Bromoform	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
Bromomethane	ND	0.60		mg/L	10	8/26/2019 6:11:00 PM	R62416
2-Butanone	ND	2.0		mg/L	10	8/26/2019 6:11:00 PM	R62416
Carbon disulfide	ND	2.0		mg/L	10	8/26/2019 6:11:00 PM	R62416
Carbon Tetrachloride	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
Chlorobenzene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
Chloroethane	ND	0.40		mg/L	10	8/26/2019 6:11:00 PM	R62416
Chloroform	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
Chloromethane	ND	0.60		mg/L	10	8/26/2019 6:11:00 PM	R62416
2-Chlorotoluene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
4-Chlorotoluene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
cis-1,2-DCE	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
cis-1,3-Dichloropropene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
1,2-Dibromo-3-chloropropane	ND	0.40		mg/L	10	8/26/2019 6:11:00 PM	R62416
Dibromochloromethane	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
Dibromomethane	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
1,2-Dichlorobenzene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
1,3-Dichlorobenzene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
1,4-Dichlorobenzene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
Dichlorodifluoromethane	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
1,1-Dichloroethane	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
1,1-Dichloroethene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
1,2-Dichloropropane	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
1,3-Dichloropropane	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
2,2-Dichloropropane	ND	0.40		mg/L	10	8/26/2019 6:11:00 PM	R62416
1,1-Dichloropropene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
Hexachlorobutadiene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
2-Hexanone	ND	2.0		mg/L	10	8/26/2019 6:11:00 PM	R62416
Isopropylbenzene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
4-Isopropyltoluene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
4-Methyl-2-pentanone	ND	2.0		mg/L	10	8/26/2019 6:11:00 PM	R62416
Methylene Chloride	ND	0.60		mg/L	10	8/26/2019 6:11:00 PM	R62416

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQI Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RI Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908C24

Date Reported: 9/6/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Dove Creek

Project: Dove Creek

Collection Date: 8/20/2019 10:33:00 AM

Lab ID: 1908C24-001

Matrix: AQUEOUS

Received Date: 8/21/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: CCM
n-Butylbenzene	ND	0.60		mg/L	10	8/26/2019 6:11:00 PM	R62416
n-Propylbenzene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
sec-Butylbenzene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
Styrene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
tert-Butylbenzene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
1,1,1,2-Tetrachloroethane	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
1,1,2,2-Tetrachloroethane	ND	0.40		mg/L	10	8/26/2019 6:11:00 PM	R62416
Tetrachloroethene (PCE)	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
trans-1,2-DCE	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
trans-1,3-Dichloropropene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
1,2,3-Trichlorobenzene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
1,2,4-Trichlorobenzene	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
1,1,1-Trichloroethane	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
1,1,2-Trichloroethane	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
Trichloroethene (TCE)	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
Trichlorofluoromethane	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
1,2,3-Trichloropropane	ND	0.40		mg/L	10	8/26/2019 6:11:00 PM	R62416
Vinyl chloride	ND	0.20		mg/L	10	8/26/2019 6:11:00 PM	R62416
Xylenes, Total	ND	0.30		mg/L	10	8/26/2019 6:11:00 PM	R62416
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	10	8/26/2019 6:11:00 PM	R62416
Surr: 4-Bromofluorobenzene	92.9	70-130		%Rec	10	8/26/2019 6:11:00 PM	R62416
Surr: Dibromofluoromethane	106	70-130		%Rec	10	8/26/2019 6:11:00 PM	R62416
Surr: Toluene-d8	95.7	70-130		%Rec	10	8/26/2019 6:11:00 PM	R62416

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

ANALYTICAL REPORT

September 04, 2019

Hall Environmental Analysis Laboratory

Sample Delivery Group: L1133107
Samples Received: 08/27/2019
Project Number:
Description:

Report To:

4901 Hawkins NE
Albuquerque, NM 87109

Entire Report Reviewed By:



Daphne Richards
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.

				Collected by	Collected date/time	Received date/time
1908C24-001D DOVE CREEK L1133107-01 WW					08/20/19 10:33	08/27/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500 CN E-2011	WG1337276	1	08/29/19 17:51	08/30/19 14:17	SDL	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG1335791	1	08/27/19 22:22	08/27/19 22:22	ANP	Mt. Juliet, TN
Wet Chemistry by Method 9034-9030B	WG1335779	1	08/27/19 17:37	08/27/19 17:37	MJA	Mt. Juliet, TN
Wet Chemistry by Method D93/1010A	WG1335894	1	08/28/19 23:09	08/28/19 23:09	RDW	Mt. Juliet, TN

CASE NARRATIVE

ONE LAB. NATIONWIDE.

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Daphne Richards
Project Manager

Project Narrative

All Reactive Cyanide results reported in the attached report were determined as totals using method 9012B.

All Reactive Sulfide results reported in the attached report were determined as totals using method 9034/9030B.

1908C24-001D DOVE CREEK

Collected date/time: 08/20/19 10:33

SAMPLE RESULTS - 01

L1133107

ONE LAB. NATIONWIDE

Wet Chemistry by Method 4500 CN E-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Reactive Cyanide	ND	J3 J6	0.00500	1	08/30/2019 14:17	WG1337276

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result su	Qualifier	RDL	Dilution	Analysis date / time	Batch
Corrosivity by pH	7.08	T8		1	08/27/2019 22:22	WG1335791

Sample Narrative:

L1133107-01 WG1335791: 7.08 at 21.1C

Wet Chemistry by Method 9034-9030B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Reactive Sulfide	0.0770		0.0500	1	08/27/2019 17:37	WG1335779

Wet Chemistry by Method D93/1010A

Analyte	Result deg F	Qualifier	RDL	Dilution	Analysis date / time	Batch
Flashpoint	DNF at 170			1	08/28/2019 23:09	WG1335894

Method Blank (MB)

R3446048-1 08/30/19 13:45

le	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
ive Cyanide	U		0.00180	0.00500

1041-02 Original Sample (OS) • Duplicate (DUP)

L1131041-02 08/30/19 14:02 • (DUP) R3446048-3 08/30/19 14:05

le	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
ive Cyanide	ND	0.000	1	0.000		20

3104-04 Original Sample (OS) • Duplicate (DUP)

L1133104-04 08/30/19 14:13 • (DUP) R3446048-6 08/30/19 14:14

le	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
ive Cyanide	ND	0.000	1	0.000		20

Laboratory Control Sample (LCS)

R3446048-2 08/30/19 13:46

le	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
ive Cyanide	0.100	0.103	103	85.0-115	

2892-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

L1132892-02 08/30/19 14:51 • (MS) R3446048-4 08/30/19 14:08 • (MSD) R3446048-5 08/30/19 14:09

le	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
ive Cyanide	0.100	ND	0.0995	0.0835	1	75.0-125			17.5	20

3107-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

L1133107-01 08/30/19 14:17 • (MS) R3446048-7 08/30/19 14:18 • (MSD) R3446048-8 08/30/19 14:19

le	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
ive Cyanide	0.100	ND	0.0471	0.101	1	75.0-125			72.8	20

3107-01 Original Sample (OS) • Duplicate (DUP)

L1133107-01 08/27/19 22:22 • (DUP) R3444827-16 08/27/19 22:22

Parameter	Original Result		DUP Result		Dilution		DUP RPD		DUP Qualifier		DUP RPD Limits	
	su	su	su	su			%	%			%	%
Acidity by pH	7.08		7.05		1		0.425				1	
Le Narrative:												
S: 7.08 at 21.1C												
P: 7.05 at 21.2C												

3133-01 Original Sample (OS) • Duplicate (DUP)

L1133133-01 08/27/19 22:22 • (DUP) R3444827-17 08/27/19 22:22

Parameter	Original Result		DUP Result		Dilution		DUP RPD		DUP Qualifier		DUP RPD Limits	
	su	su	su	su			%	%			%	%
Acidity by pH	7.65		7.66		1		0.131				1	
Le Narrative:												
S: 7.65 at 20.1C												
P: 7.66 at 20.2C												

oratory Control Sample (LCS)

R3444827-1 08/27/19 22:22

Parameter	Spike Amount		LCS Result		LCS Rec.		Rec. Limits		LCS Qualifier	
	su	su	su	su	%	%	%	%		
Acidity by pH	10.0		9.91		99.1		99.0-101			
Le Narrative:										
S: 9.91 at 22.4C										

Method Blank (MB)

R3444774-1 08/27/19 17:31

le	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
ive Sulfide	U		0.00650	0.0500

oratory Control Sample (LCS)

R3444774-2 08/27/19 17:31

le	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
ive Sulfide	0.500	0.459	91.8	85.0-115	

Ce

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

2472-02 Original Sample (OS) • Duplicate (DUP)

L1132472-02 08/28/19 23:09 • (DUP) R3445270-2 08/28/19 23:09

Original Result		DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
deg F	deg F			%		%
joint	DNF at 170	DNF at 170	1	0.000		10

3753-02 Original Sample (OS) • Duplicate (DUP)

L1133753-02 08/28/19 23:09 • (DUP) R3445270-3 08/28/19 23:09

Original Result		DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
deg F	deg F			%		%
joint	DNF at 170	DNF at 170	1	0.000		10

oratory Control Sample (LCS)

R3445270-1 08/28/19 23:09

Spike Amount		LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
deg F	deg F		%	%	
joint	82.0	82.9	101	96.0-104	

Cd

Tc

Ss

Cn

Sr

Co

Gl

Al

Sc

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.

ACCREDITATIONS & LOCATIONS

ONE LAB NATIONWIDE

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-05-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ²	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	AZLA

Third Party Federal Accreditations

AZLA - ISO 17025	1461.01	AJHA-LAP, LLC EMLAP	100789
AZLA - ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.





CHAIN OF CUSTODY RECORD

Page: 1 of 1

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenvironmental.com

C076

SUB CONTRACTOR: ESC PACE		COMPANY: ESC PACE	PHONE: (800) 767-5859	FAX: (615) 758-5859			
ADDRESS: 12065 Lebanon Rd		ACCOUNT #:	EMAIL:				
CITY, STATE, ZIP: Mt. Juliet, TN 37122		21133107					
ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	1908C24-001D	Dove Creek	500HDPE	Aqueous	8/20/2019 10:33:00 AM	3 RCI	

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

FedEx 4510 1608 8473

RAD SCREEN: <0.5 mR/hr

OK

Requisitioned By: JD	Date: 8/21/2019	Time: 2:27 PM	Received By: Cybil	Date: 8/27/19	Time: 8:45
Requisitioned By:	Date:	Time:	Received By:	Date:	Time:
Requisitioned By:	Date:	Time:	Received By:	Date:	Time:
TAT: ☒ Standard ☐ RUSH	Next BD ☐	2nd BD ☐	3rd BD ☐		
REPORT TRANSMITTAL DESIRED: ☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE					
FOR LAB USE ONLY Temp of samples: 0.51, 3.20, 8.0 C Attempt to Cool: Y Comments:					

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client:	HALEMAN	SDG#:	L1133107
Cooler Received/Opened On:	8/27/19	Temperature:	0-8
Received By:	Adam Burns		
Signature:			
Receipt Check List			
		NP	Yes No
COC Seal Present / Intact?			
COC Signed / Accurate?			
Bottles arrive Intact?			
Correct bottles used?			
Sufficient volume sent?			
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908C24

06-Sep-19

Client: Souder, Miller and Associates

Project: Dove Creek

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES									
Client ID: LCSW	Batch ID: R62416	RunNo: 62416									
Prep Date:	Analysis Date: 8/26/2019	SeqNo: 2122768	Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	19	1.0	20.00	0	94.0	70	130				
Toluene	20	1.0	20.00	0	102	70	130				
Chlorobenzene	22	1.0	20.00	0	108	70	130				
1,1-Dichloroethene	17	1.0	20.00	0	85.6	70	130				
Trichloroethene (TCE)	18	1.0	20.00	0	91.0	70	130				
Surr: 1,2-Dichloroethane-d4	9.4		10.00		93.8	70	130				
Surr: 4-Bromofluorobenzene	9.9		10.00		99.2	70	130				
Surr: Dibromofluoromethane	9.6		10.00		95.5	70	130				
Surr: Toluene-d8	9.7		10.00		97.3	70	130				

Sample ID: RB	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES									
Client ID: PBW	Batch ID: R62416	RunNo: 62416									
Prep Date:	Analysis Date: 8/26/2019	SeqNo: 2122769	Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	ND	1.0									
Toluene	ND	1.0									
Ethylbenzene	ND	1.0									
Methyl tert-butyl ether (MTBE)	ND	1.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,3,5-Trimethylbenzene	ND	1.0									
1,2-Dichloroethane (EDC)	ND	1.0									
1,2-Dibromoethane (EDB)	ND	1.0									
Naphthalene	ND	2.0									
1-Methylnaphthalene	ND	4.0									
2-Methylnaphthalene	ND	4.0									
Acetone	ND	10									
Bromobenzene	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									
Bromomethane	ND	3.0									
2-Butanone	ND	10									
Carbon disulfide	ND	10									
Carbon Tetrachloride	ND	1.0									
Chlorobenzene	ND	1.0									
Chloroethane	ND	2.0									
Chloroform	ND	1.0									
Chloromethane	ND	3.0									
2-Chlorotoluene	ND	1.0									

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908C24

06-Sep-19

Client: Souder, Miller and Associates

Project: Dove Creek

Sample ID: RB	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R62416	RunNo: 62416								
Prep Date:	Analysis Date: 8/26/2019	SeqNo: 2122769 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908C24

06-Sep-19

Client: Souder, Miller and Associates

Project: Dove Creek

Sample ID: RB	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R62416	RunNo: 62416								
Prep Date:	Analysis Date: 8/26/2019	SeqNo: 2122769 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.7	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.8	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.4	70	130			
Surr: Toluene-d8	9.7		10.00		97.2	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908C24

06-Sep-19

Client: Souder, Miller and Associates

Project: Dove Creek

Sample ID: Ics-47086	SampType: LCS	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSW	Batch ID: 47086	RunNo: 62611								
Prep Date: 8/27/2019	Analysis Date: 9/3/2019	SeqNo: 2130761			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	12	0.50	20.00	0	61.9	29.6	105			
1-Methylnaphthalene	12	1.0	20.00	0	58.6	33.4	112			
2-Methylnaphthalene	13	1.0	20.00	0	65.1	28.6	108			
Acenaphthylene	14	0.50	20.00	0	70.2	35.7	116			
Acenaphthene	13	0.50	20.00	0	63.0	32.4	118			
Fluorene	14	0.50	20.00	0	69.2	35.6	118			
Phenanthrene	15	0.50	20.00	0	76.8	36.3	130			
Anthracene	15	0.50	20.00	0	75.6	34.8	135			
Fluoranthene	16	0.50	20.00	0	81.4	41	136			
Pyrene	15	0.50	20.00	0	73.9	44.8	136			
Benz(a)anthracene	14	0.50	20.00	0	69.6	41.1	136			
Chrysene	12	0.50	20.00	0	58.6	37.9	132			
Benzo(b)fluoranthene	17	0.50	20.00	0	83.2	39	144			
Benzo(k)fluoranthene	18	0.50	20.00	0	88.6	40	144			
Benzo(a)pyrene	16	0.50	20.00	0	79.5	36.8	137			
Dibenz(a,h)anthracene	16	0.50	20.00	0	80.8	31.5	141			
Benzo(g,h,i)perylene	18	0.50	20.00	0	91.7	32.9	138			
Indeno(1,2,3-cd)pyrene	17	0.50	20.00	0	85.7	40.9	143			
Surr: N-hexadecane	63		87.60		71.6	20.4	126			
Surr: Benzo(a)pyrene	17		20.00		84.7	21.4	126			

Sample ID: Icsd-47086	SampType: LCSD	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSS02	Batch ID: 47086	RunNo: 62611								
Prep Date: 8/27/2019	Analysis Date: 9/3/2019	SeqNo: 2130762			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	18	0.50	20.00	0	90.7	29.6	105	37.7	68.7	
1-Methylnaphthalene	17	1.0	20.00	0	85.3	33.4	112	37.1	66	
2-Methylnaphthalene	19	1.0	20.00	0	95.9	28.6	108	38.3	68.7	
Acenaphthylene	18	0.50	20.00	0	91.7	35.7	116	26.6	64.9	
Acenaphthene	17	0.50	20.00	0	84.1	32.4	118	28.7	53.2	
Fluorene	18	0.50	20.00	0	90.0	35.6	118	26.1	62.4	
Phenanthrene	18	0.50	20.00	0	91.6	36.3	130	17.6	62.6	
Anthracene	18	0.50	20.00	0	91.5	34.8	135	19.0	62.4	
Fluoranthene	19	0.50	20.00	0	96.5	41	136	17.0	59.4	
Pyrene	19	0.50	20.00	0	93.9	44.8	136	23.8	55.4	
Benz(a)anthracene	17	0.50	20.00	0	87.1	41.1	136	22.3	56.6	
Chrysene	15	0.50	20.00	0	74.1	37.9	132	23.4	51.9	
Benzo(b)fluoranthene	18	0.50	20.00	0	89.5	39	144	7.30	59.1	

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908C24

06-Sep-19

Client: Souder, Miller and Associates

Project: Dove Creek

Sample ID: lcsd-47086	SampType: LCSD	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSS02	Batch ID: 47086	RunNo: 62611								
Prep Date: 8/27/2019	Analysis Date: 9/3/2019	SeqNo: 2130762 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	20	0.50	20.00	0	99.4	40	144	11.5	57	
Benzo(a)pyrene	19	0.50	20.00	0	93.9	36.8	137	16.6	60.2	
Dibenz(a,h)anthracene	20	0.50	20.00	0	98.5	31.5	141	19.7	64.7	
Benzo(g,h,i)perylene	22	0.50	20.00	0	108	32.9	138	16.5	61.5	
Indeno(1,2,3-cd)pyrene	20	0.50	20.00	0	102	40.9	143	17.4	61.1	
Surr: N-hexadecane	77		87.60		87.7	20.4	126	0	0	
Surr: Benzo(e)pyrene	18		20.00		90.8	21.4	126	0	0	

Sample ID: mb-47086	SampType: MBLK	TestCode: EPA Method 8270C: PAHs								
Client ID: PBW	Batch ID: 47086	RunNo: 62611								
Prep Date: 8/27/2019	Analysis Date: 9/3/2019	SeqNo: 2130763 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	1.0								
2-Methylnaphthalene	ND	1.0								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
Pyrene	ND	0.50								
Benz(a)anthracene	ND	0.50								
Chrysene	ND	0.50								
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	72		87.60		82.7	20.4	126			
Surr: Benzo(e)pyrene	18		20.00		90.8	21.4	126			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908C24

06-Sep-19

Client: Souder, Miller and Associates

Project: Dove Creek

Sample ID: MB-47048	SampType: MBLK	TestCode: EPA Method 7470: Mercury
Client ID: PBW	Batch ID: 47048	RunNo: 62425
Prep Date: 8/26/2019	Analysis Date: 8/26/2019	SeqNo: 2122145 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND	0.00020

Sample ID: LCS-47048	SampType: LCS	TestCode: EPA Method 7470: Mercury
Client ID: LCSW	Batch ID: 47048	RunNo: 62425
Prep Date: 8/26/2019	Analysis Date: 8/26/2019	SeqNo: 2122146 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0049	0.00020 0.005000 0 98.3 80 120

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908C24

06-Sep-19

Client: Souder, Miller and Associates

Project: Dove Creek

Sample ID: MB-47018	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 47018	RunNo: 62461								
Prep Date: 8/23/2019	Analysis Date: 8/27/2019	SeqNo: 2124174 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	ND	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID: LCS-47018	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 47018	RunNo: 62461								
Prep Date: 8/23/2019	Analysis Date: 8/27/2019	SeqNo: 2124176 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.48	0.020	0.5000	0	96.5	80	120			
Barium	0.48	0.020	0.5000	0	95.7	80	120			
Cadmium	0.50	0.0020	0.5000	0	99.3	80	120			
Chromium	0.49	0.0060	0.5000	0	99.0	80	120			
Lead	0.48	0.0050	0.5000	0	96.4	80	120			
Selenium	0.49	0.050	0.5000	0	97.1	80	120			
Silver	0.097	0.0050	0.1000	0	97.4	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1908C24

RcptNo: 1

Received By: Isalah Ortiz

8/21/2019 8:30:00 AM

Completed By: Leah Baca

8/21/2019 2:24:00 PM

Reviewed By: ENM

8/28/19
3 ENM
8/23/19

I-OK
Leah Baca

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved bottles checked for pH: 1:2
(☒ or ☐ unless noted)
Adjusted? No
Checked by: DAD 8/23/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Not Present			

District I
1625 N French Dr., Hobbs, NM 88240
District II
1301 W Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

2019

Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

~~Enterprise Field Services, LLC~~, 614 Reilly Ave, Farmington NM 87401

2. Originating Site:

~~MAPL Dove Creek Pumping Station~~

3. Location of Material (Street Address, City, State or ULSTR):

UL A Section 9 Township 41 North Range 19 West; 37.836707, -108.959287, -106.190538

4. Source and Description of Waste:

Source: Water/Oil from the Non Exempt Waste Water Tanks and from the compressor skid drains.

Description: Non Exempt/Non Hazardous Water from the compressor skids.

Estimated Volume 80 yd³ 0 bbls Known Volume (to be entered by the operator at the end of the haul) _____ yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long *Thomas Long*, representative or authorized agent for Enterprise Products Operating do hereby

Generator Signature

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long *Thomas Long*, representative for Enterprise Products Operating authorizes Agua Moss, LLC to complete

Generator Signature

the required testing/sign the Generator Waste Testing Certification.

I, _____, representative for Agua Moss, LLC do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: To Be Determined

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: *Agua Moss, LLC - Permit #: NM-01-009

Address of Facility: SW/4 NW/4 Section 2, Township 29N, Range Crouch Mesa, NM

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: _____

TITLE: _____

DATE: _____

SIGNATURE: _____

TELEPHONE NO.: _____

Surface Waste Management Facility Authorized Agent



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 16, 2018

Thomas Long
Enterprise Field Services
614 Reilly Ave.
Farmington, NM 87401
TEL: (505) 599-2141
FAX

RE: Water Sample at Dove Creek Station

OrderNo.: 1801315

Dear Thomas Long:

Hall Environmental Analysis Laboratory received 1 sample(s) on 1/8/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1801315

Date Reported: 1/16/2018

CLIENT: Enterprise Field Services

Client Sample ID: Tank

Project: Water Sample at Dove Creek Station

Collection Date: 1/5/2018 10:42:00 AM

Lab ID: 1801315-001

Matrix: AQUEOUS

Received Date: 1/8/2018 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: METALS							Analyst: DBK
Arsenic	0.0018	0.0010		mg/L	1	1/11/2018 7:55:06 PM	35929
Lead	0.00080	0.00050		mg/L	1	1/11/2018 7:55:06 PM	35929
Selenium	ND	0.0010		mg/L	1	1/15/2018 10:23:23 AM	35929
EPA METHOD 200.7: METALS							Analyst: pmf
Barium	0.12	0.0020		mg/L	1	1/11/2018 1:29:04 AM	35929
Cadmium	ND	0.0020		mg/L	1	1/11/2018 1:29:04 AM	35929
Chromium	ND	0.0060		mg/L	1	1/11/2018 1:29:04 AM	35929
Silver	ND	0.0050		mg/L	1	1/11/2018 1:29:04 AM	35929
EPA METHOD 245.1: MERCURY							Analyst: MED
Mercury	ND	0.00020		mg/L	1	1/10/2018 11:30:00 AM	35927
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Acenaphthylene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Aniline	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Anthracene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Azobenzene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Benz(a)anthracene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Benzo(a)pyrene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Benzo(b)fluoranthene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Benzo(g,h,i)perylene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Benzo(k)fluoranthene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Benzoic acid	ND	20		µg/L	1	1/11/2018 11:27:09 AM	35949
Benzyl alcohol	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Bis(2-chloroethyl)ether	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
4-Bromophenyl phenyl ether	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Butyl benzyl phthalate	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Carbazole	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
4-Chloro-3-methylphenol	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
4-Chloroaniline	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
2-Chloronaphthalene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
2-Chlorophenol	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Chrysene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Di-n-butyl phthalate	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Di-n-octyl phthalate	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1801315

Date Reported: 1/16/2018

CLIENT: Enterprise Field Services

Client Sample ID: Tank

Project: Water Sample at Dove Creek Station

Collection Date: 1/5/2018 10:42:00 AM

Lab ID: 1801315-001

Matrix: AQUEOUS

Received Date: 1/8/2018 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Dibenz(a,h)anthracene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Dibenzofuran	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
1,2-Dichlorobenzene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
1,3-Dichlorobenzene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
1,4-Dichlorobenzene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
3,3'-Dichlorobenzidine	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Diethyl phthalate	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Dimethyl phthalate	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
2,4-Dichlorophenol	ND	20		µg/L	1	1/11/2018 11:27:09 AM	35949
2,4-Dimethylphenol	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	1/11/2018 11:27:09 AM	35949
2,4-Dinitrophenol	ND	20		µg/L	1	1/11/2018 11:27:09 AM	35949
2,4-Dinitrotoluene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
2,6-Dinitrotoluene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Fluoranthene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Fluorene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Hexachlorobenzene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Hexachlorobutadiene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Hexachlorocyclopentadiene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Hexachloroethane	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Isophorone	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
1-Methylnaphthalene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
2-Methylnaphthalene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
2-Methylphenol	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
3+4-Methylphenol	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
N-Nitrosodimethylamine	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
N-Nitrosodiphenylamine	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Naphthalene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
2-Nitroaniline	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
3-Nitroaniline	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
4-Nitroaniline	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Nitrobenzene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
2-Nitrophenol	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
4-Nitrophenol	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Pentachlorophenol	ND	20		µg/L	1	1/11/2018 11:27:09 AM	35949
Phenanthrene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Phenol	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

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Analytical Report

Lab Order 1801315

Date Reported: 1/16/2018

CLIENT: Enterprise Field Services

Client Sample ID: Tank

Project: Water Sample at Dove Creek Station

Collection Date: 1/5/2018 10:42:00 AM

Lab ID: 1801315-001

Matrix: AQUEOUS

Received Date: 1/8/2018 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Pyrene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Pyridine	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
1,2,4-Trichlorobenzene	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
2,4,5-Trichlorophenol	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
2,4,6-Trichlorophenol	ND	10		µg/L	1	1/11/2018 11:27:09 AM	35949
Surr: 2-Fluorophenol	34.5	15-114		%Rec	1	1/11/2018 11:27:09 AM	35949
Surr: Phenol-d5	21.7	15-97.9		%Rec	1	1/11/2018 11:27:09 AM	35949
Surr: 2,4,6-Tribromophenol	49.5	15-161		%Rec	1	1/11/2018 11:27:09 AM	35949
Surr: Nitrobenzene-d5	53.0	29.3-120		%Rec	1	1/11/2018 11:27:09 AM	35949
Surr: 2-Fluorobiphenyl	45.1	17.5-116		%Rec	1	1/11/2018 11:27:09 AM	35949
Surr: 4-Terphenyl-d14	25.9	21-92.2		%Rec	1	1/11/2018 11:27:09 AM	35949
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	5.5	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
Toluene	2.9	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
Ethylbenzene	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
Naphthalene	ND	2.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
1-Methylnaphthalene	ND	4.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
2-Methylnaphthalene	ND	4.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
Acetone	12	10		µg/L	1	1/10/2018 12:19:00 PM	R48323
Bromobenzene	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
Bromodichloromethane	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
Bromoform	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
Bromomethane	ND	3.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
2-Butanone	ND	10		µg/L	1	1/10/2018 12:19:00 PM	R48323
Carbon disulfide	ND	10		µg/L	1	1/10/2018 12:19:00 PM	R48323
Carbon Tetrachloride	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
Chlorobenzene	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
Chloroethane	ND	2.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
Chloroform	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
Chloromethane	ND	3.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
2-Chlorotoluene	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
4-Chlorotoluene	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
cis-1,2-DCE	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	F	Value above quantitation range
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	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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Analytical Report

Lab Order 1801315

Date Reported: 1/16/2018

CLIENT: Enterprise Field Services

Client Sample ID: Tank

Project: Water Sample at Dove Creek Station

Collection Date: 1/5/2018 10:42:00 AM

Lab ID: 1801315-001

Matrix: AQUEOUS

Received Date: 1/8/2018 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
Dibromochloromethane	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
Dibromomethane	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
1,1-Dichloroethane	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
1,1-Dichloroethene	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
1,2-Dichloropropane	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
1,3-Dichloropropane	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
2,2-Dichloropropane	ND	2.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
1,1-Dichloropropene	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
Hexachlorobutadiene	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
2-Hexanone	ND	10		µg/L	1	1/10/2018 12:19:00 PM	R48323
Isopropylbenzene	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
4-Isopropyltoluene	11	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
4-Methyl-2-pentanone	ND	10		µg/L	1	1/10/2018 12:19:00 PM	R48323
Methylene Chloride	ND	3.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
n-Butylbenzene	ND	3.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
n-Propylbenzene	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
sec-Butylbenzene	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
Styrene	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
tert-Butylbenzene	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
trans-1,2-DCE	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
Trichlorofluoromethane	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
Vinyl chloride	ND	1.0		µg/L	1	1/10/2018 12:19:00 PM	R48323
Xylenes, Total	3.0	1.5		µg/L	1	1/10/2018 12:19:00 PM	R48323
Surr: 1,2-Dichloroethane-d4	81.3	70-130		%Rec	1	1/10/2018 12:19:00 PM	R48323

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Lab Order 1801315

Date Reported: 1/16/2018

CLIENT: Enterprise Field Services

Client Sample ID: Tank

Project: Water Sample at Dove Creek Station

Collection Date: 1/5/2018 10:42:00 AM

Lab ID: 1801315-001

Matrix: AQUEOUS

Received Date: 1/8/2018 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Surr: 4-Bromofluorobenzene	79.5	70-130		%Rec	1	1/10/2018 12:19:00 PM	R48323
Surr: Dibromofluoromethane	82.5	70-130		%Rec	1	1/10/2018 12:19:00 PM	R48323
Surr: Toluene-d8	84.2	70-130		%Rec	1	1/10/2018 12:19:00 PM	R48323

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Qualifiers:	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1801315

16-Jan-18

Client: Enterprise Field Services
Project: Water Sample at Dove Creek Station

Sample ID	MB-35929	SampType:	MBLK	TestCode:	EPA Method 200.7: Metals					
Client ID:	PBW	Batch ID:	35929	RunNo:	48348					
Prep Date:	1/9/2018	Analysis Date:	1/10/2018	SeqNo.	1552905	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Silver	ND	0.0050								

Sample ID	LLLCS-35929	SampType:	LCSLL	TestCode:	EPA Method 200.7: Metals					
Client ID:	BatchQC	Batch ID:	35929	RunNo:	48348					
Prep Date:	1/9/2018	Analysis Date:	1/11/2018	SeqNo:	1552906	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Barium	0.0021	0.0020	0.002000	0	104	50	150			
Cadmium	ND	0.0020	0.002000	0	61.5	50	150			
Chromium	0.0061	0.0060	0.006000	0	102	50	150			
Silver	ND	0.0050	0.005000	0	94.8	50	150			

Sample ID	LCS-35929	SampType:	LCS	TestCode:	EPA Method 200.7: Metals					
Client ID:	LCSW	Batch ID:	35929	RunNo:	48348					
Prep Date:	1/9/2018	Analysis Date:	1/11/2018	SeqNo:	1552907	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Barium	0.50	0.0020	0.5000	0	99.2	85	115			
Cadmium	0.48	0.0020	0.5000	0	96.5	85	115			
Chromium	0.48	0.0060	0.5000	0	95.4	85	115			
Silver	0.10	0.0050	0.1000	0	103	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1801315

16-Jan-18

Client: Enterprise Field Services

Project: Water Sample at Dove Creek Station

Sample ID	MSLCS-35929		SampType:	LCS		TestCode:	EPA 200.8: Metals				
Client ID:	LCSW		Batch ID:	35929		RunNo:	48389				
Prep Date:	1/9/2018		Analysis Date:	1/11/2018		SeqNo:	1554931		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Arsenic	0.024	0.0010	0.02500	0	95.1	85	115				
Lead	0.012	0.00050	0.01250	0	92.5	85	115				

Sample ID	MSLLCS-35929	SampType:	LCSLL	TestCode:	EPA 200.8: Metals					
Client ID:	BatchQC	Batch ID:	35929	RunNo:	48389					
Prep Date:	1/9/2018	Analysis Date:	1/11/2018	SeqNo:	1554933	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	105	50	150			
Lead	ND	0.00050	0.0005000	0	89.5	50	150			

Sample ID	MB-35929	SampType:	MBLK	TestCode:	EPA 200.8: Metals					
Client ID:	PBW	Batch ID:	35929	RunNo:	48389					
Prep Date:	1/9/2018	Analysis Date:	1/11/2018	SeqNo:	1554985	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								

Sample ID	MB-35929	SampType:	MBLK	TestCode:	EPA 200.8: Metals					
Client ID:	PBW	Batch ID:	35929	RunNo:	48437					
Prep Date:	1/9/2018	Analysis Date:	1/15/2018	SeqNo:	1557198	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Sample ID	MSLLCS-35929	SampType:	LCSLL	TestCode:	EPA 200.8: Metals					
Client ID:	BatchQC	Batch ID:	35929	RunNo:	48437					
Prep Date:	1/9/2018	Analysis Date:	1/15/2018	SeqNo:	1557199	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010	0.001000	0	93.3	50	150			

Sample ID	MSLCS-35929	SampType:	LCS	TestCode:	EPA 200.8: Metals					
Client ID:	LCSW	Batch ID:	35929	RunNo:	48437					
Prep Date:	1/9/2018	Analysis Date:	1/15/2018	SeqNo:	1557200	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.022	0.0010	0.02500	0	87.3	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1801315

16-Jan-18

Client: Enterprise Field Services

Project: Water Sample at Dove Creek Station

Sample ID	MB-35927	SampType:	MBLK	TestCode:	EPA Method 245.1: Mercury					
Client ID:	PBW	Batch ID:	35927	RunNo:	48332					
Prep Date:	1/9/2018	Analysis Date:	1/10/2018	SeqNo:	1552518	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-35927	SampType:	LCS	TestCode:	EPA Method 245.1: Mercury					
Client ID:	LCSW	Batch ID:	35927	RunNo:	48332					
Prep Date:	1/9/2018	Analysis Date:	1/10/2018	SeqNo:	1552519	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0048	0.00020	0.005000	0	96.5	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1801315

16-Jan-18

Client: Enterprise Field Services

Project: Water Sample at Dove Creek Station

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R48298			RunNo: 48298					
Prep Date:		Analysis Date: 1/8/2018			SeqNo: 1551092		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	8.3		10.00		83.2	70	130			
Surr: 4-Bromofluorobenzene	8.0		10.00		79.9	70	130			
Surr: Dibromofluoromethane	8.3		10.00		83.0	70	130			
Surr: Toluene-d8	8.3		10.00		83.0	70	130			

Sample ID	RB	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R48298			RunNo: 48298					
Prep Date:		Analysis Date: 1/8/2018			SeqNo: 1551095		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	8.4		10.00		83.5	70	130			
Surr: 4-Bromofluorobenzene	8.0		10.00		79.8	70	130			
Surr: Dibromofluoromethane	8.3		10.00		83.3	70	130			
Surr: Toluene-d8	8.4		10.00		83.6	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R48323	RunNo:	48323					
Prep Date:		Analysis Date:	1/9/2018	SeqNo:	1551854	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.5	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Chlorobenzene	21	1.0	20.00	0	105	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	99.4	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	93.6	70	130			
Surr: 1,2-Dichloroethane-d4	8.5		10.00		85.3	70	130			
Surr: 4-Bromofluorobenzene	8.0		10.00		80.5	70	130			
Surr: Dibromofluoromethane	8.3		10.00		83.4	70	130			
Surr: Toluene-d8	8.3		10.00		83.0	70	130			

Sample ID	rb	SampType:	MBLK		TestCode:	EPA Method 8260B: VOLATILES				
Client ID:	PBW	Batch ID:	R48323		RunNo:	48323				
Prep Date:		Analysis Date:	1/9/2018		SeqNo:	1551855	Units:	µg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1801315

16-Jan-18

Client: Enterprise Field Services

Project: Water Sample at Dove Creek Station

Sample ID	rb	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID:	PBW	Batch ID: R48323		RunNo: 48323						
Prep Date:		Analysis Date: 1/9/2018		SeqNo: 1551855		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pII Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1801315

16-Jan-18

Client: Enterprise Field Services
Project: Water Sample at Dove Creek Station

Sample ID	rb	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID:	PBW	Batch ID: R48323		RunNo: 48323						
Prep Date:		Analysis Date: 1/9/2018		SeqNo: 1551855		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.7		10.00		87.1	70	130			
Surr: 4-Bromofluorobenzene	8.0		10.00		80.0	70	130			
Surr: Dibromofluoromethane	8.5		10.00		85.2	70	130			
Surr: Toluene-d8	8.4		10.00		83.9	70	130			

Sample ID	100ng lcs2	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES						
Client ID:	LCSW	Batch ID: A48323		RunNo: 48323						
Prep Date:		Analysis Date: 1/10/2018		SeqNo: 1551886		Units: %Rec				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	8.5		10.00		85.2	70	130			
Surr: 4-Bromofluorobenzene	8.1		10.00		81.3	70	130			
Surr: Dibromofluoromethane	8.5		10.00		85.4	70	130			
Surr: Toluene-d8	8.3		10.00		83.3	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1801315

16-Jan-18

Client: Enterprise Field Services

Project: Water Sample at Dove Creek Station

Sample ID: rb2	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: A48323		RunNo: 48323							
Prep Date:	Analysis Date: 1/10/2018		SeqNo: 1551887		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	8.6		10.00		86.3	70	130			
Surr: 4-Bromofluorobenzene	8.1		10.00		81.3	70	130			
Surr: Dibromofluoromethane	8.5		10.00		84.8	70	130			
Surr: Toluene-d8	8.4		10.00		83.6	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1801315

16-Jan-18

Client: Enterprise Field Services

Project: Water Sample at Dove Creek Station

Sample ID	1801315-001BMS	SampType:	MS	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	Tank	Batch ID:	35949	RunNo:	48371					
Prep Date:	1/10/2018	Analysis Date:	1/11/2018	SeqNo:	1555252	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	93	10	100.0	0	93.0	18.1	108			
4-Chloro-3-methylphenol	1000	10	200.0	0	502	15	111			ES
2-Chlorophenol	110	10	200.0	0	55.5	15	113			
1,4-Dichlorobenzene	84	10	100.0	0	84.5	21	81.3			S
2,4-Dinitrotoluene	74	10	100.0	7.540	66.4	27.4	101			
N-Nitrosodi-n-propylamine	99	10	100.0	0	99.2	24.9	107			
4-Nitrophenol	97	10	200.0	0	48.7	15	62.2			
Pentachlorophenol	160	20	200.0	0	80.0	15	96.9			
Phenol	100	10	200.0	0	51.8	15	64.7			
Pyrene	81	10	100.0	0	80.9	29.2	111			
1,2,4-Trichlorobenzene	92	10	100.0	0	92.1	22.9	94.8			
Surr: 2-Fluorophenol	130		200.0		64.3	15	114			
Surr: Phenol-d5	91		200.0		45.3	15	97.9			
Surr: 2,4,6-Tribromophenol	180		200.0		91.7	15	161			
Surr: Nitrobenzene-d5	90		100.0		89.8	29.3	120			
Surr: 2-Fluorobiphenyl	85		100.0		85.0	17.5	116			
Surr: 4-Terphenyl-d14	51		100.0		50.7	21	92.2			

Sample ID	1801315-001BMSD	SampType:	MSD	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	Tank	Batch ID:	35949	RunNo:	48371					
Prep Date:	1/10/2018	Analysis Date:	1/11/2018	SeqNo:	1555253	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	84	10	100.0	0	84.1	18.1	108	9.98	30.5	
4-Chloro-3-methylphenol	890	10	200.0	0	446	15	111	11.9	50	ES
2-Chlorophenol	110	10	200.0	0	55.0	15	113	0.796	36.3	
1,4-Dichlorobenzene	79	10	100.0	0	79.0	21	81.3	6.70	42.1	
2,4-Dinitrotoluene	68	10	100.0	7.540	60.1	27.4	101	8.93	28.5	
N-Nitrosodi-n-propylamine	88	10	100.0	0	87.7	24.9	107	12.3	25.4	
4-Nitrophenol	97	10	200.0	0	48.4	15	62.2	0.659	50	
Pentachlorophenol	140	20	200.0	0	71.6	15	96.9	11.2	50	
Phenol	95	10	200.0	0	47.7	15	64.7	8.19	46.1	
Pyrene	79	10	100.0	0	79.0	29.2	111	2.35	34.3	
1,2,4-Trichlorobenzene	85	10	100.0	0	84.8	22.9	94.8	8.23	43.6	
Surr: 2-Fluorophenol	130		200.0		63.4	15	114	0	0	
Surr: Phenol-d5	89		200.0		44.6	15	97.9	0	0	
Surr: 2,4,6-Tribromophenol	170		200.0		85.9	15	161	0	0	
Surr: Nitrobenzene-d5	81		100.0		80.5	29.3	120	0	0	
Surr: 2-Fluorobiphenyl	73		100.0		73.4	17.5	116	0	0	

Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1801315

16-Jan-18

Client: Enterprise Field Services
Project: Water Sample at Dove Creek Station

Sample ID	1801315-001BMSD	SampType: MSD	TestCode: EPA Method 8270C: Semivolatiles							
Client ID:	Tank	Batch ID: 35949	RunNo: 48371							
Prep Date:	1/10/2018	Analysis Date: 1/11/2018	SeqNo: 1555253	Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	45		100.0		45.3	21	92.2	0	0	

Sample ID	lcs-35949	SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles						
Client ID:	LCSW	Batch ID: 35949		RunNo: 48371						
Prep Date:	1/10/2018	Analysis Date: 1/11/2018		SeqNo: 1555254			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	87	10	100.0	0	87.0	39.7	103			
4-Chloro-3-methylphenol	180	10	200.0	0	88.2	40.5	108			
2-Chlorophenol	180	10	200.0	0	87.8	35	103			
1,4-Dichlorobenzene	73	10	100.0	0	73.1	24.7	93.7			
2,4-Dinitrotoluene	74	10	100.0	0	74.5	35.6	91.4			
N-Nitrosodi-n-propylamine	87	10	100.0	0	87.0	41.6	114			
4-Nitrophenol	94	10	200.0	0	47.0	20.7	74.3			
Pentachlorophenol	130	20	200.0	0	64.3	25.3	98.5			
Phenol	99	10	200.0	0	49.7	20.9	75.1			
Pyrene	85	10	100.0	0	85.4	45.6	108			
1,2,4-Trichlorobenzene	81	10	100.0	0	80.7	30.3	106			
Surr: 2-Fluorophenol	130		200.0		63.4	15	114			
Surr: Phenol-d5	94		200.0		47.1	15	97.9			
Surr: 2,4,6-Tribromophenol	170		200.0		86.3	15	161			
Surr: Nitrobenzene-d5	87		100.0		87.5	29.3	120			
Surr: 2-Fluorobiphenyl	85		100.0		85.0	17.5	116			
Surr: 4-Terphenyl-d14	60		100.0		59.5	21	92.2			

Sample ID	mb-35949	SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles						
Client ID:	PBW	Batch ID: 35949		RunNo: 48371						
Prep Date:	1/10/2018	Analysis Date: 1/11/2018		SeqNo: 1555255		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1801315

16-Jan-18

Client: Enterprise Field Services
Project: Water Sample at Dove Creek Station

Sample ID	mb-35949	SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles						
Client ID:	PBW	Batch ID: 35949		RunNo: 48371						
Prep Date:	1/10/2018	Analysis Date: 1/11/2018		SeqNo: 1555255		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								

Qualifiers:

* Value exceeds Maximum Contaminant Level
D Sample Diluted Due to Matrix
II Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1801315

16-Jan-18

Client: Enterprise Field Services

Project: Water Sample at Dove Creek Station

Sample ID	mb-35949	SampType	MBLK								TestCode	EPA Method 8270C: Semivolatiles					
Client ID	PBW	Batch ID	35949								RunNo	48371					
Prep Date	1/10/2018	Analysis Date	1/11/2018								SeqNo	1555255		Units	µg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual							
1-Methylnaphthalene	ND	10															
2-Methylnaphthalene	ND	10															
2-Methylphenol	ND	10															
3+4-Methylphenol	ND	10															
N-Nitrosodi-n-propylamine	ND	10															
N-Nitrosodimethylamine	ND	10															
N-Nitrosodiphenylamine	ND	10															
Naphthalene	ND	10															
2-Nitroaniline	ND	10															
3-Nitroaniline	ND	10															
4-Nitroaniline	ND	10															
Nitrobenzene	ND	10															
2-Nitrophenol	ND	10															
4-Nitrophenol	ND	10															
Pentachlorophenol	ND	20															
Phenanthrene	ND	10															
Phenol	ND	10															
Pyrene	ND	10															
Pyridine	ND	10															
1,2,4-Trichlorobenzene	ND	10															
2,4,5-Trichlorophenol	ND	10															
2,4,6-Trichlorophenol	ND	10															
Surr: 2-Fluorophenol	87		200.0		43.3	15	114										
Surr: Phenol-d5	61		200.0		30.4	15	97.9										
Surr: 2,4,6-Tribromophenol	120		200.0		61.3	15	161										
Surr: Nitrobenzene-d5	58		100.0		58.2	29.3	120										
Surr: 2-Fluorobiphenyl	53		100.0		52.6	17.5	116										
Surr: 4-Terphenyl-d14	42		100.0		41.9	21	92.2										

Qualifiers:

* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Enterprise

Work Order Number: 1801315

RcptNo: 1

Received By: Isalah Ortiz 1/8/2018 9:00:00 AM

Completed By: Ashley Gallegos 1/8/2018 9:42:11 AM

Reviewed By: *SR* 01/08/18

IC

AG

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? FedEx

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐
- # of preserved bottles checked for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____ Date: _____
By Whom: _____ Via ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.6	Good	Yes			

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Good till 7/16/2020

Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site:

Pump Mesa Compressor Station

3. Location of Material (Street Address, City, State or ULSTR):

UL J Section 14 Township 31 North Range 8 West; 36.893804, -107.645055

4. Source and Description of Waste:

Source: Water/Oil from the Non Exempt WasteWater Tanks and from the compressor skid drains.

Description: Non Exempt/Non Hazardous Water from the compressor skids.

Estimated Volume 80 yd³ bbls Known Volume (to be entered by the operator at the end of the haul) yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long, representative or authorized agent for Enterprise Products Operating do hereby

Generator Signature

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long, representative for Enterprise Products Operating authorize to complete

Generator Signature

the required testing/sign the Generator Waste Testing Certification.

I, _____, representative for Agua Moss, LLC do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: To Be Determined

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: *Agua Moss, LLC - Permit #: NM-01-009

Address of Facility: SW/4 NW/4 Section 2, Township 29N, Range Crouch Mesa, NM

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME:

TITLE:

DATE:

SIGNATURE:

TELEPHONE NO.:

Surface Waste Management Facility Authorized Agent



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 16, 2019

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-5667
FAX (505) 327-1496

RE: Pump Mesa

OrderNo.: 1906F91

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/28/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906F91

Date Reported: 7/16/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Pump Mesa Non Exempt

Project: Pump Mesa

Collection Date: 6/27/2019 7:37:00 AM

Lab ID: 1906F91-001

Matrix: AQUEOUS

Received Date: 6/28/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 7470: MERCURY							Analyst: rde
Mercury	ND	0.020		mg/L	1	7/8/2019 4:46:20 PM	46042
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: bcv
Arsenic	ND	5.0		mg/L	5	7/1/2019 8:19:52 AM	45913
Barium	ND	100		mg/L	5	7/1/2019 8:19:52 AM	45913
Cadmium	ND	1.0		mg/L	5	7/1/2019 8:19:52 AM	45913
Chromium	ND	5.0		mg/L	5	7/1/2019 8:19:52 AM	45913
Lead	ND	5.0		mg/L	5	7/1/2019 8:19:52 AM	45913
Selenium	ND	1.0		mg/L	5	7/1/2019 8:19:52 AM	45913
Silver	ND	5.0		mg/L	5	7/1/2019 8:19:52 AM	45913
EPA METHOD 8270C: PAHS							Analyst: JDC
Naphthalene	ND	5.0	D	µg/L	10	7/10/2019 12:18:41 AM	45966
1-Methylnaphthalene	ND	10	D	µg/L	10	7/10/2019 12:18:41 AM	45966
2-Methylnaphthalene	ND	10	D	µg/L	10	7/10/2019 12:18:41 AM	45966
Acenaphthylene	ND	5.0	D	µg/L	10	7/10/2019 12:18:41 AM	45966
Acenaphthene	ND	5.0	D	µg/L	10	7/10/2019 12:18:41 AM	45966
Fluorene	ND	5.0	D	µg/L	10	7/10/2019 12:18:41 AM	45966
Phenanthrene	ND	5.0	D	µg/L	10	7/10/2019 12:18:41 AM	45966
Anthracene	ND	5.0	D	µg/L	10	7/10/2019 12:18:41 AM	45966
Fluoranthene	ND	5.0	D	µg/L	10	7/10/2019 12:18:41 AM	45966
Pyrene	ND	5.0	D	µg/L	10	7/10/2019 12:18:41 AM	45966
Benz(a)anthracene	ND	5.0	D	µg/L	10	7/10/2019 12:18:41 AM	45966
Chrysene	ND	5.0	D	µg/L	10	7/10/2019 12:18:41 AM	45966
Benzo(b)fluoranthene	ND	5.0	D	µg/L	10	7/10/2019 12:18:41 AM	45966
Benzo(k)fluoranthene	ND	5.0	D	µg/L	10	7/10/2019 12:18:41 AM	45966
Benzo(a)pyrene	ND	5.0	D	µg/L	10	7/10/2019 12:18:41 AM	45966
Dibenz(a,h)anthracene	ND	5.0	D	µg/L	10	7/10/2019 12:18:41 AM	45966
Benzo(g,h,i)perylene	ND	5.0	D	µg/L	10	7/10/2019 12:18:41 AM	45966
Indeno(1,2,3-cd)pyrene	ND	5.0	D	µg/L	10	7/10/2019 12:18:41 AM	45966
Surr: N-hexadecane	0	20.4-126	SD	%Rec	10	7/10/2019 12:18:41 AM	45966
Surr: Benzo(e)pyrene	0	21.4-126	SD	%Rec	10	7/10/2019 12:18:41 AM	45966
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	0.50		mg/L	200	7/1/2019 5:28:13 PM	R61089
Toluene	0.67	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
Ethylbenzene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
1,2,4-Trimethylbenzene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
1,3,5-Trimethylbenzene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
1,2-Dichloroethane (EDC)	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level
D	Sample Diluted Due to Matrix
II	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quantitative Limit
S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906F91

Date Reported: 7/16/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Pump MESA Non Exempt

Project: Pump Mesa

Collection Date: 6/27/2019 7:37:00 AM

Lab ID: 1906F91-001

Matrix: AQUEOUS

Received Date: 6/28/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,2-Dibromoethane (EDB)	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
Naphthalene	ND	0.40		mg/L	200	7/1/2019 5:28:13 PM	R61089
1-Methylnaphthalene	ND	0.80		mg/L	200	7/1/2019 5:28:13 PM	R61089
2-Methylnaphthalene	ND	0.80		mg/L	200	7/1/2019 5:28:13 PM	R61089
Acetone	ND	2.0		mg/L	200	7/1/2019 5:28:13 PM	R61089
Bromobenzene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
Bromodichloromethane	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
Bromoform	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
Bromomethane	ND	0.60		mg/L	200	7/1/2019 5:28:13 PM	R61089
2-Butanone	ND	2.0		mg/L	200	7/1/2019 5:28:13 PM	R61089
Carbon disulfide	ND	2.0		mg/L	200	7/1/2019 5:28:13 PM	R61089
Carbon Tetrachloride	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
Chlorobenzene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
Chloroethane	ND	0.40		mg/L	200	7/1/2019 5:28:13 PM	R61089
Chloroform	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
Chloromethane	ND	0.60		mg/L	200	7/1/2019 5:28:13 PM	R61089
2-Chlorotoluene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
4-Chlorotoluene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
cis-1,2-DCE	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
cis-1,3-Dichloropropene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
1,2-Dibromo-3-chloropropane	ND	0.40		mg/L	200	7/1/2019 5:28:13 PM	R61089
Dibromochloromethane	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
Dibromomethane	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
1,2-Dichlorobenzene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
1,3-Dichlorobenzene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
1,4-Dichlorobenzene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
Dichlorodifluoromethane	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
1,1-Dichloroethane	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
1,1-Dichloroethene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
1,2-Dichloropropane	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
1,3-Dichloropropane	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
2,2-Dichloropropane	ND	0.40		mg/L	200	7/1/2019 5:28:13 PM	R61089
1,1-Dichloropropene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
Hexachlorobutadiene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
2-Hexanone	ND	2.0		mg/L	200	7/1/2019 5:28:13 PM	R61089
Isopropylbenzene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
4-Isopropyltoluene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
4-Methyl-2-pentanone	ND	2.0		mg/L	200	7/1/2019 5:28:13 PM	R61089
Methylene Chloride	ND	0.60		mg/L	200	7/1/2019 5:28:13 PM	R61089

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQT Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RI Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906F91

Date Reported: 7/16/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Pump MESA Non Exempt

Project: Pump Mesa

Collection Date: 6/27/2019 7:37:00 AM

Lab ID: 1906F91-001

Matrix: AQUEOUS

Received Date: 6/28/2019 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
n-Butylbenzene	ND	0.60		mg/L	200	7/1/2019 5:28:13 PM	R61089
n-Propylbenzene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
sec-Butylbenzene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
Styrene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
tert-Butylbenzene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
1,1,1,2-Tetrachloroethane	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
1,1,2,2-Tetrachloroethane	ND	0.40		mg/L	200	7/1/2019 5:28:13 PM	R61089
Tetrachloroethene (PCE)	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
trans-1,2-DCE	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
trans-1,3-Dichloropropene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
1,2,3-Trichlorobenzene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
1,2,4-Trichlorobenzene	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
1,1,1-Trichloroethane	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
1,1,2-Trichloroethane	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
Trichloroethene (TCE)	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
Trichlorofluoromethane	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
1,2,3-Trichloropropane	ND	0.40		mg/L	200	7/1/2019 5:28:13 PM	R61089
Vinyl chloride	ND	0.20		mg/L	200	7/1/2019 5:28:13 PM	R61089
Xylenes, Total	0.43	0.30		mg/L	200	7/1/2019 5:28:13 PM	R61089
Surr: 1,2-Dichloroethane-d4	99.1	70-130		%Rec	200	7/1/2019 5:28:13 PM	R61089
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	200	7/1/2019 5:28:13 PM	R61089
Surr: Dibromofluoromethane	95.1	70-130		%Rec	200	7/1/2019 5:28:13 PM	R61089
Surr: Toluene-d8	97.9	70-130		%Rec	200	7/1/2019 5:28:13 PM	R61089

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

1906F91-001D PUMP MESA NON EXEMPT

Collected date/time: 06/27/19 07:37

SAMPLE RESULTS - 01

L1114958

ONE LAB. NATIONWIDE



Wet Chemistry by Method 4500 CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Cyanide	0.0191		0.00500	1	07/19/2019 18:22	WG1303752

Wet Chemistry by Method 9034-9030B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Sulfide	0.0650		0.0500	1	07/03/2019 19:52	WG1305508

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Corrosivity by pH	6.74	TE	1	07/10/2019 10:35	WG1303917

Sample Narrative:

L1114958-01 WG1308817: 6.74 at 10.1C

Wet Chemistry by Method D93/1010A

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Flashpoint	DNF at 170		1	07/09/2019 12:16	WG1304093

1

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 GI

8 Al

9 Sc

ACCOUNT:

PROJECT:

SNG:

DATE/TIME:

WG1308752

Wet Chemistry by Method 4500 CN E-2011

QUALITY CONTROL SUMMARY

L1114958-01

ONE LAB. NATIONWIDE.

Method Blank (MB)

(MB) R3429895-1 07/11/19 17:55

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Cyanide	U		0.00180	0.00500

L1114298-23 Original Sample (OS) • Duplicate (DUP)

(OS) L1114298-23 07/11/19 18:01 • (DUP) R3429895-3 07/11/19 18:02

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Reactive Cyanide	ND	0.000	1	0.000		20

L1115020-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1115020-01 07/11/19 18:53 • (DUP) R3429895-8 07/11/19 18:54

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Reactive Cyanide	2.47	2.09	50	16.9		20

Laboratory Control Sample (LCS)

(LCS) R3429895-2 07/11/19 17:56

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Reactive Cyanide	0.100	0.0965	96.5	85.0-115	

L1114298-25 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1114298-25 07/11/19 18:03 • (MS) R3429895-4 07/11/19 18:04 • (MSD) R3429895-5 07/11/19 18:07

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Reactive Cyanide	0.100	ND	0.0977	0.0936	1	75.0-125			4.29	20

ACCOUNT:

PROJECT:

SDG:

DATE/TIME:

Method Blank (MB)

(MB) R3427441-1 07/03/19 19:48

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Reactive Sulfide:	mg/l		mg/l	mg/l
	U		0.00650	0.0500

Laboratory Control Sample (LCS)

(LCS) R3427441-2 07/03/19 19:48

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Reactive Sulfide	mg/l	mg/l	%	%	
	0.500	0.543	109	85.0-115	

L1114999-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1114999-01 07/03/19 19:54 • (MS) R3427441-5 07/03/19 19:54 • (MSD) R3427441-6 07/03/19 19:55

Analyte	Spike Amount	Original Result	MS Result	MSD Result	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Reactive Sulfide	mg/l	mg/l	mg/l	mg/l		%			%	%
	1.00	ND	0.927	0.942	1	80.0-120			1.61	20

Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

WG1308817

Wet Chemistry by Method 9040C

QUALITY CONTROL SUMMARY

ONE LAB NATIONWIDE

L1114958-01

L1114958-01 Original Sample (OS) - Duplicate (DUP)

(OS) L1114958-01 07/10/19 10:35 • (DUP) R3429358-2 07/10/19 10:35

Analyte	Original Result		DUP Result		Dilution	DUP RPD		DUP Qualifier	DUP RPD Limits	
	su	%	su	%		%	%		%	%
Corrosivity by pH	6.74		6.74		1	0.000				1

Sample Narrative:

OS: 6.74 at 10.1C

DUP: 6.74 at 13.3C

Laboratory Control Sample (LCS)

(LCS) R3429358-1 07/10/19 10:35

Analyte	Spike Amount		LCS Result		LCS Rec.		Rec. Limits		LCS Qualifier	
	su	%	su	%	%	%	%	%	%	%
Corrosivity by pH	10.0		9.96		99.6		99.0-101			

Sample Narrative:

LCS: 9.96 at 22.1C

1

Tc

3

Ss

4

Cn

5

Sr

5

Qc

7

Gl

11

Al

19

Sc

ACCOUNT:

PROJECT:

SOG:

DATE/TIME:

(OS) L1114968-01 07/09/19 12:16 • (DUP) R3428833-2 07/09/19 12:16

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Flashpoint	deg F DNF at 170	deg F DNF at 170	1	% 0.000		% 10

Laboratory Control Sample (LCS)

(LCS) R3428833-1 07/09/19 12:16

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Flashpoint	deg F 82.0	deg F 83.8	% 102	% 96.0-104	

Tc

Ss

Cn

Sr

Gc

Gl

Al

Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.
Qualifier	Description
T8	Sample(s) received past/too close to holding time expiration.

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906F91

16-Jul-19

Client: Souder, Miller and Associates

Project: Pump Mesa

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R61089	RunNo: 61089								
Prep Date:	Analysis Date: 7/1/2019	SeqNo: 2069292			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	20	1.0	20.00	0	102	70	130			
Chlorobenzene	21	1.0	20.00	0	106	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	97.5	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	98.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.8	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.7	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.0	70	130			
Surr: Toluene-d8	9.2		10.00		92.1	70	130			

Sample ID: 1906F91-001a ms	SampType: MS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: Pump Mesa Non Ex	Batch ID: R61089	RunNo: 61089								
Prep Date:	Analysis Date: 7/1/2019	SeqNo: 2069297		Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.1	0.20	4.000	0.3920	92.9	70	130			
Toluene	4.3	0.20	4.000	0.6671	91.2	70	130			
Chlorobenzene	3.7	0.20	4.000	0	91.9	70	130			
1,1-Dichloroethene	3.7	0.20	4.000	0	93.2	67.6	130			
Trichloroethene (TCE)	3.6	0.20	4.000	0	91.1	70	130			
Surr: 1,2-Dichloroethane-d4	1.9		2.000		97.0	70	130			
Surr: 4-Bromofluorobenzene	2.0		2.000		98.6	70	130			
Surr: Dibromofluoromethane	1.9		2.000		96.1	70	130			
Surr: Toluene-d8	1.9		2.000		94.7	70	130			

Sample ID: 1906F91-001a msd		SampType: MSD		TestCode: EPA Method 8260B: VOLATILES						
Client ID: Pump Mesa Non Ex		Batch ID: R61089		RunNo: 61089						
Prep Date:		Analysis Date: 7/1/2019		SeqNo: 2069298		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	3.9	0.20	4.000	0.3920	88.0	70	130	4.85	20	
Toluene	4.3	0.20	4.000	0.6671	91.4	70	130	0.125	20	
Chlorobenzene	3.6	0.20	4.000	0	91.0	70	130	1.04	20	
1,1-Dichloroethene	3.6	0.20	4.000	0	90.6	67.6	130	2.77	20	
Trichloroethene (TCE)	3.6	0.20	4.000	0	89.5	70	130	1.74	20	
Surr: 1,2-Dichloroethane-d4	1.9		2.000		94.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	2.0		2.000		99.6	70	130	0	0	
Surr: Dibromofluoromethane	1.9		2.000		95.4	70	130	0	0	
Surr: Toluene-d8	2.0		2.000		98.7	70	130	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906F91

16-Jul-19

Client: Souder, Miller and Associates

Project: Pump Mesa

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R61089	RunNo: 61089								
Prep Date:	Analysis Date: 7/1/2019	SeqNo: 2069301	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

H Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906F91

16-Jul-19

Client: Souder, Miller and Associates

Project: Pump Mesa

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R61089	RunNo: 61089								
Prep Date:	Analysis Date: 7/1/2019	SeqNo: 2069301 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.0		10.00		89.8	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		95.1	70	130			
Surr: Dibromofluoromethane	9.4		10.00		94.3	70	130			
Surr: Toluene-d8	9.6		10.00		96.3	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
II Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906F91

16-Jul-19

Client: Souder, Miller and Associates

Project: Pump Mesa

Sample ID: mb-45966	SampType: MBLK		TestCode: EPA Method 8270C: PAHs							
Client ID: PBW	Batch ID: 45966		RunNo: 61260							
Prep Date: 7/2/2019	Analysis Date: 7/9/2019		SeqNo: 2076599		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	1.0								
2-Methylnaphthalene	ND	1.0								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
Pyrene	ND	0.50								
Benz(a)anthracene	ND	0.50								
Chrysene	ND	0.50								
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	62		87.60		71.3	20.4	126			
Surr: Benzo(e)pyrene	21		20.00		107	21.4	126			

Sample ID: lcs-45966	SampType: LCS	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSW	Batch ID: 45966	RunNo: 61260								
Prep Date: 7/2/2019	Analysis Date: 7/9/2019	SeqNo: 2076600			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	15	0.50	20.00	0	77.3	29.6	105			
1-Methylnaphthalene	15	1.0	20.00	0	75.6	33.4	112			
2-Methylnaphthalene	14	1.0	20.00	0	71.0	28.6	108			
Acenaphthylene	16	0.50	20.00	0	79.2	35.7	116			
Acenaphthene	18	0.50	20.00	0	88.4	32.4	118			
Fluorene	18	0.50	20.00	0	87.7	35.6	118			
Phenanthrene	17	0.50	20.00	0	87.4	36.3	130			
Anthracene	17	0.50	20.00	0	84.2	34.8	135			
Fluoranthene	20	0.50	20.00	0	98.8	41	136			
Pyrene	20	0.50	20.00	0	101	44.8	136			
Benz(a)anthracene	18	0.50	20.00	0	92.3	41.1	136			
Chrysene	16	0.50	20.00	0	80.0	37.9	132			
Benzo(b)fluoranthene	19	0.50	20.00	0	97.2	39	144			

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- BI Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906F91

16-Jul-19

Client: Souder, Miller and Associates

Project: Pump Mesa

Sample ID: Ics-45966	SampType: LCS	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSW	Batch ID: 45966	RunNo: 61260								
Prep Date: 7/2/2019	Analysis Date: 7/9/2019	SeqNo: 2076600			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	18	0.50	20.00	0	89.1	40	144			
Benzo(a)pyrene	20	0.50	20.00	0	102	36.8	137			
Dibenz(a,h)anthracene	22	0.50	20.00	0	111	31.5	141			
Benzo(g,h,i)perylene	24	0.50	20.00	0	118	32.9	138			
Indeno(1,2,3-cd)pyrene	21	0.50	20.00	0	105	40.9	143			
Surr: N-hexadecane	59		87.60		67.2	20.4	126			
Surr: Benzo(e)pyrene	20		20.00		102	21.4	126			

Sample ID: Icsd-45966	SampType: LCSD		TestCode: EPA Method 8270C: PAHs							
Client ID: LCSS02	Batch ID: 45966		RunNo: 61260							
Prep Date: 7/2/2019	Analysis Date: 7/9/2019		SeqNo: 2076603		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	14	0.50	20.00	0	72.4	29.6	105	6.55	68.7	
1-Methylnaphthalene	14	1.0	20.00	0	69.0	33.4	112	9.13	66	
2-Methylnaphthalene	14	1.0	20.00	0	69.8	28.6	108	1.70	68.7	
Acenaphthylene	15	0.50	20.00	0	75.2	35.7	116	5.18	64.9	
Acenaphthene	16	0.50	20.00	0	78.8	32.4	118	11.5	53.2	
Fluorene	16	0.50	20.00	0	77.7	35.6	118	12.1	62.4	
Phenanthrene	17	0.50	20.00	0	83.0	36.3	130	5.16	62.6	
Anthracene	16	0.50	20.00	0	78.3	34.8	135	7.26	62.4	
Fluoranthene	18	0.50	20.00	0	90.6	41	136	8.66	59.4	
Pyrene	18	0.50	20.00	0	89.7	44.8	136	11.7	55.4	
Benz(a)anthracene	17	0.50	20.00	0	84.8	41.1	136	8.47	56.6	
Chrysene	16	0.50	20.00	0	77.8	37.9	132	2.79	51.9	
Benzo(b)fluoranthene	17	0.50	20.00	0	85.3	39	144	13.0	59.1	
Benzo(k)fluoranthene	17	0.50	20.00	0	83.3	40	144	6.73	57	
Benzo(a)pyrene	18	0.50	20.00	0	89.4	36.8	137	13.2	60.2	
Dibenz(a,h)anthracene	20	0.50	20.00	0	98.9	31.5	141	11.3	64.7	
Benzo(g,h,i)perylene	21	0.50	20.00	0	103	32.9	138	13.2	61.5	
Indeno(1,2,3-cd)pyrene	19	0.50	20.00	0	93.1	40.9	143	11.6	61.1	
Surr: N-hexadecane	55		87.60		63.1	20.4	126	0	0	
Surr: Benzo(e)pyrene	17		20.00		86.4	21.4	126	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level
D Sample Diluted Due to Matrix
II Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906F91

16-Jul-19

Client: Souder, Miller and Associates

Project: Pump Mesa

Sample ID: MB-46042	SampType: MBLK	TestCode: EPA Method 7470: Mercury
Client ID: PBW	Batch ID: 46042	RunNo: 61213
Prep Date: 7/8/2019	Analysis Date: 7/8/2019	SeqNo: 2075003 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND 0.00020	

Sample ID: LCS-46042	SampType: LCS	TestCode: EPA Method 7470: Mercury
Client ID: LCSW	Batch ID: 46042	RunNo: 61213
Prep Date: 7/8/2019	Analysis Date: 7/8/2019	SeqNo: 2075006 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0041 0.00020 0.005000 0 82.3 80 120	

Qualifiers:

* Value exceeds Maximum Contaminant Level
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906F91

16-Jul-19

Client: Souder, Miller and Associates

Project: Pump Mesa

Sample ID: 1906F91-001CMS	SampType: MS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: Pump Mesa Non Ex	Batch ID: 45913	RunNo: 61075								
Prep Date: 6/28/2019	Analysis Date: 7/1/2019	SeqNo: 2068303 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.56	0.10	0.5000	0.1054	91.8	75	125			
Barium	0.50	0.10	0.5000	0.05725	88.9	75	125			
Cadmium	0.47	0.010	0.5000	0.02330	88.8	75	125			
Chromium	0.47	0.030	0.5000	0	93.7	75	125			
Lead	0.48	0.025	0.5000	0.07147	81.0	75	125			
Selenium	0.98	0.25	0.5000	0.3517	125	75	125			S
Silver	0.090	0.025	0.1000	0.005193	85.0	75	125			

Sample ID: 1906F91-001CMSD	SampType: MSD	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: Pump Mesa Non Ex	Batch ID: 45913	RunNo: 61075								
Prep Date: 6/28/2019	Analysis Date: 7/1/2019	SeqNo: 2068304 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.66	0.10	0.5000	0.1054	111	75	125	15.6	20	
Barium	0.49	0.10	0.5000	0.05725	87.1	75	125	1.83	20	
Cadmium	0.46	0.010	0.5000	0.02330	87.2	75	125	1.76	20	
Chromium	0.46	0.030	0.5000	0	92.0	75	125	1.85	20	
Lead	0.51	0.025	0.5000	0.07147	86.7	75	125	5.84	20	
Selenium	0.91	0.25	0.5000	0.3517	112	75	125	7.34	20	
Silver	0.087	0.025	0.1000	0.005193	81.7	75	125	3.77	20	

Sample ID: 1906F91-001C	SampType: PS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: Pump Mesa Non Ex	Batch ID: 45913	RunNo: 61075								
Prep Date: 6/28/2019	Analysis Date: 7/1/2019	SeqNo: 2068307 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	3.5	0.25	2.500	0.3517	126	80	120			S

Sample ID: MB-45913	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 45913	RunNo: 61075								
Prep Date: 6/28/2019	Analysis Date: 7/1/2019	SeqNo: 2068316 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	ND	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906F91

16-Jul-19

Client: Souder, Miller and Associates

Project: Pump Mesa

Sample ID: LCS-45913	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 45913	RunNo: 61075								
Prep Date: 6/28/2019	Analysis Date: 7/1/2019	SeqNo: 2068317 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.50	0.020	0.5000	0	101	80	120			
Barium	0.49	0.020	0.5000	0	97.9	80	120			
Cadmium	0.50	0.0020	0.5000	0	100	80	120			
Chromium	0.50	0.0060	0.5000	0	100	80	120			
Lead	0.50	0.0050	0.5000	0	99.2	80	120			
Selenium	0.51	0.050	0.5000	0	103	80	120			
Silver	0.10	0.0050	0.1000	0	102	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Limit
S % Recovery outside of range due to dilution or matrix	

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1906F91

RcptNo: 1

Received By: Thom Maybee

6/28/2019 8:30:00 AM

Completed By: Leah Baca

6/28/2019 9:45:46 AM

Reviewed By: *LB*

6/28/19

Leah Baca

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐

2. How was the sample delivered? Client

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐

4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐

5. Sample(s) in proper container(s)? Yes ☒ No ☐

6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐

7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐

8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐

9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐

10. Were any sample containers received broken? Yes ☐ No ☒

11. Does paperwork match bottle labels? Yes ☒ No ☐

(Note discrepancies on chain of custody)

12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐

13. Is it clear what analyses were requested? Yes ☒ No ☐

14. Were all holding times able to be met? Yes ☒ No ☐

(If no, notify customer for authorization.)

of preserved bottles checked for pH: 1, 2
(2 or 12 unless noted)

Adjusted? NO

Checked by: TO 6/28/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:

Date

By Whom:

Via:

☐ eMail

☐ Phone

☐ Fax

☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.8	Good	Yes			
2	3.6	Good	Yes			

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Good till 11/11/2020

Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site:

Navajo City Compressor Station

3. Location of Material (Street Address, City, State or ULSTR):

Section 33 Township 30 North Range 7 West; 36.36.769552, -107.582618 San Juan County, NM

4. Source and Description of Waste:

Source: Water/Oil from the Non Exempt WasteWater Tanks and from the compressor skid drains.

Description: Non Exempt/Non Hazardous Water from the compressor skids.

Estimated Volume 60 yd³ bbls Known Volume (to be entered by the operator at the end of the haul) _____ yd³ / bbls

5.

GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long *Thomas Long*, representative or authorized agent for Enterprise Products Operating do hereby

Generator Signature

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long *Thomas Long*, representative for Enterprise Products Operating authorize to complete

Generator Signature

the required testing/sign the Generator Waste Testing Certification.

I, _____, representative for Agua Moss, LLC do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: Various Apporved Trucking

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: *Agua Moss, LLC - Permit #: NM-01-009

Address of Facility: SW/4 NW/4 Section 2, Township 29N, Range Crouch Mesa, NM

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: _____

TITLE: _____

DATE: _____

SIGNATURE: _____

TELEPHONE NO.: _____

Surface Waste Management Facility Authorized Agent



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 11, 2019

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-7535
FAX

RE: Navajo CS

OrderNo.: 1901025

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 1/3/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1901025

Date Reported: 1/11/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Non Exempt

Project: Navajo CS

Collection Date: 1/2/2019 1:38:00 PM

Lab ID: 1901025-001

Matrix: AQUEOUS

Received Date: 1/3/2019 9:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6020: TOTAL METALS						Analyst: DBK
Arsenic	ND	0.50		mg/L	1	1/8/2019 6:28:57 PM
Barium	ND	10		mg/L	1	1/8/2019 6:28:57 PM
Cadmium	ND	0.10		mg/L	1	1/8/2019 6:28:57 PM
Chromium	ND	0.50		mg/L	1	1/8/2019 6:28:57 PM
Lead	ND	0.50		mg/L	1	1/8/2019 6:28:57 PM
Selenium	ND	0.10		mg/L	1	1/8/2019 6:28:57 PM
Silver	ND	0.50		mg/L	1	1/8/2019 6:28:57 PM
EPA METHOD 7470: MERCURY						Analyst: pmf
Mercury	ND	0.020		mg/L	1	1/10/2019 1:51:13 PM
EPA METHOD 8270C: PAHS						Analyst: DAM
Naphthalene	ND	25	D	µg/L	10	1/9/2019 3:44:53 PM
1-Methylnaphthalene	ND	50	D	µg/L	10	1/9/2019 3:44:53 PM
2-Methylnaphthalene	ND	50	D	µg/L	10	1/9/2019 3:44:53 PM
Acenaphthylene	ND	25	D	µg/L	10	1/9/2019 3:44:53 PM
Acenaphthene	ND	25	D	µg/L	10	1/9/2019 3:44:53 PM
Fluorene	ND	25	D	µg/L	10	1/9/2019 3:44:53 PM
Phenanthrene	ND	25	D	µg/L	10	1/9/2019 3:44:53 PM
Anthracene	ND	25	D	µg/L	10	1/9/2019 3:44:53 PM
Fluoranthene	ND	25	D	µg/L	10	1/9/2019 3:44:53 PM
Pyrene	ND	25	D	µg/L	10	1/9/2019 3:44:53 PM
Benz(a)anthracene	ND	25	D	µg/L	10	1/9/2019 3:44:53 PM
Chrysene	ND	25	D	µg/L	10	1/9/2019 3:44:53 PM
Benzo(b)fluoranthene	ND	25	D	µg/L	10	1/9/2019 3:44:53 PM
Benzo(k)fluoranthene	ND	25	D	µg/L	10	1/9/2019 3:44:53 PM
Benzo(a)pyrene	ND	25	D	µg/L	10	1/9/2019 3:44:53 PM
Dibenz(a,h)anthracene	ND	25	D	µg/L	10	1/9/2019 3:44:53 PM
Benzo(g,h,i)perylene	ND	25	D	µg/L	10	1/9/2019 3:44:53 PM
Indeno(1,2,3-cd)pyrene	ND	25	D	µg/L	10	1/9/2019 3:44:53 PM
Surr: N-hexadecane	0	35.2-113	SD	%Rec	10	1/9/2019 3:44:53 PM
Surr: Benzo(e)pyrene	0	48.3-123	SD	%Rec	10	1/9/2019 3:44:53 PM
EPA METHOD 8260B: VOLATILES						Analyst: DJF
Benzene	ND	0.50		mg/L	200	1/3/2019 1:53:27 PM
Toluene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
Ethylbenzene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
1,2,4-Trimethylbenzene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
1,3,5-Trimethylbenzene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
1,2-Dichloroethane (EDC)	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1901025

Date Reported: 1/11/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Non Exempt

Project: Navajo CS

Collection Date: 1/2/2019 1:38:00 PM

Lab ID: 1901025-001

Matrix: AQUEOUS

Received Date: 1/3/2019 9:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: DJF
1,2-Dibromoethane (EDB)	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
Naphthalene	ND	0.40		mg/L	200	1/3/2019 1:53:27 PM
1-Methylnaphthalene	ND	0.80		mg/L	200	1/3/2019 1:53:27 PM
2-Methylnaphthalene	ND	0.80		mg/L	200	1/3/2019 1:53:27 PM
Acetone	ND	2.0		mg/L	200	1/3/2019 1:53:27 PM
Bromobenzene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
Bromodichloromethane	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
Bromoform	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
Bromomethane	ND	0.60		mg/L	200	1/3/2019 1:53:27 PM
2-Butanone	ND	2.0		mg/L	200	1/3/2019 1:53:27 PM
Carbon disulfide	ND	2.0		mg/L	200	1/3/2019 1:53:27 PM
Carbon Tetrachloride	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
Chlorobenzene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
Chloroethane	ND	0.40		mg/L	200	1/3/2019 1:53:27 PM
Chloroform	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
Chloromethane	ND	0.60		mg/L	200	1/3/2019 1:53:27 PM
2-Chlorotoluene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
4-Chlorotoluene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
cis-1,2-DCE	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
cis-1,3-Dichloropropene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
1,2-Dibromo-3-chloropropane	ND	0.40		mg/L	200	1/3/2019 1:53:27 PM
Dibromochloromethane	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
Dibromomethane	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
1,2-Dichlorobenzene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
1,3-Dichlorobenzene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
1,4-Dichlorobenzene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
Dichlorodifluoromethane	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
1,1-Dichloroethane	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
1,1-Dichloroethene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
1,2-Dichloropropane	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
1,3-Dichloropropane	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
2,2-Dichloropropane	ND	0.40		mg/L	200	1/3/2019 1:53:27 PM
1,1-Dichloropropene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
Hexachlorobutadiene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
2-Hexanone	ND	2.0		mg/L	200	1/3/2019 1:53:27 PM
Isopropylbenzene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
4-Isopropyltoluene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
4-Methyl-2-pentanone	ND	2.0		mg/L	200	1/3/2019 1:53:27 PM
Methylene Chloride	ND	0.60		mg/L	200	1/3/2019 1:53:27 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1901025

Date Reported: 1/11/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Non Exempt

Project: Navajo CS

Collection Date: 1/2/2019 1:38:00 PM

Lab ID: 1901025-001

Matrix: AQUEOUS

Received Date: 1/3/2019 9:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: DJF
n-Butylbenzene	ND	0.60		mg/L	200	1/3/2019 1:53:27 PM
n-Propylbenzene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
sec-Butylbenzene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
Styrene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
tert-Butylbenzene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
1,1,1,2-Tetrachloroethane	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
1,1,2,2-Tetrachloroethane	ND	0.40		mg/L	200	1/3/2019 1:53:27 PM
Tetrachloroethene (PCE)	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
trans-1,2-DCE	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
trans-1,3-Dichloropropene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
1,2,3-Trichlorobenzene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
1,2,4-Trichlorobenzene	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
1,1,1-Trichloroethane	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
1,1,2-Trichloroethane	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
Trichloroethene (TCE)	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
Trichlorofluoromethane	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
1,2,3-Trichloropropane	ND	0.40		mg/L	200	1/3/2019 1:53:27 PM
Vinyl chloride	ND	0.20		mg/L	200	1/3/2019 1:53:27 PM
Xylenes, Total	ND	0.30		mg/L	200	1/3/2019 1:53:27 PM
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	200	1/3/2019 1:53:27 PM
Surr: 4-Bromofluorobenzene	99.5	70-130		%Rec	200	1/3/2019 1:53:27 PM
Surr: Dibromofluoromethane	103	70-130		%Rec	200	1/3/2019 1:53:27 PM
Surr: Toluene-d8	101	70-130		%Rec	200	1/3/2019 1:53:27 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

1901025-001D NON EXEMPT

Collected date/time: 01/02/19 13:38

SAMPLE RESULTS - 01

L1058022

ONE LAB NATIONWIDE



Wet Chemistry by Method 4500 CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Cyanide	ND		0.00500	1	01/07/2019 11:30	WG1219573

Wet Chemistry by Method 9034-9030B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Sulfide	ND		0.0500	1	01/09/2019 14:37	WG1221105

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Corrosivity by pH	6.44	TS	1	01/04/2019 14:29	WG1219005

Sample Narrative:

L1058022-01 WG1219005: 6.44 at 15.4C

Wet Chemistry by Method D93/1010A

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Flashpoint	DNF at 1/0		1	01/03/2019 14:38	WG1219441



WG1219523

Wet Chemistry by Method 4500 CN E-2011

Vethod Blank (MB)

QUALITY CONTROL SUMMARY

L1058022-01

DNIF LAB NATIONWIDE

IMBI R3373834-1 01/07/19 10:56

Analyte	MB Result	MB Qualifier	MB MDL	MB TDL
Reactive Cyanide	U		0.00180	0.00500

L1057340-01 Original Sample (OS) - Duplicate (DUP)

(OS) L1057340-01 01/07/19 11:02 - (DUP) R3373834-3 01/07/19 11:03

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Reactive Cyanide	ND	0.000	1	0.000	%	20

L1057806-02 Original Sample (OS) - Duplicate (DUP)

(OS) L1057806-02 01/07/19 11:25 - (DUP) R3373834-6 01/07/19 11:26

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Reactive Cyanide	ND	0.000	1	0.000	%	20

Laboratory Control Sample (LCS)

(LCS) R3373834-2 01/07/19 10:57

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Reactive Cyanide	0.00	0.001	101	85.0-115	

L1057604-02 Original Sample (OS) - Matrix Spike (MS) - Matrix Spike Duplicate (MSD)

(OS) L1057604-02 01/07/19 11:13 - (MS) R3373834-4 01/07/19 11:14 - (MSD) R3373834-5 01/07/19 11:15

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Reactive Cyanide	0.100	U	0.0882	0.0948	94.8	1	75.0-125	%	7.71	%	20

L1058022-01 Original Sample (OS) - Matrix Spike (MS) - Matrix Spike Duplicate (MSD)

(OS) L1058022-01 01/07/19 11:30 - (MS) R3373834-7 01/07/19 11:31 - (MSD) R3373834-8 01/07/19 11:32

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Reactive Cyanide	0.100	ND	0.0948	0.0957	94.8	1	75.0-125	%	1.98	%	20

ACCOUNT:

Hill Environmental Analysis Laboratory

PROJECT:

SDG:

L1058022

DATE/TIME:

01/07/19 11:15

WG1221135

Met: Chemistry by Method 9034-90303

QUALITY CONTROL SUMMARY

1058177-01

ONE LAB NATIONWIDE

Metnet Blank (MB)

MB) R3374591-1 0V0919 14:10

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Sulfide	U		0.00650	0.0500

Laboratory Control Sample (LCS)

LCS) R3374591-2 0V0919 14:10

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec %	Rec. Units %	LCS Qualifier
Reactive Sulfide	0.500	0.453	90.6	85.0-115	



WG1219005

Wet Chemistry by Method 9040C

QUALITY CONTROL SUMMARY

1058022-01

ONE LAB NATIONWIDE

Laboratory Control Sample (LCS)

(LCS) R3373443-1 01/04/19 14:29

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Conductivity by pH	10.0	9.98	99.8	% 99.0-101	

Sample Narrative:

LCS 9.98 at 18.6C

Tc	Ss	Cu	Sr	Co	Gl	Al	Sc
----	----	----	----	----	----	----	----

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1058022

DATE/TIME:
07/10/19 10:15

WG1219441

Wet Chemistry by Method 0931010A

QUALITY CONTROL SUMMARY

11058322-C1

ONE LAB NATIONAL

LI057641-01 Original Sample (OS) - Duplicate (DUP)

IOSI LI057641-01 0VC509 14:38 - (DUP) R3373657-2 0V0519 14:38

Analyte	Original Result		DUP Result		Dilution	DUP RPD		DUP Qualifier	DUP RPD Limits	
	deg F	DNF at 17C	deg F	DNF at 17C		λ	0.00C		%	10
Flashpoint										

Laboratory Control Sample (LCS)

1.CS) R3373657-1 0V0519 14:38

Analyte	Spike Amount		LCS Result		LCS Rec		Rec. Limits		LCS Qualifier	
	deg F	82.0	deg F	82.7	%	K1	%	96.0-104		
Flashpoint										

Tc
Ss
Cn
Sl
Qc
Gl
Al
Sc

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SOS:
L1058022

DATE/TIME:
01/06/13 10:15

GLOSSARY OF TERMS

ONE LAB. NATIONWIDE



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.
Qualifier	Description
T8	Sample(s) received past/too close to holding time expiration.

⁹⁹Tc

⁹⁰Sr

²⁴¹Am

⁹⁰Sr

⁹⁹Tc

²⁴¹Am

²⁴¹Am

⁹⁰Sr

ACCOUNT:
Holl Environmental Analysis Laboratory

PROJECT:

SDG:
L1058022

DATE/TIME:
01/10/19 10:15

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1901025

11-Jan-19

Client: Souder, Miller and Associates

Project: Navajo CS

Sample ID	MB-42465	SampType:	MBLK	TestCode:	EPA Method 6020: Total Metals					
Client ID:	PBW	Batch ID:	42465	RunNo:	56855					
Prep Date:	1/7/2019	Analysis Date:	1/8/2019	SeqNo:	1902759	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Barium	ND	0.0010								
Cadmium	ND	0.0010								
Chromium	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								
Silver	ND	0.0010								

Sample ID	LLCS-42465	SampType:	LCSLL	TestCode:	EPA Method 6020: Total Metals					
Client ID:	BatchQC	Batch ID:	42465	RunNo:	56855					
Prep Date:	1/7/2019	Analysis Date:	1/8/2019	SeqNo:	1902762	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010	0.001000	0	96.8	70	130			
Barium	ND	0.0010	0.001000	0	98.1	70	130			
Cadmium	ND	0.0010	0.001000	0	99.2	70	130			
Chromium	0.0011	0.0010	0.001000	0	105	70	130			
Lead	ND	0.0010	0.001000	0	99.4	70	130			
Selenium	ND	0.0010	0.001000	0	96.1	70	130			
Silver	0.0011	0.0010	0.001000	0	109	70	130			

Sample ID	LCS-42465	SampType:	LCS	TestCode:	EPA Method 6020: Total Metals					
Client ID:	LCSW	Batch ID:	42465	RunNo:	56855					
Prep Date:	1/7/2019	Analysis Date:	1/8/2019	SeqNo:	1902765	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.049	0.0010	0.05000	0	98.6	80	120			
Barium	0.052	0.0010	0.05000	0	105	80	120			
Cadmium	0.051	0.0010	0.05000	0	103	80	120			
Chromium	0.050	0.0010	0.05000	0	101	80	120			
Lead	0.050	0.0010	0.05000	0	100	80	120			
Selenium	0.049	0.0010	0.05000	0	98.1	80	120			
Silver	0.051	0.0010	0.05000	0	101	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1901025

11-Jan-19

Client: Souder, Miller and Associates

Project: Navajo CS

Sample ID	rb	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID:	PBW	Batch ID: W56753		RunNo: 56753						
Prep Date:		Analysis Date: 1/3/2019		SeqNo: 1899264		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloromethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1901025

11-Jan-19

Client: Souder, Miller and Associates

Project: Navajo CS

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	W56753	RunNo:	56753					
Prep Date:		Analysis Date:	1/3/2019	SeqNo:	1899264	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.0	70	130			
Surr: Toluene-d8	11		10.00		108	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	W56753	RunNo:	56753					
Prep Date:		Analysis Date:	1/3/2019	SeqNo:	1899265	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	90.4	70	130			
Toluene	20	1.0	20.00	0	100	70	130			
Chlorobenzene	20	1.0	20.00	0	98.2	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1901025

11-Jan-19

Client: Souder, Miller and Associates

Project: Navajo CS

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: W56753			RunNo: 56753					
Prep Date:		Analysis Date: 1/3/2019			SeqNo: 1899265		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	19	1.0	20.00	0	95.4	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	83.4	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.8	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.2	70	130			
Surr: Toluene-d8	11		10.00		105	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1901025

11-Jan-19

Client: Souder, Miller and Associates

Project: Navajo CS

Sample ID	lcs-42454	SampType: LCS			TestCode: EPA Method 8270C: PAHs					
Client ID:	LCSW	Batch ID: 42454			RunNo: 56875					
Prep Date:	1/4/2019	Analysis Date: 1/9/2019			SeqNo: 1903266		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	15	0.50	20.00	0	74.4	29.6	105			
1-Methylnaphthalene	16	1.0	20.00	0	78.8	33.4	112			
2-Methylnaphthalene	15	1.0	20.00	0	73.4	28.6	108			
Acenaphthylene	16	0.50	20.00	0	79.3	35.7	116			
Acenaphthene	16	0.50	20.00	0	79.9	32.4	118			
Fluorene	16	0.50	20.00	0	80.8	35.6	118			
Phenanthrene	16	0.50	20.00	0	81.1	36.3	130			
Anthracene	17	0.50	20.00	0	84.1	34.8	135			
Fluoranthene	17	0.50	20.00	0	85.2	41	136			
Pyrene	17	0.50	20.00	0	83.2	44.8	136			
Benz(a)anthracene	17	0.50	20.00	0	85.4	41.1	136			
Chrysene	14	0.50	20.00	0	68.4	37.9	132			
Benzo(b)fluoranthene	16	0.50	20.00	0	81.0	39	144			
Benzo(k)fluoranthene	17	0.50	20.00	0	82.8	40	144			
Benzo(a)pyrene	16	0.50	20.00	0	79.2	36.8	137			
Dibenz(a,h)anthracene	15	0.50	20.00	0	74.8	31.5	141			
Benzo(g,h,i)perylene	17	0.50	20.00	0	84.3	32.9	138			
Indeno(1,2,3-cd)pyrene	16	0.50	20.00	0	81.2	40.9	143			
Surr: N-hexadecane	69		87.60		79.1	35.2	113			
Surr: Benzo(e)pyrene	17		20.00		83.0	48.3	123			

Sample ID	lcsd-42454	SampType: LCSD			TestCode: EPA Method 8270C: PAHs					
Client ID:	LCSS02	Batch ID: 42454			RunNo: 56875					
Prep Date:	1/4/2019	Analysis Date: 1/9/2019			SeqNo: 1903267		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	15	0.50	20.00	0	75.2	29.6	105	1.07	68.7	
1-Methylnaphthalene	14	1.0	20.00	0	71.8	33.4	112	9.30	66	
2-Methylnaphthalene	14	1.0	20.00	0	69.3	28.6	108	5.75	68.7	
Acenaphthylene	15	0.50	20.00	0	76.0	35.7	116	4.25	64.9	
Acenaphthene	15	0.50	20.00	0	75.9	32.4	118	5.13	53.2	
Fluorene	15	0.50	20.00	0	74.7	35.6	118	7.85	62.4	
Phenanthrene	16	0.50	20.00	0	80.5	36.3	130	0.743	62.6	
Anthracene	17	0.50	20.00	0	83.9	34.8	135	0.238	62.4	
Fluoranthene	17	0.50	20.00	0	85.3	41	136	0.117	59.4	
Pyrene	16	0.50	20.00	0	77.8	44.8	136	6.71	55.4	
Benz(a)anthracene	15	0.50	20.00	0	73.7	41.1	136	14.7	56.6	
Chrysene	12	0.50	20.00	0	62.1	37.9	132	9.66	51.9	
Benzo(b)fluoranthene	15	0.50	20.00	0	73.6	39	144	9.57	59.1	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1901025

11-Jan-19

Client: Souder, Miller and Associates

Project: Navajo CS

Sample ID	lcsd-42454		SampType: LCSD		TestCode: EPA Method 8270C: PAHs					
Client ID:	LCSS02		Batch ID: 42454		RunNo: 56875					
Prep Date:	1/4/2019		Analysis Date: 1/9/2019		SeqNo: 1903267		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	14	0.50	20.00	0	69.0	40	144	18.2	57	
Benzo(a)pyrene	14	0.50	20.00	0	72.3	36.8	137	9.11	60.2	
Dibenz(a,h)anthracene	13	0.50	20.00	0	67.1	31.5	141	10.9	64.7	
Benzo(g,h,i)perylene	15	0.50	20.00	0	75.1	32.9	138	11.5	61.5	
Indeno(1,2,3-cd)pyrene	15	0.50	20.00	0	75.6	40.9	143	7.14	61.1	
Surr: N-hexadecane	58		87.60		66.4	35.2	113	0	0	
Surr: Benzo(e)pyrene	14		20.00		67.8	48.3	123	0	0	

Sample ID	mb-42454	SampType:	MBLK	TestCode:	EPA Method 8270C: PAHs					
Client ID:	PBW	Batch ID:	42454	RunNo:	56875					
Prep Date:	1/4/2019	Analysis Date:	1/9/2019	SeqNo:	1903268	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	1.0								
2-Methylnaphthalene	ND	1.0								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
Pyrene	ND	0.50								
Benz(a)anthracene	ND	0.50								
Chrysene	ND	0.50								
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	85		87.60		96.6	35.2	113			
Surr: Benzo(e)pyrene	21		20.00		106	48.3	123			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1901025

11-Jan-19

Client: Souder, Miller and Associates

Project: Navajo CS

Sample ID	MB-42524	SampType:	MBLK	TestCode:	EPA Method 7470: Mercury					
Client ID:	PBW	Batch ID:	42524	RunNo:	56898					
Prep Date:	1/9/2019	Analysis Date:	1/10/2019	SeqNo:	1903938	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-42524	SampType:	LCS	TestCode:	EPA Method 7470: Mercury					
Client ID:	LCSW	Batch ID:	42524	RunNo:	56898					
Prep Date:	1/9/2019	Analysis Date:	1/10/2019	SeqNo:	1903939	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.7	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1901025

RcptNo: 1

Received By: Victoria Zellar 1/3/2019 9:10:00 AM

Victoria Zellar

Completed By: Anne Thorne 1/3/2019 9:57:57 AM

Anne Thorne

Reviewed By: *A 01/05/19*
Labeled by: DAD 1/3/19

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: 1:2
(≤ 2 or > 2 unless noted)
Adjusted? NO
Checked by: DAD 1/3/19

Special Handling (If applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.8	Good	Yes			

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

2019
Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401
2. Originating Site: Enaco Plant
3. Location of Material (Street Address, City, State or ULSTR): UL M Section 16, T26N, R12W; 36.482905, -108.119193
4. Source and Description of Waste: Source: Description: Hydrocarbon impacted soil associated blow down pit. Estimated Volume <u>500</u> yd ³ / <u>6</u> bbls Known Volume (to be entered by the operator at the end of the haul) _____ yd ³ / bbls
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS I, Thomas Long <i>Thomas Long</i> , representative or authorized agent for Enterprise Products Operating do hereby Generator Signature certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification) ☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non- exempt waste. <u>Operator Use Only: Waste Acceptance Frequency</u> ☐ Monthly ☐ Weekly ☐ Per Load ☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items) ☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4) GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS I, Thomas Long <i>Thomas Long</i> , representative for Enterprise Products Operating authorize <u>Agua Moss, LLC</u> to complete Generator Signature the required testing/sign the Generator Waste Testing Certification. I, _____, representative for <u>Agua Moss, Inc.</u> do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.
5. Transporter: TO BE DETERMINED

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: *Agua Moss, LLC - Permit #: NM-01-009

Address of Facility: SW/4 NW/4 Section 2, Township 29N, Range Crouch Mesa, NM

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: _____

TITLE: _____ DATE: _____

SIGNATURE: _____

TELEPHONE NO.: _____

Surface Waste Management Facility Authorized Agent

District I

1625 N French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Road, Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE**1. Generator Name and Address:****Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401****2. Originating Site:****Chaco Plant****3. Location of Material (Street Address, City, State or ULSTR):****UL M Section 16, T26N, R12W; 36.482905, -108.119193****4. Source and Description of Waste:****Source:****Description:** Hydrocarbon impacted soil associated blow down pit.Estimated Volume 500 yd³ / 6 bbls Known Volume (to be entered by the operator at the end of the haul) _____ yd³ / bbls**5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS**I, Thomas Long *Thomas Long*, representative or authorized agent for Enterprise Products Operating do hereby**Generator Signature**

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items).☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)**GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS**I, Thomas Long *Thomas Long*, representative for Enterprise Products Operating authorize Agua Moss, LLC to complete**Generator Signature**

the required testing/sign the Generator Waste Testing Certification.

I, _____, representative for Agua Moss, Inc. do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: TO BE DETERMINED**OCD Permitted Surface Waste Management Facility**Name and Facility Permit #: ***Agua Moss, LLC - Permit #: NM-01-009**Address of Facility: **SW/4 NW/4 Section 2, Township 29N, Range Crouch Mesa, NM****Method of Treatment and/or Disposal:**☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other**Waste Acceptance Status:**☐ **APPROVED**☐ **DENIED (Must Be Maintained As Permanent Record)**

PRINT NAME: _____

TITLE: _____ DATE: _____

SIGNATURE: _____

TELEPHONE NO.: _____

Surface Waste Management Facility Authorized Agent



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 28, 2019

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-7535
FAX

RE: Chaco Plant

OrderNo.: 1906755

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/14/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906755

Date Reported: 6/28/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Chaco Non Exempt

Project: Chaco Plant

Collection Date: 6/13/2019 8:31:00 AM

Lab ID: 1906755-001

Matrix: AQUEOUS

Received Date: 6/14/2019 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 7470: MERCURY						
Mercury	0.0015	0.00020		mg/L	1	6/25/2019 6:13:08 PM
EPA 6010B: TOTAL RECOVERABLE METALS						
Arsenic	ND	0.10		mg/L	5	6/19/2019 8:38:52 AM
Barium	0.30	0.10		mg/L	5	6/19/2019 8:38:52 AM
Cadmium	ND	0.010		mg/L	5	6/19/2019 8:38:52 AM
Chromium	0.083	0.030		mg/L	5	6/19/2019 8:38:52 AM
Lead	ND	0.025		mg/L	5	6/19/2019 9:48:38 AM
Selenium	ND	0.25		mg/L	5	6/19/2019 8:38:52 AM
Silver	ND	0.025		mg/L	5	6/19/2019 8:38:52 AM
EPA METHOD 8270C: PAHS						
Naphthalene	ND	5.0		µg/L	1	6/20/2019 8:55:11 AM
1-Methylnaphthalene	ND	10		µg/L	1	6/20/2019 8:55:11 AM
2-Methylnaphthalene	ND	10		µg/L	1	6/20/2019 8:55:11 AM
Acenaphthylene	ND	5.0		µg/L	1	6/20/2019 8:55:11 AM
Acenaphthene	ND	5.0		µg/L	1	6/20/2019 8:55:11 AM
Fluorene	ND	5.0		µg/L	1	6/20/2019 8:55:11 AM
Phenanthrene	ND	5.0		µg/L	1	6/20/2019 8:55:11 AM
Anthracene	ND	5.0		µg/L	1	6/20/2019 8:55:11 AM
Fluoranthene	ND	5.0		µg/L	1	6/20/2019 8:55:11 AM
Pyrene	ND	5.0		µg/L	1	6/20/2019 8:55:11 AM
Benz(a)anthracene	ND	5.0		µg/L	1	6/20/2019 8:55:11 AM
Chrysene	ND	5.0		µg/L	1	6/20/2019 8:55:11 AM
Benzo(b)fluoranthene	ND	5.0		µg/L	1	6/20/2019 8:55:11 AM
Benzo(k)fluoranthene	ND	5.0		µg/L	1	6/20/2019 8:55:11 AM
Benzo(a)pyrene	ND	5.0		µg/L	1	6/20/2019 8:55:11 AM
Dibenz(a,h)anthracene	ND	5.0		µg/L	1	6/20/2019 8:55:11 AM
Benzo(g,h,i)perylene	ND	5.0		µg/L	1	6/20/2019 8:55:11 AM
Indeno(1,2,3-cd)pyrene	ND	5.0		µg/L	1	6/20/2019 8:55:11 AM
Surr: N-hexadecane	52.8	20.4-126		%Rec	1	6/20/2019 8:55:11 AM
Surr: Benzo(e)pyrene	57.7	21.4-126		%Rec	1	6/20/2019 8:55:11 AM
EPA METHOD 8260B: VOLATILES						
Benzene	ND	0.50		mg/L	200	6/15/2019 12:51:00 AM
Toluene	0.45	0.20		mg/L	200	6/15/2019 12:51:00 AM
Ethylbenzene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
1,2,4-Trimethylbenzene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
1,3,5-Trimethylbenzene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
1,2-Dichloroethane (EDC)	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906755

Date Reported: 6/28/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Chaco Non Exempt

Project: Chaco Plant

Collection Date: 6/13/2019 8:31:00 AM

Lab ID: 1906755-001

Matrix: AQUEOUS

Received Date: 6/14/2019 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
1,2-Dibromoethane (EDB)	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
Naphthalene	ND	0.40		mg/L	200	6/15/2019 12:51:00 AM
1-Methylnaphthalene	ND	0.80		mg/L	200	6/15/2019 12:51:00 AM
2-Methylnaphthalene	ND	0.80		mg/L	200	6/15/2019 12:51:00 AM
Acetone	ND	2.0		mg/L	200	6/15/2019 12:51:00 AM
Bromobenzene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
Bromodichloromethane	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
Bromoform	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
Bromomethane	ND	0.60		mg/L	200	6/15/2019 12:51:00 AM
2-Butanone	ND	2.0		mg/L	200	6/15/2019 12:51:00 AM
Carbon disulfide	ND	2.0		mg/L	200	6/15/2019 12:51:00 AM
Carbon Tetrachloride	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
Chlorobenzene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
Chloroethane	ND	0.40		mg/L	200	6/15/2019 12:51:00 AM
Chloroform	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
Chloromethane	ND	0.60		mg/L	200	6/15/2019 12:51:00 AM
2-Chlorotoluene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
4-Chlorotoluene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
cis-1,2-DCE	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
cis-1,3-Dichloropropene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
1,2-Dibromo-3-chloropropane	ND	0.40		mg/L	200	6/15/2019 12:51:00 AM
Dibromochloromethane	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
Dibromomethane	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
1,2-Dichlorobenzene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
1,3-Dichlorobenzene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
1,4-Dichlorobenzene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
Dichlorodifluoromethane	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
1,1-Dichloroethane	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
1,1-Dichloroethene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
1,2-Dichloropropane	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
1,3-Dichloropropane	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
2,2-Dichloropropane	ND	0.40		mg/L	200	6/15/2019 12:51:00 AM
1,1-Dichloropropene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
Hexachlorobutadiene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
2-Hexanone	ND	2.0		mg/L	200	6/15/2019 12:51:00 AM
Isopropylbenzene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
4-Isopropyltoluene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
4-Methyl-2-pentanone	ND	2.0		mg/L	200	6/15/2019 12:51:00 AM
Methylene Chloride	ND	0.60		mg/L	200	6/15/2019 12:51:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1906755

Date Reported: 6/28/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Chaco Non Exempt

Project: Chaco Plant

Collection Date: 6/13/2019 8:31:00 AM

Lab ID: 1906755-001

Matrix: AQUEOUS

Received Date: 6/14/2019 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
n-Butylbenzene	ND	0.60		mg/L	200	6/15/2019 12:51:00 AM
n-Propylbenzene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
sec-Butylbenzene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
Styrene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
tert-Butylbenzene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
1,1,1,2-Tetrachloroethane	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
1,1,2,2-Tetrachloroethane	ND	0.40		mg/L	200	6/15/2019 12:51:00 AM
Tetrachloroethene (PCE)	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
trans-1,2-DCE	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
trans-1,3-Dichloropropene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
1,2,3-Trichlorobenzene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
1,2,4-Trichlorobenzene	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
1,1,1-Trichloroethane	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
1,1,2-Trichloroethane	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
Trichloroethene (TCE)	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
Trichlorofluoromethane	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
1,2,3-Trichloropropane	ND	0.40		mg/L	200	6/15/2019 12:51:00 AM
Vinyl chloride	ND	0.20		mg/L	200	6/15/2019 12:51:00 AM
Xylenes, Total	ND	0.30		mg/L	200	6/15/2019 12:51:00 AM
Surr: 1,2-Dichloroethane-d4	97.1	70-130		%Rec	200	6/15/2019 12:51:00 AM
Surr: 4-Bromofluorobenzene	91.7	70-130		%Rec	200	6/15/2019 12:51:00 AM
Surr: Dibromofluoromethane	96.8	70-130		%Rec	200	6/15/2019 12:51:00 AM
Surr: Toluene-d8	90.8	70-130		%Rec	200	6/15/2019 12:51:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	D Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

1906755-001D CHACO NON EXEMPT

Collected date/time: 06/13/19 08:31

SAMPLE RESULTS - 01

L1110050

ONE LAB. NATIONWIDE



Wet Chemistry by Method 4500 CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Reactive Cyanide	0.0162		0.00500	1	06/29/2019 13:21	WG1298262

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	su				date / time	
Corrosivity by pH	6.76	T8	1	06/19/2019 10:00		WG1298240

Sample Narrative:

L1110050-G1 WG1298240: 6.76 at 15.6C

Wet Chemistry by Method 9034-9030B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Reactive Sulfide	0.0780		0.0500	1	06/20/2019 18:26	WG1298032

Wet Chemistry by Method D93/1010A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	deg F				date / time	
Flashpoint	DNF at 170		1	06/26/2019 17:41		WG1302277

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1110050

DATE/TIME:

06/28/19 14:46

WG1302668

Wet Chemistry by Method 4500 CN E-2011

Method Blank (MB)

QUALITY CONTROL SUMMARY

L110050-01

ONE LAB NATIONWIDE

(MB) R3425774-1 06/28/19 13:05

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Cyanide	U		0.00180	0.00500

L1109503-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1109503-07 06/28/19 13:12 • (DUP) R3425774-3 06/28/19 13:13

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Reactive Cyanide	U	0.000	1	0.000		20

L110263-01 Original Sample (OS) • Duplicate (DUP)

(OS) L110263-01 06/28/19 13:42 • (DUP) R3425774-8 06/28/19 13:43

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Reactive Cyanide	0.342	0.412	20	18.6		20

Laboratory Control Sample (LCS)

(LCS) R3425774-2 06/28/19 13:06

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %
Reactive Cyanide	0.100	0.105	105	85.0-115

L1109910-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1109910-01 06/28/19 13:15 • (MS) R3425774-4 06/28/19 13:18 • (MSD) R3425774-5 06/28/19 13:19

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Reactive Cyanide	0.100	ND	0.0804	0.0618	1	75.0-125		75.46	26.2	20

L110655-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L110655-02 06/28/19 13:33 • (MS) R3425774-6 06/28/19 13:34 • (MSD) R3425774-7 06/28/19 13:35

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Reactive Cyanide	0.100	ND	0.104	0.0955	1	75.0-125		95.5	7.48	20

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L110050

DATE/TIME:

06/28/19 14:46



WG1298240

Wet Chemistry by Method 4500H+ B-2011

Laboratory Control Sample (LCS)

(LCS) R3422350-1 06/19/19 10:00

Analyte	Spike Amount		LCS Result		LCS Rec.		Rec. Limits		LCS Qualifier	
	su		su	%	%		%			
Corrosivity by pH	10.0		9.95	99.5	99.5		99.0-101			

Sample Narrative:

LCS: 9.95 at 21.3C

QUALITY CONTROL SUMMARY

L1110050-01

ONE LAB. NATIONWIDE

Tc	Ss	Cn	Sl	Gc	Gl	Al	Sc
----	----	----	----	----	----	----	----

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1110050

DATE/TIME:
06/28/19 14:46

WG1299038

Wet Chemistry by Method 9034-9030B

QUALITY CONTROL SUMMARY

L1110050-01

ONE LAB. NATIONWIDE



Method Blank (MB)

(MB) R3423170-1 06/20/19 18:16

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l
Reactive Sulfide	U	0.00650	0.0500

Laboratory Control Sample (LCS)

(LCS) R3423170-2 06/20/19 18:16

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Reactive Sulfide	0.500	0.531	106	85.0-115	



ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1110050

DATE/TIME:
06/28/19 14:46

WG1302077

Wet Chemistry by Method D93/101DA

QUALITY CONTROL SUMMARY

L1110050-01

ORIE LAB NATIONWIDE

L1109093-02 Original Sample (OS) - Duplicate (DUP)

(OS) L1109093-02 06/26/19 17:41 • (DUP) R3425069-2 06/26/19 17:41

Analyte	Original Result		DUP Result		DUP RPD		DUP Qualifier		DUP RPD Limits	
	deg F	DNF at 170	deg F	DNF at 170	%	%			%	%
Flashpoint	DNF at 170		DNF at 170		1	0.000			10	10

Laboratory Control Sample (LCS)

(LCS) R3425069-1 06/26/19 17:41

Analyte	Spike Amount		LCS Result		LCS Rec.		Rec. Limits		LCS Qualifier	
	deg F		deg F		%	%				
Flashpoint	82.0		83.5		102	96.0-104				



ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1110050

DATE/TIME:
06/28/19 14:46

GLOSSARY OF TERMS

ONE LAB NATIONWIDE



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1110050

DATE/TIME:
06/28/19 14:45

ACCREDITATIONS & LOCATIONS

ONELAB NATIONWIDE.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-05-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	BB-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00C03	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	EB7487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ²	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	B4004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	CB47
Mississippi	TN00C03	West Virginia	233
Missouri	340	Wisconsin	5980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

A2LA - ISO 17025	1461.01	AIHA-LAP, LLC ENLAP	100789
A2LA - ISO 17025 ¹	1461.02	DOO	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1110050

DATE/TIME:
06/28/19 14:46

PAGE:
11 of 13

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906755

28-Jun-19

Client: Souder, Miller and Associates

Project: Chaco Plant

Sample ID: 100ng lcs2		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW		Batch ID: B60679		RunNo: 60679						
Prep Date:		Analysis Date: 6/15/2019		SeqNo: 2053350		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	111	70	130			
Toluene	22	1.0	20.00	0	110	70	130			
Chlorobenzene	23	1.0	20.00	0	115	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	105	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	107	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.2	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.5	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.0	70	130			
Surr: Toluene-d8	9.1		10.00		90.7	70	130			

Sample ID: rb2	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: B60679	RunNo: 60679								
Prep Date:	Analysis Date: 6/15/2019	SeqNo: 2053351 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906755

28-Jun-19

Client: Souder, Miller and Associates

Project: Chaco Plant

Sample ID: rb2	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: B60679		RunNo: 60679							
Prep Date:	Analysis Date: 6/15/2019		SeqNo: 2053351		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

- | | | | |
|-----|---|----|---|
| • | Value exceeds Maximum Contaminant Level | H | Analyte detected in the associated Method Blank |
| D | Sample Diluted Due to Matrix | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits |
| ND | Not Detected at the Reporting Limit | P | Sample pH Not In Range |
| PQL | Practical Quantitative Limit | RL | Reporting Limit |
| S | % Recovery outside of range due to dilution or matrix | | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906755

28-Jun-19

Client: Souder, Miller and Associates

Project: Chaco Plant

Sample ID: rb2		SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW		Batch ID: B60679		RunNo: 60679						
Prep Date:		Analysis Date: 6/15/2019		SeqNo: 2053351		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.4	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		93.1	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.9	70	130			
Surr: Toluene-d8	9.1		10.00		91.5	70	130			

Sample ID: 1906755-001ams	SampType: MS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: Chaco Non Exempt	Batch ID: B60679	RunNo: 60679								
Prep Date:	Analysis Date: 6/15/2019	SeqNo: 2053353		Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.4	0.20	4.000	0.1536	107	70	130			
Toluene	4.6	0.20	4.000	0.4532	105	70	130			
Chlorobenzene	4.5	0.20	4.000	0	111	70	130			
1,1-Dichloroethene	4.1	0.20	4.000	0	103	67.6	130			
Trichloroethene (TCE)	4.1	0.20	4.000	0	103	70	130			
Surr: 1,2-Dichloroethane-d4	2.0		2.000		99.4	70	130			
Surr: 4-Bromofluorobenzene	1.9		2.000		95.1	70	130			
Surr: Dibromofluoromethane	2.0		2.000		99.0	70	130			
Surr: Toluene-d8	1.9		2.000		92.7	70	130			

Sample ID: 1906755-001amsd	SampType: MSD		TestCode: EPA Method 8260B: VOLATILES							
Client ID: Chaco Non Exempt	Batch ID: B60679		RunNo: 60679							
Prep Date:	Analysis Date: 6/15/2019		SeqNo: 2053354		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.3	0.20	4.000	0.1536	103	70	130	4.13	20	
Toluene	4.5	0.20	4.000	0.4532	100	70	130	3.78	20	
Chlorobenzene	4.2	0.20	4.000	0	106	70	130	4.89	20	
1,1-Dichloroethene	3.9	0.20	4.000	0	97.9	67.6	130	4.84	20	
Trichloroethene (TCE)	3.9	0.20	4.000	0	98.6	70	130	4.00	20	
Surr: 1,2-Dichloroethane-d4	1.9		2.000		96.1	70	130	0	0	
Surr: 4-Bromofluorobenzene	1.9		2.000		95.3	70	130	0	0	
Surr: Dibromofluoromethane	2.0		2.000		98.6	70	130	0	0	
Surr: Toluene-d8	1.8		2.000		91.7	70	130	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- H Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906755

28-Jun-19

Client: Souder, Miller and Associates

Project: Chaco Plant

Sample ID: mb-45675	SampType: MBLK	TestCode: EPA Method 8270C: PAHs								
Client ID: PBW	Batch ID: 45675	RunNo: 60788								
Prep Date: 6/19/2019	Analysis Date: 6/20/2019	SeqNo: 2057895 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	1.0								
2-Methylnaphthalene	ND	1.0								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
Pyrene	ND	0.50								
Benz(a)anthracene	ND	0.50								
Chrysene	ND	0.50								
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	59		87.60		67.0	20.4	126			
Surr: Benzo(e)pyrene	15		20.00		76.4	21.4	126			

Sample ID: lcs-45675	SampType: LCS		TestCode: EPA Method 8270C: PAHs							
Client ID: LCSW	Batch ID: 45675		RunNo: 60788							
Prep Date: 6/19/2019	Analysis Date: 6/20/2019		SeqNo: 2057896		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluorene	7.3	0.50	8.032	0	91.1	35.6	118			
Phenanthrene	3.5	0.50	4.004	0	86.9	36.3	130			
Anthracene	3.6	0.50	4.004	0	88.9	34.8	135			
Fluoranthene	7.4	0.50	8.014	0	92.6	41	136			
Pyrene	7.5	0.50	8.032	0	93.9	44.8	136			
Benz(a)anthracene	0.70	0.50	0.8020	0	87.3	41.1	136			
Chrysene	3.3	0.50	4.000	0	83.5	37.9	132			
Benzo(b)fluoranthene	0.84	0.50	1.000	0	84.0	39	144			
Benzo(k)fluoranthene	ND	0.50	0.5000	0	88.0	40	144			
Benzo(a)pyrene	ND	0.50	0.5000	0	44.0	36.8	137			
Dibenz(a,h)anthracene	1.1	0.50	1.004	0	106	31.5	141			
Benzo(g,h,i)perylene	1.0	0.50	1.000	0	102	32.9	138			
Indeno(1,2,3-cd)pyrene	1.6	0.50	2.006	0	80.8	40.9	143			

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not in Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906755

28-Jun-19

Client: Souder, Miller and Associates

Project: Chaco Plant

Sample ID: Ics-45675	SampType: LCS	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSW	Batch ID: 45675	RunNo: 60788								
Prep Date: 6/19/2019	Analysis Date: 6/20/2019	SeqNo: 2057896 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: N-hexadecane	60		87.60		68.6	20.4	126			
Surr: Benzo(e)pyrene	14		20.00		72.2	21.4	126			

Sample ID: ICS-45675	SampType: LCS	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSW	Batch ID: 45675	RunNo: 60788								
Prep Date: 6/19/2019	Analysis Date: 6/20/2019	SeqNo: 2057897 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	61	2.0	80.26	0	75.9	29.6	105			
1-Methylnaphthalene	72	4.0	80.14	0	89.5	33.4	112			
2-Methylnaphthalene	67	4.0	80.24	0	83.0	28.6	108			
Acenaphthylene	67	2.0	80.32	0	83.8	35.7	116			
Acenaphthene	66	2.0	80.30	0	82.4	32.4	118			

Sample ID: Icsd-45675	SampType: LCSD			TestCode: EPA Method 8270C: PAHs						
Client ID: LCSS02	Batch ID: 45675			RunNo: 60788						
Prep Date: 6/19/2019	Analysis Date: 6/20/2019			SeqNo: 2057898		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluorene	8.0	0.50	8.032	0	99.9	35.6	118	9.13	62.4	
Phenanthrene	3.9	0.50	4.004	0	98.4	36.3	130	12.4	62.6	
Anthracene	4.0	0.50	4.004	0	98.9	34.8	135	10.6	62.4	
Fluoranthene	7.9	0.50	8.014	0	98.6	41	136	6.27	59.4	
Pyrene	8.7	0.50	8.032	0	108	44.8	136	13.8	55.4	
Benz(a)anthracene	0.82	0.50	0.8020	0	102	41.1	136	15.8	56.6	
Chrysene	3.9	0.50	4.000	0	96.5	37.9	132	14.4	51.9	
Benzo(b)fluoranthene	1.0	0.50	1.000	0	100	39	144	17.4	59.1	
Benzo(k)fluoranthene	0.52	0.50	0.5000	0	104	40	144	16.7	57	
Benzo(a)pyrene	ND	0.50	0.5000	0	52.0	36.8	137	0	60.2	
Dibenz(a,h)anthracene	1.1	0.50	1.004	0	112	31.5	141	5.50	64.7	
Benzo(g,h,i)perylene	1.2	0.50	1.000	0	116	32.9	138	12.8	61.5	
indeno(1,2,3-cd)pyrene	1.8	0.50	2.006	0	89.7	40.9	143	10.5	61.1	
Surr: N-hexadecane	68		87.60		78.0	20.4	126	0	0	
Surr: Benzo(e)pyrene	17		20.00		82.7	21.4	126	0	0	

Sample ID: icsd-45675	SampType: LCSD	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSS02	Batch ID: 45675	RunNo: 60788								
Prep Date: 6/19/2019	Analysis Date: 6/20/2019	SeqNo: 2057899 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906755

28-Jun-19

Client: Souder, Miller and Associates

Project: Chaco Plant

Sample ID: lcsd-45675	SampType: LCSD		TestCode: EPA Method 8270C: PAHs							
Client ID: LCSS02	Batch ID: 45675		RunNo: 60788							
Prep Date: 6/19/2019	Analysis Date: 6/20/2019		SeqNo: 2057899		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	50	2.0	80.26	0	62.1	29.6	105	27.8	68.7	
1-Methylnaphthalene	58	4.0	80.14	0	72.7	33.4	112	24.6	66	
2-Methylnaphthalene	55	4.0	80.24	0	68.5	28.6	108	22.7	68.7	
Acenaphthylene	56	2.0	80.32	0	69.4	35.7	116	20.5	64.9	
Acenaphthene	54	2.0	80.30	0	66.8	32.4	118	18.8	53.2	

Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- R Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906755

28-Jun-19

Client: Snoder, Miller and Associates

Project: Chaco Plant

Sample ID: MB-45805	SampType: MBLK	TestCode: EPA Method 7470: Mercury								
Client ID: PBW	Batch ID: 45805	RunNo: 60927								
Prep Date: 6/25/2019	Analysis Date: 6/25/2019	SeqNo: 2062499 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: LCS-45805	SampType: LCS	TestCode: EPA Method 7470: Mercury								
Client ID: LCSW	Batch ID: 45805	RunNo: 60927								
Prep Date: 6/25/2019	Analysis Date: 6/25/2019	SeqNo: 2062500 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0053	0.00020	0.005000	0	107	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906755

28-Jun-19

Client: Souder, Miller and Associates

Project: Chaco Plant

Sample ID: MB-45652		SampType: MBLK		TestCode: EPA 6010B: Total Recoverable Metals						
Client ID: PBW		Batch ID: 45652		RunNo: 60759						
Prep Date: 6/18/2019		Analysis Date: 6/19/2019		SeqNo: 2056516		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID: LCS-45652	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 45652	RunNo: 60759								
Prep Date: 6/18/2019	Analysis Date: 6/19/2019	SeqNo: 2056517					Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.48	0.020	0.5000	0	95.7	80	120			
Barium	0.48	0.020	0.5000	0	95.5	80	120			
Cadmium	0.50	0.0020	0.5000	0	101	80	120			
Chromium	0.49	0.0060	0.5000	0	97.7	80	120			
Selenium	0.50	0.050	0.5000	0	101	80	120			
Silver	0.099	0.0050	0.1000	0	99.1	80	120			

Sample ID: 1906755-001CMS		SampType: MS		TestCode: EPA 6010B: Total Recoverable Metals						
Client ID: Chaco Non Exempt		Batch ID: 45652		RunNo: 60759						
Prep Date: 6/18/2019		Analysis Date: 6/19/2019		SeqNo: 2056520		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.50	0.10	0.5000	0	100	75	125			
Barium	0.75	0.10	0.5000	0.2959	91.1	75	125			
Cadmium	0.46	0.010	0.5000	0	92.0	75	125			
Chromium	0.55	0.030	0.5000	0.08303	93.8	75	125			
Selenium	0.56	0.25	0.5000	0	112	75	125			
Silver	0.056	0.025	0.1000	0	56.2	75	125			S

Sample ID: 1906755-001CMSD		SampType: MSD		TestCode: EPA 6010B: Total Recoverable Metals						
Client ID: Chaco Non Exempt		Batch ID: 45652		RunNo: 60759						
Prep Date: 6/18/2019		Analysis Date: 6/19/2019		SeqNo: 2056521		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.52	0.10	0.5000	0	103	75	125	3.12	20	
Barium	0.77	0.10	0.5000	0.2959	94.8	75	125	2.42	20	
Cadmium	0.47	0.010	0.5000	0	94.4	75	125	2.55	20	
Chromium	0.57	0.030	0.5000	0.08303	97.3	75	125	3.19	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- fl Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not in Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1906755

28-Jun-19

Client: Snuder, Miller and Associates

Project: Chaco Plant

Sample ID: 1906755-001CMSD		SampType: MSD		TestCode: EPA 6010B: Total Recoverable Metals						
Client ID: Chaco Non Exempt		Batch ID: 45652		RunNo: 60759						
Prep Date: 6/18/2019		Analysis Date: 6/19/2019		SeqNo: 2056521		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.54	0.25	0.5000	0	109	75	125	2.71	20	
Silver	0.057	0.025	0.1000	0	56.7	75	125	0.857	20	S

Sample ID: MB-45652	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 45652	RunNo: 60759								
Prep Date: 6/18/2019	Analysis Date: 6/19/2019	SeqNo: 2056550			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0050								

Sample ID: LCS-45652	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 45652	RunNo: 60759								
Prep Date: 6/18/2019	Analysis Date: 6/19/2019	SeqNo: 2056551 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.50	0.0050	0.5000	0	99.5	80	120			

Sample ID: 1906755-001CMS	SampType: MS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: Chaco Non Exempt	Batch ID: 45652	RunNo: 60759								
Prep Date: 6/18/2019	Analysis Date: 6/19/2019	SeqNo: 2056554 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.52	0.025	0.5000	0.02383	98.3	75	125			

Sample ID: 1906755-001CMSD	SampType: MSD	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: Chaco Non Exempt	Batch ID: 45652	RunNo: 60759								
Prep Date: 6/18/2019	Analysis Date: 6/19/2019	SeqNo: 2056555 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.56	0.025	0.5000	0.02383	108	75	125	8.88	20	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | F Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not in Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |



Hall Environmental Analysis Laboratory
4901 Hawks NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1906755

RcptNo: 1

Received By: Desiree Dominguez

6/14/2019 7:55:00 AM

Completed By: Leah Baca

6/14/2019 8:26:18 AM

Reviewed By: JRS

6/14/19

DD

Leah Baca

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☒ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: 1 2
(<2 or >12 unless noted)

Adjusted? yes

Checked by: JRC 6-14-19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks: 2 1.0ml HNO3 was added to 001C for $<2\text{ph}$ for metals analysis.
JRC 6-14-19

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.0	Good	Yes			
2	1.9	Good	Yes			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

March 27, 2018

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-5667
FAX (505) 327-1496

RE: Chaco

OrderNo.: 1803601

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/10/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803601

Date Reported: 3/27/2018

CLIENT: Souder, Miller and Associates

Client Sample ID: Chaco Non Exempt

Project: Chaco

Collection Date: 3/8/2018 10:32:00 AM

Lab ID: 1803601-001

Matrix: AQUEOUS

Received Date: 3/10/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 7470: MERCURY							Analyst: rde
Mercury	ND	0.20		mg/L	1	3/19/2018 5:23:30 PM	37099
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: JLF
Arsenic	ND	5.0		mg/L	1	3/21/2018 4:23:01 PM	37055
Barium	ND	100		mg/L	1	3/21/2018 3:29:03 PM	37055
Cadmium	ND	1.0		mg/L	1	3/21/2018 3:29:03 PM	37055
Chromium	ND	5.0		mg/L	1	3/21/2018 3:29:03 PM	37055
Lead	ND	5.0		mg/L	1	3/21/2018 3:29:03 PM	37055
Selenium	ND	1.0		mg/L	1	3/21/2018 3:29:03 PM	37055
Silver	ND	5.0		mg/L	1	3/21/2018 3:29:03 PM	37055
EPA METHOD 8270C: PAHS							Analyst: DAM
Naphthalene	ND	2.5	D	µg/L	1	3/15/2018 7:42:32 PM	36978
1-Methylnaphthalene	ND	2.5	D	µg/L	1	3/15/2018 7:42:32 PM	36978
2-Methylnaphthalene	ND	2.5	D	µg/L	1	3/15/2018 7:42:32 PM	36978
Acenaphthylene	ND	2.5	D	µg/L	1	3/15/2018 7:42:32 PM	36978
Acenaphthene	ND	2.5	D	µg/L	1	3/15/2018 7:42:32 PM	36978
Fluorene	ND	2.5	D	µg/L	1	3/15/2018 7:42:32 PM	36978
Phenanthrene	ND	2.5	D	µg/L	1	3/15/2018 7:42:32 PM	36978
Anthracene	ND	2.5	D	µg/L	1	3/15/2018 7:42:32 PM	36978
Fluoranthene	ND	2.5	D	µg/L	1	3/15/2018 7:42:32 PM	36978
Pyrene	ND	2.5	D	µg/L	1	3/15/2018 7:42:32 PM	36978
Benz(a)anthracene	ND	2.5	D	µg/L	1	3/15/2018 7:42:32 PM	36978
Chrysene	ND	2.5	D	µg/L	1	3/15/2018 7:42:32 PM	36978
Benzo(b)fluoranthene	ND	2.5	D	µg/L	1	3/15/2018 7:42:32 PM	36978
Benzo(k)fluoranthene	ND	2.5	D	µg/L	1	3/15/2018 7:42:32 PM	36978
Benzo(a)pyrene	ND	2.5	D	µg/L	1	3/15/2018 7:42:32 PM	36978
Dibenz(a,h)anthracene	ND	2.5	D	µg/L	1	3/15/2018 7:42:32 PM	36978
Benzo(g,h,i)perylene	ND	2.5	D	µg/L	1	3/15/2018 7:42:32 PM	36978
Indeno(1,2,3-cd)pyrene	ND	2.5	D	µg/L	1	3/15/2018 7:42:32 PM	36978
Surr: N-hexadecane	70.1	18.7-145	D	%Rec	1	3/15/2018 7:42:32 PM	36978
Surr: Benzo(e)pyrene	82.9	28.2-137	D	%Rec	1	3/15/2018 7:42:32 PM	36978
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	0.50		µg/L	200	3/12/2018 6:54:00 PM	R49721
Toluene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
Ethylbenzene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
Methyl tert-butyl ether (MTBE)	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
1,2,4-Trimethylbenzene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
1,3,5-Trimethylbenzene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
1,2-Dichloroethane (EDC)	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pI Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1803601

Date Reported: 3/27/2018

CLIENT: Souder, Miller and Associates

Client Sample ID: Chaco Non Exempt

Project: Chaco

Collection Date: 3/8/2018 10:32:00 AM

Lab ID: 1803601-001

Matrix: AQUEOUS

Received Date: 3/10/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,2-Dibromoethane (EDB)	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
Naphthalene	ND	0.40		µg/L	200	3/12/2018 6:54:00 PM	R49721
1-Methylnaphthalene	ND	0.80		µg/L	200	3/12/2018 6:54:00 PM	R49721
2-Methylnaphthalene	ND	0.80		µg/L	200	3/12/2018 6:54:00 PM	R49721
Acetone	ND	2.0		µg/L	200	3/12/2018 6:54:00 PM	R49721
Bromobenzene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
Bromodichloromethane	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
Bromoform	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
Bromomethane	ND	0.60		µg/L	200	3/12/2018 6:54:00 PM	R49721
2-Butanone	ND	2.0		µg/L	200	3/12/2018 6:54:00 PM	R49721
Carbon disulfide	ND	2.0		µg/L	200	3/12/2018 6:54:00 PM	R49721
Carbon Tetrachloride	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
Chlorobenzene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
Chloroethane	ND	0.40		µg/L	200	3/12/2018 6:54:00 PM	R49721
Chloroform	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
Chloromethane	ND	0.60		µg/L	200	3/12/2018 6:54:00 PM	R49721
2-Chlorotoluene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
4-Chlorotoluene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
cis-1,2-DCE	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
cis-1,3-Dichloropropene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
1,2-Dibromo-3-chloropropane	ND	0.40		µg/L	200	3/12/2018 6:54:00 PM	R49721
Dibromochloromethane	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
Dibromomethane	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
1,2-Dichlorobenzene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
1,3-Dichlorobenzene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
1,4-Dichlorobenzene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
Dichlorodifluoromethane	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
1,1-Dichloroethane	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
1,1-Dichloroethene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
1,2-Dichloropropane	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
1,3-Dichloropropane	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
2,2-Dichloropropane	ND	0.40		µg/L	200	3/12/2018 6:54:00 PM	R49721
1,1-Dichloropropene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
Hexachlorobutadiene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
2-Hexanone	ND	2.0		µg/L	200	3/12/2018 6:54:00 PM	R49721
Isopropylbenzene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
4-Isopropyltoluene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
4-Methyl-2-pentanone	ND	2.0		µg/L	200	3/12/2018 6:54:00 PM	R49721
Methylene Chloride	ND	0.60		µg/L	200	3/12/2018 6:54:00 PM	R49721

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1803601

Date Reported: 3/27/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: Chaco Non Exempt

Project: Chaco

Collection Date: 3/8/2018 10:32:00 AM

Lab ID: 1803601-001

Matrix: AQUEOUS

Received Date: 3/10/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
n-Butylbenzene	ND	0.60		µg/L	200	3/12/2018 6:54:00 PM	R49721
n-Propylbenzene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
sec-Butylbenzene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
Styrene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
tert-Butylbenzene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
1,1,1,2-Tetrachloroethane	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
1,1,2,2-Tetrachloroethane	ND	0.40		µg/L	200	3/12/2018 6:54:00 PM	R49721
Tetrachloroethene (PCE)	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
trans-1,2-DCE	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
trans-1,3-Dichloropropene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
1,2,3-Trichlorobenzene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
1,2,4-Trichlorobenzene	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
1,1,1-Trichloroethane	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
1,1,2-Trichloroethane	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
Trichloroethene (TCE)	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
Trichlorofluoromethane	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
1,2,3-Trichloropropane	ND	0.40		µg/L	200	3/12/2018 6:54:00 PM	R49721
Vinyl chloride	ND	0.20		µg/L	200	3/12/2018 6:54:00 PM	R49721
Xylenes, Total	ND	0.30		µg/L	200	3/12/2018 6:54:00 PM	R49721
Surr: 1,2-Dichloroethane-d4	93.4	70-130		%Rec	200	3/12/2018 6:54:00 PM	R49721
Surr: 4-Bromofluorobenzene	78.4	70-130		%Rec	200	3/12/2018 6:54:00 PM	R49721
Surr: Dibromofluoromethane	98.1	70-130		%Rec	200	3/12/2018 6:54:00 PM	R49721
Surr: Toluene-d8	84.8	70-130		%Rec	200	3/12/2018 6:54:00 PM	R49721

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not in Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 180313041
Project Name: 1803601

Analytical Results Report

Sample Number 180313041-001 **Sampling Date** 3/8/2018 **Date/Time Received** 3/13/2018 10:24 AM
Client Sample ID 1803601-001D / CHACO NON EXEMPT
Matrix Water **Sampling Time** 10:32 AM
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide (reactive)	ND	mg/L	0.1	3/14/2018	RPU	SW846 CH7	
Flashpoint	>200	°F		3/19/2018 11:45:00 AM	GPB	EPA 1010	
pH	8.57	ph Units		3/14/2018 3:00:00 PM	RPU	SM 4500pH-B	
Reactive sulfide	ND	mg/L	0.2	3/22/2018 1:50:00 PM	ETL	SW846 CH7	

Authorized Signature


Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA-ID00013; AZ-0701; FL(NELAP): E87893; ID-ID00013; MT-CERT0028; NM-ID00013; NV-ID00013; OR-ID200001-002; WA-C595
Certifications held by Anatek Labs WA: EPA-WA00189; ID-WA00189; WA-C585; MT-Cert0095; FL(NELAP): E871089

Monday, March 26, 2018

Page 1 of 1

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague St. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 180313041
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1803601
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Reactive sulfide	0.160	mg/L	0.2	80.0	70-130	3/22/2018	3/22/2018
Cyanide (reactive)	0.538	mg/L	0.5	107.6	80-120	3/14/2018	3/14/2018

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Reactive sulfide	0.180	mg/L	0.2	90.0	11.8	0-25	3/22/2018	3/22/2018

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
180316029-001A	Reactive sulfide	ND	0.529	mg/L	0.661	80.0	70-130	3/22/2018	3/22/2018
180313041-001	Cyanide (reactive)	ND	5.08	mg/L	5	101.6	80-120	3/14/2018	3/14/2018

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide (reactive)	5.13	mg/L	5	102.6	1.0	0-25	3/14/2018	3/14/2018

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide (reactive)	ND	mg/L	1	3/14/2018	3/14/2018
Reactive sulfide	ND	mg/L	0.1	3/22/2018	3/22/2018

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA-ID00013; AZ-0701; FL(NELAP):E87893; ID-ID00013; MT-CERT0028; NM: ID00013; NV-ID00013; OR-ID200001-032; WA-C585
Certifications held by Anatek Labs WA: EPA-WA00169; ID-WA00169; WA-C585; MT-Cert0095; FL(NELAP): E871099

Monday, March 26, 2018

Page 1 of 1

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1803601

27-Mar-18

Client: Souder, Miller and Associates

Project: Chaco

Sample ID: 100ng lcs	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: R49721		RunNo: 49721							
Prep Date:	Analysis Date: 3/12/2018		SeqNo: 1608099		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	70	130			
Toluene	20	1.0	20.00	0	99.1	70	130			
Chlorobenzene	20	1.0	20.00	0	101	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	112	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	100	70	130			
Surr: 1,2-Dichloroethane-d4	9.0		10.00		90.3	70	130			
Surr: 4-Bromofluorobenzene	8.0		10.00		80.1	70	130			
Surr: Dibromofluoromethane	9.1		10.00		91.3	70	130			
Surr: Toluene-d8	8.6		10.00		85.6	70	130			

Sample ID	RB	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID:	PBW	Batch ID: R49721		RunNo: 49721						
Prep Date:		Analysis Date: 3/12/2018		SeqNo: 1608102		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1803601

27-Mar-18

Client: Souder, Miller and Associates

Project: Chaco

Sample ID	RB	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID:	PBW	Batch ID: R49721		RunNo: 49721						
Prep Date:		Analysis Date: 3/12/2018		SeqNo: 1608102		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1803601

27-Mar-18

Client: Souder, Miller and Associates

Project: Chaco

Sample ID	RB	SampType	MBLK	TestCode	EPA Method 8260B: VOLATILES					
Client ID	PBW	Batch ID	R49721	RunNo	49721					
Prep Date		Analysis Date	3/12/2018	SeqNo	1608102	Units	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.0	70	130			
Surr: 4-Bromofluorobenzene	8.0		10.00		80.3	70	130			
Surr: Dibromofluoromethane	9.1		10.00		90.9	70	130			
Surr: Toluene-d8	8.7		10.00		87.3	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Page 6 of 10

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1803601

27-Mar-18

Client: Souder, Miller and Associates

Project: Chaco

Sample ID	lcs-36978		SampType: LCS	TestCode: EPA Method 8270C: PAHs						
Client ID:	LCSW		Batch ID: 36978	RunNo: 49880						
Prep Date:	3/13/2018		Analysis Date: 3/15/2018	SeqNo: 1614453		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	18	0.50	20.00	0	90.0	28.6	113			
1-Methylnaphthalene	19	0.50	20.00	0	95.3	27	113			
2-Methylnaphthalene	18	0.50	20.00	0	90.0	26.3	112			
Acenaphthylene	18	0.50	20.00	0	87.7	36.2	114			
Acenaphthene	18	0.50	20.00	0	89.2	35.6	116			
Fluorene	19	0.50	20.00	0	95.4	38.4	116			
Phenanthrene	20	0.50	20.00	0	97.9	42.3	118			
Anthracene	20	0.50	20.00	0	98.1	42.2	117			
Fluoranthene	21	0.50	20.00	0	106	42.5	118			
Pyrene	21	0.50	20.00	0	104	40.8	121			
Benz(a)anthracene	20	0.50	20.00	0	98.7	43	118			
Chrysene	12	0.50	20.00	0	59.2	39.4	119			
Benzo(b)fluoranthene	21	0.50	20.00	0	104	47.8	115			
Benzo(k)fluoranthene	20	0.50	20.00	0	98.2	40.5	120			
Benzo(a)pyrene	19	0.50	20.00	0	97.1	41.5	115			
Dibenz(a,h)anthracene	19	0.50	20.00	0	93.5	48.6	115			
Benzo(g,h,i)perylene	21	0.50	20.00	0	106	42	119			
Indeno(1,2,3-cd)pyrene	21	0.50	20.00	0	103	42.9	118			
Surr: N-hexadecane	69		87.60		78.9	18.7	145			
Surr: Benzo(e)pyrene	19		20.00		93.7	28.2	137			

Sample ID	lcsd-36978		SampType: LCSD	TestCode: EPA Method 8270C: PAHs						
Client ID:	LCSS02		Batch ID: 36978	RunNo: 49880						
Prep Date:	3/13/2018		Analysis Date: 3/15/2018	SeqNo: 1614454		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	10	0.50	20.00	0	50.5	28.6	113	56.2	40.7	R
1-Methylnaphthalene	10	0.50	20.00	0	51.4	27	113	59.9	38.4	R
2-Methylnaphthalene	9.9	0.50	20.00	0	49.7	26.3	112	57.7	25.5	R
Acenaphthylene	11	0.50	20.00	0	56.5	36.2	114	43.3	34.1	R
Acenaphthene	11	0.50	20.00	0	56.8	35.6	116	44.4	32.1	R
Fluorene	12	0.50	20.00	0	60.1	38.4	116	45.4	28	R
Phenanthrene	13	0.50	20.00	0	64.3	42.3	118	41.4	37.4	R
Anthracene	13	0.50	20.00	0	66.2	42.2	117	38.8	36.2	R
Fluoranthene	14	0.50	20.00	0	68.9	42.5	118	42.8	26.6	R
Pyrene	13	0.50	20.00	0	64.4	40.8	121	46.8	26.8	R
Benz(a)anthracene	13	0.50	20.00	0	65.7	43	118	40.1	25.1	R
Chrysene	13	0.50	20.00	0	63.9	39.4	119	7.64	23.3	
Benzo(b)fluoranthene	14	0.50	20.00	0	68.4	47.8	115	41.5	22.5	R

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1803601

27-Mar-18

Client: Souder, Miller and Associates

Project: Chaco

Sample ID	icsd-36978	SampType: LCSO			TestCode: EPA Method 8270C: PAHs					
Client ID:	LCSS02	Batch ID: 36978			RunNo: 49880					
Prep Date:	3/13/2018	Analysis Date: 3/15/2018			SeqNo: 1614454		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	14	0.50	20.00	0	69.7	40.5	120	33.9	30.9	R
Benzo(a)pyrene	13	0.50	20.00	0	63.9	41.5	115	41.2	23.2	R
Dibenz(a,h)anthracene	14	0.50	20.00	0	68.2	48.6	115	31.3	26.5	R
Benzo(g,h,i)perylene	14	0.50	20.00	0	68.1	42	119	43.3	30.7	R
Indeno(1,2,3-cd)pyrene	14	0.50	20.00	0	68.6	42.9	118	40.0	25.4	R
Surr: N-hexadecane	32		87.60		36.8	18.7	145	0	0	
Surr: Benzo(e)pyrene	18		20.00		87.9	28.2	137	0	0	

Sample ID	mb-36978	SampType:	MBLK	TestCode:	EPA Method 8270C: PAHs					
Client ID:	PBW	Batch ID:	36978	RunNo:	49880					
Prep Date:	3/13/2018	Analysis Date:	3/15/2018	SeqNo:	1614455	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	0.50								
2-Methylnaphthalene	ND	0.50								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
Pyrene	ND	0.50								
Benzo(a)anthracene	ND	0.50								
Chrysene	ND	0.50								
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	56		87.60		63.4	18.7	145			
Surr: Benzo(e)pyrene	15		20.00		75.6	28.2	137			

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pI Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1803601

27-Mar-18

Client: Souder, Miller and Associates

Project: Chaco

Sample ID	MB-37099	SampType:	MBLK	TestCode:	EPA Method 7470: Mercury					
Client ID:	PBW	Batch ID:	37099	RunNo:	49907					
Prep Date:	3/19/2018	Analysis Date:	3/19/2018	SeqNo:	1615564	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-37099	SampType:	LCS	TestCode:	EPA Method 7470: Mercury					
Client ID:	LCSW	Batch ID:	37099	RunNo:	49907					
Prep Date:	3/19/2018	Analysis Date:	3/19/2018	SeqNo:	1615579	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0046	0.00020	0.005000	0	91.3	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1803601

27-Mar-18

Client: Souder, Miller and Associates

Project: Chaco

Sample ID	MB-37055	SampType	MBLK	TestCode	EPA 6010B: Total Recoverable Metals					
Client ID	PBW	Batch ID	37055	RunNo	49969					
Prep Date	3/15/2018	Analysis Date	3/21/2018	SeqNo	1617934	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	ND	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID	LCS-37055	SampType	LCS	TestCode	EPA 6010B: Total Recoverable Metals					
Client ID	LCSW	Batch ID	37055	RunNo	49969					
Prep Date	3/15/2018	Analysis Date	3/21/2018	SeqNo	1617936	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.52	0.020	0.5000	0	105	80	120			
Cadmium	0.53	0.0020	0.5000	0	106	80	120			
Chromium	0.51	0.0060	0.5000	0	103	80	120			
Lead	0.49	0.0050	0.5000	0	97.4	80	120			
Selenium	0.53	0.050	0.5000	0	106	80	120			
Silver	0.10	0.0050	0.1000	0	105	80	120			

Sample ID	MB-37055	SampType	MBLK	TestCode	EPA 6010B: Total Recoverable Metals					
Client ID	PBW	Batch ID	37055	RunNo	49969					
Prep Date	3/15/2018	Analysis Date	3/21/2018	SeqNo	1617983	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								

Sample ID	LCS-37055	SampType	LCS	TestCode	EPA 6010B: Total Recoverable Metals					
Client ID	LCSW	Batch ID	37055	RunNo	49969					
Prep Date	3/15/2018	Analysis Date	3/21/2018	SeqNo	1617985	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.52	0.020	0.5000	0	105	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1803601

RcptNo: 1

Received By: Isaiah Ortiz

3/10/2018 8:00:00 AM

IG

Completed By: Anne Thorne

3/12/2018 11:09:30 AM

Anne Thorne

Reviewed By: ZMO

3/12/18

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: 1 2
(2 or 12 unless noted)
Adjusted? _____
Checked by: AT 03/12/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:	_____		
Client Instructions:	_____		

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.4	Good	Yes			

12/10/ 2019

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. **Generator Name and Address:**
Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. **Originating Site:**
San Juan Manzanaras Compressor Station

3. **Location of Material (Street Address, City, State or ULSTR):**
UL H Section 17 Township 29 North Range 9 West; 36.726358, -107.794560, San Juan County, NM

4. **Source and Description of Waste:**
Source: Water/Oil from the Non Exempt WasteWater Tanks and from the compressor skid drains.
Description: Non Exempt/Non Hazardous Water from the compressor skids.
Estimated Volume 80 yd³ bbls Known Volume (to be entered by the operator at the end of the haul) _____ yd³ / bbls

5. **GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS**

I, Thomas Long *Thomas Long*, representative or authorized agent for Enterprise Products Operating do hereby
Generator Signature
certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988
regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. **Operator Use Only: Waste Acceptance Frequency** ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long *Thomas Long*, representative for Enterprise Products Operating authorize to complete
Generator Signature
the required testing/sign the Generator Waste Testing Certification.

I, _____, representative for Agua Moss, LLC do hereby certify that
representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples
have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results
of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of
19.15.36 NMAC.

5. **Transporter: Various Apporved Trucking**
OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: *Agua Moss, LLC - Permit #: NM-01-009
Address of Facility: SW/4 NW/4 Section 2, Township 29N, Range Crouch Mesa, NM

Method of Treatment and/or Disposal
☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status: ☐ APPROVED ☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: _____ TITLE: _____ DATE: _____
SIGNATURE: _____ TELEPHONE NO.: _____
Surface Waste Management Facility Authorized Agent



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

December 10, 2018

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-7535
FAX

RE: Manzanares

OrderNo.: 1811D91

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 11/29/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1811D91

Date Reported: 12/10/2018

CLIENT: Souder, Miller and Associates

Client Sample ID: Manzanares

Project: Manzanares

Collection Date: 11/28/2018 9:45:00 AM

Lab ID: 1811D91-001

Matrix: AQUEOUS

Received Date: 11/29/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 7470: MERCURY						Analyst: pmf
Mercury	ND	0.020		mg/L	1	12/4/2018 1:18:53 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: ELS
Arsenic	ND	5.0		mg/L	1	12/4/2018 9:09:30 AM
Barium	ND	100		mg/L	1	12/4/2018 9:09:30 AM
Cadmium	ND	1.0		mg/L	1	12/4/2018 9:09:30 AM
Chromium	ND	5.0		mg/L	1	12/4/2018 9:09:30 AM
Lead	ND	5.0		mg/L	1	12/4/2018 12:18:39 PM
Selenium	ND	1.0		mg/L	1	12/4/2018 9:09:30 AM
Silver	ND	5.0		mg/L	1	12/4/2018 9:09:30 AM
EPA METHOD 8270C: PAHS						Analyst: DAM
Naphthalene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
1-Methylnaphthalene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
2-Methylnaphthalene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Acenaphthylene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Acenaphthene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Fluorene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Phenanthrene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Anthracene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Fluoranthene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Pyrene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Benz(a)anthracene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Chrysene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Benzo(b)fluoranthene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Benzo(k)fluoranthene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Benzo(a)pyrene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Dibenz(a,h)anthracene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Benzo(g,h,i)perylene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Indeno(1,2,3-cd)pyrene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Surr: N-hexadecane	0	35.2-113	SD	%Rec	10	12/6/2018 12:28:04 PM
Surr: Benzo(e)pyrene	0	48.3-123	SD	%Rec	10	12/6/2018 12:28:04 PM
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	ND	0.50		mg/L	200	11/29/2018 4:07:00 PM
Toluene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Ethylbenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,2,4-Trimethylbenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,3,5-Trimethylbenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,2-Dichloroethane (EDC)	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1811D91

Date Reported: 12/10/2018

CLIENT: Souder, Miller and Associates

Client Sample ID: Manzanares

Project: Manzanares

Collection Date: 11/28/2018 9:45:00 AM

Lab ID: 1811D91-001

Matrix: AQUEOUS

Received Date: 11/29/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
1,2-Dibromoethane (EDB)	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Naphthalene	ND	0.40		mg/L	200	11/29/2018 4:07:00 PM
1-Methylnaphthalene	ND	0.80		mg/L	200	11/29/2018 4:07:00 PM
2-Methylnaphthalene	ND	0.80		mg/L	200	11/29/2018 4:07:00 PM
Acetone	ND	2.0		mg/L	200	11/29/2018 4:07:00 PM
Bromobenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Bromodichloromethane	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Bromoform	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Bromomethane	ND	0.60		mg/L	200	11/29/2018 4:07:00 PM
2-Butanone	ND	2.0		mg/L	200	11/29/2018 4:07:00 PM
Carbon disulfide	ND	2.0		mg/L	200	11/29/2018 4:07:00 PM
Carbon Tetrachloride	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Chlorobenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Chloroethane	ND	0.40		mg/L	200	11/29/2018 4:07:00 PM
Chloroform	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Chloromethane	ND	0.60		mg/L	200	11/29/2018 4:07:00 PM
2-Chlorotoluene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
4-Chlorotoluene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
cis-1,2-DCE	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
cis-1,3-Dichloropropene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,2-Dibromo-3-chloropropane	ND	0.40		mg/L	200	11/29/2018 4:07:00 PM
Dibromochloromethane	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Dibromomethane	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,2-Dichlorobenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,3-Dichlorobenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,4-Dichlorobenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Dichlorodifluoromethane	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,1-Dichloroethane	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,1-Dichloroethene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,2-Dichloropropane	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,3-Dichloropropane	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
2,2-Dichloropropane	ND	0.40		mg/L	200	11/29/2018 4:07:00 PM
1,1-Dichloropropene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Hexachlorobutadiene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
2-Hexanone	ND	2.0		mg/L	200	11/29/2018 4:07:00 PM
Isopropylbenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
4-Isopropyltoluene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
4-Methyl-2-pentanone	ND	2.0		mg/L	200	11/29/2018 4:07:00 PM
Methylene Chloride	ND	0.60		mg/L	200	11/29/2018 4:07:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1811D91

Date Reported: 12/10/2018

CLIENT: Souder, Miller and Associates

Client Sample ID: Manzanares

Project: Manzanares

Collection Date: 11/28/2018 9:45:00 AM

Lab ID: 1811D91-001

Matrix: AQUEOUS

Received Date: 11/29/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
n-Butylbenzene	ND	0.60		mg/L	200	11/29/2018 4:07:00 PM
n-Propylbenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
sec-Butylbenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Styrene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
tert-Butylbenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,1,1,2-Tetrachloroethane	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,1,2,2-Tetrachloroethane	ND	0.40		mg/L	200	11/29/2018 4:07:00 PM
Tetrachloroethene (PCE)	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
trans-1,2-DCE	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
trans-1,3-Dichloropropene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,2,3-Trichlorobenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,2,4-Trichlorobenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,1,1-Trichloroethane	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,1,2-Trichloroethane	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Trichloroethene (TCE)	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Trichlorofluoromethane	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,2,3-Trichloropropane	ND	0.40		mg/L	200	11/29/2018 4:07:00 PM
Vinyl chloride	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Xylenes, Total	ND	0.30		mg/L	200	11/29/2018 4:07:00 PM
Surr: 1,2-Dichloroethane-d4	98.3	70-130		%Rec	200	11/29/2018 4:07:00 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	200	11/29/2018 4:07:00 PM
Surr: Dibromofluoromethane	94.3	70-130		%Rec	200	11/29/2018 4:07:00 PM
Surr: Toluene-d8	94.1	70-130		%Rec	200	11/29/2018 4:07:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

1811D91-001D MANZANARES

Collected date/time: 11/28/18 09:45

SAMPLE RESULTS - 01

L1048596

ONE LAB. NATIONWIDE



Wet Chemistry by Method 4500 CN E-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Reactive Cyanide	ND		0.00500	1	12/05/2018 09:33	WG1203906

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result su	Qualifier	RDL	Dilution	Analysis date / time	Batch
Corrosivity by pH	6.55	T8		1	12/01/2018 13:46	WG1204036

Sample Narrative:

L1048596-01 WG1204036: 6.55 at 13.4C

Wet Chemistry by Method 9034-9030B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Reactive Sulfide	ND		0.0500	1	12/01/2018 13:33	WG1204157

Wet Chemistry by Method D93/1010A

Analyte	Result deg F	Qualifier	RDL	Dilution	Analysis date / time	Batch
Flashpoint	DNF at 170			1	12/01/2018 14:40	WG1204067

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1048596DATE/TIME:
12/06/18 15:56

WG1203906

Wet Chemistry by Method 4500 CN E-2011

Method Blank (MB)

QUALITY CONTROL SUMMARY

L1048596-01

DRE LAB NATIONWIDE

(MB) R3365305-1 12/05/18 09:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RCL mg/l
Reactive Cyanide	U	0.00180	0.00180	0.00590

L1048039-04 Original Sample (OS) - Duplicate (DUP)

(OS) L1048039-04 12/05/18 06:13 - (DUP) R3365305-5 12/05/18 09:14

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP RPD Limits %
Reactive Cyanide	U	0.003	1	0.000	20

L1048255-01 Original Sample (OS) - Duplicate (DUP)

(OS) L1048255-01 12/05/18 09:29 - (DUP) R3365305-3 12/05/18 09:30

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP RPD Limits %
Reactive Cyanide	ND	0.000	1	0.000	20

Laboratory Control Sample (LCS)

(LCS) R3365305-2 12/05/18 09:00

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec %	Rec. Limits %
Reactive Cyanide	0.100	0.107	107	85.0-125

L1048039-01 Original Sample (OS) - Matrix Spike (MS) - Matrix Spike Duplicate (MSD)

(OS) L1048039-01 12/05/18 09:06 - (MS) R3365305-3 12/05/18 09:07 - (MSD) R3365305-4 12/05/18 09:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Reactive Cyanide	0.100	U	0.0593	0.0975	59.3	97.9	1	75.0-125	16	13	59	20

L1048252-01 Original Sample (OS) - Matrix Spike (MS) - Matrix Spike Duplicate (MSD)

(OS) L1048252-01 12/05/18 09:25 - (MS) R3365305-6 12/05/18 09:26 - (MSD) R3365305-7 12/05/18 09:27

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Reactive Cyanide	0.100	0.00729	0.0588	0.0977	91.5	90.4	1	75.0-125	172	13	172	20

ACCOUNT:

Hal Environmental Analysis Laboratory

PROJECT

SDG:

L1048596

DATE/TIME

12/06/18 15:56

WG1204036

Wat Chemistry by Method 4500H+ 8-2011

QUALITY CONTROL SUMMARY

LS048536-01

ONE LAB NATIONWIDE

Laboratory Control Sample (LCS) - Laboratory Control Sample Duplicate (LCSD)

(LCS) F3364437-1 12/01/18 13:46 • (LCSD) R3364437-2 12/01/18 13:46

Analyte	Spike Amount su	LCS Result su	LCSD Result su	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Conductivity by pH	100	10.0	10.1	100	101	99.0-101			0.398	1

Sample Narrative:

LCS: 10.04 at 19.7C

LCSD: 10.08 at 19.8C

Tc
Ss
Cn
Sr
Cd
Gl
A
Sc

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
13048501

DATE/TIME:
12/06/18 15:56

WG1204157

Wet Chemistry by Methec 9034-9030B

QUALITY CONTROL SUMMARY

L1048596-01

ONE LAB NATIONWIDE

Method Blank (MB)

(MB) R3364436-1 12/07/18 13:30

Analyte	VB Result	MB Qualifier	MB MDL	MB RDL
Reactive Sulfide	µg/l	mg/l	mg/l	mg/l
	U	0.00650	0.00650	0.0500

Laboratory Control Sample (LCS)

(LCS) R3364436-2 12/07/18 13:30

Analyte	Spike Amount	LCS Result	LCS Rec	Rec. Limits	LCS Qualifier
Reactive Sulfide	mg/l	µg/l	%	%	
	0.500	0.459	91.8	85-115	

ACCOUNT: HAS Environmental Analysis Laboratory

PROJECT:

SDG: L1048596

DATE/TIME: 12/06/18 15:56

WG1204067

Wet Chemistry by Method D93/101CA

QUALITY CONTROL SUMMARY

L1048596-01

ONCE L&E NATIONWIDE

L1048568-02 Original Sample (OS) • Duplicate (DUP)

OS) L1048568-02 12/07/18 14:40 • (DUP) R3364666-2 12/07/18 14:40

Analyte	Original Result		DUP Result		Dilution	DUP RPD		DUP RPD	
	deg F	DNF at 17C	deg F	DNF at 17C		%	0.000	Limits	%
Flashpoint					1				10

Laboratory Control Sample (LCS)

(LCS) R3364666-1 12/07/18 14:40

Analyte	Spike Amount		LCS Result:		LCS Rec	Rec. Limits		LCS Qualifier	
	deg F		deg F			%	96.3-104		
Flashpoint	82.0		84.3		103				



ACCOUNT:
Hill Environmental Analysis Laboratory

PROJECT:

SDG:
L1048550

DATE/TIME:
12/06/18 15:36

GLOSSARY OF TERMS

ONE LAB. NATIONWIDE



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.
Qualifier	Description
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
TB	Sample(s) received past/too close to holding time expiration.

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Cl

⁸ Al

⁹ Sc

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1048596

DATE/TIME:
12/06/18 15:56

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1811D91

10-Dec-18

Client: Souder, Miller and Associates

Project: Manzanares

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R55969	RunNo: 55969								
Prep Date:	Analysis Date: 11/29/2018	SeqNo: 1868405 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	106	70	130			
Toluene	19	1.0	20.00	0	93.8	70	130			
Chlorobenzene	20	1.0	20.00	0	97.6	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	106	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.4	70	130			
Surr: Toluene-d8	9.1		10.00		90.8	70	130			

Sample ID	rb	SampType	MBLK								TestCode	EPA Method 8260B: VOLATILES				
Client ID	PBW	Batch ID	R55969					RunNo	55969							
Prep Date		Analysis Date	11/29/2018					SeqNo	1868406		Units	µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual						
Benzene	ND	1.0														
Toluene	ND	1.0														
Ethylbenzene	ND	1.0														
Methyl tert-butyl ether (MTBE)	ND	1.0														
1,2,4-Trimethylbenzene	ND	1.0														
1,3,5-Trimethylbenzene	ND	1.0														
1,2-Dichloroethane (EDC)	ND	1.0														
1,2-Dibromoethane (EDB)	ND	1.0														
Naphthalene	ND	2.0														
1-Methylnaphthalene	ND	4.0														
2-Methylnaphthalene	ND	4.0														
Acetone	ND	10														
Bromobenzene	ND	1.0														
Bromodichloromethane	ND	1.0														
Bromoform	ND	1.0														
Bromomethane	ND	3.0														
2-Butanone	ND	10														
Carbon disulfide	ND	10														
Carbon Tetrachloride	ND	1.0														
Chlorobenzene	ND	1.0														
Chloroethane	ND	2.0														
Chloroform	ND	1.0														
Chloromethane	ND	3.0														
2-Chlorotoluene	ND	1.0														

Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1811D91

10-Dec-18

Client: Souder, Miller and Associates

Project: Manzanares

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R55969	RunNo: 55969								
Prep Date:	Analysis Date: 11/29/2018	SeqNo: 1868406 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1811D91

10-Dec-18

Client: Souder, Miller and Associates

Project: Manzanares

Sample ID: rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R55969			RunNo: 55969						
Prep Date:	Analysis Date: 11/29/2018			SeqNo: 1868406		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.3	70	130			
Surr: Toluene-d8	9.6		10.00		95.6	70	130			

Sample ID	1811d91-001ams	SampType:	MS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	Manzanares	Batch ID:	R55969	RunNo:	55969					
Prep Date:		Analysis Date:	11/29/2018	SeqNo:	1868419	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.3	0.20	4.000	0	107	60.5	137			
Toluene	3.9	0.20	4.000	0	97.5	70	130			
Chlorobenzene	3.9	0.20	4.000	0	96.5	70	130			
1,1-Dichloroethene	4.3	0.20	4.000	0	107	67.6	130			
Trichloroethene (TCE)	4.0	0.20	4.000	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	2.1		2.000		105	70	130			
Surr: 4-Bromofluorobenzene	2.1		2.000		105	70	130			
Surr: Dibromofluoromethane	1.9		2.000		96.2	70	130			
Surr: Toluene-d8	1.9		2.000		93.2	70	130			

Sample ID	1811d91-001amsd	SampType:	MSD	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	Manzanares	Batch ID:	R55969	RunNo:	55969					
Prep Date:		Analysis Date:	11/29/2018	SeqNo:	1868420	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.0	0.20	4.000	0	100	60.5	137	6.28	20	
Toluene	3.7	0.20	4.000	0	93.2	70	130	4.46	20	
Chlorobenzene	3.7	0.20	4.000	0	91.8	70	130	4.97	20	
1,1-Dichloroethene	3.8	0.20	4.000	0	95.1	67.6	130	11.6	20	
Trichloroethene (TCE)	3.8	0.20	4.000	0	95.9	70	130	5.02	20	
Surr: 1,2-Dichloroethane-d4	2.1		2.000		105	70	130	0	0	
Surr: 4-Bromofluorobenzene	2.2		2.000		108	70	130	0	0	
Surr: Dibromofluoromethane	1.9		2.000		95.2	70	130	0	0	
Surr: Toluene-d8	1.9		2.000		93.9	70	130	0	0	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1811D91

10-Dec-18

Client: Souder, Miller and Associates

Project: Manzanares

Sample ID	Ics-41899			SampType: LCS	TestCode: EPA Method 8270C: PAHs					
Client ID:	LCSW			Batch ID: 41899	RunNo: 56156					
Prep Date:	12/4/2018			Analysis Date: 12/6/2018	SeqNo: 1875938		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	12	0.50	20.00	0	58.1	29.6	105			
1-Methylnaphthalene	13	0.50	20.00	0	62.8	33.4	112			
2-Methylnaphthalene	12	0.50	20.00	0	59.2	28.6	108			
Acenaphthylene	13	0.50	20.00	0	66.9	35.7	116			
Acenaphthene	14	0.50	20.00	0	69.8	32.4	118			
Fluorene	13	0.50	20.00	0	66.9	35.6	118			
Phenanthrene	17	0.50	20.00	0	86.5	36.3	130			
Anthracene	18	0.50	20.00	0	91.3	34.8	135			
Fluoranthene	20	0.50	20.00	0	99.6	41	136			
Pyrene	19	0.50	20.00	0	96.3	44.8	136			
Benz(a)anthracene	20	0.50	20.00	0	100	41.1	136			
Chrysene	17	0.50	20.00	0	84.1	37.9	132			
Benzo(b)fluoranthene	19	0.50	20.00	0	93.5	39	144			
Benzo(k)fluoranthene	18	0.50	20.00	0	91.6	40	144			
Benzo(a)pyrene	19	0.50	20.00	0	94.1	36.8	137			
Dibenz(a,h)anthracene	17	0.50	20.00	0	86.3	31.5	141			
Benzo(g,h,i)perylene	20	0.50	20.00	0	99.7	32.9	138			
Indeno(1,2,3-cd)pyrene	20	0.50	20.00	0	98.4	40.9	143			
Surr: N-hexadecane	71		87.60		81.1	35.2	113			
Surr: Benzo(e)pyrene	34		20.00		170	48.3	123			S

Sample ID	Icsd-41899			SampType: LCSD	TestCode: EPA Method 8270C: PAHs					
Client ID:	LCSS02			Batch ID: 41899	RunNo: 56156					
Prep Date:	12/4/2018			Analysis Date: 12/6/2018	SeqNo: 1875939		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	13	0.50	20.00	0	63.9	29.6	105	9.51	68.7	
1-Methylnaphthalene	13	0.50	20.00	0	66.8	33.4	112	6.17	66	
2-Methylnaphthalene	12	0.50	20.00	0	58.5	28.6	108	1.19	68.7	
Acenaphthylene	14	0.50	20.00	0	69.7	35.7	116	4.10	64.9	
Acenaphthene	15	0.50	20.00	0	72.7	32.4	118	4.07	53.2	
Fluorene	15	0.50	20.00	0	75.8	35.6	118	12.5	62.4	
Phenanthrene	20	0.50	20.00	0	102	36.3	130	16.4	62.6	
Anthracene	21	0.50	20.00	0	104	34.8	135	12.5	62.4	
Fluoranthene	20	0.50	20.00	0	101	41	136	1.49	59.4	
Pyrene	19	0.50	20.00	0	96.5	44.8	136	0.207	55.4	
Benz(a)anthracene	20	0.50	20.00	0	101	41.1	136	0.695	56.6	
Chrysene	17	0.50	20.00	0	83.0	37.9	132	1.32	51.9	
Benzo(b)fluoranthene	20	0.50	20.00	0	97.8	39	144	4.50	59.1	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not in Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1811D91

10-Dec-18

Client: Souder, Miller and Associates

Project: Manzanares

Sample ID	Icsd-41899		SampType: LCSD	TestCode: EPA Method 8270C: PAHs						
Client ID:	LCSS02		Batch ID: 41899	RunNo: 56156						
Prep Date:	12/4/2018		Analysis Date: 12/6/2018	SeqNo: 1875939		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	18	0.50	20.00	0	87.9	40	144	4.12	57	
Benzo(a)pyrene	19	0.50	20.00	0	94.4	36.8	137	0.318	60.2	
Dibenz(a,h)anthracene	17	0.50	20.00	0	84.0	31.5	141	2.70	64.7	
Benzo(g,h,i)perylene	20	0.50	20.00	0	101	32.9	138	1.39	61.5	
Indeno(1,2,3-cd)pyrene	20	0.50	20.00	0	97.9	40.9	143	0.509	61.1	
Surr: N-hexadecane	82		87.60		94.0	35.2	113	0	0	
Surr: Benzo(e)pyrene	31		20.00		157	48.3	123	0	0	S

Sample ID	mb-41899		SampType: MBLK	TestCode: EPA Method 8270C: PAHs						
Client ID:	PBW		Batch ID: 41899	RunNo: 56156						
Prep Date:	12/4/2018		Analysis Date: 12/6/2018	SeqNo: 1875940		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	0.50								
2-Methylnaphthalene	ND	0.50								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
Pyrene	ND	0.50								
Benz(a)anthracene	ND	0.50								
Chrysene	ND	0.50								
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	65		87.60		74.6	35.2	113			
Surr: Benzo(e)pyrene	20		20.00		101	48.3	123			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1811D91

10-Dec-18

Client: Souder, Miller and Associates

Project: Manzanares

Sample ID	MB-41861	SampType	MBLK	TestCode	EPA Method 7470: Mercury					
Client ID	PBW	Batch ID	41861	RunNo	56066					
Prep Date	12/3/2018	Analysis Date	12/4/2018	SeqNo	1872280	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-41861	SampType	LCS	TestCode	EPA Method 7470: Mercury					
Client ID	LCSW	Batch ID	41861	RunNo	56066					
Prep Date	12/3/2018	Analysis Date	12/4/2018	SeqNo	1872287	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0042	0.00020	0.005000	0	83.3	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1811D91

10-Dec-18

Client: Souder, Miller and Associates

Project: Manzanares

Sample ID	MB-41840	SampType	MBLK	TestCode	EPA 6010B: Total Recoverable Metals					
Client ID	PBW	Batch ID	41840	RunNo	56059					
Prep Date	12/2/2018	Analysis Date	12/4/2018	SeqNo	1872022	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID	LCS-41840	SampType	LCS	TestCode	EPA 6010B: Total Recoverable Metals					
Client ID	LCSW	Batch ID	41840	RunNo	56059					
Prep Date	12/2/2018	Analysis Date	12/4/2018	SeqNo	1872023	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.51	0.020	0.5000	0	102	80	120			
Barium	0.50	0.020	0.5000	0	99.4	80	120			
Cadmium	0.50	0.0020	0.5000	0	100	80	120			
Chromium	0.50	0.0060	0.5000	0	101	80	120			
Selenium	0.51	0.050	0.5000	0	101	80	120			
Silver	0.099	0.0050	0.1000	0	99.4	80	120			

Sample ID	1811D91-001CMS	SampType	MS	TestCode	EPA 6010B: Total Recoverable Metals					
Client ID	Manzanares	Batch ID	41840	RunNo	56059					
Prep Date	12/2/2018	Analysis Date	12/4/2018	SeqNo	1872042	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.51	0.020	0.5000	0	101	75	125			
Barium	0.53	0.020	0.5000	0.04512	96.3	75	125			
Cadmium	0.48	0.0020	0.5000	0	96.5	75	125			
Chromium	0.47	0.0060	0.5000	0	94.7	75	125			
Selenium	0.49	0.050	0.5000	0	97.1	75	125			
Silver	0.096	0.0050	0.1000	0	95.7	75	125			

Sample ID	1811D91-001CMSD	SampType	MSD	TestCode	EPA 6010B: Total Recoverable Metals					
Client ID	Manzanares	Batch ID	41840	RunNo	56059					
Prep Date	12/2/2018	Analysis Date	12/4/2018	SeqNo	1872043	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.49	0.020	0.5000	0	97.4	75	125	4.06	20	
Barium	0.54	0.020	0.5000	0.04512	98.2	75	125	1.71	20	
Cadmium	0.49	0.0020	0.5000	0	98.5	75	125	2.04	20	
Chromium	0.48	0.0060	0.5000	0	95.7	75	125	1.04	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1811D91

10-Dec-18

Client: Souder, Miller and Associates

Project: Manzanares

Sample ID	1811D91-001CMSD	SampType	MSD	TestCode	EPA 6010B: Total Recoverable Metals					
Client ID	Manzanares	Batch ID	41840	RunNo	56059					
Prep Date	12/2/2018	Analysis Date	12/4/2018	SeqNo	1872043	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.52	0.050	0.5000	0	104	75	125	6.96	20	
Silver	0.098	0.0050	0.1000	0	97.5	75	125	1.89	20	

Sample ID	MB-41840	SampType	MBLK	TestCode	EPA 6010B: Total Recoverable Metals					
Client ID	PBW	Batch ID	41840	RunNo	56059					
Prep Date	12/2/2018	Analysis Date	12/4/2018	SeqNo	1872094	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0050								

Sample ID	LCS-41840	SampType	LCS	TestCode	EPA 6010B: Total Recoverable Metals					
Client ID	LCSW	Batch ID	41840	RunNo	56059					
Prep Date	12/2/2018	Analysis Date	12/4/2018	SeqNo	1872095	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.49	0.0050	0.5000	0	97.4	80	120			

Sample ID	1811D91-001CMS	SampType	MS	TestCode	EPA 6010B: Total Recoverable Metals					
Client ID	Manzanares	Batch ID	41840	RunNo	56059					
Prep Date	12/2/2018	Analysis Date	12/4/2018	SeqNo	1872113	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.48	0.0050	0.5000	0	95.7	75	125			

Sample ID	1811D91-001CMSD	SampType	MSD	TestCode	EPA 6010B: Total Recoverable Metals					
Client ID	Manzanares	Batch ID	41840	RunNo	56059					
Prep Date	12/2/2018	Analysis Date	12/4/2018	SeqNo	1872114	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.49	0.0050	0.5000	0	98.1	75	125	2.47	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1811D91

RcptNo: 1

Received By: Anne Thome 11/29/2018 7:00:00 AM

Completed By: Anne Thome 11/29/2018 8:55:46 AM

Reviewed By: ID

11/29/18

Anne Thome

Anne Thome

Labeled by: AS 11/29/18

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH.

Adjusted?

Checked by:

2
or >12 unless noted

AS 11/29/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:

Date:

By Whom:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes			
2	2.4	Good	Yes			

2018

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401
2. Originating Site: San Juan Manzanares Compressor Station
3. Location of Material (Street Address, City, State or ULSTR): UL H Section 17 Township 29 North Range 9 West; 36.726358, -107.794560, San Juan County, NM
4. Source and Description of Waste: Source: Water/Oil from the Non Exempt WasteWater Tanks and from the compressor skid drains. Description: Non Exempt/Non Hazardous Water from the compressor skids. Estimated Volume <u>80</u> yd ³ <u>(bbls)</u> Known Volume (to be entered by the operator at the end of the haul) _____ yd ³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
I, Thomas Long <i>Thomas Long</i> , representative or authorized agent for Enterprise Products Operating do hereby Generator Signature certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification) ☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. <u>Operator Use Only: Waste Acceptance Frequency</u> ☐ Monthly ☐ Weekly ☐ Per Load ☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items) ☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long <i>Thomas Long</i> , representative for Enterprise Products Operating authorize to complete Generator Signature the required testing/sign the Generator Waste Testing Certification. I, _____, representative for <u>Agua Moss, LLC</u> do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: Various Apporved Trucking
OCD Permitted Surface Waste Management Facility Name and Facility Permit #: *Agua Moss, LLC - Permit #: NM-01-009 Address of Facility: SW/4 NW/4 Section 2, Township 29N, Range Crouch Mesa, NM Method of Treatment and/or Disposal: ☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other Waste Acceptance Status: ☐ APPROVED ☐ DENIED (Must Be Maintained As Permanent Record) PRINT NAME: _____ TITLE: _____ DATE: _____ SIGNATURE: _____ TELEPHONE NO.: _____ Surface Waste Management Facility Authorized Agent



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

December 10, 2018

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-7535
FAX

RE: Manzanares

OrderNo.: 1811D91

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 11/29/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1811D91

Date Reported: 12/10/2018

CLIENT: Souder, Miller and Associates

Client Sample ID: Manzanares

Project: Manzanares

Collection Date: 11/28/2018 9:45:00 AM

Lab ID: 1811D91-001

Matrix: AQUEOUS

Received Date: 11/29/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 7470: MERCURY						Analyst: pmf
Mercury	ND	0.020		mg/L	1	12/4/2018 1:18:53 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: ELS
Arsenic	ND	5.0		mg/L	1	12/4/2018 9:09:30 AM
Barium	ND	100		mg/L	1	12/4/2018 9:09:30 AM
Cadmium	ND	1.0		mg/L	1	12/4/2018 9:09:30 AM
Chromium	ND	5.0		mg/L	1	12/4/2018 9:09:30 AM
Lead	ND	5.0		mg/L	1	12/4/2018 12:18:39 PM
Selenium	ND	1.0		mg/L	1	12/4/2018 9:09:30 AM
Silver	ND	5.0		mg/L	1	12/4/2018 9:09:30 AM
EPA METHOD 8270C: PAHS						Analyst: DAM
Naphthalene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
1-Methylnaphthalene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
2-Methylnaphthalene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Acenaphthylene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Acenaphthene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Fluorene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Phenanthrene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Anthracene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Fluoranthene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Pyrene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Benz(a)anthracene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Chrysene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Benzo(b)fluoranthene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Benzo(k)fluoranthene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Benzo(a)pyrene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Dibenz(a,h)anthracene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Benzo(g,h,i)perylene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Indeno(1,2,3-cd)pyrene	ND	5.0	D	µg/L	10	12/6/2018 12:28:04 PM
Surr: N-hexadecane	0	35.2-113	SD	%Rec	10	12/6/2018 12:28:04 PM
Surr: Benzo(e)pyrene	0	48.3-123	SD	%Rec	10	12/6/2018 12:28:04 PM
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	ND	0.50		mg/L	200	11/29/2018 4:07:00 PM
Toluene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Ethylbenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,2,4-Trimethylbenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,3,5-Trimethylbenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,2-Dichloroethane (EDC)	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1811D91

Date Reported: 12/10/2018

CLIENT: Souder, Miller and Associates

Client Sample ID: Manzanares

Project: Manzanares

Collection Date: 11/28/2018 9:45:00 AM

Lab ID: 1811D91-001

Matrix: AQUEOUS

Received Date: 11/29/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
1,2-Dibromoethane (EDB)	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Naphthalene	ND	0.40		mg/L	200	11/29/2018 4:07:00 PM
1-Methylnaphthalene	ND	0.80		mg/L	200	11/29/2018 4:07:00 PM
2-Methylnaphthalene	ND	0.80		mg/L	200	11/29/2018 4:07:00 PM
Acetone	ND	2.0		mg/L	200	11/29/2018 4:07:00 PM
Bromobenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Bromodichloromethane	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Bromoform	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Bromomethane	ND	0.60		mg/L	200	11/29/2018 4:07:00 PM
2-Butanone	ND	2.0		mg/L	200	11/29/2018 4:07:00 PM
Carbon disulfide	ND	2.0		mg/L	200	11/29/2018 4:07:00 PM
Carbon Tetrachloride	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Chlorobenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Chloroethane	ND	0.40		mg/L	200	11/29/2018 4:07:00 PM
Chloroform	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Chloromethane	ND	0.60		mg/L	200	11/29/2018 4:07:00 PM
2-Chlorotoluene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
4-Chlorotoluene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
cis-1,2-DCE	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
cis-1,3-Dichloropropene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,2-Dibromo-3-chloropropane	ND	0.40		mg/L	200	11/29/2018 4:07:00 PM
Dibromochloromethane	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Dibromomethane	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,2-Dichlorobenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,3-Dichlorobenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,4-Dichlorobenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Dichlorodifluoromethane	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,1-Dichloroethane	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,1-Dichloroethene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,2-Dichloropropane	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,3-Dichloropropane	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
2,2-Dichloropropane	ND	0.40		mg/L	200	11/29/2018 4:07:00 PM
1,1-Dichloropropene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Hexachlorobutadiene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
2-Hexanone	ND	2.0		mg/L	200	11/29/2018 4:07:00 PM
Isopropylbenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
4-Isopropyltoluene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
4-Methyl-2-pentanone	ND	2.0		mg/L	200	11/29/2018 4:07:00 PM
Methylene Chloride	ND	0.60		mg/L	200	11/29/2018 4:07:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not in Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1811D91

Date Reported: 12/10/2018

CLIENT: Souder, Miller and Associates

Client Sample ID: Manzanares

Project: Manzanares

Collection Date: 11/28/2018 9:45:00 AM

Lab ID: 1811D91-001

Matrix: AQUEOUS

Received Date: 11/29/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
n-Butylbenzene	ND	0.60		mg/L	200	11/29/2018 4:07:00 PM
n-Propylbenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
sec-Butylbenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Styrene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
tert-Butylbenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,1,1,2-Tetrachloroethane	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,1,2,2-Tetrachloroethane	ND	0.40		mg/L	200	11/29/2018 4:07:00 PM
Tetrachloroethene (PCE)	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
trans-1,2-DCE	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
trans-1,3-Dichloropropene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,2,3-Trichlorobenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,2,4-Trichlorobenzene	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,1,1-Trichloroethane	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,1,2-Trichloroethane	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Trichloroethene (TCE)	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Trichlorofluoromethane	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
1,2,3-Trichloropropane	ND	0.40		mg/L	200	11/29/2018 4:07:00 PM
Vinyl chloride	ND	0.20		mg/L	200	11/29/2018 4:07:00 PM
Xylenes, Total	ND	0.30		mg/L	200	11/29/2018 4:07:00 PM
Surr: 1,2-Dichloroethane-d4	98.3	70-130		%Rec	200	11/29/2018 4:07:00 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	200	11/29/2018 4:07:00 PM
Surr: Dibromofluoromethane	94.3	70-130		%Rec	200	11/29/2018 4:07:00 PM
Surr: Toluene d8	94.1	70-130		%Rec	200	11/29/2018 4:07:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

1811D91-001D MANZANARES

Collected date/time: 11/28/18 09:45

SAMPLE RESULTS - 01

L1048596

ONE LAB. NATIONWIDE.



Wet Chemistry by Method 4500 CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Cyanide	ND		0.00500	1	12/05/2018 09:33	WG1203906

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Corrosivity by pH	6.55	T8		1	12/01/2018 13:46	WG1204036

Sample Narrative:

L1048596-01 WG1204036: 6.55 at 13.4C

Wet Chemistry by Method 9034-9030B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Sulfide	ND		0.0500	1	12/01/2018 13:33	WG1204157

Wet Chemistry by Method D93/1010A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Flashpoint	DNF at 170			1	12/01/2018 14:40	WG1204067

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1048596DATE/TIME:
12/05/18 15:55

WG1203906

Wet Chemistry by Method 450G CN E-2011

Method Blank (MB)

QUALITY CONTROL SUMMARY

L1048556-01

ONE LAB NATIONWIDE

(MB) R3365305-1 12/05/18 08:39

Analyte	MB Result	MB Qualifier	MB MDL	MB REL
Reactive Cyanide	U		0.00180	0.00530

L1048039-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1048039-04 12/05/18 05:13 • (DUP) R3365305-5 12/05/18 09:14

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Reactive Cyanide	U	0.003	1	0.000		20

L1048259-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1048259-01 12/05/18 09:29 • (DUP) R3365305-8 12/05/18 09:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Reactive Cyanide	ND	0.000	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3365305-2 12/05/18 09:00

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Reactive Cyanide	0.100	0.107	107	85.0-175	

L1048039-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1048039-01 12/05/18 09:06 • (MS) R3365305-3 12/05/18 09:07 • (MSD) R3365305-4 12/05/18 09:08

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Reactive Cyanide	0.100	J	0.0593	0.0975	593	97.9	1	75.0-75	35	13	49	20

L1048259-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1048259-01 12/05/18 09:25 • (MS) R3365305-6 12/05/18 09:26 • (MSD) R3365305-7 12/05/18 09:27

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Reactive Cyanide	0.100	0.00729	0.0988	0.0977	91.5	90.4	1	75.0-75			1.12	20

ACCOUNT:

Hal Environmental Analysis Laboratory

PROJECT

SDG:

L1048556

DATE/TIME

12/05/18 15:56

WG1204036

Wet Chemistry by Method 4500H+ 8-2011

QUALITY CONTROL SUMMARY

11048516-01

ONE LABORATIONWIDE

Laboratory Control Sample (LCS) - Laboratory Control Sample Duplicate (LCSD)

(LCS) R3364437-1 12/01/18 13:46 • (LCSD) R3364437-2 12/01/18 13:46

Analyte	Spike Amount		LCS Result		LCSD Result		LCS Rec.		LCSD Rec.		Rec. Limits		<u>LCS Qualifier</u>		<u>LCSD Qualifier</u>		RPD		RPD Limits	
	su	100	su	10.0	su	10.1	%	100	%	100	%	99.0-101	%			%	0.398	%	1	
Conc. by pH																				

Conductivity by pH

Sample Narrative:

LCS: 10.04 at 19.7C

LCSD: 10.08 at 19.8C

Tc
Ss
Cn
Sl
Cc
Gl
A
Sc

ACCOUNT:

H-08 Environmental Analysis Laboratory

PROJECT:

SOG:

110-48593

DATE/TIME:

12/06/18 15:56

WG1204157

Wet Chemistry by Methec 9034-9030B

QUALITY CONTROL SUMMARY

L1048596-01

QTE LAB NATIONWIDE



Method Blank (MB)

(NB) R3364436-1 12/07/18 13:30

Analyte	V3 Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Sulfide	0		0.00550	0.0590

Laboratory Control Sample (LCS)

(LCS) R3364436-2 12/01/18 13:30

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec %	Rec. Limits %	LCS Qualifier
Reactive Sulfide	0.500	0.459	91.8	85.0-115	



ACCOUNT:

Hill Environmental Analysis Laboratory

PROJECT:

SDG:

L1048596

DATE/TIME:

12/06/18 15:56

WG1204067

Wet Chemistry by Method D93/101CA

QUALITY CONTROL SUMMARY

L1048566-01

ONE LAB NATIONWIDE

L1048566-02 Original Sample (OS) - Duplicate (DUP)

IOS) L1048566-02 12/01/18 14:40 • (DUP) R3354666-2 12/01/18 14:40

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Flashpoint	deg F	deg F		%		%
	DNF at 17C	DNF at 17C	1	0.000		10

Laboratory Control Sample (LCS)

(LCS) R3364666-1 12/01/18 14:40

Analyte	Spiked Amount	LCS Result	LCS Rec	Rec. Units	LCS Qualifier
Flashpoint	deg F	deg F	%	%	
	82.0	84.3	103	96.3-104	

Tc	Ss	Cr	Si	Qc	Gl	Al	Sc
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ACCOUNT:
Hill Environmental Analysis Laboratory

PROJECT:

SDG:
L1048566

DATE/TIME:
12/06/18 15:36

GLOSSARY OF TERMS

ONE LAB NATIONWIDE



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.
Qualifier	Description
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration

Tc

Ss

Cn

Sc

Qc

Cl

Al

Sc

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1048596

DATE/TIME:
12/06/18 15:56

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1811D91

10-Dec-18

Client: Souder, Miller and Associates

Project: Manzanares

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R55969			RunNo: 55969					
Prep Date:		Analysis Date: 11/29/2018			SeqNo: 1868405		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	106	70	130			
Toluene	19	1.0	20.00	0	93.8	70	130			
Chlorobenzene	20	1.0	20.00	0	97.6	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	106	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.4	70	130			
Surr: Toluene-d8	9.1		10.00		90.8	70	130			

Sample ID	rb	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID:	PBW	Batch ID: R55969		RunNo: 55969						
Prep Date:		Analysis Date: 11/29/2018		SeqNo: 1868406		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1811D91

10-Dec-18

Client: Souder, Miller and Associates

Project: Manzanares

Sample ID	rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R55969			RunNo: 55969					
Prep Date:		Analysis Date: 11/29/2018			SeqNo: 1868406		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1811D91

10-Dec-18

Client: Souder, Miller and Associates

Project: Manzanares

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES
Client ID:	PBW	Batch ID:	R55969	RunNo:	55969
Prep Date:		Analysis Date:	11/29/2018	SeqNo:	1868406
				Units:	µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.3	70	130			
Surr: Toluene-d8	9.6		10.00		95.6	70	130			

Sample ID	1811d91-001ams	SampType:	MS	TestCode:	EPA Method 8260B: VOLATILES
Client ID:	Manzanares	Batch ID:	R55969	RunNo:	55969
Prep Date:		Analysis Date:	11/29/2018	SeqNo:	1868419
				Units:	mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.3	0.20	4.000	0	107	60.5	137			
Toluene	3.9	0.20	4.000	0	97.5	70	130			
Chlorobenzene	3.9	0.20	4.000	0	96.5	70	130			
1,1-Dichloroethene	4.3	0.20	4.000	0	107	67.6	130			
Trichloroethene (TCE)	4.0	0.20	4.000	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	2.1		2.000		105	70	130			
Surr: 4-Bromofluorobenzene	2.1		2.000		105	70	130			
Surr: Dibromofluoromethane	1.9		2.000		96.2	70	130			
Surr: Toluene-d8	1.9		2.000		93.2	70	130			

Sample ID	1811d91-001amsd	SampType:	MSD	TestCode:	EPA Method 8260B: VOLATILES
Client ID:	Manzanares	Batch ID:	R55969	RunNo:	55969
Prep Date:		Analysis Date:	11/29/2018	SeqNo:	1868420
				Units:	mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.0	0.20	4.000	0	100	60.5	137	6.28	20	
Toluene	3.7	0.20	4.000	0	93.2	70	130	4.46	20	
Chlorobenzene	3.7	0.20	4.000	0	91.8	70	130	4.97	20	
1,1-Dichloroethene	3.8	0.20	4.000	0	95.1	67.6	130	11.6	20	
Trichloroethene (TCE)	3.8	0.20	4.000	0	95.9	70	130	5.02	20	
Surr: 1,2-Dichloroethane-d4	2.1		2.000		105	70	130	0	0	
Surr: 4-Bromofluorobenzene	2.2		2.000		108	70	130	0	0	
Surr: Dibromofluoromethane	1.9		2.000		95.2	70	130	0	0	
Surr: Toluene-d8	1.9		2.000		93.9	70	130	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1811D91

10-Dec-18

Client: Souder, Miller and Associates

Project: Manzanares

Sample ID	Ics-41899		SampType: LCS			TestCode: EPA Method 8270C: PAHs				
Client ID:	LCSW		Batch ID: 41899			RunNo: 56156				
Prep Date:	12/4/2018		Analysis Date: 12/6/2018			SeqNo: 1875938		Units: µg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	12	0.50	20.00	0	58.1	29.6	105			
1-Methylnaphthalene	13	0.50	20.00	0	62.8	33.4	112			
2-Methylnaphthalene	12	0.50	20.00	0	59.2	28.6	108			
Acenaphthylene	13	0.50	20.00	0	66.9	35.7	116			
Acenaphthene	14	0.50	20.00	0	69.8	32.4	118			
Fluorene	13	0.50	20.00	0	66.9	35.6	118			
Phenanthrene	17	0.50	20.00	0	86.5	36.3	130			
Anthracene	18	0.50	20.00	0	91.3	34.8	135			
Fluoranthene	20	0.50	20.00	0	99.6	41	136			
Pyrene	19	0.50	20.00	0	96.3	44.8	136			
Benz(a)anthracene	20	0.50	20.00	0	100	41.1	136			
Chrysene	17	0.50	20.00	0	84.1	37.9	132			
Benzo(b)fluoranthene	19	0.50	20.00	0	93.5	39	144			
Benzo(k)fluoranthene	18	0.50	20.00	0	91.6	40	144			
Benzo(a)pyrene	19	0.50	20.00	0	94.1	36.8	137			
Dibenz(a,h)anthracene	17	0.50	20.00	0	86.3	31.5	141			
Benzo(g,h,i)perylene	20	0.50	20.00	0	99.7	32.9	138			
Indeno(1,2,3-cd)pyrene	20	0.50	20.00	0	98.4	40.9	143			
Surr: N-hexadecane	71		87.60		81.1	35.2	113			
Surr: Benzo(e)pyrene	34		20.00		170	48.3	123			S

Sample ID	Icsd-41899		SampType: LCSD			TestCode: EPA Method 8270C: PAHs				
Client ID:	LCSS02		Batch ID: 41899			RunNo: 56156				
Prep Date:	12/4/2018		Analysis Date: 12/6/2018			SeqNo: 1875939		Units: µg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	13	0.50	20.00	0	63.9	29.6	105	9.51	68.7	
1-Methylnaphthalene	13	0.50	20.00	0	66.8	33.4	112	6.17	66	
2-Methylnaphthalene	12	0.50	20.00	0	58.5	28.6	108	1.19	68.7	
Acenaphthylene	14	0.50	20.00	0	69.7	35.7	116	4.10	64.9	
Acenaphthene	15	0.50	20.00	0	72.7	32.4	118	4.07	53.2	
Fluorene	15	0.50	20.00	0	75.8	35.6	118	12.5	62.4	
Phenanthrene	20	0.50	20.00	0	102	36.3	130	16.4	62.6	
Anthracene	21	0.50	20.00	0	104	34.8	135	12.5	62.4	
Fluoranthene	20	0.50	20.00	0	101	41	136	1.49	59.4	
Pyrene	19	0.50	20.00	0	96.5	44.8	136	0.207	55.4	
Benz(a)anthracene	20	0.50	20.00	0	101	41.1	136	0.695	56.6	
Chrysene	17	0.50	20.00	0	83.0	37.9	132	1.32	51.9	
Benzo(b)fluoranthene	20	0.50	20.00	0	97.8	39	144	4.50	59.1	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1811D91

10-Dec-18

Client: Souder, Miller and Associates

Project: Manzanares

Sample ID	Icsd-41899		SampType: LCSD	TestCode: EPA Method 8270C: PAHs						
Client ID:	LCSS02		Batch ID: 41899	RunNo: 56156						
Prep Date:	12/4/2018		Analysis Date: 12/6/2018	SeqNo: 1875939		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	18	0.50	20.00	0	87.9	40	144	4.12	57	
Benzo(a)pyrene	19	0.50	20.00	0	94.4	36.8	137	0.318	60.2	
Dibenz(a,h)anthracene	17	0.50	20.00	0	84.0	31.5	141	2.70	64.7	
Benzo(g,h,i)perylene	20	0.50	20.00	0	101	32.9	138	1.39	61.5	
Indeno(1,2,3-cd)pyrene	20	0.50	20.00	0	97.9	40.9	143	0.509	61.1	
Surr: N-hexadecane	82		87.60		94.0	35.2	113	0	0	
Surr: Benzo(e)pyrene	31		20.00		157	48.3	123	0	0	S

Sample ID	mb-41899		SampType: MBLK	TestCode: EPA Method 8270C: PAHs						
Client ID:	PBW		Batch ID: 41899	RunNo: 56156						
Prep Date:	12/4/2018		Analysis Date: 12/6/2018	SeqNo: 1875940		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	0.50								
2-Methylnaphthalene	ND	0.50								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
Pyrene	ND	0.50								
Benzo(a)anthracene	ND	0.50								
Chrysene	ND	0.50								
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	65		87.60		74.6	35.2	113			
Surr: Benzo(e)pyrene	20		20.00		101	48.3	123			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1811D91

10-Dec-18

Client: Souder, Miller and Associates

Project: Manzanares

Sample ID	MB-41861	SampType	MBLK	TestCode	EPA Method 7470: Mercury					
Client ID	PBW	Batch ID	41861	RunNo	56066					
Prep Date	12/3/2018	Analysis Date	12/4/2018	SeqNo	1872280	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-41861	SampType	LCS	TestCode	EPA Method 7470: Mercury					
Client ID	LCSW	Batch ID	41861	RunNo	56066					
Prep Date	12/3/2018	Analysis Date	12/4/2018	SeqNo	1872287	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0042	0.00020	0.005000	0	83.3	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| fl Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1811D91

10-Dec-18

Client: Souder, Miller and Associates

Project: Manzanares

Sample ID	MB-41840	SampType:	MBLK	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	PBW	Batch ID:	41840	RunNo:	56059					
Prep Date:	12/2/2018	Analysis Date:	12/4/2018	SeqNo:	1872022	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID	LCS-41840	SampType:	LCS	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	LCSW	Batch ID:	41840	RunNo:	56059					
Prep Date:	12/2/2018	Analysis Date:	12/4/2018	SeqNo:	1872023	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.51	0.020	0.5000	0	102	80	120			
Barium	0.50	0.020	0.5000	0	99.4	80	120			
Cadmium	0.50	0.0020	0.5000	0	100	80	120			
Chromium	0.50	0.0060	0.5000	0	101	80	120			
Selenium	0.51	0.050	0.5000	0	101	80	120			
Silver	0.099	0.0050	0.1000	0	99.4	80	120			

Sample ID	1811D91-001CMS	SampType:	MS	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	Manzanares	Batch ID:	41840	RunNo:	56059					
Prep Date:	12/2/2018	Analysis Date:	12/4/2018	SeqNo:	1872042	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.51	0.020	0.5000	0	101	75	125			
Barium	0.53	0.020	0.5000	0.04512	96.3	75	125			
Cadmium	0.48	0.0020	0.5000	0	96.5	75	125			
Chromium	0.47	0.0060	0.5000	0	94.7	75	125			
Selenium	0.49	0.050	0.5000	0	97.1	75	125			
Silver	0.096	0.0050	0.1000	0	95.7	75	125			

Sample ID	1811D91-001CMSD	SampType:	MSD	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	Manzanares	Batch ID:	41840	RunNo:	56059					
Prep Date:	12/2/2018	Analysis Date:	12/4/2018	SeqNo.	1872043	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.49	0.020	0.5000	0	97.4	75	125	4.06	20	
Barium	0.54	0.020	0.5000	0.04512	98.2	75	125	1.71	20	
Cadmium	0.49	0.0020	0.5000	0	98.5	75	125	2.04	20	
Chromium	0.48	0.0060	0.5000	0	95.7	75	125	1.04	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1811D91

10-Dec-18

Client: Souder, Miller and Associates

Project: Manzanares

Sample ID	1811D91-001CMSD	SampType:	MSD	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	Manzanares	Batch ID:	41840	RunNo:	56059					
Prep Date	12/2/2018	Analysis Date:	12/4/2018	SeqNo:	1872043	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.52	0.050	0.5000	0	104	75	125	6.96	20	
Silver	0.098	0.0050	0.1000	0	97.5	75	125	1.89	20	

Sample ID	MB-41840	SampType	MBLK	TestCode	EPA 6010B: Total Recoverable Metals					
Client ID:	PBW	Batch ID:	41840	RunNo:	56059					
Prep Date:	12/2/2018	Analysis Date:	12/4/2018	SeqNo:	1872094	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0050								

Sample ID	LCS-41840	SampType:	LCS	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	LCSW	Batch ID:	41840	RunNo:	56059					
Prep Date:	12/2/2018	Analysis Date:	12/4/2018	SeqNo:	1872095	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.49	0.0050	0.5000	0	97.4	80	120			

Sample ID	1811D91-001CMS	SampType:	MS	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	Manzanares	Batch ID:	41840	RunNo:	56059					
Prep Date:	12/2/2018	Analysis Date:	12/4/2018	SeqNo:	1872113	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.48	0.0050	0.5000	0	95.7	75	125			

Sample ID	1811D91-001CMSD			SampType:	MSD		TestCode:	EPA 6010B: Total Recoverable Metals			
Client ID:	Manzanares		Batch ID:	41840		RunNo:	56059				
Prep Date:	12/2/2018		Analysis Date:	12/4/2018		SeqNo:	1872114		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Lead	0.49	0.0050	0.5000	0	98.1	75	125	2.47	20		

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1811D91

RcptNo: 1

Received By: Anne Thorne 11/29/2018 7:00:00 AM

Completed By: Anne Thorne 11/29/2018 8:55:46 AM

Reviewed By: *IO* 11/29/18

Labeled by: AT 11/29/18

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: 2
(or >2 unless noted)

Adjusted?

Checked by: AT 11/29/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:	_____		
Client Instructions:	_____		

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes			
2	2.4	Good	Yes			

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Good till 3/19/2020

Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site:

Kutz Compressor Station

3. Location of Material (Street Address, City, State or ULSTR):

UL N Section 31 Township 29 North Range 12 West; 36.723088, -108.088655, San Juan County, NM

4. Source and Description of Waste:

Source: Water/Oil from the Non Exempt WasteWater Tanks and from the compressor skid drains.

Description: Non Exempt/Non Hazardous Water from the compressor skids.

Estimated Volume 100 yd³ bbls Known Volume (to be entered by the operator at the end of the haul) _____ yd³ / bbls

5.

GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long *Thomas Long*, representative or authorized agent for Enterprise Products Operating do hereby

Generator Signature

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long *Thomas Long*, representative for Enterprise Products Operating authorize to complete

Generator Signature

the required testing/sign the Generator Waste Testing Certification.

I, _____, representative for Agua Moss, LLC do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: Triple S Trucking

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: *Agua Moss, LLC - Permit #: NM-01-009

Address of Facility: SW/4 NW/4 Section 2, Township 29N, Range Crouch Mesa, NM

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: _____

TITLE: _____

DATE: _____

SIGNATURE: _____

TELEPHONE NO.: _____

Surface Waste Management Facility Authorized Agent



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

March 19, 2019

Ashley Maxwell

Souder, Miller and Associates

401 W. Broadway

Farmington, NM 87401

TEL: (505) 325-7535

FAX

RE: Kutz

OrderNo.: 1903284

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/7/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 — NMED-DWB Cert #NM9425 — NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1903284

Date Reported: 3/19/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Kutz Non Exempt

Project: Kutz

Collection Date: 3/6/2019 9:48:00 AM

Lab ID: 1903284-001

Matrix: AQUEOUS

Received Date: 3/7/2019 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 6020: TOTAL METALS						Analyst: DBK
Arsenic	ND	0.50		mg/L	5	3/13/2019 2:16:23 PM
Barium	ND	10		mg/L	5	3/13/2019 2:16:23 PM
Cadmium	ND	0.10		mg/L	5	3/12/2019 9:05:14 PM
Chromium	ND	0.50		mg/L	1	3/11/2019 11:27:14 PM
Lead	ND	0.50		mg/L	1	3/11/2019 11:27:14 PM
Selenium	ND	0.10		mg/L	5	3/13/2019 2:16:23 PM
Silver	ND	0.50		mg/L	1	3/18/2019 6:16:42 PM
EPA METHOD 7470: MERCURY						Analyst: pmf
Mercury	ND	0.020		mg/L	1	3/11/2019 7:07:05 PM
EPA METHOD 8270C: PAHS						Analyst: DAM
Naphthalene	ND	25	D	µg/L	10	3/13/2019 6:20:51 PM
1-Methylnaphthalene	ND	50	D	µg/L	10	3/13/2019 6:20:51 PM
2-Methylnaphthalene	ND	50	D	µg/L	10	3/13/2019 6:20:51 PM
Acenaphthylene	ND	25	D	µg/L	10	3/13/2019 6:20:51 PM
Acenaphthene	ND	25	D	µg/L	10	3/13/2019 6:20:51 PM
Fluorene	ND	25	D	µg/L	10	3/13/2019 6:20:51 PM
Phenanthrene	ND	25	D	µg/L	10	3/13/2019 6:20:51 PM
Anthracene	ND	25	D	µg/L	10	3/13/2019 6:20:51 PM
Fluoranthene	ND	25	D	µg/L	10	3/13/2019 6:20:51 PM
Pyrene	ND	25	D	µg/L	10	3/13/2019 6:20:51 PM
Benz(a)anthracene	ND	25	D	µg/L	10	3/13/2019 6:20:51 PM
Chrysene	ND	25	D	µg/L	10	3/13/2019 6:20:51 PM
Benzo(b)fluoranthene	ND	25	D	µg/L	10	3/13/2019 6:20:51 PM
Benzo(k)fluoranthene	ND	25	D	µg/L	10	3/13/2019 6:20:51 PM
Benzo(a)pyrene	ND	25	D	µg/L	10	3/13/2019 6:20:51 PM
Dibenz(a,h)anthracene	ND	25	D	µg/L	10	3/13/2019 6:20:51 PM
Benzo(g,h,i)perylene	ND	25	D	µg/L	10	3/13/2019 6:20:51 PM
Indeno(1,2,3-cd)pyrene	ND	25	D	µg/L	10	3/13/2019 6:20:51 PM
Surr: N-hexadecane	0	20.4-126	SD	%Rec	10	3/13/2019 6:20:51 PM
Surr: Benzo(e)pyrene	0	21.4-126	SD	%Rec	10	3/13/2019 6:20:51 PM
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	ND	0.50		mg/L	200	3/12/2019 2:04:00 PM
Toluene	0.93	0.20		mg/L	200	3/12/2019 2:04:00 PM
Ethylbenzene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
1,2,4-Trimethylbenzene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
1,3,5-Trimethylbenzene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
1,2-Dichloroethane (EDC)	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1903284

Date Reported: 3/19/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Kutz Non Exempt

Project: Kutz

Collection Date: 3/6/2019 9:48:00 AM

Lab ID: 1903284-001

Matrix: AQUEOUS

Received Date: 3/7/2019 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
1,2-Dibromoethane (EDB)	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
Naphthalene	ND	0.40		mg/L	200	3/12/2019 2:04:00 PM
1-Methylnaphthalene	ND	0.80		mg/L	200	3/12/2019 2:04:00 PM
2-Methylnaphthalene	ND	0.80		mg/L	200	3/12/2019 2:04:00 PM
Acetone	ND	2.0		mg/L	200	3/12/2019 2:04:00 PM
Bromobenzene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
Bromodichloromethane	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
Bromoform	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
Bromomethane	ND	0.60		mg/L	200	3/12/2019 2:04:00 PM
2-Butanone	ND	2.0		mg/L	200	3/12/2019 2:04:00 PM
Carbon disulfide	ND	2.0		mg/L	200	3/12/2019 2:04:00 PM
Carbon Tetrachloride	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
Chlorobenzene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
Chloroethane	ND	0.40		mg/L	200	3/12/2019 2:04:00 PM
Chloroform	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
Chloromethane	ND	0.60		mg/L	200	3/12/2019 2:04:00 PM
2-Chlorotoluene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
4-Chlorotoluene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
cis-1,2-DCE	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
cis-1,3-Dichloropropene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
1,2-Dibromo-3-chloropropane	ND	0.40		mg/L	200	3/12/2019 2:04:00 PM
Dibromochloromethane	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
Dibromomethane	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
1,2-Dichlorobenzene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
1,3-Dichlorobenzene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
1,4-Dichlorobenzene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
Dichlorodifluoromethane	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
1,1-Dichloroethane	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
1,1-Dichloroethene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
1,2-Dichloropropane	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
1,3-Dichloropropane	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
2,2-Dichloropropane	ND	0.40		mg/L	200	3/12/2019 2:04:00 PM
1,1-Dichloropropene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
Hexachlorobutadiene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
2-Hexanone	ND	2.0		mg/L	200	3/12/2019 2:04:00 PM
Isopropylbenzene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
4-Isopropyltoluene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
4-Methyl-2-pentanone	ND	2.0		mg/L	200	3/12/2019 2:04:00 PM
Methylene Chloride	ND	0.60		mg/L	200	3/12/2019 2:04:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level. - D Sample Diluted Due to Matrix - H Holding times for preparation or analysis exceeded - ND Not Detected at the Reporting Limit - PQL Practical Quantitative Limit - S % Recovery outside of range due to dilution or matrix	- B Analyte detected in the associated Method Blank - E Value above quantitation range - J Analyte detected below quantitation limits - P Sample pH Not In Range - RL Reporting Detection Limit - W Sample container temperature is out of limit as specified
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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1903284

Date Reported: 3/19/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Kutz Non Exempt

Project: Kutz

Collection Date: 3/6/2019 9:48:00 AM

Lab ID: 1903284-001

Matrix: AQUEOUS

Received Date: 3/7/2019 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
n-Butylbenzene	ND	0.60		mg/L	200	3/12/2019 2:04:00 PM
n-Propylbenzene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
sec-Butylbenzene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
Styrene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
tert-Butylbenzene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
1,1,1,2-Tetrachloroethane	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
1,1,2,2-Tetrachloroethane	ND	0.40		mg/L	200	3/12/2019 2:04:00 PM
Tetrachloroethene (PCE)	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
trans-1,2-DCE	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
trans-1,3-Dichloropropene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
1,2,3-Trichlorobenzene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
1,2,4-Trichlorobenzene	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
1,1,1-Trichloroethane	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
1,1,2-Trichloroethane	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
Trichloroethene (TCE)	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
Trichlorofluoromethane	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
1,2,3-Trichloropropane	ND	0.40		mg/L	200	3/12/2019 2:04:00 PM
Vinyl chloride	ND	0.20		mg/L	200	3/12/2019 2:04:00 PM
Xylenes, Total	ND	0.30		mg/L	200	3/12/2019 2:04:00 PM
Surr: 1,2-Dichloroethane-d4	98.3	70-130		%Rec	200	3/12/2019 2:04:00 PM
Surr: 4-Bromofluorobenzene	99.1	70-130		%Rec	200	3/12/2019 2:04:00 PM
Surr: Dibromofluoromethane	93.9	70-130		%Rec	200	3/12/2019 2:04:00 PM
Surr: Toluene-d8	95.3	70-130		%Rec	200	3/12/2019 2:04:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

1903284-001D KUTZ NON EXEMPT

SAMPLE RESULTS - 01

ONE LAB NATIONWIDE



Collected date/time: 03/06/19 09:48

L1077049

Wet Chemistry by Method 4500 CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Cyanide	ND		0.00500	1	03/13/2019 15:13	WG1249051

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Corrosivity by pH	6.33	T6		1	03/10/2019 09:00	WG1247551

Sample Narrative:

L1077049-01 WG1247550, 6.33 at 19.10

Wet Chemistry by Method 9034-9030B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Sulfide	ND		0.0500	1	03/09/2019 11:40	WG1247121

Wet Chemistry by Method D93/1010A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Flashpoint	DNF at 170			1	03/14/2019 14:30	WG1250025

Ca

Tc

Ss

Cn

Si

Qc

GI

Al

Sc

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG

L1077049

DATE/TIME:

03/14/19 17:09

WG1248453

Wet Chemistry by Method 4500 CN E-2011

QUALITY CONTROL SUMMARY

L1077049-01

ONE LAB. INFORMATION

Method Blank (MB)

IMB1 R3391267-1 03/13/19 12:59

Anal/In	MB Result	MB Qualifier	MB MDL	MB PDL
Reactive Cyanide	mg/L	mg/L	mg/L	mg/L
	0	0.00116	0.00500	0.00500

Laboratory Control Sample (LCS)

LCS1 R3391267-2 03/13/19 13:00

Anal/In	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Reactive Cyanide	mg/L	mg/L	%	%	
	3.100	0.101	3.21	85.0-115	

ACCOUNT:
Hef Environmental Analytical Laboratory

PROJECT:

SDG:
L1077049DATE/TIME:
03/14/19 17:09

WG1247650

Water Chemistry by Method 1500H+ B-2011

QUALITY CONTROL SUMMARY

L1077049-01

ORE LAE NATIONAL

Laboratory Control Sample (LCS)

LCS: R3390229-1 03/10/19 09:00

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	µL	mg	%	%	
Conductivity by pH	10.0	0.96	99.5	99.0-101	

Sample Narrative:

LCS 9.96 at 19.0C



ACCOUNT:
Hill Environmental Analysis Laboratory

PROJECT:

SDG
L1077049

DATE/TIME:
03/14/19 17:09

WG1247121

Wet Chemistry by Method 9034-9032B

QUALITY CONTROL SUMMARY

L1077049-01

OIE LAB NATIONWIDE

Method Blank (MB)

(MB) R3390115-1 03/09/19 11:34

Analyte	MB Result	MB Qualifier	MB MDL	MB FDL
Reactive Sulfide	mg/l	mg/l	mg/l	mg/l
	U		0.00050	0.0002

L1076340-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1076340-01 03/09/19 11:35 • (DUP) R3390115-3 03/09/19 11:35

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Reactive Sulfide	mg/l	mg/l		%		%
	ND	0.000	1	0.000		20

L1077167-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1077167-01 03/09/19 11:42 • (DUP) R3390115-6 03/09/19 11:42

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Reactive Sulfide	mg/l	mg/l		%		%
	ND	0.000	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3390115-2 03/09/19 11:34

Analyte	Spike Amount	LCS Result	LCS Rec	Rec. Limits	LCS Qualifier
Reactive Sulfide	mg/l	Tg/l	%	%	
	0.500	0.438	87.6	85.0-115	

ACCOUNT:
Hall Environmental Analytical Laboratory

PROJECT:

SDG:
L1077049DATE/TIME:
03/14/19 17:09

WG1250025

We: Chemistry by Method DBS/101CA

QUALITY CONTROL SUMMARY

L1077045.01

D'IE LAE NATIONWIDE

L1075108-14 Original Sample (OS) • Duplicate (DUP)

IOS: L1075108-14 03/14/19 14:30 • (DUP) R3391647-2 03/14/19 14:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP RPD Limits
Flashpoint	DNF at 170	DNF at 170	1	0.000	% °C

L1077830-01 Original Sample (OS) • Duplicate (DUP)

IOS: L1077830-01 03/14/19 14:30 • (DUP) R3391647-3 03/14/19 14:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP RPD Limits
Flashpoint	131	134	1	2.26	% °C

Laboratory Control Sample (LCS)

LCS: R3391647-1 03/14/19 14:30

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Flashpoint	82.0	85.0	100	96.0-134	

ACCOUNT:
Haf Environmental Analysis Laboratory

PROJECT:

SDG:
L1077040DATE/TIME:
03/14/19 17:09



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit
ND	Not detected at the Reporting Limit (or MDL where applicable)
RDL	Reported Detection Limit
Rec.	Recovery
RPD	Relative Percent Difference
SDG	Sample Delivery Group
U	Not detected at the Reporting Limit (or MDL where applicable)
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.
Qualifier	Description
TA	Sample(s) received past due to holding time expiration



QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1903284

19-Mar-19

Client: Souder, Miller and Associates

Project: Kutz

Sample ID: MB-43593	SampType: MBLK	TestCode: EPA Method 6020: Total Metals								
Client ID: PBW	Batch ID: 43593	RunNo: 58277								
Prep Date: 3/8/2019	Analysis Date: 3/11/2019	SeqNo: 1954831 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Chromium	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Sample ID: MSLLLCS-43593	SampType: LCSLL	TestCode: EPA Method 6020: Total Metals								
Client ID: BatchQC	Batch ID: 43593	RunNo: 58277								
Prep Date: 3/8/2019	Analysis Date: 3/11/2019	SeqNo: 1954832 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010	0.001000	0	85.7	70	130			
Chromium	0.0011	0.0010	0.001000	0	111	70	130			
Lead	0.0011	0.0010	0.001000	0	113	70	130			
Selenium	ND	0.0010	0.001000	0	86.4	70	130			

Sample ID: MSLCS-43593	SampType: LCS	TestCode: EPA Method 6020: Total Metals								
Client ID: LCSW	Batch ID: 43593	RunNo: 58277								
Prep Date: 3/8/2019	Analysis Date: 3/11/2019	SeqNo: 1954833 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.047	0.0010	0.05000	0	94.3	80	120			
Chromium	0.053	0.0010	0.05000	0	106	80	120			
Lead	0.052	0.0010	0.05000	0	104	80	120			
Selenium	0.047	0.0010	0.05000	0	94.6	80	120			

Sample ID: 1903284-001CMSLL	SampType: MS	TestCode: EPA Method 6020: Total Metals								
Client ID: Kutz Non Exempt	Batch ID: 43593	RunNo: 58277								
Prep Date: 3/8/2019	Analysis Date: 3/11/2019	SeqNo: 1954838 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.054	0.0010	0.05000	0.002896	103	75	125			
Lead	0.050	0.0010	0.05000	0.003128	93.7	75	125			

Sample ID: 1903284-001CMSDL	SampType: MSD	TestCode: EPA Method 6020: Total Metals								
Client ID: Kutz Non Exempt	Batch ID: 43593	RunNo: 58277								
Prep Date: 3/8/2019	Analysis Date: 3/11/2019	SeqNo: 1954839 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.054	0.0010	0.05000	0.002896	102	75	125	0.844	20	
Lead	0.050	0.0010	0.05000	0.003128	93.5	75	125	0.204	20	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1903284

19-Mar-19

Client: Souder, Miller and Associates

Project: Kutz

Sample ID: MB-43593	SampType: MBLK	TestCode: EPA Method 6020: Total Metals
Client ID: PBW	Batch ID: 43593	RunNo: 58320
Prep Date: 3/8/2019	Analysis Date: 3/12/2019	SeqNo: 1956214 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Cadmium	ND	0.0010

Sample ID: MSLLCS-43593	SampType: LCSLL	TestCode: EPA Method 6020: Total Metals
Client ID: BatchQC	Batch ID: 43593	RunNo: 58320
Prep Date: 3/8/2019	Analysis Date: 3/12/2019	SeqNo: 1956215 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Cadmium	ND	0.0010 0.001000 0 99.7 70 130

Sample ID: MSLCS-43593	SampType: LCS	TestCode: EPA Method 6020: Total Metals
Client ID: LCSW	Batch ID: 43593	RunNo: 58320
Prep Date: 3/8/2019	Analysis Date: 3/12/2019	SeqNo: 1956216 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Cadmium	0.052	0.0010 0.05000 0 104 80 120

Sample ID: 1903284-001CMSLL	SampType: MS	TestCode: EPA Method 6020: Total Metals
Client ID: Kutz Non Exempt	Batch ID: 43593	RunNo: 58320
Prep Date: 3/8/2019	Analysis Date: 3/12/2019	SeqNo: 1956218 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Cadmium	0.057	0.0050 0.05000 0.004767 105 75 125

Sample ID: 1903284-001CMSDL	SampType: MSD	TestCode: EPA Method 6020: Total Metals
Client ID: Kutz Non Exempt	Batch ID: 43593	RunNo: 58320
Prep Date: 3/8/2019	Analysis Date: 3/12/2019	SeqNo: 1956219 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Cadmium	0.057	0.0050 0.05000 0.004767 104 75 125 0.821 20

Sample ID: MB-43593	SampType: MBLK	TestCode: EPA Method 6020: Total Metals
Client ID: PBW	Batch ID: 43593	RunNo: 58341
Prep Date: 3/8/2019	Analysis Date: 3/13/2019	SeqNo: 1956953 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Barium	ND	0.0010

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1903284

19-Mar-19

Client: Souder, Miller and Associates

Project: Kutz

Sample ID: MSLLLCS-43593	SampType: LCSLL	TestCode: EPA Method 6020: Total Metals
Client ID: BatchQC	Batch ID: 43593	RunNo: 58341
Prep Date: 3/8/2019	Analysis Date: 3/13/2019	SeqNo: 1956954 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Barium	0.0012	0.0010 0.001000 0 115 70 130

Sample ID: MSLCS-43593	SampType: LCS	TestCode: EPA Method 6020: Total Metals
Client ID: LCSW	Batch ID: 43593	RunNo: 58341
Prep Date: 3/8/2019	Analysis Date: 3/13/2019	SeqNo: 1956955 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Barium	0.049	0.0010 0.05000 0 98.2 80 120

Sample ID: 1903284-001CMSLL	SampType: MS	TestCode: EPA Method 6020: Total Metals
Client ID: Kutz Non Exempt	Batch ID: 43593	RunNo: 58341
Prep Date: 3/8/2019	Analysis Date: 3/13/2019	SeqNo: 1956957 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Arsenic	0.048	0.0050 0.05000 0 97.0 75 125
Barium	0.074	0.0050 0.05000 0.02166 105 75 125
Selenium	0.045	0.0050 0.05000 0 90.4 75 125

Sample ID: 1903284-001CMSDL	SampType: MSD	TestCode: EPA Method 6020: Total Metals
Client ID: Kutz Non Exempt	Batch ID: 43593	RunNo: 58341
Prep Date: 3/8/2019	Analysis Date: 3/13/2019	SeqNo: 1956958 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Arsenic	0.049	0.0050 0.05000 0 98.6 75 125 1.70 20
Barium	0.072	0.0050 0.05000 0.02166 101 75 125 2.31 20
Selenium	0.046	0.0050 0.05000 0 92.1 75 125 1.95 20

Sample ID: MB-43704	SampType: MBLK	TestCode: EPA Method 6020: Total Metals
Client ID: PBW	Batch ID: 43704	RunNo: 58442
Prep Date: 3/15/2019	Analysis Date: 3/18/2019	SeqNo: 1961412 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Silver	ND	0.0010

Sample ID: MSLLLCS-43704	SampType: LCSLL	TestCode: EPA Method 6020: Total Metals
Client ID: BatchQC	Batch ID: 43704	RunNo: 58442
Prep Date: 3/15/2019	Analysis Date: 3/18/2019	SeqNo: 1961413 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Silver	0.0011	0.0010 0.001000 0 106 70 130

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1903284

19-Mar-19

Client: Souder, Miller and Associates

Project: Kutz

Sample ID: MSLCS-43704		SampType: LCS		TestCode: EPA Method 6020: Total Metals						
Client ID: LCSW		Batch ID: 43704		RunNo: 58442						
Prep Date: 3/15/2019		Analysis Date: 3/18/2019		SeqNo: 1961414		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.041	0.0010	0.05000	0	82.6	80	120			

Sample ID: MSLCSD-43704		SampType: LCSD		TestCode: EPA Method 6020: Total Metals						
Client ID: LCSS02		Batch ID: 43704		RunNo: 58442						
Prep Date: 3/15/2019		Analysis Date: 3/18/2019		SeqNo: 1961415		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.042	0.0010	0.05000	0	85.0	80	120	2.88	20	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1903284

19-Mar-19

Client: Souder, Miller and Associates

Project: Kutz

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R58313	RunNo: 58313								
Prep Date:	Analysis Date: 3/12/2019	SeqNo: 1955790		Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	94.2	70	130			
Toluene	20	1.0	20.00	0	102	70	130			
Chlorobenzene	21	1.0	20.00	0	105	70	130			
1,1-Dichloroethene	17	1.0	20.00	0	85.9	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	87.0	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.8	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.7	70	130			
Surr: Dibromofluoromethane	9.3		10.00		93.2	70	130			
Surr: Toluene-d8	9.6		10.00		96.4	70	130			

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R58313	RunNo: 58313								
Prep Date:	Analysis Date: 3/12/2019	SeqNo: 1955793		Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1903284

19-Mar-19

Client: Souder, Miller and Associates

Project: Kutz

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R58313	RunNo: 58313								
Prep Date:	Analysis Date: 3/12/2019	SeqNo: 1955793	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1903284

19-Mar-19

Client: Souder, Miller and Associates

Project: Kutz

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R58313	RunNo: 58313								
Prep Date:	Analysis Date: 3/12/2019	SeqNo: 1955793	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.6	70	130			
Surr: Toluene-d8	9.7		10.00		96.8	70	130			

Sample ID: 1903284-001ams	SampType: MS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: Kutz Non Exempt	Batch ID: R58313	RunNo: 58313								
Prep Date:	Analysis Date: 3/12/2019	SeqNo: 1955823	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.1	0.20	4.000	0.4436	91.0	70	130			
Toluene	4.7	0.20	4.000	0.9340	95.3	70	130			
Chlorobenzene	3.8	0.20	4.000	0	95.6	70	130			
1,1-Dichloroethene	3.5	0.20	4.000	0	86.6	67.6	130			
Trichloroethene (TCE)	3.3	0.20	4.000	0	83.7	70	130			
Surr: 1,2-Dichloroethane-d4	2.0		2.000		99.0	70	130			
Surr: 4-Bromofluorobenzene	2.0		2.000		97.9	70	130			
Surr: Dibromofluoromethane	1.9		2.000		93.1	70	130			
Surr: Toluene-d8	1.9		2.000		95.2	70	130			

Sample ID: 1903284-001amsd	SampType: MSD	TestCode: EPA Method 8260B: VOLATILES								
Client ID: Kutz Non Exempt	Batch ID: R58313	RunNo: 58313								
Prep Date:	Analysis Date: 3/12/2019	SeqNo: 1955824	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	3.9	0.20	4.000	0.4436	86.8	70	130	4.14	20	
Toluene	4.5	0.20	4.000	0.9340	90.1	70	130	4.46	20	
Chlorobenzene	3.6	0.20	4.000	0	91.2	70	130	4.67	20	
1,1-Dichloroethene	3.2	0.20	4.000	0	80.2	67.6	130	7.71	20	
Trichloroethene (TCE)	3.2	0.20	4.000	0	79.0	70	130	5.85	20	
Surr: 1,2-Dichloroethane-d4	2.0		2.000		102	70	130	0	0	
Surr: 4-Bromofluorobenzene	2.0		2.000		101	70	130	0	0	
Surr: Dibromofluoromethane	1.9		2.000		94.0	70	130	0	0	
Surr: Toluene-d8	1.9		2.000		96.2	70	130	0	0	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1903284

19-Mar-19

Client: Souder, Miller and Associates

Project: Kutz

Sample ID: lcs-43607	SampType: LCS	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSW	Batch ID: 43607	RunNo: 58352								
Prep Date: 3/11/2019	Analysis Date: 3/13/2019	SeqNo: 1957394 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	9.3	0.50	20.00	0	46.6	29.6	105			
1-Methylnaphthalene	9.5	1.0	20.00	0	47.4	33.4	112			
2-Methylnaphthalene	9.3	1.0	20.00	0	46.4	28.6	108			
Acenaphthylene	9.8	0.50	20.00	0	49.2	35.7	116			
Acenaphthene	9.8	0.50	20.00	0	49.0	32.4	118			
Fluorene	11	0.50	20.00	0	53.2	35.6	118			
Phenanthrene	11	0.50	20.00	0	54.6	36.3	130			
Anthracene	11	0.50	20.00	0	54.1	34.8	135			
Fluoranthene	11	0.50	20.00	0	56.2	41	136			
Pyrene	12	0.50	20.00	0	61.9	44.8	136			
Benz(a)anthracene	12	0.50	20.00	0	60.4	41.1	136			
Chrysene	12	0.50	20.00	0	58.3	37.9	132			
Benzo(b)fluoranthene	11	0.50	20.00	0	57.4	39	144			
Benzo(k)fluoranthene	11	0.50	20.00	0	53.9	40	144			
Benzo(a)pyrene	11	0.50	20.00	0	53.7	36.8	137			
Dibenz(a,h)anthracene	12	0.50	20.00	0	59.5	31.5	141			
Benzo(g,h,i)perylene	12	0.50	20.00	0	60.8	32.9	138			
Indeno(1,2,3-cd)pyrene	12	0.50	20.00	0	60.9	40.9	143			
Surr: N-hexadecane	46		87.60		52.6	20.4	126			
Surr: Benzo(e)pyrene	11		20.00		55.1	21.4	126			

Sample ID: lcsd-43607	SampType: LCSD	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSS02	Batch ID: 43607	RunNo: 58352								
Prep Date: 3/11/2019	Analysis Date: 3/13/2019	SeqNo: 1957395 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	13	0.50	20.00	0	65.6	29.6	105	33.9	68.7	
1-Methylnaphthalene	13	1.0	20.00	0	66.7	33.4	112	33.8	66	
2-Methylnaphthalene	13	1.0	20.00	0	63.1	28.6	108	30.5	68.7	
Acenaphthylene	14	0.50	20.00	0	69.1	35.7	116	33.6	64.9	
Acenaphthene	14	0.50	20.00	0	68.6	32.4	118	33.3	53.2	
Fluorene	14	0.50	20.00	0	71.8	35.6	118	29.8	62.4	
Phenanthrene	14	0.50	20.00	0	71.3	36.3	130	26.5	62.6	
Anthracene	15	0.50	20.00	0	73.1	34.8	135	29.9	62.4	
Fluoranthene	15	0.50	20.00	0	74.0	41	136	27.3	59.4	
Pyrene	16	0.50	20.00	0	80.4	44.8	136	26.0	55.4	
Benz(a)anthracene	15	0.50	20.00	0	76.9	41.1	136	24.0	56.6	
Chrysene	15	0.50	20.00	0	77.2	37.9	132	27.9	51.9	
Benzo(b)fluoranthene	16	0.50	20.00	0	80.4	39	144	33.4	59.1	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1903284

19-Mar-19

Client: Souder, Miller and Associates

Project: Kutz

Sample ID: lcscd-43607	SampType: LCSD	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSS02	Batch ID: 43607	RunNo: 58352								
Prep Date: 3/11/2019	Analysis Date: 3/13/2019	SeqNo: 1957395 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	16	0.50	20.00	0	77.9	40	144	36.4	57	
Benzo(a)pyrene	15	0.50	20.00	0	75.5	36.8	137	33.7	60.2	
Dibenz(a,h)anthracene	16	0.50	20.00	0	82.5	31.5	141	32.4	64.7	
Benzo(g,h,i)perylene	18	0.50	20.00	0	87.7	32.9	138	36.2	61.5	
Indeno(1,2,3-cd)pyrene	17	0.50	20.00	0	84.9	40.9	143	32.9	61.1	
Surr: N-hexadecane	60		87.60		68.4	20.4	126	0	0	
Surr: Benzo(e)pyrene	15		20.00		74.3	21.4	126	0	0	

Sample ID: mb-43607	SampType: MBLK	TestCode: EPA Method 8270C: PAHs								
Client ID: PBW	Batch ID: 43607	RunNo: 58352								
Prep Date: 3/11/2019	Analysis Date: 3/13/2019	SeqNo: 1957396 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	1.0								
2-Methylnaphthalene	ND	1.0								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
Pyrene	ND	0.50								
Benz(a)anthracene	ND	0.50								
Chrysene	ND	0.50								
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	62		87.60		71.2	20.4	126			
Surr: Benzo(e)pyrene	16		20.00		81.3	21.4	126			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1903284

19-Mar-19

Client: Souder, Miller and Associates

Project: Kutz

Sample ID: MB-43610	SampType: MBLK	TestCode: EPA Method 7470: Mercury
Client ID: PBW	Batch ID: 43610	RunNo: 58296
Prep Date: 3/11/2019	Analysis Date: 3/11/2019	SeqNo: 1955319 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND 0.00020	

Sample ID: LCS-43610	SampType: LCS	TestCode: EPA Method 7470: Mercury
Client ID: LCSW	Batch ID: 43610	RunNo: 58296
Prep Date: 3/11/2019	Analysis Date: 3/11/2019	SeqNo: 1955320 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0048 0.00020 0.005000 0 95.9 80 120	

Qualifiers:

* Value exceeds Maximum Contaminant Level
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1903284

RcptNo: 1

Received By: Anne Thorne

3/7/2019 7:10:00 AM

Anne Thorne

Completed By: Anne Thorne

3/7/2019 8:07:28 AM

Anne Thorne

Reviewed By: *Y6*

3/7/19

Labeled by: Y6 3/7/19

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐

2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐

4. Were all samples received at a temperature of $\geq 0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐

5. Sample(s) in proper container(s)? Yes ☒ No ☐

6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐

7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐

8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐

9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐

10. Were any sample containers received broken? Yes ☐ No ☒

11. Does paperwork match bottle labels? Yes ☒ No ☐

(Note discrepancies on chain of custody)

12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐

13. Is it clear what analyses were requested? Yes ☒ No ☐

14. Were all holding times able to be met? Yes ☒ No ☐

(If no, notify customer for authorization.)

of preserved bottles checked for pH:

1, 1, 1
2 or 2 unless noted
Adjusted? *NO*

Checked by *Y6 3/7/19*

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

Client: SMA

Mailing Address: 401 W Broadway

Farmington, NM 87401

Phone #: 505 325 7535

email or Fax# Ashley Maxwell

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Project Manager:

Ashley Maxwell

Sampler: RW

On Ice: ☒ Yes ☐ No

of Coolers: 1

Cooler Temperature (C): 10°

Container Type and #

Preservative Type

HEAL No. 1903284

Various Varieties

CD

Date Time Matrix Sample Name

3/6/19 9:48 AM Kute Nix

Receipt

Turn-Around Time: 7 day TAT

☒ Standard ☒ Rush

Project Name: No Charge

Project #: Kute

Project #:

Project #:

Project #:

Project #:

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HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX / MTBE / TMB's (8021)

TPH-8015D(GRO / DRO / MRO)

8081 Pesticides/8082 PCB's

EDB (Method 504.1)

PAHs by 8310 or 8270SIMS

RCRA 8 Metals

Cl, F, Br, NO₂, PO₄, SO₄

8260 (VOA)

8270 (Semi-VOA)

Total Cellform (Present/Absent)

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

Remarks: 8260 Full List

TCLP compound at TELP limits

Invoice Enterprice on Tom Lons

Received by: Anna Walsh Date: 3/6/19 Time: 5:40

Received by: Anna Walsh Date: 3/6/19 Time: 5:40

Received by: Anna Walsh Date: 3/6/19 Time: 5:40

Received by: Anna Walsh Date: 3/6/19 Time: 5:40

Received by: Anna Walsh Date: 3/6/19 Time: 5:40

Received by: Anna Walsh Date: 3/6/19 Time: 5:40

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Received by: Anna Walsh Date: 3/6/19 Time: 5:40

Received by: Anna Walsh Date: 3/6/19 Time: 5:40

Date: 3/6/19 Time: 15:10

Date: 3/6/19 Time: 18:14

Date: 3/6/19 Time: 18:14

Date: 3/6/19 Time: 18:14

Date: 3/6/19 Time: 18:14

Date: 3/6/19 Time: 18:14

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Date: 3/6/19 Time: 18:14

2019

District I
1625 N French Dr., Hobbs, NM 88240
District II
1301 W Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site:

Kutz Compressor Station

3. Location of Material (Street Address, City, State or ULSTR):

UL N Section 31 Township 29 North Range 12 West; 36.723088, -108.088655, San Juan County, NM

4. Source and Description of Waste:

Source: Water/Oil from the Non Exempt Waste Water Tanks and from the compressor skid drains.

Description: Non Exempt/Non Hazardous Water from the compressor skids.

Estimated Volume 100 yd³ bbls Known Volume (to be entered by the operator at the end of the haul) _____ yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long *Thomas Long*, representative or authorized agent for Enterprise Products Operating do hereby

Generator Signature

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long *Thomas Long*, representative for Enterprise Products Operating authorize to complete

Generator Signature

the required testing/sign the Generator Waste Testing Certification.

I, _____, representative for Agua Moss, LLC do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: Triple S Trucking

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: *Agua Moss, LLC - Permit #: NM-01-009

Address of Facility: SW/4 NW/4 Section 2, Township 29N, Range Crouch Mesa, NM

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☒ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: _____

TITLE: _____

DATE: _____

SIGNATURE: _____

TELEPHONE NO.: _____

Surface Waste Management Facility Authorized Agent



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 05, 2018

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-5667
FAX (505) 327-1496

RE: Kutz CS

OrderNo.: 1808836

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/14/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 1808836

Date Reported: 9/5/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: Non Exempt

Project: Kutz CS

Collection Date: 8/13/2018 8:48:00 AM

Lab ID: 1808836-001

Matrix: AQUEOUS

Received Date: 8/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 7470: MERCURY							Analyst: rde
Mercury	ND	0.20		mg/L	1	8/29/2018 12:18:03 PM	40028
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: pmf
Arsenic	ND	5.0		mg/L	1	8/29/2018 2:15:34 PM	40021
Barium	ND	100		mg/L	1	8/20/2018 11:58:35 AM	39852
Cadmium	ND	1.0		mg/L	1	8/20/2018 11:58:35 AM	39852
Chromium	ND	5.0		mg/L	1	8/20/2018 11:58:35 AM	39852
Lead	ND	5.0		mg/L	1	8/22/2018 4:11:55 PM	39852
Selenium	ND	1.0		mg/L	1	8/29/2018 6:50:14 PM	40021
Silver	ND	5.0		mg/L	1	8/20/2018 11:58:35 AM	39852
EPA METHOD 8270C: PAHS							Analyst: JDC
Naphthalene	3.3	2.5		µg/L	1	8/17/2018 2:00:59 PM	39844
1-Methylnaphthalene	ND	2.5		µg/L	1	8/17/2018 2:00:59 PM	39844
2-Methylnaphthalene	ND	2.5		µg/L	1	8/17/2018 2:00:59 PM	39844
Acenaphthylene	ND	2.5		µg/L	1	8/17/2018 2:00:59 PM	39844
Acenaphthene	ND	2.5		µg/L	1	8/17/2018 2:00:59 PM	39844
Fluorene	ND	2.5		µg/L	1	8/17/2018 2:00:59 PM	39844
Phenanthrene	ND	2.5		µg/L	1	8/17/2018 2:00:59 PM	39844
Anthracene	ND	2.5		µg/L	1	8/17/2018 2:00:59 PM	39844
Fluoranthene	ND	2.5		µg/L	1	8/17/2018 2:00:59 PM	39844
Pyrene	ND	2.5		µg/L	1	8/17/2018 2:00:59 PM	39844
Benz(a)anthracene	ND	2.5		µg/L	1	8/17/2018 2:00:59 PM	39844
Chrysene	ND	2.5		µg/L	1	8/17/2018 2:00:59 PM	39844
Benzo(b)fluoranthene	ND	2.5		µg/L	1	8/17/2018 2:00:59 PM	39844
Benzo(k)fluoranthene	ND	2.5		µg/L	1	8/17/2018 2:00:59 PM	39844
Benzo(a)pyrene	ND	2.5		µg/L	1	8/17/2018 2:00:59 PM	39844
Dibenz(a,h)anthracene	ND	2.5		µg/L	1	8/17/2018 2:00:59 PM	39844
Benzo(g,h,i)perylene	ND	2.5		µg/L	1	8/17/2018 2:00:59 PM	39844
Indeno(1,2,3-cd)pyrene	ND	2.5		µg/L	1	8/17/2018 2:00:59 PM	39844
Surr: N-hexadecane	74.5	35.2-113		%Rec	1	8/17/2018 2:00:59 PM	39844
Surr: Benzo(e)pyrene	93.9	48.3-123		%Rec	1	8/17/2018 2:00:59 PM	39844
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	0.50		mg/L	200	8/17/2018 9:09:00 PM	R53547
Toluene	0.47	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
Ethylbenzene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
1,2,4-Trimethylbenzene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
1,3,5-Trimethylbenzene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
1,2-Dichloroethane (EDC)	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	II	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1808836

Date Reported: 9/5/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: Non Exempt

Project: Kutz CS

Collection Date: 8/13/2018 8:48:00 AM

Lab ID: 1808836-001

Matrix: AQUEOUS

Received Date: 8/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst RAA
1,2-Dibromoethane (EDB)	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
Naphthalene	ND	0.40		mg/L	200	8/17/2018 9:09:00 PM	R53547
1-Methylnaphthalene	ND	0.80		mg/L	200	8/17/2018 9:09:00 PM	R53547
2-Methylnaphthalene	ND	0.80		mg/L	200	8/17/2018 9:09:00 PM	R53547
Acetone	ND	2.0		mg/L	200	8/17/2018 9:09:00 PM	R53547
Bromobenzene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
Bromodichloromethane	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
Bromoform	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
Bromomethane	ND	0.60		mg/L	200	8/17/2018 9:09:00 PM	R53547
2-Butanone	ND	2.0		mg/L	200	8/17/2018 9:09:00 PM	R53547
Carbon disulfide	ND	2.0		mg/L	200	8/17/2018 9:09:00 PM	R53547
Carbon Tetrachloride	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
Chlorobenzene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
Chloroethane	ND	0.40		mg/L	200	8/17/2018 9:09:00 PM	R53547
Chloroform	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
Chloromethane	ND	0.60		mg/L	200	8/17/2018 9:09:00 PM	R53547
2-Chlorotoluene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
4-Chlorotoluene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
cis-1,2-DCE	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
cis-1,3-Dichloropropene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
1,2-Dibromo-3-chloropropane	ND	0.40		mg/L	200	8/17/2018 9:09:00 PM	R53547
Dibromochloromethane	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
Dibromomethane	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
1,2-Dichlorobenzene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
1,3-Dichlorobenzene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
1,4-Dichlorobenzene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
Dichlorodifluoromethane	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
1,1-Dichloroethane	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
1,1-Dichloroethene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
1,2-Dichloropropane	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
1,3-Dichloropropane	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
2,2-Dichloropropane	ND	0.40		mg/L	200	8/17/2018 9:09:00 PM	R53547
1,1-Dichloropropene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
Hexachlorobutadiene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
2-Hexanone	ND	2.0		mg/L	200	8/17/2018 9:09:00 PM	R53547
Isopropylbenzene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
4-Isopropyltoluene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
4-Methyl-2-pentanone	ND	2.0		mg/L	200	8/17/2018 9:09:00 PM	R53547
Methylene Chloride	ND	0.60		mg/L	200	8/17/2018 9:09:00 PM	R53547

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1808836

Date Reported: 9/5/2018

CLIENT: Souder, Miller and Associates

Client Sample ID: Non Exempt

Project: Kutz CS

Collection Date: 8/13/2018 8:48:00 AM

Lab ID: 1808836-001

Matrix: AQUEOUS

Received Date: 8/14/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
n-Butylbenzene	ND	0.60		mg/L	200	8/17/2018 9:09:00 PM	R53547
n-Propylbenzene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
sec-Butylbenzene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
Styrene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
tert-Butylbenzene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
1,1,1,2-Tetrachloroethane	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
1,1,2,2-Tetrachloroethane	ND	0.40		mg/L	200	8/17/2018 9:09:00 PM	R53547
Tetrachloroethene (PCE)	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
trans-1,2-DCE	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
trans-1,3-Dichloropropene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
1,2,3-Trichlorobenzene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
1,2,4-Trichlorobenzene	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
1,1,1-Trichloroethane	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
1,1,2-Trichloroethane	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
Trichloroethene (TCE)	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
Trichlorofluoromethane	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
1,2,3-Trichloropropane	ND	0.40		mg/L	200	8/17/2018 9:09:00 PM	R53547
Vinyl chloride	ND	0.20		mg/L	200	8/17/2018 9:09:00 PM	R53547
Xylenes, Total	ND	0.30		mg/L	200	8/17/2018 9:09:00 PM	R53547
Surr: 1,2-Dichloroethane-d4	96.2	70-130		%Rec	200	8/17/2018 9:09:00 PM	R53547
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	200	8/17/2018 9:09:00 PM	R53547
Surr: Dibromofluoromethane	101	70-130		%Rec	200	8/17/2018 9:09:00 PM	R53547
Surr: Toluene-d8	90.1	70-130		%Rec	200	8/17/2018 9:09:00 PM	R53547

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 180822040
Project Name: 1808836

Analytical Results Report

Sample Number 180822040-001 **Sampling Date** 8/13/2018 **Date/Time Received** 8/21/2018 11:10 AM
Client Sample ID 1808836-001D / NON EXEMPT **Sampling Time** 8:48 AM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide (reactive)	ND	mg/L	0.1	8/28/2018 11:45:00 AM	RPU	SW846 CH7	
Flashpoint	>200	°F		8/30/2018 12:24:00 PM	GPB	EPA 1010	
pH	5.05	ph Units		8/23/2018 3:15:00 PM	RPU	SM 4500pH-B	
Reactive sulfide	ND	mg/L	0.19	8/27/2018 3:00:00 PM	ETL	SW846 CH7	

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 180822040
Project Name: 1808836

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide (reactive)	0.496	mg/L	0.5	99.2	80-120	8/28/2018	8/28/2018
Reactive sulfide	0.180	mg/L	0.2	90.0	70-130	8/27/2018	8/27/2018

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
180821051-004A	Reactive sulfide	ND	0.356	mg/L	0.395	90.1	70-130	8/27/2018	8/27/2018
180822040-001	Cyanide (reactive)	ND	5.15	mg/L	5	103.0	80-120	8/28/2018	8/28/2018

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide (reactive)	5.19	mg/L	5	103.8	0.8	0-25	8/28/2018	8/28/2018

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide (reactive)	ND	mg/L	1	8/28/2018	8/28/2018
Reactive sulfide	ND	mg/L	0.1	8/27/2018	8/27/2018

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0026; NM:ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP):E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1808836

05-Sep-18

Client: Souder, Miller and Associates

Project: Kutz CS

Sample ID	100ng Ics	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES						
Client ID:	LCSW	Batch ID: R53547		RunNo: 53547						
Prep Date:		Analysis Date: 8/17/2018		SeqNo: 1764896		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	117	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Chlorobenzene	21	1.0	20.00	0	103	70	130			
1,1-Dichloroethene	24	1.0	20.00	0	120	70	130			
Trichloroethene (TCE)	22	1.0	20.00	0	108	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.1		10.00		91.5	70	130			

Sample ID	rb	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID:	PBW	Batch ID: R53547		RunNo: 53547						
Prep Date:		Analysis Date: 8/17/2018		SeqNo: 1764901		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1808836

05-Sep-18

Client: Souder, Miller and Associates

Project: Kutz CS

Sample ID	rb	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID:	PBW	Batch ID: R53547		RunNo: 53547						
Prep Date:		Analysis Date: 8/17/2018		SeqNo: 1764901		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1808836

05-Sep-18

Client: Souder, Miller and Associates

Project: Kutz CS

Sample ID	rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R53547			RunNo: 53547					
Prep Date:		Analysis Date: 8/17/2018			SeqNo: 1764901		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.2		10.00		92.0	70	130			

Sample ID	1808836-001ams	SampType:	MS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	Non Exempt	Batch ID:	R53547	RunNo:	53547					
Prep Date:		Analysis Date:	8/17/2018	SeqNo:	1764915	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	5.0	0.20	4.000	0.2828	117	60.5	137			
Toluene	4.4	0.20	4.000	0.4672	98.4	70	130			
Chlorobenzene	3.9	0.20	4.000	0	97.3	70	130			
1,1-Dichloroethene	4.9	0.20	4.000	0	122	70	130			
Trichloroethene (TCE)	4.3	0.20	4.000	0	109	70	130			
Surr: 1,2-Dichloroethane-d4	1.9		2.000		96.5	70	130			
Surr: 4-Bromofluorobenzene	2.1		2.000		103	70	130			
Surr: Dibromofluoromethane	2.1		2.000		104	70	130			
Surr: Toluene-d8	1.8		2.000		91.0	70	130			

Sample ID	1808836-001amsd	SampType: MSD		TestCode: EPA Method 8260B: VOLATILES						
Client ID:	Non Exempt	Batch ID: R53547		RunNo. 53547						
Prep Date:		Analysis Date: 8/17/2018		SeqNo: 1764916		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.7	0.20	4.000	0.2828	110	60.5	137	5.49	20	
Toluene	4.3	0.20	4.000	0.4672	95.0	70	130	3.18	20	
Chlorobenzene	3.8	0.20	4.000	0	94.4	70	130	3.04	20	
1,1-Dichloroethene	4.6	0.20	4.000	0	115	70	130	5.65	20	
Trichloroethene (TCE)	4.1	0.20	4.000	0	103	70	130	5.32	20	
Surr: 1,2-Dichloroethane-d4	1.9		2.000		96.8	70	130	0	0	
Surr: 4-Bromofluorobenzene	2.1		2.000		103	70	130	0	0	
Surr: Dibromofluoromethane	2.0		2.000		102	70	130	0	0	
Surr: Toluene-d8	1.8		2.000		91.8	70	130	0	0	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1808836

05-Sep-18

Client: Souder, Miller and Associates

Project: Kutz CS

Sample ID: mb-39844	SampType: MBLK	TestCode: EPA Method 8270C: PAHs								
Client ID: PBW	Batch ID: 39844	RunNo: 53534								
Prep Date: 8/16/2018	Analysis Date: 8/17/2018	SeqNo: 1764420 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	0.50								
2-Methylnaphthalene	ND	0.50								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
Pyrene	ND	0.50								
Benz(a)anthracene	ND	0.50								
Chrysene	ND	0.50								
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	83		87.60		95.0	35.2	113			
Surr: Benzo(e)pyrene	21		20.00		105	48.3	123			

Sample ID	lcs-39844		SampType: LCS		TestCode: EPA Method 8270C: PAHs					
Client ID:	LCSW		Batch ID: 39844		RunNo: 53534					
Prep Date:	8/16/2018		Analysis Date: 8/17/2018		SeqNo: 1764421		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	18	0.50	20.00	0	87.5	28.6	113			
1-Methylnaphthalene	20	0.50	20.00	0	99.5	27	113			
2-Methylnaphthalene	19	0.50	20.00	0	94.3	26.3	112			
Acenaphthylene	19	0.50	20.00	0	97.1	36.2	114			
Acenaphthene	18	0.50	20.00	0	91.1	35.6	116			
Fluorene	19	0.50	20.00	0	93.4	38.4	116			
Phenanthrene	19	0.50	20.00	0	94.7	42.3	118			
Anthracene	19	0.50	20.00	0	93.8	42.2	117			
Fluoranthene	21	0.50	20.00	0	104	42.5	118			
Pyrene	21	0.50	20.00	0	103	40.8	121			
Benz(a)anthracene	20	0.50	20.00	0	99.0	43	118			
Chrysene	19	0.50	20.00	0	95.9	39.4	119			
Benzo(b)fluoranthene	22	0.50	20.00	0	111	47.8	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1808836

05-Sep-18

Client: Souder, Miller and Associates

Project: Kutz CS

Sample ID	Ics-39844		SampType: LCS	TestCode: EPA Method 8270C: PAHs						
Client ID:	LCSW		Batch ID: 39844	RunNo: 53534						
Prep Date:	8/16/2018		Analysis Date: 8/17/2018	SeqNo: 1764421		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	22	0.50	20.00	0	108	40.5	120			
Benzo(a)pyrene	20	0.50	20.00	0	101	41.5	115			
Dibenz(a,h)anthracene	18	0.50	20.00	0	87.9	48.6	115			
Benzo(g,h,i)perylene	19	0.50	20.00	0	94.0	42	119			
Indeno(1,2,3-cd)pyrene	22	0.50	20.00	0	108	42.9	118			
Surr: N-hexadecane	91		87.60		104	35.2	113			
Surr: Benzo(e)pyrene	24		20.00		118	48.3	123			

Sample ID	Icsd-39844		SampType: LCSD	TestCode: EPA Method 8270C: PAHs						
Client ID:	LCSS02		Batch ID: 39844	RunNo: 53534						
Prep Date:	8/16/2018		Analysis Date: 8/17/2018	SeqNo: 1764422		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	15	0.50	20.00	0	75.0	28.6	113	15.4	40.7	
1-Methylnaphthalene	18	0.50	20.00	0	90.0	27	113	10.0	38.4	
2-Methylnaphthalene	17	0.50	20.00	0	85.1	26.3	112	10.3	25.5	
Acenaphthylene	18	0.50	20.00	0	89.5	36.2	114	8.15	34.1	
Acenaphthene	16	0.50	20.00	0	80.0	35.6	116	13.0	32.1	
Fluorene	17	0.50	20.00	0	83.9	38.4	116	10.7	28	
Phenanthrene	18	0.50	20.00	0	92.3	42.3	118	2.57	37.4	
Anthracene	19	0.50	20.00	0	93.5	42.2	117	0.320	36.2	
Fluoranthene	20	0.50	20.00	0	98.8	42.5	118	5.61	26.6	
Pyrene	21	0.50	20.00	0	103	40.8	121	0.389	26.8	
Benz(a)anthracene	19	0.50	20.00	0	96.9	43	118	2.14	25.1	
Chrysene	18	0.50	20.00	0	92.0	39.4	119	4.15	23.3	
Benzo(b)fluoranthene	21	0.50	20.00	0	106	47.8	115	3.96	22.5	
Benzo(k)fluoranthene	20	0.50	20.00	0	102	40.5	120	5.34	30.9	
Benzo(a)pyrene	20	0.50	20.00	0	100	41.5	115	0.199	23.2	
Dibenz(a,h)anthracene	17	0.50	20.00	0	85.8	48.6	115	2.42	26.5	
Benzo(g,h,i)perylene	18	0.50	20.00	0	91.3	42	119	2.91	30.7	
Indeno(1,2,3-cd)pyrene	21	0.50	20.00	0	104	42.9	118	3.11	25.4	
Surr: N-hexadecane	84		87.60		96.0	35.2	113	0	0	
Surr: Benzo(e)pyrene	22		20.00		110	48.3	123	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1808836

05-Sep-18

Client: Souder, Miller and Associates

Project: Kutz CS

Sample ID	MB-40028	SampType:	MBLK	TestCode:	EPA Method 7470: Mercury					
Client ID:	PBW	Batch ID:	40028	RunNo:	53784					
Prep Date:	8/28/2018	Analysis Date:	8/29/2018	SeqNo:	1775035	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-40028	SampType:	LCS	TestCode:	EPA Method 7470: Mercury					
Client ID:	LCSW	Batch ID:	40028	RunNo:	53784					
Prep Date:	8/28/2018	Analysis Date:	8/29/2018	SeqNo:	1775036	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0053	0.00020	0.005000	0	106	80	120			

Sample ID	1808836-001CMS		SampType:	MS		TestCode:	EPA Method 7470: Mercury				
Client ID:	Non Exempt		Batch ID:	40028		RunNo:	53784				
Prep Date:	8/28/2018		Analysis Date:	8/29/2018		SeqNo:	1775038		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.0043	0.00020	0.005000	0.0003480	79.1	75	125				

Sample ID	1808836-001CMSD	SampType:	MSD	TestCode:	EPA Method 7470: Mercury					
Client ID:	Non Exempt	Batch ID:	40028	RunNo:	53784					
Prep Date:	8/28/2018	Analysis Date:	8/29/2018	SeqNo:	1775039	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0045	0.00020	0.005000	0.0003480	83.9	75	125	5.50	20	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1808836

05-Sep-18

Client: Souder, Miller and Associates

Project: Kutz CS

Sample ID	MB-39852	SampType:	MBLK	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	PBW	Batch ID:	39852	RunNo:	53550					
Prep Date:	8/16/2018	Analysis Date:	8/20/2018	SeqNo:	1765745	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Silver	ND	0.0050								

Sample ID	LCS-39852	SampType:	LCS	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	LCSW	Batch ID:	39852	RunNo:	53550					
Prep Date:	8/16/2018	Analysis Date:	8/20/2018	SeqNo:	1765747	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Barium	0.52	0.020	0.5000	0	104	80	120			
Cadmium	0.50	0.0020	0.5000	0	99.5	80	120			
Chromium	0.52	0.0060	0.5000	0	104	80	120			
Silver	0.10	0.0050	0.1000	0	104	80	120			

Sample ID	MB-39852	SampType:	MBLK	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	PBW	Batch ID:	39852	RunNo:	53642					
Prep Date:	8/16/2018	Analysis Date:	8/22/2018	SeqNo:	1768995	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Lead	ND	0.0050								
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Sample ID	LCS-39852	SampType:	LCS	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	LCSW	Batch ID:	39852	RunNo:	53642					
Prep Date:	8/16/2018	Analysis Date:	8/22/2018	SeqNo:	1768997	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Lead	0.49	0.0050	0.5000	0	98.5	80	120			
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Sample ID	MB-40021	SampType:	MBLK	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	PBW	Batch ID:	40021	RunNo:	53785					
Prep Date:	8/28/2018	Analysis Date:	8/29/2018	SeqNo:	1775201	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	ND	0.020								
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Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1808836

05-Sep-18

Client: Souder, Miller and Associates

Project: Kutz CS

Sample ID	LCS-40021	SampType:	LCS	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	LCSW	Batch ID:	40021	RunNo:	53785					
Prep Date:	8/28/2018	Analysis Date:	8/29/2018	SeqNo:	1775203	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.49	0.020	0.5000	0	98.4	80	120			

Sample ID	MB-40021	SampType:	MBLK	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	PBW	Batch ID:	40021	RunNo:	53804					
Prep Date:	8/28/2018	Analysis Date:	8/29/2018	SeqNo:	1775493	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.050								

Sample ID	LCS-40021	SampType:	LCS	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	LCSW	Batch ID:	40021	RunNo:	53804					
Prep Date:	8/28/2018	Analysis Date:	8/29/2018	SeqNo:	1775495	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.48	0.050	0.5000	0	95.0	80	120			

Sample ID	MB-40021	SampType:	MBLK	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	PBW	Batch ID:	40021	RunNo:	53804					
Prep Date:	8/28/2018	Analysis Date:	8/29/2018	SeqNo:	1775530	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								

Sample ID	LCS-40021	SampType:	LCS	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	LCSW	Batch ID:	40021	RunNo:	53804					
Prep Date:	8/28/2018	Analysis Date:	8/29/2018	SeqNo:	1775532	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.52	0.020	0.5000	0	105	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1808836

RcptNo: 1

Received By: Anne Thome

8/14/2018 7:00:00 AM

Completed By: Ashley Gallegos

8/14/2018 3:23:31 PM

Reviewed By:

JAB 08/15/18

labeled by: mw 8/15/18

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☒ No ☐ NA ☐
9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization) Yes ☒ No ☐

of preserved bottles checked for pH: 1/1

(<2 or >12 unless noted)

Adjusted? 1/1

Checked by: mw

8/15/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

16. Additional remarks: For metals-total, added approx. 0.5mL HNO₃ to cool for acceptable pH. held for 24 hrs prior to analysis.

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Yes			

mw 8/15/18
1515

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Goodwill 2/26/20
Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site:

Rattlesnake Compressor Station

3. Location of Material (Street Address, City, State or ULSTR):

UL H Section 16, T32N, R9W; 36.987603, -107.77771

4. Source and Description of Waste:

Source: Water from the Non Exempt Water Tanks and from the compressor skid drains.

Description: Non Exempt/Non Hazardous Water from the compressor skids.

Estimated Volume 160 yd³ bbbs Known Volume (to be entered by the operator at the end of the haul) _____ yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long *Thomas Long*, representative or authorized agent for Enterprise Products Operating do hereby
Generator Signature

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long *Thomas Long*, representative for Enterprise Products Operating authorize to complete
Generator Signature

the required testing/sign the Generator Waste Testing Certification.

I, _____, representative for Agua Moss, LLC do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: To Be Determine

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: ***Agua Moss, LLC - Permit #: NM-01-009**

Address of Facility: **SW/4 NW/4 Section 2, Township 29N, Range Crouch Mesa, NM**

Method of Treatment and/or Disposal

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ **APPROVED**

☐ **DENIED (Must Be Maintained As Permanent Record)**

PRINT NAME: _____

TITLE: _____

DATE: _____

SIGNATURE: _____

TELEPHONE NO.: _____

Surface Waste Management Facility Authorized Agent



*Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com*

February 26, 2019

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-5667
FAX: (505) 327-1496

RE: Rattlesnake

OrderNo.: 1902632

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 2/14/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1902632

Date Reported: 2/26/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Rattlesnake Non Exempt

Project: Rattlesnake

Collection Date: 2/13/2019 8:52:00 AM

Lab ID: 1902632-001

Matrix: AQUEOUS

Received Date: 2/14/2019 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 7470: MERCURY							Analyst: pmf
Mercury	ND	0.020		mg/L	1	2/21/2019 11:01:31 AM	43258
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: rde
Arsenic	ND	5.0		mg/L	1	2/21/2019 4:52:16 PM	43209
Barium	ND	100		mg/L	1	2/21/2019 4:52:16 PM	43209
Cadmium	ND	1.0		mg/L	1	2/21/2019 4:52:16 PM	43209
Chromium	ND	5.0		mg/L	1	2/21/2019 4:52:16 PM	43209
Lead	ND	5.0		mg/L	1	2/21/2019 4:52:16 PM	43209
Selenium	ND	1.0		mg/L	1	2/21/2019 4:52:16 PM	43209
Silver	ND	5.0		mg/L	1	2/21/2019 4:52:16 PM	43209
EPA METHOD 8270C: PAHS							Analyst: DAM
Naphthalene	ND	50	D	µg/L	10	2/25/2019 1:37:43 PM	43179
1-Methylnaphthalene	ND	100	D	µg/L	10	2/25/2019 1:37:43 PM	43179
2-Methylnaphthalene	ND	100	D	µg/L	10	2/25/2019 1:37:43 PM	43179
Acenaphthylene	ND	50	D	µg/L	10	2/25/2019 1:37:43 PM	43179
Acenaphthene	ND	50	D	µg/L	10	2/25/2019 1:37:43 PM	43179
Fluorene	ND	50	D	µg/L	10	2/25/2019 1:37:43 PM	43179
Phenanthrene	ND	50	D	µg/L	10	2/25/2019 1:37:43 PM	43179
Anthracene	ND	50	D	µg/L	10	2/25/2019 1:37:43 PM	43179
Fluoranthene	ND	50	D	µg/L	10	2/25/2019 1:37:43 PM	43179
Pyrene	ND	50	D	µg/L	10	2/25/2019 1:37:43 PM	43179
Benz(a)anthracene	ND	50	D	µg/L	10	2/25/2019 1:37:43 PM	43179
Chrysene	ND	50	D	µg/L	10	2/25/2019 1:37:43 PM	43179
Benzo(b)fluoranthene	ND	50	D	µg/L	10	2/25/2019 1:37:43 PM	43179
Benzo(k)fluoranthene	ND	50	D	µg/L	10	2/25/2019 1:37:43 PM	43179
Benzo(a)pyrene	ND	50	D	µg/L	10	2/25/2019 1:37:43 PM	43179
Dibenz(a,h)anthracene	ND	50	D	µg/L	10	2/25/2019 1:37:43 PM	43179
Benzo(g,h,i)perylene	ND	50	D	µg/L	10	2/25/2019 1:37:43 PM	43179
Indeno(1,2,3-cd)pyrene	ND	50	D	µg/L	10	2/25/2019 1:37:43 PM	43179
Surr: N-hexadecane	0	20.4-126	SD	%Rec	10	2/25/2019 1:37:43 PM	43179
Surr: Benzo(e)pyrene	0	21.4-126	SD	%Rec	10	2/25/2019 1:37:43 PM	43179
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	0.50		mg/L	200	2/16/2019 12:44:00 AM	B57754
Toluene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
Ethylbenzene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
1,2,4-Trimethylbenzene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
1,3,5-Trimethylbenzene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
1,2-Dichloroethane (EDC)	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1902632

Date Reported: 2/26/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Rattlesnake Non Exempt

Project: Rattlesnake

Collection Date: 2/13/2019 8:52:00 AM

Lab ID: 1902632-001

Matrix: AQUEOUS

Received Date: 2/14/2019 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,2-Dibromoethane (EDB)	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
Naphthalene	ND	0.40		mg/L	200	2/16/2019 12:44:00 AM	B57754
1-Methylnaphthalene	ND	0.80		mg/L	200	2/16/2019 12:44:00 AM	B57754
2-Methylnaphthalene	ND	0.80		mg/L	200	2/16/2019 12:44:00 AM	B57754
Acetone	ND	2.0		mg/L	200	2/16/2019 12:44:00 AM	B57754
Bromobenzene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
Bromodichloromethane	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
Bromoform	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
Bromomethane	ND	0.60		mg/L	200	2/16/2019 12:44:00 AM	B57754
2-Butanone	ND	2.0		mg/L	200	2/16/2019 12:44:00 AM	B57754
Carbon disulfide	ND	2.0		mg/L	200	2/16/2019 12:44:00 AM	B57754
Carbon Tetrachloride	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
Chlorobenzene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
Chloroethane	ND	0.40		mg/L	200	2/16/2019 12:44:00 AM	B57754
Chloroform	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
Chloromethane	ND	0.60		mg/L	200	2/16/2019 12:44:00 AM	B57754
2-Chlorotoluene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
4-Chlorotoluene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
cis-1,2-DCE	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
cis-1,3-Dichloropropene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
1,2-Dibromo-3-chloropropane	ND	0.40		mg/L	200	2/16/2019 12:44:00 AM	B57754
Dibromochloromethane	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
Dibromomethane	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
1,2-Dichlorobenzene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
1,3-Dichlorobenzene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
1,4-Dichlorobenzene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
Dichlorodifluoromethane	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
1,1-Dichloroethane	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
1,1-Dichloroethene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
1,2-Dichloropropane	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
1,3-Dichloropropane	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
2,2-Dichloropropane	ND	0.40		mg/L	200	2/16/2019 12:44:00 AM	B57754
1,1-Dichloropropene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
Hexachlorobutadiene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
2-Hexanone	ND	2.0		mg/L	200	2/16/2019 12:44:00 AM	B57754
Isopropylbenzene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
4-Isopropyltoluene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
4-Methyl-2-pentanone	ND	2.0		mg/L	200	2/16/2019 12:44:00 AM	B57754
Methylene Chloride	ND	0.60		mg/L	200	2/16/2019 12:44:00 AM	B57754

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	F Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1902632

Date Reported: 2/26/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Rattlesnake Non Exempt

Project: Rattlesnake

Collection Date: 2/13/2019 8:52:00 AM

Lab ID: 1902632-001

Matrix: AQUEOUS

Received Date: 2/14/2019 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
n-Butylbenzene	ND	0.60		mg/L	200	2/16/2019 12:44:00 AM	B57754
n-Propylbenzene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
sec-Butylbenzene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
Styrene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
tert-Butylbenzene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
1,1,1,2-Tetrachloroethane	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
1,1,2,2-Tetrachloroethane	ND	0.40		mg/L	200	2/16/2019 12:44:00 AM	B57754
Tetrachloroethene (PCE)	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
trans-1,2-DCE	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
trans-1,3-Dichloropropene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
1,2,3-Trichlorobenzene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
1,2,4-Trichlorobenzene	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
1,1,1-Trichloroethane	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
1,1,2-Trichloroethane	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
Trichloroethene (TCE)	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
Trichlorofluoromethane	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
1,2,3-Trichloropropane	ND	0.40		mg/L	200	2/16/2019 12:44:00 AM	B57754
Vinyl chloride	ND	0.20		mg/L	200	2/16/2019 12:44:00 AM	B57754
Xylenes, Total	ND	0.30		mg/L	200	2/16/2019 12:44:00 AM	B57754
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	200	2/16/2019 12:44:00 AM	B57754
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	200	2/16/2019 12:44:00 AM	B57754
Surr: Dibromofluoromethane	104	70-130		%Rec	200	2/16/2019 12:44:00 AM	B57754
Surr: Toluene-d8	93.9	70-130		%Rec	200	2/16/2019 12:44:00 AM	B57754

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified



Collected date/time: 02/13/19 08:52

L1070772

Wet Chemistry by Method 4500 CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Reactive Cyanide	0.00753		0.00500	1	02/22/2019 00:16	WG12330726

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	su				date / time	
Corrosivity by pH	6.12	T8	1	02/16/2019 11:58	WG12330867	

Sample Narrative:

L1070772-01 WG1238087: 6.12 at 12C

Wet Chemistry by Method 9034-9030B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Reactive Sulfide	0.0640		0.0500	1	02/19/2019 11:48	WG12330966

Wet Chemistry by Method D93/1010A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	deg F				date / time	
Flashpoint	DNF at 170		1	02/20/2019 14:00	WG12330249	

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1070772DATE/TIME:
02/22/19 12:40

WG1239726

Wet Chemistry by Method 4500 CN E-2011

QUALITY CONTROL SUMMARY

L1070772-01

ONE LAB NATIONWIDE

Method Blank (MB)

(MB) R3386030-1 02/21/19 23:43

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Cyanide	U		0.00180	0.00500

Laboratory Control Sample (LCS)

(LCS) R3386030-2 02/21/19 23:44

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Reactive Cyanide	0.100	0.0863	86.3	85.0-115	

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1070772DATE/TIME:
02/22/19 12:40

WG1238087

Wet Chemistry by Method 4500H+ B-2011

QUALITY CONTROL SUMMARY

L1070772.01

ONE LAB. NATIONWIDE

Laboratory Control Sample (LCS)

(LCS) R3384306-1 02/16/19 11:58

Analyte	Spike Amount		LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	μg	%				
Conductivity by pH	10.0	9.98	99.8	99.8	99.0-101	

Sample Narrative:

LCS: 9.98 at 18.4C

1	Tc	Ss	Cu	Sr	De	Gl	Al	Sc
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ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1070772

DATE/TIME:

02/22/19 12:40

WG1238965

Wet Chemistry by Method 9034-9030B

QUALITY CONTROL SUMMARY

L1070772-01

ONE LAB. NATIONWIDE

Method Blank (MB)

(MB) R3384956-1 02/19/19 11:38

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Sulfide	U		0.00650	0.0500

Laboratory Control Sample (LCS)

(LCS) R3384956-2 02/19/19 11:38

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Reactive Sulfide	0.500	0.516	103	85.0-115	



ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1070772

DATE/TIME:
02/22/19 12:40

WG1239348

Wet Chemistry by Method D93/1010A

QUALITY CONTROL SUMMARY

L1070772-01

ONE LAB. NATIONWIDE

L1070764-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1070764-01 02/20/19 14:00 • (DUP) R3385441-2 02/20/19 14:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Flashpoint	deg F DNF at 170	deg F DNF at 170	1	% 0.000	%	10

Laboratory Control Sample (LCS)

(LCS) R3385441-1 02/20/19 14:00

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Flashpoint	deg F 82.0	deg F 82.0	% 100	% 96.0-104	



ACCOUNT:
H&H Environmental Analysis Laboratory

PROJECT:

SDG:
L1070772

DATE/TIME:
02/22/19 12:40



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.
Qualifier	Description
T8	Sample(s) received past/too close to holding time expiration.



QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1902632

26-Feb-19

Client: Souder, Miller and Associates

Project: Rattlesnake

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R57754	RunNo: 57754								
Prep Date:	Analysis Date: 2/15/2019	SeqNo: 1933095 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	11		10.00		107	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.9	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	9.3		10.00		92.9	70	130			

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R57754	RunNo: 57754								
Prep Date:	Analysis Date: 2/15/2019	SeqNo: 1933096 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.7	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.4		10.00		94.3	70	130			

Sample ID: 100ng lcs2	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: B57754	RunNo: 57754								
Prep Date:	Analysis Date: 2/15/2019	SeqNo: 1933134			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	114	70	130			
Toluene	19	1.0	20.00	0	96.3	70	130			
Chlorobenzene	19	1.0	20.00	0	95.8	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	115	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	107	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.4		10.00		93.6	70	130			

Sample ID: rb3	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: B57754	RunNo: 57754								
Prep Date:	Analysis Date: 2/15/2019	SeqNo: 1933135			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1902632

26-Feb-19

Client: Souder, Miller and Associates

Project: Rattlesnake

Sample ID: rb3	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: B57754		RunNo: 57754							
Prep Date:	Analysis Date: 2/15/2019		SeqNo: 1933135		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1902632

26-Feb-19

Client: Souder, Miller and Associates

Project: Rattlesnake

Sample ID: rb3	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: B57754	RunNo: 57754								
Prep Date:	Analysis Date: 2/15/2019	SeqNo: 1933135			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.4		10.00		94.2	70	130			

Sample ID: 1902632-001ams		SampType: MS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: Rattlesnake Non Ex		Batch ID: B57754		RunNo: 57754						
Prep Date:		Analysis Date: 2/16/2019		SeqNo: 1933139		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.5	0.20	4.000	0	112	70	130			
Toluene	3.8	0.20	4.000	0	94.2	70	130			
Chlorobenzene	3.7	0.20	4.000	0	93.4	70	130			
1,1-Dichloroethene	4.5	0.20	4.000	0	112	67.6	130			
Trichloroethene (TCE)	4.2	0.20	4.000	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	2.1		2.000		104	70	130			
Surr: 4-Bromofluorobenzene	2.0		2.000		100	70	130			
Surr: Dibromofluoromethane	2.1		2.000		103	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- R Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1902632

26-Feb-19

Client: Souder, Miller and Associates

Project: Rattlesnake

Sample ID: 1902632-001ams	SampType: MS	TestCode: EPA Method 8260B: VOLATILES
Client ID: Rattlesnake Non Ex	Batch ID: B57754	RunNo: 57754
Prep Date:	Analysis Date: 2/16/2019	SeqNo: 1933139 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: Toluene-d8	1.9	2.000 93.3 70 130

Sample ID: 1902632-001amsd	SampType: MSD	TestCode: EPA Method 8260B: VOLATILES
Client ID: Rattlesnake Non Ex	Batch ID: B57754	RunNo: 57754
Prep Date:	Analysis Date: 2/16/2019	SeqNo: 1933140 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Benzene	4.2	0.20 4.000 0 106 70 130 5.35 20
Toluene	3.6	0.20 4.000 0 91.2 70 130 3.25 20
Chlorobenzene	3.6	0.20 4.000 0 89.6 70 130 4.19 20
1,1-Dichloroethene	4.3	0.20 4.000 0 107 67.6 130 4.42 20
Trichloroethene (TCE)	4.0	0.20 4.000 0 101 70 130 3.51 20
Surr: 1,2-Dichloroethane-d4	2.0	2.000 102 70 130 0 0
Surr: 4-Bromofluorobenzene	2.0	2.000 100 70 130 0 0
Surr: Dibromofluoromethane	2.0	2.000 101 70 130 0 0
Surr: Toluene-d8	1.9	2.000 94.6 70 130 0 0

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO# 1902632

26-Feb-19

Client: Souder, Miller and Associates

Project: Rattlesnake

Sample ID: Ics-43179	SampType: LCS	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSW	Batch ID: 43179	RunNo: 57933								
Prep Date: 2/15/2019	Analysis Date: 2/25/2019	SeqNo: 1939943 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	15	0.50	20.00	0	74.0	29.6	105			
1-Methylnaphthalene	16	1.0	20.00	0	77.5	33.4	112			
2-Methylnaphthalene	15	1.0	20.00	0	74.6	28.6	108			
Acenaphthylene	16	0.50	20.00	0	78.7	35.7	116			
Acenaphthene	16	0.50	20.00	0	79.0	32.4	118			
Fluorene	16	0.50	20.00	0	81.1	35.6	118			
Phenanthrene	15	0.50	20.00	0	75.8	36.3	130			
Anthracene	15	0.50	20.00	0	76.6	34.8	135			
Fluoranthene	16	0.50	20.00	0	79.4	41	136			
Pyrene	17	0.50	20.00	0	84.3	44.8	136			
Benz(a)anthracene	17	0.50	20.00	0	85.1	41.1	136			
Chrysene	17	0.50	20.00	0	85.5	37.9	132			
Benzo(b)fluoranthene	17	0.50	20.00	0	82.7	39	144			
Benzo(k)fluoranthene	15	0.50	20.00	0	77.4	40	144			
Benzo(a)pyrene	15	0.50	20.00	0	76.5	36.8	137			
Dibenz(a,h)anthracene	17	0.50	20.00	0	85.3	31.5	141			
Benzo(g,h,i)perylene	17	0.50	20.00	0	85.3	32.9	138			
Indeno(1,2,3-cd)pyrene	17	0.50	20.00	0	83.3	40.9	143			
Surr: N-hexadecane	55		87.60		62.3	20.4	126			
Surr: Benzo(e)pyrene	13		20.00		62.8	21.4	126			

Sample ID: Ics-43224	SampType: LCS	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSW	Batch ID: 43224	RunNo: 57933								
Prep Date: 2/19/2019	Analysis Date: 2/25/2019	SeqNo: 1939944 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: N-hexadecane	65		87.60		74.6	20.4	126			
Surr: Benzo(e)pyrene	17		20.00		86.5	21.4	126			

Sample ID: Icsd-43179	SampType: LCSD	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSS02	Batch ID: 43179	RunNo: 57933								
Prep Date: 2/15/2019	Analysis Date: 2/25/2019	SeqNo: 1939945 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	13	0.50	20.00	0	67.1	29.6	105	9.78	68.7	
1-Methylnaphthalene	13	1.0	20.00	0	65.2	33.4	112	17.2	66	
2-Methylnaphthalene	13	1.0	20.00	0	64.1	28.6	108	15.1	68.7	
Acenaphthylene	13	0.50	20.00	0	66.1	35.7	116	17.4	64.9	
Acenaphthene	13	0.50	20.00	0	64.5	32.4	118	20.2	53.2	
Fluorene	13	0.50	20.00	0	65.7	35.6	118	21.0	62.4	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1902632

26-Feb-19

Client: Souder, Miller and Associates

Project: Rattlesnake

Sample ID: lcsd-43179	SampType: LCSD			TestCode: EPA Method 8270C: PAHs						
Client ID: LCSS02	Batch ID: 43179			RunNo: 57933						
Prep Date: 2/15/2019	Analysis Date: 2/25/2019			SeqNo: 1939945			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phenanthrene	13	0.50	20.00	0	64.2	36.3	130	16.6	62.6	
Anthracene	12	0.50	20.00	0	62.5	34.8	135	20.3	62.4	
Fluoranthene	13	0.50	20.00	0	63.5	41	136	22.3	59.4	
Pyrene	13	0.50	20.00	0	67.2	44.8	136	22.6	55.4	
Benz(a)anthracene	13	0.50	20.00	0	66.7	41.1	136	24.2	56.6	
Chrysene	13	0.50	20.00	0	64.4	37.9	132	28.2	51.9	
Benzo(b)fluoranthene	13	0.50	20.00	0	66.1	39	144	22.3	59.1	
Benzo(k)fluoranthene	13	0.50	20.00	0	66.7	40	144	14.9	57	
Benzo(a)pyrene	13	0.50	20.00	0	63.9	36.8	137	17.9	60.2	
Dibenz(a,h)anthracene	13	0.50	20.00	0	66.1	31.5	141	25.4	64.7	
Benzo(g,h,i)perylene	13	0.50	20.00	0	66.0	32.9	138	25.5	61.5	
Indeno(1,2,3-cd)pyrene	13	0.50	20.00	0	64.8	40.9	143	25.0	61.1	
Surr: N-hexadecane	44		87.60		49.8	20.4	126	0	0	
Surr: Benzo(e)pyrene	11		20.00		54.2	21.4	126	0	0	

Sample ID: lcsd-43224	SampType: LCSD			TestCode: EPA Method 8270C: PAHs						
Client ID: LCSS02	Batch ID: 43224			RunNo: 57933						
Prep Date: 2/19/2019	Analysis Date: 2/25/2019			SeqNo: 1939946			Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: N-hexadecane	73		87.60		83.4	20.4	126	0	0	
Surr: Benzo(e)pyrene	18		20.00		91.9	21.4	126	0	0	

Sample ID: mb-43179	SampType: MBLK			TestCode: EPA Method 8270C: PAHs						
Client ID: PBW	Batch ID: 43179			RunNo: 57933						
Prep Date: 2/15/2019	Analysis Date: 2/25/2019			SeqNo: 1939947			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	1.0								
2-Methylnaphthalene	ND	1.0								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
Pyrene	ND	0.50								
Benz(a)anthracene	ND	0.50								
Chrysene	ND	0.50								

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO# 1902632

26-Feb-19

Client: Souder, Miller and Associates

Project: Rattlesnake

Sample ID: mb-43179	SampType: MBLK	TestCode: EPA Method 8270C: PAHs								
Client ID: PBW	Batch ID: 43179	RunNo: 57933								
Prep Date: 2/15/2019	Analysis Date: 2/25/2019	SeqNo: 1939947			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	55		87.60		62.4	20.4	126			
Surr: Benzo(e)pyrene	14		20.00		68.4	21.4	126			

Sample ID: mb-43224	SampType: MBLK	TestCode: EPA Method 8270C: PAHs								
Client ID: PBW	Batch ID: 43224	RunNo: 57933								
Prep Date: 2/19/2019	Analysis Date: 2/25/2019	SeqNo: 1939948 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: N-hexadecane	63		87.60		71.8	20.4	126			
Surr: Benzo(e)pyrene	14		20.00		67.6	21.4	126			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1902632

26-Feb-19

Client: Souder, Miller and Associates

Project: Rattlesnake

Sample ID: MB-43258	SampType: MBLK	TestCode: EPA Method 7470: Mercury
Client ID: PBW	Batch ID: 43258	RunNo: 57857
Prep Date: 2/20/2019	Analysis Date: 2/21/2019	SeqNo: 1937038 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND	0.00020

Sample ID: LCS-43258	SampType: LCS	TestCode: EPA Method 7470: Mercury
Client ID: LCSW	Batch ID: 43258	RunNo: 57857
Prep Date: 2/20/2019	Analysis Date: 2/21/2019	SeqNo: 1937039 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0045	0.00020 0.005000 0 90.0 80 120

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1902632

26-Feb-19

Client: Souder, Miller and Associates

Project: Rattlesnake

Sample ID: MB-43209	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 43209	RunNo: 57884								
Prep Date: 2/18/2019	Analysis Date: 2/21/2019	SeqNo: 1938053 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	ND	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID: LCS-43209	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 43209	RunNo: 57884								
Prep Date: 2/18/2019	Analysis Date: 2/21/2019	SeqNo: 1938054 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.51	0.020	0.5000	0	103	80	120			
Barium	0.49	0.020	0.5000	0	97.9	80	120			
Cadmium	0.49	0.0020	0.5000	0	98.6	80	120			
Chromium	0.49	0.0060	0.5000	0	98.7	80	120			
Lead	0.50	0.0050	0.5000	0	99.8	80	120			
Selenium	0.51	0.050	0.5000	0	102	80	120			
Silver	0.10	0.0050	0.1000	0	100	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Sample Log-In Check List

Client Name: **SMA-FARM**

Work Order Number: **1902632**

RcptNo: **1**

Received By: **Erin Melendrez**

2/14/2019 8:10:00 AM

UAG

Completed By: **Erin Melendrez**

2/14/2019 11:09:41 AM

UAG

Reviewed By: **LB**

2/14/19

LB: DAD 2/14/19

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐

2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐

4. Were all samples received at a temperature of >0° C to 6.0° C Yes ☒ No ☐ NA ☐

5. Sample(s) in proper container(s)? Yes ☒ No ☐

6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐

7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☒ **DAD 2/14/19**

8. Was preservative added to bottles? Yes ☒ No ☒ NA ☐

9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒

10. Were any sample containers received broken? Yes ☐ No ☒

11. Does paperwork match bottle labels? Yes ☒ No ☐
(Note discrepancies on chain of custody)

12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐

13. Is it clear what analyses were requested? Yes ☒ No ☐

14. Were all holding times able to be met? Yes ☒ No ☐
(If no, notify customer for authorization)

of preserved
bottles checked
for pH: **1:2**
(~~1~~ or ~~2~~ unless noted)

Adjusted? **YES**

Checked by: **DAD 2/14/19**

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks: **Added approx. 1mL HNO₃ to sample 0010 for acceptable pH.**

17. Cooler Information **Held 24hrs. prior to Analysis.**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.7	Good	Yes			
2	2.4	Good	Yes			
3	1.5	Good	Yes			
4	3.1	Good	Yes			

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

GOOD T11 4/8/2020

Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Enterprise Field Services/ LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site:

3B-1 Compressor Station

3. Location of Material (Street Address, City, State or ULSTR):

UL L Section 33 Township 30 North Range 9 West; 36.767063, -107.792775, San Juan County, NM

4. Source and Description of Waste:

Source: Soil impacted with lube oil, motor oil or condensate.

Description: Non Exempt/Non Hazardous Soil from housekeeping activities.

Estimated Volume 80 yd³ / bbls **Known Volume** (to be entered by the operator at the end of the haul) _____ yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long, representative or authorized agent for Enterprise Products Operating do hereby

Generator Signature

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long, representative for Enterprise Products Operating authorizes Envirotech, Inc. to complete

Generator Signature

the required testing/sign the Generator Waste Testing Certification.

I, _____, representative for Agua Moss, Inc. do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: To Be Determined

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: ***Agua Moss, LLC - Permit #: NM-01-009**

Address of Facility: **SW/4 NW/4 Section 2, Township 29N, Range Crouch Mesa, NM**

Method of Treatment and/or Disposal:

☐ Evaporation ☐ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ **APPROVED**

☐ **DENIED (Must Be Maintained As Permanent Record)**

PRINT NAME: _____

TITLE: _____

DATE: _____

SIGNATURE: _____

TELEPHONE NO.: _____

Surface Waste Management Facility Authorized Agent



*Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com*

April 08, 2019

Ashley Maxwell

Souder, Miller and Associates

401 W. Broadway

Farmington, NM 87401

TEL: (505) 325-7535

FAX

RE: 3B-1

OrderNo.: 1903D07

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/27/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1903D07

Date Reported: 4/8/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: 3B-1 Non Exempt

Project: 3B-1

Collection Date: 3/26/2019 9:47:00 AM

Lab ID: 1903D07-001

Matrix: AQUEOUS

Received Date: 3/27/2019 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 6020: TOTAL METALS						Analyst: DBK
Arsenic	ND	0.50		mg/L	5	4/2/2019 6:34:52 PM
Barium	ND	10		mg/L	5	4/2/2019 6:34:52 PM
Cadmium	ND	0.10		mg/L	5	4/2/2019 2:48:56 PM
Chromium	ND	0.50		mg/L	1	4/1/2019 4:34:01 PM
Lead	ND	0.50		mg/L	1	4/1/2019 4:34:01 PM
Selenium	ND	0.10		mg/L	5	4/2/2019 6:34:52 PM
Silver	ND	0.50		mg/L	5	4/4/2019 6:21:27 PM
EPA METHOD 7470: MERCURY						Analyst: pmf
Mercury	ND	0.020		mg/L	1	4/5/2019 11:49:13 AM
EPA METHOD 8270C: PAHS						Analyst: DAM
Naphthalene	ND	50	D	µg/L	10	4/2/2019 3:30:40 PM
1-Methylnaphthalene	ND	100	D	µg/L	10	4/2/2019 3:30:40 PM
2-Methylnaphthalene	ND	100	D	µg/L	10	4/2/2019 3:30:40 PM
Acenaphthylene	ND	50	D	µg/L	10	4/2/2019 3:30:40 PM
Acenaphthene	ND	50	D	µg/L	10	4/2/2019 3:30:40 PM
Fluorene	ND	50	D	µg/L	10	4/2/2019 3:30:40 PM
Phenanthrene	ND	50	D	µg/L	10	4/2/2019 3:30:40 PM
Anthracene	ND	50	D	µg/L	10	4/2/2019 3:30:40 PM
Fluoranthene	ND	50	D	µg/L	10	4/2/2019 3:30:40 PM
Pyrene	ND	50	D	µg/L	10	4/2/2019 3:30:40 PM
Benz(a)anthracene	ND	50	D	µg/L	10	4/2/2019 3:30:40 PM
Chrysene	ND	50	D	µg/L	10	4/2/2019 3:30:40 PM
Benzo(b)fluoranthene	ND	50	D	µg/L	10	4/2/2019 3:30:40 PM
Benzo(k)fluoranthene	ND	50	D	µg/L	10	4/2/2019 3:30:40 PM
Benzo(a)pyrene	ND	50	D	µg/L	10	4/2/2019 3:30:40 PM
Dibenz(a,h)anthracene	ND	50	D	µg/L	10	4/2/2019 3:30:40 PM
Benzo(g,h,i)perylene	ND	50	D	µg/L	10	4/2/2019 3:30:40 PM
Indeno(1,2,3-cd)pyrene	ND	50	D	µg/L	10	4/2/2019 3:30:40 PM
Surr: N-hexadecane	0	20.4-126	SD	%Rec	10	4/2/2019 3:30:40 PM
Surr: Benzo(e)pyrene	0	21.4-126	SD	%Rec	10	4/2/2019 3:30:40 PM
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	ND	0.50		mg/L	200	3/28/2019 8:49:00 AM
Toluene	0.55	0.20		mg/L	200	3/28/2019 8:49:00 AM
Ethylbenzene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
1,2,4-Trimethylbenzene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
1,3,5-Trimethylbenzene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
1,2-Dichloroethane (EDC)	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:
 E Value above quantitation range
 ND Not Detected at the Reporting Limit
 RL Reporting Detection Limit
 W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceeded
 PQL Practical Quantitative Limit
 S % Recovery outside of range due to dilution or matrix

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1903D07

Date Reported: 4/8/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: 3B-1 Non Exempt

Project: 3B-1

Collection Date: 3/26/2019 9:47:00 AM

Lab ID: 1903D07-001

Matrix: AQUEOUS

Received Date: 3/27/2019 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
1,2-Dibromoethane (EDB)	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
Naphthalene	ND	0.40		mg/L	200	3/28/2019 8:49:00 AM
1-Methylnaphthalene	ND	0.80		mg/L	200	3/28/2019 8:49:00 AM
2-Methylnaphthalene	ND	0.80		mg/L	200	3/28/2019 8:49:00 AM
Acetone	ND	2.0		mg/L	200	3/28/2019 8:49:00 AM
Bromobenzene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
Bromodichloromethane	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
Bromoform	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
Bromomethane	ND	0.60		mg/L	200	3/28/2019 8:49:00 AM
2-Butanone	ND	2.0		mg/L	200	3/28/2019 8:49:00 AM
Carbon disulfide	ND	2.0		mg/L	200	3/28/2019 8:49:00 AM
Carbon Tetrachloride	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
Chlorobenzene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
Chloroethane	ND	0.40		mg/L	200	3/28/2019 8:49:00 AM
Chloroform	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
Chloromethane	ND	0.60		mg/L	200	3/28/2019 8:49:00 AM
2-Chlorotoluene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
4-Chlorotoluene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
cis-1,2-DCE	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
cis-1,3-Dichloropropene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
1,2-Dibromo-3-chloropropane	ND	0.40		mg/L	200	3/28/2019 8:49:00 AM
Dibromochloromethane	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
Dibromomethane	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
1,2-Dichlorobenzene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
1,3-Dichlorobenzene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
1,4-Dichlorobenzene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
Dichlorodifluoromethane	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
1,1-Dichloroethane	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
1,1-Dichloroethene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
1,2-Dichloropropane	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
1,3-Dichloropropane	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
2,2-Dichloropropane	ND	0.40		mg/L	200	3/28/2019 8:49:00 AM
1,1-Dichloropropene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
Hexachlorobutadiene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
2-Hexanone	ND	2.0		mg/L	200	3/28/2019 8:49:00 AM
Isopropylbenzene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
4-Isopropyltoluene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
4-Methyl-2-pentanone	ND	2.0		mg/L	200	3/28/2019 8:49:00 AM
Methylene Chloride	ND	0.60		mg/L	200	3/28/2019 8:49:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers: E Value above quantitation range
 ND Not Detected at the Reporting Limit
 RL Reporting Detection Limit
 W Sample container temperature is out of limit as specified at testcode

11 Holding times for preparation or analysis exceeded
 PQL Practical Quantitation Limit
 S % Recovery outside of range due to dilution or matrix

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1903D07

Date Reported: 4/8/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: 3B-1 Non Exempt

Project: 3B-1

Collection Date: 3/26/2019 9:47:00 AM

Lab ID: 1903D07-001

Matrix: AQUEOUS

Received Date: 3/27/2019 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
n-Butylbenzene	ND	0.60		mg/L	200	3/28/2019 8:49:00 AM
n-Propylbenzene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
sec-Butylbenzene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
Styrene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
tert-Butylbenzene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
1,1,1,2-Tetrachloroethane	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
1,1,2,2-Tetrachloroethane	ND	0.40		mg/L	200	3/28/2019 8:49:00 AM
Tetrachloroethene (PCE)	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
trans-1,2-DCE	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
trans-1,3-Dichloropropene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
1,2,3-Trichlorobenzene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
1,2,4-Trichlorobenzene	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
1,1,1-Trichloroethane	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
1,1,2-Trichloroethane	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
Trichloroethene (TCE)	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
Trichlorofluoromethane	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
1,2,3-Trichloropropane	ND	0.40		mg/L	200	3/28/2019 8:49:00 AM
Vinyl chloride	ND	0.20		mg/L	200	3/28/2019 8:49:00 AM
Xylenes, Total	0.37	0.30		mg/L	200	3/28/2019 8:49:00 AM
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	200	3/28/2019 8:49:00 AM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	200	3/28/2019 8:49:00 AM
Surr: Dibromofluoromethane	96.1	70-130		%Rec	200	3/28/2019 8:49:00 AM
Surr: Toluene-d8	98.8	70-130		%Rec	200	3/28/2019 8:49:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	E	Value above quantitation range	II	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit	PQL	Practical Quantitative Limit
	RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
	W	Sample container temperature is out of limit as specified at testcode		



Collected date/time: 03/26/19 09:47

L1083198

Wet Chemistry by Method 4500 CN E 2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Reactive Cyanide	0.0171	B	0.00500	1	04/03/2019 14:10	WG1255190

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
Corrosivity by pH	5.43	T8	1	03/29/2019 17:55	WG1257193

Sample Narrative:

L1083198-01 WG1257193: 5.43 at 19.3C

Wet Chemistry by Method 9034-9030B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Reactive Sulfide	0.0980		0.0500	1	03/28/2019 18:37	WG1257277

Wet Chemistry by Method D93/1010A

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	deg F			date / time	
Flashpoint	DNF at 170		1	04/03/2019 16:26	WG1255970



WG1259190

Wet Chemistry by Method 4500 CN E-2011

QUALITY CONTROL SUMMARY

L1083198-01

ONE LAB. FIATION/IDE.

Method Blank (MB)

(MB) R3398053-1 04/03/19 13:55

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Cyanide	0.00252	2	0.00180	0.00500

L1083202-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1083202-01 04/03/19 14:11 • (DUP) R3398053-5 04/03/19 14:12

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD Limits %
Reactive Cyanide	ND	0.000	1	0.000

Laboratory Control Sample (LCS)

(LCS) R3398053-2 04/03/19 13:56

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Reactive Cyanide	0.100	0.0999	99.9	85.0-115	

L1083191-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1083191-02 04/03/19 14:07 • (MS) R3398053-3 04/03/19 14:08 • (MSD) R3398053-4 04/03/19 14:09

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Reactive Cyanide	0.100	ND	0.0962	0.0921	96.2	1	75.0-125		4.35	20	

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1083198DATE/TIME:
04/04/19 13:00

Tc

Ss

Cn

Si

Qc

GI

Al

Sc

WG1257193

Wet Chemistry by Method 4500H+ B-2011

QUALITY CONTROL SUMMARY

L1083198-01

ONE LAB NATIONWIDE

L1083246-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1083246-01 03/29/19 17:55 • (DUP) R3396726-3 03/29/19 17:55

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Corrosivity by pH	8.10	8.05	1	0.619		1

Sample Narrative:

OS: 8.1 at 19.3C

DUP: 8.05 at 19C

Laboratory Control Sample (LCS)

(LCS) R3396726-1 03/29/19 17:55

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Corrosivity by pH	10.0	9.96	99.6	99.0-101	

Sample Narrative:

LCS: 9.96 at 19.3C

Fe
Ss
Cu
Sr
Qc
Gl
Al
Sc

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1083198

DATE/TIME:
04/04/19 13:00

WG1257277

Wet Chemistry by Method 9034-90308

Method Blank (MB)

QUALITY CONTROL SUMMARY

L1003198-01

ONE LAB. NATIONWIDE



(MB) R3396264-1 03/28/19 18:30

Analyte	MB Result mg/l	MB Qualifier mg/l	MB MDL mg/l	MB RDL mg/l
Reactive Sulfide	U	0.0050	0.0050	0.0500

L1082286-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1082286-04 03/28/19 18:31 • (DUP) R3396264-3 03/28/19 18:31

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier %	DUP RPD Limits %
Reactive Sulfide	ND	0.000	1	0.000		20

L1083255-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1083255-01 03/28/19 18:40 • (DUP) R3396264-6 03/28/19 18:42

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier %	DUP RPD Limits %
Reactive Sulfide	ND	0.0140	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3396264-2 03/28/19 18:30

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Reactive Sulfide	0.500	0.460	92.0	85.0-115	

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1083108DATE/TIME:
04/04/19 13:00

WG1259870

Wet Chemistry by Method D93/1010A

QUALITY CONTROL SUMMARY

ONE LAB NATIONWIDE



L1083191-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1083191-01 04/03/19 16:26 • (DUP) R3398098-2 04/03/19 16:26

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Fluoride	dnf F	dnf F		%		%
Fluoride	DNF at 170	DNF at 170	1	0.000		10

L1083867-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1083867-01 04/03/19 16:26 • (DUP) R3398098-3 04/03/19 16:26

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Fluoride	dnf F	dnf F		%		%
Fluoride	DNF at 170	DNF at 170	1	0.000		10

Laboratory Control Sample (LCS)

(LCS) R3398098-1 04/03/19 16:26

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Fluoride	dnf F	dnf F	%	%	
Fluoride	82.0	82.3	100	96.0-104	

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1083198

DATE/TIME:
04/04/19 13:00





Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
T8	Sample(s) received past/too close to holding time expiration.

ACCOUNT

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1083198

DATE/TIME

04/04/19 13:00

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1903D07

08-Apr-19

Client: Souder, Miller and Associates

Project: 3B-1

Sample ID: MSLCS-43920	SampType: LCS	TestCode: EPA Method 6020: Total Metals								
Client ID: LCSW	Batch ID: 43920	RunNo: 58803								
Prep Date: 3/27/2019	Analysis Date: 4/1/2019	SeqNo: 1975892 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.046	0.0010	0.05000	0	92.4	80	120			
Cadmium	0.053	0.0010	0.05000	0	107	80	120			
Chromium	0.048	0.0010	0.05000	0	96.5	80	120			
Lead	0.048	0.0010	0.05000	0	96.1	80	120			
Selenium	0.046	0.0010	0.05000	0	91.1	80	120			

Sample ID: MSLCSD-43920	SampType: LCSD	TestCode: EPA Method 6020: Total Metals								
Client ID: LCSS02	Batch ID: 43920	RunNo: 58803								
Prep Date: 3/27/2019	Analysis Date: 4/1/2019	SeqNo: 1975893 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.045	0.0010	0.05000	0	90.2	80	120	2.42	20	
Cadmium	0.048	0.0010	0.05000	0	95.1	80	120	11.5	20	
Chromium	0.047	0.0010	0.05000	0	93.6	80	120	3.04	20	
Lead	0.047	0.0010	0.05000	0	94.1	80	120	2.14	20	
Selenium	0.044	0.0010	0.05000	0	88.6	80	120	2.82	20	

Sample ID: MB-43920	SampType: MBLK	TestCode: EPA Method 6020: Total Metals								
Client ID: PBW	Batch ID: 43920	RunNo: 58803								
Prep Date: 3/27/2019	Analysis Date: 4/1/2019	SeqNo: 1975924 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Cadmium	ND	0.0010								
Chromium	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Sample ID: MSLLLCS-43920	SampType: LCSLL	TestCode: EPA Method 6020: Total Metals								
Client ID: BatchQC	Batch ID: 43920	RunNo: 58803								
Prep Date: 3/27/2019	Analysis Date: 4/1/2019	SeqNo: 1975925 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010	0.001000	0	83.2	70	130			
Cadmium	0.0012	0.0010	0.001000	0	117	70	130			
Chromium	0.0011	0.0010	0.001000	0	106	70	130			
Lead	0.0011	0.0010	0.001000	0	109	70	130			
Selenium	ND	0.0010	0.001000	0	81.8	70	130			

Qualifiers:

F Value above quantitation range
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceeded
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1903D07

08-Apr-19

Client: Souder, Miller and Associates

Project: 3B-1

Sample ID: MB-43920	SampType: MBLK	TestCode: EPA Method 6020: Total Metals
Client ID: PBW	Batch ID: 43920	RunNo: 58829
Prep Date: 3/27/2019	Analysis Date: 4/2/2019	SeqNo: 1977683 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Barium	ND	0.0010

Sample ID: MSLLLCS-43920	SampType: LCSLL	TestCode: EPA Method 6020: Total Metals
Client ID: BatchQC	Batch ID: 43920	RunNo: 58829
Prep Date: 3/27/2019	Analysis Date: 4/2/2019	SeqNo: 1977684 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Barium	0.0011	0.0010 0.001000 0 112 70 130

Sample ID: MSLCS-43920	SampType: LCS	TestCode: EPA Method 6020: Total Metals
Client ID: LCSW	Batch ID: 43920	RunNo: 58829
Prep Date: 3/27/2019	Analysis Date: 4/2/2019	SeqNo: 1977685 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Barium	0.048	0.0010 0.05000 0 95.5 80 120

Sample ID: MSLCSD-43920	SampType: LCSD	TestCode: EPA Method 6020: Total Metals
Client ID: LCSS02	Batch ID: 43920	RunNo: 58829
Prep Date: 3/27/2019	Analysis Date: 4/2/2019	SeqNo: 1977686 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Barium	0.049	0.0010 0.05000 0 98.5 80 120 3.06 20

Sample ID: MB-44090	SampType: MBLK	TestCode: EPA Method 6020: Total Metals
Client ID: PBW	Batch ID: 44090	RunNo: 58909
Prep Date: 4/3/2019	Analysis Date: 4/4/2019	SeqNo: 1980443 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Silver	ND	0.0010

Sample ID: MSLLLCS-44090	SampType: LCSLL	TestCode: EPA Method 6020: Total Metals
Client ID: BatchQC	Batch ID: 44090	RunNo: 58909
Prep Date: 4/3/2019	Analysis Date: 4/4/2019	SeqNo: 1980444 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Silver	0.0010	0.0010 0.001000 0 105 70 130

Qualifiers:

E Value above quantitation range
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified at testcode

II Holding times for preparation or analysis exceeded
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1903D07

08-Apr-19

Client: Souder, Miller and Associates

Project: 3B-1

Sample ID: MSLCS-44090	SampType: LCS	TestCode: EPA Method 6020: Total Metals								
Client ID: LCSW	Batch ID: 44090	RunNo: 58909								
Prep Date: 4/3/2019	Analysis Date: 4/4/2019	SeqNo: 1980449 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.047	0.0010	0.05000	0	93.2	80	120			

Qualifiers:

E Value above quantitation range
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceeded
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1903D07

08-Apr-19

Client: Souder, Miller and Associates

Project: 3B-1

Sample ID: 100ng lcs	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: A58697		RunNo: 58697							
Prep Date:	Analysis Date: 3/28/2019		SeqNo: 1971431		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130			
Toluene	22	1.0	20.00	0	109	70	130			
Chlorobenzene	23	1.0	20.00	0	116	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	96.0	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	98.2	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	9.4		10.00		93.9	70	130			
Surr: Toluene-d8	9.8		10.00		98.3	70	130			

Sample ID: rb2	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: A58697		RunNo: 58697							
Prep Date:	Analysis Date: 3/28/2019		SeqNo: 1971444		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

E Value above quantitation range
 ND Not Detected at the Reporting Limit
 RL Reporting Detection Limit
 W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceeded
 PQL Practical Quantitative Limit
 S % Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1903D07

08-Apr-19

Client: Souder, Miller and Associates

Project: 3B-1

Sample ID: rb2	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: A58697	RunNo: 58697								
Prep Date:	Analysis Date: 3/28/2019	SeqNo: 1971444 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

F Value above quantitation range
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceeded
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1903D07

08-Apr-19

Client: Souder, Miller and Associates

Project: 3B-1

Sample ID: rb2	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: A58697	RunNo: 58697								
Prep Date:	Analysis Date: 3/28/2019	SeqNo: 1971444 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.7	70	130			
Surr: Toluene-d8	9.8		10.00		98.3	70	130			

Qualifiers:

E Value above quantitation range
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceeded
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1903D07

08-Apr-19

Client: Souder, Miller and Associates

Project: 3B-1

Sample ID: Ics-43928	SampType: LCS	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSW	Batch ID: 43928	RunNo: 58837								
Prep Date: 3/28/2019	Analysis Date: 4/2/2019	SeqNo: 1977419			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	14	0.50	20.00	0	68.9	29.6	105			
1-Methylnaphthalene	14	1.0	20.00	0	70.9	33.4	112			
2-Methylnaphthalene	14	1.0	20.00	0	67.9	28.6	108			
Acenaphthylene	15	0.50	20.00	0	75.6	35.7	116			
Acenaphthene	15	0.50	20.00	0	76.0	32.4	118			
Fluorene	15	0.50	20.00	0	76.4	35.6	118			
Phenanthrene	15	0.50	20.00	0	77.2	36.3	130			
Anthracene	15	0.50	20.00	0	75.8	34.8	135			
Fluoranthene	15	0.50	20.00	0	77.3	41	136			
Pyrene	16	0.50	20.00	0	79.4	44.8	136			
Benz(a)anthracene	16	0.50	20.00	0	79.9	41.1	136			
Chrysene	15	0.50	20.00	0	75.1	37.9	132			
Benzo(b)fluoranthene	15	0.50	20.00	0	76.0	39	144			
Benzo(k)fluoranthene	15	0.50	20.00	0	74.8	40	144			
Benzo(a)pyrene	14	0.50	20.00	0	71.5	36.8	137			
Dibenz(a,h)anthracene	16	0.50	20.00	0	78.3	31.5	141			
Benzo(g,h,i)perylene	15	0.50	20.00	0	77.3	32.9	138			
Indeno(1,2,3-cd)pyrene	15	0.50	20.00	0	74.1	40.9	143			
Surr: N-hexadecane	65		87.60		74.4	20.4	126			
Surr: Benzo(e)pyrene	14		20.00		71.7	21.4	126			

Sample ID: Icsd-43928	SampType: LCSD	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSS02	Batch ID: 43928	RunNo: 58837								
Prep Date: 3/28/2019	Analysis Date: 4/2/2019	SeqNo: 1977421 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	12	0.50	20.00	0	61.3	29.6	105	11.7	68.7	
1-Methylnaphthalene	13	1.0	20.00	0	66.0	33.4	112	7.16	66	
2-Methylnaphthalene	12	1.0	20.00	0	60.5	28.6	108	11.5	68.7	
Acenaphthylene	14	0.50	20.00	0	69.1	35.7	116	8.98	64.9	
Acenaphthene	14	0.50	20.00	0	70.9	32.4	118	6.94	53.2	
Fluorene	15	0.50	20.00	0	72.9	35.6	118	4.69	62.4	
Phenanthrene	15	0.50	20.00	0	75.3	36.3	130	2.49	62.6	
Anthracene	15	0.50	20.00	0	72.7	34.8	135	4.18	62.4	
Fluoranthene	15	0.50	20.00	0	73.0	41	136	5.72	59.4	
Pyrene	15	0.50	20.00	0	75.1	44.8	136	5.57	55.4	
Benz(a)anthracene	16	0.50	20.00	0	77.6	41.1	136	2.92	56.6	
Chrysene	14	0.50	20.00	0	72.1	37.9	132	4.08	51.9	
Benzo(b)fluoranthene	14	0.50	20.00	0	69.9	39	144	8.36	59.1	

Qualifiers:

E Value above quantitation range
 ND Not Detected at the Reporting Limit
 RL Reporting Detection Limit
 W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceeded
 PQL Practical Quantitative Limit
 S % Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1903D07

08-Apr-19

Client: Souder, Miller and Associates

Project: 3B-1

Sample ID: lcsd-43928	SampType: LCSD	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSS02	Batch ID: 43928	RunNo: 58837								
Prep Date: 3/28/2019	Analysis Date: 4/2/2019	SeqNo: 1977421 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	13	0.50	20.00	0	64.6	40	144	14.6	57	
Benzo(a)pyrene	13	0.50	20.00	0	66.8	36.8	137	6.80	60.2	
Dibenz(a,h)anthracene	15	0.50	20.00	0	73.3	31.5	141	6.60	64.7	
Benzo(g,h,i)perylene	15	0.50	20.00	0	73.3	32.9	138	5.31	61.5	
Indeno(1,2,3-cd)pyrene	14	0.50	20.00	0	69.4	40.9	143	6.55	61.1	
Surr: N-hexadecane	63		87.60		71.6	20.4	126	0	0	
Surr: Benzo(e)pyrene	14		20.00		72.5	21.4	126	0	0	

Sample ID: mb-43928	SampType: MBLK	TestCode: EPA Method 8270C: PAHs								
Client ID: PBW	Batch ID: 43928	RunNo: 58837								
Prep Date: 3/28/2019	Analysis Date: 4/2/2019	SeqNo: 1977424			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	1.0								
2-Methylnaphthalene	ND	1.0								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
Pyrene	ND	0.50								
Benz(a)anthracene	ND	0.50								
Chrysene	ND	0.50								
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	83		87.60		95.2	20.4	126			
Surr: Benzo(e)pyrene	19		20.00		97.2	21.4	126			

Qualifiers:

E Value above quantitation range
 ND Not Detected at the Reporting Limit
 RL Reporting Detection Limit
 W Sample container temperature is out of limit as specified at testcode

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 PQL Practical Quantitative Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1903D07

08-Apr-19

Client: Souder, Miller and Associates

Project: 3B-1

Sample ID: MB-44137	SampType: MBLK	TestCode: EPA Method 7470: Mercury
Client ID: PBW	Batch ID: 44137	RunNo: 58933
Prep Date: 4/4/2019	Analysis Date: 4/5/2019	SeqNo: 1981797 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND	0.00020

Sample ID: LCS-44137	SampType: LCS	TestCode: EPA Method 7470: Mercury
Client ID: LCSW	Batch ID: 44137	RunNo: 58933
Prep Date: 4/4/2019	Analysis Date: 4/5/2019	SeqNo: 1981798 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0043	0.00020 0.005000 0 85.5 80 120

Sample ID: LCSD-44137	SampType: LCSD	TestCode: EPA Method 7470: Mercury
Client ID: LCSS02	Batch ID: 44137	RunNo: 58933
Prep Date: 4/4/2019	Analysis Date: 4/5/2019	SeqNo: 1981844 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0050	0.00020 0.005000 0 99.7 80 120 15.3 20

Qualifiers:

E Value above quantitation range
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H Holding times for preparation or analysis exceeded
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1903D07

RcptNo: 1

Received By: Anne Thorne

3/27/2019 8:15:00 AM

Anne Thorne

Completed By: Anne Thorne

3/27/2019 1:30:05 PM

Anne Thorne

Reviewed By: *Thm 3-27-19*

Labeled by: ENM 3/27/19

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization) Yes ☒ No ☐

of preserved
bottles checked
for pH: *1, 1, 1, 7, 9*
(2 or 12 unless noted)
Adjusted? *NO*

Checked by: *ENM 3/27/19*

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
3	1.0	Good	Yes			

[illegible]

Turn-Around Time: ASPR						
☐ Standard	☒ Rush					
Project Name:						
3B-1						
Project #:						
3B-1 Non Exempt						
Project Manager:						
Ashley Maxwell						
Sampler: RW						
On Ice: ☒ Yes ☐ No						
# of Coolers: 3						
Cooler Temp (including CFI): 1.0° each						
Container Type and #	Preservative Type	HEAL No.				
Various	Various	1903D07				
Received by:		Via:	Date	Time		
[Signature]			3/24/19	1627		
Received by:		Via:	Date	Time		
[Signature]			03/27/19	0815		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

[illegible]

Remarks:	8260 Full List
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• TCLP compound at TCLP

Invoice Enterprise de Tom Long

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Good till 1/8/2019
Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site:

Sandstone Compressor Station

3. Location of Material (Street Address, City, State or ULSTR):

UL I Section 32 Township 31 North Range 8 West; 36.853298, -107.690996

4. Source and Description of Waste:

Source: Water/Oil from the Non Exempt WasteWater Tanks and from the compressor skid drains.

Description: Non Exempt/Non Hazardous Water from the compressor skids.

Estimated Volume 100 yd³ / bbls Known Volume (to be entered by the operator at the end of the haul) _____ yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long *Thomas Long*, representative or authorized agent for Enterprise Products Operating do hereby

Generator Signature

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long *Thomas Long*, representative for Enterprise Products Operating authorize to complete

Generator Signature

the required testing/sign the Generator Waste Testing Certification.

I, _____, representative for Agua Moss, LLC do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: To Be Determined

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: ***Agua Moss, LLC - Permit #: NM-01-009**

Address of Facility: **SW/4 NW/4 Section 2, Township 29N, Range Crouch Mesa, NM**

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ **APPROVED**

☐ **DENIED (Must Be Maintained As Permanent Record)**

PRINT NAME: _____

TITLE: _____

DATE: _____

SIGNATURE: _____

TELEPHONE NO.: _____

Surface Waste Management Facility Authorized Agent



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 08, 2019

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-7535
FAX

RE: Sandstone

OrderNo.: 1812B51

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/20/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1812B51

Date Reported: 1/8/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Sandstone Tank

Project: Sandstone

Collection Date: 12/19/2018 8:04:00 AM

Lab ID: 1812B51-001

Matrix: AQUEOUS

Received Date: 12/20/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6020: TOTAL METALS							Analyst: DBK
Arsenic	ND	0.50		mg/L	5	12/28/2018 4:41:21 PM	42270
Barium	ND	10		mg/L	1	12/27/2018 3:27:03 PM	42270
Cadmium	ND	0.10		mg/L	1	12/27/2018 3:27:03 PM	42270
Chromium	ND	0.50		mg/L	1	12/27/2018 3:27:03 PM	42270
Lead	ND	0.50		mg/L	5	12/27/2018 5:30:00 PM	42270
Selenium	ND	0.10		mg/L	5	12/28/2018 4:41:21 PM	42270
Silver	ND	0.50		mg/L	1	12/27/2018 3:27:03 PM	42270
EPA METHOD 7470: MERCURY							Analyst: pmf
Mercury	ND	0.00020		mg/L	1	12/26/2018 6:38:22 PM	42310
EPA METHOD 8270C: PAHS							Analyst: DAM
Naphthalene	ND	500	D	µg/L	10	1/3/2019 1:41:29 PM	42257
1-Methylnaphthalene	ND	1000	D	µg/L	10	1/3/2019 1:41:29 PM	42257
2-Methylnaphthalene	ND	1000	D	µg/L	10	1/3/2019 1:41:29 PM	42257
Acenaphthylene	ND	500	D	µg/L	10	1/3/2019 1:41:29 PM	42257
Acenaphthene	ND	500	D	µg/L	10	1/3/2019 1:41:29 PM	42257
Fluorene	ND	500	D	µg/L	10	1/3/2019 1:41:29 PM	42257
Phenanthrene	ND	500	D	µg/L	10	1/3/2019 1:41:29 PM	42257
Anthracene	ND	500	D	µg/L	10	1/3/2019 1:41:29 PM	42257
Fluoranthene	ND	500	D	µg/L	10	1/3/2019 1:41:29 PM	42257
Pyrene	ND	500	D	µg/L	10	1/3/2019 1:41:29 PM	42257
Benz(a)anthracene	ND	500	D	µg/L	10	1/3/2019 1:41:29 PM	42257
Chrysene	ND	500	D	µg/L	10	1/3/2019 1:41:29 PM	42257
Benzo(b)fluoranthene	ND	500	D	µg/L	10	1/3/2019 1:41:29 PM	42257
Benzo(k)fluoranthene	ND	500	D	µg/L	10	1/3/2019 1:41:29 PM	42257
Benzo(a)pyrene	ND	500	D	µg/L	10	1/3/2019 1:41:29 PM	42257
Dibenz(a,h)anthracene	ND	500	D	µg/L	10	1/3/2019 1:41:29 PM	42257
Benzo(g,h,i)perylene	ND	500	D	µg/L	10	1/3/2019 1:41:29 PM	42257
Indeno(1,2,3-cd)pyrene	ND	500	D	µg/L	10	1/3/2019 1:41:29 PM	42257
Surr: N-hexadecane	0	35.2-113	SD	%Rec	10	1/3/2019 1:41:29 PM	42257
Surr: Benzo(e)pyrene	0	48.3-123	SD	%Rec	10	1/3/2019 1:41:29 PM	42257
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	0.50		mg/L	200	12/21/2018 3:05:00 AM	W56508
Toluene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
Ethylbenzene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
1,2,4-Trimethylbenzene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
1,3,5-Trimethylbenzene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
1,2-Dichloroethane (EDC)	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1812B51
Date Reported: 1/8/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Sandstone Tank

Project: Sandstone

Collection Date: 12/19/2018 8:04:00 AM

Lab ID: 1812B51-001

Matrix: AQUEOUS

Received Date: 12/20/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,2-Dibromoethane (EDB)	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
Naphthalene	ND	0.40		mg/L	200	12/21/2018 3:05:00 AM	W56508
1-Methylnaphthalene	ND	0.80		mg/L	200	12/21/2018 3:05:00 AM	W56508
2-Methylnaphthalene	ND	0.80		mg/L	200	12/21/2018 3:05:00 AM	W56508
Acetone	ND	2.0		mg/L	200	12/21/2018 3:05:00 AM	W56508
Bromobenzene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
Bromodichloromethane	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
Bromoform	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
Bromomethane	ND	0.60		mg/L	200	12/21/2018 3:05:00 AM	W56508
2-Butanone	ND	2.0		mg/L	200	12/21/2018 3:05:00 AM	W56508
Carbon disulfide	ND	2.0		mg/L	200	12/21/2018 3:05:00 AM	W56508
Carbon Tetrachloride	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
Chlorobenzene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
Chloroethane	ND	0.40		mg/L	200	12/21/2018 3:05:00 AM	W56508
Chloroform	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
Chloromethane	ND	0.60		mg/L	200	12/21/2018 3:05:00 AM	W56508
2-Chlorotoluene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
4-Chlorotoluene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
cis-1,2-DCE	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
cis-1,3-Dichloropropene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
1,2-Dibromo-3-chloropropane	ND	0.40		mg/L	200	12/21/2018 3:05:00 AM	W56508
Dibromochloromethane	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
Dibromomethane	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
1,2-Dichlorobenzene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
1,3-Dichlorobenzene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
1,4-Dichlorobenzene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
Dichlorodifluoromethane	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
1,1-Dichloroethane	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
1,1-Dichloroethene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
1,2-Dichloropropane	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
1,3-Dichloropropane	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
2,2-Dichloropropane	ND	0.40		mg/L	200	12/21/2018 3:05:00 AM	W56508
1,1-Dichloropropene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
Hexachlorobutadiene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
2-Hexanone	ND	2.0		mg/L	200	12/21/2018 3:05:00 AM	W56508
Isopropylbenzene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
4-Isopropyltoluene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
4-Methyl-2-pentanone	ND	2.0		mg/L	200	12/21/2018 3:05:00 AM	W56508
Methylene Chloride	ND	0.60		mg/L	200	12/21/2018 3:05:00 AM	W56508

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	F Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1812B51

Date Reported: 1/8/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Sandstone Tank

Project: Sandstone

Collection Date: 12/19/2018 8:04:00 AM

Lab ID: 1812B51-001

Matrix: AQUEOUS

Received Date: 12/20/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
n-Butylbenzene	ND	0.60		mg/L	200	12/21/2018 3:05:00 AM	W56508
n-Propylbenzene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
sec-Butylbenzene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
Styrene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
tert-Butylbenzene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
1,1,1,2-Tetrachloroethane	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
1,1,2,2-Tetrachloroethane	ND	0.40		mg/L	200	12/21/2018 3:05:00 AM	W56508
Tetrachloroethene (PCE)	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
trans-1,2-DCE	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
trans-1,3-Dichloropropene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
1,2,3-Trichlorobenzene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
1,2,4-Trichlorobenzene	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
1,1,1-Trichloroethane	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
1,1,2-Trichloroethane	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
Trichloroethene (TCE)	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
Trichlorofluoromethane	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
1,2,3-Trichloropropane	ND	0.40		mg/L	200	12/21/2018 3:05:00 AM	W56508
Vinyl chloride	ND	0.20		mg/L	200	12/21/2018 3:05:00 AM	W56508
Xylenes, Total	ND	0.30		mg/L	200	12/21/2018 3:05:00 AM	W56508
Surr: 1,2-Dichloroethane-d4	96.3	70-130		%Rec	200	12/21/2018 3:05:00 AM	W56508
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	200	12/21/2018 3:05:00 AM	W56508
Surr: Dibromofluoromethane	94.7	70-130		%Rec	200	12/21/2018 3:05:00 AM	W56508
Surr: Toluene-d8	101	70-130		%Rec	200	12/21/2018 3:05:00 AM	W56508

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

1812B51-001D SANDSTONE

Collected date/time: 12/19/18 08:04

SAMPLE RESULTS - 01

L1055465

ONE LAB. NATIONWIDE



Wet Chemistry by Method 4500 CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Cyanide	0.00921		0.00500	1	12/27/2018 10:52	WG1215794

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Corrosivity by pH	6.31	T8		1	12/22/2018 10:41	WG1214982

Sample Narrative:

L1055465-01 WG1214982 6.31 at 9.6C

Wet Chemistry by Method 9034-9030B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Sulfide	ND		0.0500	1	12/26/2018 18:04	WG1215807

Wet Chemistry by Method D93/1010A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Flashpoint	DNF at 170			1	12/26/2018 14:16	WG1215279

Cp

Tc

Ss

Cn

S-

Qc

Gl

Al

Sc

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1055465

DATE/TIME

12/27/18 14:02

WG1215794

Wet Chemistry by Method 4500 CN E-2011

QUALITY CONTROL SUMMARY

ONE LAB, NATIONWIDE

L1055465.01

Method Blank (MB)

(MB) R3371498-1 12/27/18 10:00

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Cyanide	U		0.00160	0.00500

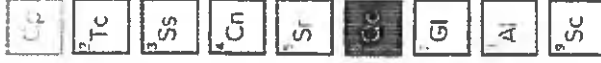
Sample Narrative:

BLANK: HIGH ALT FAILED, ONLY REPORTING SAMPLES <0.1 (WHICH IS THE TV OF THE LCS 2ND SOURCE AND PASSED)

Laboratory Control Sample (LCS)

(LCS) R3371498-2 12/27/18 10:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Reactive Cyanide	0.100	0.101	101	85.0-115	

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1055465DATE/TIME:
12/27/18 14:02

WG1214982

Wet Chemistry by Method 4500H+ B-2011

QUALITY CONTROL SUMMARY

L1055465-01

ONE LAB. NATIONWIDE.

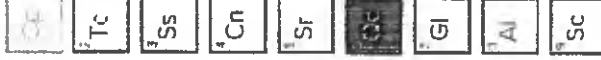
Laboratory Control Sample (LCS)

(LCS) R3370618-1 12/22/18 10:41

Analyte	Spike Amount	LCS Result	LCS Rec	Rec. Limits	LCS Qualifier
Corrosivity by pH	5.0	9.99	%	%	
	10.0	9.99	99.9	99.0-101	

Sample Narrative:

LCS, 9.99 at 17.3C



ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT

SOG
L1055465

DATE/TIME
12/27/18 14:02

WG1215807

Wet Chemistry by Method 9034-9030B

QUALITY CONTROL SUMMARY

13055465-01

ONE LAB. NATIONWIDE

Method Blank (MB)

(MB) R3371374-1 12/26/18 17:10	
MB Result	MB RDL
mg/l	mg/l
U	0.0500
Analyte	
Reactive Sulfide	

Laboratory Control Sample (LCS)

(LCS) R3371374-2 12/26/18 17:10			
	Spiked Amount	LCS Result	LCS Rec.
	mg/l	mg/l	%
	0.500	0.442	88.4
Analyte			
Reactive Sulfide			85.0-115



ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SOG:
L1053485

DATE/TIME:
12/27/18 14:02

WG1215279

Wet Chemistry by Method D93/1010A

QUALITY CONTROL SUMMARY

ONE LAB. NATIONWIDE.

L1055465-01

L1055245-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1055245-01 12/26/18 14:16 • (DUP) R3371291-2 12/26/18 14:16

Analyte	Original Result	DUP Result	DUP RPD	DUP Qualifier	DUP RPD Limits
Flashpoint	deg F DMF at 170	deg F DMF at 170	% 0.000		% 10

L1055757-01 Original Sample (OS) • Duplicate (DUP)

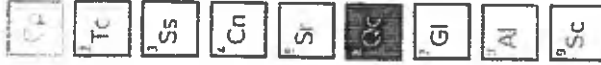
(OS) L1055757-01 12/26/18 14:16 • (DUP) R3371291-3 12/26/18 14:16

Analyte	Original Result	DUP Result	DUP RPD	DUP Qualifier	DUP RPD Limits
Flashpoint	deg F DMF at 170	deg F DMF at 170	% 0.000		% 10

Laboratory Control Sample (LCS)

(LCS) R3371291-1 12/26/18 14:16

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Flashpoint	deg F 82.0	deg F 83.3	% 102	% 95.0-104	

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1055465DATE/TIME:
12/27/18 14:02

GLOSSARY OF TERMS

ONE LAB NATIONWIDE



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

T8	Sample(s) received past/too close to holding time expiration.
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Co

Tc

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Qc

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Al

Sc

ACCOUNT:

Hill Environmental Analysis Laboratory

PROJECT:

SDG:

L1055465

DATE/TIME:

12/27/18 14:02

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812B51

08-Jan-19

Client: Souder, Miller and Associates

Project: Sandstone

Sample ID	MB-42270	SampType:	MBLK	TestCode:	EPA Method 6020: Total Metals					
Client ID:	PBW	Batch ID:	42270	RunNo:	56633					
Prep Date:	12/21/2018	Analysis Date:	12/27/2018	SeqNo:	1894698	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0010								
Cadmium	ND	0.0010								
Chromium	ND	0.0010								
Lead	ND	0.0010								
Silver	ND	0.0010								

Sample ID	LLLCS-42270	SampType:	LCSLL	TestCode:	EPA Method 6020: Total Metals					
Client ID:	BatchQC	Batch ID:	42270	RunNo:	56633					
Prep Date:	12/21/2018	Analysis Date:	12/27/2018	SeqNo:	1894699	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0010	0.001000	0	95.4	70	130			
Cadmium	ND	0.0010	0.001000	0	95.5	70	130			
Chromium	0.0011	0.0010	0.001000	0	105	70	130			
Lead	0.0010	0.0010	0.001000	0	105	70	130			
Silver	ND	0.0010	0.001000	0	94.6	70	130			

Sample ID	LCS-42270	SampType: LCS		TestCode: EPA Method 6020: Total Metals						
Client ID:	LCSW	Batch ID: 42270		RunNo: 56633						
Prep Date:	12/21/2018	Analysis Date: 12/27/2018		SeqNo: 1894700		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.049	0.0010	0.05000	0	98.3	80	120			
Cadmium	0.047	0.0010	0.05000	0	94.5	80	120			
Chromium	0.048	0.0010	0.05000	0	96.3	80	120			
Lead	0.048	0.0010	0.05000	0	95.5	80	120			
Silver	0.047	0.0010	0.05000	0	94.2	80	120			

Sample ID	LCS-42270	SampType:	LCS	TestCode:	EPA Method 6020: Total Metals					
Client ID:	LCSW	Batch ID:	42270	RunNo:	56670					
Prep Date:	12/21/2018	Analysis Date:	12/28/2018	SeqNo:	1896445	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.049	0.0010	0.05000	0	98.7	80	120			
Selenium	0.048	0.0010	0.05000	0	97.0	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812B51

08-Jan-19

Client: Souder, Miller and Associates

Project: Sandstone

Sample ID	MB-42270	SampType	MBLK	TestCode	EPA Method 6020: Total Metals					
Client ID	PBW	Batch ID	42270	RunNo	56670					
Prep Date	12/21/2018	Analysis Date	12/28/2018	SeqNo	1896476	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	LLCS-42270	SampType	LCSLL	TestCode	EPA Method 6020: Total Metals					
Client ID	BatchQC	Batch ID	42270	RunNo	56670					
Prep Date	12/21/2018	Analysis Date	12/28/2018	SeqNo	1896478	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010	0.001000	0	95.8	70	130			
Selenium	0.0011	0.0010	0.001000	0	110	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812B51

08-Jan-19

Client: Souder, Miller and Associates

Project: Sandstone

Sample ID: 100ng lcs2	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: W56508	RunNo: 56508								
Prep Date:	Analysis Date: 12/20/2018	SeqNo: 1889981 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.1	70	130			
Toluene	20	1.0	20.00	0	99.1	70	130			
Chlorobenzene	20	1.0	20.00	0	100	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	98.5	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	93.4	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.7	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID: rb2	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: W56508	RunNo: 56508								
Prep Date:	Analysis Date: 12/20/2018	SeqNo: 1889982 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812B51

08-Jan-19

Client: Souder, Miller and Associates

Project: Sandstone

Sample ID: rb2	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: W56508		RunNo: 56508							
Prep Date:	Analysis Date: 12/20/2018		SeqNo: 1889982		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812B51

08-Jan-19

Client: Souder, Miller and Associates

Project: Sandstone

Sample ID: rb2	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: W56508			RunNo: 56508						
Prep Date:	Analysis Date: 12/20/2018			SeqNo: 1889982		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.8	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.3		10.00		92.6	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812B51

08-Jan-19

Client: Souder, Miller and Associates

Project: Sandstone

Sample ID	ics-42257	SampType: LCS		TestCode: EPA Method 8270C: PAHs						
Client ID:	LCSW	Batch ID: 42257		RunNo: 56737						
Prep Date:	12/21/2018	Analysis Date: 1/3/2019		SeqNo: 1898945			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	15	0.50	20.00	0	74.6	29.6	105			
1-Methylnaphthalene	15	1.0	20.00	0	76.2	33.4	112			
2-Methylnaphthalene	15	1.0	20.00	0	74.7	28.6	108			
Acenaphthylene	15	0.50	20.00	0	75.0	35.7	116			
Acenaphthene	15	0.50	20.00	0	72.6	32.4	118			
Fluorene	14	0.50	20.00	0	72.4	35.6	118			
Phenanthrene	17	0.50	20.00	0	85.0	36.3	130			
Anthracene	17	0.50	20.00	0	85.5	34.8	135			
Fluoranthene	17	0.50	20.00	0	86.6	41	136			
Pyrene	17	0.50	20.00	0	85.1	44.8	136			
Benz(a)anthracene	17	0.50	20.00	0	85.9	41.1	136			
Chrysene	14	0.50	20.00	0	68.7	37.9	132			
Benzo(b)fluoranthene	16	0.50	20.00	0	78.1	39	144			
Benzo(k)fluoranthene	15	0.50	20.00	0	76.4	40	144			
Benzo(a)pyrene	15	0.50	20.00	0	72.8	36.8	137			
Dibenz(a,h)anthracene	15	0.50	20.00	0	72.9	31.5	141			
Benzo(g,h,i)perylene	16	0.50	20.00	0	79.7	32.9	138			
Indeno(1,2,3-cd)pyrene	16	0.50	20.00	0	79.6	40.9	143			
Surr: N-hexadecane	66		87.60		75.5	35.2	113			
Surr: Benzo(e)pyrene	16		20.00		79.6	48.3	123			

Sample ID	ics-42293	SampType: LCS		TestCode: EPA Method 8270C: PAHs						
Client ID:	LCSW	Batch ID: 42293		RunNo: 56737						
Prep Date:	12/26/2018	Analysis Date: 1/3/2019		SeqNo: 1898946			Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: N-hexadecane	66		87.60		75.5	35.2	113			
Surr: Benzo(e)pyrene	16		20.00		78.5	48.3	123			

Sample ID	icsd-42257	SampType: LCSD			TestCode: EPA Method 8270C: PAHs					
Client ID:	LCSS02	Batch ID: 42257			RunNo: 56737					
Prep Date:	12/21/2018	Analysis Date: 1/3/2019			SeqNo: 1898947		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	13	0.50	20.00	0	64.6	29.6	105	14.4	68.7	
1-Methylnaphthalene	13	1.0	20.00	0	65.0	33.4	112	15.9	66	
2-Methylnaphthalene	12	1.0	20.00	0	61.9	28.6	108	18.7	68.7	
Acenaphthylene	12	0.50	20.00	0	62.0	35.7	116	19.0	64.9	
Acenaphthene	12	0.50	20.00	0	59.0	32.4	118	20.7	53.2	
Fluorene	12	0.50	20.00	0	61.3	35.6	118	16.6	62.4	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RI Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812B51

08-Jan-19

Client: Souder, Miller and Associates

Project: Sandstone

Sample ID	icsd-42257	SampType: LCSD		TestCode: EPA Method 8270C: PAHs						
Client ID:	LCSS02	Batch ID: 42257		RunNo: 56737						
Prep Date:	12/21/2018	Analysis Date: 1/3/2019		SeqNo: 1898947		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phenanthrene	14	0.50	20.00	0	72.0	36.3	130	16.6	62.6	
Anthracene	14	0.50	20.00	0	70.3	34.8	135	19.5	62.4	
Fluoranthene	15	0.50	20.00	0	73.0	41	136	17.0	59.4	
Pyrene	14	0.50	20.00	0	68.8	44.8	136	21.2	55.4	
Benz(a)anthracene	14	0.50	20.00	0	68.3	41.1	136	22.8	56.6	
Chrysene	11	0.50	20.00	0	56.8	37.9	132	19.0	51.9	
Benzo(b)fluoranthene	14	0.50	20.00	0	67.6	39	144	14.4	59.1	
Benzo(k)fluoranthene	14	0.50	20.00	0	68.1	40	144	11.5	57	
Benzo(a)pyrene	13	0.50	20.00	0	65.5	36.8	137	10.6	60.2	
Dibenz(a,h)anthracene	12	0.50	20.00	0	61.7	31.5	141	16.6	64.7	
Benzo(g,h,i)perylene	14	0.50	20.00	0	71.9	32.9	138	10.3	61.5	
indeno(1,2,3-cd)pyrene	14	0.50	20.00	0	72.4	40.9	143	9.47	61.1	
Surr: N-hexadecane	51		87.60		57.7	35.2	113	0	0	
Surr: Benzo(e)pyrene	13		20.00		65.9	48.3	123	0	0	

Sample ID	icsd-42293	SampType:	LCSD	TestCode:	EPA Method 8270C: PAHs					
Client ID:	LCSS02	Batch ID:	42293	RunNo:	56737					
Prep Date:	12/26/2018	Analysis Date:	1/3/2019	SeqNo:	1898948	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: N-hexadecane	62		87.60		70.8	35.2	113	0	0	
Surr: Benzo(e)pyrene	16		20.00		80.9	48.3	123	0	0	

Sample ID	mb-42257	SampType:	MBLK	TestCode:	EPA Method 8270C: PAHs					
Client ID:	PBW	Batch ID:	42257	RunNo:	56737					
Prep Date:	12/21/2018	Analysis Date:	1/3/2019	SeqNo:	1898949	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	1.0								
2-Methylnaphthalene	ND	1.0								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
Pyrene	ND	0.50								
Benz(a)anthracene	ND	0.50								
Chrysene	ND	0.50								

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812B51

08-Jan-19

Client: Souder, Miller and Associates

Project: Sandstone

Sample ID	mb-42257	SampType: MBLK		TestCode: EPA Method 8270C: PAHs						
Client ID:	PBW	Batch ID: 42257		RunNo: 56737						
Prep Date:	12/21/2018	Analysis Date: 1/3/2019		SeqNo: 1898949			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	47		87.60		53.2	35.2	113			
Surr: Benzo(e)pyrene	10		20.00		52.3	48.3	123			

Sample ID	mb-42293	SampType:	MBLK	TestCode:	EPA Method 8270C: PAHs					
Client ID:	PBW	Batch ID:	42293	RunNo:	56737					
Prep Date:	12/26/2018	Analysis Date:	1/3/2019	SeqNo:	1898950	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: N-hexadecane	64		87.60		73.0	35.2	113			
Surr: Benzo(e)pyrene	15		20.00		72.8	48.3	123			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812B51

08-Jan-19

Client: Souder, Miller and Associates

Project: Sandstone

Sample ID	MB-42310	SampType	MBLK	TestCode	EPA Method 7470: Mercury					
Client ID	PBW	Batch ID	42310	RunNo	56609					
Prep Date	12/26/2018	Analysis Date	12/26/2018	SeqNo	1893944	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-42310	SampType	LCS	TestCode	EPA Method 7470: Mercury					
Client ID	LCSW	Batch ID	42310	RunNo	56609					
Prep Date	12/26/2018	Analysis Date	12/26/2018	SeqNo	1893945	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0054	0.00020	0.005000	0	108	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1812B51

RcptNo: 1

Received By: Anne Thorne 12/20/2018 8:00:00 AM

Completed By: Anne Thorne 12/20/2018 9:23:23 AM

Reviewed By: JAB 12/20/18
Labeled by: DAD 12/10/18

Anne Thorne

Anne Thorne

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐

2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐

4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐

5. Sample(s) in proper container(s)? Yes ☒ No ☐

6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐

7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐

8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐

9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐

10. Were any sample containers received broken? Yes ☐ No ☒

11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐

12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐

13. Is it clear what analyses were requested? Yes ☒ No ☐

14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: DAD 12/20/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:	_____		
Client Instructions:	_____		

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.4	Good	Yes			
5	1.0	Good	Yes			

Turn-Around Time: 17 day Turn
no charge
Project Name: ~~Standard~~ Rush Per-Andy

☒ Standard ☐ Rush

sandstone

Project #:

1

Project Manager:

3

☐ Level 4 (Full Validation)

1

☐ Other

Example Temper

Sample Request ID

Files	Sandstone Tank
-------	----------------

Various	Various
---------	---------

102

Container Type and #	Preservative Type
-------------------------	----------------------

卷一百一十五

1

1

1

1

Date	Time
------	------

170

Date 1/10 Time 11:00

1/2/2012

8	Full list
---	-----------

TCAP compound at TCAP limits
8200 full test

Invoice Enterprise CC Team 1000

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

[illegible]Remarks: ∞ ; Full list

TCP compound at TCP limits

Invoice Enterprise cc Tom Lora

4/12/ 2019

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site:

MAPL Dolores Pumping Station

3. Location of Material (Street Address, City, State or ULSTR):

SE ¼ Section 31 Township 37 North Range 15 West; 38.7416799, -108.433635

4. Source and Description of Waste:

Source: Water/Oil from the Non Exempt WasteWater Tanks and from the compressor skid drains.

Description: Non Exempt/Non Hazardous Water from the compressor skids.

Estimated Volume 80 yd³ bbls Known Volume (to be entered by the operator at the end of the haul) _____ yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long *Thomas Long*, representative or authorized agent for Enterprise Products Operating do hereby

Generator Signature

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long *Thomas Long*, representative for Enterprise Products Operating authorize Agua Moss, LLC to complete the required testing/sign the Generator Waste Testing Certification.

I, _____, representative for Agua Moss, LLC do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: To Be Determined

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: ***Agua Moss, LLC - Permit #: NM-01-009**

Address of Facility: **SW/4 NW/4 Section 2, Township 29N, Range Crouch Mesa, NM**

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: _____

TITLE: _____

DATE: _____

SIGNATURE: _____

TELEPHONE NO.: _____

Surface Waste Management Facility Authorized Agent



Analytical Report

Report Summary

Client: Enterprise Products

Chain Of Custody Number:

Samples Received: 4/12/2018 4:30:00PM

Job Number: 97057-0904

Work Order: P804028

Project Name/Location: Water Sampling @
Dolores Plant

Report Reviewed By:

Date: 4/24/18

Walter Hinchman, Laboratory Director

Date: 4/24/18

Tim Cain, Project Manager



Envirotech Inc. certifies the test results meet all requirements of TNI unless footnoted otherwise.
Statement of Data Authenticity: Envirotech, Inc. attests the data reported has not been altered in any way.
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Envirotech, Inc. currently holds the appropriate and available Utah TNI certification NM009792018-1 for the data reported.





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Analytical Laboratory

Enterprise Products
614 Reilly Ave
Farmington NM, 87401

Project Name: Water Sampling @ Dolores Plant
Project Number: 97057-0904
Project Manager: Felipe Aragon

Reported:
24-Apr-18 10:00

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Dolores Station	P804028-01A	Aqueous	04/12/18	04/12/18	Amber, 1L
	P804028-01B	Aqueous	04/12/18	04/12/18	Amber, 1L
	P804028-01C	Aqueous	04/12/18	04/12/18	VOA Vial, 40mL
	P804028-01D	Aqueous	04/12/18	04/12/18	VOA Vial, 40mL
	P804028-01E	Aqueous	04/12/18	04/12/18	VOA Vial, 40mL
	P804028-01F	Aqueous	04/12/18	04/12/18	VOA Vial, 40mL, HCl
	P804028-01G	Aqueous	04/12/18	04/12/18	VOA Vial, 40mL, HCl
	P804028-01H	Aqueous	04/12/18	04/12/18	VOA Vial, 40mL, HCl
	P804028-01I	Aqueous	04/12/18	04/12/18	Poly 250mL

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Ph: (505) 632-0615 Fax: (505) 632-1865
Ph: (970) 259-0615 Fax: (800) 362-1879



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Analytical Laboratory

Enterprise Products
614 Reilly Ave
Farmington NM, 87401

Project Name: Water Sampling @ Dolores Plant
Project Number: 97057-0904
Project Manager: Felipe Aragon

Reported:
24-Apr-18 10:00

Dolores Station P804028-01 (Water)

Reporting

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TCLP Volatile Organic Compounds by 8260									
Vinyl chloride	ND	0.0100	mg/L	10	1816018	04/19/18	04/19/18	EPA 8260B	
1,1-Dichloroethene	ND	0.0100	mg/L	10	1816018	04/19/18	04/19/18	EPA 8260B	
2-Butanone (MEK)	ND	0.200	mg/L	10	1816018	04/19/18	04/19/18	EPA 8260B	
Chloroform	ND	0.100	mg/L	10	1816018	04/19/18	04/19/18	EPA 8260B	
Carbon Tetrachloride	ND	0.0100	mg/L	10	1816018	04/19/18	04/19/18	EPA 8260B	
Benzene	ND	0.0100	mg/L	10	1816018	04/19/18	04/19/18	EPA 8260B	
1,2-Dichloroethane	ND	0.0100	mg/L	10	1816018	04/19/18	04/19/18	EPA 8260B	
Trichloroethene	ND	0.0100	mg/L	10	1816018	04/19/18	04/19/18	EPA 8260B	
Tetrachloroethene	ND	0.0100	mg/L	10	1816018	04/19/18	04/19/18	EPA 8260B	
Chlorobenzene	ND	0.0100	mg/L	10	1816018	04/19/18	04/19/18	EPA 8260B	
1,4-Dichlorobenzene	ND	0.0100	mg/L	10	1816018	04/19/18	04/19/18	EPA 8260B	
Surrogate 1 2-Dichloroethane-d4		94.8 %		70-130	1816018	04/19/18	04/19/18	EPA 8260B	
Surrogate Toluene-d8		103 %		70-130	1816018	04/19/18	04/19/18	EPA 8260B	
Surrogate Bromofluorobenzene		108 %		70-130	1816018	04/19/18	04/19/18	EPA 8260B	
TCLP Metals									
Arsenic	ND	0.20	mg/L	10	1816001	04/17/18	04/19/18	EPA 6010C	
Barium	ND	2.50	mg/L	10	1816001	04/17/18	04/19/18	EPA 6010C	
Cadmium	ND	0.10	mg/L	10	1816001	04/17/18	04/19/18	EPA 6010C	
Chromium	ND	0.20	mg/L	10	1816001	04/17/18	04/19/18	EPA 6010C	
Lead	ND	0.10	mg/L	10	1816001	04/17/18	04/19/18	EPA 6010C	
Selenium	ND	0.50	mg/L	10	1816001	04/17/18	04/19/18	EPA 6010C	
Silver	ND	0.10	mg/L	10	1816001	04/17/18	04/19/18	EPA 6010C	
Corrosivity									
pH @25°C	7.45		pH Units	1	1816009	04/17/18 09:05	04/17/18 11:38	9045D/9040	111

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Ph: 970-259-0615 Tr: 800-362-1879



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Analytical Laboratory

Enterprise Products	Project Name:	Water Sampling @ Dolores Plant	Reported:
614 Reilly Ave	Project Number:	97057-0904	24-Apr-18 10:00
Farmington NM, 87401	Project Manager:	Felipe Aragon	

Dolores Station P804028-01 (Water)

Reporting

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Waste Characteristic									
Flash Point	>95		°C	1	1816021	04/19/18	04/19/18	ASTM D93-10a	FP2
Reactivity	Negative		N/A	1	1816024	04/19/18	04/19/18	NA**	
TCLP Mercury by EPA 7470A									
Mercury	ND	0.00020	mg/L	1	1816013	04/18/18	04/19/18	EPA 7470A	

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Ph: 970-259-0615 Fax: 800-362-1879



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Analytical Laboratory

Enterprise Products
614 Reilly Ave
Farmington NM, 87401

Project Name: Water Sampling @ Dolores Plant
Project Number: 97057-0904
Project Manager: Felipe Aragon

Reported:
24-Apr-18 10:00

TCLP Volatile Organic Compounds by 8260 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 1816018 - Purge and Trap EPA 5030A

Blank (1816018-BLK1)

Prepared & Analyzed 19-Apr-18

Vinyl chloride	ND	0.0010	mg/L							
1,1-Dichloroethene	ND	0.0010	"							
2-Butanone (MEK)	ND	0.0200	"							
Chloroform	ND	0.0100	"							
Carbon Tetrachloride	ND	0.0010	"							
Benzene	ND	0.0010	"							
1,2-Dichloroethane	ND	0.0010	"							
Trichloroethene	ND	0.0010	"							
Tetrachloroethene	ND	0.0010	"							
Chlorobenzene	ND	0.0010	"							
1,4-Dichlorobenzene	ND	0.0010	"							
Surrogate: 1,2-Dichloroethane-d4	0.00980		"	0.0100		98.0	70-130			
Surrogate: Toluene-d8	0.0101		"	0.0100		101	70-130			
Surrogate: Bromofluorobenzene	0.0111		"	0.0100		111	70-130			

LCS (1816018-BS1)

Prepared & Analyzed 19-Apr-18

Vinyl chloride	0.0484	0.0010	mg/L	0.0500		96.8	80-120			
1,1-Dichloroethene	0.0471	0.0010	"	0.0500		94.2	80-120			
2-Butanone (MEK)	0.0930	0.0200	"	0.100		93.0	45-165			
Chloroform	0.0499	0.0100	"	0.0500		99.9	80-120			
Carbon Tetrachloride	0.0497	0.0010	"	0.0500		99.4	70-130			
Benzene	0.0519	0.0010	"	0.0500		104	70-130			
1,2-Dichloroethane	0.0487	0.0010	"	0.0500		97.4	70-130			
Trichloroethene	0.0535	0.0010	"	0.0500		107	70-130			
Tetrachloroethene	0.0501	0.0010	"	0.0500		100	70-130			
Chlorobenzene	0.0473	0.0010	"	0.0500		94.7	70-130			
1,4-Dichlorobenzene	0.0479	0.0010	"	0.0500		95.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.00952		"	0.0100		95.2	70-130			
Surrogate: Toluene-d8	0.0104		"	0.0100		104	70-130			
Surrogate: Bromofluorobenzene	0.0106		"	0.0100		106	70-130			

Matrix Spike (1816018-MS1)

Source: P804028-01

Prepared & Analyzed 19-Apr-18

Vinyl chloride	0.476	0.0100	mg/L	0.500	ND	95.3	44-143			
1,1-Dichloroethene	0.479	0.0100	"	0.500	ND	95.9	49-144			
2-Butanone (MEK)	0.993	0.200	"	1.00	ND	99.3	40-170			
Chloroform	0.504	0.100	"	0.500	ND	101	66-133			
Carbon Tetrachloride	0.505	0.0100	"	0.500	ND	101	61-139			
Benzene	0.526	0.0100	"	0.500	ND	105	59-133			
1,2-Dichloroethane	0.489	0.0100	"	0.500	ND	97.9	62-138			
Trichloroethene	0.480	0.0100	"	0.500	ND	96.1	49-148			
Tetrachloroethene	0.498	0.0100	"	0.500	ND	99.7	57-141			

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Ph: (505) 632-0615 Fx: (505) 632-1865

Ph: (970) 259-0615 Fx: (800) 362-1879

Enterprise Products
614 Rcilly Ave
Farmington NM 87401

Project Name: Water Sampling @ Dolores Plant
Project Number: 97057-0904
Project Manager: Felipe Aragon

Reported:
24-Apr-18 10:00

TCLP Volatile Organic Compounds by 8260 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 1816018 - Purge and Trap EPA 5030A

Matrix Spike (1816018-MS1)

Source: P804028-01

Prepared & Analyzed: 19-Apr-18

Chlorobenzene	0.470	0.0100	mg/L	0.500	ND	94.1	70-130			
1,4-Dichlorobenzene	0.484	0.0100	"	0.500	ND	96.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0951		"	0.100		95.1	70-130			
Surrogate: Toluene-d8	0.103		"	0.100		103	70-130			
Surrogate: Bromofluorobenzene	0.109		"	0.100		109	70-130			

Matrix Spike Dup (1816018-MSD1)

Source: P804028-01

Prepared & Analyzed: 19-Apr-18

Vinyl chloride	0.464	0.0100	mg/L	0.500	ND	92.9	44-143	2.57	30	
1,1-Dichloroethene	0.459	0.0100	"	0.500	ND	91.9	49-144	4.24	20	
2-Butanone (MEK)	0.957	0.200	"	1.00	ND	95.8	40-170	3.61	30	
Chloroform	0.487	0.100	"	0.500	ND	97.3	66-133	3.45	20	
Carbon Tetrachloride	0.494	0.0100	"	0.500	ND	98.9	61-139	2.14	20	
Benzene	0.513	0.0100	"	0.500	ND	103	59-133	2.58	20	
1,2-Dichloroethane	0.478	0.0100	"	0.500	ND	95.6	62-138	2.38	20	
Trichloroethene	0.472	0.0100	"	0.500	ND	94.4	49-148	1.85	20	
Tetrachloroethene	0.483	0.0100	"	0.500	ND	96.6	57-141	3.08	20	
Chlorobenzene	0.462	0.0100	"	0.500	ND	92.3	70-130	1.91	20	
1,4-Dichlorobenzene	0.470	0.0100	"	0.500	ND	94.0	70-130	2.96	20	
Surrogate: 1,2-Dichloroethane-d4	0.0960		"	0.100		96.0	70-130			
Surrogate: Toluene-d8	0.103		"	0.100		103	70-130			
Surrogate: Bromofluorobenzene	0.109		"	0.100		109	70-130			

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Ph: (970) 259-0615 Fax: (800) 362-1879

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Analytical Laboratory

Enterprise Products
614 Reilly Ave
Farmington NM, 87401

Project Name: Water Sampling @ Dolores Plant
Project Number: 97057-0904
Project Manager: Felipe Aragon

Reported:
24-Apr-18 10:00

TCLP Metals - Quality Control Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 1816001 - Metals Water Hotblock Digestion EPA 3010A/200.2

Blank (1816001-BLK1)

Prepared 16-Apr-18 Analyzed 17-Apr-18

Arsenic	ND	0.02	mg/L
Barium	ND	0.25	"
Cadmium	ND	0.01	"
Chromium	ND	0.02	"
Lead	ND	0.01	"
Selenium	ND	0.05	"
Silver	ND	0.01	"

LCS (1816001-BST)

Prepared 16-Apr-18 Analyzed 17-Apr-18

Arsenic	0.91	0.02	mg/L	1.00		90.8	80-120
Barium	20.5	0.25	"	25.0		82.0	80-120
Cadmium	0.91	0.01	"	1.00		91.3	80-120
Chromium	0.96	0.02	"	1.00		96.3	80-120
Lead	0.91	0.01	"	1.00		90.8	80-120
Selenium	0.89	0.05	"	1.00		89.1	80-120
Silver	0.09	0.01	"	0.100		91.3	80-120

Matrix Spike (1816001-MS1)

Source: P804025-01

Prepared 16-Apr-18 Analyzed 17-Apr-18

Arsenic	9.65	0.20	mg/L	10.0	ND	96.5	75-125
Barium	216	2.50	"	250	ND	86.6	75-125
Cadmium	9.54	0.10	"	10.0	ND	95.4	75-125
Chromium	9.93	0.20	"	10.0	ND	99.3	75-125
Lead	9.36	0.10	"	10.0	ND	93.6	75-125
Selenium	9.12	0.50	"	10.0	ND	91.2	75-125
Silver	0.95	0.10	"	1.00	ND	95.0	75-125

Matrix Spike Dup (1816001-MSD1)

Source: P804025-01

Prepared 16-Apr-18 Analyzed 17-Apr-18

Arsenic	10.0	0.20	mg/L	10.0	ND	100	75-125	3.80	20
Barium	222	2.50	"	250	ND	88.8	75-125	2.51	20
Cadmium	9.87	0.10	"	10.0	ND	98.7	75-125	3.37	20
Chromium	10.2	0.20	"	10.0	ND	102	75-125	3.05	20
Lead	9.60	0.10	"	10.0	ND	96.0	75-125	2.44	20
Selenium	9.71	0.50	"	10.0	ND	97.1	75-125	1.33	20
Silver	0.97	0.10	"	1.00	ND	97.2	75-125	2.29	20

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envirotech

Analytical Laboratory

Enterprise Products
614 Reilly Ave
Farmington NM, 87401

Project Name: Water Sampling @ Dolores Plant
Project Number: 97057-0904
Project Manager: Felipe Aragon

Reported:
24-Apr-18 10:00

Corrosivity - Quality Control Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD Limit	Notes
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Batch 1816009 - Wet Chemistry Preparation

LCS (1816009-BS1)

Prepared & Analyzed 17-Apr-18

pH	7.99	pH Units	8.00	99.9	98.75-101.25
----	------	----------	------	------	--------------

Duplicate (1816009-DUP1)

Source: P804023-01

Prepared & Analyzed 17-Apr-18

pH	7.70	pH Units	7.66	0.521	20
----	------	----------	------	-------	----

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5796 US Highway 64, Farmington, NM 87401

Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph: (505) 612-0615 Fx: (505) 632-1665

Ph: (970) 259-0615 Fx: (800) 362-1879





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Analytical Laboratory

Enterprise Products	Project Name:	Water Sampling @ Dolores Plant	Reported:
614 Reilly Ave	Project Number:	97057-0904	24-Apr-18 10:00
Farmington NM, 87401	Project Manager:	Felipe Aragon	

Waste Characteristic - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 1816021 - Wet Chemistry Preparation

LCS (1816021-BS1)				Prepared & Analyzed: 19-Apr-18						
Flash Point	88		°C	86.0		103	95-105			
Duplicate (1816021-DUP1)				Source: P804028-01 Prepared & Analyzed: 19-Apr-18						
Flash Point	0		°C			95			20	

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Enterprise Products 614 Reilly Ave Farmington NM, 87401	Project Name: Water Sampling @ Dolores Plant Project Number: 97057-0904 Project Manager: Felipe Aragon	Reported: 24-Apr-18 10:00
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TCLP Mercury by EPA 7470A - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1816013 - Mercury Water Digestion KMNO4										
Blank (1816013-BLK1)				Prepared 18-Apr-18 Analyzed 19-Apr-18						
Mercury	ND	0.00020	mg/L							
LCS (1816013-BS1)				Prepared 18-Apr-18 Analyzed 19-Apr-18						
Mercury	0.00210	0.00020	mg/L	0.00200		105	80-120			
Matrix Spike (1816013-MS1)				Prepared 18-Apr-18 Analyzed 19-Apr-18						
Mercury	0.00194	0.00020	mg/L	0.00200	0.00020	86.9	75-125			
Matrix Spike Dup (1816013-MSD1)				Prepared 18-Apr-18 Analyzed 19-Apr-18						
Mercury	0.00188	0.00020	mg/L	0.00200	0.00020	83.9	75-125	3.17	20	

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Analytical Laboratory

Enterprise Products
614 Reilly Ave
Farmington NM, 87401

Project Name: Water Sampling @ Dolores Plant
Project Number: 97057-0904
Project Manager: Felipe Aragon

Reported:
24-Apr-18 10:00

Notes and Definitions

H1 Sample was received after regulatory hold-time exceeded for target analyte
FP2 Halted - Boiled at 90 deg C
DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
RPD Relative Percent Difference
** Methods marked with ** are non-accredited methods.

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Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

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Ph: (970) 259-0615 Fx: (800) 362-1879



Chain of Custody

Project Information

[illegible]



ANALYTICAL REPORT

April 23, 2018



EnviroTech- NM

Sample Delivery Group: L985875
Samples Received: 04/14/2018
Project Number: 97057-0904
Description: Water Sampling Delores Plant
Site: P804028
Report To: Tim Cain and Lynn Estes
5796 US Highway 64
Farmington, NM 87401

Entire Report Reviewed By:

Daphne Richards
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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⁴ Cn

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⁷ Gl

⁹ Sc

SAMPLE SUMMARY



DELORES STATION L985875-01 Waste

Collected by
B. Hall

Collected date/time
04/12/18 14:26

Received date/time
04/14/18 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Preparation by Method 1311	WG1098807	1	04/16/18 12:05	04/16/18 12:05	RT
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1099359	1	04/18/18 23:14	04/19/18 21:38	AO

³ Ss

⁴ Cn

⁷ GI

⁸ Sc

CASE NARRATIVE



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

³ Ss

⁴ Cn

Daphne Richards
Technical Service Representative

⁷ Gl

³ Sc

DELORES STATION

Collected date/time: 04/12/18 14:26

SAMPLE RESULTS - 01

L985875



Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		4/16/2018 12:05:20 PM	WG1098807
Fluid	1		4/16/2018 12:05:20 PM	WG1098807
Initial pH	6.50		4/16/2018 12:05:20 PM	WG1098807
Final pH	5.04		4/16/2018 12:05:20 PM	WG1098807

Analyte	Result mg/l	Qualifier	RDL mg/l	Limit mg/l	Dilution	Analysis date / time	Batch
1,4-Dichlorobenzene	ND		0.100	7.50	1	04/19/2018 21:38	
2,4-Dinitrotoluene	ND		0.100	0.13	1	04/19/2018 21:38	
Hexachlorobenzene	ND		0.100	0.13	1	04/19/2018 21:38	
Hexachloro-1,3-butadiene	ND		0.100	0.50	1	04/19/2018 21:38	
Hexachloroethane	ND		0.100	3	1	04/19/2018 21:38	
Nitrobenzene	ND		0.100	2	1	04/19/2018 21:38	
Pyridine	ND		0.100	5	1	04/19/2018 21:38	
3,4-Methyl Phenol	ND		0.100	400	1	04/19/2018 21:38	
2-Methylphenol	ND		0.100	200	1	04/19/2018 21:38	
Pentachlorophenol	ND		0.100	100	1	04/19/2018 21:38	
2,4,5-Trichlorophenol	ND		0.100	400	1	04/19/2018 21:38	
2,4,6-Trichlorophenol	ND		0.100	2	1	04/19/2018 21:38	
(S) 2-Fluorophenol	48.6		10.0-120	120		04/19/2018 21:38	
(S) Phenol-d5	36.2		10.0-120	120		04/19/2018 21:38	
(S) Nitrobenzene-d5	60.5		10.0-126	126		04/19/2018 21:38	
(S) 2-Fluorobiphenyl	61.0		22.0-127	127		04/19/2018 21:38	
(S) 2,4,6-Tribromophenol	67.3		10.0-153	153		04/19/2018 21:38	
(S) p-Terphenyl-d14	86.7		29.0-141	141		04/19/2018 21:38	

3 Ss

4 Cn

7 GI

8 Sc

QUALITY CONTROL SUMMARY

(MB) R3303266-1 04/19/18 16:17

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1,4-Dichlorobenzene	U		0.0333	0.100
2,4-Dinitrotoluene	U		0.0333	0.100
Hexachlorobenzene	U		0.0333	0.100
Hexachloro-1,3-butadiene	U		0.0333	0.100
Hexachloroethane	U		0.0333	0.100
Nitrobenzene	U		0.0333	0.100
Pyridine	U		0.0333	0.100
2-Methylphenol	U		0.0333	0.100
3,4-Methyl Phenol	U		0.0333	0.100
Pentachlorophenol	U		0.0333	0.100
2,4,5-Trichlorophenol	U		0.0333	0.100
2,4,6-Trichlorophenol	U		0.0333	0.100
(S) Nitrobenzene-d5	56.8			10.0-126
(S) 2-Fluorobiphenyl	58.1			22.0-127
(S) p-Terphenyl-d14	75.0			29.0-141
(S) Phenol-d5	37.8			10.0-120
(S) 2-Fluorophenol	51.5			10.0-120
(S) 2,4,6-Tribromophenol	65.1			10.0-153

(LCS) R3303266-2 04/19/18 15:04 • (LCSd) R3303266-3 04/19/18 15:28

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
1,4-Dichlorobenzene	0.0500	0.0305	0.0317	61.0	63.3	26.0-120			3.77	30
2,4-Dinitrotoluene	0.0500	0.0418	0.0417	83.6	83.3	47.0-127			0.293	21
Hexachlorobenzene	0.0500	0.0370	0.0396	74.0	79.1	41.0-124			6.62	21
Hexachloro-1,3-butadiene	0.0500	0.0287	0.0292	57.4	58.4	25.0-120			1.66	31
Hexachloroethane	0.0500	0.0315	0.0325	63.0	64.9	22.0-120			3.02	34
Nitrobenzene	0.0500	0.0318	0.0321	63.6	64.2	31.0-120			0.863	28
Pyridine	0.0500	0.0134	0.0138	26.8	27.5	10.0-120			2.58	39
2-Methylphenol	0.0500	0.0324	0.0339	64.9	67.9	26.0-120			4.47	27
3,4-Methyl Phenol	0.0500	0.0363	0.0387	72.6	77.4	27.0-120			6.32	28
Pentachlorophenol	0.0500	0.0357	0.0374	71.4	74.7	20.0-126			4.55	32
2,4,5-Trichlorophenol	0.0500	0.0400	0.0413	80.0	82.7	44.0-124			3.24	24
2,4,6-Trichlorophenol	0.0500	0.0398	0.0390	79.6	78.1	40.0-122			2.02	24
(S) Nitrobenzene-d5				63.4	65.7	10.0-126				
(S) 2-Fluorobiphenyl				72.8	73.0	22.0-127				
(S) p-Terphenyl-d14				82.7	83.0	29.0-141				

ACCOUNT:
EnviroTech- NMPROJECT:
97057-0904SDG:
L965875DATE/TIME:
04/23/18 17:01

QUALITY CONTROL SUMMARY



(LCS) R3303266-2 04/19/18 15:04 • (LCS) R3303266-3 04/19/18 15:28

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	LCSD Result mg/l	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits %
(S) Phenol-d5			41.8		42.9	10.0-120				
(S) 2-Fluorophenol			58.6		58.7	10.0-120				
(S) 2,4,6-Tribromophenol			77.5		84.1	10.0-153				

Ss

Cn

(OS) L985050-02 04/19/18 17:32 • (MS) R3303266-4 04/19/18 17:56 • (MSD) R3303266-5 04/19/18 18:21

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD	RPD Limits %
1,4-Dichlorobenzene	0.500	ND	0.270	0.258	54.0	51.6	1	12.0-125			4.56	23
2,4-Dinitrotoluene	0.500	ND	0.424	0.362	84.9	72.3	1	30.0-156			16.0	29
Hexachlorobenzene	0.500	ND	0.385	0.325	77.0	65.0	1	29.0-144			16.9	33
Hexachloro-1,3-butadiene	0.500	ND	0.267	0.238	53.4	47.7	1	18.0-122			11.3	35
Hexachloroethane	0.500	ND	0.271	0.258	54.1	51.7	1	12.0-120			4.56	36
Nitrobenzene	0.500	ND	0.292	0.261	58.4	52.1	1	14.0-134			11.3	32
Pyridine	0.500	ND	0.134	0.123	26.8	24.7	1	10.0-120			8.15	40
2-Methylphenol	0.500	ND	0.301	0.273	60.2	54.6	1	14.0-120			9.86	29
3&4-Methyl Phenol	0.500	ND	0.345	0.315	69.0	62.9	1	13.0-124			9.14	26
Pentachlorophenol	0.500	ND	0.399	0.325	79.8	65.0	1	10.0-160			20.4	40
2,4,5-Trichlorophenol	0.500	ND	0.408	0.357	81.6	71.5	1	15.0-160			13.2	27
2,4,6-Trichlorophenol	0.500	ND	0.397	0.338	79.4	67.6	1	10.0-153			16.0	29
(S) Nitrobenzene-d5					57.7	52.2		10.0-126				
(S) 2-Fluorobiphenyl					65.4	58.9		22.0-127				
(S) p-Terphenyl-d14					83.6	72.9		29.0-141				
(S) Phenol-d5					40.3	36.9		10.0-120				
(S) 2-Fluorophenol					51.8	49.9		10.0-120				
(S) 2,4,6-Tribromophenol					82.9	67.0		10.0-153				

Gl

Sc

GLOSSARY OF TERMS



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.	
ND	Not detected at the Reporting Limit (or MDL where applicable).	³ Ss
RDL	Reported Detection Limit.	
Rec.	Recovery	
RPD	Relative Percent Difference.	⁴ Cn
SDG	Sample Delivery Group.	
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.	
U	Not detected at the Reporting Limit (or MDL where applicable).	
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.	
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.	⁷ Gl
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.	
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.	⁹ Sc
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.	
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.	
Case Narrative (Cn)	A brief discussion about the Included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.	
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.	
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.	
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.	
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.	
Qualifier	Description	

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

ACCREDITATIONS & LOCATIONS



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia ¹	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
Iowa	364
Kansas	E-10277
Kentucky ¹	90010
Kentucky ²	16
Louisiana	AI30792
Louisiana ¹	LA180010
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086

Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey—NELAP	TN002
New Mexico ¹	n/a
New York	11742
North Carolina	Env375
North Carolina ¹	DW21704
North Carolina ³	41
North Dakota	R-140
Ohio—VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LA000356
South Carolina	84004
South Dakota	n/a
Tennessee ¹	2006
Texas	T 104704245-17-14
Texas ⁶	LAB0152
Utah	TN00003
Vermont	VT2006
Virginia	460132
Washington	C847
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

A2LA — ISO 17025	1461.01
A2LA — ISO 17025 ⁶	1461.02
Canada	1461.01
EPA—Crypto	TN00003

AIHA-LAP, LLC EMLAP	100789
DOD	1461.01
USDA	P330-15-00234

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.

ESC LAB SCIENCES Cooler Receipt Form

Object	SDM	825
Container	Temperature	
Received by: Emily Kelly		
Signature		
Receipt Check List		
CCC Seal Present / Intact?	NP	Yes No
CCC Signed / Accurate?		
Bottle, arrive intact?		
Correct bottles used?		
Sufficient volume sent?		
If Applicable		
VOW / error / hold / note		
Preservation Correct / Checked?		

July 24, 2019 - July 24,

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

~~Enterprise Field Services, LLC~~, 614 Reilly Ave, Farmington NM 87401

2. Originating Site:

~~Enter Compressor Station~~

3. Location of Material (Street Address, City, State or ULSTR):

UL A Section 19 Township 30 North Range 10 West; 36.803020, -107.921590, San Juan County, NM

4. Source and Description of Waste:

Source: Water/Oil from the Non Exempt WasteWater Tanks and from the compressor skid drains.

Description: Non Exempt/Non Hazardous Water from the compressor skids.

Estimated Volume 80 yd³ bbls Known Volume (to be entered by the operator at the end of the haul) _____ yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long *Thomas Long*, representative or authorized agent for Enterprise Products Operating do hereby

Generator Signature

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long *Thomas Long*, representative for Enterprise Products Operating authorize to complete

Generator Signature

the required testing/sign the Generator Waste Testing Certification.

I, _____, representative for Agua Moss, LLC do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: To Be Determined

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: *Agua Moss, LLC - Permit #: NM-01-009

Address of Facility: SW/4 NW/4 Section 2, Township 29N, Range Crouch Mesa, NM

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: _____

TITLE: _____

DATE: _____

SIGNATURE: _____

TELEPHONE NO.: _____

Surface Waste Management Facility Authorized Agent

Crouch Mesa

12/5/17

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site:

Potter Compressor Station

3. Location of Material (Street Address, City, State or ULSTR):

UL A Section 19 Township 30 North Range 10 West; 36.803020, -107.921590, San Juan County, NM

4. Source and Description of Waste:

Source: Water/Oil from the Non Exempt WasteWater Tanks and from the compressor skid drains.

Description: Non Exempt/Non-Hazardous Water from the compressor skids.

Estimated Volume 80 yd³ bbls Known Volume (to be entered by the operator at the end of the haul) _____ yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long *Thomas Long*, representative or authorized agent for Enterprise Products Operating do hereby

Generator Signature

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long *Thomas Long*, representative for Enterprise Products Operating authorize to complete

Generator Signature

the required testing/sign the Generator Waste Testing Certification.

I, _____, representative for Agua Moss, LLC do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: To Be Determined

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: *Agua Moss, LLC - Permit #: NM-01-009

Address of Facility: SW/4 NW/4 Section 2, Township 29N, Range Crouch Mesa, NM

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: _____

TITLE: _____

DATE: _____

SIGNATURE: _____

TELEPHONE NO.: _____

Surface Waste Management Facility Authorized Agent



*Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com*

July 24, 2019

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-5667
FAX (505) 327-1496

RE: Potter

OrderNo.: 1907887

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 7/18/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907887

Date Reported: 7/24/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Potter Non Exempt

Project: Potter

Collection Date: 7/17/2019 2:18:00 PM

Lab ID: 1907887-001

Matrix: AQUEOUS

Received Date: 7/18/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 7470: MERCURY							Analyst: rde
Mercury	ND	0.020		mg/L	1	7/22/2019 3:28:43 PM	46307
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: ELS
Arsenic	ND	5.0		mg/L	1	7/19/2019 9:28:42 AM	46264
Barium	ND	100		mg/L	1	7/19/2019 9:28:42 AM	46264
Cadmium	ND	1.0		mg/L	1	7/19/2019 9:28:42 AM	46264
Chromium	ND	5.0		mg/L	1	7/19/2019 9:28:42 AM	46264
Lead	ND	5.0		mg/L	1	7/19/2019 9:28:42 AM	46264
Selenium	ND	1.0		mg/L	1	7/19/2019 9:28:42 AM	46264
Silver	ND	5.0		mg/L	1	7/19/2019 9:28:42 AM	46264
EPA METHOD 8270C: PAHS							Analyst: DAM
Naphthalene	ND	50	D	µg/L	10	7/23/2019 1:54:08 PM	46261
1-Methylnaphthalene	ND	100	D	µg/L	10	7/23/2019 1:54:08 PM	46261
2-Methylnaphthalene	ND	100	D	µg/L	10	7/23/2019 1:54:08 PM	46261
Acenaphthylene	ND	50	D	µg/L	10	7/23/2019 1:54:08 PM	46261
Acenaphthene	ND	50	D	µg/L	10	7/23/2019 1:54:08 PM	46261
Fluorene	ND	50	D	µg/L	10	7/23/2019 1:54:08 PM	46261
Phenanthrene	ND	50	D	µg/L	10	7/23/2019 1:54:08 PM	46261
Anthracene	ND	50	D	µg/L	10	7/23/2019 1:54:08 PM	46261
Fluoranthene	ND	50	D	µg/L	10	7/23/2019 1:54:08 PM	46261
Pyrene	ND	50	D	µg/L	10	7/23/2019 1:54:08 PM	46261
Benz(a)anthracene	ND	50	D	µg/L	10	7/23/2019 1:54:08 PM	46261
Chrysene	ND	50	D	µg/L	10	7/23/2019 1:54:08 PM	46261
Benzo(b)fluoranthene	ND	50	D	µg/L	10	7/23/2019 1:54:08 PM	46261
Benzo(k)fluoranthene	ND	50	D	µg/L	10	7/23/2019 1:54:08 PM	46261
Benzo(a)pyrene	ND	50	D	µg/L	10	7/23/2019 1:54:08 PM	46261
Dibenz(a,h)anthracene	ND	50	D	µg/L	10	7/23/2019 1:54:08 PM	46261
Benzo(g,h,i)perylene	ND	50	D	µg/L	10	7/23/2019 1:54:08 PM	46261
Indeno(1,2,3-cd)pyrene	ND	50	D	µg/L	10	7/23/2019 1:54:08 PM	46261
Surr: N-hexadecane	0	20.4-126	SD	%Rec	10	7/23/2019 1:54:08 PM	46261
Surr: Benzo(e)pyrene	0	21.4-126	SD	%Rec	10	7/23/2019 1:54:08 PM	46261
EPA METHOD 8260B: VOLATILES							Analyst: JMR
Benzene	ND	0.50		mg/L	200	7/18/2019 10:21:35 PM	R61505
Toluene	0.35	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
Ethylbenzene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
1,2,4-Trimethylbenzene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
1,3,5-Trimethylbenzene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
1,2-Dichloroethane (EDC)	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907887

Date Reported: 7/24/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Potter Non Exempt

Project: Potter

Collection Date: 7/17/2019 2:18:00 PM

Lab ID: 1907887-001

Matrix: AQUEOUS

Received Date: 7/18/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: JMR
1,2-Dibromoethane (EDB)	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
Naphthalene	ND	0.40		mg/L	200	7/18/2019 10:21:35 PM	R61505
1-Methylnaphthalene	ND	0.80		mg/L	200	7/18/2019 10:21:35 PM	R61505
2-Methylnaphthalene	ND	0.80		mg/L	200	7/18/2019 10:21:35 PM	R61505
Acetone	ND	2.0		mg/L	200	7/18/2019 10:21:35 PM	R61505
Bromobenzene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
Bromodichloromethane	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
Bromoform	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
Bromomethane	ND	0.60		mg/L	200	7/18/2019 10:21:35 PM	R61505
2-Butanone	ND	2.0		mg/L	200	7/18/2019 10:21:35 PM	R61505
Carbon disulfide	ND	2.0		mg/L	200	7/18/2019 10:21:35 PM	R61505
Carbon Tetrachloride	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
Chlorobenzene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
Chloroethane	ND	0.40		mg/L	200	7/18/2019 10:21:35 PM	R61505
Chloroform	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
Chloromethane	ND	0.60		mg/L	200	7/18/2019 10:21:35 PM	R61505
2-Chlorotoluene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
4-Chlorotoluene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
cis-1,2-DCE	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
cis-1,3-Dichloropropene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
1,2-Dibromo-3-chloropropane	ND	0.40		mg/L	200	7/18/2019 10:21:35 PM	R61505
Dibromochloromethane	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
Dibromomethane	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
1,2-Dichlorobenzene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
1,3-Dichlorobenzene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
1,4-Dichlorobenzene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
Dichlorodifluoromethane	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
1,1-Dichloroethane	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
1,1-Dichloroethene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
1,2-Dichloropropane	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
1,3-Dichloropropane	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
2,2-Dichloropropane	ND	0.40		mg/L	200	7/18/2019 10:21:35 PM	R61505
1,1-Dichloropropene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
Hexachlorobutadiene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
2-Hexanone	ND	2.0		mg/L	200	7/18/2019 10:21:35 PM	R61505
Isopropylbenzene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
4-Isopropyltoluene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
4-Methyl-2-pentanone	ND	2.0		mg/L	200	7/18/2019 10:21:35 PM	R61505
Methylene Chloride	ND	0.60		mg/L	200	7/18/2019 10:21:35 PM	R61505

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level - D Sample Diluted Due to Matrix - H Holding times for preparation or analysis exceeded - ND Not Detected at the Reporting Limit - PQL Practical Quantitative Limit - S % Recovery outside of range due to dilution or matrix	- B Analyte detected in the associated Method Blank - E Value above quantitation range - J Analyte detected below quantitation limits - P Sample pH Not In Range - RL Reporting Limit
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Hall Environmental Analysis Laboratory, Inc.**Analytical Report**

Lab Order 1907887

Date Reported: 7/24/2019

CLIENT: Souder, Miller and Associates**Client Sample ID:** Potter Non Exempt**Project:** Potter**Collection Date:** 7/17/2019 2:18:00 PM**Lab ID:** 1907887-001**Matrix:** AQUEOUS**Received Date:** 7/18/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: JMR
n-Butylbenzene	ND	0.60		mg/L	200	7/18/2019 10:21:35 PM	R61505
n-Propylbenzene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
sec-Butylbenzene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
Styrene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
tert-Butylbenzene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
1,1,1,2-Tetrachloroethane	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
1,1,2,2-Tetrachloroethane	ND	0.40		mg/L	200	7/18/2019 10:21:35 PM	R61505
Tetrachloroethene (PCE)	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
trans-1,2-DCE	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
trans-1,3-Dichloropropene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
1,2,3-Trichlorobenzene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
1,2,4-Trichlorobenzene	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
1,1,1-Trichloroethane	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
1,1,2-Trichloroethane	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
Trichloroethene (TCE)	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
Trichlorofluoromethane	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
1,2,3-Trichloropropane	ND	0.40		mg/L	200	7/18/2019 10:21:35 PM	R61505
Vinyl chloride	ND	0.20		mg/L	200	7/18/2019 10:21:35 PM	R61505
Xylenes, Total	ND	0.30		mg/L	200	7/18/2019 10:21:35 PM	R61505
Surr: 1,2-Dichloroethane-d4	87.0	70-130		%Rec	200	7/18/2019 10:21:35 PM	R61505
Surr: 4-Bromofluorobenzene	97.9	70-130		%Rec	200	7/18/2019 10:21:35 PM	R61505
Surr: Dibromofluoromethane	87.1	70-130		%Rec	200	7/18/2019 10:21:35 PM	R61505
Surr: Toluene-d8	95.9	70-130		%Rec	200	7/18/2019 10:21:35 PM	R61505

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

1907887-001D POTTER NON EXEMPT

Collected date/time: 07/17/19 14:18

SAMPLE RESULTS - 01

L1120302

ONE LAB. NATIONWIDE



Wet Chemistry by Method 4500 CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Reactive Cyanide	ND		0.00500	1	07/24/2019 13:20	WG1315896

Wet Chemistry by Method 9034-9030B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Reactive Sulfide	0.138		0.0500	1	07/23/2019 15:16	WG1315897

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
Corrosivity by pH	5.84	T6	1	07/23/2019 19:44	WG1315812

Sample Narrative:

L1120302-G1 WG1315812: 5.84 at 20.5C

Wet Chemistry by Method D93/I010A

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	deg F			date / time	
Flashpoint	DNF at 170		1	07/20/2019 12:59	WG1315661

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1120302DATE/TIME:
07/24/19 15:10

WG1315696

Wet Chemistry by Method 4500 CN E-2011

Method Blank (MB)

QUALITY CONTROL SUMMARY

L1120302-01

ONE LAB NATIONWIDE

(MB) R3433767-1 07/24/19 13:08

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Cyanide	U		0.00180	0.00500

L1118546-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1118546-02 07/24/19 13:14 • (DUP) R3433767-3 07/24/19 13:15

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Reactive Cyanide	ND	0.000	1	0.000		20

L1119234-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1119234-01 07/24/19 13:33 • (DUP) R3433767-6 07/24/19 13:34

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Reactive Cyanide	U	0.000	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3433767-2 07/24/19 13:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Reactive Cyanide	0.100	0.105	105	85.0-115	

L1118965-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1118965-03 07/24/19 13:23 • (MS) R3433767-4 07/24/19 13:24 • (MSD) R3433767-5 07/24/19 13:25

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Reactive Cyanide	0.100	U	0.0870	0.0839	87.0	83.9	1	75.0-125		3.63	20	

L1119234-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1119234-03 07/24/19 13:35 • (MS) R3433767-7 07/24/19 13:36 • (MSD) R3433767-8 07/24/19 13:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Reactive Cyanide	0.100	0.00243	0.0586	0.0570	56.2	54.6	1	75.0-125	4.15	4.6	2.77	20

ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1120302DATE/TIME:
07/24/19 15:10

WG1315857

Wet Chemistry by Method 9034-9030B

Method Blank (MB)

(MB) R3433383-1 07/23/19 15:15

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Sulfide	U		0.00650	0.0500

Laboratory Control Sample (LCS)

(LCS) R3433383-2 07/23/19 15:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Reactive Sulfide	0.500	0.500	100	85-115	



QUALITY CONTROL SUMMARY

L1120302-01

ONE LAB NATIONWIDE

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1120302

DATE/TIME:
07/24/19 15:10

WG1315812

Wet Chemistry by Method 9040C

QUALITY CONTROL SUMMARY

L1120302-01

ONE LAB NATIONWIDE



Laboratory Control Sample (LCS)

(LCS) R3433476-1 07/23/19 19.44

Analyte	Spike Amount SU	LCS Result SU	LCS Rec. %	Rec. Limits %	LCS Qualifier
Conductivity by pH	10.0	9.96	99.6	99.0-101	

Sample Narrative:

LCS: 9.96 at 21.2C



ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1120302

DATE/TIME:
07/24/19 15:10

WG1314661

Wet Chemistry by Method D93/1010A

QUALITY CONTROL SUMMARY

L1120302-01

ONE LAB NATIONWIDE

L1119472-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1119472-01 07/20/19 12:59 • (DUP) R3432575-2 07/20/19 12:59

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Flashpoint	deg F DNF at 170	deg F DNF at 170	1	% 0.000		% 10

L1120532-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1120532-01 07/20/19 12:59 • (DUP) R3432575-3 07/20/19 12:59

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Flashpoint	deg F DNF at 170	deg F DNF at 170	1	% 0.000		% 10

Laboratory Control Sample (LCS)

(LCS) R3432575-1 07/20/19 12:59

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Flashpoint	deg F 82.0	deg F 82.7	% 101	% 96.0-104	



ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1120302

DATE/TIME:
07/24/19 15:10

GLOSSARY OF TERMS

ONE LAB NATIONWIDE



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J6	The sample matrix interfered with the ability to make any accurate determination, spike value is low.
T8	Sample(s) received past/too close to holding time expiration.

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907887

24-Jul-19

Client: Souder, Miller and Associates

Project: Potter

Sample ID: 100ng lcs	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: R61505		RunNo: 61505							
Prep Date:	Analysis Date: 7/18/2019		SeqNo: 2084816		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	16	1.0	20.00	0	80.4	70	130			
Toluene	17	1.0	20.00	0	84.1	70	130			
Chlorobenzene	17	1.0	20.00	0	86.4	70	130			
1,1-Dichloroethene	16	1.0	20.00	0	78.3	70	130			
Trichloroethene (TCE)	15	1.0	20.00	0	77.0	70	130			
Surr: 1,2-Dichloroethane-d4	8.9		10.00		89.3	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.9	70	130			
Surr: Dibromofluoromethane	8.9		10.00		89.1	70	130			
Surr: Toluene-d8	9.3		10.00		92.8	70	130			

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R61505	RunNo: 61505								
Prep Date:	Analysis Date: 7/18/2019	SeqNo: 2084818			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907887

24-Jul-19

Client: Souder, Miller and Associates

Project: Potter

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R61505	RunNo: 61505								
Prep Date:	Analysis Date: 7/18/2019	SeqNo: 2084818			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907887

24-Jul-19

Client: Souder, Miller and Associates

Project: Potter

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R81605	RunNo: 61605								
Prep Date:	Analysis Date: 7/18/2019	SeqNo: 2084818	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.9		10.00		88.5	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.4	70	130			
Surr: Dibromofluoromethane	8.6		10.00		86.1	70	130			
Surr: Toluene-d8	9.8		10.00		97.7	70	130			

Qualifiers:

- | | | | |
|-----|---|----|---|
| • | Value exceeds Maximum Contaminant Level | B | Analyte detected in the associated Method Blank |
| D | Sample Diluted Due to Matrix | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits |
| ND | Not Detected at the Reporting Limit | P | Sample pH Not In Range |
| PQL | Practical Quantitative Limit | RL | Reporting Limit |
| S | % Recovery outside of range due to dilution or matrix | | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907887

24-Jul-19

Client: Souder, Miller and Associates

Project: Potter

Sample ID: lcs-46261	SampType: LCS	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSW	Batch ID: 46261	RunNo: 61603								
Prep Date: 7/18/2019	Analysis Date: 7/23/2019	SeqNo: 2087952 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	18	0.50	20.00	0	90.3	29.6	105			
1-Methylnaphthalene	16	1.0	20.00	0	78.6	33.4	112			
2-Methylnaphthalene	16	1.0	20.00	0	81.2	28.6	108			
Acenaphthylene	18	0.50	20.00	0	89.0	35.7	116			
Acenaphthene	16	0.50	20.00	0	79.5	32.4	118			
Fluorene	17	0.50	20.00	0	85.7	35.6	118			
Phenanthrene	18	0.50	20.00	0	88.2	36.3	130			
Anthracene	17	0.50	20.00	0	86.6	34.8	135			
Fluoranthene	17	0.50	20.00	0	86.2	41	136			
Pyrene	18	0.50	20.00	0	89.5	44.8	136			
Benz(a)anthracene	16	0.50	20.00	0	82.1	41.1	136			
Chrysene	14	0.50	20.00	0	70.3	37.9	132			
Benzo(b)fluoranthene	17	0.50	20.00	0	82.8	39	144			
Benzo(k)fluoranthene	18	0.50	20.00	0	88.6	40	144			
Benzo(a)pyrene	16	0.50	20.00	0	80.7	36.8	137			
Dibenz(a,h)anthracene	16	0.50	20.00	0	78.2	31.5	141			
Benzo(g,h,i)perylene	16	0.50	20.00	0	81.2	32.9	138			
Indeno(1,2,3-cd)pyrene	16	0.50	20.00	0	79.7	40.9	143			
Surr: N-hexadecane	61		87.60		69.4	20.4	126			
Surr: Benzo(e)pyrene	15		20.00		74.5	21.4	126			

Sample ID: lcsd-46261	SampType: LCSD		TestCode: EPA Method 8270C: PAHs							
Client ID: LCSS02	Batch ID: 46261		RunNo: 61603							
Prep Date: 7/18/2019	Analysis Date: 7/23/2019		SeqNo: 2087953		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	18	0.50	20.00	0	89.1	29.6	105	1.34	68.7	
1-Methylnaphthalene	17	1.0	20.00	0	83.4	33.4	112	5.93	66	
2-Methylnaphthalene	17	1.0	20.00	0	83.3	28.6	108	2.55	68.7	
Acenaphthylene	20	0.50	20.00	0	101	35.7	116	12.1	64.9	
Acenaphthene	17	0.50	20.00	0	87.0	32.4	118	9.01	53.2	
Fluorene	18	0.50	20.00	0	91.5	35.6	118	6.55	62.4	
Phenanthrene	17	0.50	20.00	0	83.9	36.3	130	5.00	62.6	
Anthracene	16	0.50	20.00	0	81.2	34.8	135	6.44	62.4	
Fluoranthene	16	0.50	20.00	0	81.7	41	136	5.36	59.4	
Pyrene	16	0.50	20.00	0	82.4	44.8	136	8.26	55.4	
Benz(a)anthracene	16	0.50	20.00	0	77.5	41.1	136	5.76	56.6	
Chrysene	13	0.50	20.00	0	65.8	37.9	132	6.61	51.9	
Benzo(b)fluoranthene	17	0.50	20.00	0	85.3	39	144	2.97	59.1	

Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907887

24-Jul-19

Client: Souder, Miller and Associates

Project: Potter

Sample ID: lcsd-46261	SampType: LCSD			TestCode: EPA Method 8270C: PAHs						
Client ID: LCSS02	Batch ID: 46261			RunNo: 61603						
Prep Date: 7/18/2019	Analysis Date: 7/23/2019			SeqNo: 2087953		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	16	0.50	20.00	0	77.8	40	144	13.0	57	
Benzo(a)pyrene	17	0.50	20.00	0	85.1	36.8	137	5.31	60.2	
Dibenz(a,h)anthracene	15	0.50	20.00	0	76.3	31.5	141	2.46	64.7	
Benzo(g,h,i)perylene	16	0.50	20.00	0	79.7	32.9	138	1.86	61.5	
Indeno(1,2,3-cd)pyrene	16	0.50	20.00	0	82.3	40.9	143	3.21	61.1	
Surr: N-hexadecane	65		87.60		73.7	20.4	126	0	0	
Surr: Benzo(e)pyrene	15		20.00		73.4	21.4	126	0	0	

Sample ID: mb-46261	SampType: MBLK	TestCode: EPA Method 8270C: PAHs								
Client ID: PBW	Batch ID: 46261	RunNo: 61603								
Prep Date: 7/18/2019	Analysis Date: 7/23/2019	SeqNo: 2087954			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	1.0								
2-Methylnaphthalene	ND	1.0								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
Pyrene	ND	0.50								
Benz(a)anthracene	ND	0.50								
Chrysene	ND	0.50								
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	61		87.60		69.6	20.4	126			
Surr: Benzo(e)pyrene	14		20.00		72.2	21.4	126			

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- R Analyte detected in the associated Method Blank
- E Value above quantization range
- J Analyte detected below quantization limits
- P Sample pH Not in Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907887

24-Jul-19

Client: Snoder, Miller and Associates

Project: Potter

Sample ID: MB-46307	SampType: MBLK	TestCode: EPA Method 7470: Mercury
Client ID: PBW	Batch ID: 46307	RunNo: 61563
Prep Date: 7/22/2019	Analysis Date: 7/22/2019	SeqNo: 2086444 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND	0.00020

Sample ID: LCS-46307	SampType: LCS	TestCode: EPA Method 7470: Mercury
Client ID: LCSW	Batch ID: 46307	RunNo: 61563
Prep Date: 7/22/2019	Analysis Date: 7/22/2019	SeqNo: 2086445 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0050	0.00020 0.005000 0 101 80 120

Sample ID: 1907887-001CMS	SampType: MS	TestCode: EPA Method 7470: Mercury
Client ID: Potter Non Exempt	Batch ID: 46307	RunNo: 61563
Prep Date: 7/22/2019	Analysis Date: 7/22/2019	SeqNo: 2086447 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0048	0.00020 0.005000 .00008943 93.4 75 125

Sample ID: 1907887-001CMSD	SampType: MSD	TestCode: EPA Method 7470: Mercury
Client ID: Potter Non Exempt	Batch ID: 46307	RunNo: 61563
Prep Date: 7/22/2019	Analysis Date: 7/22/2019	SeqNo: 2086448 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0047	0.00020 0.005000 .00008943 92.1 75 125 1.48 20

Qualifiers:

- | | |
|---|---|
| • Value exceeds Maximum Contaminant Level | R Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907887

24-Jul-19

Client: Souder, Miller and Associates

Project: Potter

Sample ID: MB-46264	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 46264	RunNo: 61508								
Prep Date: 7/18/2019	Analysis Date: 7/19/2019	SeqNo: 2084894			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	ND	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID: LCS-46264	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 46264	RunNo: 61508								
Prep Date: 7/18/2019	Analysis Date: 7/19/2019	SeqNo: 2084895			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.53	0.020	0.5000	0	106	80	120			
Barium	0.48	0.020	0.5000	0	96.8	80	120			
Cadmium	0.49	0.0020	0.5000	0	98.9	80	120			
Chromium	0.50	0.0060	0.5000	0	99.2	80	120			
Lead	0.49	0.0050	0.5000	0	98.5	80	120			
Selenium	0.48	0.050	0.5000	0	95.0	80	120			
Silver	0.099	0.0050	0.1000	0	99.2	80	120			

Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1907887

RcptNo: 1

Received By: Desiree Dominguez 7/18/2019 8:05:00 AM

Completed By: Anne Thorne 7/18/2019 9:22:51 AM

Reviewed By: LB 7/18/19

DS
Anne Thorne

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: 11/11/79
or 12 unless noted

Adjusted? NO

Checked by: ENM 7/18/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.8	Good	Yes			

Chain-of-Custody Record

Client: SMTA

Mailing Address: 401 W Broadway
Farmington NM 87401
Phone #: 505 325 7535

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ AZ Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Sampler: AM

On-Site: ☒ Yes ☐ No

of Containers: 1

Collection Date: 7/17/19

Collection Time: 14:18

Collection Location: 09-03-09-01-08

Container Type and #

Preservative Type

Various

Various

Various

Various

Various

Various

Various

Various

Various

Various

Various

Various

Various

Various

Various

Various

Various

Various

Various

Various

Various

Various

Various

Turn-Around Time: SAME DAY

☐ Standard ☒ Rush

Project Name: Potter

Project #:

Project Manager: Ashley Maxwell

Analysis Request

BTEX / MTBE / TMB's (8021)

TPH:8015D(GRO / DRO / MRO)

8081 Pesticides/8082 PCB's

EDB (Method 504.1)

PAHs by 8310 or 8270(SMS)

RCRA 8 Metals TAP

Cl, F, Br, NO₃, NO₂, PO₄, SO₄

8260 (VOA)

8270 (Semi-VOA)

Total Coliform (Present/Absent)

X

PCI

Remarks: 8260 Full List

TAP compound at TAP Limits

Invoice Enterprise CC Tom Long

Received by: [Signature]

Date: 7/17/19

Time: 1711

Received by: [Signature]

Date: 7/18/19

Time: 8:05

Via: courier

Relinquished by: [Signature]

Date: 7/17/19

Time: 1824

Relinquished by: [Signature]

Date: 7/17/19

Time: 1824

Relinquished by: [Signature]

Date: 7/17/19

Time: 1824

Relinquished by: [Signature]

Date: 7/17/19

Time: 1824

Relinquished by: [Signature]

Date: 7/17/19

Time: 1824

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

District I
1625 N French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

2019

Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. **Generator Name and Address:**
Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. **Originating Site:**
Buena Vista Compressor Station

3. **Location of Material (Street Address, City, State or ULSTR):**
UL B Section 13 Township 30 North Range 9 West; 36.8173489, -107.729996

4. **Source and Description of Waste:**
Source: Water/Oil from the Non Exempt WasteWater Tanks and from the compressor skid drains.
Description: Non Exempt/Non Hazardous Water from the compressor skids.
Estimated Volume 100 yd³ 0 bbls Known Volume (to be entered by the operator at the end of the haul) _____ yd³ / bbls

5. **GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS**

I, Thomas Long *Thomas Long*, representative or authorized agent for Enterprise Products Operating do hereby
Generator Signature
certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988
regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long *Thomas Long*, representative for Enterprise Products Operating authorize to complete
Generator Signature
the required testing/sign the Generator Waste Testing Certification.

I, _____, representative for Agua Moss, LLC do hereby certify that
representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples
have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results
of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of
19.15.36 NMAC.

5. **Transporter: To Be Determined**

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: ***Agua Moss, LLC - Permit #: NM-01-009**
Address of Facility: **SW/4 NW/4 Section 2, Township 29N, Range Crouch Mesa, NM**

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ **APPROVED**

☐ **DENIED (Must Be Maintained As Permanent Record)**

PRINT NAME: _____

TITLE: _____

DATE: _____

SIGNATURE: _____

TELEPHONE NO.: _____

Surface Waste Management Facility Authorized Agent



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 08, 2019

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-7535
FAX

RE: Buena Vista CS

OrderNo.: 1812D09

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/21/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1812D09
Date Reported: 1/8/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: AGT

Project: Bucna Vista CS

Collection Date: 12/20/2018 10:29:00 AM

Lab ID: 1812D09-001

Matrix: AQUEOUS

Received Date: 12/21/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6020: TOTAL METALS							Analyst: DBK
Arsenic	ND	0.50		mg/L	1	12/28/2018 3:57:42 PM	42270
Barium	ND	10		mg/L	1	12/27/2018 3:31:24 PM	42270
Cadmium	ND	0.10		mg/L	1	12/27/2018 3:31:24 PM	42270
Chromium	ND	0.50		mg/L	1	12/27/2018 3:31:24 PM	42270
Lead	ND	0.50		mg/L	1	12/27/2018 3:31:24 PM	42270
Selenium	ND	0.10		mg/L	1	12/28/2018 3:57:42 PM	42270
Silver	ND	0.50		mg/L	1	12/27/2018 3:31:24 PM	42270
EPA METHOD 7470: MERCURY							Analyst: pmf
Mercury	0.00049	0.00020		mg/L	1	12/26/2018 6:47:22 PM	42310
EPA METHOD 8270C: PAHS							Analyst: DAM
Naphthalene	ND	500	D	µg/L	10	1/3/2019 2:29:52 PM	42293
1-Methylnaphthalene	ND	1000	D	µg/L	10	1/3/2019 2:29:52 PM	42293
2-Methylnaphthalene	ND	1000	D	µg/L	10	1/3/2019 2:29:52 PM	42293
Acenaphthylene	ND	500	D	µg/L	10	1/3/2019 2:29:52 PM	42293
Acenaphthene	ND	500	D	µg/L	10	1/3/2019 2:29:52 PM	42293
Fluorene	ND	500	D	µg/L	10	1/3/2019 2:29:52 PM	42293
Phenanthrene	ND	500	D	µg/L	10	1/3/2019 2:29:52 PM	42293
Anthracene	ND	500	D	µg/L	10	1/3/2019 2:29:52 PM	42293
Fluoranthene	ND	500	D	µg/L	10	1/3/2019 2:29:52 PM	42293
Pyrene	ND	500	D	µg/L	10	1/3/2019 2:29:52 PM	42293
Benz(a)anthracene	ND	500	D	µg/L	10	1/3/2019 2:29:52 PM	42293
Chrysene	ND	500	D	µg/L	10	1/3/2019 2:29:52 PM	42293
Benzo(b)fluoranthene	ND	500	D	µg/L	10	1/3/2019 2:29:52 PM	42293
Benzo(k)fluoranthene	ND	500	D	µg/L	10	1/3/2019 2:29:52 PM	42293
Benzo(a)pyrene	ND	500	D	µg/L	10	1/3/2019 2:29:52 PM	42293
Dibenz(a,h)anthracene	ND	500	D	µg/L	10	1/3/2019 2:29:52 PM	42293
Benzo(g,h,i)perylene	ND	500	D	µg/L	10	1/3/2019 2:29:52 PM	42293
Indeno(1,2,3-cd)pyrene	ND	500	D	µg/L	10	1/3/2019 2:29:52 PM	42293
Surr: N-hexadecane	0	35.2-113	SD	%Rec	10	1/3/2019 2:29:52 PM	42293
Surr: Benzo(e)pyrene	0	48.3-123	SD	%Rec	10	1/3/2019 2:29:52 PM	42293
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	0.50		mg/L	200	12/29/2018 7:05:50 AM	R56657
Toluene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
Ethylbenzene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
1,2,4-Trimethylbenzene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
1,3,5-Trimethylbenzene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
1,2-Dichloroethane (EDC)	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample plI Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1812D09

Date Reported: 1/8/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: AGT

Project: Buena Vista CS

Collection Date: 12/20/2018 10:29:00 AM

Lab ID: 1812D09-001

Matrix: AQUEOUS

Received Date: 12/21/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,2-Dibromoethane (EDB)	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
Naphthalene	ND	0.40		mg/L	200	12/29/2018 7:05:50 AM	R56657
1-Methylnaphthalene	ND	0.80		mg/L	200	12/29/2018 7:05:50 AM	R56657
2-Methylnaphthalene	ND	0.80		mg/L	200	12/29/2018 7:05:50 AM	R56657
Acetone	ND	2.0		mg/L	200	12/29/2018 7:05:50 AM	R56657
Bromobenzene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
Bromodichloromethane	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
Bromoform	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
Bromomethane	ND	0.60		mg/L	200	12/29/2018 7:05:50 AM	R56657
2-Butanone	ND	2.0		mg/L	200	12/29/2018 7:05:50 AM	R56657
Carbon disulfide	ND	2.0		mg/L	200	12/29/2018 7:05:50 AM	R56657
Carbon Tetrachloride	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
Chlorobenzene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
Chloroethane	ND	0.40		mg/L	200	12/29/2018 7:05:50 AM	R56657
Chloroform	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
Chloromethane	ND	0.60		mg/L	200	12/29/2018 7:05:50 AM	R56657
2-Chlorotoluene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
4-Chlorotoluene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
cis-1,2-DCE	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
cis-1,3-Dichloropropene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
1,2-Dibromo-3-chloropropane	ND	0.40		mg/L	200	12/29/2018 7:05:50 AM	R56657
Dibromochloromethane	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
Dibromomethane	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
1,2-Dichlorobenzene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
1,3-Dichlorobenzene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
1,4-Dichlorobenzene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
Dichlorodifluoromethane	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
1,1-Dichloroethane	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
1,1-Dichloroethene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
1,2-Dichloropropane	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
1,3-Dichloropropane	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
2,2-Dichloropropane	ND	0.40		mg/L	200	12/29/2018 7:05:50 AM	R56657
1,1-Dichloropropene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
Hexachlorobutadiene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
2-Hexanone	ND	2.0		mg/L	200	12/29/2018 7:05:50 AM	R56657
Isopropylbenzene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
4-Isopropyltoluene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
4-Methyl-2-pentanone	ND	2.0		mg/L	200	12/29/2018 7:05:50 AM	R56657
Methylene Chloride	ND	0.60		mg/L	200	12/29/2018 7:05:50 AM	R56657

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not in Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1812D09

Date Reported: 1/8/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: AGT

Project: Bucna Vista CS

Collection Date: 12/20/2018 10:29:00 AM

Lab ID: 1812D09-001

Matrix: AQUEOUS

Received Date: 12/21/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
n-Butylbenzene	ND	0.60		mg/L	200	12/29/2018 7:05:50 AM	R56657
n-Propylbenzene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
sec-Butylbenzene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
Styrene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
tert-Butylbenzene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
1,1,1,2-Tetrachloroethane	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
1,1,2,2-Tetrachloroethane	ND	0.40		mg/L	200	12/29/2018 7:05:50 AM	R56657
Tetrachloroethene (PCE)	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
trans-1,2-DCE	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
trans-1,3-Dichloropropene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
1,2,3-Trichlorobenzene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
1,2,4-Trichlorobenzene	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
1,1,1-Trichloroethane	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
1,1,2-Trichloroethane	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
Trichloroethene (TCE)	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
Trichlorofluoromethane	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
1,2,3-Trichloropropane	ND	0.40		mg/L	200	12/29/2018 7:05:50 AM	R56657
Vinyl chloride	ND	0.20		mg/L	200	12/29/2018 7:05:50 AM	R56657
Xylenes, Total	ND	0.30		mg/L	200	12/29/2018 7:05:50 AM	R56657
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	200	12/29/2018 7:05:50 AM	R56657
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	200	12/29/2018 7:05:50 AM	R56657
Surr: Dibromofluoromethane	104	70-130		%Rec	200	12/29/2018 7:05:50 AM	R56657
Surr: Toluene-d8	99.2	70-130		%Rec	200	12/29/2018 7:05:50 AM	R56657

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

1812D09-001D AGT

SAMPLE RESULTS - 01

ONE LAP NATIONWIDE

Collected date/time: 12/20/18 10:20

L1056284

Wet Chemistry by Method 4500 CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Cyanide	ND		0.0250	5	01/03/2019 10:05	WG1218C22

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Conductivity by pH	7.23	T8	1	12/28/2018 16:17	WG1217065

Sample Narrative:

L1056284-01 WG1217065: 7.23 at 24.9C

Wet Chemistry by Method 9034-9030B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Sulfide	0.0700		0.0500	1	12/27/2018 16:01	WG1216S47

Wet Chemistry by Method D93/1010A

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Flashpoint	DNF at 70		1	12/29/2018 08:26	WG1216887

Cd

Tc

Ss

Cn

Si

Qc

Gl

Al

Sc

ACCOUNT:

Field Environmental Analysis Laboratory

PROJECT:

SDG:

L1056284

DATE/TIME:

01/03/19 10:13

WG1218022

Wet Chemistry, by Method 4500-CN E-2011

QUALITY CONTROL SUMMARY

L1056327-01

ONE LAB. NATIONWIDE

Method Blank (MB)

(MB) R3373047-1 0V03/19 09:50

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Reactive Cyanide	mg/l U		mg/l 0.00180	mg/l 0.00500

L1055729-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1055729-02 0V03/19 09:58 • (DUP) R3373047-3 0V03/19 09:59

Analyte	Original Result	DUP Result	DUP RPD	DUP Qualifier	DUP RPD Limits
Reactive Cyanide	mg/l ND	mg/l 0.0000	% 1	% 0.0000	% 20

Laboratory Control Sample (LCS)

(LCS) R3373047-2 0V03/19 09:51

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Reactive Cyanide	mg/l 0.000	mg/l 0.109	% 109	% 85.0-115	

L1056325-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1056325-01 0V03/19 10:08 • (MS) R3373047-4 0V03/19 10:09 • (MSD) R3373047-5 0V03/19 10:10

Analyte	Spike Amount	Original Result	MS Result	MSD Result	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Reactive Cyanide	mg/l 0.100	mg/l ND	mg/l 0.0302	mg/l 0.0760	% 1	% 75.0-125	% 90.2	% 76.0	% 17.1	% 20

L1056327-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1056327-03 0V03/19 10:17 • (MS) R3373047-6 0V03/19 10:18 • (MSD) R3373047-7 0V03/19 10:19

Analyte	Spike Amount	Original Result	MS Result	MSD Result	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Reactive Cyanide	mg/l 0.100	mg/l ND	mg/l 0.0764	mg/l 0.0655	% 1	% 75.0-125	% 76.4	% 65.6	% 15.2	% 20

ACCOUNT:
Hill Environmental Analysis Laboratory

PROJECT:

SDS:
L10563284DATE/TIME:
0V04/19 10:13

WG1217065

Wet Chemistry by Method 4500H+ B-2011

QUALITY CONTROL SUMMARY

L1056284-01

ONE LAB NATIONWIDE

Laboratory Control Sample (LCS)

(LCS) R3372047-1 12/28/18 16:17

Analyte	Spike Amount su	LCS Result su	LCS Rec. %	Rec. Limits %	LCS Qualifier
Conductivity by pH	10.0	9.97	99.7	99.0-101	

Sample Narrative:

LCS: 9.97 at 18.6C

1	2	3	4	5	6	7	8	9
Li	Tc	Ss	Cn	Sr	Cc	Gl	Al	Sc

ACCOUNT:

Hal Environmental Analysis Laboratory

PROJECT:

SDG:

L1056284

DATE/TIME:

01/04/19 12:13

WG1216547

Wet Chemistry by Method 8034-9030B

QUALITY CONTROL SUMMARY

L1056284-01

ONE LAB NATIONWIDE

Method Blank (MB)

(MB) R3371644-1 12/27/18 15:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Sulfide	U		0.00650	0.0500

L1056284-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1056284-01 12/27/18 16:01 • (DUP) R3371644-5 12/27/18 16:02

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Reactive Sulfide	0.0700	0.0610	1	13.7		20

Laboratory Control Sample (LCS)

(LCS) R3371644-2 12/27/18 15:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Reactive Sulfide	0.500	0.468	93.6	85.0-115	

ACCOUNT
Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1056284

DATE/TIME:

01/04/19 10:13

WG1216887

Wet Chemistry by Method D93/1010A

QUALITY CONTROL SUMMARY

L1056284-01

ONE LAB NATIONWIDE

L1056284-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1056284-01 12/29/18 08:26 • (DUP) R3372103-2 12/29/18 08:26

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Flashpoint	deg F DNF at 170	deg F DNF at 170	1	0.000		5 10

Laboratory Control Sample (LCS)

(LCS) R3372103-1 12/29/18 08:26

Analyte	Spike Amount	LCS Result	LCS Rec	Rec. Limits	LCS Qualifier
Flashpoint	deg F 82.0	deg F 82.2	% 100	% 96.0-104	



ACCOUNT:

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

L1056284

DATE/TIME:

01/04/19 10:13

GLOSSARY OF TERMS

ONE LAB. NATIONWIDE



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit
Nb	Not detected at the Reporting Limit (or MDL where applicable)
RDL	Reported Detection Limit
Rec.	Recovery
RPD	Relative Percent Difference
SDG	Sample Delivery Group
U	Not detected at the Reporting Limit (or MDL where applicable)
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low
J8	Sample(s) received past/too close to holding time expiration.

Cp

Tc

Ss

Cn

Sr

Qc

Sc

AI

Sc

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT

SDG:
L1056284

DATE/TIME:
01/04/19 10:13

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812D09

08-Jan-19

Client: Souder, Miller and Associates

Project: Buena Vista CS

Sample ID	MB-42270	SampType	MBLK		TestCode	EPA Method 6020: Total Metals				
Client ID	PBW	Batch ID	42270		RunNo	56633				
Prep Date	12/21/2018	Analysis Date	12/27/2018		SeqNo	1894698	Units	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0010								
Cadmium	ND	0.0010								
Chromium	ND	0.0010								
Lead	ND	0.0010								
Silver	ND	0.0010								

Sample ID	LLLCS-42270	SampType:	LCSLL	TestCode:	EPA Method 6020: Total Metals					
Client ID:	BatchQC	Batch ID:	42270	RunNo:	56633					
Prep Date:	12/21/2018	Analysis Date:	12/27/2018	SeqNo:	1894699	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0010	0.001000	0	95.4	70	130			
Cadmium	ND	0.0010	0.001000	0	95.5	70	130			
Chromium	0.0011	0.0010	0.001000	0	105	70	130			
Lead	0.0010	0.0010	0.001000	0	105	70	130			
Silver	ND	0.0010	0.001000	0	94.6	70	130			

Sample ID	LCS-42270	SampType	LCS	TestCode	EPA Method 6020: Total Metals					
Client ID	LCSW	Batch ID	42270	RunNo	56633					
Prep Date	12/21/2018	Analysis Date	12/27/2018	SeqNo	1894700	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.049	0.0010	0.05000	0	98.3	80	120			
Cadmium	0.047	0.0010	0.05000	0	94.5	80	120			
Chromium	0.048	0.0010	0.05000	0	96.3	80	120			
Lead	0.048	0.0010	0.05000	0	95.5	80	120			
Silver	0.047	0.0010	0.05000	0	94.2	80	120			

Sample ID	LCS-42270		SampType:	LCS		TestCode:	EPA Method 6020: Total Metals				
Client ID:	LCSW		Batch ID:	42270		RunNo:	56670				
Prep Date:	12/21/2018		Analysis Date:	12/28/2018		SeqNo:	1896445		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Arsenic	0.049	0.0010	0.05000	0	98.7	80	120				
Selenium	0.048	0.0010	0.05000	0	97.0	80	120				

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not in Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812D09

08-Jan-19

Client: Souder, Miller and Associates

Project: Buena Vista CS

Sample ID	MB-42270	SampType	MBLK	TestCode	EPA Method 6020: Total Metals					
Client ID	PBW	Batch ID	42270	RunNo	56670					
Prep Date	12/21/2018	Analysis Date	12/28/2018	SeqNo	1896476	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	LLLCS-42270	SampType	LCSLL	TestCode	EPA Method 6020: Total Metals					
Client ID	BatchQC	Batch ID	42270	RunNo	56670					
Prep Date	12/21/2018	Analysis Date	12/28/2018	SeqNo	1896478	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010	0.001000	0	95.8	70	130			
Selenium	0.0011	0.0010	0.001000	0	110	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	C Value above quantitation range
II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812D09

08-Jan-19

Client: Souder, Miller and Associates

Project: Buena Vista CS

Sample ID	rb2	SampType	MBLK	TestCode	EPA Method 8260B: VOLATILES					
Client ID	PBW	Batch ID	R56657	RunNo	56657					
Prep Date		Analysis Date	12/29/2018	SeqNo	1895810	Units	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not in Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812D09

08-Jan-19

Client: Souder, Miller and Associates

Project: Buena Vista CS

Sample ID	rb2	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID:	PBW	Batch ID: R56657		RunNo: 56657						
Prep Date:		Analysis Date: 12/29/2018		SeqNo: 1895810		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		106	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.0	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	10		10.00		99.9	70	130			

Sample ID	100ng lcs2	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R56657	RunNo:	56657					
Prep Date:		Analysis Date:	12/29/2018	SeqNo:	1895811	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.1	70	130			
Toluene	20	1.0	20.00	0	99.7	70	130			
Chlorobenzene	21	1.0	20.00	0	103	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812D09

08-Jan-19

Client: Souder, Miller and Associates

Project: Buena Vista CS

Sample ID: 100ng lcs2	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R56657	RunNo: 56657								
Prep Date:	Analysis Date: 12/29/2018	SeqNo: 1895811 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	20	1.0	20.00	0	101	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	98.3	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		94.7	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	9.9		10.00		99.1	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not in Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812D09

08-Jan-19

Client: Souder, Miller and Associates

Project: Buena Vista CS

Sample ID	lcs-42293		SampType: LCS	TestCode: EPA Method 8270C: PAHs						
Client ID:	LCSW		Batch ID: 42293	RunNo: 56737						
Prep Date:	12/26/2018		Analysis Date: 1/3/2019	SeqNo: 1898946		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	16	0.50	20.00	0	81.8	29.6	105			
1-Methylnaphthalene	15	1.0	20.00	0	76.6	33.4	112			
2-Methylnaphthalene	16	1.0	20.00	0	77.9	28.6	108			
Acenaphthylene	16	0.50	20.00	0	77.7	35.7	116			
Acenaphthene	14	0.50	20.00	0	72.4	32.4	118			
Fluorene	15	0.50	20.00	0	74.7	35.6	118			
Phenanthrene	16	0.50	20.00	0	81.6	36.3	130			
Anthracene	17	0.50	20.00	0	85.7	34.8	135			
Fluoranthene	17	0.50	20.00	0	84.7	41	136			
Pyrene	16	0.50	20.00	0	78.1	44.8	136			
Benz(a)anthracene	14	0.50	20.00	0	70.9	41.1	136			
Chrysene	13	0.50	20.00	0	64.9	37.9	132			
Benzo(b)fluoranthene	16	0.50	20.00	0	77.7	39	144			
Benzo(k)fluoranthene	16	0.50	20.00	0	78.0	40	144			
Benzo(a)pyrene	15	0.50	20.00	0	73.3	36.8	137			
Dibenz(a,h)anthracene	14	0.50	20.00	0	68.9	31.5	141			
Benzo(g,h,i)perylene	16	0.50	20.00	0	81.0	32.9	138			
Indeno(1,2,3-cd)pyrene	16	0.50	20.00	0	80.0	40.9	143			
Surr: N-hexadecane	66		87.60		75.5	35.2	113			
Surr: Benzo(a)pyrene	16		20.00		78.5	48.3	123			

Sample ID	lcsd-42293		SampType: LCSD	TestCode: EPA Method 8270C: PAHs						
Client ID:	LCSS02		Batch ID: 42293	RunNo: 56737						
Prep Date:	12/26/2018		Analysis Date: 1/3/2019	SeqNo: 1898948		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	17	0.50	20.00	0	84.1	29.6	105	2.77	68.7	
1-Methylnaphthalene	16	1.0	20.00	0	79.9	33.4	112	4.22	66	
2-Methylnaphthalene	16	1.0	20.00	0	77.7	28.6	108	0.257	68.7	
Acenaphthylene	15	0.50	20.00	0	75.9	35.7	116	2.34	64.9	
Acenaphthene	14	0.50	20.00	0	69.8	32.4	118	3.66	53.2	
Fluorene	14	0.50	20.00	0	71.3	35.6	118	4.66	62.4	
Phenanthrene	15	0.50	20.00	0	75.5	36.3	130	7.77	62.6	
Anthracene	16	0.50	20.00	0	78.1	34.8	135	9.28	62.4	
Fluoranthene	16	0.50	20.00	0	81.4	41	136	3.97	59.4	
Pyrene	15	0.50	20.00	0	75.5	44.8	136	3.39	55.4	
Benz(a)anthracene	15	0.50	20.00	0	75.6	41.1	136	6.42	56.6	
Chrysene	12	0.50	20.00	0	60.8	37.9	132	6.52	51.9	
Benzo(b)fluoranthene	17	0.50	20.00	0	82.9	39	144	6.48	59.1	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812D09

08-Jan-19

Client: Souder, Miller and Associates

Project: Buena Vista CS

Sample ID	icsd-42293	SampType: LCSD			TestCode: EPA Method 8270C: PAHs					
Client ID:	LCSS02	Batch ID: 42293			RunNo: 56737					
Prep Date:	12/26/2018	Analysis Date: 1/3/2019			SeqNo: 1898948		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	15	0.50	20.00	0	73.1	40	144	6.49	57	
Benzo(a)pyrene	15	0.50	20.00	0	77.1	36.8	137	5.05	60.2	
Dibenz(a,h)anthracene	15	0.50	20.00	0	72.9	31.5	141	5.64	64.7	
Benzo(g,h,i)perylene	17	0.50	20.00	0	84.4	32.9	138	4.11	61.5	
Indeno(1,2,3-cd)pyrene	16	0.50	20.00	0	81.7	40.9	143	2.10	61.1	
Surr: N-hexadecane	62		87.60		70.8	35.2	113	0	0	
Surr: Benzo(e)pyrene	16		20.00		80.9	48.3	123	0	0	

Sample ID	mb-42293	SampType	MBLK	TestCode	EPA Method 8270C: PAHs					
Client ID	PBW	Batch ID	42293	RunNo	56737					
Prep Date	12/26/2018	Analysis Date	1/3/2019	SeqNo	1898950	Units	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	1.0								
2-Methylnaphthalene	ND	1.0								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
Pyrene	ND	0.50								
Benz(a)anthracene	ND	0.50								
Chrysene	ND	0.50								
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	64		87.60		73.0	35.2	113			
Surr: Benzo(e)pyrene	15		20.00		72.8	48.3	123			

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pI Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812D09

08-Jan-19

Client: Souder, Miller and Associates

Project: Buena Vista CS

Sample ID	MB-42310	SampType	MBLK	TestCode	EPA Method 7470: Mercury					
Client ID	PBW	Batch ID	42310	RunNo	56609					
Prep Date	12/26/2018	Analysis Date	12/26/2018	SeqNo	1893944	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-42310	SampType	LCS	TestCode	EPA Method 7470: Mercury					
Client ID	LCSW	Batch ID	42310	RunNo	56609					
Prep Date	12/26/2018	Analysis Date	12/26/2018	SeqNo	1893945	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0054	0.00020	0.005000	0	108	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not in Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |



Hall Environmental Analysis Laboratory
3901 Hawkins St.
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenviro.com

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1812D09

RcptNo: 1

Received By: Anne Thorne 12/21/2018 8:00:00 AM

Completed By: Anne Thorne 12/21/2018 2:14:07 PM

Reviewed By: JAB 12/21/18
Labeled by: DAD 12/21/18

Am. Thorne

Am. Thorne

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved bottles checked for pH: 1:2
(2 or 2 unless noted)
Adjusted? NO
Checked by: DAD 12/21/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	10	Good	Yes			

Chain-of-Custody Record

Client:

SMA

Turn-Around Time:

Standard ☒ Rush ☒ No Rush ☐ per Analy

Project Name:

Bureau Vista CS

Mailing Address: 401 W. Broadway

Phoenix, AZ 85001

Phone #: 505-325-7535

Email or Fax#: Ashley Maxwell

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other

☐ EDD (Type)

Project Manager:

Ashley Maxwell

Sampler:

Every 1000

On Ice: ☒ Yes ☐ No

Sample Temperature: 10°

Container Type and #

182 DCG

Preservative Type

Vanillin

HEAL No.

201

Date

Time

Matrix

Sample Request ID

11-20-18 10:29 AM ACT

Date

Time

Requisitioned by

Date

Time

Requisitioned by

Date

Time

Received by

Date

Time

Received by

Date

Time

Remarks:

200 Full List Report

TCUP at Company Limits

200 Full List Report

TCUP at Company Limits

200 Full List Report

TCUP at Company Limits

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX + MTBE + TPH (Gas only)	
BTEX + MTBE + TPH (GRO / DRO / MRO)	
TPH (Method 418.1)	
EDB (Method 504.1)	
PAH's (8310 or 8270 GIMS)	X
RCRA 8 Metals (TCLP)	X
Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	
8081 Pesticides / 8082 PCBs	
8260B (VOA)	X
8270 (Semi-VOA)	X
RCI	
Air Bubbles (Y or N)	

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly noted on the analytical report.

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Good till 12/3/2020

Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site:

MAPL Huerfano Pumping Station

3. Location of Material (Street Address, City, State or ULSTR):

UL L Section 21 Township 26 North Range 10 West; 36.471831, -107.908114

4. Source and Description of Waste:

Source: Water/Oil from the Non Exempt WasteWater Tanks and from the compressor skid drains.

Description: Non Exempt/Non Hazardous Water from the compressor skids.

Estimated Volume 80 yd³ bbls Known Volume (to be entered by the operator at the end of the haul) _____ yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long, representative or authorized agent for Enterprise Products Operating do hereby

Generator Signature

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long, representative for Enterprise Products Operating authorize to complete

Generator Signature

the required testing/sign the Generator Waste Testing Certification.

I, _____, representative for Agua Moss, LLC do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: To Be Determined

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: *Agua Moss, LLC - Permit #: NM-01-009

Address of Facility: SW/4 NW/4 Section 2, Township 29N, Range Crouch Mesa, NM

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: _____

TITLE: _____

DATE: _____

SIGNATURE: _____

TELEPHONE NO.: _____

Surface Waste Management Facility Authorized Agent



*Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com*

December 03, 2019

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-5667
FAX: (505) 327-1496

RE: Huerfano

OrderNo.: 1911679

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 11/15/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911679

Date Reported: 12/3/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Hucrfano

Project: Huerfano

Collection Date: 11/14/2019 10:22:00 AM

Lab ID: 1911679-001

Matrix: AQUEOUS

Received Date: 11/15/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 7470: MERCURY							Analyst: rde
Mercury	ND	0.020		mg/L	1	11/22/2019 10:36:46 AM	48955
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: rde
Arsenic	ND	5.0		mg/L	1	11/25/2019 4:00:30 PM	48826
Barium	ND	100		mg/L	1	11/25/2019 12:59:21 PM	48826
Cadmium	ND	1.0		mg/L	1	11/25/2019 12:59:21 PM	48826
Chromium	ND	5.0		mg/L	1	11/25/2019 12:59:21 PM	48826
Lead	ND	5.0		mg/L	1	11/25/2019 12:59:21 PM	48826
Selenium	ND	1.0		mg/L	1	11/25/2019 12:59:21 PM	48826
Silver	ND	5.0		mg/L	1	11/25/2019 12:59:21 PM	48826
EPA METHOD 8270C: PAHS							Analyst: JDC
Naphthalene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
1-Methylnaphthalene	ND	10	D	µg/L	1	11/25/2019 4:36:18 PM	48934
2-Methylnaphthalene	ND	10	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Acenaphthylene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Acenaphthene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Fluorene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Phenanthrene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Anthracene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Fluoranthene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Pyrene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Benz(a)anthracene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Chrysene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Benzo(b)fluoranthene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Benzo(k)fluoranthene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Benzo(a)pyrene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Dibenz(a,h)anthracene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Benzo(g,h,i)perylene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Indeno(1,2,3-cd)pyrene	ND	5.0	D	µg/L	1	11/25/2019 4:36:18 PM	48934
Surr: N-hexadecane	84.6	20.4-126	D	%Rec	1	11/25/2019 4:36:18 PM	48934
Surr: Benzo(e)pyrene	72.4	21.4-126	D	%Rec	1	11/25/2019 4:36:18 PM	48934
EPA METHOD 8260B: VOLATILES							Analyst: JMR
Benzene	ND	0.50		mg/L	200	11/15/2019 4:58:30 PM	R64562
Toluene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Ethylbenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2,4-Trimethylbenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,3,5-Trimethylbenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2-Dichloroethane (EDC)	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911679

Date Reported: 12/3/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Hucrfano

Project: Huerfano

Collection Date: 11/14/2019 10:22:00 AM

Lab ID: 1911679-001

Matrix: AQUEOUS

Received Date: 11/15/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: JMR
1,2-Dibromoethane (EDB)	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Naphthalene	ND	0.40		mg/L	200	11/15/2019 4:58:30 PM	R64562
1-Methylnaphthalene	ND	0.80		mg/L	200	11/15/2019 4:58:30 PM	R64562
2-Methylnaphthalene	ND	0.80		mg/L	200	11/15/2019 4:58:30 PM	R64562
Acetone	ND	2.0		mg/L	200	11/15/2019 4:58:30 PM	R64562
Bromobenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Bromodichloromethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Bromoform	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Bromomethane	ND	0.60		mg/L	200	11/15/2019 4:58:30 PM	R64562
2-Butanone	ND	2.0		mg/L	200	11/15/2019 4:58:30 PM	R64562
Carbon disulfide	ND	2.0		mg/L	200	11/15/2019 4:58:30 PM	R64562
Carbon Tetrachloride	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Chlorobenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Chloroethane	ND	0.40		mg/L	200	11/15/2019 4:58:30 PM	R64562
Chloroform	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Chloromethane	ND	0.60		mg/L	200	11/15/2019 4:58:30 PM	R64562
2-Chlorotoluene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
4-Chlorotoluene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
cis-1,2-DCE	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
cis-1,3-Dichloropropene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2-Dibromo-3-chloropropane	ND	0.40		mg/L	200	11/15/2019 4:58:30 PM	R64562
Dibromochloromethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Dibromomethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2-Dichlorobenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,3-Dichlorobenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,4-Dichlorobenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Dichlorodifluoromethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,1-Dichloroethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,1-Dichloroethene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2-Dichloropropane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,3-Dichloropropane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
2,2-Dichloropropane	ND	0.40		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,1-Dichloropropene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Hexachlorobutadiene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
2-Hexanone	ND	2.0		mg/L	200	11/15/2019 4:58:30 PM	R64562
Isopropylbenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
4-Isopropyltoluene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
4-Methyl-2-pentanone	ND	2.0		mg/L	200	11/15/2019 4:58:30 PM	R64562
Methylene Chloride	ND	0.60		mg/L	200	11/15/2019 4:58:30 PM	R64562

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQI Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RI Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911679

Date Reported: 12/3/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Huerfano

Project: Huerfano

Collection Date: 11/14/2019 10:22:00 AM

Lab ID: 1911679-001

Matrix: AQUEOUS

Received Date: 11/15/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: JMR
n-Butylbenzene	ND	0.60		mg/L	200	11/15/2019 4:58:30 PM	R64562
n-Propylbenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
sec-Butylbenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Styrene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
tert-Butylbenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,1,1,2-Tetrachloroethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,1,2,2-Tetrachloroethane	ND	0.40		mg/L	200	11/15/2019 4:58:30 PM	R64562
Tetrachloroethene (PCE)	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
trans-1,2-DCE	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
trans-1,3-Dichloropropene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2,3-Trichlorobenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2,4-Trichlorobenzene	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,1,1-Trichloroethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,1,2-Trichloroethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Trichloroethene (TCE)	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Trichlorofluoromethane	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
1,2,3-Trichloropropane	ND	0.40		mg/L	200	11/15/2019 4:58:30 PM	R64562
Vinyl chloride	ND	0.20		mg/L	200	11/15/2019 4:58:30 PM	R64562
Xylenes, Total	ND	0.30		mg/L	200	11/15/2019 4:58:30 PM	R64562
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	200	11/15/2019 4:58:30 PM	R64562
Surr: 4-Bromofluorobenzene	94.8	70-130		%Rec	200	11/15/2019 4:58:30 PM	R64562
Surr: Dibromofluoromethane	107	70-130		%Rec	200	11/15/2019 4:58:30 PM	R64562
Surr: Toluene-d8	107	70-130		%Rec	200	11/15/2019 4:58:30 PM	R64562

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level
 D Sample Diluted Due to Matrix
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 PQL Practical Quantitative Limit
 S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 P Sample pH Not in Range
 RL Reporting Limit

ANALYTICAL REPORT

November 29, 2019

Hall Environmental Analysis Laboratory

Sample Delivery Group: L1162234

Samples Received: 11/19/2019

Project Number:

Description:

Report To:

4901 Hawkins NE

Albuquerque, NM 87109

Entire Report Reviewed By:



Daphne Richards
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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SAMPLE SUMMARY

ONE LAB NATIONWIDE

1911679-001D HUERFANO L1162234-01 WW

Collected by

Collected date/time

Received date/time

11/14/19 10:22

11/19/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500 CN E-2011	WG1386291	1	11/24/19 11:16	11/24/19 21:46	JER	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG1383247	1	11/19/19 19:45	11/19/19 19:45	MSP	Mt. Juliet, TN
Wet Chemistry by Method 9034-9030B	WG1384494	1	11/21/19 18:09	11/21/19 18:09	MJA	Mt. Juliet, TN
Wet Chemistry by Method D93/1010A	WG1387079	1	11/26/19 17:15	11/26/19 17:15	MJA	Mt. Juliet, TN

CASE NARRATIVE

ONE LAB. NATIONWIDE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Daphne Richards
Project Manager

Project Narrative

All Reactive Cyanide results reported in the attached report were determined as totals using method 9012B.

All Reactive Sulfide results reported in the attached report were determined as totals using method 9034/9030B.

1911679-001D HUERFANO

Collected date/time: 11/14/19 10:22

SAMPLE RESULTS - 01

L1162234

ONE LAB. NATIONWIDE

Wet Chemistry by Method 4500 CN E-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Reactive Cyanide	ND	J4	0.00500	1	11/24/2019 21:46	WG1386291

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
Corrosivity by pH	5.41	T8	1	11/19/2019 19:45	WG1383247

Sample Narrative:

L1162234-01 WG1383247: 5.41 at 18.3C

Wet Chemistry by Method 9034-9030B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Reactive Sulfide	0.125		0.0500	1	11/21/2019 18:09	WG1384494

Wet Chemistry by Method D93/1010A

Analyte	Result deg F	Qualifier	Dilution	Analysis date / time	Batch
Flashpoint	131		1	11/26/2019 17:15	WG1387079

Method Blank (MB)

R3475672-1 11/24/19 20:21

te	MB Result	MB Qualifier	MB MDL	MB RDL
ive Cyanide	U		0.00180	0.00500

2058-02 Original Sample (OS) • Duplicate (DUP)

L1162058-02 11/24/19 21:35 • (DUP) R3475672-3 11/24/19 21:36

te	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
ive Cyanide	ND	0.00394	1	0.000		20

Laboratory Control Sample (LCS)

R3475672-2 11/24/19 20:23

te	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
ive Cyanide	0.100	0.116	116	85.0-115	14

2228-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

L1162228-01 11/24/19 21:41 • (MS) R3475672-4 11/24/19 21:44 • (MSD) R3475672-5 11/24/19 21:45

te	Spike Amount	Original Result	MS Result	MSD Result	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
ive Cyanide	0.100	ND	0.0897	0.0937	89.7	1	75.0-125			4.36	20

2243-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

L1162243-01 11/24/19 21:47 • (MS) R3475672-6 11/24/19 21:48 • (MSD) R3475672-7 11/24/19 21:50

te	Spike Amount	Original Result	MS Result	MSD Result	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
ive Cyanide	0.100	ND	0.0893	0.101	89.3	1	75.0-125			12.3	20

Cr
Tc
Ss
Cn
Sr
Cr
Gl
Al
Sc

2185-01 Original Sample (OS) • Duplicate (DUP)

L1162185-01 11/19/19 19:45 • (DUP) R3473880-10 11/19/19 19:45

Ie	Original Result		DUP Result		Dilution	DUP RPD		DUP Qualifier	DUP RPD Limits	
	su		su			%			%	
sivity by pH	8.75		8.75		1	0.000			1	

Ie Narrative:
: 8.75 at 18.8C
P: 8.75 at 18.8C

2234-01 Original Sample (OS) • Duplicate (DUP)

L1162234-01 11/19/19 19:45 • (DUP) R3473880-16 11/19/19 19:45

Ie	Original Result		DUP Result		Dilution	DUP RPD		DUP Qualifier	DUP RPD Limits	
	su		su			%			%	
sivity by pH	5.41		5.41		1	0.000			1	

Ie Narrative:
: 5.41 at 18.3C
P: 5.41 at 18.4C

2243-01 Original Sample (OS) • Duplicate (DUP)

L1162243-01 11/19/19 19:45 • (DUP) R3473880-17 11/19/19 19:45

Ie	Original Result		DUP Result		Dilution	DUP RPD		DUP Qualifier	DUP RPD Limits	
	su		su			%			%	
sivity by pH	6.75		6.79		1	0.591			1	

Ie Narrative:
: 6.75 at 18.5C
P: 6.79 at 18.8C

oratory Control Sample (LCS)

R3473880-1 11/19/19 19:45

Ie	Spike Amount		LCS Result		LCS Rec.		Rec. Limits		LCS Qualifier	
	su		su		%		%			
sivity by pH	10.0		9.92		99.2		99.0-101			

Ie Narrative:
S: 9.92 at 19.1C

L1162234-01

hod Blank (MB)

R3474776-1	11/21/19 17:59	MB Result	MB Qualifier	MB MDL	MB RDL
		mg/l		mg/l	mg/l
ive Sulfide	U		0.00650	0.0500	

oratory Control Sample (LCS)

R3474776-2	11/21/19 17:59	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
		mg/l	mg/l	%	%	
ive Sulfide	0.500	0.532	106	85.0-115		

Cp

2Tc

3Ss

4Cn

5Sr

6Cc

7Gl

8Al

9Sc

2185-01 Original Sample (OS) • Duplicate (DUP)

L1162185-01 11/26/19 17:15 • (DUP) R3476638-2 11/26/19 17:15

Original Result		DUP Result		Dilution		DUP RPD		DUP Qualifier		DUP RPD Limits	
te	deg F	deg F	deg F			%				%	
joint	131	125	125	1	4.69					10	

2234-01 Original Sample (OS) • Duplicate (DUP)

L1162234-01 11/26/19 17:15 • (DUP) R3476638-3 11/26/19 17:15

Original Result		DUP Result		Dilution		DUP RPD		DUP Qualifier		DUP RPD Limits	
te	deg F	deg F	deg F			%				%	
joint	131	136	136	1	3.75					10	

2243-01 Original Sample (OS) • Duplicate (DUP)

L1162243-01 11/26/19 17:15 • (DUP) R3476638-4 11/26/19 17:15

Original Result		DUP Result		Dilution		DUP RPD		DUP Qualifier		DUP RPD Limits	
te	deg F	deg F	deg F			%				%	
joint	131	135	135	1	3.01					10	

2558-01 Original Sample (OS) • Duplicate (DUP)

L1162558-01 11/26/19 17:15 • (DUP) R3476638-5 11/26/19 17:15

Original Result		DUP Result		Dilution		DUP RPD		DUP Qualifier		DUP RPD Limits	
te	deg F	deg F	deg F			%				%	
joint	116	127	127	1	9.06					10	

4862-01 Original Sample (OS) • Duplicate (DUP)

L1164862-01 11/26/19 17:15 • (DUP) R3476638-6 11/26/19 17:15

Original Result		DUP Result		Dilution		DUP RPD		DUP Qualifier		DUP RPD Limits	
te	deg F	deg F	deg F			%				%	
joint	123	124	124	1	0.810					10	

1 Cn

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

oratory Control Sample (LCS)

R3476638-1 11/26/19 17:15

le	Spike Amount		LCS Result		LCS Rec.		Rec. Limits		LCS Qualifier
	deg F		deg F	%	%		%		
joint	82.0		83.0	101			96.0-104		

CP

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J4	The associated batch QC was outside the established quality control range for accuracy.
T8	Sample(s) received past/too close to holding time expiration.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	EB7487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1*}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

A2LA - ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA - ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.





CHAIN OF CUSTODY RECORD

Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenenvironmental.com

SUB CONTRACTOR	ESC PACE	COMPANY:	ESC PACE	PHONE:	(800) 767-5859	FAX:	(615) 758-5859
ADDRESS:	12065 Lebanon Rd						
CITY, STATE, ZIP:	Mt. Juliet, TN 37122						

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	1202
1	1911679-001D	Huerfano	500HDPE	Aqueous	11/14/2019 10:22:00 AM	3	Reactivity, Corrosivity and Ignitability ** 7 Day TAT **

ANALYTICAL COMMENTS

11/12/19 10:06

SPECIAL INSTRUCTIONS / COMMENTS

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	REPORT TRANSMITTAL DESIRED:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	FOR LAB USE ONLY
TAT:	Standard	☐	RUSH	Next BD	☐	Temp of samples 23.1-22.4 c RAD SCREEN: <0.5 mR/hr
						Comments:

11/14/2019 10:22:00 AM

Pace Analytical National Center for Testing & Innovation Cooler Receipt Form

Client:		HALLAM		11/6/2019	
Cooler Received/Opened On: 11/19/19		Temperature: 22			
Received By: Willie Taylor		845			
Signature:					
Receipt Check List		NP	Yes	No	
COC Seal Present / Intact?			✓		
COC Signed / Accurate?			✓		
Bottles arrive intact?			✓		
Correct bottles used?			✓		
Sufficient volume sent?					
If Applicable					
VOA Zero headspace?					
Preservation Correct / Checked?			✓		

Matt Shacklock



Login #: L1162234	Client:HALLENVANM	Date:11/19/19	Evaluated by:Matt S
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Non-Conformance (check applicable items)

	Sample Integrity	Chain of Custody Clarification	
	Parameter(s) past holding time	Login Clarification Needed	If Broken Container:
	Temperature not in range	Chain of custody is incomplete	Insufficient packing material around container
x	Improper container type	Please specify Metals requested.	Insufficient packing material inside cooler
	pH not in range.	Please specify TCLP requested.	Improper handling by carrier (FedEx / UPS / Co
	Insufficient sample volume.	Received additional samples not listed on coc.	Sample was frozen
	Sample is biphasic.	Sample ids on containers do not match ids on coc	Container lid not intact
	Vials received with headspace.	Trip Blank not received.	If no Chain of Custody:
	Broken container	Client did not "X" analysis.	Received by:
	Broken container:	Chain of Custody is missing	Date/Time:
	Sufficient sample remains		Temp./Cont. Rec./pH:
			Carrier:
			Tracking#

Login Comments: Received FLASH in HDPE

Client informed by:	Call	Email	Voice Mail	Date: 11/19	Time:1201
TSR Initials: DR	Client Contact:				

Login Instructions:

Qualify and proceed with analysis

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911679

03-Dec-19

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R64562	RunNo: 64562								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210714			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.4	70	130			
Toluene	19	1.0	20.00	0	97.2	70	130			
Chlorobenzene	20	1.0	20.00	0	102	70	130			
1,1-Dichloroethene	17	1.0	20.00	0	82.7	70	130			
Trichloroethene (TCE)	16	1.0	20.00	0	81.7	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.9	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		92.0	70	130			
Surr: Dibromofluoromethane	11		10.00		105	70	130			
Surr: Toluene-d8	11		10.00		105	70	130			

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64562	RunNo: 64562								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210733			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911679

03-Dec-19

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID: rb1	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R64562			RunNo: 64562						
Prep Date:	Analysis Date: 11/15/2019			SeqNo: 2210733		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- H Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911679

03-Dec-19

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID: rb1	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R64562		RunNo: 64562							
Prep Date:	Analysis Date: 11/15/2019		SeqNo: 2210733		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.8	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		92.9	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	11		10.00		109	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911679

03-Dec-19

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID: mb-48934	SampType: MBLK		TestCode: EPA Method 8270C: PAHs							
Client ID: PBW	Batch ID: 48934		RunNo: 64751							
Prep Date: 11/21/2019	Analysis Date: 11/25/2019		SeqNo: 2219189		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	1.0								
2-Methylnaphthalene	ND	1.0								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
Pyrene	ND	0.50								
Benz(a)anthracene	ND	0.50								
Chrysene	ND	0.50								
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	61		87.60		69.2	20.4	126			
Surr: Benzo(e)pyrene	13		20.00		64.5	21.4	126			

Sample ID: lcs-48934	SampType: LCS		TestCode: EPA Method 8270C: PAHs							
Client ID: LCSW	Batch ID: 48934		RunNo: 64751							
Prep Date: 11/21/2019	Analysis Date: 11/25/2019		SeqNo: 2219191		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	15	0.50	20.00	0	73.8	41.8	97.8			
1-Methylnaphthalene	14	1.0	20.00	0	68.3	44.7	104			
2-Methylnaphthalene	14	1.0	20.00	0	72.4	45	101			
Acenaphthylene	15	0.50	20.00	0	72.8	51.2	102			
Acenaphthene	14	0.50	20.00	0	71.8	53.2	101			
Fluorene	15	0.50	20.00	0	75.1	57.6	106			
Phenanthrene	15	0.50	20.00	0	75.6	57.6	109			
Anthracene	15	0.50	20.00	0	73.2	56.1	98.9			
Fluoranthene	16	0.50	20.00	0	81.9	61.4	114			
Pyrene	16	0.50	20.00	0	78.7	58	110			
Benz(a)anthracene	15	0.50	20.00	0	76.6	60	102			
Chrysene	14	0.50	20.00	0	70.9	50.8	93.4			
Benzo(b)fluoranthene	15	0.50	20.00	0	74.0	56.2	118			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911679

03-Dec-19

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID: Ics-48934	SampType: LCS	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSW	Batch ID: 48934	RunNo: 64751								
Prep Date: 11/21/2019	Analysis Date: 11/25/2019	SeqNo: 2219191			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	15	0.50	20.00	0	75.7	57.7	119			
Benzo(a)pyrene	15	0.50	20.00	0	75.0	55.5	114			
Dibenz(a,h)anthracene	15	0.50	20.00	0	75.5	53	110			
Benzo(g,h,i)perylene	15	0.50	20.00	0	74.8	55	113			
Indeno(1,2,3-cd)pyrene	15	0.50	20.00	0	75.5	51.2	115			
Surr: N-hexadecane	67		87.60		76.4	20.4	126			
Surr: Benzo(e)pyrene	14		20.00		68.3	21.4	126			

Sample ID: Icsd-48934	SampType: LCSD	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSS02	Batch ID: 48934	RunNo: 64751								
Prep Date: 11/21/2019	Analysis Date: 11/25/2019	SeqNo: 2219192			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	15	0.50	20.00	0	74.2	41.8	97.8	0.541	25.4	
1-Methylnaphthalene	15	1.0	20.00	0	73.8	44.7	104	7.74	21.5	
2-Methylnaphthalene	15	1.0	20.00	0	76.0	45	101	4.85	25.2	
Acenaphthylene	17	0.50	20.00	0	83.4	51.2	102	13.6	30.3	
Acenaphthene	16	0.50	20.00	0	81.6	53.2	101	12.8	28.1	
Fluorene	17	0.50	20.00	0	83.5	57.6	106	10.6	33	
Phenanthrene	15	0.50	20.00	0	74.8	57.6	109	1.06	24.5	
Anthracene	15	0.50	20.00	0	76.6	56.1	98.9	4.54	26.9	
Fluoranthene	17	0.50	20.00	0	83.2	61.4	114	1.57	21.8	
Pyrene	15	0.50	20.00	0	77.1	58	110	2.05	27	
Benzo(a)anthracene	14	0.50	20.00	0	72.5	60	102	5.50	27.4	
Chrysene	14	0.50	20.00	0	68.6	50.8	93.4	3.30	20.4	
Benzo(b)fluoranthene	15	0.50	20.00	0	77.4	56.2	118	4.49	22.5	
Benzo(k)fluoranthene	17	0.50	20.00	0	83.3	57.7	119	9.56	24.1	
Benzo(a)pyrene	16	0.50	20.00	0	78.3	55.5	114	4.31	27.3	
Dibenz(a,h)anthracene	16	0.50	20.00	0	78.5	53	110	3.90	18.5	
Benzo(g,h,i)perylene	16	0.50	20.00	0	79.4	55	113	5.97	28.4	
Indeno(1,2,3-cd)pyrene	16	0.50	20.00	0	81.5	51.2	115	7.64	21.8	
Surr: N-hexadecane	70		87.60		79.8	20.4	126	0	0	
Surr: Benzo(e)pyrene	14		20.00		71.8	21.4	126	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pI Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911679

03-Dec-19

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID: MB-48955	SampType: MBLK	TestCode: EPA Method 7470: Mercury								
Client ID: PBW	Batch ID: 48955	RunNo: 64701								
Prep Date: 11/21/2019	Analysis Date: 11/22/2019	SeqNo: 2217075 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: LCS-48955	SampType: LCS	TestCode: EPA Method 7470: Mercury								
Client ID: LCSW	Batch ID: 48955	RunNo: 64701								
Prep Date: 11/21/2019	Analysis Date: 11/22/2019	SeqNo: 2217080 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0048	0.00020	0.005000	0	96.7	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level
D Sample Diluted Due to Matrix
II Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not in Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911679

03-Dec-19

Client: Souder, Miller and Associates

Project: Huerfano

Sample ID: MB-48826	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 48826	RunNo: 64774								
Prep Date: 11/15/2019	Analysis Date: 11/25/2019	SeqNo: 2219763 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	ND	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID: LCS-48826	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 48826	RunNo: 64774								
Prep Date: 11/15/2019	Analysis Date: 11/25/2019	SeqNo: 2219768 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.47	0.020	0.5000	0	94.6	80	120			
Cadmium	0.49	0.0020	0.5000	0	97.1	80	120			
Chromium	0.47	0.0060	0.5000	0	95.0	80	120			
Lead	0.50	0.0050	0.5000	0	100	80	120			
Selenium	0.54	0.050	0.5000	0	107	80	120			
Silver	0.095	0.0050	0.1000	0	95.0	80	120			

Sample ID: MB-48826	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 48826	RunNo: 64774								
Prep Date: 11/15/2019	Analysis Date: 11/25/2019	SeqNo: 2219851 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								

Sample ID: LCS-48826	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 48826	RunNo: 64774								
Prep Date: 11/15/2019	Analysis Date: 11/25/2019	SeqNo: 2219853 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.50	0.020	0.5000	0	99.7	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1911679

RcptNo: 1

Received By: Juan Rojas

11/15/2019 8:00:00 AM

Completed By: Desiree Dominguez

11/15/2019 8:37:26 AM

Reviewed By: ENM

11/15/19

DD

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: 0
(<2 or >12 unless noted)
Adjusted? no

Checked by: DM 11/15/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.6	Good	Yes			

Turn-Around Time:

ent: sma

Shipping Address: 461 W Broadway

10428 NW 84th

one #: 568 225 7535

ail or Fax#: Ashley Maxvum

1/10 Package:
Standard

☐ Level 4 (Full Validation)

Creditation: ☐ Az Compliance ☐ Other

NELAC ☒ Other ☐
EDD (Type)

EDD (Type)

Time	...
------	-----

Matrix

Sample Name

11/9	10:22 Aqueous	Huckford
------	---------------	----------

Time:

Relinquished by:

Received by: Via:

Date Time 11/

Remarks:

Remarks: 8260 Full List
TCP Compound at TCP Limit

Time:

Relinquished by:

Received by:

Date	Time
11/11	11:11

top

Invoice Enterprise

If necessary, samples submitted to Hail Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any subcontracted data will be clearly related on the analytical report. This serves as notice of this possibility. Any subcontracted data will be clearly related on the analytical report.

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

SWG19-4N

2019

Form C-138
Revised August 1, 2011

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Western Refining Southwest, Inc. 111 County Road 4990 Bloomfield, NM 87413
2. Originating Site: Bailey Welding 5861 Hwy 64, Farmington, NM 87401
3. Location of Material (Street Address, City, State or ULSTR): Same as originating Site
4. Source and Description of Waste: Wash water used to test crude oil sumps. Estimated Volume <u>180</u> bbls Known Volume (to be entered by the operator at the end of the haul) _____ yd ³ / bbls
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS I, <u>Matthew Krakow</u> <i>Matthew Krakow</i> representative or authorized agent for <u>Andeavor Logistics</u> do hereby PRINT & SIGN NAME COMPANY NAME certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification) ☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non- exempt waste. <i>Operator Use Only: Waste Acceptance Frequency</i> ☐ Monthly ☐ Weekly ☐ Per Load ☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items) ☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4) GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS I, <u>N/A</u> , representative for <u>N/A</u> do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.
5. Transporter: To be determined.

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: Agua Moss, LLC Permit #: UICI-005 (Class 1 Non-Hazardous Well)

Address of Facility: 345 CR 350, San Juan County, Aztec, NM 87410

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: _____

TITLE: _____

DATE: _____

SIGNATURE: _____
Surface Waste Management Facility Authorized Agent

TELEPHONE NO.: _____



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 11, 2019

Matt Krakow
Andcavor Bloomfield
111 CR 4990
Bloomfield, NM 87413
TEL: (505) 801-5616
FAX

RE: Crude Sump Wash Water

OrderNo.: 1812A77

Dear Matt Krakow:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/19/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1812A77

Date Reported: 1/11/2019

CLIENT: Andeavor Bloomfield

Client Sample ID: Wash Water

Project: Crude Sump Wash Water

Collection Date: 12/17/2018 2:00:00 PM

Lab ID: 1812A77-001

Matrix: AQUEOUS

Received Date: 12/19/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 7470: MERCURY							Analyst: pmf
Mercury	0.00075	0.00020		mg/L	1	12/28/2018 11:17:57 AM	422347
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: rde
Arsenic	ND	0.020		mg/L	1	12/26/2018 3:07:27 PM	42228
Barium	0.44	0.020		mg/L	1	12/26/2018 3:07:27 PM	42228
Cadmium	ND	0.0020		mg/L	1	12/26/2018 3:07:27 PM	42228
Chromium	ND	0.0060		mg/L	1	12/28/2018 11:46:56 AM	42228
Lead	ND	0.0050		mg/L	1	12/26/2018 3:07:27 PM	42228
Selenium	ND	0.050		mg/L	1	12/26/2018 3:07:27 PM	42228
Silver	ND	0.0050		mg/L	1	12/26/2018 3:07:27 PM	42228
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Acenaphthylene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Aniline	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Anthracene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Azobenzene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Benz(a)anthracene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Benzo(a)pyrene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Benzo(b)fluoranthene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Benzo(g,h,i)perylene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Benzo(k)fluoranthene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Benzoic acid	120	100	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Benzyl alcohol	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Bis(2-chloroethoxy)methane	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Bis(2-chloroethyl)ether	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Bis(2-chloroisopropyl)ether	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Bis(2-ethylhexyl)phthalate	290	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
4-Bromophenyl phenyl ether	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Butyl benzyl phthalate	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Carbazole	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
4-Chloro-3-methylphenol	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
4-Chloroaniline	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
2-Chloronaphthalene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
2-Chlorophenol	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
4-Chlorophenyl phenyl ether	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Chrysene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Di-n-butyl phthalate	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Di-n-octyl phthalate	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Dibenz(a,h)anthracene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1812A77

Date Reported: 1/11/2019

CLIENT: Andeavor Bloomfield

Client Sample ID: Wash Water

Project: Crude Sump Wash Water

Collection Date: 12/17/2018 2:00:00 PM

Lab ID: 1812A77-001

Matrix: AQUEOUS

Received Date: 12/19/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Dibenzofuran	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
1,2-Dichlorobenzene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
1,3-Dichlorobenzene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
1,4-Dichlorobenzene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
3,3'-Dichlorobenzidine	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Diethyl phthalate	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Dimethyl phthalate	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
2,4-Dichlorophenol	ND	100	D	µg/L	1	12/31/2018 10:00:40 AM	42256
2,4-Dimethylphenol	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
4,6-Dinitro-2-methylphenol	ND	100	D	µg/L	1	12/31/2018 10:00:40 AM	42256
2,4-Dinitrophenol	ND	100	D	µg/L	1	12/31/2018 10:00:40 AM	42256
2,4-Dinitrotoluene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
2,6-Dinitrotoluene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Fluoranthene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Fluorene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Hexachlorobenzene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Hexachlorobutadiene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Hexachlorocyclopentadiene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Hexachloroethane	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Indeno(1,2,3-cd)pyrene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Isophorone	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
1-Methylnaphthalene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
2-Methylnaphthalene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
2-Methylphenol	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
3+4-Methylphenol	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
N-Nitrosodi-n-propylamine	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
N-Nitrosodimethylamine	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
N-Nitrosodiphenylamine	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Naphthalene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
2-Nitroaniline	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
3-Nitroaniline	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
4-Nitroaniline	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Nitrobenzene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
2-Nitrophenol	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
4-Nitrophenol	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Pentachlorophenol	ND	100	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Phenanthrene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Phenol	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Pyrene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1812A77

Date Reported: 1/11/2019

CLIENT: Andeavor Bloomfield

Client Sample ID: Wash Water

Project: Crude Sump Wash Water

Collection Date: 12/17/2018 2:00:00 PM

Lab ID: 1812A77-001

Matrix: AQUEOUS

Received Date: 12/19/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Pyridine	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
1,2,4-Trichlorobenzene	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
2,4,5-Trichlorophenol	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
2,4,6-Trichlorophenol	ND	50	D	µg/L	1	12/31/2018 10:00:40 AM	42256
Surr: 2-Fluorophenol	40.5	15-74.1	D	%Rec	1	12/31/2018 10:00:40 AM	42256
Surr: Phenol-d5	37.5	15-59.8	D	%Rec	1	12/31/2018 10:00:40 AM	42256
Surr: 2,4,6-Tribromophenol	60.9	22.1-112	D	%Rec	1	12/31/2018 10:00:40 AM	42256
Surr: Nitrobenzene-d5	62.1	33.2-94	D	%Rec	1	12/31/2018 10:00:40 AM	42256
Surr: 2-Fluorobiphenyl	54.9	34-90.9	D	%Rec	1	12/31/2018 10:00:40 AM	42256
Surr: 4-Terphenyl-d14	51.3	15-149	D	%Rec	1	12/31/2018 10:00:40 AM	42256
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	320	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
Toluene	760	50		µg/L	50	12/21/2018 12:12:00 PM	R56574
Ethylbenzene	65	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
1,2,4-Trimethylbenzene	75	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
1,3,5-Trimethylbenzene	30	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
1,2-Dichloroethane (EDC)	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
1,2-Dibromoethane (EDB)	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
Naphthalene	36	10		µg/L	5	12/21/2018 3:28:00 AM	W56508
1-Methylnaphthalene	32	20		µg/L	5	12/21/2018 3:28:00 AM	W56508
2-Methylnaphthalene	35	20		µg/L	5	12/21/2018 3:28:00 AM	W56508
Acetone	770	50		µg/L	5	12/21/2018 3:28:00 AM	W56508
Bromobenzene	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
Bromodichloromethane	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
Bromoform	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
Bromomethane	ND	15		µg/L	5	12/21/2018 3:28:00 AM	W56508
2-Butanone	150	50		µg/L	5	12/21/2018 3:28:00 AM	W56508
Carbon disulfide	ND	50		µg/L	5	12/21/2018 3:28:00 AM	W56508
Carbon Tetrachloride	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
Chlorobenzene	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
Chloroethane	ND	10		µg/L	5	12/21/2018 3:28:00 AM	W56508
Chloroform	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
Chloromethane	ND	15		µg/L	5	12/21/2018 3:28:00 AM	W56508
2-Chlorotoluene	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
4-Chlorotoluene	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
cis-1,2-DCE	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
cis-1,3-Dichloropropene	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
1,2-Dibromo-3-chloropropane	ND	10		µg/L	5	12/21/2018 3:28:00 AM	W56508

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1812A77

Date Reported: 1/11/2019

CLIENT: Andeavor Bloomfield

Client Sample ID: Wash Water

Project: Crude Sump Wash Water

Collection Date: 12/17/2018 2:00:00 PM

Lab ID: 1812A77-001

Matrix: AQUEOUS

Received Date: 12/19/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Dibromochloromethane	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
Dibromomethane	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
1,2-Dichlorobenzene	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
1,3-Dichlorobenzene	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
1,4-Dichlorobenzene	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
Dichlorodifluoromethane	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
1,1-Dichloroethane	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
1,1-Dichloroethene	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
1,2-Dichloropropane	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
1,3-Dichloropropane	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
2,2-Dichloropropane	ND	10		µg/L	5	12/21/2018 3:28:00 AM	W56508
1,1-Dichloropropene	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
Hexachlorobutadiene	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
2-Hexanone	ND	50		µg/L	5	12/21/2018 3:28:00 AM	W56508
Isopropylbenzene	9.1	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
4-Isopropyltoluene	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
4-Methyl-2-pentanone	ND	50		µg/L	5	12/21/2018 3:28:00 AM	W56508
Methylene Chloride	ND	15		µg/L	5	12/21/2018 3:28:00 AM	W56508
n-Butylbenzene	ND	15		µg/L	5	12/21/2018 3:28:00 AM	W56508
n-Propylbenzene	11	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
sec-Butylbenzene	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
Styrene	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
tert-Butylbenzene	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
1,1,1,2-Tetrachloroethane	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
1,1,2,2-Tetrachloroethane	ND	10		µg/L	5	12/21/2018 3:28:00 AM	W56508
Tetrachloroethene (PCE)	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
trans-1,2-DCE	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
trans-1,3-Dichloropropene	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
1,2,3-Trichlorobenzene	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
1,2,4-Trichlorobenzene	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
1,1,1-Trichloroethane	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
1,1,2-Trichloroethane	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
Trichloroethene (TCE)	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
Trichlorofluoromethane	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
1,2,3-Trichloropropane	ND	10		µg/L	5	12/21/2018 3:28:00 AM	W56508
Vinyl chloride	ND	5.0		µg/L	5	12/21/2018 3:28:00 AM	W56508
Xylenes, Total	460	7.5		µg/L	5	12/21/2018 3:28:00 AM	W56508
Surr: 1,2-Dichloroethane-d4	94.5	70-130		%Rec	5	12/21/2018 3:28:00 AM	W56508
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	5	12/21/2018 3:28:00 AM	W56508

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	F Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1812A77

Date Reported: 1/11/2019

CLIENT: Andeavor Bloomfield

Client Sample ID: Wash Water

Project: Crude Sump Wash Water

Collection Date: 12/17/2018 2:00:00 PM

Lab ID: 1812A77-001

Matrix: AQUEOUS

Received Date: 12/19/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Surr: Dibromofluoromethane	94.3	70-130		%Rec	5	12/21/2018 3:28:00 AM	W56508
Surr: Toluene-d8	100	70-130		%Rec	5	12/21/2018 3:28:00 AM	W56508

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	II	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

1812A77-001D WASH WATER

Collected date/time: 12/17/18 14:00

SAMPLE RESULTS - 01

L1055187

ONE LAB. NATIONWIDE



Wet Chemistry by Method 4500 CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Cyanide	ND		0.00500	1	12/27/2018 10:31	WG1215134

Wet Chemistry by Method 9034-9030B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Sulfide	ND		0.0500	1	12/27/2018 14:24	WG1215163

Wet Chemistry by Method 9040C

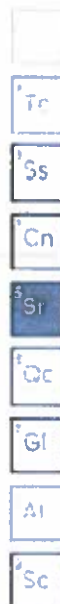
Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Conductivity	6.51	TS	1	12/21/2018 12:05	WG1216549

Sample Narrative:

L1055187-01 WG1214549 6.51 at 12.6C

Wet Chemistry by Method D93/101CA

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Fluoride	DNF at 170		1	12/26/2018 16:19	WG1215925

ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
L1055187DATE/TIME:
12/27/18 14:03

WG1215794

Wet Chemistry by Method 4500 CN E-2011

QUALITY CONTROL SUMMARY

L1055187.01

DRIF LAB PLANTHUS VILDE

Method Blank (MB)

(MB) R337498-1 12/27/18 10:00

Analyte	MB Result mg/L	MB Qualifier	MB MCL mg/L	MB PDL mg/L
Reactive Carbon	U		0.00182	0.00500

Sample Narrative:

BLANK HIGH ALI FAILED, ONLY REPORTING SAMPLES <0.1 WHICH IS T-E TV OF THE LCS 2ND SOURCE AND PASSED

Laboratory Control Sample (LCS)

(LCS) R337498-2 12/27/18 10:01

Analyte	Spike Amount mg/L	LCS Result mg/L	LCS Rec %	Rec. Limits %	LCS Qualifier
Reactive Carbon	0.120	0.121	101	85-115	

Te
Ss
Cn
S
Cc
Gl
Al
Sc

ACCOUNT

Hall Environmental Analysis Laboratory

PROJECT:

SDG:

11055-87

DATE/TIME:

12/27/18 14:03

WG1215102

Wet Chemistry by Method 9034-9030B

QUALITY CONTROL SUMMARY

11055181.01

ONE LAB NATIONWIDE

Method Blank (MB)

(MB) R3370673-1 12/22/18 14:15

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Reactive Sulfide	U		0.00350	0.0520

Laboratory Control Sample (LCS)

(LCS) R3370673-2 12/22/18 14:16

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec %	Rec Limits %	LCS Qualifier
Reactive Sulfide	0.500	0.476	95.2	85.0-115	

Tc

Ss

Cu

Si

Co

Gl

A

Sc

ACCOUNT

Hall Environmental Analysis Laboratory

PROJECT

SDG

11055187

DATE/TIME

12/27/18 14:03

WG1214549

Wet Chemistry by Metro 3040C

QUALITY CONTROL SUMMARY

11055187-01

ONE LAB NATIONWIDE

Laboratory Control Sample (LCS)

(LCS) RE37C4011 12/21/16 12:05

Analyte	Spike Amount	LCS Result	LCS Rec	Rec. Limits	LCS Qualifies
	µg	µg	%	%	
Corrosivity by pH	10.0	9.55	99.5	99.0-100	

Sample Narrative:

LCS: 9.55 at 18.1C



ACCOUNT:
Hill Environmental Analysts Laboratory

PROJECT

SOG
11055187

DATE/TIME:
12/27/16 14:53

WG1215925

Wet Chemistry by Method 903/1010A

QUALITY CONTROL SUMMARY

L1055187-0

ONE LAB. NATION-WIDE

L1055190-01 Original Sample (OS) - Duplicate (DUP)

(OS) L1055190-01 12/25/18 15:19 • (DUP) R3371338-2 12/26/18 15:19

Analyte	Original Result	DUP Result	Dilution	DUP RD	DUP Qualifier	Limits
Flashpoint	deg F	deg F				
	DNF at 170	DNF at 170	1	0.000		10

L1055848-05 Original Sample (OS) - Duplicate (DUP)

(OS) L1055848-05 12/26/18 16:19 • (DUP) R3371338-3 12/26/18 15:19

Analyte	Original Result	DUP Result	Dilution	DUP RD	DUP Qualifier	Limits
Flashpoint	deg F	deg F				
	DNF at 170	DNF at 170	1	0.000		10

Laboratory Control Sample (LCS)

(LCS) R3371338-1 12/26/18 16:19

Analyte	Spike Amount	LCS Result	LCS Rec	Rec. Limit	LCS Qualifier
Flashpoint	deg F	deg F	%	%	
	82.0	82.3	100	95.0-104	

Tr
Ss
Cn
Sr
De
Gl
Al
Sc

ACCOUNT
Hull Environmental Analysis Laboratory

PROJECT

SDG
L1055187

DATE/TIME:
12/27/18 14:03

GLOSSARY OF TERMS

ONELAR NATIONWIDE



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RVC	Recovery.
RPD	Relative Percent Difference
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Units	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

T8	Sample(s) received past/too close to holding time expiration.
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ACCOUNT:
Hall Environmental Analysis Laboratory

PROJECT:

SDG:
11055187

DATE/TIME:
12/27/18 14:03

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812A77

11-Jan-19

Client: Andeavor Bloomfield

Project: Crude Sump Wash Water

Sample ID	100ng lcs2	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	W56508	RunNo:	56508					
Prep Date:		Analysis Date:	12/20/2018	SeqNo:	1889981	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.1	70	130			
Chlorobenzene	20	1.0	20.00	0	100	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	98.5	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	93.4	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.7	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID	rb2	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	W56508	RunNo:	56508					
Prep Date:		Analysis Date:	12/20/2018	SeqNo:	1889982	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812A77

11-Jan-19

Client: Andeavor Bloomfield
Project: Crude Sump Wash Water

Sample ID	rb2	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: W56508			RunNo: 56508					
Prep Date:		Analysis Date: 12/20/2018			SeqNo: 1889982		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812A77

11-Jan-19

Client: Andeavor Bloomfield
Project: Crude Sump Wash Water

Sample ID	rb2	SampType:	MBLK		TestCode:	EPA Method 8260B: VOLATILES				
Client ID:	PBW	Batch ID:	W56508		RunNo:	56508				
Prep Date:		Analysis Date:	12/20/2018		SeqNo:	1889982	Units:	µg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.8	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.3		10.00		92.6	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R56574	RunNo:	56574					
Prep Date:		Analysis Date:	12/21/2018	SeqNo:	1892893	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene	20	1.0	20.00	0	98.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.2	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	9.6		10.00		95.7	70	130			
Surr: Toluene-d8	10		10.00		99.7	70	130			

Sample ID	rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R56574			RunNo: 56574					
Prep Date:		Analysis Date: 12/21/2018			SeqNo: 1892894		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene	ND	1.0								
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.0	70	130			
Surr: Toluene-d8	9.9		10.00		98.6	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812A77

11-Jan-19

Client: Andeavor Bloomfield
Project: Crude Sump Wash Water

Sample ID	ics-42256	SampType: LCS			TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSW	Batch ID: 42256			RunNo: 56691					
Prep Date:	12/21/2018	Analysis Date: 12/31/2018			SeqNo: 1897168		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	66	10	100.0	0	66.1	55.1	104			
4-Chloro-3-methylphenol	120	10	200.0	0	61.5	57	115			
2-Chlorophenol	140	10	200.0	0	69.2	43.4	112			
1,4-Dichlorobenzene	45	10	100.0	0	45.3	38	95.2			
2,4-Dinitrotoluene	58	10	100.0	0	58.1	55.1	96.7			
N-Nitrosodi-n-propylamine	73	10	100.0	0	73.2	55	112			
4-Nitrophenol	72	10	200.0	0	36.1	16.6	93			
Pentachlorophenol	110	20	200.0	0	54.0	43.2	104			
Phenol	79	10	200.0	0	39.4	21.3	85.7			
Pyrene	64	10	100.0	0	64.4	64.9	105			S
1,2,4-Trichlorobenzene	53	10	100.0	0	53.4	42.6	107			
Surr: 2-Fluorophenol	110		200.0		53.2	15	74.1			
Surr: Phenol-d5	80		200.0		39.9	15	59.8			
Surr: 2,4,6-Tribromophenol	150		200.0		72.6	22.1	112			
Surr: Nitrobenzene-d5	76		100.0		75.7	33.2	94			
Surr: 2-Fluorobiphenyl	64		100.0		63.6	34	90.9			
Surr: 4-Terphenyl-d14	57		100.0		57.1	15	149			

Sample ID	icsd-42256	SampType: LCSd			TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS02	Batch ID: 42256			RunNo: 56691					
Prep Date:	12/21/2018	Analysis Date: 12/31/2018			SeqNo: 1897169		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	64	10	100.0	0	64.4	55.1	104	2.61	34.9	
4-Chloro-3-methylphenol	130	10	200.0	0	64.9	57	115	5.33	30.2	
2-Chlorophenol	140	10	200.0	0	69.1	43.4	112	0.188	49.5	
1,4-Dichlorobenzene	42	10	100.0	0	41.7	38	95.2	8.46	43.2	
2,4-Dinitrotoluene	59	10	100.0	0	59.3	55.1	96.7	2.15	49.9	
N-Nitrosodi-n-propylamine	75	10	100.0	0	75.2	55	112	2.72	42.1	
4-Nitrophenol	72	10	200.0	0	36.1	16.6	93	0.111	31.5	
Pentachlorophenol	110	20	200.0	0	54.4	43.2	104	0.683	52.5	
Phenol	85	10	200.0	0	42.6	21.3	85.7	7.71	54.4	
Pyrene	66	10	100.0	0	65.9	64.9	105	2.36	30.7	
1,2,4-Trichlorobenzene	51	10	100.0	0	50.9	42.6	107	4.68	48.1	
Surr: 2-Fluorophenol	110		200.0		54.3	15	74.1	0	0	
Surr: Phenol-d5	83		200.0		41.3	15	59.8	0	0	
Surr: 2,4,6-Tribromophenol	140		200.0		71.9	22.1	112	0	0	
Surr: Nitrobenzene-d5	76		100.0		75.8	33.2	94	0	0	
Surr: 2-Fluorobiphenyl	63		100.0		63.5	34	90.9	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812A77

11-Jan-19

Client: Andeavor Bloomfield
Project: Crude Sump Wash Water

Sample ID	lcscd-42256	SampType:	LCSD	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	LCSS02	Batch ID:	42256	RunNo:	56691					
Prep Date:	12/21/2018	Analysis Date:	12/31/2018	SeqNo:	1897169	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	59		100.0		58.9	15	149	0	0	

Sample ID	mb-42256	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBW	Batch ID:	42256	RunNo:	56691					
Prep Date:	12/21/2018	Analysis Date:	12/31/2018	SeqNo:	1897170	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Acenaphthene	ND	10
Acenaphthylene	ND	10
Aniline	ND	10
Anthracene	ND	10
Azobenzene	ND	10
Benz(a)anthracene	ND	10
Benzo(a)pyrene	ND	10
Benzo(b)fluoranthene	ND	10
Benzo(g,h,i)perylene	ND	10
Benzo(k)fluoranthene	ND	10
Benzoic acid	ND	20
Benzyl alcohol	ND	10
Bis(2-chloroethoxy)methane	ND	10
Bis(2-chloroethyl)ether	ND	10
Bis(2-chloroisopropyl)ether	ND	10
Bis(2-ethylhexyl)phthalate	ND	10
4-Bromophenyl phenyl ether	ND	10
Butyl benzyl phthalate	ND	10
Carbazole	ND	10
4-Chloro-3-methylphenol	ND	10
4-Chloroaniline	ND	10
2-Chloronaphthalene	ND	10
2-Chlorophenol	ND	10
4-Chlorophenyl phenyl ether	ND	10
Chrysene	ND	10
Di-n-butyl phthalate	ND	10
Di-n-octyl phthalate	ND	10
Dibenz(a,h)anthracene	ND	10
Dibenzofuran	ND	10
1,2-Dichlorobenzene	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812A77

11-Jan-19

Client: Andeavor Bloomfield

Project: Crude Sump Wash Water

Sample ID	mb-42256	SampType	MBLK	TestCode	EPA Method 8270C: Semivolatiles					
Client ID	PBW	Batch ID	42256	RunNo	56691					
Prep Date	12/21/2018	Analysis Date	12/31/2018	SeqNo	1897170	Units	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812A77

11-Jan-19

Client: Andeavor Bloomfield
Project: Crude Sump Wash Water

Sample ID	mb-42256	SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles						
Client ID:	PBW	Batch ID: 42256		RunNo: 56691						
Prep Date:	12/21/2018	Analysis Date: 12/31/2018		SeqNo: 1897170			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	130		200.0		63.6	15	74.1			
Surr: Phenol-d5	100		200.0		52.0	15	59.8			
Surr: 2,4,6-Tribromophenol	200		200.0		101	22.1	112			
Surr: Nitrobenzene-d5	99		100.0		99.0	33.2	94			S
Surr: 2-Fluorobiphenyl	94		100.0		94.1	34	90.9			S
Surr: 4-Terphenyl-d14	83		100.0		82.9	15	149			

Sample ID	lcs-42445	SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles						
Client ID:	LCSW	Batch ID: 42445		RunNo: 56846						
Prep Date:	1/4/2019	Analysis Date: 1/8/2019		SeqNo: 1902484			Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	95		200.0		47.6	15	74.1			
Surr: Phenol-d5	79		200.0		39.4	15	59.8			
Surr: 2,4,6-Tribromophenol	170		200.0		84.0	22.1	112			
Surr: Nitrobenzene-d5	76		100.0		76.0	33.2	94			
Surr: 2-Fluorobiphenyl	78		100.0		77.8	34	90.9			
Surr: 4-Terphenyl-d14	80		100.0		79.8	15	149			

Sample ID	lcsd-42445	SampType: LCSD			TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS02	Batch ID: 42445			RunNo: 56846					
Prep Date:	1/4/2019	Analysis Date: 1/8/2019			SeqNo: 1902485		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	180		200.0		91.8	15	74.1	0	0	S
Surr: Phenol-d5	140		200.0		68.8	15	59.8	0	0	S
Surr: 2,4,6-Tribromophenol	280		200.0		138	22.1	112	0	0	S
Surr: Nitrobenzene-d5	140		100.0		139	33.2	94	0	0	S
Surr: 2-Fluorobiphenyl	140		100.0		140	34	90.9	0	0	S
Surr: 4-Terphenyl-d14	120		100.0		116	15	149	0	0	

Sample ID	mb-42445	SampType	MBLK	TestCode	EPA Method 8270C: Semivolatiles					
Client ID	PBW	Batch ID	42445	RunNo	56846					
Prep Date	1/4/2019	Analysis Date	1/8/2019	SeqNo	1902486	Units	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	94		200.0		46.9	15	74.1			
Surr: Phenol-d5	70		200.0		35.1	15	59.8			
Surr: 2,4,6-Tribromophenol	130		200.0		67.1	22.1	112			
Surr: Nitrobenzene-d5	67		100.0		67.1	33.2	94			

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812A77

11-Jan-19

Client: Andeavor Bloomfield
Project: Crude Sump Wash Water

Sample ID: mb-42445	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 42445	RunNo: 56846								
Prep Date: 1/4/2019	Analysis Date: 1/8/2019	SeqNo: 1902486 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	62		100.0		62.0	34	90.9			
Surr: 4-Terphenyl-d14	84		100.0		84.0	15	149			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812A77

11-Jan-19

Client: Andeavor Bloomfield
Project: Crude Sump Wash Water

Sample ID	MB-42347	SampType:	MBLK	TestCode:	EPA Method 7470: Mercury					
Client ID:	PBW	Batch ID:	42347	RunNo:	56665					
Prep Date:	12/27/2018	Analysis Date:	12/28/2018	SeqNo:	1896284	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-42347	SampType:	LCS	TestCode:	EPA Method 7470: Mercury					
Client ID:	LCSW	Batch ID:	42347	RunNo:	56665					
Prep Date:	12/27/2018	Analysis Date:	12/28/2018	SeqNo:	1896285	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0048	0.00020	0.005000	0	96.8	80	120			

Sample ID	1812A77-001CMS	SampType:	MS	TestCode:	EPA Method 7470: Mercury					
Client ID:	Wash Water	Batch ID:	42347	RunNo:	56665					
Prep Date:	12/27/2018	Analysis Date:	12/28/2018	SeqNo:	1896287	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0064	0.00020	0.005000	0.0007533	112	75	125			

Sample ID	1812A77-001CMSD	SampType:	MSD	TestCode:	EPA Method 7470: Mercury					
Client ID:	Wash Water	Batch ID:	42347	RunNo:	56665					
Prep Date:	12/27/2018	Analysis Date:	12/28/2018	SeqNo:	1896288	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0063	0.00020	0.005000	0.0007533	110	75	125	1.85	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812A77

11-Jan-19

Client: Andeavor Bloomfield
Project: Crude Sump Wash Water

Sample ID	MB-42228	SampType:	MBLK	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	PBW	Batch ID:	42228	RunNo:	56631					
Prep Date:	12/20/2018	Analysis Date:	12/26/2018	SeqNo:	1894530	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	ND	0.020								
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	ND	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID	LCS-42228	SampType:	LCS	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	LCSW	Batch ID:	42228	RunNo:	56631					
Prep Date:	12/20/2018	Analysis Date:	12/26/2018	SeqNo:	1894531	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	0.50	0.020	0.5000	0	101	80	120			
Barium	0.50	0.020	0.5000	0	101	80	120			
Cadmium	0.51	0.0020	0.5000	0	102	80	120			
Chromium	0.50	0.0060	0.5000	0	101	80	120			
Lead	0.50	0.0050	0.5000	0	99.2	80	120			
Selenium	0.49	0.050	0.5000	0	98.8	80	120			
Silver	0.10	0.0050	0.1000	0	102	80	120			

Sample ID	1812A77-001CMS	SampType:	MS	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	Wash Water	Batch ID:	42228	RunNo:	56631					
Prep Date:	12/20/2018	Analysis Date:	12/26/2018	SeqNo:	1894602	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	0.55	0.020	0.5000	0	109	75	125			
Barium	0.93	0.020	0.5000	0.4406	98.4	75	125			
Cadmium	0.52	0.0020	0.5000	0	104	75	125			
Lead	0.47	0.0050	0.5000	0	93.9	75	125			
Selenium	0.54	0.050	0.5000	0	108	75	125			
Silver	0.11	0.0050	0.1000	0	111	75	125			

Sample ID	1812A77-001CMSD	SampType:	MSD	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	Wash Water	Batch ID:	42228	RunNo:	56631					
Prep Date:	12/20/2018	Analysis Date:	12/26/2018	SeqNo:	1894603	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	0.53	0.020	0.5000	0	105	75	125	3.82	20	
Barium	0.94	0.020	0.5000	0.4406	99.3	75	125	0.484	20	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1812A77

11-Jan-19

Client: Andeavor Bloomfield
Project: Crude Sump Wash Water

Sample ID	1812A77-001CMSD	SampType: MSD	TestCode: EPA 6010B: Total Recoverable Metals							
Client ID:	Wash Water	Batch ID:	42228	RunNo: 56631						
Prep Date:	12/20/2018	Analysis Date:	12/26/2018	SeqNo: 1894603		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.51	0.0020	0.5000	0	102	75	125	1.38	20	
Lead	0.48	0.0050	0.5000	0	95.9	75	125	2.14	20	
Selenium	0.55	0.050	0.5000	0	110	75	125	2.58	20	
Silver	0.11	0.0050	0.1000	0	111	75	125	0.248	20	

Sample ID	1812A77-001CMS	SampType:	MS	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	Wash Water	Batch ID:	42228	RunNo:	56707					
Prep Date:	12/20/2018	Analysis Date:	12/28/2018	SeqNo:	1897664	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.51	0.0060	0.5000	0	102	75	125			

Sample ID	1812A77-001CMSD	SampType:	MSD	TestCode:	EPA 6010B: Total Recoverable Metals					
Client ID:	Wash Water	Batch ID:	42228	RunNo:	56707					
Prep Date:	12/20/2018	Analysis Date:	12/28/2018	SeqNo:	1897665	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.51	0.0060	0.5000	0	103	75	125	0	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawks NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: ANDEAVOR BLOOMFIEL

Work Order Number: 1812A77

RcptNo: 1

Received By: Anne Thorne 12/19/2018 8:00:00 AM

Completed By: Anne Thorne 12/19/2018 12:33:20 PM

Reviewed By:

Labeled by: JAB 12/19/18

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0° C Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved bottles checked for pH: 12

Adjusted? No

Checked by: JAB 12/19/18

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:

Date:

By Whom:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ in Person

Regarding:

Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.4	Good	Yes			

Good till 11/4/20

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised August 1, 2011

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:	MPLX Western Refining Logistics, 3303 N 1 st , Bloomfield, NM 87413
2. Originating Site: Same as generator name and address	
3. Location of Material (Street Address, City, State or ULSTR): SAME AS ORIGINATING SITE ADDRESS	
4. Source and Description of Waste: Waste water and oil from non exempt waste water sumps from facility tank farm.	
Estimated Volume	BBLs yd ³ Known Volume (to be entered by the operator at the end of the haul) BBLs yd ³
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS I, <u>Rose P. Salazar</u> , representative or authorized agent for <u>Marathon Petroleum Logistics dba Western Refining</u> do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification) ☐ RCRA Exempt (If the waste is Class II then it is RCRA EXCEMPT and this box must be checked and no proof of non hazardous is needed): Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load ☒ RCRA Non-Exempt (If the waste is Class I is it RCRA NON-EXCEMPT. It requires one of the boxes below to be checked. MSDS, RCRA Analysis, Process Knowledge, or Other. The RCRA analysis needs to be attached): Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items) ☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)	
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS I, <u>Rose P. Salazar</u> , representative for <u>Marathon Petroleum Logistics dba Western Refining</u> do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.	
5. Transporter:	HYDROPURE

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: Agua Moss LLC - Permit #UICI-005

Address of Facility: E-02-29N-12W Crouch Mesa Facility

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: _____

TITLE: _____

DATE: _____

SIGNATURE: _____

TELEPHONE NO.: _____

Surface Waste Management Facility Authorized Agent



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 04, 2019

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-5667
FAX (505) 327-1496

RE: Marathon BLMFD Transport Facility

OrderNo.: 1910C26

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/23/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C26

Date Reported: 11/4/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: West Sump

Project: Marathon BLMFD Transport Facility

Collection Date: 10/22/2019 8:25:00 AM

Lab ID: 1910C26-001

Matrix: AQUEOUS

Received Date: 10/23/2019 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 7470: MERCURY							Analyst: pmf
Mercury	ND	0.020		mg/L	1	10/25/2019 12:57:21 PM	48362
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: rde
Arsenic	ND	5.0		mg/L	1	10/30/2019 12:54:31 PM	48345
Barium	ND	100		mg/L	1	10/30/2019 12:54:31 PM	48345
Cadmium	ND	1.0		mg/L	1	10/30/2019 12:54:31 PM	48345
Chromium	ND	5.0		mg/L	1	10/30/2019 12:54:31 PM	48345
Lead	ND	5.0		mg/L	1	10/30/2019 12:54:31 PM	48345
Selenium	ND	1.0		mg/L	1	10/30/2019 12:54:31 PM	48345
Silver	ND	5.0		mg/L	1	10/30/2019 12:54:31 PM	48345
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: BRM
Diesel Range Organics (DRO)	5.8	1.0		mg/L	1	10/28/2019 11:24:22 PM	48391
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/28/2019 11:24:22 PM	48391
Surr: DNOP	110	70-130		%Rec	1	10/28/2019 11:24:22 PM	48391
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	4.7	0.25		mg/L	5	10/28/2019 12:33:34 PM	G64026
Surr: BFB	130	65.8-143		%Rec	5	10/28/2019 12:33:34 PM	G64026
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	170	10		µg/L	10	10/28/2019 2:04:33 PM	R64048
Toluene	70	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
Ethylbenzene	150	10		µg/L	10	10/28/2019 2:04:33 PM	R64048
Methyl tert-butyl ether (MTBE)	26	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
1,2,4-Trimethylbenzene	200	10		µg/L	10	10/28/2019 2:04:33 PM	R64048
1,3,5-Trimethylbenzene	81	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
Naphthalene	42	2.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
1-Methylnaphthalene	24	4.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
2-Methylnaphthalene	25	4.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
Acetone	ND	10		µg/L	1	10/26/2019 2:48:44 AM	B63993
Bromobenzene	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
Bromodichloromethane	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
Bromoform	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
Bromomethane	ND	3.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
2-Butanone	ND	10		µg/L	1	10/26/2019 2:48:44 AM	B63993
Carbon disulfide	ND	10		µg/L	1	10/26/2019 2:48:44 AM	B63993
Carbon Tetrachloride	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
Chlorobenzene	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C26

Date Reported: 11/4/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: West Sump

Project: Marathon BLMFD Transport Facility

Collection Date: 10/22/2019 8:25:00 AM

Lab ID: 1910C26-001

Matrix: AQUEOUS

Received Date: 10/23/2019 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Chloroethane	ND	2.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
Chloroform	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
Chloromethane	ND	3.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
2-Chlorotoluene	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
4-Chlorotoluene	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
cis-1,2-DCE	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
Dibromochloromethane	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
Dibromomethane	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
1,1-Dichloroethane	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
1,1-Dichloroethene	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
1,2-Dichloropropane	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
1,3-Dichloropropane	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
2,2-Dichloropropane	ND	2.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
1,1-Dichloropropene	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
Hexachlorobutadiene	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
2-Hexanone	ND	10		µg/L	1	10/26/2019 2:48:44 AM	B63993
Isopropylbenzene	11	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
4-Isopropyltoluene	2.8	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
4-Methyl-2-pentanone	ND	10		µg/L	1	10/26/2019 2:48:44 AM	B63993
Methylene Chloride	ND	3.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
n-Butylbenzene	ND	3.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
n-Propylbenzene	18	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
sec-Butylbenzene	2.9	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
Styrene	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
tert-Butylbenzene	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
trans-1,2-DCE	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQI Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- BI Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RI Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C26

Date Reported: 11/4/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: West Sump

Project: Marathon BLMFD Transport Facility

Collection Date: 10/22/2019 8:25:00 AM

Lab ID: 1910C26-001

Matrix: AQUEOUS

Received Date: 10/23/2019 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
Trichlorofluoromethane	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
Vinyl chloride	ND	1.0		µg/L	1	10/26/2019 2:48:44 AM	B63993
Xylenes, Total	900	15		µg/L	10	10/28/2019 2:04:33 PM	R64048
Surr: 1,2-Dichloroethane-d4	98.7	70-130		%Rec	1	10/26/2019 2:48:44 AM	B63993
Surr: 4-Bromofluorobenzene	97.9	70-130		%Rec	1	10/26/2019 2:48:44 AM	B63993
Surr: Dibromofluoromethane	102	70-130		%Rec	1	10/26/2019 2:48:44 AM	B63993
Surr: Toluene-d8	99.8	70-130		%Rec	1	10/26/2019 2:48:44 AM	B63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C26

Date Reported: 11/4/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: East Sump

Project: Marathon BLMFD Transport Facility

Collection Date: 10/22/2019 8:58:00 AM

Lab ID: 1910C26-002

Matrix: AQUEOUS

Received Date: 10/23/2019 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 7470: MERCURY							Analyst: pmf
Mercury	ND	0.020		mg/L	1	10/25/2019 1:03:38 PM	48362
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: rde
Arsenic	ND	5.0		mg/L	1	10/30/2019 1:00:40 PM	48345
Barium	ND	100		mg/L	1	10/30/2019 1:00:40 PM	48345
Cadmium	ND	1.0		mg/L	1	10/30/2019 1:00:40 PM	48345
Chromium	ND	5.0		mg/L	1	10/30/2019 1:00:40 PM	48345
Lead	ND	5.0		mg/L	1	10/30/2019 1:00:40 PM	48345
Selenium	ND	1.0		mg/L	1	10/30/2019 1:00:40 PM	48345
Silver	ND	5.0		mg/L	1	10/30/2019 1:00:40 PM	48345
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: BRM
Diesel Range Organics (DRO)	2.8	1.0		mg/L	1	10/28/2019 11:46:20 PM	48391
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/28/2019 11:46:20 PM	48391
Surr: DNOP	113	70-130		%Rec	1	10/28/2019 11:46:20 PM	48391
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/28/2019 2:05:24 PM	G64026
Surr: BFB	93.3	65.8-143		%Rec	1	10/28/2019 2:05:24 PM	G64026
EPA METHOD 8260B: VOLATILES							Analyst: JMR
Benzene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
Toluene	1.3	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
Ethylbenzene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
Naphthalene	ND	2.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
1-Methylnaphthalene	ND	4.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
2-Methylnaphthalene	ND	4.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
Acetone	ND	10		µg/L	1	10/26/2019 3:17:19 AM	B63993
Bromobenzene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
Bromodichloromethane	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
Bromoform	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
Bromomethane	ND	3.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
2-Butanone	ND	10		µg/L	1	10/26/2019 3:17:19 AM	B63993
Carbon disulfide	ND	10		µg/L	1	10/26/2019 3:17:19 AM	B63993
Carbon Tetrachloride	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
Chlorobenzene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	II	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C26

Date Reported: 11/4/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: East Sump

Project: Marathon BLMFD Transport Facility

Collection Date: 10/22/2019 8:58:00 AM

Lab ID: 1910C26-002

Matrix: AQUEOUS

Received Date: 10/23/2019 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: JMR
Chloroethane	ND	2.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
Chloroform	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
Chloromethane	ND	3.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
2-Chlorotoluene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
4-Chlorotoluene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
cis-1,2-DCE	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
Dibromochloromethane	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
Dibromomethane	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
1,1-Dichloroethane	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
1,1-Dichloroethene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
1,2-Dichloropropane	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
1,3-Dichloropropane	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
2,2-Dichloropropane	ND	2.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
1,1-Dichloropropene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
Hexachlorobutadiene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
2-Hexanone	ND	10		µg/L	1	10/26/2019 3:17:19 AM	B63993
Isopropylbenzene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
4-Isopropyltoluene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
4-Methyl-2-pentanone	ND	10		µg/L	1	10/26/2019 3:17:19 AM	B63993
Methylene Chloride	ND	3.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
n-Butylbenzene	ND	3.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
n-Propylbenzene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
sec-Butylbenzene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
Styrene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
tert-Butylbenzene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
trans-1,2-DCE	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	• Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
II	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQI	Practical Quantitative Limit
S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RI	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C26

Date Reported: 11/4/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: East Sump

Project: Marathon BLMFD Transport Facility

Collection Date: 10/22/2019 8:58:00 AM

Lab ID: 1910C26-002

Matrix: AQUEOUS

Received Date: 10/23/2019 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: JMR
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
Trichlorofluoromethane	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
Vinyl chloride	ND	1.0		µg/L	1	10/26/2019 3:17:19 AM	B63993
Xylenes, Total	ND	1.5		µg/L	1	10/26/2019 3:17:19 AM	B63993
Surr: 1,2-Dichloroethane-d4	94.5	70-130		%Rec	1	10/26/2019 3:17:19 AM	B63993
Surr: 4-Bromofluorobenzene	93.1	70-130		%Rec	1	10/26/2019 3:17:19 AM	B63993
Surr: Dibromofluoromethane	99.6	70-130		%Rec	1	10/26/2019 3:17:19 AM	B63993
Surr: Toluene-d8	101	70-130		%Rec	1	10/26/2019 3:17:19 AM	B63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

ANALYTICAL REPORT

November 01, 2019

Hall Environmental Analysis Laboratory

Sample Delivery Group: L1153489
Samples Received: 10/24/2019
Project Number:
Description:

Report To:

4901 Hawkins NE
Albuquerque, NM 87109

Entire Report Reviewed By:



Daphne Richards
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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SAMPLE SUMMARY

ONE LAB. NATIONWIDE

1910C26-001D WEST SUMP L1153489-01 WW

Collected by

Collected date/time

Received date/time

10/22/19 08:25

10/24/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500 CN E-2011	WG1372803	1	10/31/19 11:04	10/31/19 19:11	JER	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG1369545	1	10/25/19 16:10	10/25/19 16:10	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9034-9030B	WG1370450	1	10/28/19 10:34	10/28/19 10:34	MJA	Mt. Juliet, TN
Wet Chemistry by Method D93/1010A	WG1372215	1	10/31/19 18:00	10/31/19 18:00	SL	Mt. Juliet, TN

1910C26-002D EAST SUMP L1153489-02 WW

Collected by

Collected date/time

Received date/time

10/22/19 08:58

10/24/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500 CN E-2011	WG1372803	1	10/31/19 11:04	10/31/19 19:14	JER	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG1369545	1	10/25/19 16:10	10/25/19 16:10	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9034-9030B	WG1370814	1	10/28/19 14:17	10/28/19 14:17	MJA	Mt. Juliet, TN
Wet Chemistry by Method D93/1010A	WG1372215	1	10/31/19 18:00	10/31/19 18:00	SL	Mt. Juliet, TN

CASE NARRATIVE

ONE LAB. NATIONWIDE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Daphne Richards
Project Manager

Project Narrative

All Reactive Cyanide results reported in the attached report were determined as totals using method 9012B.

All Reactive Sulfide results reported in the attached report were determined as totals using method 9034/9030B.

1910C26-001D WEST SUMP

Collected date/time: 10/22/19 08:25

SAMPLE RESULTS - 01

L1153489

ONE LAB. NATIONWIDE.

Wet Chemistry by Method 4500 CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Cyanide	ND		0.00500	1	10/31/2019 19:11	WG1372803

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Corrosivity by pH	7.46	T8		1	10/25/2019 16:10	WG1369545

Sample Narrative:

L1153489-01 WG1369545: 7.46 at 16.5C

Wet Chemistry by Method 9034-9030B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Sulfide	ND		0.0500	1	10/28/2019 10:34	WG1370450

Wet Chemistry by Method D93/1010A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Flashpoint	DNF at 170			1	10/31/2019 18:00	WG1372215

1910C26-002D EAST SUMP

Collected date/time: 10/22/19 08:58

SAMPLE RESULTS - 02

L1153489

ONE LAB. NATIONWIDE

Wet Chemistry by Method 4500 CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Cyanide	ND		0.00500	1	10/31/2019 19:14	WG1372803

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Corrosivity by pH	6.91	T8	1	10/25/2019 16:10	WG1369545

Sample Narrative:

L1153489-02 WG1369545: 6.91 at 16.7C

Wet Chemistry by Method 9034-9030B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Reactive Sulfide	ND		0.0500	1	10/28/2019 14:17	WG1370814

Wet Chemistry by Method D93/1010A

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Flashpoint	DNF at 170		1	10/31/2019 18:00	WG1372215

Method Blank (MB)

R3467279-1 10/31/19 18:39

te	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ive Cyanide	U		0.00180	0.00500

3296-01 Original Sample (OS) • Duplicate (DUP)

L1153296-01 10/31/19 19:05 • (DUP) R3467279-7 10/31/19 19:49

te	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ive Cyanide	ND	0.000	1	0.000		20

2320-01 Original Sample (OS) • Duplicate (DUP)

L1152320-01 10/31/19 21:19 • (DUP) R3467279-8 10/31/19 21:20

te	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ive Cyanide	ND	0.0466	20	0.000		20

Laboratory Control Sample (LCS)

R3467279-2 10/31/19 18:40

te	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ive Cyanide	0.100	0.113	113	85.0-115	

3212-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

L1153212-02 10/31/19 18:51 • (MS) R3467279-3 10/31/19 18:52 • (MSD) R3467279-4 10/31/19 18:53

te	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ive Cyanide	0.100	ND	0.0485	0.0566	45.7	53.8	1	75.0-125	J6	J6	15.4	20

3489-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

L1153489-02 10/31/19 19:14 • (MS) R3467279-5 10/31/19 19:15 • (MSD) R3467279-6 10/31/19 19:16

te	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ive Cyanide	0.100	ND	0.0864	0.0774	86.4	77.4	1	75.0-125			11.0	20

Cd

Tc

Ss

Cn

Sr

Co

Gl

Al

Sc

3489-01 Original Sample (OS) • Duplicate (DUP)

L1153489-01 10/25/19 16:10 • (DUP) R3465212-5 10/25/19 16:10

Ie	Original Result		DUP Result		Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
	SU		SU					

sivity by pH

7.46 7.47

1 0.134

1

Ie Narrative:

7.46 at 16.5C

P. 7.47 at 17.1C

3489-02 Original Sample (OS) • Duplicate (DUP)

L1153489-02 10/25/19 16:10 • (DUP) R3465212-6 10/25/19 16:10

Ie	Original Result		DUP Result		Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
	SU		SU					

sivity by pH

6.91 6.90

1 0.145

1

Ie Narrative:

6.91 at 16.7C

P. 6.9 at 17.4C

3562-01 Original Sample (OS) • Duplicate (DUP)

L1153562-01 10/25/19 16:10 • (DUP) R3465212-7 10/25/19 16:10

Ie	Original Result		DUP Result		Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
	SU		SU					

sivity by pH

7.76 7.78

1 0.257

1

Ie Narrative:

7.76 at 17C

P. 7.78 at 18.1C

oratory Control Sample (LCS)

R3465212-1 10/25/19 16:10

Ie	Spike Amount		LCS Result		LCS Rec. %	Rec. Limits %	LCS Qualifier
	SU		SU				

sivity by pH

10.0 9.97

99.7

99.0-101

Ie Narrative:

S. 9.97 at 18.2C



Blank (MB)

R3465763-1 10/28/19 10:23

le	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
ive Sulfide	U		0.00650	0.0500

oratory Control Sample (LCS)

R3465763-2 10/28/19 10:25

le	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
ive Sulfide	0.500	0.543	109	85.0-115	

Cd

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

Blank (MB)

R3465907-1 10/28/19 14:16

le	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
ive Sulfide	U		0.00650	0.0500

oratory Control Sample (LCS)

R3465907-2 10/28/19 14:16

le	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
ive Sulfide	0.500	0.507	101	85.0-115	

Cp

2Tc

3Ss

4Cn

5Sr

6Oc

7Gl

8Al

9Sc

Oratory Control Sample (LCS)

R3467485-1 10/31/19 18:00

le	Spike Amount		LCS Result		LCS Rec.		Rec. Limits		LCS Qualifier
	deg F		deg F	%	%		%		
joint	82.0		82.7	101	101		96.0-104		

Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Cc

⁷Gl

⁸Al

⁹Sc

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J6	The sample matrix interfered with the ability to make any accurate determination, spike value is low.
T8	Sample(s) received past/too close to holding time expiration.

ACCREDITATIONS & LOCATIONS

ONE LAB NATIONWIDE

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1*}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁶	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

A2LA - ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA - ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.





CHAIN OF CUSTODY RECORD

1 1

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenvironmental.com

C048

SUB CONTRACTOR		ESC PACE		COMPANY		ESC PACE		PHONE		(800) 767-5859		FAX		(615) 758-5859	
ADDRESS		12065 Lebanon Rd		ACCOUNT #				EMAIL							
CITY, STATE, ZIP		Mt. Juliet, TN 37122													
ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	ANALYTICAL COMMENTS									
1	1910C26-001D	West Sump	500HDPE	Aqueous	10/22/2019 8:25:00 AM	3 Reactivity, Corrosivity and Ignitability >12 L1193489-a1									
2	1910C26-002D	East Sump	500HDPE	Aqueous	10/22/2019 8:58:00 AM	3 Reactivity, Corrosivity and Ignitability >12 02									

RAD SCREEN: <0.5 mR/hr

6 containers
Fedex 4510 10/24/19

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By: J. Oax	Date: 10/23/2019	Time: 9:30 AM	Received By: [Signature]	Date: 10/24/19	Time: 8:45
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
TAT:	Standard	RUSH	Next BD	2nd BD	3rd BD
REPORT TRANSMITTAL DESIRED ☐ HARD COPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE					
FOR LAB USE ONLY Temp of samples 0.81.2-10.889A Attempt to Cool ? Comments:					

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client:	HALLENVANN		L1153489
Cooler Received/Opened On:	10/24/19	Temperature:	1.0
Received By: Adam Burns			
Signature: <i>Adam Burns</i>			
Receipt Check List			
COC Seal Present / Intact?	NP	Yes	No
COC Signed / Accurate?	/	/	/
Bottles arrive intact?		/	/
Correct bottles used?		/	/
Sufficient volume sent?		/	/
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?		/	/

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C26

04-Nov-19

Client: Souder, Miller and Associates
Project: Marathon BLMFD Transport Facility

Sample ID: LCS-48391	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: LCSW	Batch ID: 48391	RunNo: 64029								
Prep Date: 10/25/2019	Analysis Date: 10/28/2019	SeqNo: 2190478			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.8	1.0	5.000	0	95.2	71.8	135			
Surr: DNOP	0.38		0.5000		75.9	70	130			

Sample ID: MB-48391	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: PBW	Batch ID: 48391	RunNo: 64029								
Prep Date: 10/25/2019	Analysis Date: 10/28/2019	SeqNo: 2190479			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.89		1.000		88.7	70	130			

Sample ID: MB-48391	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: PBW	Batch ID: 48391	RunNo: 64033								
Prep Date: 10/25/2019	Analysis Date: 10/29/2019	SeqNo: 2190875			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.3		1.000		130	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level
D Sample Diluted Due to Matrix
II Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not in Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C26

04-Nov-19

Client: Souder, Miller and Associates
Project: Marathon BLMFD Transport Facility

Sample ID: RB	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBW	Batch ID: G64026	RunNo: 64026								
Prep Date:	Analysis Date: 10/28/2019	SeqNo: 2190198 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	19		20.00		93.4	65.8	143			

Sample ID: 2.5UG GRO LCS	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSW	Batch ID: G64026	RunNo: 64026								
Prep Date:	Analysis Date: 10/28/2019	SeqNo: 2190199 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.48	0.050	0.5000	0	96.9	73.6	119			
Surr: BFB	23		20.00		115	65.8	143			

Sample ID: 1910C26-001AMS	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: West Sump	Batch ID: G64026	RunNo: 64026								
Prep Date:	Analysis Date: 10/28/2019	SeqNo: 2190201 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	7.5	0.25	2.500	4.705	112	60.5	119			
Surr: BFB	140		100.0		141	65.8	143			

Sample ID: 1910C26-001AMSD	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: West Sump	Batch ID: G64026	RunNo: 64026								
Prep Date:	Analysis Date: 10/28/2019	SeqNo: 2190202 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	7.4	0.25	2.500	4.705	109	60.5	119	0.750	20	
Surr: BFB	140		100.0		139	65.8	143	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C26

04-Nov-19

Client: Souder, Miller and Associates
Project: Marathon BLMFD Transport Facility

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: B63993	RunNo: 63993								
Prep Date:	Analysis Date: 10/26/2019	SeqNo: 2189304	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	90.4	70	130			
Toluene	18	1.0	20.00	0	91.4	70	130			
Chlorobenzene	19	1.0	20.00	0	93.5	70	130			
1,1-Dichloroethene	14	1.0	20.00	0	72.3	70	130			
Trichloroethene (TCE)	16	1.0	20.00	0	78.5	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.1	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.6	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.8		10.00		98.4	70	130			

Sample ID: rb3	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: B63993	RunNo: 63993								
Prep Date:	Analysis Date: 10/26/2019	SeqNo: 2189405	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C26

04-Nov-19

Client: Souder, Miller and Associates

Project: Marathon BLMFD Transport Facility

Sample ID: rb3	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: B63993		RunNo: 63993							
Prep Date:	Analysis Date: 10/26/2019		SeqNo: 2189405		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- H Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C26

04-Nov-19

Client: Souder, Miller and Associates
Project: Marathon BLMFD Transport Facility

Sample ID: rb3	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: B63993		RunNo: 63993							
Prep Date:	Analysis Date: 10/26/2019		SeqNo: 2189405		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.0	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		92.1	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	10		10.00		99.9	70	130			

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R64048	RunNo: 64048								
Prep Date:	Analysis Date: 10/28/2019	SeqNo: 2191062 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.5	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		92.7	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.8		10.00		98.3	70	130			

Sample ID: 100ng lcs2	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: B64048	RunNo: 64048								
Prep Date:	Analysis Date: 10/28/2019	SeqNo: 2191063 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		94.0	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	9.8		10.00		98.0	70	130			

Sample ID: rb	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R64048		RunNo: 64048							
Prep Date:	Analysis Date: 10/28/2019		SeqNo: 2191102		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Ethylbenzene	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.8	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		93.7	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			

Qualifiers:

• Value exceeds Maximum Contaminant Level
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C26

04-Nov-19

Client: Souder, Miller and Associates
Project: Marathon BLMFD Transport Facility

Sample ID: rb	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R64048		RunNo: 64048							
Prep Date:	Analysis Date: 10/28/2019		SeqNo: 2191102		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID: rb2	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: B64048		RunNo: 64048							
Prep Date:	Analysis Date: 10/29/2019		SeqNo: 2191103		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.8	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.8	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C26

04-Nov-19

Client: Souder, Miller and Associates
Project: Marathon BLMFD Transport Facility

Sample ID: MB-48362	SampType: MBLK	TestCode: EPA Method 7470: Mercury								
Client ID: PBW	Batch ID: 48362	RunNo: 63983								
Prep Date: 10/24/2019	Analysis Date: 10/25/2019	SeqNo: 2188355 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: LCS-48362	SampType: LCS	TestCode: EPA Method 7470: Mercury								
Client ID: LCSW	Batch ID: 48362	RunNo: 63983								
Prep Date: 10/24/2019	Analysis Date: 10/25/2019	SeqNo: 2188363 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0052	0.00020	0.005000	0	105	80	120			

Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C26

04-Nov-19

Client: Souder, Miller and Associates

Project: Marathon BLMFD Transport Facility

Sample ID: MB-48345	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals
Client ID: PBW	Batch ID: 48345	RunNo: 64097
Prep Date: 10/23/2019	Analysis Date: 10/30/2019	SeqNo: 2192829 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	ND	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID: LCS-48345	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals
Client ID: LCSW	Batch ID: 48345	RunNo: 64097
Prep Date: 10/23/2019	Analysis Date: 10/30/2019	SeqNo: 2192830 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.51	0.020	0.5000	0	103	80	120			
Barium	0.49	0.020	0.5000	0	98.0	80	120			
Cadmium	0.49	0.0020	0.5000	0	97.9	80	120			
Chromium	0.50	0.0060	0.5000	0	101	80	120			
Lead	0.50	0.0050	0.5000	0	101	80	120			
Selenium	0.51	0.050	0.5000	0	102	80	120			
Silver	0.10	0.0050	0.1000	0	102	80	120			

Sample ID: 1910C26-001CMS	SampType: MS	TestCode: EPA 6010B: Total Recoverable Metals
Client ID: West Sump	Batch ID: 48345	RunNo: 64097
Prep Date: 10/23/2019	Analysis Date: 10/30/2019	SeqNo: 2192856 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0	0.5000	0	103	75	125			
Barium	ND	100	0.5000	0.1453	99.1	75	125			
Cadmium	ND	1.0	0.5000	0	99.5	75	125			
Chromium	ND	5.0	0.5000	0.001083	102	75	125			
Lead	ND	5.0	0.5000	0	103	75	125			
Selenium	ND	1.0	0.5000	0	95.6	75	125			
Silver	ND	5.0	0.1000	0.002019	104	75	125			

Sample ID: 1910C26-001CMSD	SampType: MSD	TestCode: EPA 6010B: Total Recoverable Metals
Client ID: West Sump	Batch ID: 48345	RunNo: 64097
Prep Date: 10/23/2019	Analysis Date: 10/30/2019	SeqNo: 2192857 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0	0.5000	0	101	75	125	0	20	

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C26

04-Nov-19

Client: Souder, Miller and Associates

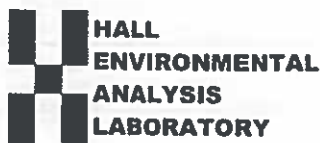
Project: Marathon BLMFD Transport Facility

Sample ID: 1910C26-001CMSD		SampType: MSD		TestCode: EPA 6010B: Total Recoverable Metals						
Client ID: West Sump		Batch ID: 48345		RunNo: 64097						
Prep Date: 10/23/2019		Analysis Date: 10/30/2019		SeqNo: 2192857		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	100	0.5000	0.1453	98.0	75	125	0	20	
Cadmium	ND	1.0	0.5000	0	97.8	75	125	0	20	
Chromium	ND	5.0	0.5000	0.001083	99.7	75	125	0	20	
Lead	ND	5.0	0.5000	0	101	75	125	0	20	
Selenium	ND	1.0	0.5000	0	96.6	75	125	0	20	
Silver	ND	5.0	0.1000	0.002019	101	75	125	0	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1910C26

RcptNo: 1

Received By: Juan Rojas

10/23/2019 8:20:00 AM

Completed By: Isaiah Ortiz

10/23/2019 9:08:53 AM

Reviewed By: LB

10/23/19

I-Ox

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: 2 4
<2 or >12 unless noted

Adjusted? no

Checked by: YG 10/23/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.6	Good	Not Present			

Surface Waste Management Facility Authorized Agent

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1812C99

Date Reported:

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: N Tank WW Sump

Project: North Tank WW Sump Pump Dec 2018

Collection Date: 12/20/2018 11:00:00 AM

Lab ID: 1812C99-001

Matrix: AQUEOUS

Received Date: 12/21/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE						Analyst: lrm
Diesel Range Organics (DRO)	2.1	1.0		mg/L	1	12/28/2018 2:14:48 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	12/28/2018 2:14:48 AM
Surr: DNOP	109	76.7-135		%Rec	1	12/28/2018 2:14:48 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	0.15	0.050	P	mg/L	1	12/28/2018 12:00:02 PM
Surr: BFB	105	72.8-125	P	%Rec	1	12/28/2018 12:00:02 PM
EPA METHOD 7470: MERCURY						Analyst: pmf
Mercury	ND	0.00020		mg/L	1	12/26/2018 6:40:36 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: rde
Arsenic	ND	0.020		mg/L	1	1/3/2019 2:10:00 PM
Barium	0.12	0.020		mg/L	1	1/3/2019 11:43:46 AM
Cadmium	ND	0.0020		mg/L	1	1/3/2019 11:43:46 AM
Chromium	ND	0.0060		mg/L	1	1/3/2019 11:43:46 AM
Lead	ND	0.0050		mg/L	1	1/3/2019 11:43:46 AM
Selenium	ND	0.050		mg/L	1	1/3/2019 11:43:46 AM
Silver	ND	0.0050		mg/L	1	1/3/2019 11:43:46 AM
EPA METHOD 8270C: PAHS						Analyst: DAM
Naphthalene	1.5	0.50		µg/L	1	1/3/2019 2:05:41 PM
1-Methylnaphthalene	ND	1.0		µg/L	1	1/3/2019 2:05:41 PM
2-Methylnaphthalene	ND	1.0		µg/L	1	1/3/2019 2:05:41 PM
Acenaphthylene	ND	0.50		µg/L	1	1/3/2019 2:05:41 PM
Acenaphthene	ND	0.50		µg/L	1	1/3/2019 2:05:41 PM
Fluorene	ND	0.50		µg/L	1	1/3/2019 2:05:41 PM
Phenanthrene	ND	0.50		µg/L	1	1/3/2019 2:05:41 PM
Anthracene	ND	0.50		µg/L	1	1/3/2019 2:05:41 PM
Fluoranthene	ND	0.50		µg/L	1	1/3/2019 2:05:41 PM
Pyrene	ND	0.50		µg/L	1	1/3/2019 2:05:41 PM
Benz(a)anthracene	ND	0.50		µg/L	1	1/3/2019 2:05:41 PM
Chrysene	ND	0.50		µg/L	1	1/3/2019 2:05:41 PM
Benzo(b)fluoranthene	ND	0.50		µg/L	1	1/3/2019 2:05:41 PM
Benzo(k)fluoranthene	ND	0.50		µg/L	1	1/3/2019 2:05:41 PM
Benzo(a)pyrene	ND	0.50		µg/L	1	1/3/2019 2:05:41 PM
Dibenz(a,h)anthracene	ND	0.50		µg/L	1	1/3/2019 2:05:41 PM
Benzo(g,h,i)perylene	ND	0.50		µg/L	1	1/3/2019 2:05:41 PM
Indeno(1,2,3-cd)pyrene	ND	0.50		µg/L	1	1/3/2019 2:05:41 PM
Surr: N-hexadecane	70.0	35.2-113		%Rec	1	1/3/2019 2:05:41 PM
Surr: Benzo(e)pyrene	75.5	48.3-123		%Rec	1	1/3/2019 2:05:41 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1812C99

Date Reported:

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: N Tank WW Sump

Project: North Tank WW Sump Pump Dec 2018

Collection Date: 12/20/2018 11:00:00 AM

Lab ID: 1812C99-001

Matrix: AQUEOUS

Received Date: 12/21/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: DJF
Benzene	1.5	1.0		µg/L	1	1/2/2019 11:33:36 AM
Toluene	2.4	1.0		µg/L	1	1/2/2019 11:33:36 AM
Ethylbenzene	5.1	1.0		µg/L	1	1/2/2019 11:33:36 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
1,2,4-Trimethylbenzene	13	1.0		µg/L	1	1/2/2019 11:33:36 AM
1,3,5-Trimethylbenzene	3.7	1.0		µg/L	1	1/2/2019 11:33:36 AM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
Naphthalene	3.1	2.0		µg/L	1	1/2/2019 11:33:36 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	1/2/2019 11:33:36 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	1/2/2019 11:33:36 AM
Acetone	10	10		µg/L	1	1/2/2019 11:33:36 AM
Bromobenzene	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
Bromodichloromethane	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
Bromoform	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
Bromomethane	ND	3.0		µg/L	1	1/2/2019 11:33:36 AM
2-Butanone	ND	10		µg/L	1	1/2/2019 11:33:36 AM
Carbon disulfide	ND	10		µg/L	1	1/2/2019 11:33:36 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
Chlorobenzene	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
Chloroethane	ND	2.0		µg/L	1	1/2/2019 11:33:36 AM
Chloroform	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
Chloromethane	ND	3.0		µg/L	1	1/2/2019 11:33:36 AM
2-Chlorotoluene	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
4-Chlorotoluene	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
cis-1,2-DCE	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	1/2/2019 11:33:36 AM
Dibromochloromethane	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
Dibromomethane	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
1,1-Dichloroethene	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	1/2/2019 11:33:36 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1812C99

Date Reported:

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: N Tank WW Sump

Project: North Tank WW Sump Pump Dec 2018

Collection Date: 12/20/2018 11:00:00 AM

Lab ID: 1812C99-001

Matrix: AQUEOUS

Received Date: 12/21/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: DJF
1,1-Dichloropropene	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
2-Hexanone	ND	10		µg/L	1	1/2/2019 11:33:36 AM
Isopropylbenzene	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	1/2/2019 11:33:36 AM
Methylene Chloride	ND	3.0		µg/L	1	1/2/2019 11:33:36 AM
n-Butylbenzene	ND	3.0		µg/L	1	1/2/2019 11:33:36 AM
n-Propylbenzene	1.1	1.0		µg/L	1	1/2/2019 11:33:36 AM
sec-Butylbenzene	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
Styrene	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
tert-Butylbenzene	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	1/2/2019 11:33:36 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
trans-1,2-DCE	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	1/2/2019 11:33:36 AM
Vinyl chloride	ND	1.0		µg/L	1	1/2/2019 11:33:36 AM
Xylenes, Total	18	1.5		µg/L	1	1/2/2019 11:33:36 AM
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	1/2/2019 11:33:36 AM
Surr: 4-Bromofluorobenzene	109	70-130		%Rec	1	1/2/2019 11:33:36 AM
Surr: Dibromofluoromethane	106	70-130		%Rec	1	1/2/2019 11:33:36 AM
Surr: Toluene-d8	102	70-130		%Rec	1	1/2/2019 11:33:36 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	II	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Good till 12/3/20

Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

2. Originating Site:

MAPL Lyborrk Pumping Station

3. Location of Material (Street Address, City, State or ULSTR):

UL C Section 14 Township 23 North Range 7 West; 36.232901, -107.545978

4. Source and Description of Waste:

Source: Water/Oil from the Non Exempt WasteWater Tanks and from the compressor skid drains.

Description: Non Exempt/Non Hazardous Water from the compressor skids.

Estimated Volume 80 yd³ Known Volume (to be entered by the operator at the end of the haul) 79 yd³ bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long, representative or authorized agent for Enterprise Products Operating do hereby

Generator Signature

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long, representative for Enterprise Products Operating authorize to complete

Generator Signature

the required testing/sign the Generator Waste Testing Certification.

I, _____, representative for Agua Moss, LLC do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: To Be Determined

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: *Agua Moss, LLC - Permit #: NM-01-009

Address of Facility: SW/4 NW/4 Section 2, Township 29N, Range Crouch Mesa, NM

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☒ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME:

SIGNATURE:

Surface Waste Management Facility Authorized Agent

TITLE:

TELEPHONE NO.:

DATE:

William Clayton

Foreman

11/4/20

505-716-2988



*Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com*

December 03, 2019

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-5667
FAX: (505) 327-1496

RE: Lybrook

OrderNo.: 1911677

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 11/15/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911677

Date Reported: 12/3/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Lybrook

Project: Lybrook

Collection Date: 11/14/2019 9:13:00 AM

Lab ID: 1911677-001

Matrix: AQUEOUS

Received Date: 11/15/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 7470: MERCURY							Analyst: rde
Mercury	ND	0.020		mg/L	1	11/22/2019 10:29:54 AM	48955
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: rde
Arsenic	ND	5.0		mg/L	1	11/25/2019 3:55:53 PM	48826
Barium	ND	100		mg/L	1	11/25/2019 12:47:25 PM	48826
Cadmium	ND	1.0		mg/L	1	11/25/2019 12:47:25 PM	48826
Chromium	ND	5.0		mg/L	1	11/25/2019 12:47:25 PM	48826
Lead	ND	5.0		mg/L	1	11/25/2019 12:47:25 PM	48826
Selenium	ND	1.0		mg/L	1	11/25/2019 12:47:25 PM	48826
Silver	ND	5.0		mg/L	1	11/25/2019 12:47:25 PM	48826
EPA METHOD 8270C: PAHS							Analyst: JDC
Naphthalene	ND	0.50		µg/L	1	11/25/2019 4:12:01 PM	48934
1-Methylnaphthalene	ND	1.0		µg/L	1	11/25/2019 4:12:01 PM	48934
2-Methylnaphthalene	ND	1.0		µg/L	1	11/25/2019 4:12:01 PM	48934
Acenaphthylene	ND	0.50		µg/L	1	11/25/2019 4:12:01 PM	48934
Acenaphthene	ND	0.50		µg/L	1	11/25/2019 4:12:01 PM	48934
Fluorene	ND	0.50		µg/L	1	11/25/2019 4:12:01 PM	48934
Phenanthrene	ND	0.50		µg/L	1	11/25/2019 4:12:01 PM	48934
Anthracene	ND	0.50		µg/L	1	11/25/2019 4:12:01 PM	48934
Fluoranthene	ND	0.50		µg/L	1	11/25/2019 4:12:01 PM	48934
Pyrene	ND	0.50		µg/L	1	11/25/2019 4:12:01 PM	48934
Benz(a)anthracene	ND	0.50		µg/L	1	11/25/2019 4:12:01 PM	48934
Chrysene	ND	0.50		µg/L	1	11/25/2019 4:12:01 PM	48934
Benzo(b)fluoranthene	ND	0.50		µg/L	1	11/25/2019 4:12:01 PM	48934
Benzo(k)fluoranthene	ND	0.50		µg/L	1	11/25/2019 4:12:01 PM	48934
Benzo(a)pyrene	ND	0.50		µg/L	1	11/25/2019 4:12:01 PM	48934
Dibenz(a,h)anthracene	ND	0.50		µg/L	1	11/25/2019 4:12:01 PM	48934
Benzo(g,h,i)perylene	ND	0.50		µg/L	1	11/25/2019 4:12:01 PM	48934
Indeno(1,2,3-cd)pyrene	ND	0.50		µg/L	1	11/25/2019 4:12:01 PM	48934
Surr: N-hexadecane	65.8	20.4-126		%Rec	1	11/25/2019 4:12:01 PM	48934
Surr: Benzo(e)pyrene	62.0	21.4-126		%Rec	1	11/25/2019 4:12:01 PM	48934
EPA METHOD 8260B: VOLATILES							Analyst: JMR
Benzene	ND	0.50		mg/L	200	11/15/2019 3:32:37 PM	R64562
Toluene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
Ethylbenzene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
1,2,4-Trimethylbenzene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
1,3,5-Trimethylbenzene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
1,2-Dichloroethane (EDC)	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level - D Sample Diluted Due to Matrix - H Holding times for preparation or analysis exceeded - ND Not Detected at the Reporting Limit - PQL Practical Quantitative Limit - S % Recovery outside of range due to dilution or matrix
--------------------	--

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911677

Date Reported: 12/3/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Lybrook

Project: Lybrook

Collection Date: 11/14/2019 9:13:00 AM

Lab ID: 1911677-001

Matrix: AQUEOUS

Received Date: 11/15/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: JMR
1,2-Dibromoethane (EDB)	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
Naphthalene	ND	0.40		mg/L	200	11/15/2019 3:32:37 PM	R64562
1-Methylnaphthalene	ND	0.80		mg/L	200	11/15/2019 3:32:37 PM	R64562
2-Methylnaphthalene	ND	0.80		mg/L	200	11/15/2019 3:32:37 PM	R64562
Acetone	ND	2.0		mg/L	200	11/15/2019 3:32:37 PM	R64562
Bromobenzene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
Bromodichloromethane	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
Bromoform	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
Bromomethane	ND	0.60		mg/L	200	11/15/2019 3:32:37 PM	R64562
2-Butanone	ND	2.0		mg/L	200	11/15/2019 3:32:37 PM	R64562
Carbon disulfide	ND	2.0		mg/L	200	11/15/2019 3:32:37 PM	R64562
Carbon Tetrachloride	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
Chlorobenzene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
Chloroethane	ND	0.40		mg/L	200	11/15/2019 3:32:37 PM	R64562
Chloroform	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
Chloromethane	ND	0.60		mg/L	200	11/15/2019 3:32:37 PM	R64562
2-Chlorotoluene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
4-Chlorotoluene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
cis-1,2-DCE	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
cis-1,3-Dichloropropene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
1,2-Dibromo-3-chloropropane	ND	0.40		mg/L	200	11/15/2019 3:32:37 PM	R64562
Dibromochloromethane	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
Dibromomethane	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
1,2-Dichlorobenzene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
1,3-Dichlorobenzene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
1,4-Dichlorobenzene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
Dichlorodifluoromethane	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
1,1-Dichloroethane	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
1,1-Dichloroethene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
1,2-Dichloropropane	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
1,3-Dichloropropane	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
2,2-Dichloropropane	ND	0.40		mg/L	200	11/15/2019 3:32:37 PM	R64562
1,1-Dichloropropene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
Hexachlorobutadiene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
2-Hexanone	ND	2.0		mg/L	200	11/15/2019 3:32:37 PM	R64562
Isopropylbenzene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
4-Isopropyltoluene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
4-Methyl-2-pentanone	ND	2.0		mg/L	200	11/15/2019 3:32:37 PM	R64562
Methylene Chloride	ND	0.60		mg/L	200	11/15/2019 3:32:37 PM	R64562

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	• Value exceeds Maximum Contaminant Level
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quantitative Limit
S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RI	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911677

Date Reported: 12/3/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: Lybrook

Project: Lybrook

Collection Date: 11/14/2019 9:13:00 AM

Lab ID: 1911677-001

Matrix: AQUEOUS

Received Date: 11/15/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: JMR
n-Butylbenzene	ND	0.60		mg/L	200	11/15/2019 3:32:37 PM	R64562
n-Propylbenzene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
sec-Butylbenzene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
Styrene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
tert-Butylbenzene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
1,1,1,2-Tetrachloroethane	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
1,1,2,2-Tetrachloroethane	ND	0.40		mg/L	200	11/15/2019 3:32:37 PM	R64562
Tetrachloroethene (PCE)	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
trans-1,2-DCE	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
trans-1,3-Dichloropropene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
1,2,3-Trichlorobenzene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
1,2,4-Trichlorobenzene	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
1,1,1-Trichloroethane	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
1,1,2-Trichloroethane	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
Trichloroethene (TCE)	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
Trichlorofluoromethane	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
1,2,3-Trichloropropane	ND	0.40		mg/L	200	11/15/2019 3:32:37 PM	R64562
Vinyl chloride	ND	0.20		mg/L	200	11/15/2019 3:32:37 PM	R64562
Xylenes, Total	ND	0.30		mg/L	200	11/15/2019 3:32:37 PM	R64562
Surr: 1,2-Dichloroethane-d4	98.1	70-130		%Rec	200	11/15/2019 3:32:37 PM	R64562
Surr: 4-Bromofluorobenzene	92.7	70-130		%Rec	200	11/15/2019 3:32:37 PM	R64562
Surr: Dibromofluoromethane	105	70-130		%Rec	200	11/15/2019 3:32:37 PM	R64562
Surr: Toluene-d8	107	70-130		%Rec	200	11/15/2019 3:32:37 PM	R64562

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	II	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

ANALYTICAL REPORT

November 29, 2019

Hall Environmental Analysis Laboratory

Sample Delivery Group: L1162243

Samples Received: 11/19/2019

Project Number:

Description:

Report To:

4901 Hawkins NE

Albuquerque, NM 87109

Entire Report Reviewed By:



Daphne Richards

Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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ONE LAB. NATIONWIDE. 

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SAMPLE SUMMARY

ONE LAB. NATIONWIDE

1911677-001D LYBROOK L1162243-01 WW

Collected by
Collected date/time
Received date/time

11/14/19 09:13 11/19/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500 CN E-2011	WG1386291	1	11/24/19 11:16	11/24/19 21:47	JER	Mt. Juliet, TN
Wet Chemistry by Method 4500H+ B-2011	WG1383247	1	11/19/19 19:45	11/19/19 19:45	MSP	Mt. Juliet, TN
Wet Chemistry by Method 9034-9030B	WG1384494	1	11/21/19 18:10	11/21/19 18:10	MJA	Mt. Juliet, TN
Wet Chemistry by Method D93/1010A	WG1387079	1	11/26/19 17:15	11/26/19 17:15	MJA	Mt. Juliet, TN

CASE NARRATIVE

ONE LAB NATIONWIDE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Daphne Richards
Project Manager

Project Narrative

All Reactive Cyanide results reported in the attached report were determined as totals using method 9012B.

All Reactive Sulfide results reported in the attached report were determined as totals using method 9034/9030B.

1911677-001D LYBROOK

Collected date/time: 11/14/19 09:13

SAMPLE RESULTS - 01

L1162243

ONE LAB NATIONWIDE

Wet Chemistry by Method 4500 CN E-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Reactive Cyanide	ND	J4	0.00500	1	11/24/2019 21:47	WG1386291

Wet Chemistry by Method 4500H+ B-2011

Analyte	Result su	Qualifier	RDL	Dilution	Analysis date / time	Batch
Corrosivity by pH	6.75	T8		1	11/19/2019 19:45	WG1383247

Sample Narrative:

L1162243-01 WG1383247: 6.75 at 18.5C

Wet Chemistry by Method 9034-9030B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Reactive Sulfide	ND		0.0500	1	11/21/2019 18:10	WG1384494

Wet Chemistry by Method D93/1010A

Analyte	Result deg F	Qualifier	RDL	Dilution	Analysis date / time	Batch
Flashpoint	131			1	11/26/2019 17:15	WG1387079

Blank (MB)

R3475672-1 11/24/19 20:21

te	ive Cyanide
MB Result mg/l	MB MDL mg/l
U	0.00180
	0.00500

2058-02 Original Sample (OS) • Duplicate (DUP)

L1162058-02 11/24/19 21:35 • (DUP) R3475672-3 11/24/19 21:36

Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
mg/l	mg/l		%		%
ND	0.00394	1	0.000		20

oratory Control Sample (LCS)

R3475672-2 11/24/19 20:23

te	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
ive Cyanide	0.100	0.116	116	85.0-115	J4

2228-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

L1162228-01 11/24/19 21:41 • (MS) R3475672-4 11/24/19 21:44 • (MSD) R3475672-5 11/24/19 21:45

te	ive Cyanide										
Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD	RPD Limits
mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
0.100	ND	0.0897	0.0937	89.7	93.7	1	75.0-125			4.36	20

2243-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

L1162243-01 11/24/19 21:47 • (MS) R3475672-6 11/24/19 21:48 • (MSD) R3475672-7 11/24/19 21:50

te	ive Cyanide										
Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD	RPD Limits
mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
0.100	ND	0.0893	0.101	89.3	101	1	75.0-125			12.3	20

Cd

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

L1162243-01

2185-01 Original Sample (OS) • Duplicate (DUP)

L1162185-01 11/19/19 19:45 • (DUP) R3473880-10 11/19/19 19:45

Original Result		DUP Result		DUP RPD		DUP Qualifier		DUP RPD Limits	
SU		SU		%				%	
le									
sivity by pH	8.75	8.75		1	0.000			1	
le Narrative:									
P: 8.75 at 18.8C									
P: 8.75 at 18.8C									

2234-01 Original Sample (OS) • Duplicate (DUP)

L1162234-01 11/19/19 19:45 • (DUP) R3473880-16 11/19/19 19:45

Original Result		DUP Result		DUP RPD		DUP Qualifier		DUP RPD Limits	
SU		SU		%				%	
le									
sivity by pH	5.41	5.41		1	0.000			1	
le Narrative:									
P: 5.41 at 18.3C									
P: 5.41 at 18.4C									

2243-01 Original Sample (OS) • Duplicate (DUP)

L1162243-01 11/19/19 19:45 • (DUP) R3473880-17 11/19/19 19:45

Original Result		DUP Result		DUP RPD		DUP Qualifier		DUP RPD Limits	
SU		SU		%				%	
le									
sivity by pH	6.75	6.79		1	0.591			1	
le Narrative:									
P: 6.75 at 18.5C									
P: 6.79 at 18.8C									

oratory Control Sample (LCS)

R3473880-1 11/19/19 19:45

Spike Amount		LCS Result		LCS Rec.		Rec. Limits		LCS Qualifier	
SU		SU		%		%			
le									
sivity by pH	10.0	9.92		99.2		99.0-101			
le Narrative:									
S: 9.92 at 19.1C									

Cu

Tc

Ss

Cn

Sr

Cc

Gl

Al

Sc

QUALITY CONTROL SUMMARY

L1162243-01

31004434
Chemistry by Method 9034-90308

Blank (MB)

R3474776-1 11/21/19 17:59

le	ive Sulfide	MB Result		MB Qualifier		MB MDL		MB RDL	
		mg/l	U	mg/l		mg/l		mg/l	
				0.00650		0.0500			

oratory Control Sample (LCS)

R3474776-2 11/21/19 17:59

le	ive Sulfide	Spike Amount		LCS Result		LCS Rec.		Rec. Limits		LCS Qualifier	
		mg/l	0.500	mg/l	0.532	%	106	%	85.0-115		

Cu

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1162185-01 11/26/19 17:15 • (DUP) R3476638-2 11/26/19 17:15

Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
deg F	deg F	%	%		%
131	125	1	4.59		10
le					
joint					

L1162234-01 11/26/19 17:15 • (DUP) R3476638-3 11/26/19 17:15

Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
deg F	deg F	%	%		%
131	136	1	3.75		10
le					
joint					

L1162243-01 11/26/19 17:15 • (DUP) R3476638-4 11/26/19 17:15

Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
deg F	deg F	%	%		%
131	135	1	3.01		10
le					
joint					

L1162558-01 11/26/19 17:15 • (DUP) R3476638-5 11/26/19 17:15

Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
deg F	deg F	%	%		%
116	127	1	9.06		10
le					
joint					

L1164862-01 11/26/19 17:15 • (DUP) R3476638-6 11/26/19 17:15

Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
deg F	deg F	%	%		%
123	124	1	0.810		10
le					
joint					



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J4	The associated batch QC was outside the established quality control range for accuracy.
T8	Sample(s) received past/too close to holding time expiration.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

A2LA - ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA - ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenenvironmental.com

CHAIN OF CUSTODY RECORD

ENVIRONMENTAL ANALYSIS LABORATORY

SUB CONTRACTOR	ESC PACE	COMPANY	ESC PACE	PHONE	(800) 767-5859	FAX	(615) 758-5859
ADDRESS:	12065 Lebanon Rd			ACCOUNT #	EMAIL		
CITY, STATE, ZIP	Mt. Juliet, TN 37122						

		2				1201	
						ANALYTICAL COMMENTS	
ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	
1	1911677-001D	Lybrook	500HDPE	Aqueous	11/14/2019 9:13:00 AM	3	Reactivity, Corrosivity and Ignitability ** 7 Day TAT ** 11/6/21/ 21

SPECIAL INSTRUCTIONS / COMMENTS:

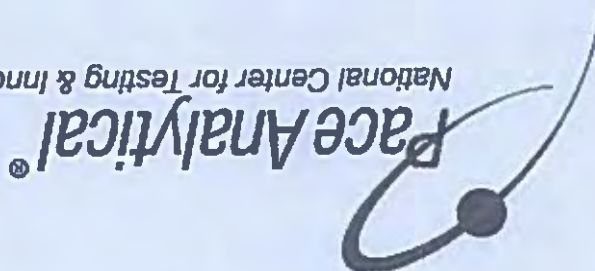
Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	REPORT TRANSMITTAL DESIRED ☐ HAND COPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	FOR LAB USE ONLY	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Temp of samples 2.3-12.3°C BAD SCREEN: <0.5 mR/hr	
TAT:						Comments:	

11/14/2019 11:19 1984

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client:	11/22/13	
Cooler Received/Opened On:	11/19/19	Temperature: 22
Received By:	Willie Taylor	245
Signature:		
Receipt Check List		
	NP	Yes No
COC Seal Present / Intact?		/
COC Signed / Accurate?		/
Bottles arrive intact?		/
Correct bottles used?		/
Sufficient volume sent?		/
If Applicable		
VOA Zero headspace?		/
Preservation Correct / Checked?		



Quality and proceed with analysis

संस्कृतभाषायाः पञ्चमः

Client informed by:		Call	Email	Voice Mail	Date: 11/19	Time: 1201
TSR Initials: DR		Client Contact:				

Login Comments: Received FLASH in HDPE

Sample Integrity	Chain of Custody Clarification		
Parameter(s) past holding time	Log in Clarification Needed		
Temperature not in range	Chain of custody is incomplete		
Improper container type	Please specify Metals requested.		
pH not in range.	Please specify TCLP requested.		
Insufficient sample volume.	Received additional samples not listed on coc.		Sample was frozen
Sample is biphasic.	Sample ids on containers do not match ids on coc		Container lid not intact
Vials received with headspace.	Trip Blank not received.		If no Chain of Custody:
Broken container	Client did not "X" analysis.		Received by:
Broken container:	Chain of Custody is missing		Date/Time:
Sufficient sample remains			Temp /Cont Rec/pH:
			Carrier:
			Tracking#

Non-Conformance (check applicable items)

L1162243	Client:HALLENVAMM	Date:11/19/19	Evaluated by:Matt S
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911677

03-Dec-19

Client: Souder, Miller and Associates

Project: Lybrook

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R64562	RunNo: 64562								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210714			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.4	70	130			
Toluene	19	1.0	20.00	0	97.2	70	130			
Chlorobenzene	20	1.0	20.00	0	102	70	130			
1,1-Dichloroethene	17	1.0	20.00	0	82.7	70	130			
Trichloroethene (TCE)	16	1.0	20.00	0	81.7	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.9	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		92.0	70	130			
Surr: Dibromofluoromethane	11		10.00		105	70	130			
Surr: Toluene-d8	11		10.00		105	70	130			

Sample ID: 1911677-001a ms	SampType: MS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: Lybrook	Batch ID: R64562	RunNo: 64562								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210720		Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	3.9	0.20	4.000	0	97.0	70	130			
Toluene	3.9	0.20	4.000	0	96.7	70	130			
Chlorobenzene	4.0	0.20	4.000	0	101	70	130			
1,1-Dichloroethene	3.4	0.20	4.000	0	85.6	70	130			
Trichloroethene (TCE)	3.3	0.20	4.000	0	82.6	70	130			
Surr: 1,2-Dichloroethane-d4	1.9		2.000		96.8	70	130			
Surr: 4-Bromofluorobenzene	1.9		2.000		93.8	70	130			
Surr: Dibromofluoromethane	2.1		2.000		106	70	130			
Surr: Toluene-d8	2.0		2.000		102	70	130			

Sample ID: 1911677-001a msd	SampType: MSD	TestCode: EPA Method 8260B: VOLATILES								
Client ID: Lybrook	Batch ID: R64562	RunNo: 64562								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210721			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	3.7	0.20	4.000	0	93.3	70	130	3.91	20	
Toluene	3.7	0.20	4.000	0	93.6	70	130	3.17	20	
Chlorobenzene	3.9	0.20	4.000	0	97.8	70	130	3.24	20	
1,1-Dichloroethene	3.2	0.20	4.000	0	79.3	70	130	7.65	20	
Trichloroethene (TCE)	3.2	0.20	4.000	0	79.1	70	130	4.33	20	
Surr: 1,2-Dichloroethane-d4	2.0		2.000		98.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	1.8		2.000		91.3	70	130	0	0	
Surr: Dibromofluoromethane	2.1		2.000		106	70	130	0	0	
Surr: Toluene-d8	2.1		2.000		104	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level
D Sample Diluted Due to Matrix
II Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pII Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911677

03-Dec-19

Client: Souder, Miller and Associates

Project: Lybrook

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64562	RunNo: 64562								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210733	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- H Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911677

03-Dec-19

Client: Souder, Miller and Associates

Project: Lybrook

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64562	RunNo: 64562								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210733	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.8	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		92.9	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	11		10.00		109	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911677

03-Dec-19

Client: Souder, Miller and Associates

Project: Lybrook

Sample ID: mb-48934	SampType: MBLK	TestCode: EPA Method 8270C: PAHs								
Client ID: PBW	Batch ID: 48934	RunNo: 64751								
Prep Date: 11/21/2019	Analysis Date: 11/25/2019	SeqNo: 2219189			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	1.0								
2-Methylnaphthalene	ND	1.0								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
Pyrene	ND	0.50								
Benz(a)anthracene	ND	0.50								
Chrysene	ND	0.50								
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	61		87.60		69.2	20.4	126			
Surr: Benzo(e)pyrene	13		20.00		64.5	21.4	126			

Sample ID: lcs-48934	SampType: LCS		TestCode: EPA Method 8270C: PAHs							
Client ID: LCSW	Batch ID: 48934		RunNo: 64751							
Prep Date: 11/21/2019	Analysis Date: 11/25/2019		SeqNo: 2219191		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	15	0.50	20.00	0	73.8	41.8	97.8			
1-Methylnaphthalene	14	1.0	20.00	0	68.3	44.7	104			
2-Methylnaphthalene	14	1.0	20.00	0	72.4	45	101			
Acenaphthylene	15	0.50	20.00	0	72.8	51.2	102			
Acenaphthene	14	0.50	20.00	0	71.8	53.2	101			
Fluorene	15	0.50	20.00	0	75.1	57.6	106			
Phenanthrene	15	0.50	20.00	0	75.6	57.6	109			
Anthracene	15	0.50	20.00	0	73.2	56.1	98.9			
Fluoranthene	16	0.50	20.00	0	81.9	61.4	114			
Pyrene	16	0.50	20.00	0	78.7	58	110			
Benz(a)anthracene	15	0.50	20.00	0	76.6	60	102			
Chrysene	14	0.50	20.00	0	70.9	50.8	93.4			
Benzo(b)fluoranthene	15	0.50	20.00	0	74.0	56.2	118			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RI Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911677

03-Dec-19

Client: Souder, Miller and Associates

Project: Lybrook

Sample ID: Ics-48934	SampType: LCS	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSW	Batch ID: 48934	RunNo: 64751								
Prep Date: 11/21/2019	Analysis Date: 11/25/2019	SeqNo: 2219191 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	15	0.50	20.00	0	75.7	57.7	119			
Benzo(a)pyrene	15	0.50	20.00	0	75.0	55.5	114			
Dibenz(a,h)anthracene	15	0.50	20.00	0	75.5	53	110			
Benzo(g,h,i)perylene	15	0.50	20.00	0	74.8	55	113			
Indeno(1,2,3-cd)pyrene	15	0.50	20.00	0	75.5	51.2	115			
Surr: N-hexadecane	67		87.60		76.4	20.4	126			
Surr: Benzo(e)pyrene	14		20.00		68.3	21.4	126			

Sample ID: Icsd-48934	SampType: LCSD	TestCode: EPA Method 8270C: PAHs								
Client ID: LCSS02	Batch ID: 48934	RunNo: 64751								
Prep Date: 11/21/2019	Analysis Date: 11/25/2019	SeqNo: 2219192 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	15	0.50	20.00	0	74.2	41.8	97.8	0.541	25.4	
1-Methylnaphthalene	15	1.0	20.00	0	73.8	44.7	104	7.74	21.5	
2-Methylnaphthalene	15	1.0	20.00	0	76.0	45	101	4.85	25.2	
Acenaphthylene	17	0.50	20.00	0	83.4	51.2	102	13.6	30.3	
Acenaphthene	16	0.50	20.00	0	81.6	53.2	101	12.8	28.1	
Fluorene	17	0.50	20.00	0	83.5	57.6	106	10.6	33	
Phenanthrene	15	0.50	20.00	0	74.8	57.6	109	1.06	24.5	
Anthracene	15	0.50	20.00	0	76.6	56.1	98.9	4.54	26.9	
Fluoranthene	17	0.50	20.00	0	83.2	61.4	114	1.57	21.8	
Pyrene	15	0.50	20.00	0	77.1	58	110	2.05	27	
Benz(a)anthracene	14	0.50	20.00	0	72.5	60	102	5.50	27.4	
Chrysene	14	0.50	20.00	0	68.6	50.8	93.4	3.30	20.4	
Benzo(b)fluoranthene	15	0.50	20.00	0	77.4	56.2	118	4.49	22.5	
Benzo(k)fluoranthene	17	0.50	20.00	0	83.3	57.7	119	9.56	24.1	
Benzo(a)pyrene	16	0.50	20.00	0	78.3	55.5	114	4.31	27.3	
Dibenz(a,h)anthracene	16	0.50	20.00	0	78.5	53	110	3.90	18.5	
Benzo(g,h,i)perylene	16	0.50	20.00	0	79.4	55	113	5.97	28.4	
Indeno(1,2,3-cd)pyrene	16	0.50	20.00	0	81.5	51.2	115	7.64	21.8	
Surr: N-hexadecane	70		87.60		79.8	20.4	126	0	0	
Surr: Benzo(e)pyrene	14		20.00		71.8	21.4	126	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911677

03-Dec-19

Client: Souder, Miller and Associates

Project: Lybrook

Sample ID: MB-48955	SampType: MBLK	TestCode: EPA Method 7470: Mercury
Client ID: PBW	Batch ID: 48955	RunNo: 64701
Prep Date: 11/21/2019	Analysis Date: 11/22/2019	SeqNo: 2217075 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND	0.00020

Sample ID: LCS-48955	SampType: LCS	TestCode: EPA Method 7470: Mercury
Client ID: LCSW	Batch ID: 48955	RunNo: 64701
Prep Date: 11/21/2019	Analysis Date: 11/22/2019	SeqNo: 2217080 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0048	0.00020 0.005000 0 96.7 80 120

Sample ID: 1911677-001CMS	SampType: MS	TestCode: EPA Method 7470: Mercury
Client ID: Lybrook	Batch ID: 48955	RunNo: 64701
Prep Date: 11/21/2019	Analysis Date: 11/22/2019	SeqNo: 2217083 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND	0.020 0.005000 .00004404 95.5 75 125

Sample ID: 1911677-001CMSD	SampType: MSD	TestCode: EPA Method 7470: Mercury
Client ID: Lybrook	Batch ID: 48955	RunNo: 64701
Prep Date: 11/21/2019	Analysis Date: 11/22/2019	SeqNo: 2217084 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND	0.020 0.005000 .00004404 98.3 75 125 0 20

Qualifiers:

* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
II Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Limit
S % Recovery outside of range due to dilution or matrix	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911677

03-Dec-19

Client: Souder, Miller and Associates

Project: Lybrook

Sample ID: MB-48826	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 48826	RunNo: 64774								
Prep Date: 11/15/2019	Analysis Date: 11/25/2019	SeqNo: 2219763 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	ND	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID: LCS-48826	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 48826	RunNo: 64774								
Prep Date: 11/15/2019	Analysis Date: 11/25/2019	SeqNo: 2219768 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.47	0.020	0.5000	0	94.6	80	120			
Cadmium	0.49	0.0020	0.5000	0	97.1	80	120			
Chromium	0.47	0.0060	0.5000	0	95.0	80	120			
Lead	0.50	0.0050	0.5000	0	100	80	120			
Selenium	0.54	0.050	0.5000	0	107	80	120			
Silver	0.095	0.0050	0.1000	0	95.0	80	120			

Sample ID: 1911677-001CMS	SampType: MS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: Lybrook	Batch ID: 48826	RunNo: 64774								
Prep Date: 11/15/2019	Analysis Date: 11/25/2019	SeqNo: 2219789 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	100	0.5000	0.04852	98.2	75	125			
Cadmium	ND	1.0	0.5000	0	102	75	125			
Chromium	ND	5.0	0.5000	0	99.3	75	125			
Lead	ND	5.0	0.5000	0.004371	104	75	125			
Selenium	ND	1.0	0.5000	0	114	75	125			
Silver	ND	5.0	0.1000	0.0007323	96.1	75	125			

Sample ID: 1911677-001CMSD	SampType: MSD	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: Lybrook	Batch ID: 48826	RunNo: 64774								
Prep Date: 11/15/2019	Analysis Date: 11/25/2019	SeqNo: 2219793 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	100	0.5000	0.04852	98.3	75	125	0	20	
Cadmium	ND	1.0	0.5000	0	101	75	125	0	20	
Chromium	ND	5.0	0.5000	0	99.5	75	125	0	20	
Lead	ND	5.0	0.5000	0.004371	102	75	125	0	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911677

03-Dec-19

Client: Souder, Miller and Associates

Project: Lybrook

Sample ID: 1911677-001CMSD		SampType: MSD		TestCode: EPA 6010B: Total Recoverable Metals						
Client ID: Lybrook		Batch ID: 48826		RunNo: 64774						
Prep Date: 11/15/2019		Analysis Date: 11/25/2019		SeqNo: 2219793		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	1.0	0.5000	0	106	75	125	0	20	
Silver	ND	5.0	0.1000	0.0007323	94.7	75	125	0	20	

Sample ID: MB-48826	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 48826	RunNo: 64774								
Prep Date: 11/15/2019	Analysis Date: 11/25/2019	SeqNo: 2219851 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								

Sample ID: LCS-48826	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 48826	RunNo: 64774								
Prep Date: 11/15/2019	Analysis Date: 11/25/2019	SeqNo: 2219853 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.50	0.020	0.5000	0	99.7	80	120			

Sample ID: 1911677-001CMS	SampType: MS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: Lybrook	Batch ID: 48826	RunNo: 64774								
Prep Date: 11/15/2019	Analysis Date: 11/25/2019	SeqNo: 2219873 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0	0.5000	0	96.7	75	125			

Sample ID: 1911677-001CMSD	SampType: MSD	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: Lybrook	Batch ID: 48826	RunNo: 64774								
Prep Date: 11/15/2019	Analysis Date: 11/25/2019	SeqNo: 2219874 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0	0.5000	0	95.6	75	125	0	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1911677

RcptNo: 1

Received By: Juan Rojas

11/15/2019 8:00:00 AM

Completed By: Desiree Dominguez

11/15/2019 8:22:05 AM

Reviewed By: ENM

11/15/19

DD

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization) Yes ☒ No ☐
- # of preserved bottles checked for pH: 10
(<2 or >12 unless noted)
- Adjusted? NO
- Checked by: DM
11/15/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.6	Good	Yes			

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised August 1, 2011

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Oil & Gas Equipment Corp

2. Originating Site:

8 Road 350 Flora Vista, NM 87415

3. Location of Material (Street Address, City, State or ULSTR):

same

4. Source and Description of Waste:

Estimated Volume 100 yd³ / bbls Known Volume (to be entered by the operator at the end of the haul) 100 yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Paul Drechsel, representative or authorized agent for Oil & Gas Equipment do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, _____, representative for _____ do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter:

Key Energy

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #:

Address of Facility:

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☒ **APPROVED**

☐ **DENIED** (Must Be Maintained As Permanent Record)

PRINT NAME: William Clayton

TITLE: Foreman

DATE: 11/9/20

SIGNATURE: [Signature]
Surface Waste Management Facility Authorized Agent

TELEPHONE NO.: 505-716-2988



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 28, 2019

Stephanie Hinds

Souder, Miller and Associates

401 W. Broadway

Farmington, NM 87401

TEL: (505) 325-5667

FAX (505) 327-1496

RE: Oil and Gas Equipment

OrderNo.: 1910961

Dear Stephanie Hinds:

Hall Environmental Analysis Laboratory received 1 sample(s) on 10/17/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910961

Date Reported: 10/28/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: S-1

Project: Oil and Gas Equipment

Collection Date: 10/16/2019 11:00:00 AM

Lab ID: 1910961-001

Matrix: AQUEOUS

Received Date: 10/17/2019 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	7.87		H	pH units	1	10/21/2019 10:42:03 AM	R63876
EPA METHOD 7470: MERCURY							Analyst: pmf
Mercury	0.00041	0.00020		mg/L	1	10/21/2019 5:15:08 PM	48271
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: rde
Arsenic	0.088	0.040		mg/L	2	10/24/2019 2:48:58 PM	48282
Barium	0.18	0.040		mg/L	2	10/24/2019 2:48:58 PM	48282
Cadmium	ND	0.0040		mg/L	2	10/24/2019 2:48:58 PM	48282
Chromium	1.3	0.012		mg/L	2	10/24/2019 2:48:58 PM	48282
Lead	0.032	0.010		mg/L	2	10/24/2019 2:48:58 PM	48282
Selenium	ND	0.10		mg/L	2	10/24/2019 2:48:58 PM	48282
Silver	ND	0.010		mg/L	2	10/24/2019 2:48:58 PM	48282
EPA METHOD 8260B: VOLATILES							Analyst: JMR
Benzene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
Toluene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
Ethylbenzene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
Methyl tert-butyl ether (MTBE)	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
1,2,4-Trimethylbenzene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
1,3,5-Trimethylbenzene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
1,2-Dichloroethane (EDC)	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
1,2-Dibromoethane (EDB)	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
Naphthalene	ND	20		µg/L	10	10/17/2019 5:35:04 PM	R63788
1-Methylnaphthalene	ND	40		µg/L	10	10/17/2019 5:35:04 PM	R63788
2-Methylnaphthalene	ND	40		µg/L	10	10/17/2019 5:35:04 PM	R63788
Acetone	130	100		µg/L	10	10/17/2019 5:35:04 PM	R63788
Bromobenzene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
Bromodichloromethane	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
Bromoform	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
Bromomethane	ND	30		µg/L	10	10/17/2019 5:35:04 PM	R63788
2-Butanone	ND	100		µg/L	10	10/17/2019 5:35:04 PM	R63788
Carbon disulfide	ND	100		µg/L	10	10/17/2019 5:35:04 PM	R63788
Carbon Tetrachloride	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
Chlorobenzene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
Chloroethane	ND	20		µg/L	10	10/17/2019 5:35:04 PM	R63788
Chloroform	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
Chloromethane	ND	30		µg/L	10	10/17/2019 5:35:04 PM	R63788
2-Chlorotoluene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
4-Chlorotoluene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
cis-1,2-DCE	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910961

Date Reported: 10/28/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: S-1

Project: Oil and Gas Equipment

Collection Date: 10/16/2019 11:00:00 AM

Lab ID: 1910961-001

Matrix: AQUEOUS

Received Date: 10/17/2019 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: JMR
cis-1,3-Dichloropropene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
1,2-Dibromo-3-chloropropane	ND	20		µg/L	10	10/17/2019 5:35:04 PM	R63788
Dibromochloromethane	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
Dibromomethane	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
1,2-Dichlorobenzene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
1,3-Dichlorobenzene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
1,4-Dichlorobenzene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
Dichlorodifluoromethane	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
1,1-Dichloroethane	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
1,1-Dichloroethene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
1,2-Dichloropropane	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
1,3-Dichloropropane	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
2,2-Dichloropropane	ND	20		µg/L	10	10/17/2019 5:35:04 PM	R63788
1,1-Dichloropropene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
Hexachlorobutadiene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
2-Hexanone	ND	100		µg/L	10	10/17/2019 5:35:04 PM	R63788
Isopropylbenzene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
4-Isopropyltoluene	2100	100		µg/L	100	10/19/2019 12:30:20 AM	R63839
4-Methyl-2-pentanone	ND	100		µg/L	10	10/17/2019 5:35:04 PM	R63788
Methylene Chloride	3500	300		µg/L	100	10/19/2019 12:30:20 AM	R63839
n-Butylbenzene	ND	30		µg/L	10	10/17/2019 5:35:04 PM	R63788
n-Propylbenzene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
sec-Butylbenzene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
Styrene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
tert-Butylbenzene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
1,1,1,2-Tetrachloroethane	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
1,1,2,2-Tetrachloroethane	ND	20		µg/L	10	10/17/2019 5:35:04 PM	R63788
Tetrachloroethene (PCE)	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
trans-1,2-DCE	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
trans-1,3-Dichloropropene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
1,2,3-Trichlorobenzene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
1,2,4-Trichlorobenzene	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
1,1,1-Trichloroethane	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
1,1,2-Trichloroethane	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
Trichloroethene (TCE)	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
Trichlorofluoromethane	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
1,2,3-Trichloropropane	ND	20		µg/L	10	10/17/2019 5:35:04 PM	R63788
Vinyl chloride	ND	10		µg/L	10	10/17/2019 5:35:04 PM	R63788
Xylenes, Total	ND	15		µg/L	10	10/17/2019 5:35:04 PM	R63788

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	• Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910961

Date Reported: 10/28/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: S-1

Project: Oil and Gas Equipment

Collection Date: 10/16/2019 11:00:00 AM

Lab ID: 1910961-001

Matrix: AQUEOUS

Received Date: 10/17/2019 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: JMR
Surr: 1,2-Dichloroethane-d4	96.5	70-130	%Rec	10	10	10/17/2019 5:35:04 PM	R63788
Surr: 4-Bromofluorobenzene	91.0	70-130	%Rec	10	10	10/17/2019 5:35:04 PM	R63788
Surr: Dibromofluoromethane	101	70-130	%Rec	10	10	10/17/2019 5:35:04 PM	R63788
Surr: Toluene-d8	101	70-130	%Rec	10	10	10/17/2019 5:35:04 PM	R63788

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	• Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910961

28-Oct-19

Client: Souder, Miller and Associates

Project: Oil and Gas Equipment

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R63788	RunNo: 63788								
Prep Date:	Analysis Date: 10/17/2019	SeqNo: 2180327 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.2	70	130			
Toluene	20	1.0	20.00	0	97.6	70	130			
Chlorobenzene	20	1.0	20.00	0	102	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	89.7	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	88.2	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.5	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		93.0	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R63788	RunNo: 63788								
Prep Date:	Analysis Date: 10/17/2019	SeqNo: 2180339 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910961

28-Oct-19

Client: Souder, Miller and Associates

Project: Oil and Gas Equipment

Sample ID: rb1	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R63788		RunNo: 63788							
Prep Date:	Analysis Date: 10/17/2019		SeqNo: 2180339		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910961

28-Oct-19

Client: Souder, Miller and Associates

Project: Oil and Gas Equipment

Sample ID: rb1		SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW		Batch ID: R63788		RunNo: 63788						
Prep Date:		Analysis Date: 10/17/2019		SeqNo: 2180339		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.1	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		93.2	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R63839	RunNo: 63839								
Prep Date:	Analysis Date: 10/18/2019	SeqNo: 2182326 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.3	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		94.0	70	130			
Surr: Dibromofluoromethane	10		10.00		99.8	70	130			
Surr: Toluene-d8	10		10.00		99.6	70	130			

Sample ID: rb1		SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW		Batch ID: R63839		RunNo: 63839						
Prep Date:		Analysis Date: 10/18/2019		SeqNo: 2182347		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Isopropyltoluene	ND	1.0								
Methylene Chloride	ND	3.0								
Surr: 1,2-Dichloroethane-d4	10		10.00		99.7	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		91.2	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910961

28-Oct-19

Client: Souder, Miller and Associates

Project: Oil and Gas Equipment

Sample ID: MB-48271	SampType: MBLK	TestCode: EPA Method 7470: Mercury
Client ID: PBW	Batch ID: 48271	RunNo: 63847
Prep Date: 10/21/2019	Analysis Date: 10/21/2019	SeqNo: 2182470 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND 0.00020	

Sample ID: LCS-48271	SampType: LCS	TestCode: EPA Method 7470: Mercury
Client ID: LCSW	Batch ID: 48271	RunNo: 63847
Prep Date: 10/21/2019	Analysis Date: 10/21/2019	SeqNo: 2182471 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0045 0.00020 0.005000	0 89.3 80 120

Qualifiers:

* Value exceeds Maximum Contaminant Level
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910961

28-Oct-19

Client: Souder, Miller and Associates

Project: Oil and Gas Equipment

Sample ID: MB-48282	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 48282	RunNo: 63974								
Prep Date: 10/21/2019	Analysis Date: 10/24/2019	SeqNo: 2188073 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	ND	0.020								
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	ND	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID: LCS-48282	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 48282	RunNo: 63974								
Prep Date: 10/21/2019	Analysis Date: 10/24/2019	SeqNo: 2188075 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	0.49	0.020	0.5000	0	97.1	80	120			
Barium	0.47	0.020	0.5000	0	93.9	80	120			
Cadmium	0.48	0.0020	0.5000	0	96.2	80	120			
Chromium	0.48	0.0060	0.5000	0	96.5	80	120			
Lead	0.48	0.0050	0.5000	0	96.5	80	120			
Selenium	0.47	0.050	0.5000	0	94.8	80	120			
Silver	0.097	0.0050	0.1000	0	96.8	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1910981

RcptNo: 1

Received By: Desiree Dominguez 10/17/2018 8:15:00 AM

Completed By: Leah Baca 10/17/2018 8:35:43 AM

Reviewed By: DAD 10/17/19

DD
Leah Baca

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☒ No ☒ DAD 10/17/19 NA ☐
9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved bottles checked for pH: 1
Adjusted? YES (<2 or >12 unless noted)
Checked by: DAD 10/17/19

Special Handling (If applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks: For metals analysis added ~8.0mL HNO₃ to sample D01c
17. Cooler Information for pH₂

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.0	Good	Yes			

Chain-of-Custody Record

Client: SMA

Mailing Address: 401 West Broadway

Farmington, NM 87401

Phone #: 505-325-7535

email or Fax#: Stephanie. Hinds @ sander
Miller. com

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Project Manager:

Stephanie Hinds

Sampler:

On Ice: ☒ Yes ☐ No

of Coolers: 1

Cooler Temp (including CFI): 0.2 - 0.2 = 0.0°C

Date Time Matrix Sample Name

10/16/19 11:00 az 5-1

Container Type and #

various

Preservative Type

various

HEAL No.

1910961

-001

Date Time

10/16/19 11:40

Relinquished by:

Stephanie Hinds

Relinquished by:

Christina Watson

Received by:

Christina Watson

Received by:

CS

Date Time

10/16/19 16:05

Remarks:

Rush if possible. Thank you!

Date Time

10/17/19 8:15



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX / MTBE / TMB's (8021)
TPH: 8015D (GRO / DRO / MRO)
8081 Pesticides / 8082 PCB's
EDB (Method 504.1)
PAHs by 8310 or 8270SIMS
RCRA 8 Metals
Cl, F, Br, NO₂, NO₃, PO₄, SO₄
8260 (VOA) Full list
8270 (Semi-VOA)
Total Coliform (Present/Absent)
pH
RCRA 8 Metals

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised August 1, 2011

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Oil & Gas Equipment 8 Road 350 Flora Vista, NM 87415

2. Originating Site:

3. Location of Material (Street Address, City, State or ULSTR):

8 Road 350 Flora Vista, NM 87415

4. Source and Description of Waste:

Water waste

Estimated Volume yd³ / bbls Known Volume (to be entered by the operator at the end of the haul) yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, , representative or authorized agent for do hereby
certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988
regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-
exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by
characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261,
subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check
the appropriate items)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, , representative for do hereby certify that
representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples
have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results
of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of
19.15.36 NMAC.

5. Transporter:

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #:

Address of Facility:

Method of Treatment and/or Disposal:

☐ Evaporation ☐ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME:

TITLE:

DATE:

SIGNATURE:

TELEPHONE NO.:

Surface Waste Management Facility Authorized Agent

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1804042

Date Reported: 4/19/2018

CLIENT: Souder, Miller and Associates

Client Sample ID: S-1

Project: Oil and Gas Equipment

Collection Date: 4/2/2018 10:00:00 AM

Lab ID: 1804042-001

Matrix: AQUEOUS

Received Date: 4/3/2018 7:42:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	10.4		*H	pH units	1	4/5/2018 12:36:45 PM	R50386
EPA METHOD 7470: MERCURY							Analyst: rde
Mercury	ND	0.20		mg/L	1	4/6/2018 4:03:44 PM	37466
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: MED
Arsenic	ND	5.0		mg/L	10	4/17/2018 1:55:48 PM	37420
Barium	ND	100		mg/L	10	4/17/2018 9:38:31 AM	37420
Cadmium	ND	1.0		mg/L	10	4/17/2018 9:38:31 AM	37420
Chromium	ND	5.0		mg/L	10	4/17/2018 9:38:31 AM	37420
Lead	ND	5.0		mg/L	10	4/17/2018 9:38:31 AM	37420
Selenium	ND	1.0		mg/L	10	4/17/2018 9:38:31 AM	37420
Silver	ND	5.0		mg/L	10	4/17/2018 9:38:31 AM	37420
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Benzene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Toluene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Ethylbenzene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Methyl tert-butyl ether (MTBE)	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
1,2,4-Trimethylbenzene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
1,3,5-Trimethylbenzene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
1,2-Dichloroethane (EDC)	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
1,2-Dibromoethane (EDB)	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Naphthalene	ND	20	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
1-Methylnaphthalene	ND	40	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
2-Methylnaphthalene	ND	40	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Acetone	140	100	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Bromobenzene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Bromodichloromethane	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Bromoform	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Bromomethane	ND	30	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
2-Butanone	ND	100	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Carbon disulfide	ND	100	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Carbon Tetrachloride	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Chlorobenzene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Chloroethane	ND	20	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Chloroform	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Chloromethane	ND	30	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
2-Chlorotoluene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
4-Chlorotoluene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
cis-1,2-DCE	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1804042

Date Reported: 4/19/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: S-1

Project: Oil and Gas Equipment

Collection Date: 4/2/2018 10:00:00 AM

Lab ID: 1804042-001

Matrix: AQUEOUS

Received Date: 4/3/2018 7:42:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
cis-1,3-Dichloropropene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
1,2-Dibromo-3-chloropropane	ND	20	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Dibromochloromethane	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Dibromomethane	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
1,2-Dichlorobenzene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
1,3-Dichlorobenzene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
1,4-Dichlorobenzene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Dichlorodifluoromethane	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
1,1-Dichloroethane	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
1,1-Dichloroethene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
1,2-Dichloropropane	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
1,3-Dichloropropane	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
2,2-Dichloropropane	ND	20	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
1,1-Dichloropropene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Hexachlorobutadiene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
2-Hexanone	ND	100	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Isopropylbenzene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
4-Isopropyltoluene	46	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
4-Methyl-2-pentanone	ND	100	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Methylene Chloride	210	30	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
n-Butylbenzene	ND	30	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
n-Propylbenzene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
sec-Butylbenzene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Styrene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
tert-Butylbenzene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
1,1,1,2-Tetrachloroethane	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
1,1,2,2-Tetrachloroethane	ND	20	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Tetrachloroethene (PCE)	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
trans-1,2-DCE	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
trans-1,3-Dichloropropene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
1,2,3-Trichlorobenzene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
1,2,4-Trichlorobenzene	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
1,1,1-Trichloroethane	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
1,1,2-Trichloroethane	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Trichloroethene (TCE)	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Trichlorofluoromethane	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
1,2,3-Trichloropropane	ND	20	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Vinyl chloride	ND	10	D	µg/L	10	4/13/2018 12:20:53 AM	W50533
Xylenes, Total	17	15	D	µg/L	10	4/13/2018 12:20:53 AM	W50533

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E	Value above quantitation range
	H Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL Practical Quantitative Limit	RL	Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1804042

Date Reported: 4/19/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: S-1

Project: Oil and Gas Equipment

Collection Date: 4/2/2018 10:00:00 AM

Lab ID: 1804042-001

Matrix: AQUEOUS

Received Date: 4/3/2018 7:42:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Surr: 1,2-Dichloroethane-d4	91.4	70-130	D	%Rec	10	4/13/2018 12:20:53 AM	W50533
Surr: 4-Bromofluorobenzene	119	70-130	D	%Rec	10	4/13/2018 12:20:53 AM	W50533
Surr: Dibromofluoromethane	92.0	70-130	D	%Rec	10	4/13/2018 12:20:53 AM	W50533
Surr: Toluene-d8	96.7	70-130	D	%Rec	10	4/13/2018 12:20:53 AM	W50533

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E	Value above quantitation range
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	ND Not Detected at the Reporting Limit	P	Sample pH Not in Range
	PQL Practical Quantitative Limit	RL	Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1804042

19-Apr-18

Client: Souder, Miller and Associates

Project: Oil and Gas Equipment

Sample ID	rb1	SampType	MBLK	TestCode	EPA Method 8260B: VOLATILES					
Client ID	PBW	Batch ID	X50476	RunNo	50476					
Prep Date		Analysis Date	4/11/2018	SeqNo	1637293	Units	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.8	70	130			
Surr: 4-Bromofluorobenzene	12		10.00		116	70	130			
Surr: Dibromofluoromethane	9.3		10.00		92.8	70	130			
Surr: Toluene-d8	9.8		10.00		98.3	70	130			

Sample ID	100ng lcs2	SampType	LCS	TestCode	EPA Method 8260B: VOLATILES					
Client ID	LCSW	Batch ID	X50476	RunNo	50476					
Prep Date		Analysis Date	4/11/2018	SeqNo	1637294	Units	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.9	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		114	70	130			
Surr: Dibromofluoromethane	9.2		10.00		91.9	70	130			
Surr: Toluene-d8	9.8		10.00		97.8	70	130			

Sample ID	rb	SampType	MBLK	TestCode	EPA Method 8260B: VOLATILES					
Client ID	PBW	Batch ID	W50533	RunNo	50533					
Prep Date		Analysis Date	4/12/2018	SeqNo	1638999	Units	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| II Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1804042

19-Apr-18

Client: Souder, Miller and Associates

Project: Oil and Gas Equipment

Sample ID	rb	SampType	MBLK	TestCode	EPA Method 8260B: VOLATILES					
Client ID	PBW	Batch ID	W50533	RunNo	50533					
Prep Date		Analysis Date	4/12/2018	SeqNo	1638999	Units	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1804042

19-Apr-18

Client: Souder, Miller and Associates

Project: Oil and Gas Equipment

Sample ID	rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: W50533			RunNo: 50533					
Prep Date:		Analysis Date: 4/12/2018			SeqNo: 1638999		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.4	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		115	70	130			
Surr: Dibromofluoromethane	9.1		10.00		91.4	70	130			
Surr: Toluene-d8	9.7		10.00		96.9	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	W50533	RunNo:	50533					
Prep Date:		Analysis Date:	4/12/2018	SeqNo:	1639000	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.7	70	130			
Toluene	18	1.0	20.00	0	90.2	70	130			
Chlorobenzene	19	1.0	20.00	0	93.1	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	96.7	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	86.0	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.7	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		113	70	130			
Surr: Dibromofluoromethane	9.4		10.00		93.6	70	130			
Surr: Toluene-d8	9.3		10.00		93.2	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1804042

19-Apr-18

Client: Souder, Miller and Associates

Project: Oil and Gas Equipment

Sample ID	MB-37466	SampType	MBLK	TestCode	EPA Method 7470: Mercury					
Client ID	PBW	Batch ID	37466	RunNo	50382					
Prep Date	4/6/2018	Analysis Date	4/6/2018	SeqNo	1632693	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-37466	SampType	LCS	TestCode	EPA Method 7470: Mercury					
Client ID	LCSW	Batch ID	37466	RunNo	50382					
Prep Date	4/6/2018	Analysis Date	4/6/2018	SeqNo	1632694	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0054	0.00020	0.005000	0	108	80	120			

Sample ID	LCSD-37466	SampType	LCSD	TestCode	EPA Method 7470: Mercury					
Client ID	LCSS02	Batch ID	37466	RunNo	50382					
Prep Date	4/6/2018	Analysis Date	4/6/2018	SeqNo	1632695	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0053	0.00020	0.005000	0	106	80	120	1.47	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1804042

19-Apr-18

Client: Souder, Miller and Associates

Project: Oil and Gas Equipment

Sample ID	MB-37420	SampType	MBLK	TestCode	EPA 6010B: Total Recoverable Metals					
Client ID	PBW	Batch ID	37420	RunNo	50514					
Prep Date	4/4/2018	Analysis Date	4/12/2018	SeqNo	1638052	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	ND	0.0050								

Sample ID	LCS-37420	SampType	LCS	TestCode	EPA 6010B: Total Recoverable Metals					
Client ID	LCSW	Batch ID	37420	RunNo	50514					
Prep Date	4/4/2018	Analysis Date	4/12/2018	SeqNo	1638053	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.46	0.020	0.5000	0	93.0	80	120			
Cadmium	0.47	0.0020	0.5000	0	94.0	80	120			
Chromium	0.48	0.0060	0.5000	0	95.4	80	120			
Lead	0.48	0.0050	0.5000	0	95.9	80	120			

Sample ID	MB-37420	SampType	MBLK	TestCode	EPA 6010B: Total Recoverable Metals					
Client ID	PBW	Batch ID	37420	RunNo	50610					
Prep Date	4/4/2018	Analysis Date	4/17/2018	SeqNo	1641754	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.020								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID	LCS-37420	SampType	LCS	TestCode	EPA 6010B: Total Recoverable Metals					
Client ID	LCSW	Batch ID	37420	RunNo	50610					
Prep Date	4/4/2018	Analysis Date	4/17/2018	SeqNo	1641755	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.020	0.5000	0	99.7	80	120			
Selenium	0.52	0.050	0.5000	0	104	80	120			
Silver	0.10	0.0050	0.1000	0	103	80	120			

Sample ID	MB-37420	SampType	MBLK	TestCode	EPA 6010B: Total Recoverable Metals					
Client ID	PBW	Batch ID	37420	RunNo	50610					
Prep Date	4/4/2018	Analysis Date	4/17/2018	SeqNo	1642089	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1804042

19-Apr-18

Client: Souder, Miller and Associates

Project: Oil and Gas Equipment

Sample ID	LCS-37420	SampType	LCS	TestCode	EPA 6010B: Total Recoverable Metals					
Client ID	LCSW	Batch ID	37420	RunNo	50610					
Prep Date	4/4/2018	Analysis Date	4/17/2018	SeqNo	1642090	Units	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.56	0.020	0.5000	0	112	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

2019

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised 08/01/11

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

DJR Operating, LLC PO Box 156 Bloomfield, NM 87413

2. Originating Site:

North Alamo Unit P28 Well Pad API: 30-043-21200

3. Location of Material (Street Address, City, State or ULSTR):

Section 28-T23N-R07W Sandoval County, NM

4. Source and Description of Waste:

Fresh Water from a new pipeline hydrotest.

Estimated Volume 200 bbls yd³ / bbls Known Volume (to be entered by the operator at the end of the haul) 130 yd³ bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Amir Akhavan, representative or authorized agent for DJR Operating, LLC do hereby
Generator Signature

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☒ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, _____, representative for DJR Operating, LLC authorize IEI to

Generator Signature

complete the required testing/sign the Generator Waste Testing Certification.

I, _____, representative for _____ do hereby certify that

Representative/Agent Signature

Representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

Transporter: M&R Trucking

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: # Agua Moss * Permit #: UICI-005

Address of Facility: E-02-29N-12W Crouch Mesa Facility

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☒ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: William Clayton

TITLE: Former DATE: 1/19/20

SIGNATURE: [Signature]

TELEPHONE NO.: 505-716-2988

Surface Waste Management Facility Authorized Agent

District I
1625 N French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico *Tdqibson - Aguamoss @*
Energy Minerals and Natural Resources *Gmail. Com*
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

2019
Form C-138
Revised August 1, 2011

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Coastal Chemical 1130 Madison Lane, Farmington NM 87401

2. Originating Site:

1130 Madison Lane Farmington NM. 87401

3. Location of Material (Street Address, City, State or ULSTR):

Same

4. Source and Description of Waste:

Rain water, wash out hoses & totes, etc.

Estimated Volume 290 yd³ / bbls Known Volume (to be entered by the operator at the end of the haul) 290 yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Lee Hamm, representative or authorized agent for Coastal Chemical do hereby
certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988
regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-
exempt waste. *Operator Use Only: Waste Acceptance Frequency* ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by
characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261,
subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check
the appropriate items)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, _____, representative for _____ do hereby certify that
representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples
have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results
of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of
19.15.36 NMAC.

5. Transporter:

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #:

Address of Facility:

Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☒ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: William Clatten

TITLE: Foreman

DATE: 1/19/20

SIGNATURE: William Clatten

TELEPHONE NO.: 505-716-2888

Surface Waste Management Facility Authorized Agent

Analytical Report

Report Summary

Client: Coastal Chemical

Samples Received: 3/22/2019

Job Number: 95007-0025

Work Order: P903048

Project Name/Location: Waste Water, TEG,
Amines

Report Reviewed By:



Date: 4/3/19

Walter Hinchman, Laboratory Director



Envirotech Inc. certifies the test results meet all requirements of TNI unless footnoted otherwise.
Statement of Data Authenticity: Envirotech, Inc. attests the data reported has not been altered in any way.
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Envirotech, Inc. currently holds the appropriate and available Utah TNI certification NM009792018-1 for the data reported.

Coastal Chemical
 PO Box 820
 Abbeville LA, 70511-0820

 Project Name: Waste Water, TEG, Amines
 Project Number: 95007-0025
 Project Manager: Lee Hamm

 Reported:
 04/03/19 13:31

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Wash Out	P903048-01A	Aqueous	03/22/19	03/22/19	Amber, 1L
	P903048-01B	Aqueous	03/22/19	03/22/19	Amber, 1L
	P903048-01C	Aqueous	03/22/19	03/22/19	Poly 500mL
	P903048-01D	Aqueous	03/22/19	03/22/19	Poly 250mL
	P903048-01E	Aqueous	03/22/19	03/22/19	VOA Vial, 40mL, HCl
	P903048-01F	Aqueous	03/22/19	03/22/19	VOA Vial, 40mL, HCl
	P903048-01G	Aqueous	03/22/19	03/22/19	VOA Vial, 40mL, HCl
Trip Blank	P903048-02A	Aqueous	03/22/19	03/22/19	VOA Vial, 40mL, HCl
	P903048-02B	Aqueous	03/22/19	03/22/19	VOA Vial, 40mL, HCl

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Coastal Chemical
 PO Box 820
 Abbeville LA, 70511-0820

 Project Name: Waste Water, TEG, Amines
 Project Number: 95007-0025
 Project Manager: Lee Hamm

 Reported:
 04/03/19 13:31

Wash Out
P903048-01 (Water)

Reporting

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TCLP Volatile Organic Compounds by 8260									
Vinyl chloride	ND	0.0500	mg/l	50	1913040	03/29/19	03/29/19	EPA 8260B	
1,1-Dichloroethene	ND	0.0500	mg/L	50	1913040	03/29/19	03/29/19	EPA 8260B	
2-Butanone (MEK)	ND	1.00	mg/l	50	1913040	03/29/19	03/29/19	EPA 8260B	
Chloroform	ND	0.500	mg/L	50	1913040	03/29/19	03/29/19	EPA 8260B	
Carbon Tetrachloride	ND	0.0500	mg/L	50	1913040	03/29/19	03/29/19	EPA 8260B	
Benzene	ND	0.0500	mg/L	50	1913040	03/29/19	03/29/19	EPA 8260B	
1,2-Dichloroethane	ND	0.0500	mg/l	50	1913040	03/29/19	03/29/19	EPA 8260B	
Trichloroethene	ND	0.0500	mg/L	50	1913040	03/29/19	03/29/19	EPA 8260B	
Tetrachloroethene	ND	0.0500	mg/L	50	1913040	03/29/19	03/29/19	EPA 8260B	
Chlorobenzene	ND	0.0500	mg/L	50	1913040	03/29/19	03/29/19	EPA 8260B	
1,4-Dichlorobenzene	ND	0.0500	mg/l	50	1913040	03/29/19	03/29/19	EPA 8260B	
Surrogate 1,2-Dichloroethane-d4		100 %		70-130	1913040	03/29/19	03/29/19	EPA 8260B	
Surrogate Toluene-d8		92.5 %		70-130	1913040	03/29/19	03/29/19	EPA 8260B	
Surrogate Bromofluorobenzene		102 %		70-130	1913040	03/29/19	03/29/19	EPA 8260B	
TCLP Metals									
Arsenic	ND	0.200	mg/L	10	1913033	03/28/19	03/29/19	EPA 6010C	
Barium	ND	2.50	mg/L	10	1913033	03/28/19	03/29/19	EPA 6010C	
Cadmium	ND	0.100	mg/l	10	1913033	03/28/19	03/29/19	EPA 6010C	
Chromium	ND	0.200	mg/L	10	1913033	03/28/19	03/29/19	EPA 6010C	
Lead	ND	0.100	mg/l	10	1913033	03/28/19	03/29/19	EPA 6010C	
Selenium	ND	0.500	mg/L	10	1913033	03/28/19	03/29/19	EPA 6010C	
Silver	ND	0.100	mg/L	10	1913033	03/28/19	03/29/19	EPA 6010C	
Waste Characteristic									
Flash Point	>95		°C	1	1913014	03/26/19	03/26/19	ASTM D93-10a	

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Coastal Chemical	Project Name	Waste Water, TEG, Amines	Reported:
PO Box 820	Project Number	95007-0025	04/03/19 13:31
Abbeville LA, 70511-0820	Project Manager	Lee Hamm	

Wash Out
P903048-01 (Water)

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Wet Chemistry

pH @25°C	8.36		pH Units	1	1913004	03/25/19 09:19	03/25/19 12:42	9040C/4500 H+B	III
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TCLP Mercury by EPA 7470A

Mercury	ND	0.00020	mg/L	1	1913014	03/28/19	03/29/19	EPA 7470A	
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Coastal Chemical
 PO Box 820
 Abbeville LA, 70511-0820

 Project Name: Waste Water, TEG, Amines
 Project Number: 95007-0025
 Project Manager: Lee Hamm

 Reported:
 04/03/19 13:31

Trip Blank
P903048-02 (Water)

Reporting

Analyte	Result	Limit	Units	Dilution	Date	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by 8260									
Dichlorodifluoromethane (Freon-12)	ND	5.00	ug/l	1	1913040	03/30/19	03/30/19	EPA 8260B	
Chloromethane	ND	5.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Vinyl chloride	ND	1.00	ug/l	1	1913040	03/30/19	03/30/19	EPA 8260B	
Bromomethane	ND	10.0	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Chloroethane	ND	5.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Trichlorofluoromethane (Freon-11)	ND	5.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
1,1-Dichloroethene	ND	1.00	ug/l	1	1913040	03/30/19	03/30/19	EPA 8260B	
Acetone	ND	50.0	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Methylene Chloride	ND	5.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Methyl tert-Butyl Ether (MTBE)	ND	1.00	ug/l	1	1913040	03/30/19	03/30/19	EPA 8260B	
trans-1,2-Dichloroethene	ND	2.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Diisopropyl Ether (DIPE)	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
1,1-Dichloroethane	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Ethyl tert-Butyl Ether (ETBE)	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
2-Butanone (MEK)	ND	20.0	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
2,2-Dichloropropane	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Bromochloromethane	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Chloroform	ND	10.0	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
1,1,1-Trichloroethane	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Carbon Tetrachloride	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
1,1-Dichloropropene	ND	1.00	ug/l	1	1913040	03/30/19	03/30/19	EPA 8260B	
tert-Amyl Methyl ether (TAME)	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Benzene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
1,2-Dichloroethane	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Trichloroethene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
1,2-Dichloropropane	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Dibromomethane	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Bromodichloromethane	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
cis-1,3-Dichloropropene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
4-Methyl-2-pentanone (MIBK)	ND	20.0	ug/l	1	1913040	03/30/19	03/30/19	EPA 8260B	
Toluene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
trans-1,3-Dichloropropene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
1,1,2-Trichloroethane	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Tetrachloroethene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
2-Hexanone	ND	20.0	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
1,3-Dichloropropane	ND	1.00	ug/l	1	1913040	03/30/19	03/30/19	EPA 8260B	

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Coastal Chemical
 PO Box 820
 Abbeville LA, 70511-0820

 Project Name Waste Water, TEG, Amines
 Project Number 95007-0025
 Project Manager Lee Hamm

 Reported:
 04/03/19 13:31

Trip Blank
P903048-02 (Water)

Reporting

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by 8260

Dibromochloromethane	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	2.50	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Chlorobenzene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Ethylbenzene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
p,m-Xylene	ND	2.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
o-Xylene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Total Xylenes	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Styrene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Bromoform	ND	2.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Isopropylbenzene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Bromobenzene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
n-Propyl Benzene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
1,2,3-Trichloropropane	ND	2.50	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
2-Chlorotoluene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
1,3,5-Trimethylbenzene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
4-Chlorotoluene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
tert-Butylbenzene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
1,2,4-Trimethylbenzene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
sec-Butylbenzene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
4-Isopropyltoluene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
1,3-Dichlorobenzene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
1,4-Dichlorobenzene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
n-Butyl Benzene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
1,2-Dichlorobenzene	ND	1.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
1,2,4-Trichlorobenzene	ND	5.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Hexachlorobutadiene	ND	5.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Naphthalene	ND	5.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
1,2,3-Trichlorobenzene	ND	5.00	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
2-Methylnaphthalene	ND	10.0	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
1-Methylnaphthalene	ND	10.0	ug/L	1	1913040	03/30/19	03/30/19	EPA 8260B	
Surrogate 1,2-Dichloroethane-d4		99.9 %		70-130	1913040	03/30/19	03/30/19	EPA 8260B	
Surrogate Toluene-d8		92.9 %		70-130	1913040	03/30/19	03/30/19	EPA 8260B	
Surrogate Bromofluorobenzene		100 %		70-130	1913040	03/30/19	03/30/19	EPA 8260B	

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Coastal Chemical
 PO Box 820
 Abbeville LA, 70511-0820

 Project Name: Waste Water, TEG, Amines
 Project Number: 95007-0025
 Project Manager: Lee Hamm

 Reported:
 04/03/19 13:31

Volatile Organic Compounds by 8260 - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1913040 - Purge and Trap EPA 5030A
Blank (1913040-BLK1)

Prepared & Analyzed: 03/29/19 1

Dichlorodifluoromethane (Freon-12)	ND	5.00	ug/L
Chloromethane	ND	5.00	"
Vinyl chloride	ND	1.00	"
Bromomethane	ND	10.0	"
Chloroethane	ND	5.00	"
Trichlorofluoromethane (Freon-11)	ND	5.00	"
1,1-Dichloroethene	ND	1.00	"
Acetone	ND	50.0	"
Methylene Chloride	ND	5.00	"
Methyl tert-Butyl Ether (MTBE)	ND	1.00	"
trans-1,2-Dichloroethene	ND	2.00	"
Diisopropyl Ether (DIPE)	ND	1.00	"
1,1-Dichloroethane	ND	1.00	"
Ethyl tert-Butyl Ether (ETBE)	ND	1.00	"
2-Butanone (MEK)	ND	20.0	"
cis-1,2-Dichloroethene	ND	1.00	"
2,2-Dichloropropane	ND	1.00	"
Bromochloromethane	ND	1.00	"
Chloroform	ND	10.0	"
1,1,1-Trichloroethane	ND	1.00	"
Carbon Tetrachloride	ND	1.00	"
1,1-Dichloropropene	ND	1.00	"
tert-Amyl Methyl ether (TAME)	ND	1.00	"
Benzene	ND	1.00	"
1,2-Dichloroethane	ND	1.00	"
Trichloroethene	ND	1.00	"
1,2-Dichloropropane	ND	1.00	"
Dibromomethane	ND	1.00	"
Bromodichloromethane	ND	1.00	"
cis-1,3-Dichloropropene	ND	1.00	"
4-Methyl-2-pentanone (MIBK)	ND	20.0	"
Toluene	ND	1.00	"
trans-1,3-Dichloropropene	ND	1.00	"
1,1,2-Trichloroethane	ND	1.00	"
Tetrachloroethene	ND	1.00	"
2-Hexanone	ND	20.0	"
1,3-Dichloropropane	ND	1.00	"
Dibromochloromethane	ND	1.00	"
1,2-Dibromoethane (EDB)	ND	2.50	"
Chlorobenzene	ND	1.00	"
Ethylbenzene	ND	1.00	"

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Coastal Chemical
 PO Box 820
 Abbeville LA, 70511-0820

 Project Name: Waste Water, TEG, Amines
 Project Number: 95007-0025
 Project Manager: Lee Hamm

 Reported:
 04/03/19 13:31

Volatile Organic Compounds by 8260 - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1913040 - Purge and Trap EPA 5030A
Blank (1913040-B1 K1)

Prepared & Analyzed: 03/29/19 1

1,1,1,2-Tetrachloroethane	ND	1.00	ug/L							
p,m-Xylene	ND	2.00	"							
o-Xylene	ND	1.00	"							
Total Xylenes	ND	1.00	"							
Styrene	ND	1.00	"							
Bromoform	ND	2.00	"							
Isopropylbenzene	ND	1.00	"							
1,1,2,2-Tetrachloroethane	ND	1.00	"							
Bromobenzene	ND	1.00	"							
n-Propyl Benzene	ND	1.00	"							
1,2,3-Trichloropropane	ND	2.50	"							
2-Chlorotoluene	ND	1.00	"							
1,3,5-Trimethylbenzene	ND	1.00	"							
4-Chlorotoluene	ND	1.00	"							
tert-Butylbenzene	ND	1.00	"							
1,2,4-Trimethylbenzene	ND	1.00	"							
sec-Butylbenzene	ND	1.00	"							
4-Isopropyltoluene	ND	1.00	"							
1,3-Dichlorobenzene	ND	1.00	"							
1,4-Dichlorobenzene	ND	1.00	"							
n-Butyl Benzene	ND	1.00	"							
1,2-Dichlorobenzene	ND	1.00	"							
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.00	"							
1,2,4-Trichlorobenzene	ND	5.00	"							
Hexachlorobutadiene	ND	5.00	"							
Naphthalene	ND	5.00	"							
1,2,3-Trichlorobenzene	ND	5.00	"							
2-Methylnaphthalene	ND	10.0	"							
1-Methylnaphthalene	ND	10.0	"							
Surrogate 1,2-Dichloroethane-d4	99.1		"	10.0		99.1	70-130			
Surrogate Toluene-d8	92.7		"	10.0		92.7	70-130			
Surrogate Bromofluorobenzene	10.0		"	10.0		100	70-130			

LCS (1913040-B1)

Prepared & Analyzed: 03/29/19 1

Dichlorodifluoromethane (Freon-12)	50.3	5.00	ug/L	50.0		100	50-180			
Bromomethane	68.0	10.0	"	50.0		136	22-187			
1,1-Dichloroethene	45.0	1.00	"	50.0		90.0	80-120			
Acetone	79.1	50.0	"	100		79.1	28-185			
Methyl tert-Butyl Ether (MTBE)	51.0	1.00	"	50.0		102	70-130			
1,1-Dichloroethane	42.0	1.00	"	50.0		84.0	70-130			
2,2-Dichloropropane	51.3	1.00	"	50.0		103	50-160			

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Coastal Chemical
 PO Box 820
 Abbeville LA, 70511-0820

 Project Name: Waste Water, TEG, Amines
 Project Number: 95007-0025
 Project Manager: Lee Hamm

 Reported:
 04/03/19 13:31

Volatile Organic Compounds by 8260 - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1913040 - Purge and Trap EPA 5030A
LCS (1913040-BS1)

Prepared & Analyzed 03/29/19

Carbon Tetrachloride	48.1	1.00	ug/L	50.0		96.2	70-130			
tert-Amyl Methyl ether (TAME)	43.6	1.00	"	50.0		87.1	70-130			
Benzene	45.6	1.00	"	50.0		91.2	70-130			
Trichloroethene	40.6	1.00	"	50.0		81.2	70-130			
cis-1,3-Dichloropropene	45.7	1.00	"	50.0		91.4	70-130			
Toluene	43.3	1.00	"	50.0		86.6	80-120			
Dibromochloromethane	42.8	1.00	"	50.0		85.5	70-130			
Chlorobenzene	42.2	1.00	"	50.0		84.4	70-130			
Ethylbenzene	46.3	1.00	"	50.0		92.7	80-120			
p,m-Xylene	84.1	2.00	"	100		84.1	70-130			
o-Xylene	46.7	1.00	"	50.0		93.4	70-130			
Total Xylenes	131	1.00	"	150		87.2	70-130			
Bromoform	41.8	2.00	"	50.0		83.5	70-131			
Isopropylbenzene	44.3	1.00	"	50.0		88.5	70-130			
2-Chlorotoluene	44.3	1.00	"	50.0		88.5	70-130			
sec-Butylbenzene	46.1	1.00	"	50.0		92.3	70-130			
1,2-Dichlorobenzene	41.0	1.00	"	50.0		82.1	70-130			
Naphthalene	37.9	5.00	"	50.0		75.9	70-140			
Surrogate 1,2-Dichloroethane-d4	97.6		"	10.0		97.6	70-130			
Surrogate Toluene-d8	95.8		"	10.0		95.8	70-130			
Surrogate Bromofluorobenzene	10.7		"	10.0		107	70-130			

Matrix Spike (1913040-MS1)

Source: P903066-06

Prepared & Analyzed 03/29/19

Dichlorodifluoromethane (Freon-12)	228	25.0	ug/L	250	ND	91.4	50-180			
Bromomethane	363	50.0	"	250	ND	145	17-190			
1,1-Dichloroethene	234	5.00	"	250	ND	93.8	49-144			
Acetone	349	250	"	500	ND	69.8	20-190			
Methyl tert-Butyl Ether (MTBE)	266	5.00	"	250	ND	106	61-136			
1,1-Dichloroethane	221	5.00	"	250	ND	88.2	64-134			
2,2-Dichloropropane	261	5.00	"	250	ND	104	45-165			
Carbon Tetrachloride	253	5.00	"	250	ND	101	61-139			
tert-Amyl Methyl ether (TAME)	230	5.00	"	250	ND	91.9	65-135			
Benzene	242	5.00	"	250	ND	96.7	59-133			
Trichloroethene	219	5.00	"	250	ND	87.7	49-148			
cis-1,3-Dichloropropene	242	5.00	"	250	ND	96.7	70-130			
Toluene	233	5.00	"	250	ND	93.2	67-130			
Dibromochloromethane	222	5.00	"	250	ND	88.7	70-132			
Chlorobenzene	228	5.00	"	250	ND	91.3	70-130			
Ethylbenzene	249	5.00	"	250	ND	99.7	62-136			
p,m-Xylene	452	10.0	"	500	ND	90.4	65-135			
o-Xylene	252	5.00	"	250	ND	101	70-130			

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Coastal Chemical
 PO Box 820
 Abbeville LA, 70511-0820

 Project Name: Waste Water, TEG, Amines
 Project Number: 95007-0025
 Project Manager: Lee Hamm

 Reported:
 04/03/19 13:31

Volatile Organic Compounds by 8260 - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1913040 - Purge and Trap EPA 5030A

Matrix Spike (1913040-MS1)		Source: P903066-06		Prepared & Analyzed: 03/29/19 1						
Total Xylenes	704	5.00	ug/L	750	ND	93.9	66-135			
Bromoform	217	10.0	"	250	ND	86.9	66-140			
Isopropylbenzene	240	5.00	"	250	ND	96.0	67-136			
2-Chlorotoluene	238	5.00	"	250	ND	95.0	67-134			
sec-Butylbenzene	245	5.00	"	250	ND	98.1	66-139			
1,2-Dichlorobenzene	223	5.00	"	250	ND	89.1	70-130			
Naphthalene	207	25.0	"	250	ND	82.8	60-160			
Surrogate: 1,2-Dichloroethane-d4	48.7		"	50.0		97.4	70-130			
Surrogate: Toluene-d8	48.0		"	50.0		95.9	70-130			
Surrogate: Bromofluorobenzene	53.0		"	50.0		106	70-130			

Matrix Spike Dup (1913040-MSD1)		Source: P903066-06		Prepared & Analyzed: 03/29/19 1						
Dichlorodifluoromethane (Freon-12)	216	25.0	ug/L	250	ND	86.4	50-180	5.56	20	
Bromomethane	363	50.0	"	250	ND	145	17-190	0.0138	20	
1,1-Dichloroethene	241	5.00	"	250	ND	96.2	49-144	2.55	20	
Acetone	404	250	"	500	ND	80.8	20-190	14.5	30	
Methyl tert-Butyl Ether (MTBE)	281	5.00	"	250	ND	112	61-136	5.45	20	
1,1-Dichloroethane	226	5.00	"	250	ND	90.2	64-134	2.29	20	
2,2-Dichloropropane	262	5.00	"	250	ND	105	45-165	0.268	20	
Carbon Tetrachloride	263	5.00	"	250	ND	105	61-139	3.74	20	
tert-Amyl Methyl ether (TAMF)	242	5.00	"	250	ND	96.9	65-135	5.30	20	
Benzene	249	5.00	"	250	ND	99.6	59-133	2.98	20	
Trichloroethene	217	5.00	"	250	ND	86.8	49-148	1.01	20	
cis-1,3-Dichloropropene	242	5.00	"	250	ND	96.6	70-130	0.0828	20	
Toluene	231	5.00	"	250	ND	92.5	67-130	0.797	20	
Dibromochloromethane	229	5.00	"	250	ND	91.8	70-132	3.41	20	
Chlorobenzene	227	5.00	"	250	ND	91.0	70-130	0.329	20	
Ethylbenzene	248	5.00	"	250	ND	99.3	62-136	0.442	20	
p,m-Xylene	449	10.0	"	500	ND	89.7	65-135	0.689	20	
o-Xylene	252	5.00	"	250	ND	101	70-130	0.0198	20	
Total Xylenes	701	5.00	"	750	ND	93.4	66-135	0.449	20	
Bromoforn	228	10.0	"	250	ND	91.1	66-140	4.67	20	
Isopropylbenzene	238	5.00	"	250	ND	95.1	67-136	0.942	20	
2-Chlorotoluene	237	5.00	"	250	ND	94.7	67-134	0.359	20	
sec-Butylbenzene	245	5.00	"	250	ND	97.8	66-139	0.265	20	
1,2-Dichlorobenzene	222	5.00	"	250	ND	88.9	70-130	0.292	20	
Naphthalene	225	25.0	"	250	ND	89.9	60-160	8.15	20	
Surrogate: 1,2-Dichloroethane-d4	49.8		"	50.0		99.5	70-130			
Surrogate: Toluene-d8	47.8		"	50.0		95.5	70-130			
Surrogate: Bromofluorobenzene	52.8		"	50.0		106	70-130			

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Coastal Chemical
 PO Box 820
 Abbeville LA, 70511-0820

 Project Name: Waste Water, TEG, Amines
 Project Number: 95007-0025
 Project Manager: Lee Hamm

 Reported:
 04/03/19 13:31

TCLP Volatile Organic Compounds by 8260 - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1913040 - Purge and Trap EPA 5030A
Blank (1913040-BLK1)

Prepared & Analyzed: 03/29/19

Vinyl chloride	ND	0.0010	mg/L							
1,1-Dichloroethene	ND	0.0010	"							
2-Butanone (MEK)	ND	0.0200	"							
Chloroform	ND	0.0100	"							
Carbon Tetrachloride	ND	0.0010	"							
Benzene	ND	0.0010	"							
1,2-Dichloroethane	ND	0.0010	"							
Trichloroethene	ND	0.0010	"							
Tetrachloroethene	ND	0.0010	"							
Chlorobenzene	ND	0.0010	"							
1,4-Dichlorobenzene	ND	0.0010	"							
Surrogate 1,2-Dichloroethane-d4	0.00991		"	0.0100		99.1	70-130			
Surrogate Toluene-d8	0.00927		"	0.0100		92.7	70-130			
Surrogate Bromofluorobenzene	0.0100		"	0.0100		100	70-130			

LCS (1913040-BL1)

Prepared & Analyzed: 03/29/19

Vinyl chloride	0.0466	0.0010	mg/L	0.0500		93.1	80-120			
1,1-Dichloroethene	0.0450	0.0010	"	0.0500		90.0	80-120			
2-Butanone (MEK)	0.0922	0.0200	"	0.100		92.1	45-165			
Chloroform	0.0433	0.0100	"	0.0500		86.5	80-120			
Carbon Tetrachloride	0.0481	0.0010	"	0.0500		96.2	70-130			
Benzene	0.0456	0.0010	"	0.0500		91.2	70-130			
1,2-Dichloroethane	0.0466	0.0010	"	0.0500		93.3	70-130			
Trichloroethene	0.0406	0.0010	"	0.0500		81.2	70-130			
Tetrachloroethene	0.0411	0.0010	"	0.0500		82.2	70-130			
Chlorobenzene	0.0422	0.0010	"	0.0500		84.4	70-130			
1,4-Dichlorobenzene	0.0401	0.0010	"	0.0500		80.2	70-130			
Surrogate 1,2-Dichloroethane-d4	0.00976		"	0.0100		97.6	70-130			
Surrogate Toluene-d8	0.00958		"	0.0100		95.8	70-130			
Surrogate Bromofluorobenzene	0.0107		"	0.0100		107	70-130			

Matrix Spike (1913040-MS1)

Source: P903066-06

Prepared & Analyzed: 03/29/19

Vinyl chloride	0.232	0.0050	mg/L	0.250	ND	92.7	44-143			
1,1-Dichloroethene	0.234	0.0050	"	0.250	ND	93.8	49-144			
2-Butanone (MEK)	0.436	0.100	"	0.500	ND	87.3	40-170			
Chloroform	0.227	0.0500	"	0.250	ND	90.6	66-133			
Carbon Tetrachloride	0.253	0.0050	"	0.250	ND	101	61-139			
Benzene	0.242	0.0050	"	0.250	ND	96.7	59-133			
1,2-Dichloroethane	0.239	0.0050	"	0.250	ND	95.7	62-138			
Trichloroethene	0.219	0.0050	"	0.250	ND	87.7	49-148			
Tetrachloroethene	0.219	0.0050	"	0.250	ND	87.5	57-141			

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Coastal Chemical
 PO Box 820
 Abbeville LA, 70511-0820

 Project Name: Waste Water, TEG, Amines
 Project Number: 95007-0025
 Project Manager: Lee Hamm

 Reported:
 04/03/19 13:31

TCLP Volatile Organic Compounds by 8260 - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1913040 - Purge and Trap EPA 5030A
Matrix Spike (1913040-MS1)

Source: P903066-06

Prepared & Analyzed: 03/29/19

Chlorobenzene	0.228	0.0050	mg/L	0.250	ND	91.3	70-130			
1,4-Dichlorobenzene	0.218	0.0050	"	0.250	ND	87.3	70-130			
Surrogate 1,2-Dichloroethane-d4	0.048	"	"	0.0500		97.4	70-130			
Surrogate Toluene-d8	0.0480	"	"	0.0500		95.9	70-130			
Surrogate Bromofluorobenzene	0.0530	"	"	0.0500		106	70-130			

Matrix Spike Dup (1913040-MSD1)

Source: P903066-06

Prepared & Analyzed: 03/29/19

Vinyl chloride	0.231	0.0050	mg/L	0.250	ND	92.6	44-143	0.151	30	
1,1-Dichloroethene	0.241	0.0050	"	0.250	ND	96.2	49-144	2.55	20	
2-Butanone (MEK)	0.490	0.100	"	0.500	ND	98.0	40-170	11.6	30	
Chloroform	0.234	0.0500	"	0.250	ND	93.6	66-133	3.17	20	
Carbon Tetrachloride	0.263	0.0050	"	0.250	ND	105	61-139	3.74	20	
Benzene	0.249	0.0050	"	0.250	ND	99.6	59-133	2.98	20	
1,2-Dichloroethane	0.250	0.0050	"	0.250	ND	100	62-138	4.45	20	
Trichloroethene	0.217	0.0050	"	0.250	ND	86.8	49-148	1.01	20	
Tetrachloroethene	0.219	0.0050	"	0.250	ND	87.7	57-141	0.160	20	
Chlorobenzene	0.227	0.0050	"	0.250	ND	91.0	70-130	0.329	20	
1,4-Dichlorobenzene	0.215	0.0050	"	0.250	ND	86.0	70-130	1.59	20	
Surrogate 1,2-Dichloroethane-d4	0.0498	"	"	0.0500		99.5	70-130			
Surrogate Toluene-d8	0.0478	"	"	0.0500		95.5	70-130			
Surrogate Bromofluorobenzene	0.0528	"	"	0.0500		106	70-130			

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Coastal Chemical
 PO Box 820
 Abbeville LA, 70511-0820

 Project Name: Waste Water, TEG, Amines
 Project Number: 95007-0025
 Project Manager: Lee Hamm

 Reported:
 04/03/19 13:31

TCLP Metals - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1913033 - Metals Water Hotblock Digestion EPA 3010A/200.2

Blank (1913033-BLK1)

Prepared: 03/28/19 | Analyzed: 03/29/19 |

Arsenic	ND	0.0200	mg/L
Barium	ND	0.250	"
Cadmium	ND	0.0100	"
Chromium	ND	0.0200	"
Lead	ND	0.0100	"
Selenium	ND	0.0500	"
Silver	ND	0.0100	"

LCS (1913033-BST)

Prepared: 03/28/19 | Analyzed: 03/29/19 |

Arsenic	0.496	0.0200	mg/L	0.500	99.1	80-120
Barium	12.1	0.250	"	12.5	96.7	80-120
Cadmium	0.255	0.0100	"	0.250	102	80-120
Chromium	1.07	0.0200	"	1.00	107	80-120
Lead	0.259	0.0100	"	0.250	104	80-120
Selenium	1.23	0.0500	"	1.25	98.2	80-120
Silver	0.105	0.0100	"	0.100	105	80-120

Matrix Spike (1913033-MS1)

Source: P903046-01

Prepared: 03/28/19 | Analyzed: 03/29/19 |

Arsenic	5.22	0.200	mg/L	5.00	ND	104	75-125
Barium	129	2.50	"	125	ND	103	75-125
Cadmium	2.62	0.100	"	2.50	ND	105	75-125
Chromium	11.2	0.200	"	10.0	ND	112	75-125
Lead	2.62	0.100	"	2.50	ND	105	75-125
Selenium	12.8	0.500	"	12.5	ND	102	75-125
Silver	1.11	0.100	"	1.00	ND	111	75-125

Matrix Spike Dup (1913033-MSD1)

Source: P903046-01

Prepared: 03/28/19 | Analyzed: 03/29/19 |

Arsenic	5.26	0.200	mg/L	5.00	ND	105	75-125	0.745	20
Barium	132	2.50	"	125	ND	106	75-125	2.83	20
Cadmium	2.64	0.100	"	2.50	ND	106	75-125	0.722	20
Chromium	11.2	0.200	"	10.0	ND	112	75-125	0.268	20
Lead	2.65	0.100	"	2.50	ND	106	75-125	1.03	20
Selenium	13.0	0.500	"	12.5	ND	104	75-125	1.40	20
Silver	1.11	0.100	"	1.00	ND	111	75-125	0.00	20

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Coastal Chemical
 PO Box 820
 Abbeville LA, 70511-0820

 Project Name: Waste Water, TEG, Amines
 Project Number: 95007-0025
 Project Manager: Lee Hamm

 Reported:
 04/03/19 13:31

Waste Characteristic - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1913014 - Wet Chemistry Preparation
LCS (1913014-BS1)

Prepared 03/26/19 0 Analyzed 03/26/19 1

Flash Point	68		°C	65.0		104	95-105			
-------------	----	--	----	------	--	-----	--------	--	--	--

Duplicate (1913014-DUP1)

Source: P903048-01

Prepared 03/26/19 0 Analyzed 03/26/19 1

Flash Point	>95		°C	>95				20		
-------------	-----	--	----	-----	--	--	--	----	--	--

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Coastal Chemical
PO Box 820
Abbeville LA, 70511-0820

Project Name: Waste Water, TEG, Amines
Project Number: 95007-0025
Project Manager: Lee Hamm

Reported:
04/03/19 13:31

Wet Chemistry - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 1913004 - Wet Chemistry Preparation

LCS (1913004-BS1)

Prepared: 03/25/19 0 Analyzed: 03/25/19 1

pH	7.97		pH Units	8.00		99.8	98.75-101.25			
----	------	--	----------	------	--	------	--------------	--	--	--

Duplicate (1913004-DUP1)

Source: P903048-01

Prepared: 03/25/19 0 Analyzed: 03/25/19 1

pH	8.36		pH Units	8.36				0.00	20	
----	------	--	----------	------	--	--	--	------	----	--

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5796 Highway 64, Farmington, NH 07401

Ph (505) 632-0615 Fx (505) 632-1865

24 Hour Emergency Response Phone (800) 362-1879

envirotechinc.com

labadmin@envirotech-inc.com

Coastal Chemical
 PO Box 820
 Abbeville LA, 70511-0820

 Project Name Waste Water, TEG, Amines
 Project Number 95007-0025
 Project Manager Lee Hamm

 Reported:
 04/03/19 13:31

TCLP Mercury by EPA 7470A - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 1913034 - Mercury Water Digestion KMNO4
Blank (1913034-BLK1) Prepared 03/28/19 | Analyzed 03/29/19 |

Mercury ND 0.00020 mg/L

LCS (1913034-BS1) Prepared 03/28/19 | Analyzed 03/29/19 |

Mercury 0.00211 0.00020 mg/L 0.00200 105 80-120

Matrix Spike (1913034-MS1) Source: P903046-01 Prepared 03/28/19 | Analyzed 03/29/19 |

Mercury 0.00205 0.00020 mg/L 0.00200 ND 103 75-125

Matrix Spike Dup (1913034-MSD1) Source: P903046-01 Prepared 03/28/19 | Analyzed 03/29/19 |

Mercury 0.00205 0.00020 mg/L 0.00200 ND 103 75-125 0.0867 20

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Coastal Chemical

P.O. Box 820

Abbeville LA, 70511-0820

Project Name:

Waste Water, TEG, Amines

Project Number:

95007-0025

Project Manager:

Lee Hamm

Reported:

04/03/19 13:31

Notes and Definitions

H1 Sample was received after regulatory hold-time exceeded for target analyte

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

** Methods marked with ** are non-accredited methods.

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[illegible]



ANALYTICAL REPORT

March 29, 2019

EnviroTech- NM

Sample Delivery Group: L1081949
Samples Received: 03/23/2019
Project Number: 95007-0025
Description: Wastewater, TEG, Amines
Site: P903048
Report To: Irene Yazzie
5796 US Highway 64
Farmington, NM 87401

Entire Report Reviewed By:

Daphne Richards
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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ONE LAB. NATIONWIDE.



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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



WASH OUT L1081949-01 Waste

Collected by
L. Hamm

Collected date/time
03/22/19 10:20

Received date/time
03/23/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Preparation by Method 1311	WG1256320	1	03/27/19 13:32	03/27/19 13:32	CGD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C	WG1257173	1	03/28/19 16:48	03/29/19 02:31	SNR	Mt. Juliet, TN

13

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 GI

8 AI

9 Sc

ACCOUNT:
EnviroTech- NM

PROJECT:
95007-0025

SDG:
L1081949

DATE/TIME:
03/29/19 15:55

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All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne Richards
Project Manager

Cn

Tc

Ss

Cn

Sr

Qc

GI

Al

Sc

WASH OUT

Collected date/time: 03/22/19 10:20

SAMPLE RESULTS - 01

L1081949

ONE LAB NATIONWIDE



Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		3/27/2019 1:32:28 PM	WG1256320
Fluid	1		3/27/2019 1:32:28 PM	WG1256320
Initial pH	N/A		3/27/2019 1:32:28 PM	WG1256320
Final pH	N/A		3/27/2019 1:32:28 PM	WG1256320

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

Analyte	Result mg/l	Qualifier	RDL mg/l	Limit mg/l	Dilution	Analysis date / time	Batch
1,4-Dichlorobenzene	ND		0.100	7.50	1	03/29/2019 02:31	WG1257173
2,4-Dinitrotoluene	ND		0.100	0.13	1	03/29/2019 02:31	WG1257173
Hexachlorobenzene	ND		0.100	0.13	1	03/29/2019 02:31	WG1257173
Hexachloro-1,3-butadiene	ND		0.100	0.50	1	03/29/2019 02:31	WG1257173
Hexachloroethane	ND		0.100	3	1	03/29/2019 02:31	WG1257173
Nitrobenzene	ND		0.100	2	1	03/29/2019 02:31	WG1257173
Pyridine	ND		0.100	5	1	03/29/2019 02:31	WG1257173
3&4-Methyl Phenol	ND		0.100	400	1	03/29/2019 02:31	WG1257173
2-Methylphenol	ND		0.100	200	1	03/29/2019 02:31	WG1257173
Pentachlorophenol	ND		0.100	100	1	03/29/2019 02:31	WG1257173
2,4,5-Trichlorophenol	ND		0.100	400	1	03/29/2019 02:31	WG1257173
2,4,6-Trichlorophenol	ND		0.100	2	1	03/29/2019 02:31	WG1257173
(S) 2-Fluorophenol	55.5		10.0-120			03/29/2019 02:31	WG1257173
(S) Phenol-d5	34.7		10.0-120			03/29/2019 02:31	WG1257173
(S) Nitrobenzene-d5	68.9		10.0-127			03/29/2019 02:31	WG1257173
(S) 2-Fluorobiphenyl	67.0		10.0-130			03/29/2019 02:31	WG1257173
(S) 2,4,6-Tribromophenol	81.0		10.0-155			03/29/2019 02:31	WG1257173
(S) p-Terphenyl-d14	83.8		10.0-128			03/29/2019 02:31	WG1257173

ACCOUNT:
EnviroTech- NMPROJECT:
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WG1257173

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

QUALITY CONTROL SUMMARY

L1081949-01

ONE LAB. NATIONWIDE

Method Blank (MB)

(MB) R3396373-2 03/29/19 00:07

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1,4-Dichlorobenzene	U	0.0333	0.0333	0.100
2,4-Dinitrotoluene	U	0.0333	0.0333	0.100
Hexachlorobenzene	U	0.0333	0.0333	0.100
Hexachloro-1,3-butadiene	U	0.0333	0.0333	0.100
Hexachloroethane	U	0.0333	0.0333	0.100
Nitrobenzene	U	0.0333	0.0333	0.100
Pyridine	U	0.0333	0.0333	0.100
2-Methylphenol	U	0.0333	0.0333	0.100
3,4-Methyl Phenol	U	0.0333	0.0333	0.100
Pentachlorophenol	U	0.0333	0.0333	0.100
2,4,5-Trichlorophenol	U	0.0333	0.0333	0.100
2,4,6-Trichlorophenol	U	0.0333	0.0333	0.100
(S) Nitrobenzene-d5	72.1			10.0-127
(S) 2-Fluorobiphenyl	73.0			10.0-130
(S) p-Terphenyl-d14	80.3			10.0-128
(S) Phenol-d5	29.8			10.0-120
(S) 2-Fluorophenol	51.5			10.0-120
(S) 2,4,6-Tribromophenol	80.5			10.0-155

Laboratory Control Sample (LCS)

(LCS) R3396373-1 03/28/19 23:47

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,4-Dichlorobenzene	0.500	0.328	65.6	18.0-120	
2,4-Dinitrotoluene	0.500	0.424	84.8	49.0-124	
Hexachlorobenzene	0.500	0.411	82.2	44.0-120	
Hexachloro-1,3-butadiene	0.500	0.307	61.4	19.0-120	
Hexachloroethane	0.500	0.291	58.2	15.0-120	
Nitrobenzene	0.500	0.335	67.0	27.0-120	
Pyridine	0.500	0.100	20.0	10.0-120	
2-Methylphenol	0.500	0.332	66.4	28.0-120	
3,4-Methyl Phenol	0.500	0.354	70.8	31.0-120	
Pentachlorophenol	0.500	0.433	86.6	23.0-120	
2,4,5-Trichlorophenol	0.500	0.434	86.8	44.0-120	
2,4,6-Trichlorophenol	0.500	0.419	83.8	42.0-120	
(S) Nitrobenzene-d5			59.7	10.0-127	
(S) 2-Fluorobiphenyl			74.4	10.0-130	
(S) p-Terphenyl-d14			77.9	10.0-128	

ACCOUNT:
EnviroTech- NMPROJECT:
95007-0025SDG:
L1081949DATE/TIME:
03/29/19 15:55

WG1257173

Semi Volatile Organic Compounds (GC/MS) by Method 8270C

QUALITY CONTROL SUMMARY

L1081949-01

ONE LAB, NATIONWIDE

Laboratory Control Sample (LCS)

(LCS) R3396373-1 03/28/19 23:47

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) Phenol-d5		31.2	31.2	10.0-120	
(S) 2-Fluorophenol		53.0	53.0	10.0-120	
(S) 2,4,6-Tribromophenol		87.0	87.0	10.0-155	

L1081921-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1081921-01 03/29/19 01:29 • (MS) R3396373-3 03/29/19 01:50 • (MSD) R3396373-4 03/29/19 02:10

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
1,4-Dichlorobenzene	0.500	ND	0.335	0.316	67.0	63.2	1	17.0-120		5.84	5.84	40
2,4-Dinitrotoluene	0.500	ND	0.432	0.415	86.4	83.0	1	39.0-125		4.01	4.01	25
Hexachlorobenzene	0.500	ND	0.404	0.396	80.8	79.2	1	35.0-122		2.00	2.00	24
Hexachloro-1,3-butadiene	0.500	ND	0.314	0.305	62.8	61.0	1	12.0-120		2.91	2.91	34
Hexachloroethane	0.500	ND	0.313	0.297	62.6	59.4	1	10.0-120		5.25	5.25	40
Nitrobenzene	0.500	ND	0.343	0.330	68.6	66.0	1	12.0-120		3.86	3.86	30
Pyridine	0.500	ND	0.135	0.150	27.0	30.0	1	10.0-120		10.5	10.5	37
2-Methylphenol	0.500	ND	0.355	0.344	71.0	68.8	1	10.0-120		3.15	3.15	30
3,4,4-Methyl Phenol	0.500	ND	0.382	0.371	76.4	74.2	1	10.0-120		2.92	2.92	36
Pentachlorophenol	0.500	ND	0.427	0.417	85.4	83.4	1	10.0-128		2.37	2.37	37
2,4,5-Trichlorophenol	0.500	ND	0.448	0.433	89.6	86.6	1	33.0-120		3.41	3.41	31
2,4,6-Trichlorophenol	0.500	ND	0.439	0.417	87.8	83.4	1	26.0-120		5.14	5.14	31
(S) Nitrobenzene-d5					60.7	58.9		10.0-127				
(S) 2-Fluorobiphenyl					72.1	71.3		10.0-130				
(S) p-Terphenyl-d14					84.6	77.0		10.0-128				
(S) Phenol-d5					34.2	32.2		10.0-120				
(S) 2-Fluorophenol					58.0	52.0		10.0-120				
(S) 2,4,6-Tribromophenol					82.5	82.0		10.0-155				

ACCOUNT:
EnviroTech- NMPROJECT:
95007-0025SDG:
L1081949DATE/TIME:
03/29/19 15:55



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,4}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁴	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

A2LA - ISO 17025	1461 01	AIHA-LAP, LLC EMLAP	100789
A2LA - ISO 17025 ⁴	1461 02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



ACCOUNT:
EnviroTech- NM

PROJECT:
95007-0025

SDG:
L1081949

DATE/TIME:
03/29/19 15:55

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Envirotech, Inc.
Laboratory@envirotech-inc.com

Ph (505) 632-0615 F (505) 632-1865
Ph (970) 259-0615 F (800) 362-1879

Three Springs - 65 Merriado Street, Suite 115, Durango, CO 81301
796 US Highway 64, Farmington, NH 07401

Signature of subcontract laboratory sample custodian

Date Received:

Subcontract Lab WO ID:

Phone No:

Email address:

Subcontract Laboratory Information

Subcontract Laboratory Notes

If so, does the CDC specify which phase(s) is to be analyzed?

Yes ☐ No ☐

Does the sample have more than one phase, i.e., multiphase?

Yes ☐ No ☐

Multiphase Sample Matrix Information

Does the CDC or field labels indicate the samples were correctly preserved?

Yes ☐ No ☐ NA ☐

Sample Preservation Information

Is the appropriate volume/weight or number of sample containers collected?

Yes ☐ No ☐

Sample Container Information

If no visible ice, record the temperature. Actual sample temperature.

Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6-12°C

Yes ☐ No ☐

Was the sample(s) received in tact, i.e., not broken?

Yes ☐ No ☐

Was the sample cooler received in good condition?

Yes ☐ No ☐

Sample Cooler Information

Did the CDC indicate standard TAT, or expedited TAT?

Standard 6-day TAT ☐ 24-hr rush ☐ 48-hr rush ☐ 72-hr rush ☐ other rush ☐

Sample Turn Around Time (TAT) Information

or is there sufficient holding time left to conduct analysis as standard TAT?

Yes ☐ No ☐

Were samples received within the method specified holding time

Was the CDC complete, i.e., signatures, dates/times, requested analyses?

Yes ☐ No ☐

Does the number of samples per sampling site location match the CDC?

Yes ☐ No ☐

Does the sample ID match the CDC?

Yes ☐ No ☐

Chain of Custody (COC) Information

Does the laboratory hold the certification for the requested method(s) of analysis?

Yes ☐ No ☐ NA ☐

Note: There are no RCMA/CWA state certification programs for the states of ND / CO

Does the receiving laboratory hold the appropriate RCMA/CWA/SOWA state certification?

Yes ☐ No ☐ NA ☐

State Certification Information

Comments/Resolution

Subcontract Lab Name:

Envirotech SCD initials:

Envirotech WO ID:

Date shipped

Shipping Carrier:

State of origin:

Envirotech email:

Lab address:

Please document any potential laboratory/contractor/analyst with the subcontract lab. It is requested that the subcontract lab scan this document and the CDC and send/has those two documents upon sample receipt. It is also requested that the subcontract laboratory call Envirotech immediately with any laboratory/contractor/analyst that may impact the general quality of the requested sample analysis.

Subcontract Sample Receipt Checklist (SCSRC)

Phone: (505) 632-0615 Fax: (505) 632-1865

Envirotech, Inc.

108949



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 26, 2019

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-7535
FAX:

RE: San Luis

OrderNo.: 1907731

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 1 sample(s) on 7/16/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907731

Date Reported: 7/26/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: San Luis Non Exempt

Project: San Luis

Collection Date: 7/15/2019 12:10:00 PM

Lab ID: 1907731-001

Matrix: AQUEOUS

Received Date: 7/16/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6020: TOTAL METALS							Analyst: DBK
Arsenic	ND	0.0010		mg/L	1	7/23/2019 2:23:00 PM	46264
Barium	0.073	0.0050		mg/L	5	7/24/2019 12:14:38 PM	46246
Cadmium	0.0070	0.0010		mg/L	1	7/23/2019 2:23:00 PM	46264
Chromium	0.010	0.0010		mg/L	1	7/23/2019 2:23:00 PM	46264
Lead	0.0024	0.0010		mg/L	1	7/23/2019 2:23:00 PM	46264
Selenium	ND	0.0010		mg/L	1	7/23/2019 2:23:00 PM	46264
Silver	ND	0.0010		mg/L	1	7/23/2019 2:23:00 PM	46264
EPA METHOD 7470: MERCURY							Analyst: rde
Mercury	ND	0.020		mg/L	1	7/22/2019 3:37:38 PM	46307
EPA METHOD 8270C: PAHS							Analyst: DAM
Naphthalene	ND	5.0	D	µg/L	10	7/23/2019 1:29:55 PM	46261
1-Methylnaphthalene	ND	10	D	µg/L	10	7/23/2019 1:29:55 PM	46261
2-Methylnaphthalene	ND	10	D	µg/L	10	7/23/2019 1:29:55 PM	46261
Acenaphthylene	ND	5.0	D	µg/L	10	7/23/2019 1:29:55 PM	46261
Acenaphthene	ND	5.0	D	µg/L	10	7/23/2019 1:29:55 PM	46261
Fluorene	ND	5.0	D	µg/L	10	7/23/2019 1:29:55 PM	46261
Phenanthrene	ND	5.0	D	µg/L	10	7/23/2019 1:29:55 PM	46261
Anthracene	ND	5.0	D	µg/L	10	7/23/2019 1:29:55 PM	46261
Fluoranthene	ND	5.0	D	µg/L	10	7/23/2019 1:29:55 PM	46261
Pyrene	ND	5.0	D	µg/L	10	7/23/2019 1:29:55 PM	46261
Benz(a)anthracene	ND	5.0	D	µg/L	10	7/23/2019 1:29:55 PM	46261
Chrysene	ND	5.0	D	µg/L	10	7/23/2019 1:29:55 PM	46261
Benzo(b)fluoranthene	ND	5.0	D	µg/L	10	7/23/2019 1:29:55 PM	46261
Benzo(k)fluoranthene	ND	5.0	D	µg/L	10	7/23/2019 1:29:55 PM	46261
Benzo(a)pyrene	ND	5.0	D	µg/L	10	7/23/2019 1:29:55 PM	46261
Dibenz(a,h)anthracene	ND	5.0	D	µg/L	10	7/23/2019 1:29:55 PM	46261
Benzo(g,h,i)perylene	ND	5.0	D	µg/L	10	7/23/2019 1:29:55 PM	46261
Indeno(1,2,3-cd)pyrene	ND	5.0	D	µg/L	10	7/23/2019 1:29:55 PM	46261
Surr: N-hexadecane	0	20.4-126	SD	%Rec	10	7/23/2019 1:29:55 PM	46261
Surr: Benzo(e)pyrene	0	21.4-126	SD	%Rec	10	7/23/2019 1:29:55 PM	46261
EPA METHOD 8260B: VOLATILES							Analyst: CCM
Benzene	ND	0.50		mg/L	200	7/18/2019 11:37:00 PM	R61503
Toluene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
Ethylbenzene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
1,2,4-Trimethylbenzene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
1,3,5-Trimethylbenzene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
1,2-Dichloroethane (EDC)	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	II	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907731

Date Reported: 7/26/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: San Luis Non Exempt

Project: San Luis

Collection Date: 7/15/2019 12:10:00 PM

Lab ID: 1907731-001

Matrix: AQUEOUS

Received Date: 7/16/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: CCM
1,2-Dibromoethane (EDB)	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
Naphthalene	ND	0.40		mg/L	200	7/18/2019 11:37:00 PM	R61503
1-Methylnaphthalene	ND	0.80		mg/L	200	7/18/2019 11:37:00 PM	R61503
2-Methylnaphthalene	ND	0.80		mg/L	200	7/18/2019 11:37:00 PM	R61503
Acetone	ND	2.0		mg/L	200	7/18/2019 11:37:00 PM	R61503
Bromobenzene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
Bromodichloromethane	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
Bromoform	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
Bromomethane	ND	0.60		mg/L	200	7/18/2019 11:37:00 PM	R61503
2-Butanone	ND	2.0		mg/L	200	7/18/2019 11:37:00 PM	R61503
Carbon disulfide	ND	2.0		mg/L	200	7/18/2019 11:37:00 PM	R61503
Carbon Tetrachloride	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
Chlorobenzene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
Chloroethane	ND	0.40		mg/L	200	7/18/2019 11:37:00 PM	R61503
Chloroform	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
Chloromethane	ND	0.60		mg/L	200	7/18/2019 11:37:00 PM	R61503
2-Chlorotoluene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
4-Chlorotoluene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
cis-1,2-DCE	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
cis-1,3-Dichloropropene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
1,2-Dibromo-3-chloropropane	ND	0.40		mg/L	200	7/18/2019 11:37:00 PM	R61503
Dibromochloromethane	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
Dibromomethane	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
1,2-Dichlorobenzene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
1,3-Dichlorobenzene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
1,4-Dichlorobenzene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
Dichlorodifluoromethane	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
1,1-Dichloroethane	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
1,1-Dichloroethene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
1,2-Dichloropropane	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
1,3-Dichloropropane	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
2,2-Dichloropropane	ND	0.40		mg/L	200	7/18/2019 11:37:00 PM	R61503
1,1-Dichloropropene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
Hexachlorobutadiene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
2-Hexanone	ND	2.0		mg/L	200	7/18/2019 11:37:00 PM	R61503
Isopropylbenzene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
4-Isopropyltoluene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
4-Methyl-2-pentanone	ND	2.0		mg/L	200	7/18/2019 11:37:00 PM	R61503
Methylene Chloride	ND	0.60		mg/L	200	7/18/2019 11:37:00 PM	R61503

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQI Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RI Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1907731

Date Reported: 7/26/2019

CLIENT: Souder, Miller and Associates

Client Sample ID: San Luis Non Exempt

Project: San Luis

Collection Date: 7/15/2019 12:10:00 PM

Lab ID: 1907731-001

Matrix: AQUEOUS

Received Date: 7/16/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: CCM
n-Butylbenzene	ND	0.60		mg/L	200	7/18/2019 11:37:00 PM	R61503
n-Propylbenzene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
sec-Butylbenzene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
Styrene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
tert-Butylbenzene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
1,1,1,2-Tetrachloroethane	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
1,1,2,2-Tetrachloroethane	ND	0.40		mg/L	200	7/18/2019 11:37:00 PM	R61503
Tetrachloroethene (PCE)	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
trans-1,2-DCE	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
trans-1,3-Dichloropropene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
1,2,3-Trichlorobenzene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
1,2,4-Trichlorobenzene	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
1,1,1-Trichloroethane	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
1,1,2-Trichloroethane	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
Trichloroethene (TCE)	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
Trichlorofluoromethane	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
1,2,3-Trichloropropane	ND	0.40		mg/L	200	7/18/2019 11:37:00 PM	R61503
Vinyl chloride	ND	0.20		mg/L	200	7/18/2019 11:37:00 PM	R61503
Xylenes, Total	ND	0.30		mg/L	200	7/18/2019 11:37:00 PM	R61503
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	200	7/18/2019 11:37:00 PM	R61503
Surr: 4-Bromofluorobenzene	97.3	70-130		%Rec	200	7/18/2019 11:37:00 PM	R61503
Surr: Dibromofluoromethane	97.6	70-130		%Rec	200	7/18/2019 11:37:00 PM	R61503
Surr: Toluene-d8	100	70-130		%Rec	200	7/18/2019 11:37:00 PM	R61503

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

1907731-001D ANGEL PEAK NON EXEMPT

Collected date/time: 07/15/19 12:10

SAMPLE RESULTS - 01

L1119921

Data Sheet Review

Wet Chemistry by Method 4500 CN E-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Reactive Cyanide	ND		0.00500	1	07/25/2019 12:13	L1119921

Wet Chemistry by Method 4500-JH-B-201

Analyte	Result su	Qualifier	RDL	Dilution	Analysis date / time	Batch
Corrosivity by pH	6.39			1	07/19/2019 18:43	L1119921

Sample Narrative:

L1119921-01 WQ 13870: 6.39 at 21.30

Wet Chemistry by Method D934-D-B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Reactive Sulfide	ND		0.0500	1	07/19/2019 18:26	L1119921

Wet Chemistry by Method D9310-1A

Analyte	Result deg F	Qualifier	Dilution	Analysis date / time	Batch
Flashpoint	DNF at 170		1	07/22/2019 16:27	L1119921

ACCOUNT

PROJECT

SOS

DATE/TIME

WG1316455

Wet Chemistry by Method 4500 CN E-2011

QUALITY CONTROL SUMMARY

FBI LAB NATIONWIDE

(MB) R3434165-1 07/25/19 11:32

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Reactive Cyanide	mg/l	mg/l	mg/l	mg/l
	0	0.00180	0.00180	0.001500

L 111715-07 On-line Form 1 (07/25/19) - 4.000000

(OS) L1119746-02 07/25/19 12:10 • (DUP) R3434165-6 07/25/19 12:11

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Reactive Cyanide	mg/l	mg/l	%	%	%	%
	ND	0.0000	1	0.0000		20

(LCS) R3434165-2 07/25/19 11:33

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Reactive Cyanide	mg/l	mg/l	%	%	%
	0.100	0.107	107	85.0-115	

(OS) L1118891-01 07/25/19 11:38 • (MS) R3434165-4 07/25/19 11:39 • (MSD) R3434165-5 07/25/19 11:40

Analyte	Spike Amount	Original Result	MS Result	MSD Result	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Reactive Cyanide	mg/l	mg/l	mg/l	mg/l	%	%	%	%	%	%
	0.100	0.00210	0.0149	0.0820	1	75.0-125			138	20

(OS) L1120035-01 07/25/19 12:16 • (MS) R3434165-7 07/25/19 12:17 • (MSD) R3434165-8 07/25/19 12:19

Analyte	Spike Amount	Original Result	MS Result	MSD Result	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Reactive Cyanide	mg/l	mg/l	mg/l	mg/l	%	%	%	%	%	%
	0.100	ND	0.0112	ND	1	75.0-125			200	20

ACCOUNT:

PROJECT:

SDG:

DATE/TIME:

WG1313879

Wet Chemistry by Method 4500H+ B-2011

Laboratory Control Sample (LCS)

QUALITY CONTROL SUMMARY

L311921-01

ONE LAB NATIONWIDE



(LCS) R3432490-1 07/19/19 18:13

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Conductivity by pH	10.0	9.96	99.6	99.0-101	

Sample Narrative:

LCS 9.96 at 23.0C

Tr	Ss	Cn	Si	De	Gl	Al	Sc
----	----	----	----	----	----	----	----

ACCOUNT:

PROJECT:

SDG:

DATE/TIME:

WG1313956

Wet Chemistry by Method 9034-90308

QUALITY CONTROL SUMMARY

L11110921.01

ONE LAB NATIONWIDE



Method Blank (MB)

(MB) R3432489-1 07/19/19 18:22

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Reactive Sulfide	mg/l U		mg/l 0.00650	mg/l (0.0500)

Laboratory Control Sample (LCS)

(LCS) R3432489-2 07/19/19 18:22

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Reactive Sulfide	mg/l 0.500	mg/l 0.494	% 98.8	% 85-115	

Fe	SS	Cu	Si	Qc	Gl	Al	Sc
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ACCOUNT

PROJECT

SDG

DATE/TIME

L1119921-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1119921-01 07/22/19 16:27 • (DUP) R3433135-2 07/22/19 16:27

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Fluorapatite	mg F DNF at 1/0	mg F DNF at 1/0	1	% 0.000	% DNF	% 10

Laboratory Control Sample (LCS)

(LCS) R3433135-1 07/22/19 16:27

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Fluorapatite	mg F 82.0	mg F 81.8	% 99.7	% 96.0-104	

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907731

26-Jul-19

Client: Souder, Miller and Associates

Project: San Luis

Sample ID: MB-46264	SampType: MBLK	TestCode: EPA Method 6020: Total Metals								
Client ID: PBW	Batch ID: 46264	RunNo: 61597								
Prep Date: 7/18/2019	Analysis Date: 7/23/2019	SeqNo: 2087643			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Cadmium	ND	0.0010								
Chromium	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								
Silver	ND	0.0010								

Sample ID: MSLLCS-46264	SampType: LCSLL	TestCode: EPA Method 6020: Total Metals								
Client ID: BatchQC	Batch ID: 46264	RunNo: 61597								
Prep Date: 7/18/2019	Analysis Date: 7/23/2019	SeqNo: 2087644 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010	0.001000	0	96.9	70	130			
Cadmium	ND	0.0010	0.001000	0	98.2	70	130			
Chromium	0.0011	0.0010	0.001000	0	106	70	130			
Lead	0.0010	0.0010	0.001000	0	105	70	130			
Selenium	ND	0.0010	0.001000	0	82.5	70	130			
Silver	0.0011	0.0010	0.001000	0	106	70	130			

Sample ID: MSLCS-46264	SampType: LCS	TestCode: EPA Method 6020: Total Metals								
Client ID: LCSW	Batch ID: 46264	RunNo: 61597								
Prep Date: 7/18/2019	Analysis Date: 7/23/2019	SeqNo: 2087645 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.049	0.0010	0.05000	0	97.7	80	120			
Cadmium	0.051	0.0010	0.05000	0	103	80	120			
Chromium	0.052	0.0010	0.05000	0	104	80	120			
Lead	0.050	0.0010	0.05000	0	99.2	80	120			
Selenium	0.048	0.0010	0.05000	0	95.6	80	120			
Silver	0.050	0.0010	0.05000	0	99.4	80	120			

Sample ID: 1907731-001CMSLL		SampType: MS		TestCode: EPA Method 6020: Total Metals						
Client ID: San Luis Non Exem		Batch ID: 46264		RunNo: 61597						
Prep Date: 7/18/2019		Analysis Date: 7/23/2019		SeqNo: 2087647		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.049	0.0010	0.05000	0	98.4	75	125			
Cadmium	0.057	0.0010	0.05000	0.006959	100	75	125			
Chromium	0.062	0.0010	0.05000	0.009977	103	75	125			
Lead	0.051	0.0010	0.05000	0.002367	97.4	75	125			

Qualifiers:

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- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907731

26-Jul-19

Client: Souder, Miller and Associates

Project: San Luis

Sample ID: 1907731-001CMSLL		SampType: MS		TestCode: EPA Method 6020: Total Metals						
Client ID: San Luis Non Exem		Batch ID: 46264		RunNo: 61597						
Prep Date: 7/18/2019		Analysis Date: 7/23/2019		SeqNo: 2087647		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.047	0.0010	0.05000	0	94.1	75	125			
Silver	0.051	0.0010	0.05000	0.0009169	99.4	75	125			

Sample ID: 1907731-001CMSDL		SampType: MSD		TestCode: EPA Method 6020: Total Metals						
Client ID: San Luis Non Exem		Batch ID: 46264		RunNo: 61597						
Prep Date: 7/18/2019		Analysis Date: 7/23/2019		SeqNo: 2087648		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.049	0.0010	0.05000	0	98.4	75	125	0.0155	20	
Cadmium	0.057	0.0010	0.05000	0.006959	100	75	125	0.0980	20	
Chromium	0.060	0.0010	0.05000	0.009977	99.2	75	125	3.42	20	
Lead	0.052	0.0010	0.05000	0.002367	98.4	75	125	0.939	20	
Selenium	0.048	0.0010	0.05000	0	96.1	75	125	2.09	20	
Silver	0.049	0.0010	0.05000	0.0009169	95.5	75	125	3.88	20	

Sample ID: 1907731-001CMSLL		SampType: MS		TestCode: EPA Method 6020: Total Metals						
Client ID: San Luis Non Exem		Batch ID: 46246		RunNo: 61619						
Prep Date:		Analysis Date: 7/24/2019		SeqNo: 2088647		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.12	0.0050	0.05000	0.07287	95.8	75	125			

Sample ID: 1907731-001CMSDL		SampType: MSD		TestCode: EPA Method 6020: Total Metals						
Client ID: San Luis Non Exem		Batch ID: 46246		RunNo: 61619						
Prep Date:		Analysis Date: 7/24/2019		SeqNo: 2088648		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.12	0.0050	0.05000	0.07287	97.3	75	125	0.600	20	

Qualifiers:

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- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907731

26-Jul-19

Client: Souder, Miller and Associates

Project: San Luis

Sample ID: 100NG LCS2	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R61503	RunNo: 61503								
Prep Date:	Analysis Date: 7/18/2019	SeqNo: 2084771 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	16	1.0	20.00	0	80.0	70	130			
Toluene	18	1.0	20.00	0	87.8	70	130			
Chlorobenzene	19	1.0	20.00	0	93.4	70	130			
1,1-Dichloroethene	15	1.0	20.00	0	76.6	70	130			
Trichloroethene (TCE)	16	1.0	20.00	0	77.8	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.0	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.0	70	130			
Surr: Toluene-d8	9.9		10.00		98.7	70	130			

Sample ID: rb2	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R61503		RunNo: 61503							
Prep Date:	Analysis Date: 7/18/2019		SeqNo: 2084772		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- D Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907731

26-Jul-19

Client: Souder, Miller and Associates

Project: San Luis

Sample ID: rb2	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R61503	RunNo: 61503								
Prep Date:	Analysis Date: 7/18/2019	SeqNo: 2084772	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

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- PQL Practical Quantitative Limit
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- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907731

26-Jul-19

Client: Souder, Miller and Associates

Project: San Luis

Sample ID: rb2		SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW		Batch ID: R61503		RunNo: 61503						
Prep Date:		Analysis Date: 7/18/2019		SeqNo: 2084772			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.1	70	130			
Surr: Dibromofluoromethane	10		10.00		99.7	70	130			
Surr: Toluene-d8	10		10.00		99.8	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907731

26-Jul-19

Client: Souder, Miller and Associates

Project: San Luis

Sample ID: fcsd-46261	SampType: LCSD		TestCode: EPA Method 8270C: PAHs							
Client ID: LCSS02	Batch ID: 46261		RunNo: 61603							
Prep Date: 7/18/2019	Analysis Date: 7/23/2019		SeqNo: 2087953		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	16	0.50	20.00	0	77.8	40	144	13.0	57	
Benzo(a)pyrene	17	0.50	20.00	0	85.1	36.8	137	5.31	60.2	
Dibenz(a,h)anthracene	15	0.50	20.00	0	76.3	31.5	141	2.46	64.7	
Benzo(g,h,i)perylene	16	0.50	20.00	0	79.7	32.9	138	1.86	61.5	
Indeno(1,2,3-cd)pyrene	16	0.50	20.00	0	82.3	40.9	143	3.21	61.1	
Surr: N-hexadecane	65		87.60		73.7	20.4	126	0	0	
Surr: Benzo(e)pyrene	15		20.00		73.4	21.4	126	0	0	

Sample ID: mb-46261	SampType: MBLK		TestCode: EPA Method 8270C: PAHs							
Client ID: PBW	Batch ID: 46261		RunNo: 61603							
Prep Date: 7/18/2019	Analysis Date: 7/23/2019		SeqNo: 2087954		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	1.0								
2-Methylnaphthalene	ND	1.0								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
Pyrene	ND	0.50								
Benzo(a)anthracene	ND	0.50								
Chrysene	ND	0.50								
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	61		87.60		69.6	20.4	126			
Surr: Benzo(e)pyrene	14		20.00		72.2	21.4	126			

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not in Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907731

26-Jul-19

Client: Souder, Miller and Associates

Project: San Luis

Sample ID: Ics-46261		SampType: LCS		TestCode: EPA Method 8270C: PAHs						
Client ID: LCSW		Batch ID: 46261		RunNo: 61603						
Prep Date: 7/18/2019		Analysis Date: 7/23/2019		SeqNo: 2087952			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	18	0.50	20.00	0	90.3	29.6	105			
1-Methylnaphthalene	16	1.0	20.00	0	78.6	33.4	112			
2-Methylnaphthalene	16	1.0	20.00	0	81.2	28.6	108			
Acenaphthylene	18	0.50	20.00	0	89.0	35.7	116			
Acenaphthene	16	0.50	20.00	0	79.5	32.4	118			
Fluorene	17	0.50	20.00	0	85.7	35.6	118			
Phenanthrene	18	0.50	20.00	0	88.2	36.3	130			
Anthracene	17	0.50	20.00	0	86.6	34.8	135			
Fluoranthene	17	0.50	20.00	0	86.2	41	136			
Pyrene	18	0.50	20.00	0	89.5	44.8	136			
Benz(a)anthracene	16	0.50	20.00	0	82.1	41.1	136			
Chrysene	14	0.50	20.00	0	70.3	37.9	132			
Benzo(b)fluoranthene	17	0.50	20.00	0	82.8	39	144			
Benzo(k)fluoranthene	18	0.50	20.00	0	88.6	40	144			
Benzo(a)pyrene	16	0.50	20.00	0	80.7	36.8	137			
Dibenz(a,h)anthracene	16	0.50	20.00	0	78.2	31.5	141			
Benzo(g,h,i)perylene	16	0.50	20.00	0	81.2	32.9	138			
Indeno(1,2,3-cd)pyrene	16	0.50	20.00	0	79.7	40.9	143			
Surr: N-hexadecane	61		87.60		69.4	20.4	126			
Surr: Benzo(e)pyrene	15		20.00		74.5	21.4	126			

Sample ID: Icsd-46261	SampType: LCSD		TestCode: EPA Method 8270C: PAHs							
Client ID: LCSS02	Batch ID: 46261		RunNo: 61603							
Prep Date: 7/18/2019	Analysis Date: 7/23/2019		SeqNo: 2087953		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	18	0.50	20.00	0	89.1	29.6	105	1.34	68.7	
1-Methylnaphthalene	17	1.0	20.00	0	83.4	33.4	112	5.93	66	
2-Methylnaphthalene	17	1.0	20.00	0	83.3	28.6	108	2.55	68.7	
Acenaphthylene	20	0.50	20.00	0	101	35.7	116	12.1	64.9	
Acenaphthene	17	0.50	20.00	0	87.0	32.4	118	9.01	53.2	
Fluorene	18	0.50	20.00	0	91.5	35.6	118	6.55	62.4	
Phenanthrene	17	0.50	20.00	0	83.9	36.3	130	5.00	62.6	
Anthracene	16	0.50	20.00	0	81.2	34.8	135	6.44	62.4	
Fluoranthene	16	0.50	20.00	0	81.7	41	136	5.36	59.4	
Pyrene	16	0.50	20.00	0	82.4	44.8	136	8.26	55.4	
Benz(a)anthracene	16	0.50	20.00	0	77.5	41.1	136	5.76	56.6	
Chrysene	13	0.50	20.00	0	65.8	37.9	132	6.61	51.9	
Benzo(b)fluoranthene	17	0.50	20.00	0	85.3	39	144	2.97	59.1	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- II Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907731

26-Jul-19

Client: Souder, Miller and Associates

Project: San Luis

Sample ID: MB-46307	SampType: MBLK	TestCode: EPA Method 7470: Mercury
Client ID: PBW	Batch ID: 46307	RunNo: 61563
Prep Date: 7/22/2019	Analysis Date: 7/22/2019	SeqNo: 2086444 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	ND 0.00020	

Sample ID: LCS-46307	SampType: LCS	TestCode: EPA Method 7470: Mercury
Client ID: LCSW	Batch ID: 46307	RunNo: 61563
Prep Date: 7/22/2019	Analysis Date: 7/22/2019	SeqNo: 2086445 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.0050 0.00020 0.005000 0 101 80 120	

Qualifiers:

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D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not in Range
RL Reporting Limit



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1907731

RcptNo: 1

Received By: Leah Baca

7/16/2019 8:05:00 AM

Leah Baca

Completed By: Anne Thorne

7/16/2019 10:12:47 AM

Anne Thorne

Reviewed By: Y6 7/14/19

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☐ No ☒ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved bottles checked for pH: 1:2
($\text{pH} > 6$ unless noted)
Adjusted? NO
Checked by: DAD 7/16/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	8.5	Good	Yes			

Chain-of-Custody Record		Turn-Around Time:	
Client: 5m A		☒ Standard	☐ Rush
		Project Name: San Luis	
Billing Address: 401 W Broadway		Project #: Non Exempt B67	
Location: Wilmington NM 87401		Project Manager: Ashley Maxwell	
Phone #: 505 325 7535			
Email or Fax#: Ashley.maxwell			
QC Package:			
Standard	☐ Level 4 (Full Validation)		
Accreditation:	☐ Az Compliance	Sampler: RN	
NELAC	☐ Other	On Ice: ☐ Yes ☒ No	
EDD (Type)		# of Coolers: 1	

☒ Standard ☐ Rush

Project Name: _____

San Luis

Project #:	Non Exempt + BGT
------------	------------------

Project Manager:

Ashley Maxwell

Sampler: 2W

On Ice: **James** has had to

of Codifiers

Cooler Temp (inlet) = 8.5°C



Container	Preservative	HEAL No.
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
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Figure 1. A schematic diagram of the experimental design. The subjects were divided into two groups: the control group and the experimental group. The control group received a standard training program, while the experimental group received a modified training program. The results of the training program were compared between the two groups.

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Received by:	Via:	Date	Time
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contracted to other accredited laboratories. This serves as notice of this

**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975
Fax 505-345-4107

Analysis Request

BTEX / MTBE / TMB's (8021)	
TPH:8015D(GRO / DRO / MRO)	
8081 Pesticides/8082 PCB's	
EDB (Method 504.1)	
PAHs by 8310 or 8270SIMS	X
RCRA 8 Metals TCLP	X
Cl, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	
8260 (VOA)	X
8270 (Semi-VOA)	
Total Coliform (Present/Absent)	X
PCI	

Remarks: 82106 Fall 45st

TCLP compound at TCLP limits

Receiving Temp approx

Invoice Entense CC Tom Lon
possibility. Any sub-contracted data will be clearly notated on the analytical report. 1/11/16

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Appendix E

2018 AREA OF REVIEW
UNIT LETTERS ENCOMPASSED BY THE 2-MILE AOR

Sec	TWN	RNG	UL	
1	29N	12W	ALL	
2	29N	12W	ALL	
3	29N	12W	ALL	
4	29N	12W	ACFJKNP	
9	29N	12W	ABH	
10	29N	12W	ABCDIJN	
11	29N	12W	ACDGHILOP	
12	29N	12W	AEFKM	
25	30N	12W	EMN	
26	30N	12W	FGLNOP	
27	30N	12W	LMP	
28	30N	12W	O	
33	30N	12W	GHIJK	
34	30N	12W	ALL	
35	30N	12W	ALL	
36	30N	12W	AEIMN	

Radius expanded to 2 miles for permit renewal requirements.

6 Wells were Plugged & Abandoned since last AOR 2017.

													Surface Casing			INT Casing			Production Casing					
API	Well Name	Well #	Current Operator	Type	Lease	Status	Sec	TWN	RNG	UL	Spud Date	TD	size	depth	Sacks TOC	size	depth	Sacks TOC	size	depth	Sacks TOC	Perfs	Packer	PLUGGED
30-045-28653	SUNCO DISPOSAL	#001	Agua Moss	Salt Water Disposal	Private	Active	2	29N	12W	E	1/28/1992	4760	8.625	209	150 surf				5.5	4760	1010 surf	4350-4460	4282 10/15/07	4350-4460 TA'd
30-045-08851	ALLEN A	#001	BP America	Gas	Private	Plugged	1	29N	12W	D	3/12/1961	6785	8.265	264	200 surf				4.5	6785	300 surf	6518-6718		3/27/2018
30-045-26214	ALLEN A	#001E	BP America	Gas	Federal	Active	1	29N	12W	L	3/22/1985	5825	8.625	318	225 surf				5.5	6622	820 surf	6425-6602		
30-045-34348	Allen Com	#100	Burlington	Gas	Federal	Plugged	1	29N	12W	B	10/22/2007	138											1/22/2009	
30-045-08782	Cornell	5	Burlington	Gas	Federal	Plugged	1	29N	12W	G	9/30/1955	99999											4/28/1994	
30-045-08656	Cornell	2	Energen Resources	Gas	Federal	Plugged	1	29N	12W	M	10/2/1955	1996											9/15/2005	
30-045-29538	Cornell	5R	HilCorp	Gas	Federal	Active	1	29N	12W	A	4/14/1998	2225	7	131	45-53				3.5	2215	434-741	2029-2059		
30-045-29539	Cornell	3R	Epic Energy	Gas	Federal	Plugged	1	29N	12W	I	10/7/1955	0	7	131	45-53				3.5	2193	434-741	1991-2041		7/13/2018
30-045-32346	CORNELL	#002R	Southland Royalty	Gas	Federal	Active	1	29N	12W	M	7/22/2004	2152	7	137	90 surf				4.5	2151	310 surf	1702-1926		
30-045-31612	Cornell	2S	Southland Royalty	Gas	Federal	Active	1	29N	12W	O	7/27/1957	0	7	136	56 surf				4.5	2058	225 surf	1725-1921		
30-045-08661	Dudley Cornell A	#001	BP America	Gas	Federal	Active	1	29N	12W	O	11/15/1960	6730	9.625	263	200 surf				4.5	6707	300 surf	6434-6587		
30-045-24129	Dudley Cornell A	#001E	BP America	Gas	Federal	Active	1	29N	12W	G	4/28/1980	6722	9.625	348	250 surf				4.5	6710	180 surf	6496-6629		
30-045-29167	Hike	1	Dugan Production	Gas	Federal	Active	1	29N	12W	G	7/10/1994	3840	8.625	260	175 surf				4.5	3820	595 surf	3710-3718	3710	
30-045-08793	Pre-Ongard		Southern union	Gas	Private	Plugged	1	29N	12W	E	3/16/1948	2125											3/16/1948	
30-045-08783	PRE-ONGARD WELL	#001	Pre Ongard	Gas	Private	Plugged	1	29N	12W	F	7/9/2003	2090											12/31/1901	
30-045-08641	PRE-ONGARD WELL	#003	Pre Ongard	Gas	Federal	Plugged	1	29N	12W	O	4/11/1998	2203											11/16/1981	
30-045-32241	BECK	#001R	HilCorp	Gas	Private	Active	2	29N	12W	G	12/1/2004	2225	7	135	34 surf				4.5	2221	262 surf	1774-2077		
30-045-33811	BECK	#001S	HilCorp	Gas	Private	Active	2	29N	12W	D	8/17/2006	2200	7	162	85 surf				4.5	2195	255 surf	1730-1951		
30-045-33573	CORNELL COM	#500S	Burlington	Gas	Private	Plugged	2	29N	12W	P	3/18/2006	2210	7	132	34 surf	6.25	2210		4.5	2198	279 surf	1754-1939 1743-1924		1/23/2013
30-045-31580	CORNELL COM	#500	HilCorp	Gas	Federal	Active	2	29N	12W	N	7/14/2003	2136	7	139	44 surf	6.25	2126		4.5	2126	258 surf	1658-1878		
30-045-08714	CORNELL SRC	#007	HilCorp	Gas	Federal	Active	2	29N	12W	L	7/29/1944	2107	16	42	10 surf	5.5	1978		3.5	2106	250 surf	1976-2010		
30-045-08844	KATTLER	#001	Burlington	Gas	Private	Plugged	2	29N	12W	C	1/26/1945	2069	10	846	surf	5.5	1960		3.5	2050	205 surf	1961-2007		5/26/2012
30-045-08704	MCGRATH B	#001	HilCorp	Gas	Private	Active	2	29N	12W	J	11/19/1961	6720	8.625	318	225 surf				4.5	1865	1065 surf	6489-6596		
30-045-08713	McGrath SRC	#001	Burlington	Gas	Private	Plugged	2	29n	12w	j	7/7/1973	2136											1998	

30-045-30486	MCGRATH SRC	#001R	Burlington	Gas	Private	Plugged	2	29N	12W	J	3/23/2001	2235													6/25/2010
30-045-08797	Pre-Ongard		Southland	Gas	Private	Plugged	2	29n	12w	g	4/14/1948	2125													2/23/1984
30-045-27635	PRE-ONGARD WELL	#500		Gas	Federal	Plugged	2	29N	12W	M															12/31/1901
30-045-08839	YOUNG	#001	HilCorp	Gas	Private	Active	2	29N	12W	D	8/1/1961	6740	8.625	307	275 surf				4.5	6739	700 surf	6446-6644			
30-045-08709	MCGRATH	#003	Burlington	Gas	Private	Plugged	3	29N	12W	J	3/4/1945	2040													3/1/2013
30-045-33580	MCGRATH	#003S	HilCorp	Gas	Private	Active	3	29N	12W	B	7/13/2007	2132	7	218	150 surf				4.5	2112	289 surf	1692-1904			
30-045-08712	MCGRATH A	#001	HilCorp	Gas	Private	Active	3	29N	12W	I	3/14/1964	6689	8.625	307	250 surf				4.5	6688	500 surf	6432-6524			
30-045-08711	Pre-Ongard		Union Texas	Gas	Private	Plugged	3	29N	12W	K	6/25/1955	1940													11/10/1964
30-045-32931	WALKER	#100S	HilCorp	Gas	Private	Active	3	29N	12W	F	8/14/2005	2120	7	144	61 surf				4.5	2117	238 surf	1621-1885			
30-045-08801	WALKER 1	#001	HilCorp	Gas	Private	Active	3	29N	12W	E	4/12/1960	6620	8.625	232	150 surf				4.5	6620	300 surf	6546-6556			
30-045-30244	WALKER 100	#100	HilCorp	Gas	Private	TA'd	3	29N	12W	L	3/30/2001	1948	7	126	140-168				4.5	1940	219-399	1659-1872	1597 CIBP@1609		Tad
30-045-60274	WALKER 2	#002	Burlington	Gas	Private	Plugged	3	29N	12W	D	1/8/1945	1974													7/24/1998
30-045-08823	Walker SRC	1	Burlington	Gas	Private	Plugged	3	29N	12W	G	2/25/1943	2050													10/12/2009
30-045-08720	DEVONIAN FEDERAL	#001	Holcomb Oil & Gas	Gas	Federal	Active	4	29N	12W	K	6/23/1959	6538													
30-045-08804	FEDERAL	#001	Riggs Oil & Gas	Gas	Federal	Plugged	4	29N	12W	F	5/29/1959	1856													2/9/2017
30-045-24552	PRE-ONGARD WELL	#001	Pre Ongard	Gas	Federal	Plugged	4	29N	12W	A	5/29/1981	0													12/7/1995
30-045-29117	RIGGS	#001	Enduring Resources	Gas	Private	Active	4	29N	12W	A	6/24/1994	1900													
30-045-29118	RIGGS	#002	Enduring Resources	Gas	Private	Active	4	29N	12W	N	6/28/1994	1890													
30-045-32239	RIGGS	#003	Enduring Resources	Gas	Private	Active	4	29N	12W	C	2/21/2005	1906													
30-045-32312	RIGGS	#004	Enduring Resources	Gas	Private	Active	4	29N	12W	P	3/20/2005	2002													
30-045-08718	STANDARD	#001	HilCorp	Gas	Federal	Active	4	29N	12W	J	11/3/1960	6600	8.625	236	175 surf				4.5	6600	250 surf	6356-6510			
30-045-08586	FLORANCE GAS COM B	#001	BP America	Gas	Federal	Active	9	29N	12W	H	1/20/1964	6470													
30-045-26855	PRE-ONGARD WELL	#001	Pre Ongard	Gas	Private	Plugged	9	29N	12W	B	3/18/1988	0													3/9/1989
30-045-28824	ROPCO FEE FC 9	#002	HilCorp	Gas	Private	Active	9	29N	12W	A	11/25/1992	1975													
30-045-34452	BECK 29 12 10	#108	Synergy	Gas	Federal	Active	10	29N	12W	N	2/21/2008	1865													
30-045-23889	BECK A	#001E	HilCorp	Gas	Federal	Active	10	29N	12W	B	1/5/1981	6514	8.625	240	150 surf				4.5	6514	765 surf	6277-6454			

30-045-08517	BECK A	#001	HilCorp	Gas	Private	Active	10	29N	12W	J	6/12/1962	6410												
30-045-08605	CORNELL	#007	Burlington	Gas	Federal	Plugged	10	29N	12W	C	4/20/1956	1807												7/18/1996
30-045-30381	CORNELL	#100	HilCorp	Gas	Federal	Active	10	29N	12W	B	1/7/2003	1968	7	147	55 surf				4.5	1959	229 surf	1543-1704 1744-1800		
30-045-08601	CORNELL A	#001	BP America	Gas	Federal	Active	10	29N	12W	D	12/28/1960	6510												
30-045-24132	CORNELL A	#001E	BP America	Gas	Federal	Plugged	10	29N	12W	N	4/4/1980	6350												1/24/2018
30-045-23758	Pre-Ongard		Southland	Gas	Federal	Plugged	10	29N	12W	A	12/19/1980	1870												2/10/1984
30-045-08523	PRE-ONGARD WELL	#001	Pre Ongard	Water	Private	Permanently	10	29N	12W	J	8/21/1946	1871												??
30-045-08475	CARROLL CORNELL	#012	Producing Royalties	Gas	Federal	Plugged	11	29N	12W	P	11/22/1953	1895												6/13/1979
30-045-08615	CORNELL	#006	Epic Energy	Gas	Federal	Active	11	29N	12W	C	11/7/1955	1839	8.625	106	70 surf	5.5	1811		3.5	2022	181 surf	1811-1839		
30-045-31581	CORNELL	#101	HilCorp	Gas	Federal	Active	11	29N	12W	D	10/7/2003	2008	7	140	35 surf				4.5	2000	270 surf	1726-1764		
30-045-13092	CORNELL C	#001	BP America	Gas	Federal	Active	11	29N	12W	D	12/6/1961	6604	8.625	250	150 surf				4.5	6604	300 surf	6298-6483		
30-045-24447	FEDERAL PRI	#001E	HilCorp	Gas	Federal	Active	11	29N	12W	H	10/9/1980	6581												
30-045-22118	PAYNE	#001	Producing Royalties	Gas	Federal	Plugged	11	29N	12W	A	7/31/1976	2060												2/13/2002
30-045-29945	PAYNE	#001R	Mcelvain Energy	Gas	Federal	Active	11	29N	12W	H	10/27/1999	2050												
30-045-13218	PRE-ONGARD WELL	#010	Pre Ongard	Gas	Federal	Plugged	11	29N	12W	A		0												12/31/1901
30-045-08558	PRE-ONGARD WELL	#001	Pre Ongard	Gas	Federal	Plugged	11	29N	12W	G	1/1/1940	0												4/16/1976
30-045-08515	PRE-ONGARD WELL	#001	Pre Ongard	Gas	Private	Plugged	11	29N	12W	L	11/25/1932	0												12/13/1982
30-045-20067	PRE-ONGARD WELL	#001	Pre Ongard	Gas	Federal	Plugged	11	29N	12W	O	5/5/1967	0												4/18/1986
30-045-32667	PRI	#003	Mcelvain Energy	Gas	Federal	Active	11	29N	12W	I	2/27/2005	1960												
30-045-24086	CORNELL D	#001E	BP America	Gas	Federal	Active	12	29N	12W	A	5/22/1980	6635												
30-045-24283	CORNELL E	#001E	BP America	Gas	Federal	Active	12	29N	12W	F	5/12/1980	6609												
30-045-08444	CORNELL E	#001	BP America	Gas	Federal	Plugged	12	29N	12W	M	9/28/1962	6562												6/27/2017
30-045-08528	CORNELL SRC	#004	Burlington	Gas	Federal	Plugged	12	29N	12W	K	5/25/1941	1970												3/29/2017
30-045-22119	PAYNE	#002	Mcelvain Energy	Gas	Federal	Plugged	12	29N	12W	F	7/22/1976	2062												10/30/2010
30-045-22962	PAYNE	#002J	Mcelvain Energy	Gas	Federal	Active	12	29N	12W	E	6/12/1978	2026												
30-045-33015	PRI	#001S	Mcelvain Energy	Gas	Federal	Active	12	29N	12W	A	9/20/2005	2057												

30-045-32665	PRI	#001	Mcelvain Energy	Gas	Federal	Active	12	29N	12W	E	2/17/2005	2090												
30-045-32666	PRI	#002	Mcelvain Energy	Gas	Federal	Active	12	29N	12W	M	2/8/2005	2010												
30-045-09117	PRE-ONGARD WELL	#001	ONGARD WELL OPERATOR	Gas	Private	Plugged	25	30N	12W	M	4/13/1953	0												5/26/1958
30-045-26121	ROWLAND GAS COM	#001E	HilCorp	Gas	Private	Active	25	30N	12W	M	3/19/1985	6560												
30-045-29707	RUBY CORSCOT A	#001	HilCorp	Gas	Private	Active	25	30N	12W	N	9/25/1999	2007												
30-045-31641	RUBY CORSCOT A	#002	HilCorp	Gas	Private	Active	25	30N	12W	E	6/2/2003	2076												
30-045-30456	KATY COM	#002	[14634] MERRION OIL & GAS CORP	Gas	Private	Plugged	26	30N	12W	P	4/27/2001	2028												8/10/2015
30-045-30027	PADILLA	#001	HilCorp	Gas	Private	Active	26	30N	12W	F	1/15/2004	1953												
30-045-32243	PADILLA	#002	HilCorp	Gas	Private	Active	26	30N	12W	N	5/13/2004	2153												
30-045-09177	PAUL PALMER	#001	[14634] MERRION OIL & GAS CORP	Gas	Private	Plugged	26	30N	12W	L	9/13/1961	3509												8/14/2015
30-045-09165	PAUL PALMER D	#001	[5073] CONOCO INC	Gas	Private	Plugged	26	30N	12W	L	10/11/1961	99999												3/17/1995
30-045-29414	PRE-ONGARD WELL	#001	ONGARD WELL OPERATOR	Gas	Private	Plugged	26	30N	12W	G	6/21/1953	0												12/31/1901
30-045-09130	PRE-ONGARD WELL	#003	ONGARD WELL OPERATOR	Gas	Private	Plugged	26	30N	12W	O		0												3/12/1954
30-045-30544	DUFF GAS COM	#003	HilCorp	Gas	Private	Active	27	30N	12W	P	4/1/2001	5167												
30-045-13120	DUFF GAS COM B	#001	AMERICA PRODUCTION	Gas	Private	Plugged	27	30N	12W	P	2/28/1962	1950												5/30/1996
30-045-09134	DUFF GAS COM C	#001	HilCorp	Gas	Private	Active	27	30N	12W	M	1/30/1964	6365												
30-045-26076	DUFF GAS COM C	#001E	HilCorp	Gas	Private	Active	27	30N	12W	P	9/20/1984	6500												
30-045-29664	DUFF GAS COM C	#002	HilCorp	Gas	Private	Active	27	30N	12W	M	10/16/1998	1856												
30-045-31284	DUFF GAS COM C	#004	HilCorp	Gas	Private	Active	27	30N	12W	P	1/27/2003	1996												
30-045-09200	PRE-ONGARD WELL	#001	ONGARD WELL OPERATOR	Gas	Private	Plugged	27	30N	12W	L	3/30/1947	0												3/17/1959
30-045-34235	GILBREATH	#002	Enduring Resources	Gas	Private	Active	28	30N	12W	O	4/30/2008	2170												
30-045-09037	HARGIS	#001	MCGEE OIL & GAS ONSHORE LP	Gas	Private	Plugged	33	30N	12W	G	9/15/1944	1808												2/23/1994
30-045-08998	JULANDER	#002	PRODUCTION CORP	Gas	Private	Plugged	33	30N	12W	I	4/1/1946	1936												4/12/1999
30-045-09001	MADDOX	#001	HilCorp	Gas	Private	Active	33	30N	12W	J	9/21/1961	6400												
30-045-08999	PRE-ONGARD WELL	#002	ONGARD WELL OPERATOR	Gas	Private	Plugged	33	30N	12W	J	7/10/1946	0												6/4/1982
30-045-29023	REDFERN	#002	Enduring Resources	Gas	Private	Active	33	30N	12W	H	12/5/1993	1950												

[illegible]

Appendix F

May 16, 2019

Ms. Shacie Murray
Agua Moss LLC
P.O. Box 600
Farmington, New Mexico 87499

**Re: Sunco Disposal #1
Monitoring Well Sampling – April 2019**

Dear Ms. Murray:

This report summarizes the sample collection, field screening, and laboratory analysis of groundwater collected from monitoring well (MW-1) at the Agua Moss LLC Sunco Disposal #1 facility on April 9, 2019.

Field Activities

Rule Engineering, LLC (Rule) personnel collected one groundwater sample from monitoring well MW-1 on April 9, 2019. The sample was collected utilizing a disposable bailer after purging approximately four gallons of water from the well.

Sample Collection and Field Screening Procedures

The groundwater sample was field screened for time sensitive parameters including pH, temperature, reduction potential, specific conductance, and total dissolved solids. Field screening was conducted utilizing a handheld water quality meter calibrated on the day of use with laboratory grade standards.

Groundwater collected for analysis was placed directly into laboratory supplied containers, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico.

Field Screening and Laboratory Analytical Results

The field screening and laboratory analytical results are summarized in the attached Table 1.

QA/QC Considerations

Field measurements for time sensitive parameters including pH, temperature, reduction potential, and specific conductance more accurately reflect the characteristics of the groundwater than laboratory results for these parameters due to their rapidly changing nature when the sample is exposed to variable temperatures, pressures, and atmospheric gases. The hold time qualifier is indicated on the laboratory report for pH. A dilution due to matrix qualifier is indicated on the laboratory report for total dissolved solids.

Closure and Limitations

This report is prepared for the exclusive use of Agua Moss LLC and is subject to the terms, conditions, and limitations stated in Rule's report and Service Agreement with Agua Moss LLC. All work has been performed in accordance with generally accepted professional environmental consulting practices. No other warranty is expressed or implied.

Rule Engineering appreciates the opportunity to provide services to Agua Moss LLC. If you have any questions, please contact me at (505) 325-1055.

Sincerely,
Rule Engineering, LLC



Heather M. Woods, P.G.
Area Manager/Geologist

Attachments:

Table 1. Summary of Field Screening and Laboratory Analytical Results
Laboratory Analytical Report (Hall: 1904570)

Table 1. Summary of Field Screening and Laboratory Analytical Results

Sample ID	MW-01		Units	WQCC Groundwater Standards*
Collection Date	4/9/2019			
Analyte	Laboratory Results	Field Results		
pH	7.12 H	7.54	su	6 to 9 su
Temperature	--	16.3	°C	
Reduction Potential	--	-192.9	mV	
Specific Conductance	3,800	1,404	µmhos/cm	
Total Dissolved Solids	3,500 D	1,404	mg/L	1,000.0 mg/L
Bicarbonate (As CaCO ₃)	531.7	--	mg/L	
Carbonate (As CaCO ₃)	<2.000	--	mg/L	
Flouride	<0.50	--	mg/L	1.6 mg/L
Chloride	36	--	mg/L	250.0 mg/L
Bromide	<0.50	--	mg/L	
Phosphorus, Orthophosphate	<2.5	--	mg/L	
Sulfate	2,100	--	mg/L	600.0 mg/L
Nitrogen, Nitrate (as N)	<0.50	--	mg/L	10.0 mg/L
Nitrogen, Nitrite (as N)	<0.50	--	mg/L	1.0 mg/L
Calcium	590	--	mg/L	
Magnesium	57	--	mg/L	
Potassium	7.6	--	mg/L	
Sodium	390	--	mg/L	
Benzene	<1.0	--	µg/L	5 µg/L
Toluene	<1.0	--	µg/L	1,000 µg/L
Ethylbenzene	<1.0	--	µg/L	700 µg/L
Methyl tert-butyl ether	<1.0	--	µg/L	
1,2,4-Trimethylbenzene	<1.0	--	µg/L	
1,3,5-Trimethylbenzene	<1.0	--	µg/L	
1,2-Dichloroethane	<1.0	--	µg/L	5 µg/L
1,2-Dibromoethane	<1.0	--	µg/L	0.05 µg/L
Napthalene	<2.0	--	µg/L	30 µg/L
1-Methylnaphthalene	<4.0	--	µg/L	
2-Methylnaphthalene	<4.0	--	µg/L	
Acetone	<10	--	µg/L	
Bromobenzene	<1.0	--	µg/L	
Bromodichloromethane	<1.0	--	µg/L	
Bromoform	<1.0	--	µg/L	
Bromomethane	<3.0	--	µg/L	
2-Butanone	<10	--	µg/L	
Carbon disulfide	<10	--	µg/L	
Carbon Tetrachloride	<1.0	--	µg/L	5 µg/L
Chlorobenzene	<1.0	--	µg/L	
Chloroethane	<2.0	--	µg/L	
Chloroform	<1.0	--	µg/L	100 µg/L
Chloromethane	<3.0	--	µg/L	
2-Chlorotoluene	<1.0	--	µg/L	
4-Chlorotoluene	<1.0	--	µg/L	
cis-1,2-DCE	<1.0	--	µg/L	70 µg/L
cis-1,3-Dichloropropene	<1.0	--	µg/L	
1,2-Dibromo-3-chloropropane	<2.0	--	µg/L	
Dibromochloromethane	<1.0	--	µg/L	
Dibromomethane	<1.0	--	µg/L	
1,2-Dichlorobenzene	<1.0	--	µg/L	600 µg/L
1,3-Dichlorobenzene	<1.0	--	µg/L	
1,4-Dichlorobenzene	<1.0	--	µg/L	75 µg/L
Dichlorodifluoromethane	<1.0	--	µg/L	
1,1-Dichloroethane	<1.0	--	µg/L	25 µg/L
1,1-Dichloroethene	<1.0	--	µg/L	

Table 1. Summary of Field Screening and Laboratory Analytical Results

Sample ID	MW-01		Units	WQCC Groundwater Standards*
Collection Date	4/9/2019			
Analyte	Laboratory Results	Field Results		
1,2-Dichloropropane	<1.0	--	µg/L	5 µg/L
1,3-Dichloropropane	<1.0	--	µg/L	
2,2-Dichloropropane	<2.0	--	µg/L	
1,1-Dichloropropene	<1.0	--	µg/L	
Hexachlorobutadiene	<1.0	--	µg/L	
2-Hexanone	<10	--	µg/L	
Isopropylbenzene	<1.0	--	µg/L	
4-Isopropyltoluene	<1.0	--	µg/L	
4-Methyl-2-pentanone	<10	--	µg/L	
Methylene Chloride	<3.0	--	µg/L	5 µg/L
n-Butylbenzene	<3.0	--	µg/L	
n-Propylbenzene	<1.0	--	µg/L	
sec-Butylbenzene	<1.0	--	µg/L	
Styrene	<1.0	--	µg/L	100 µg/L
tert-Butylbenzene	<1.0	--	µg/L	
1,1,1,2-Tetrachloroethane	<1.0	--	µg/L	
1,1,2,2-Tetrachloroethane	<2.0	--	µg/L	10 µg/L
Tetrachloroethene	<1.0	--	µg/L	5 µg/L
trans-1,2-DCE	<1.0	--	µg/L	100 µg/L
trans-1,3-Dichloropropene	<1.0	--	µg/L	
1,2,3-Trichlorobenzene	<1.0	--	µg/L	
1,2,4-Trichlorobenzene	<1.0	--	µg/L	70 µg/L
1,1,1-Trichloroethane	<1.0	--	µg/L	200 µg/L
1,1,2-Trichloroethane	<1.0	--	µg/L	5 µg/L
Trichloroethene	<1.0	--	µg/L	5 µg/L
Trichlorofluoromethane	<1.0	--	µg/L	
1,2,3-Trichloropropane	<2.0	--	µg/L	
Vinyl chloride	<1.0	--	µg/L	2 µg/L
Xylenes, total	<1.5	--	µg/L	620 µg/L

Notes: su - standard units
°C - degrees Celcius
°F - degrees Farenheit
mV - millivolts
µmhos/cm - micromohs per centimeter
mg/L - milligrams per liter
H - Holding times for preparation or analysis exceeded
D - Sample diluted due to matrix
S - % Recovery outside of range due to dilution or matix
WQCC - Water Quality Control Commission
*Per 20.6.2.3103 NMAC



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 23, 2019

Heather Woods
Rule Engineering LLC
501 Airport Dr., Ste 205
Farmington, NM 87401
TEL: (505) 325-1055
FAX

RE: Sunco 1

OrderNo.: 1904570

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 1 sample(s) on 4/10/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904570**

Date Reported: **4/23/2019**

CLIENT: Rule Engineering LLC

Client Sample ID: MW-01 (4/9/19)

Project: Sunco 1

Collection Date: 4/9/2019 5:00:00 PM

Lab ID: 1904570-001

Matrix: AQUEOUS

Received Date: 4/10/2019 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: smb
Fluoride	ND	0.50		mg/L	5	4/10/2019 9:15:25 PM	R59038
Chloride	36	2.5		mg/L	5	4/10/2019 9:15:25 PM	R59038
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	4/10/2019 9:15:25 PM	R59038
Bromide	ND	0.50		mg/L	5	4/10/2019 9:15:25 PM	R59038
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	4/10/2019 9:15:25 PM	R59038
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	4/10/2019 9:15:25 PM	R59038
Sulfate	2100	25	*	mg/L	50	4/16/2019 12:40:21 AM	A59171
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	3800	5.0		µmhos/c	1	4/15/2019 1:58:38 PM	R59181
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO ₃)	531.7	20.00		mg/L Ca	1	4/15/2019 1:58:38 PM	R59181
Carbonate (As CaCO ₃)	ND	2.000		mg/L Ca	1	4/15/2019 1:58:38 PM	R59181
Total Alkalinity (as CaCO ₃)	531.7	20.00		mg/L Ca	1	4/15/2019 1:58:38 PM	R59181
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	3500	200	*D	mg/L	1	4/15/2019 11:31:00 AM	44294
SM4500-H+B / 9040C: PH							Analyst: JRR
pH	7.12		H	pH units	1	4/15/2019 1:58:38 PM	R59181
EPA METHOD 6010B: DISSOLVED METALS							Analyst: rde
Calcium	590	10		mg/L	10	4/23/2019 12:27:54 PM	R59359
Magnesium	57	1.0		mg/L	1	4/11/2019 10:42:44 AM	A59145
Potassium	7.6	1.0		mg/L	1	4/11/2019 10:42:44 AM	A59145
Sodium	390	5.0		mg/L	5	4/11/2019 10:44:29 AM	A59145
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
Toluene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
Ethylbenzene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
Naphthalene	ND	2.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
1-Methylnaphthalene	ND	4.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
2-Methylnaphthalene	ND	4.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
Acetone	ND	10		µg/L	1	4/15/2019 5:39:00 PM	R59147
Bromobenzene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904570**

Date Reported: **4/23/2019**

CLIENT: Rule Engineering LLC

Client Sample ID: MW-01 (4/9/19)

Project: Sunco 1

Collection Date: 4/9/2019 5:00:00 PM

Lab ID: 1904570-001

Matrix: AQUEOUS

Received Date: 4/10/2019 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Bromodichloromethane	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
Bromoform	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
Bromomethane	ND	3.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
2-Butanone	ND	10		µg/L	1	4/15/2019 5:39:00 PM	R59147
Carbon disulfide	ND	10		µg/L	1	4/15/2019 5:39:00 PM	R59147
Carbon Tetrachloride	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
Chlorobenzene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
Chloroethane	ND	2.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
Chloroform	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
Chloromethane	ND	3.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
2-Chlorotoluene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
4-Chlorotoluene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
cis-1,2-DCE	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
Dibromochloromethane	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
Dibromomethane	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
1,1-Dichloroethane	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
1,1-Dichloroethene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
1,2-Dichloropropane	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
1,3-Dichloropropane	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
2,2-Dichloropropane	ND	2.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
1,1-Dichloropropene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
Hexachlorobutadiene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
2-Hexanone	ND	10		µg/L	1	4/15/2019 5:39:00 PM	R59147
Isopropylbenzene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
4-Isopropyltoluene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
4-Methyl-2-pentanone	ND	10		µg/L	1	4/15/2019 5:39:00 PM	R59147
Methylene Chloride	ND	3.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
n-Butylbenzene	ND	3.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
n-Propylbenzene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
sec-Butylbenzene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
Styrene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
tert-Butylbenzene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1904570**Date Reported: **4/23/2019****CLIENT:** Rule Engineering LLC**Client Sample ID:** MW-01 (4/9/19)**Project:** Sunco 1**Collection Date:** 4/9/2019 5:00:00 PM**Lab ID:** 1904570-001**Matrix:** AQUEOUS**Received Date:** 4/10/2019 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
trans-1,2-DCE	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
Trichlorofluoromethane	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
Vinyl chloride	ND	1.0		µg/L	1	4/15/2019 5:39:00 PM	R59147
Xylenes, Total	ND	1.5		µg/L	1	4/15/2019 5:39:00 PM	R59147
Surr: 1,2-Dichloroethane-d4	99.6	70-130		%Rec	1	4/15/2019 5:39:00 PM	R59147
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	4/15/2019 5:39:00 PM	R59147
Surr: Dibromofluoromethane	101	70-130		%Rec	1	4/15/2019 5:39:00 PM	R59147
Surr: Toluene-d8	93.7	70-130		%Rec	1	4/15/2019 5:39:00 PM	R59147

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904570

23-Apr-19

Client: Rule Engineering LLC

Project: Sunco 1

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R59038	RunNo: 59038								
Prep Date:	Analysis Date: 4/10/2019	SeqNo: 1988170 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								

Sample ID: LCS	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R59038	RunNo: 59038								
Prep Date:	Analysis Date: 4/10/2019	SeqNo: 1988171 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	103	90	110			
Chloride	4.9	0.50	5.000	0	98.5	90	110			
Nitrogen, Nitrite (As N)	0.98	0.10	1.000	0	97.9	90	110			
Bromide	2.4	0.10	2.500	0	95.3	90	110			
Nitrogen, Nitrate (As N)	2.6	0.10	2.500	0	104	90	110			
Phosphorus, Orthophosphate (As P)	4.8	0.50	5.000	0	96.7	90	110			

Sample ID: LCSd	SampType: LCSd	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS02	Batch ID: R59038	RunNo: 59038								
Prep Date:	Analysis Date: 4/10/2019	SeqNo: 1988172 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.53	0.10	0.5000	0	105	90	110	1.85	20	
Chloride	5.0	0.50	5.000	0	99.1	90	110	0.606	20	
Nitrogen, Nitrite (As N)	0.99	0.10	1.000	0	99.3	90	110	1.41	20	
Bromide	2.4	0.10	2.500	0	95.9	90	110	0.595	20	
Nitrogen, Nitrate (As N)	2.6	0.10	2.500	0	105	90	110	0.704	20	
Phosphorus, Orthophosphate (As P)	4.9	0.50	5.000	0	97.6	90	110	0.937	20	

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A59171	RunNo: 59171								
Prep Date:	Analysis Date: 4/15/2019	SeqNo: 1992291 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
H Holding times for preparation or analysis exceeded
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

E Value above quantitation range
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904570

23-Apr-19

Client: Rule Engineering LLC

Project: Sunco 1

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A59171	RunNo: 59171								
Prep Date:	Analysis Date: 4/16/2019	SeqNo: 1992292 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.9	0.50	10.00	0	99.3	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
H Holding times for preparation or analysis exceeded
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

E Value above quantitation range
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904570

23-Apr-19

Client: Rule Engineering LLC

Project: Sunco 1

Sample ID: 100ng lcs		SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID: LCSW		Batch ID: R59147			RunNo: 59147					
Prep Date:		Analysis Date: 4/15/2019			SeqNo: 1991078		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	70	130			
Toluene	21	1.0	20.00	0	103	70	130			
Chlorobenzene	21	1.0	20.00	0	106	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	100	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	99.5	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.1	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.2	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.9	70	130			
Surr: Toluene-d8	9.3		10.00		92.7	70	130			

Sample ID: rb1		SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW		Batch ID: R59147		RunNo: 59147						
Prep Date:		Analysis Date: 4/15/2019		SeqNo: 1991079			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
H Holding times for preparation or analysis exceeded
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

E Value above quantitation range
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904570

23-Apr-19

Client: Rule Engineering LLC

Project: Sunco 1

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R59147	RunNo: 59147								
Prep Date:	Analysis Date: 4/15/2019	SeqNo: 1991079	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904570

23-Apr-19

Client: Rule Engineering LLC

Project: Sunco 1

Sample ID: rb1	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R59147		RunNo: 59147							
Prep Date:	Analysis Date: 4/15/2019		SeqNo: 1991079		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.5	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.8	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.8	70	130			
Surr: Toluene-d8	9.3		10.00		92.8	70	130			

Qualifiers:

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PQL Practical Quantitative Limit
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ND Not Detected at the Reporting Limit
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904570

23-Apr-19

Client: Rule Engineering LLC

Project: Sunco 1

Sample ID: lcs-1 99.0uS eC	SampType: LCS		TestCode: SM2510B: Specific Conductance							
Client ID: LCSW	Batch ID: R59181		RunNo: 59181							
Prep Date:	Analysis Date: 4/15/2019		SeqNo: 1992495		Units: µmhos/cm					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	99	5.0	99.00	0	100	85	115			

Sample ID: lcsd-1 99.0uS eC	SampType: LCSD		TestCode: SM2510B: Specific Conductance							
Client ID: LCSS02	Batch ID: R59181		RunNo: 59181							
Prep Date:	Analysis Date: 4/15/2019		SeqNo: 1992496		Units: µmhos/cm					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	99	5.0	99.00	0	100	85	115	0.101	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
H Holding times for preparation or analysis exceeded
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

E Value above quantitation range
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904570

23-Apr-19

Client: Rule Engineering LLC

Project: Sunco 1

Sample ID: MB-A	SampType: MBLK	TestCode: EPA Method 6010B: Dissolved Metals								
Client ID: PBW	Batch ID: A59145	RunNo: 59145								
Prep Date:	Analysis Date: 4/11/2019	SeqNo: 1991022	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID: LCS-A	SampType: LCS	TestCode: EPA Method 6010B: Dissolved Metals								
Client ID: LCSW	Batch ID: A59145	RunNo: 59145								
Prep Date:	Analysis Date: 4/11/2019	SeqNo: 1991024	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	49	1.0	50.00	0	98.9	80	120			
Potassium	49	1.0	50.00	0	97.3	80	120			
Sodium	48	1.0	50.00	0	97.0	80	120			

Sample ID: LCSD-A	SampType: LCSD	TestCode: EPA Method 6010B: Dissolved Metals								
Client ID: LCSS02	Batch ID: A59145	RunNo: 59145								
Prep Date:	Analysis Date: 4/11/2019	SeqNo: 1991025	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	50	1.0	50.00	0	99.8	80	120	0.875	20	
Potassium	49	1.0	50.00	0	98.4	80	120	1.11	20	
Sodium	49	1.0	50.00	0	97.4	80	120	0.465	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
H Holding times for preparation or analysis exceeded
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

E Value above quantitation range
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904570

23-Apr-19

Client: Rule Engineering LLC

Project: Sunco 1

Sample ID: mb-1 alk	SampType: MBLK	TestCode: SM2320B: Alkalinity								
Client ID: PBW	Batch ID: R59181	RunNo: 59181								
Prep Date:	Analysis Date: 4/15/2019	SeqNo: 1992526		Units: mg/L CaCO3						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: lcs-1 alk	SampType: LCS	TestCode: SM2320B: Alkalinity								
Client ID: LCSW	Batch ID: R59181	RunNo: 59181								
Prep Date:	Analysis Date: 4/15/2019	SeqNo: 1992527		Units: mg/L CaCO3						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.84	20.00	80.00	0	99.8	90	110			

Sample ID: lcsd-1 alk	SampType: LCSD	TestCode: SM2320B: Alkalinity								
Client ID: LCSS02	Batch ID: R59181	RunNo: 59181								
Prep Date:	Analysis Date: 4/15/2019	SeqNo: 1992528		Units: mg/L CaCO3						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	77.16	20.00	80.00	0	96.4	90	110	3.41	20	

Sample ID: mb-2 alk	SampType: MBLK	TestCode: SM2320B: Alkalinity								
Client ID: PBW	Batch ID: R59181	RunNo: 59181								
Prep Date:	Analysis Date: 4/15/2019	SeqNo: 1992550		Units: mg/L CaCO3						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: lcs-2 alk	SampType: LCS	TestCode: SM2320B: Alkalinity								
Client ID: LCSW	Batch ID: R59181	RunNo: 59181								
Prep Date:	Analysis Date: 4/15/2019	SeqNo: 1992551		Units: mg/L CaCO3						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	77.60	20.00	80.00	0	97.0	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
H Holding times for preparation or analysis exceeded
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

E Value above quantitation range
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1904570

23-Apr-19

Client: Rule Engineering LLC

Project: Sunco 1

Sample ID: MB-44294	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: PBW	Batch ID: 44294	RunNo: 59143								
Prep Date: 4/11/2019	Analysis Date: 4/15/2019	SeqNo: 1990973	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: LCS-44294	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: LCSW	Batch ID: 44294	RunNo: 59143								
Prep Date: 4/11/2019	Analysis Date: 4/15/2019	SeqNo: 1990974	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1040	20.0	1000	0	104	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
H Holding times for preparation or analysis exceeded
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

E Value above quantitation range
ND Not Detected at the Reporting Limit
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified at testcode

Sample Log-In Check List

Client Name: **RULE ENGINEERING LL**

Work Order Number: **1904570**

RcptNo: 1

Received By: **Erin Melendrez**

4/10/2019 8:10:00 AM

UAG

Completed By: **Erin Melendrez**

4/10/2019 11:50:58 AM

UAG

Reviewed By:

YB 4/10/19

LB: TMM 4-10-19

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels? Yes ☒ No ☐
(Note discrepancies on chain of custody)
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met? Yes ☒ No ☐
(If no, notify customer for authorization.)

of preserved
bottles checked
for pH: *1*
(<2 or >12 unless noted)

Adjusted? *No*

Checked by: *TMM 4-10-19*

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.2	Good	Yes			
2	4.8	Good	Yes			
3	0.6	Good	Yes			

Chain-of-Custody Record			
Client: <u>Rule Engineering</u>			
Mailing Address: <u>501 Airport Dr, Ste 205</u> <u>Farmington, NM 87401</u> Phone #: <u>(505) 716-2787</u> email or Fax#: <u>hwoods@ruleengineering.com</u>			
QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)			
Accreditation: ☐ Az Compliance ☐ NELAC ☐ Other _____			
☒ EDD (Type) _____			
Turn-Around Time: ☒ Standard ☐ Rush			
Project Name: <u>Since #1</u>			
Project #: _____			
Project Manager: <u>Heather Woods</u>			
Sampler: <u>Heather Woods</u>			
On Ice: ☒ Yes ☐ No			
# of Coolers: <u>3</u>			
Cooler Temp (including CF): <u>2.7°C, 4.8°C, 0.6°C</u>			
HEAL No. <u>1904570</u>			
Container Type and # <u>(1) 500mL Plastic HNO₃</u>			
<u>(1) 500mL Plastic NaOH</u>			
<u>(1) 500mL Plastic NaOH</u>			
<u>(2) 500mL Plastic Non</u>			
<u>(1) 125mL Plastic H₂SO₄</u>			
<u>(1) 125mL Plastic HNO₃ Filtered</u>			
<u>(5) 1L Amber Non</u>			
<u>(3) 40mL VOA HCl</u>			
Date: <u>4/9/19</u> Time: <u>1700</u> Matrix: <u>Water</u> Sample Name: <u>MW-01 (4/9/19)</u>			
Date: <u>4/9/19</u> Time: <u>1834</u> Relinquished by: <u>Heather M. Wood</u>			
Date: <u>4/9/19</u> Time: <u>1846</u> Relinquished by: <u>(Signature)</u>			
Received by: <u>(Signature)</u> Date: <u>4/9/19</u> Time: <u>1834</u>			
Received by: <u>(Signature)</u> Date: <u>4/9/19</u> Time: <u>1810</u>			

Turn-Around Time:			
☒ Standard		☐ Rush	
Project Name:			
Sunco #1			
Project #:			
Project Manager:			
Heather Woods			
Sampler: Heather Woods		HEAL No.	
On Ice: ☒ Yes ☐ No		1904570	
# of Coolers: 3		-001	
Cooler Temp (including CFI): 7.7°C, 4.8°C, 0.6°C			
Container Type and #	Preservative Type		
(1) 500mL Plastic	HNO ₃		
(1) 500mL Plastic	NADH		
(1) 500mL Plastic	Zinc Acetate		
(2) 500mL Plastic	NADH		
(1) 125mL Plastic	H ₂ SO ₄		
(1) 125mL Plastic	HNO ₃		
(5) 1L Amber Glass	Non		
(3) 40mL VOA	HCl		
Received by:		Via:	Date
Chhat			4/9/13
Time		Date	Time
08:10		4/10/13	08:10



**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107
www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX / MTBE / TMB's (8021)
TPH:8015D(GRO / DRO / MRO)
8081 Pesticides/8082 PCB's
EDB (Method 504.1)
PAHs by 8310 or 8270SIMS
RCRA 8 Metals
Cl, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄
8260 (VOA)
8270 (Semi-VOA)
Total Coliform (Present/Absent)
See Attached

Project Manager:		Heather Woods	
Sampler:		Heather Woods	
On Ice:	☒ Yes	☐ No	
# of Coolers:	3		
Cooler Temp (including CFI):	2.2 ^o , 4.5 ^o , 0.6 ^o		
Container Type and #	Preservative Type	HEAL No. 1904570	

email or Fax#: <u>hwoods@ruleengineering.com</u>			
QA/QC Package:			
☒ Standard		☐ Level 4 (Full Validation)	
Accreditation: ☐ Az Compliance			
☐ NELAC		☐ Other _____	
☐ EDD (Type) _____			
Date	Time	Matrix	Sample Name

A blank grid of 10 columns and 20 rows. A small 'x' mark is located in the second column, second row from the top.

(1) 500 mL Plastic	HNO_3	-001
(1) 500 mL Plastic	NaOH	
(1) 500 mL Plastic	Zinc Acetate	
(1) 500 mL Plastic	NaOH	
(2) 500 mL Plastic	Non	
(1) 25 mL Plastic	H_2SO_4	
(1) 25 mL Plastic	HNO_3	
(5) 1 L Glass	Filtrated Non	
(3) 40 mL VOA	HCl	

[illegible]

Remarks: Direct Bil to Agua Moss - Rates per Andy
See Attached Pages

Received by:	Via:	Date	Time
<i>[Signature]</i>	Hubat	4/9/13	1834

Received by:	Via:	Date	Time
<i>[Signature]</i>	Courier	4/10/13	0810

Date:	4/9/19	Time:	1834	Relinquished by:	Heath M. Wood
Date:	4/9/19	Time:	1846	Relinquished by:	[Signature]