July 20, 2022

Dana Pollack
Environmental Field Specialist
Utah Gas Corp

RE Historic Pit Due Diligence
Park Mountain Federal 9015 (PMF 9015)
Remediation: 20622
Location ID: 315948
Facility (Pit) ID: 107503
SWNE 12 3S104W 6
Rio Blanco, CO

This document is being prepared for due diligence work performed seeking closure for the historic pit linked to the Park Mountain Federal 9015 (PMF) pad. During site/facility closure a Form 27 Site Investigation plan was submitted which included the related historic pit to the location. Consistent with Rule 911, the pit would be investigated to obtain closure of the site.

Due Diligence Off-Site

Due diligence of pit consisted of searching through Colorado Oil & Gas Conservation Commission (COGCC) database records, historical mapping, and historical records search provided by the landowner; Bureau of Land Management (BLM). Records and/or mapping that provided information regarding pit location, size, and use are attached to this document. BLM records did not have evidence of pit location from old documents searched.

Due Diligence On-Site

From lack of evidence provided from database and aerial imagery. Typical pit locations were near the separator and were consistently below the tank(s) placement location, utilizing the berm and depression for operations. Years of experience and process knowledge of closing historic pits have limited investigations to these locations. Consistent with the approved Form 27 for the site, heavy equipment was utilized to investigate this area and if no impacts were discovered; excavation was screened via photoionization detector (PID) and a soil sample was collected from the bottom to provided laboratory analysis. During excavation with heavy equipment, approximately six (6) feet below where the bottom of the tank was place bedrock refusal was encountered. A trench was excavated through the depression area and heavy equipment was

unable to go through the bedrock. PID was utilized for the sidewalls and bottom to determine if impacts were present, no impacts were identified by PID and Visual/olfactory. Inorganincs were identified from bottom and sidewall samples but are below background limits for the area. If impacts were identified by visual/olfactory, laboratory analysis, and/or PID screening, the pit would be delineated accordingly to Rule 913; however, no impacts were observed or identified.

Conclusions

During historical pit investigation at the PMF 9015 site, excavation was limited from within the tank battery area. Historical imagery is not clear but could depicted a small depression in continuous images located where the tank was placed. No impacts were observed or noted during pit investigation. A grab soil sample was collected at six (6) feet below tank bottom placement and only identified inorganic constituents (Arsenic, SAR, and pH) that are below background samples collected during investigation. With the data presented herein, historical pit (Facility ID: 107503) associated with the PMF 9015 was constructed but not used or pit was remediated prior tank placement and documentation was indiscoverable. Environmental concern to soils is not present, and Utah Gas Corp should request closure of PMF 9015 pit (Facility ID: 107503).

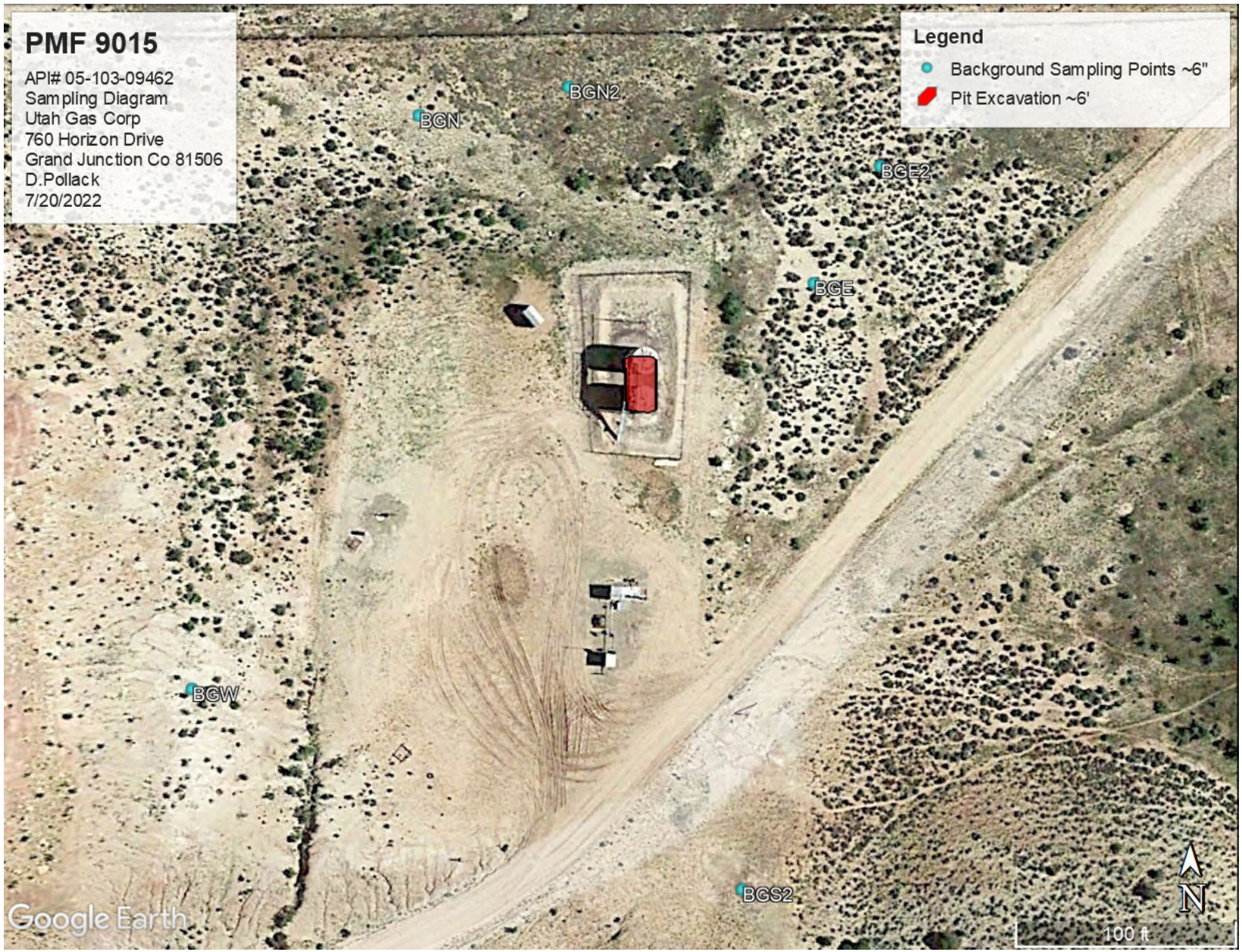
All field screening, sampling locations, and laboratory reports not included in this document are submitted on supplemental form 27(s) under assigned REM 20622. Additional information that might be included in this Form 27 submittal are linked to the Site/Facility closure of the PMF 9015 site where all soil investigation was completed parallel to pit investigation activities.

If you have any questions pertaining to this project, please do not hesitate to contact me at (970) 901-9007 or mkasten@entradainc.com

Sincerely,

ENTRADA CONSULTING GROUP
Matt Kasten
Project Manager

Attachments
Historical Imagery / Photo Log
Site Diagram
Laboratory Reports
Laboratory Summary Table


PMF 9015
API# 05-103-09462
Sampling Diagram
Utah Gas Corp
760 Horizon Drive
Grand Junction Co 81506
D.Pollack
7/20/2022
Legend
Background Sampling Points ~6"
Pit Excavation ~6'
BGN2
BGN
BGE2
BGE
BGW
BGS2
N
100 ft
Google Earth

PHOTOGRAPHIC LOG

Project Name: PMF 9015	**Site Location:** Utah Gas Corp – Park Mountain Federal 9015 P&A Facility Closure	**Project No.** 021-057
Facility: PMF 9015 **Description:** 2005 Pit Image		
Facility: PMF 9015 **Description:** Pit Image 2011		

Project Name:	Site Location:	Project No.
PMF 9015	Utah Gas Corp –Park Mountain Federal 9015 P&A Facility Closure	021-057

Facility:

PMF 9015

Description:

Pit Image 2013

Facility:

PMF 9015

Description:

Pit excavation – Bedrock Refusal at ~6ft with heavy equipment. Facing North.

Project Name:	Site Location:	Project No.
PMF 9010	Park Mountain Federal 9010 - P&A Facility Decommission	021-057

Facility:

PMF 9010

Description:

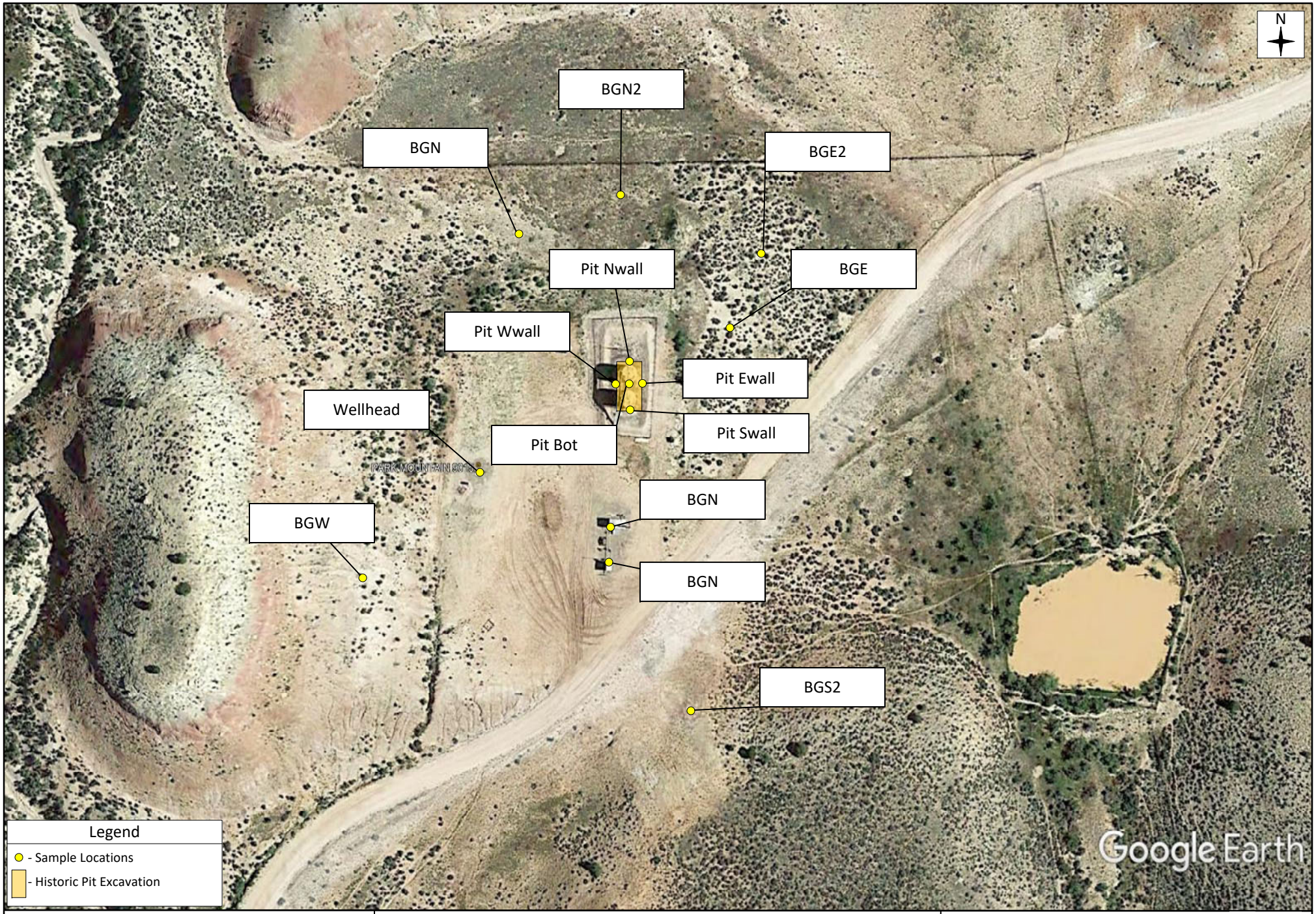
Tank/Historic Pit excavation (facing north).

Facility:

PMF 9010

Description:

Tank/Historic Pit excavation (facing southwest).



UTAH GAS CORP 760 Horizon Drive Grand Junction, Co 81506 Rio Blanco County T3S/R104W/Sec. 12 SWNE	Park Mountain 9015 Facility Decommission Soil Investigation Diagram Location ID: 315948 ‖ Facility ID: 107503 API: 05-103-09462	Entrada Consulting Group, Inc. 330 Grand Ave, Grand Junction Co 81501 Survey Date: NA | Date Drawn: 07/29/2022 Drawn By: MK | Scale: None

ANALYTICAL REPORT

October 13, 2021

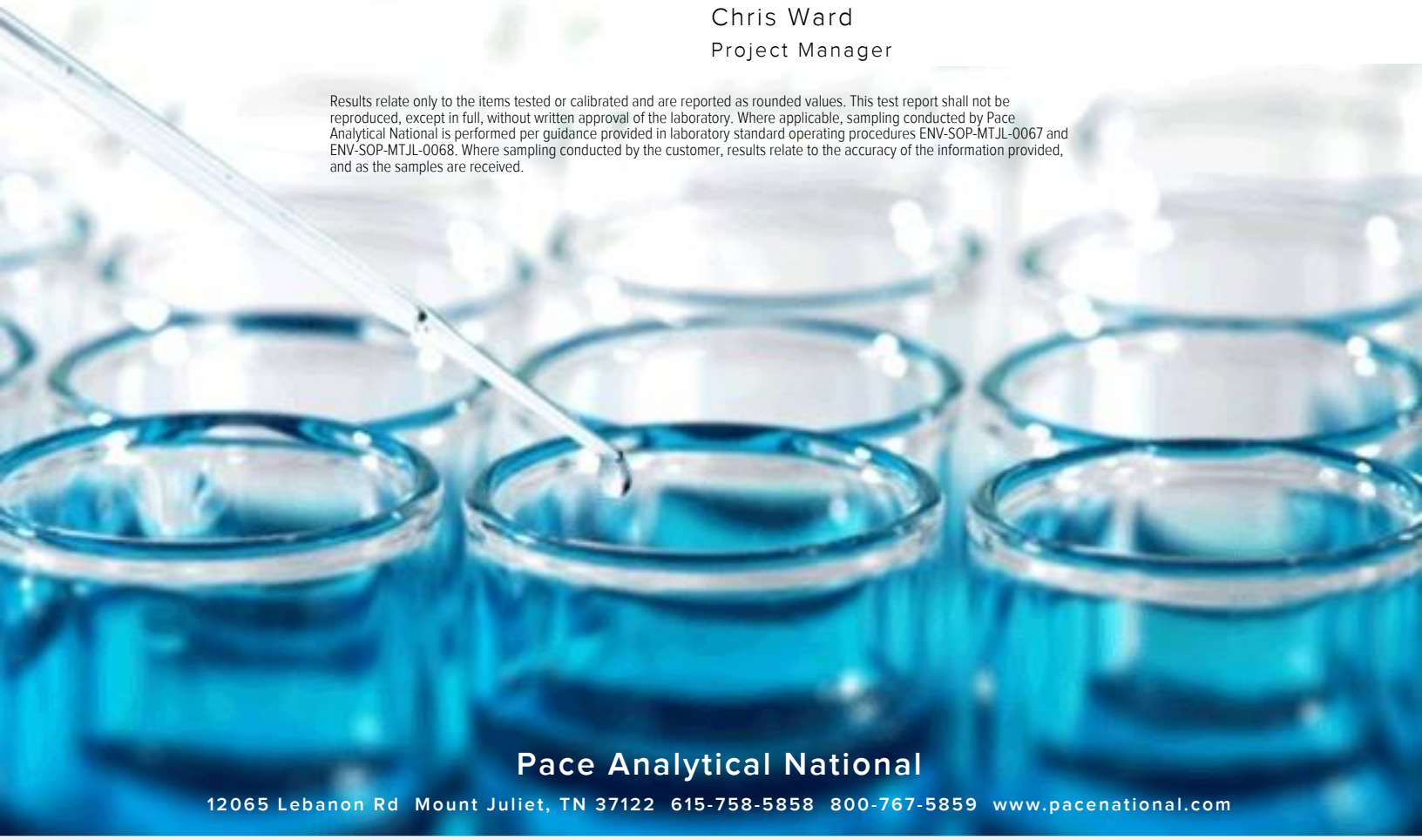
Utah Gas Corporation

Sample Delivery Group:	L1411924
Samples Received:	10/01/2021
Project Number:	PMF 9015
Description:	PMF 9015 BG
Site:	PMF 9015 BG
Report To:	Robert Bleil
	1125 Escalante Drive
	Rangely, CO 81648

Entire Report Reviewed By:

Chris Ward

Project Manager



Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

SAMPLE SUMMARY

PMF 9015 BGN L1411924-01 Solid

Collected by: Dava Pollack
Collected date/time: 09/29/21 09:45
Received date/time: 10/01/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1753641	1	10/09/21 12:53	10/09/21 12:53	EL	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1755583	1	10/13/21 10:00	10/13/21 12:00	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1751306	1	10/05/21 11:47	10/05/21 15:11	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1753176	5	10/09/21 06:12	10/11/21 09:37	LAT	Mt. Juliet, TN

PMF 9015 BGW L1411924-02 Solid

Collected by: Dava Pollack
Collected date/time: 09/29/21 09:50
Received date/time: 10/01/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1753641	1	10/09/21 12:56	10/09/21 12:56	EL	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1755583	1	10/13/21 10:00	10/13/21 12:00	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1751306	1	10/05/21 11:47	10/05/21 15:11	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1753176	5	10/09/21 06:12	10/11/21 09:40	LAT	Mt. Juliet, TN

PMF 9015 BGE L1411924-03 Solid

Collected by: Dava Pollack
Collected date/time: 09/29/21 09:55
Received date/time: 10/01/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1753641	1	10/09/21 12:58	10/09/21 12:58	EL	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1755574	1	10/12/21 10:00	10/13/21 12:00	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1751306	1	10/05/21 11:47	10/05/21 15:11	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1753176	5	10/09/21 06:12	10/11/21 09:43	LAT	Mt. Juliet, TN

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 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.

Chris Ward
Project Manager

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.621		1	10/09/2021 12:53	WG1753641

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.68	T8	1	10/13/2021 12:00	WG1755583

Sample Narrative:

L1411924-01 WG1755583: 8.68 at 21C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	168		10.0	1	10/05/2021 15:11	WG1751306

Sample Narrative:

L1411924-01 WG1751306: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	9.29		0.100	1.00	5	10/11/2021 09:37	WG1753176

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	28.2		1	10/09/2021 12:56	WG1753641

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.42	T8	1	10/13/2021 12:00	WG1755583

Sample Narrative:

L1411924-02 WG1755583: 9.42 at 20.9C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1340		10.0	1	10/05/2021 15:11	WG1751306

Sample Narrative:

L1411924-02 WG1751306: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	13.0		0.100	1.00	5	10/11/2021 09:40	WG1753176

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

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.46		1	10/09/2021 12:58	WG1753641

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.03	T8	1	10/13/2021 12:00	WG1755574

Sample Narrative:

L1411924-03 WG1755574: 8.03 at 20.7C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	218		10.0	1	10/05/2021 15:11	WG1751306

Sample Narrative:

L1411924-03 WG1751306: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.53		0.100	1.00	5	10/11/2021 09:43	WG1753176

L1411924-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1411924-03 10/13/21 12:00 • (DUP) R3715821-2 10/13/21 12:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.03	8.03	1	0.000		1

Sample Narrative:

OS: 8.03 at 20.7C

DUP: 8.03 at 20.8C

L1414274-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1414274-02 10/13/21 12:00 • (DUP) R3715821-3 10/13/21 12:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.05	8.03	1	0.249		1

Sample Narrative:

OS: 8.05 at 20.6C

DUP: 8.03 at 20.6C

Laboratory Control Sample (LCS)

(LCS) R3715821-1 10/13/21 12:00

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

Sample Narrative:

LCS: 10.03 at 20.7C

L1411917-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1411917-03 10/13/21 12:00 • (DUP) R3715818-2 10/13/21 12:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	10.0	10.0	1	0.200		1

Sample Narrative:

OS: 10.03 at 21.3C

DUP: 10.01 at 21.4C

Laboratory Control Sample (LCS)

(LCS) R3715818-1 10/13/21 12:00

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

Sample Narrative:

LCS: 10.04 at 20.6C

Method Blank (MB)

(MB) R3712630-1 10/05/21 15:11

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

Sample Narrative:
BLANK: at 25C

L1411896-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1411896-01 10/05/21 15:11 • (DUP) R3712630-3 10/05/21 15:11

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	397	398	1	0.252		20

Sample Narrative:
OS: at 25C
DUP: at 25C

L1411944-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1411944-01 10/05/21 15:11 • (DUP) R3712630-4 10/05/21 15:11

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	242	242	1	0.165		20

Sample Narrative:
OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3712630-2 10/05/21 15:11

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	268	271	101	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R3714651-1 10/11/21 09:14

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00

Laboratory Control Sample (LCS)

(LCS) R3714651-2 10/11/21 09:18

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	94.2	94.2	80.0-120	

L1412037-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1412037-11 10/11/21 09:21 • (MS) R3714651-5 10/11/21 09:31 • (MSD) R3714651-6 10/11/21 09:34

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	3.76	94.9	90.5	91.1	86.7	5	75.0-125			4.74	20

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.

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.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
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	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
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

* 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 Analytical.

UTAH GAS CORP
***UTAHGASRCO**

Billing Information:
Ronnie Plummer
1125 Escalante Dr
Rangely, CO 81648

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

Report to: **Ronnie Plummer / Rob Bleil**

Email To: **rplummer@uthgascorp.com**

Project Description: PMF 9015 BG

City/State Collected:

Please Circle: PT MT CT ET

Phone: **970-629-3520**

Client Project # PMF 9015

Lab Project #

SDG # U411524

D179

Table

Collected by (print): DAVID POLLACK

Site/Facility ID # PMF 9015 BG

P.O. #

Acctnum:

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Template:

Prelogin:

PM: **824 - Chris Ward**

PB:

Shipped Via: **FedEX Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	~~Table915 GRO/DRO/ORO 4ozClr-NoPres~~	~~Table915 Metals 4ozClr-NoPres~~	~~Table915 PAHs 4ozClr-NoPres~~	~~Table915 VOCs 4ozClr-NoPres~~	~~Table915 pH SPCONSAR 4ozClr-NoPres~~	X SAR/Arsenic/pH/EC	Remarks	Sample # (lab only)
PMF 9015 BGN	Grab	SS	0-6"	9/29/21	945	1	X	X	X	X	X	X		-01
PMF 9015 BGW	"	SS	"	"	950	1						X		-02
PMF 9015 BGE	"	SS	"	"	955	1						X		-03

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 5016 1232 2816

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	9/29/21	1800		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
	9/29/21	1800		3.1+0.2=3.1 3
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
	9/29/21	1500	Bailee Robinson	10/1/21 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

ANALYTICAL REPORT

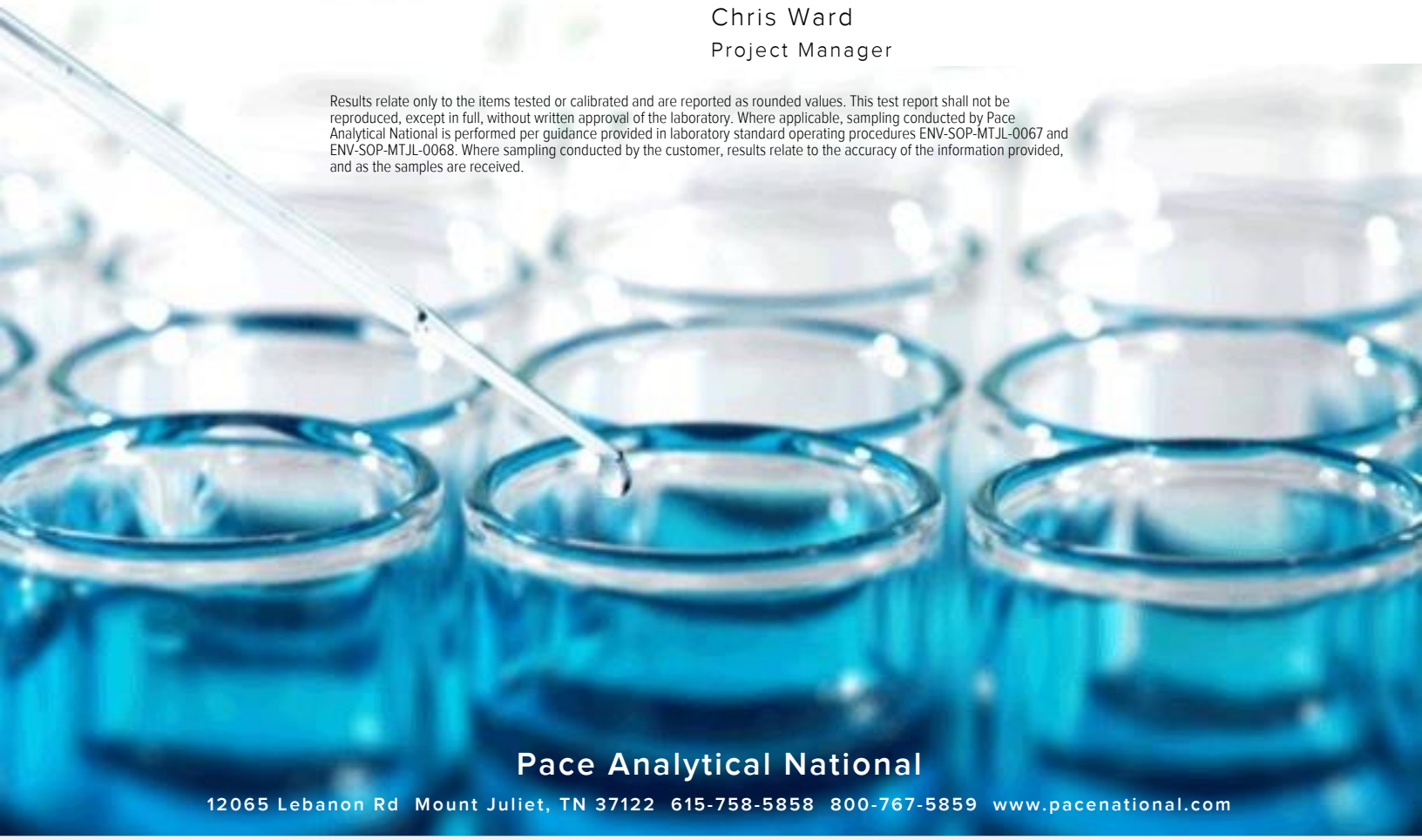
November 29, 2021

Utah Gas Corporation

Sample Delivery Group:	L1428765
Samples Received:	11/09/2021
Project Number:	PMF 9015 BG
Description:	PMF 9015 BG
Site:	PMF 9015
Report To:	Robert Bleil 1125 Escalante Drive Rangely, CO 81648

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

PMF 9015 BGN2 L1428765-01 Solid

Collected by: Dana Pollack | Collected date/time: 11/04/21 12:35 | Received date/time: 11/09/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1778869	1	11/27/21 13:04	11/27/21 13:04	EL	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1771817	1	11/10/21 08:00	11/10/21 10:00	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1773983	1	11/15/21 01:24	11/15/21 08:53	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1774689	5	11/15/21 19:18	11/18/21 14:01	JPD	Mt. Juliet, TN

PMF 9015 BGS2 L1428765-02 Solid

Collected by: Dana Pollack | Collected date/time: 11/04/21 12:50 | Received date/time: 11/09/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1778869	1	11/27/21 13:07	11/27/21 13:07	EL	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1771817	1	11/10/21 08:00	11/10/21 10:00	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1772198	1	11/10/21 15:22	11/11/21 06:50	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1774689	5	11/15/21 19:18	11/18/21 14:05	JPD	Mt. Juliet, TN

PMF 9015 BGE2 L1428765-03 Solid

Collected by: Dana Pollack | Collected date/time: 11/04/21 12:45 | Received date/time: 11/09/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1778869	1	11/27/21 13:10	11/27/21 13:10	EL	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1771817	1	11/10/21 08:00	11/10/21 10:00	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1772198	1	11/10/21 15:22	11/11/21 06:50	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1774689	5	11/15/21 19:18	11/18/21 14:08	JPD	Mt. Juliet, TN

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 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.

Chris Ward
Project Manager

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.07		1	11/27/2021 13:04	WG1778869

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.73	T8	1	11/10/2021 10:00	WG1771817

Sample Narrative:

L1428765-01 WG1771817: 8.73 at 19.9C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	187		10.0	1	11/15/2021 08:53	WG1773983

Sample Narrative:

L1428765-01 WG1773983: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.79		0.100	1.00	5	11/18/2021 14:01	WG1774689

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

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	29.0		1	11/27/2021 13:07	WG1778869

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.98	T8	1	11/10/2021 10:00	WG1771817

Sample Narrative:

L1428765-02 WG1771817: 8.98 at 19.6C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	2600		10.0	1	11/11/2021 06:50	WG1772198

Sample Narrative:

L1428765-02 WG1772198: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	13.3		0.100	1.00	5	11/18/2021 14:05	WG1774689

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

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.12		1	11/27/2021 13:10	WG1778869

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.70	T8	1	11/10/2021 10:00	WG1771817

Sample Narrative:

L1428765-03 WG1771817: 8.7 at 19.7C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	213		10.0	1	11/11/2021 06:50	WG1772198

Sample Narrative:

L1428765-03 WG1772198: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	7.52		0.100	1.00	5	11/18/2021 14:08	WG1774689

L1428752-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1428752-02 11/10/21 10:00 • (DUP) R3727707-2 11/10/21 10:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.68	8.65	1	0.346		1

Sample Narrative:

OS: 8.68 at 20.2C

DUP: 8.65 at 20.2C

L1428767-20 Original Sample (OS) • Duplicate (DUP)

(OS) L1428767-20 11/10/21 10:00 • (DUP) R3727707-3 11/10/21 10:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.43	8.43	1	0.000		1

Sample Narrative:

OS: 8.43 at 20C

DUP: 8.43 at 20.1C

Laboratory Control Sample (LCS)

(LCS) R3727707-1 11/10/21 10:00

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

Sample Narrative:

LCS: 10.01 at 19.5C

Method Blank (MB)

(MB) R3728101-1 11/11/21 06:50

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

Sample Narrative:
BLANK: at 25C

L1428768-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1428768-05 11/11/21 06:50 • (DUP) R3728101-3 11/11/21 06:50

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	122	117	1	4.52		20

Sample Narrative:
OS: at 25C
DUP: at 25C

L1428774-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1428774-02 11/11/21 06:50 • (DUP) R3728101-4 11/11/21 06:50

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	122	128	1	4.98		20

Sample Narrative:
OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3728101-2 11/11/21 06:50

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	268	269	100	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R3729369-1 11/15/21 08:53

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

Sample Narrative:
BLANK: at 25C

L1427912-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1427912-08 11/15/21 08:53 • (DUP) R3729369-3 11/15/21 08:53

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	51.7	57.2	1	10.1		20

Sample Narrative:
OS: at 25C
DUP: at 25C

L1427974-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1427974-03 11/15/21 08:53 • (DUP) R3729369-4 11/15/21 08:53

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	1320	1230	1	6.73		20

Sample Narrative:
OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3729369-2 11/15/21 08:53

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	268	269	100	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R3730829-1 11/17/21 16:58

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00

Laboratory Control Sample (LCS)

(LCS) R3730829-2 11/17/21 17:02

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	89.9	89.9	80.0-120	

L1424106-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1424106-01 11/17/21 17:05 • (MS) R3730829-5 11/17/21 17:15 • (MSD) R3730829-6 11/17/21 17:18

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	99.6	1.55	82.0	97.7	80.5	96.2	5	75.0-125			17.4	20

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.

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.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
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	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
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

* 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 Analytical.

UTAH GAS CORP
***UTAHGASRCO**

Billing Information:
Ronnie Plummer
1125 Escalante Dr
Rangely, CO 81648

Pres Chk

Report to: **Ronnie Plummer / Rob Bleil**

Email To: **rplummer@uthgascorp.com**

Project Description: PMF 9015 BG

City/State Collected:

Please Circle: PT MT CT ET

Phone: **970-629-3520**

Client Project #: PMF 9015 BG

Lab Project #

Collected by (print): DANA POLLACK

Site/Facility ID #: PMF 9015

P.O. #

Collected by (signature): Dan J Pollack

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Quote #

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	~~Table915 GRO/DRO/ORO 4ozClr-NoPres~~	~~Table915 Metals 4ozClr-NoPres~~	~~Table915 PAHs 4ozClr-NoPres~~	~~Table915 VOCs 4ozClr-NoPres~~	~~Table915 pH SPCONSAR 4ozClr-NoPres~~	Arsenic/PM/SAR/EC				Remarks	Sample # (lab only)
PMF 9015 BGN2	Grab	SS	9-12"	11/4/21	1235	1	X	X	X	X	X	X					-01
PMF 9015 BGS2	↓	↓	↓	↓	1250	1						X					-02
PMF 9015 BGE2					1245	1						X					-03

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 1428765

J191

Acctnum:
Template:
Prelogin:
PM: **824 - Chris Ward**
PB:
Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 5016 1232 2058

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
Dan J Pollack	11/5/21	1300	[signature]		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.1°C 1.8 to 1.8	Bottles Received: 3
[signature]	11/8/21	1100	[signature]		
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date:	Time:
[signature]	11/8/21	1500	[signature]	11/9/21	930

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

ANALYTICAL REPORT

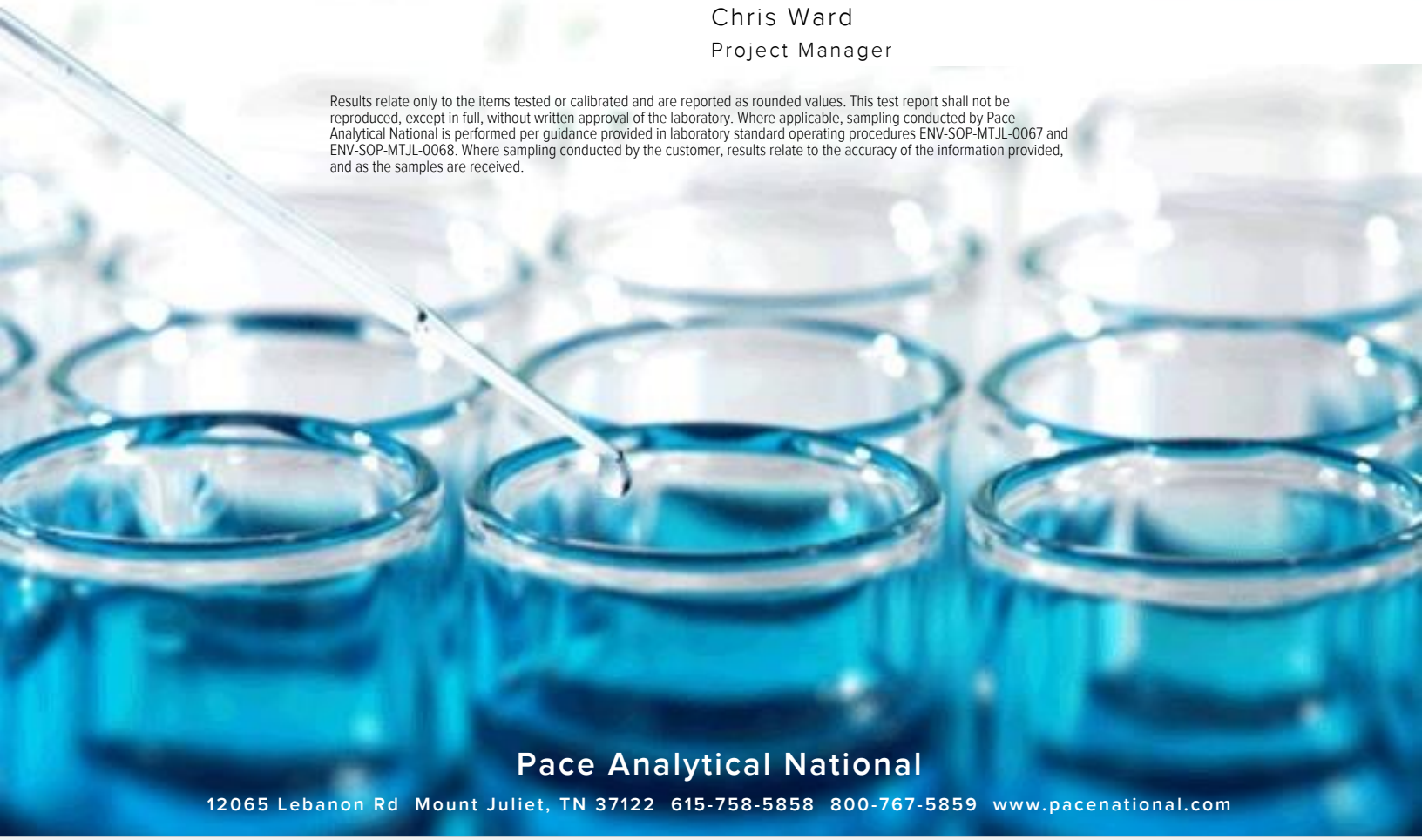
October 20, 2021

Utah Gas Corporation

Sample Delivery Group:	L1411915
Samples Received:	10/01/2021
Project Number:	PMF 9015
Description:	PMF 9015 P&A
Site:	PMF 9015
Report To:	Robert Bleil 1125 Escalante Drive Rangely, CO 81648

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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PMF 9015 METER L1411915-01 Solid

Collected by: DP | Collected date/time: 09/29/21 09:45 | Received date/time: 10/01/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1752233	1	10/13/21 22:37	10/13/21 22:37	CCE	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1753455	1	10/07/21 17:00	10/13/21 14:54	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1755583	1	10/13/21 10:00	10/13/21 12:00	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1752461	1	10/07/21 01:50	10/07/21 05:46	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1752452	1	10/06/21 16:09	10/07/21 17:53	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1752219	1	10/10/21 15:46	10/13/21 16:37	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1752453	5	10/06/21 16:49	10/06/21 22:08	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1754604	1	10/05/21 16:48	10/12/21 00:52	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1752541	1	10/05/21 16:48	10/07/21 13:28	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1754884	1	10/11/21 17:26	10/12/21 04:07	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1754535	1	10/10/21 16:56	10/11/21 05:13	AAT	Mt. Juliet, TN

PMF 9015 SEPERATOR L1411915-02 Solid

Collected by: DP | Collected date/time: 09/29/21 09:50 | Received date/time: 10/01/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1752233	1	10/13/21 22:40	10/13/21 22:40	CCE	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1753456	1	10/07/21 15:00	10/13/21 13:28	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1755583	1	10/13/21 10:00	10/13/21 12:00	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1752461	1	10/07/21 01:50	10/07/21 05:46	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1752452	1	10/06/21 16:09	10/07/21 17:57	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1752219	2	10/10/21 15:46	10/13/21 16:39	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1752453	5	10/06/21 16:49	10/06/21 22:11	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1754604	1	10/05/21 16:48	10/12/21 01:15	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1752541	1	10/05/21 16:48	10/07/21 13:47	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1755621	1	10/13/21 02:39	10/13/21 19:28	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1754535	1	10/10/21 16:56	10/11/21 05:31	AAT	Mt. Juliet, TN

PMF 9015 WELLHEAD. L1411915-03 Solid

Collected by: DP | Collected date/time: 09/29/21 09:55 | Received date/time: 10/01/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1752233	1	10/13/21 22:43	10/13/21 22:43	CCE	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1753456	1	10/07/21 15:00	10/13/21 13:33	MCG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1755583	1	10/13/21 10:00	10/13/21 12:00	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1752461	1	10/07/21 01:50	10/07/21 05:46	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1752452	1	10/06/21 16:09	10/07/21 17:59	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1752219	1	10/10/21 15:46	10/13/21 16:42	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1752453	5	10/06/21 16:49	10/06/21 22:15	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1754604	1	10/05/21 16:48	10/12/21 01:40	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1752541	1	10/05/21 16:48	10/07/21 14:06	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1755621	1	10/13/21 02:39	10/13/21 19:53	JAS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1755621	2	10/13/21 02:39	10/14/21 11:11	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1754536	1	10/10/21 16:54	10/11/21 00:21	AAT	Mt. Juliet, TN

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

Chris Ward
Project Manager

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.84		1	10/13/2021 22:37	WG1752233

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	10/13/2021 14:54	WG1753455

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.01	T8	1	10/13/2021 12:00	WG1755583

Sample Narrative:

L1411915-01 WG1755583: 9.01 at 21.4C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	165		10.0	1	10/07/2021 05:46	WG1752461

Sample Narrative:

L1411915-01 WG1752461: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	157		0.0852	0.500	1	10/07/2021 17:53	WG1752452
Cadmium	0.387	J	0.0471	0.500	1	10/07/2021 17:53	WG1752452
Copper	24.6		0.400	2.00	1	10/07/2021 17:53	WG1752452
Lead	11.8		0.208	0.500	1	10/07/2021 17:53	WG1752452
Nickel	12.6		0.132	2.00	1	10/07/2021 17:53	WG1752452
Selenium	U		0.764	2.00	1	10/07/2021 17:53	WG1752452
Silver	U		0.127	1.00	1	10/07/2021 17:53	WG1752452
Zinc	34.8		0.832	5.00	1	10/07/2021 17:53	WG1752452

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.164	J	0.0167	0.200	1	10/13/2021 16:37	WG1752219

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.19		0.100	1.00	5	10/06/2021 22:08	WG1752453

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.103	B	0.0217	0.100	1	10/12/2021 00:52	WG1754604
(S) a,a,a-Trifluorotoluene(FID)	*94.9*			*77.0-120*		*10/12/2021 00:52*	WG1754604

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	10/07/2021 13:28	WG1752541
Toluene	U		0.00130	0.00500	1	10/07/2021 13:28	WG1752541
Ethylbenzene	U		0.000737	0.00250	1	10/07/2021 13:28	WG1752541
Xylenes, Total	U		0.000880	0.00650	1	10/07/2021 13:28	WG1752541
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	10/07/2021 13:28	WG1752541
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	10/07/2021 13:28	WG1752541
(S) Toluene-d8	*105*			*75.0-131*		*10/07/2021 13:28*	WG1752541
(S) 4-Bromofluorobenzene	*94.0*			*67.0-138*		*10/07/2021 13:28*	WG1752541
(S) 1,2-Dichloroethane-d4	*97.4*			*70.0-130*		*10/07/2021 13:28*	WG1752541

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	5.70		1.61	4.00	1	10/12/2021 04:07	WG1754884
C28-C36 Motor Oil Range	5.60		0.274	4.00	1	10/12/2021 04:07	WG1754884
(S) o-Terphenyl	*72.9*			*18.0-148*		*10/12/2021 04:07*	WG1754884

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	10/11/2021 05:13	WG1754535
Acenaphthene	U		0.00209	0.00600	1	10/11/2021 05:13	WG1754535
Acenaphthylene	U		0.00216	0.00600	1	10/11/2021 05:13	WG1754535
Benzo(a)anthracene	U		0.00173	0.00600	1	10/11/2021 05:13	WG1754535
Benzo(a)pyrene	U		0.00179	0.00600	1	10/11/2021 05:13	WG1754535
Benzo(b)fluoranthene	U		0.00153	0.00600	1	10/11/2021 05:13	WG1754535
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	10/11/2021 05:13	WG1754535
Benzo(k)fluoranthene	U		0.00215	0.00600	1	10/11/2021 05:13	WG1754535
Chrysene	U		0.00232	0.00600	1	10/11/2021 05:13	WG1754535
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	10/11/2021 05:13	WG1754535
Fluoranthene	U		0.00227	0.00600	1	10/11/2021 05:13	WG1754535
Fluorene	U		0.00205	0.00600	1	10/11/2021 05:13	WG1754535
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	10/11/2021 05:13	WG1754535
Naphthalene	U		0.00408	0.0200	1	10/11/2021 05:13	WG1754535
Phenanthrene	0.00257	J	0.00231	0.00600	1	10/11/2021 05:13	WG1754535
Pyrene	U		0.00200	0.00600	1	10/11/2021 05:13	WG1754535
1-Methylnaphthalene	U		0.00449	0.0200	1	10/11/2021 05:13	WG1754535
2-Methylnaphthalene	U		0.00427	0.0200	1	10/11/2021 05:13	WG1754535
2-Chloronaphthalene	U		0.00466	0.0200	1	10/11/2021 05:13	WG1754535
(S) p-Terphenyl-d14	*111*			*23.0-120*		*10/11/2021 05:13*	WG1754535
(S) Nitrobenzene-d5	*111*			*14.0-149*		*10/11/2021 05:13*	WG1754535
(S) 2-Fluorobiphenyl	*86.0*			*34.0-125*		*10/11/2021 05:13*	WG1754535

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	30.7		1	10/13/2021 22:40	WG1752233

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	10/13/2021 13:28	WG1753456

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.15	T8	1	10/13/2021 12:00	WG1755583

Sample Narrative:

L1411915-02 WG1755583: 9.15 at 21.4C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	2180		10.0	1	10/07/2021 05:46	WG1752461

Sample Narrative:

L1411915-02 WG1752461: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	128		0.0852	0.500	1	10/07/2021 17:57	WG1752452
Cadmium	0.184	J	0.0471	0.500	1	10/07/2021 17:57	WG1752452
Copper	17.6		0.400	2.00	1	10/07/2021 17:57	WG1752452
Lead	8.26		0.208	0.500	1	10/07/2021 17:57	WG1752452
Nickel	10.1		0.132	2.00	1	10/07/2021 17:57	WG1752452
Selenium	U		0.764	2.00	1	10/07/2021 17:57	WG1752452
Silver	U		0.127	1.00	1	10/07/2021 17:57	WG1752452
Zinc	26.3		0.832	5.00	1	10/07/2021 17:57	WG1752452

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.466		0.0334	0.400	2	10/13/2021 16:39	WG1752219

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.79		0.100	1.00	5	10/06/2021 22:11	WG1752453

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.127	B	0.0217	0.100	1	10/12/2021 01:15	WG1754604
(S) a,a,a-Trifluorotoluene(FID)	*94.2*			*77.0-120*		*10/12/2021 01:15*	WG1754604

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	10/07/2021 13:47	WG1752541
Toluene	U		0.00130	0.00500	1	10/07/2021 13:47	WG1752541
Ethylbenzene	U		0.000737	0.00250	1	10/07/2021 13:47	WG1752541
Xylenes, Total	U		0.000880	0.00650	1	10/07/2021 13:47	WG1752541
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	10/07/2021 13:47	WG1752541
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	10/07/2021 13:47	WG1752541
(S) Toluene-d8	*102*			*75.0-131*		*10/07/2021 13:47*	WG1752541
(S) 4-Bromofluorobenzene	*91.9*			*67.0-138*		*10/07/2021 13:47*	WG1752541
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*		*10/07/2021 13:47*	WG1752541

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	5.71		1.61	4.00	1	10/13/2021 19:28	WG1755621
C28-C36 Motor Oil Range	9.50		0.274	4.00	1	10/13/2021 19:28	WG1755621
(S) o-Terphenyl	*71.5*			*18.0-148*		*10/13/2021 19:28*	WG1755621

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	10/11/2021 05:31	WG1754535
Acenaphthene	U		0.00209	0.00600	1	10/11/2021 05:31	WG1754535
Acenaphthylene	U		0.00216	0.00600	1	10/11/2021 05:31	WG1754535
Benzo(a)anthracene	U		0.00173	0.00600	1	10/11/2021 05:31	WG1754535
Benzo(a)pyrene	U		0.00179	0.00600	1	10/11/2021 05:31	WG1754535
Benzo(b)fluoranthene	U		0.00153	0.00600	1	10/11/2021 05:31	WG1754535
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	10/11/2021 05:31	WG1754535
Benzo(k)fluoranthene	U		0.00215	0.00600	1	10/11/2021 05:31	WG1754535
Chrysene	U		0.00232	0.00600	1	10/11/2021 05:31	WG1754535
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	10/11/2021 05:31	WG1754535
Fluoranthene	U		0.00227	0.00600	1	10/11/2021 05:31	WG1754535
Fluorene	U		0.00205	0.00600	1	10/11/2021 05:31	WG1754535
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	10/11/2021 05:31	WG1754535
Naphthalene	U		0.00408	0.0200	1	10/11/2021 05:31	WG1754535
Phenanthrene	U		0.00231	0.00600	1	10/11/2021 05:31	WG1754535
Pyrene	U		0.00200	0.00600	1	10/11/2021 05:31	WG1754535
1-Methylnaphthalene	U		0.00449	0.0200	1	10/11/2021 05:31	WG1754535
2-Methylnaphthalene	U		0.00427	0.0200	1	10/11/2021 05:31	WG1754535
2-Chloronaphthalene	U		0.00466	0.0200	1	10/11/2021 05:31	WG1754535
(S) p-Terphenyl-d14	*99.3*			*23.0-120*		*10/11/2021 05:31*	WG1754535
(S) Nitrobenzene-d5	*96.3*			*14.0-149*		*10/11/2021 05:31*	WG1754535
(S) 2-Fluorobiphenyl	*79.5*			*34.0-125*		*10/11/2021 05:31*	WG1754535

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	5.23		1	10/13/2021 22:43	WG1752233

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	10/13/2021 13:33	WG1753456

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.09	T8	1	10/13/2021 12:00	WG1755583

Sample Narrative:

L1411915-03 WG1755583: 9.09 at 21.2C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	423		10.0	1	10/07/2021 05:46	WG1752461

Sample Narrative:

L1411915-03 WG1752461: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	341		0.0852	0.500	1	10/07/2021 17:59	WG1752452
Cadmium	1.43		0.0471	0.500	1	10/07/2021 17:59	WG1752452
Copper	21.5		0.400	2.00	1	10/07/2021 17:59	WG1752452
Lead	32.6		0.208	0.500	1	10/07/2021 17:59	WG1752452
Nickel	11.1		0.132	2.00	1	10/07/2021 17:59	WG1752452
Selenium	U		0.764	2.00	1	10/07/2021 17:59	WG1752452
Silver	U		0.127	1.00	1	10/07/2021 17:59	WG1752452
Zinc	217		0.832	5.00	1	10/07/2021 17:59	WG1752452

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.251		0.0167	0.200	1	10/13/2021 16:42	WG1752219

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.32		0.100	1.00	5	10/06/2021 22:15	WG1752453

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.172	B	0.0217	0.100	1	10/12/2021 01:40	WG1754604
(S) a,a,a-Trifluorotoluene(FID)	*89.6*			*77.0-120*		*10/12/2021 01:40*	WG1754604

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	10/07/2021 14:06	WG1752541
Toluene	U		0.00130	0.00500	1	10/07/2021 14:06	WG1752541
Ethylbenzene	U		0.000737	0.00250	1	10/07/2021 14:06	WG1752541
Xylenes, Total	U		0.000880	0.00650	1	10/07/2021 14:06	WG1752541
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	10/07/2021 14:06	WG1752541
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	10/07/2021 14:06	WG1752541
(S) Toluene-d8	*102*			*75.0-131*		*10/07/2021 14:06*	WG1752541
(S) 4-Bromofluorobenzene	*95.7*			*67.0-138*		*10/07/2021 14:06*	WG1752541
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*10/07/2021 14:06*	WG1752541

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	96.3		1.61	4.00	1	10/13/2021 19:53	WG1755621
C28-C36 Motor Oil Range	156		0.548	8.00	2	10/14/2021 11:11	WG1755621
(S) o-Terphenyl	*44.7*			*18.0-148*		*10/13/2021 19:53*	WG1755621
(S) o-Terphenyl	*55.7*			*18.0-148*		*10/14/2021 11:11*	WG1755621

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	0.00263	J	0.00230	0.00600	1	10/11/2021 00:21	WG1754536
Acenaphthene	U		0.00209	0.00600	1	10/11/2021 00:21	WG1754536
Acenaphthylene	U		0.00216	0.00600	1	10/11/2021 00:21	WG1754536
Benzo(a)anthracene	U		0.00173	0.00600	1	10/11/2021 00:21	WG1754536
Benzo(a)pyrene	U		0.00179	0.00600	1	10/11/2021 00:21	WG1754536
Benzo(b)fluoranthene	U		0.00153	0.00600	1	10/11/2021 00:21	WG1754536
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	10/11/2021 00:21	WG1754536
Benzo(k)fluoranthene	U		0.00215	0.00600	1	10/11/2021 00:21	WG1754536
Chrysene	U		0.00232	0.00600	1	10/11/2021 00:21	WG1754536
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	10/11/2021 00:21	WG1754536
Fluoranthene	U		0.00227	0.00600	1	10/11/2021 00:21	WG1754536
Fluorene	U		0.00205	0.00600	1	10/11/2021 00:21	WG1754536
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	10/11/2021 00:21	WG1754536
Naphthalene	0.00537	J	0.00408	0.0200	1	10/11/2021 00:21	WG1754536
Phenanthrene	0.00395	J	0.00231	0.00600	1	10/11/2021 00:21	WG1754536
Pyrene	0.00222	J	0.00200	0.00600	1	10/11/2021 00:21	WG1754536
1-Methylnaphthalene	0.00886	J	0.00449	0.0200	1	10/11/2021 00:21	WG1754536
2-Methylnaphthalene	0.0172	J	0.00427	0.0200	1	10/11/2021 00:21	WG1754536
2-Chloronaphthalene	U		0.00466	0.0200	1	10/11/2021 00:21	WG1754536
(S) p-Terphenyl-d14	*110*			*23.0-120*		*10/11/2021 00:21*	WG1754536
(S) Nitrobenzene-d5	*79.4*			*14.0-149*		*10/11/2021 00:21*	WG1754536
(S) 2-Fluorobiphenyl	*82.0*			*34.0-125*		*10/11/2021 00:21*	WG1754536

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

Method Blank (MB)

(MB) R3716531-1 10/13/21 10:57

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Hexavalent Chromium	U		0.255	1.00

L1411900-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1411900-01 10/13/21 14:33 • (DUP) R3716531-3 10/13/21 14:38

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	U	U	1	0.000		20

L1412317-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1412317-01 10/13/21 15:04 • (DUP) R3716531-4 10/13/21 15:09

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	0.275	0.429	1	44.0	J P1	20

Laboratory Control Sample (LCS)

(LCS) R3716531-2 10/13/21 11:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	10.6	106	80.0-120	

L1412007-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1412007-01 10/13/21 15:25 • (MS) R3716531-5 10/13/21 15:30 • (MSD) R3716531-6 10/13/21 15:35

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	20.0	18.8	42.7	42.8	120	120	1	75.0-125	E	E	0.184	20

L1412008-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1412008-01 10/13/21 15:51 • (MS) R3716531-9 10/13/21 15:56 • (MSD) R3716531-10 10/13/21 16:01

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	20.0	U	12.4	12.2	62.1	61.1	1	75.0-125	J6	J6	1.64	20

L1412007-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1412007-01 10/13/21 15:25 • (MS) R3716531-7 10/13/21 15:41

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	686	18.8	749	106	50	75.0-125	

L1412008-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1412008-01 10/13/21 15:51 • (MS) R3716531-11 10/13/21 16:07

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	667	U	566	84.8	50	75.0-125	

Method Blank (MB)

(MB) R3716532-1 10/13/21 11:28

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Hexavalent Chromium	U		0.255	1.00

L1412766-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1412766-05 10/13/21 13:12 • (DUP) R3716532-7 10/13/21 13:17

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	U	U	1	0.000		20

L1411915-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1411915-03 10/13/21 13:33 • (DUP) R3716532-8 10/13/21 13:38

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3716532-2 10/13/21 11:34

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	11.0	110	80.0-120	

L1412425-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1412425-01 10/13/21 12:00 • (MS) R3716532-3 10/13/21 12:05 • (MSD) R3716532-4 10/13/21 12:10

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	20.0	U	15.8	17.8	79.2	88.8	1	75.0-125			11.4	20

L1412425-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1412425-01 10/13/21 12:00 • (MS) R3716532-5 10/13/21 12:15

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	659	U	686	104	50	75.0-125	

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3715818-2 10/13/21 12:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
		su		%		%
pH		10.0	1	0.200		1

Sample Narrative:

DUP: 10.01 at 21.4C

Laboratory Control Sample (LCS)

(LCS) R3715818-1 10/13/21 12:00

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

Sample Narrative:

LCS: 10.04 at 20.6C

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

Method Blank (MB)

(MB) R3713366-1 10/07/21 05:46

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

Sample Narrative:
BLANK: at 25C

L1411915-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1411915-02 10/07/21 05:46 • (DUP) R3713366-3 10/07/21 05:46

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	2180	2090	1	4.07		20

Sample Narrative:
OS: at 25C
DUP: at 25C

L1411945-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1411945-01 10/07/21 05:46 • (DUP) R3713366-4 10/07/21 05:46

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	1110	1100	1	0.818		20

Sample Narrative:
OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3713366-2 10/07/21 05:46

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	268	276	103	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R3713922-1 10/07/21 17:06

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Barium	U		0.0852	0.500
Cadmium	U		0.0471	0.500
Copper	U		0.400	2.00
Lead	U		0.208	0.500
Nickel	U		0.132	2.00
Selenium	U		0.764	2.00
Silver	U		0.127	1.00
Zinc	U		0.832	5.00

Laboratory Control Sample (LCS)

(LCS) R3713922-2 10/07/21 17:09

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	100	97.0	97.0	80.0-120	
Cadmium	100	92.2	92.2	80.0-120	
Copper	100	98.4	98.4	80.0-120	
Lead	100	92.1	92.1	80.0-120	
Nickel	100	92.3	92.3	80.0-120	
Selenium	100	89.6	89.6	80.0-120	
Silver	20.0	18.1	90.5	80.0-120	
Zinc	100	91.0	91.0	80.0-120	

L1411649-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1411649-03 10/07/21 17:12 • (MS) R3713922-5 10/07/21 17:21 • (MSD) R3713922-6 10/07/21 17:24

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Barium	100	173	249	261	75.8	87.8	1	75.0-125			4.70	20
Cadmium	100	0.482	94.5	96.6	94.0	96.1	1	75.0-125			2.22	20
Copper	100	17.9	113	115	94.7	96.6	1	75.0-125			1.72	20
Lead	100	12.2	105	108	92.5	95.4	1	75.0-125			2.72	20
Nickel	100	15.6	109	111	93.4	95.7	1	75.0-125			2.02	20
Selenium	100	U	78.5	81.2	78.5	81.2	1	75.0-125			3.38	20
Silver	20.0	U	18.4	18.6	91.8	93.1	1	75.0-125			1.46	20
Zinc	100	53.5	130	134	77.0	80.6	1	75.0-125			2.76	20

Method Blank (MB)

(MB) R3716176-1 10/13/21 16:28

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Hot Water Sol. Boron	U		0.0167	0.200

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

(LCS) R3716176-2 10/13/21 16:31 • (LCSD) R3716176-3 10/13/21 16:34

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 %
Hot Water Sol. Boron	1.00	1.04	1.11	104	111	80.0-120			7.01	20

Method Blank (MB)

(MB) R3713327-1 10/06/21 21:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00

Laboratory Control Sample (LCS)

(LCS) R3713327-2 10/06/21 21:14

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	95.2	95.2	80.0-120	

L1411649-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1411649-03 10/06/21 21:17 • (MS) R3713327-5 10/06/21 21:27 • (MSD) R3713327-6 10/06/21 21:30

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	4.76	90.9	93.1	86.1	88.3	5	75.0-125			2.39	20

Method Blank (MB)

(MB) R3715919-2 10/11/21 16:59

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0312	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*99.1*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3715919-1 10/11/21 16:14

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	6.12	111	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*112*	*77.0-120*	

Method Blank (MB)

(MB) R3718621-2 10/07/21 09:05

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	*105*			*75.0-131*
(S) 4-Bromofluorobenzene	*96.4*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*101*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3718621-1 10/07/21 08:07

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.108	86.4	70.0-123	
Ethylbenzene	0.125	0.113	90.4	74.0-126	
Toluene	0.125	0.109	87.2	75.0-121	
1,2,4-Trimethylbenzene	0.125	0.106	84.8	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.111	88.8	73.0-127	
Xylenes, Total	0.375	0.334	89.1	72.0-127	
(S) Toluene-d8			*101*	*75.0-131*	
(S) 4-Bromofluorobenzene			*96.8*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*110*	*70.0-130*	

L1411917-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1411917-05 10/07/21 15:41 • (MS) R3718621-3 10/07/21 16:57 • (MSD) R3718621-4 10/07/21 17:27

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.124	U	0.0551	0.123	44.4	99.2	1	10.0-149		J3	76.2	37
Ethylbenzene	0.124	U	0.0543	0.129	43.8	104	1	10.0-160		J3	81.5	38
Toluene	0.124	U	0.0527	0.129	42.5	104	1	10.0-156		J3	84.0	38
1,2,4-Trimethylbenzene	0.124	U	0.0557	0.126	44.9	102	1	10.0-160		J3	77.4	36
1,3,5-Trimethylbenzene	0.124	U	0.0546	0.137	44.0	110	1	10.0-160		J3	86.0	38
Xylenes, Total	0.372	U	0.163	0.360	43.8	96.8	1	10.0-160		J3	75.3	38
(S) Toluene-d8					*105*	*103*		*75.0-131*				
(S) 4-Bromofluorobenzene					*96.9*	*93.4*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*111*	*111*		*70.0-130*				

Method Blank (MB)

(MB) R3715252-1 10/12/21 03:42

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	U		0.274	4.00
(S) o-Terphenyl	*80.5*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3715252-2 10/12/21 03:54

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	40.9	81.8	50.0-150	
(S) o-Terphenyl			*85.6*	*18.0-148*	

Method Blank (MB)

(MB) R3716289-1 10/13/21 16:35

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	0.322	J	0.274	4.00
(S) o-Terphenyl	*73.4*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3716289-2 10/13/21 16:47

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	41.1	82.2	50.0-150	
(S) o-Terphenyl			*85.1*	*18.0-148*	

L1411917-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1411917-04 10/13/21 18:27 • (MS) R3716289-3 10/13/21 18:39 • (MSD) R3716289-4 10/13/21 18:51

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	48.6	U	28.4	34.1	58.4	69.6	1	50.0-150			18.2	20
(S) o-Terphenyl					*62.5*	*72.2*		*18.0-148*				

Method Blank (MB)

(MB) R3714632-2 10/10/21 23:08

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	*115*			*14.0-149*
(S) 2-Fluorobiphenyl	*93.8*			*34.0-125*
(S) p-Terphenyl-d14	*118*			*23.0-120*

Laboratory Control Sample (LCS)

(LCS) R3714632-1 10/10/21 22:51

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0664	83.0	50.0-126	
Acenaphthene	0.0800	0.0709	88.6	50.0-120	
Acenaphthylene	0.0800	0.0678	84.8	50.0-120	
Benzo(a)anthracene	0.0800	0.0694	86.8	45.0-120	
Benzo(a)pyrene	0.0800	0.0610	76.3	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0803	100	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0757	94.6	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0800	100	49.0-125	
Chrysene	0.0800	0.0758	94.8	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0719	89.9	47.0-125	
Fluoranthene	0.0800	0.0727	90.9	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3714632-1 10/10/21 22:51

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0739	92.4	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0685	85.6	46.0-125	
Naphthalene	0.0800	0.0707	88.4	50.0-120	
Phenanthrene	0.0800	0.0755	94.4	47.0-120	
Pyrene	0.0800	0.0768	96.0	43.0-123	
1-Methylnaphthalene	0.0800	0.0710	88.8	51.0-121	
2-Methylnaphthalene	0.0800	0.0688	86.0	50.0-120	
2-Chloronaphthalene	0.0800	0.0717	89.6	50.0-120	
(S) Nitrobenzene-d5			*122*	*14.0-149*	
(S) 2-Fluorobiphenyl			*95.4*	*34.0-125*	
(S) p-Terphenyl-d14			*116*	*23.0-120*	

L1411697-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1411697-08 10/10/21 23:26 • (MS) R3714632-3 10/10/21 23:43 • (MSD) R3714632-4 10/11/21 00:00

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0800	U	0.0576	0.0562	72.0	70.6	1	10.0-145			2.46	30
Acenaphthene	0.0800	U	0.0643	0.0625	80.4	78.5	1	14.0-127			2.84	27
Acenaphthylene	0.0800	U	0.0608	0.0597	76.0	75.0	1	21.0-124			1.83	25
Benzo(a)anthracene	0.0800	U	0.0595	0.0569	74.4	71.5	1	10.0-139			4.47	30
Benzo(a)pyrene	0.0800	U	0.0629	0.0593	78.6	74.5	1	10.0-141			5.89	31
Benzo(b)fluoranthene	0.0800	U	0.0730	0.0707	91.3	88.8	1	10.0-140			3.20	36
Benzo(g,h,i)perylene	0.0800	U	0.0701	0.0657	87.6	82.5	1	10.0-140			6.48	33
Benzo(k)fluoranthene	0.0800	U	0.0722	0.0661	90.3	83.0	1	10.0-137			8.82	31
Chrysene	0.0800	U	0.0701	0.0656	87.6	82.4	1	10.0-145			6.63	30
Dibenz(a,h)anthracene	0.0800	U	0.0643	0.0609	80.4	76.5	1	10.0-132			5.43	31
Fluoranthene	0.0800	U	0.0649	0.0626	81.1	78.6	1	10.0-153			3.61	33
Fluorene	0.0800	U	0.0668	0.0660	83.5	82.9	1	11.0-130			1.20	29
Indeno(1,2,3-cd)pyrene	0.0800	U	0.0613	0.0559	76.6	70.2	1	10.0-137			9.22	32
Naphthalene	0.0800	U	0.0641	0.0629	80.1	79.0	1	10.0-135			1.89	27
Phenanthrene	0.0800	U	0.0685	0.0663	85.6	83.3	1	10.0-144			3.26	31
Pyrene	0.0800	U	0.0707	0.0683	88.4	85.8	1	10.0-148			3.45	35
1-Methylnaphthalene	0.0800	U	0.0644	0.0634	80.5	79.6	1	10.0-142			1.56	28
2-Methylnaphthalene	0.0800	U	0.0617	0.0605	77.1	76.0	1	10.0-137			1.96	28
2-Chloronaphthalene	0.0800	U	0.0651	0.0634	81.4	79.6	1	29.0-120			2.65	24
(S) Nitrobenzene-d5					*104*	*104*		*14.0-149*				
(S) 2-Fluorobiphenyl					*85.9*	*86.1*		*34.0-125*				
(S) p-Terphenyl-d14					*105*	*104*		*23.0-120*				

Method Blank (MB)

(MB) R3714674-2 10/10/21 23:01

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	*84.5*			*14.0-149*
(S) 2-Fluorobiphenyl	*96.3*			*34.0-125*
(S) p-Terphenyl-d14	*139*	J1		*23.0-120*

Laboratory Control Sample (LCS)

(LCS) R3714674-1 10/10/21 22:41

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0772	96.5	50.0-126	
Acenaphthene	0.0800	0.0798	99.8	50.0-120	
Acenaphthylene	0.0800	0.0858	107	50.0-120	
Benzo(a)anthracene	0.0800	0.0762	95.3	45.0-120	
Benzo(a)pyrene	0.0800	0.0728	91.0	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0810	101	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0836	105	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0861	108	49.0-125	
Chrysene	0.0800	0.0826	103	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0838	105	47.0-125	
Fluoranthene	0.0800	0.0838	105	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3714674-1 10/10/21 22:41

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0781	97.6	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0774	96.8	46.0-125	
Naphthalene	0.0800	0.0792	99.0	50.0-120	
Phenanthrene	0.0800	0.0799	99.9	47.0-120	
Pyrene	0.0800	0.0871	109	43.0-123	
1-Methylnaphthalene	0.0800	0.0842	105	51.0-121	
2-Methylnaphthalene	0.0800	0.0768	96.0	50.0-120	
2-Chloronaphthalene	0.0800	0.0733	91.6	50.0-120	
(S) Nitrobenzene-d5			*92.6*	*14.0-149*	
(S) 2-Fluorobiphenyl			*100*	*34.0-125*	
(S) p-Terphenyl-d14			*128*	*23.0-120*	J1

L1411917-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1411917-05 10/10/21 23:21 • (MS) R3714674-3 10/10/21 23:41 • (MSD) R3714674-4 10/11/21 00:01

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0784	U	0.0579	0.0612	73.9	76.9	1	10.0-145			5.54	30
Acenaphthene	0.0784	U	0.0640	0.0656	81.6	82.4	1	14.0-127			2.47	27
Acenaphthylene	0.0784	U	0.0670	0.0695	85.5	87.3	1	21.0-124			3.66	25
Benzo(a)anthracene	0.0784	U	0.0569	0.0625	72.6	78.5	1	10.0-139			9.38	30
Benzo(a)pyrene	0.0784	U	0.0627	0.0679	80.0	85.3	1	10.0-141			7.96	31
Benzo(b)fluoranthene	0.0784	U	0.0590	0.0635	75.3	79.8	1	10.0-140			7.35	36
Benzo(g,h,i)perylene	0.0784	U	0.0651	0.0706	83.0	88.7	1	10.0-140			8.11	33
Benzo(k)fluoranthene	0.0784	U	0.0586	0.0655	74.7	82.3	1	10.0-137			11.1	31
Chrysene	0.0784	U	0.0613	0.0674	78.2	84.7	1	10.0-145			9.48	30
Dibenz(a,h)anthracene	0.0784	U	0.0553	0.0596	70.5	74.9	1	10.0-132			7.48	31
Fluoranthene	0.0784	U	0.0643	0.0686	82.0	86.2	1	10.0-153			6.47	33
Fluorene	0.0784	U	0.0618	0.0642	78.8	80.7	1	11.0-130			3.81	29
Indeno(1,2,3-cd)pyrene	0.0784	U	0.0587	0.0651	74.9	81.8	1	10.0-137			10.3	32
Naphthalene	0.0784	U	0.0597	0.0636	76.1	79.9	1	10.0-135			6.33	27
Phenanthrene	0.0784	U	0.0589	0.0632	75.1	79.4	1	10.0-144			7.04	31
Pyrene	0.0784	U	0.0678	0.0743	86.5	93.3	1	10.0-148			9.15	35
1-Methylnaphthalene	0.0784	U	0.0657	0.0704	83.8	88.4	1	10.0-142			6.91	28
2-Methylnaphthalene	0.0784	U	0.0574	0.0607	73.2	76.3	1	10.0-137			5.59	28
2-Chloronaphthalene	0.0784	U	0.0561	0.0598	71.6	75.1	1	29.0-120			6.38	24
(S) Nitrobenzene-d5					*67.6*	*75.4*		*14.0-149*				
(S) 2-Fluorobiphenyl					*78.1*	*85.4*		*34.0-125*				
(S) p-Terphenyl-d14					*101*	*113*		*23.0-120*				

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.

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.
(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
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
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.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
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	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
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

* 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 Analytical.

UTAH GAS CORP
***UTAHGASRCO**

Billing Information:
Ronnie Plummer
1125 Escalante Dr
Rangely, CO 81648

Pres Chk

Report to: **Ronnie Plummer / Rob Bleil**

Email To: **rplummer@uthgascorp.com**

Project Description: PMF 9015 PLA

City/State Collected:

Please Circle: PT MT CT ET

Phone: **970-629-3520**

Client Project #: PMF 9015

Lab Project #

Collected by (print): DAVID POLLACK

Site/Facility ID #: PMF 9015

P.O. #

Collected by (signature): Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Table915 GRO/DRO/ORO 4ozClr-NoPres	Table915 Metals 4ozClr-NoPres	Table915 PAHs 4ozClr-NoPres	Table915 VOCs 4ozClr-NoPres	Table915 pH SPCONSAR 4ozClr-NoPres							Remarks	Sample # (lab only)
PMF 9015 Meter	Grab	SS	6"	9/29/21	945	3	X	X	X	X	X								01
PMF 9015 Separator	↓	SS	6"	↓	950	3													02
PMF 9015 Wellhead	↓	SS	4'	↓	955	3													03

Chain of Custody Page 1 of 1

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1411900 L1411915
D178
Table
Acctnum:
Template:
Prelogin:
PM: **824 - Chris Ward**
PB:
Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 5016 1232 2816

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Dan J Pollack	9/29/21	1800	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	9/29/21	1800	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
	9/29/21	1500	Bailee Kolva

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 3.1 °C Bottles Received: 9

Date: 10/1/21 Time: 0908

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

10/01/21 - NCF L1411900 UTAHGASRCO

R5

Time estimate: oh **Time spent:** oh

Members

Matthew Shacklock (responsible) Chris Ward

- [x] Login Clarification needed
- [ ] Chain of custody is incomplete
- [ ] Please specify Metals requested
- [ ] Please specify TCLP requested
- [ ] Received additional samples not listed on COC
- [ ] Sample IDs on containers do not match IDs on COC
- [ ] Client did not "X" analysis
- [ ] Chain of Custody is missing
- [ ] If no COC: Received by:_____
- [ ] If no COC: Date/Time:_____
- [ ] If no COC: Temp./Cont.Rec./pH:_____
- [ ] If no COC: Carrier:_____
- [ ] If no COC: Tracking #:_____
- [ ] Client informed by call
- [ ] Client informed by Email
- [ ] Client informed by Voicemail
- [ ] Date/Time:_____
- [ ] PM initials:_____
- [ ] Client Contact:_____

Comments

Chris Ward *1 October 2021 3:45 PM*

Wrong Chris
Do we have 2 of the jars remaining or were all three broken?

Matthew Shacklock *1 October 2021 3:50 PM*

wrong comment.
This should say Last 2 IDs not marked. My bad

Chris Ward *1 October 2021 3:51 PM*

Oh, go ahead and log for the same as the first ID.

Matthew Shacklock *1 October 2021 4:19 PM*

Done

ANALYTICAL REPORT

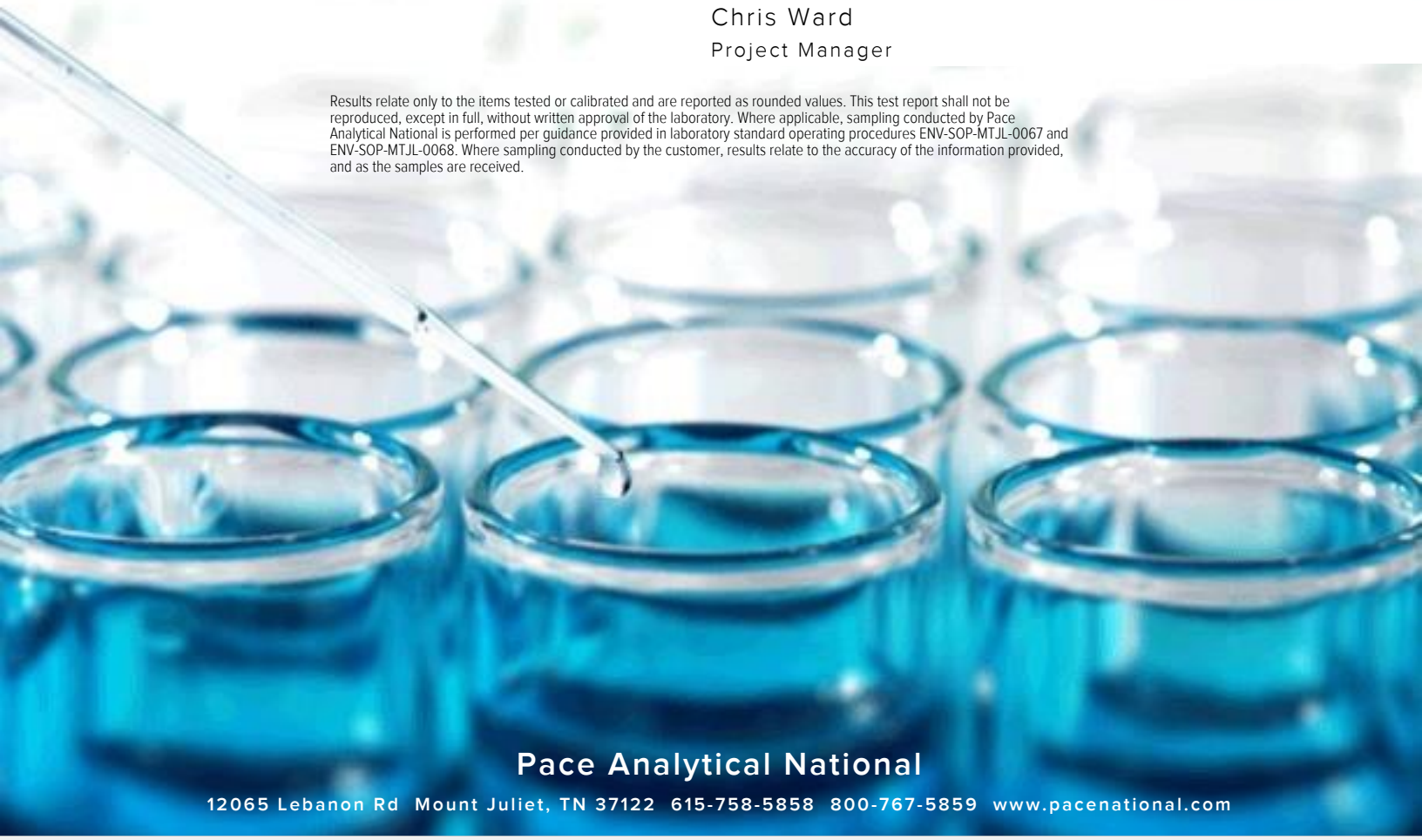
December 07, 2021

Utah Gas Corporation

Sample Delivery Group:	L1434125
Samples Received:	11/20/2021
Project Number:	PMF 9015 PIT
Description:	PMF 9015 Pit
Site:	PMF 9015
Report To:	Robert Bleil 1125 Escalante Drive Rangely, CO 81648

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

PMF 9015 NWALL L1434125-01 Solid

Collected by: Dana Pollack | Collected date/time: 11/17/21 00:00 | Received date/time: 11/20/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1778876	1	11/27/21 12:11	11/27/21 12:11	EL	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1780720	1	11/28/21 10:43	12/06/21 12:12	JER	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1780800	1	11/28/21 10:07	11/28/21 12:00	SDE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1780170	1	11/25/21 07:46	11/25/21 12:13	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1781453	1	11/30/21 10:45	11/30/21 22:28	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1778873	1	11/25/21 10:31	11/27/21 10:37	KMG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1781452	5	11/30/21 10:25	11/30/21 21:16	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1779467	1	11/23/21 17:00	11/24/21 13:31	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1780030	1	11/23/21 17:00	11/24/21 20:14	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1780879	1	11/29/21 22:42	11/30/21 20:38	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1781306	1	11/30/21 07:10	11/30/21 21:33	LEA	Mt. Juliet, TN

PMF 9015 EWALL L1434125-02 Solid

Collected by: Dana Pollack | Collected date/time: 11/17/21 00:00 | Received date/time: 11/20/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1778876	1	11/27/21 12:14	11/27/21 12:14	EL	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1780719	1	11/28/21 09:55	12/06/21 16:10	JER	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1780800	1	11/28/21 10:07	11/28/21 12:00	SDE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1780170	1	11/25/21 07:46	11/25/21 12:13	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1781453	1	11/30/21 10:45	11/30/21 22:36	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1778873	1	11/25/21 10:31	11/27/21 10:40	KMG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1781452	5	11/30/21 10:25	11/30/21 21:19	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1779467	1	11/23/21 17:00	11/24/21 13:53	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1780030	1	11/23/21 17:00	11/24/21 20:33	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1780879	1	11/29/21 22:42	11/30/21 20:25	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1781306	1	11/30/21 07:10	11/30/21 21:50	LEA	Mt. Juliet, TN

PMF 9015 SWALL L1434125-03 Solid

Collected by: Dana Pollack | Collected date/time: 11/17/21 00:00 | Received date/time: 11/20/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1778876	1	11/27/21 12:16	11/27/21 12:16	EL	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1780720	1	11/28/21 10:43	12/06/21 12:17	JER	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1780800	1	11/28/21 10:07	11/28/21 12:00	SDE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1780170	1	11/25/21 07:46	11/25/21 12:13	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1781453	1	11/30/21 10:45	11/30/21 22:07	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1778873	1	11/25/21 10:31	11/27/21 10:43	KMG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1781452	5	11/30/21 10:25	11/30/21 20:58	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1779467	1	11/23/21 17:00	11/24/21 14:58	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1780030	1	11/23/21 17:00	11/24/21 20:52	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1780879	1	11/29/21 22:42	11/30/21 22:08	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1781306	1	11/30/21 07:10	11/30/21 22:08	LEA	Mt. Juliet, TN

PMF 9015 WWALL L1434125-04 Solid

Collected by: Dana Pollack | Collected date/time: 11/17/21 00:00 | Received date/time: 11/20/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1778876	1	11/27/21 12:19	11/27/21 12:19	EL	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1780719	1	11/28/21 09:55	12/06/21 16:16	JER	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1780800	1	11/28/21 10:07	11/28/21 12:00	SDE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1780170	1	11/25/21 07:46	11/25/21 12:13	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1781453	1	11/30/21 10:45	11/30/21 22:39	EL	Mt. Juliet, TN

PMF 9015 WWALL L1434125-04 Solid

Collected by: Dana Pollack | Collected date/time: 11/17/21 00:00 | Received date/time: 11/20/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1778873	1	11/25/21 10:31	11/27/21 10:46	KMG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1781452	5	11/30/21 10:25	11/30/21 21:23	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1779467	1	11/23/21 17:00	11/24/21 15:41	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1780030	1	11/23/21 17:00	11/24/21 21:11	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1780879	1	11/29/21 22:42	11/30/21 21:17	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1781306	1	11/30/21 07:10	11/30/21 22:25	LEA	Mt. Juliet, TN

PMF 9015 PIT BOT L1434125-05 Solid

Collected by: Dana Pollack | Collected date/time: 11/17/21 00:00 | Received date/time: 11/20/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1778876	1	11/27/21 12:22	11/27/21 12:22	EL	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1780720	1	11/28/21 10:43	12/06/21 12:32	JER	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1780800	1	11/28/21 10:07	11/28/21 12:00	SDE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1780170	1	11/25/21 07:46	11/25/21 12:13	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1781453	1	11/30/21 10:45	11/30/21 22:42	EL	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1778873	1	11/25/21 10:31	11/27/21 10:49	KMG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1781452	5	11/30/21 10:25	11/30/21 21:35	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1779467	1	11/23/21 17:00	11/24/21 16:02	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1780030	1	11/23/21 17:00	11/24/21 21:30	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1780879	1	11/29/21 22:42	11/30/21 19:20	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1781306	1	11/30/21 07:10	11/30/21 22:42	LEA	Mt. Juliet, TN

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 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.

Chris Ward
Project Manager

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	3.35		1	11/27/2021 12:11	WG1778876

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	12/06/2021 12:12	WG1780720

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.10	T8	1	11/28/2021 12:00	WG1780800

Sample Narrative:

L1434125-01 WG1780800: 9.1 at 19.7C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	404		10.0	1	11/25/2021 12:13	WG1780170

Sample Narrative:

L1434125-01 WG1780170: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	148		0.0852	0.500	1	11/30/2021 22:28	WG1781453
Cadmium	0.344	J	0.0471	0.500	1	11/30/2021 22:28	WG1781453
Copper	20.3		0.400	2.00	1	11/30/2021 22:28	WG1781453
Lead	10.5		0.208	0.500	1	11/30/2021 22:28	WG1781453
Nickel	13.2		0.132	2.00	1	11/30/2021 22:28	WG1781453
Selenium	U		0.764	2.00	1	11/30/2021 22:28	WG1781453
Silver	U		0.127	1.00	1	11/30/2021 22:28	WG1781453
Zinc	44.0		0.832	5.00	1	11/30/2021 22:28	WG1781453

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.362		0.0167	0.200	1	11/27/2021 10:37	WG1778873

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	7.34		0.100	1.00	5	11/30/2021 21:16	WG1781452

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.237		0.0217	0.100	1	11/24/2021 13:31	WG1779467
(S) a,a,a-Trifluorotoluene(FID)	*102*			*77.0-120*		*11/24/2021 13:31*	WG1779467

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	11/24/2021 20:14	WG1780030
Toluene	U		0.00130	0.00500	1	11/24/2021 20:14	WG1780030
Ethylbenzene	U		0.000737	0.00250	1	11/24/2021 20:14	WG1780030
Xylenes, Total	U		0.000880	0.00650	1	11/24/2021 20:14	WG1780030
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	11/24/2021 20:14	WG1780030
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	11/24/2021 20:14	WG1780030
(S) Toluene-d8	*103*			*75.0-131*		*11/24/2021 20:14*	WG1780030
(S) 4-Bromofluorobenzene	*99.2*			*67.0-138*		*11/24/2021 20:14*	WG1780030
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*		*11/24/2021 20:14*	WG1780030

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	5.57		1.61	4.00	1	11/30/2021 20:38	WG1780879
C28-C36 Motor Oil Range	20.6		0.274	4.00	1	11/30/2021 20:38	WG1780879
(S) o-Terphenyl	*74.1*			*18.0-148*		*11/30/2021 20:38*	WG1780879

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	11/30/2021 21:33	WG1781306
Acenaphthene	U		0.00209	0.00600	1	11/30/2021 21:33	WG1781306
Acenaphthylene	U		0.00216	0.00600	1	11/30/2021 21:33	WG1781306
Benzo(a)anthracene	U		0.00173	0.00600	1	11/30/2021 21:33	WG1781306
Benzo(a)pyrene	U		0.00179	0.00600	1	11/30/2021 21:33	WG1781306
Benzo(b)fluoranthene	U		0.00153	0.00600	1	11/30/2021 21:33	WG1781306
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	11/30/2021 21:33	WG1781306
Benzo(k)fluoranthene	U		0.00215	0.00600	1	11/30/2021 21:33	WG1781306
Chrysene	U		0.00232	0.00600	1	11/30/2021 21:33	WG1781306
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	11/30/2021 21:33	WG1781306
Fluoranthene	U		0.00227	0.00600	1	11/30/2021 21:33	WG1781306
Fluorene	U		0.00205	0.00600	1	11/30/2021 21:33	WG1781306
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	11/30/2021 21:33	WG1781306
Naphthalene	U		0.00408	0.0200	1	11/30/2021 21:33	WG1781306
Phenanthrene	U		0.00231	0.00600	1	11/30/2021 21:33	WG1781306
Pyrene	U		0.00200	0.00600	1	11/30/2021 21:33	WG1781306
1-Methylnaphthalene	U		0.00449	0.0200	1	11/30/2021 21:33	WG1781306
2-Methylnaphthalene	U		0.00427	0.0200	1	11/30/2021 21:33	WG1781306
2-Chloronaphthalene	U		0.00466	0.0200	1	11/30/2021 21:33	WG1781306
(S) p-Terphenyl-d14	*118*			*23.0-120*		*11/30/2021 21:33*	WG1781306
(S) Nitrobenzene-d5	*65.7*			*14.0-149*		*11/30/2021 21:33*	WG1781306
(S) 2-Fluorobiphenyl	*93.1*			*34.0-125*		*11/30/2021 21:33*	WG1781306

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	9.42		1	11/27/2021 12:14	WG1778876

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	12/06/2021 16:10	WG1780719

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.28	T8	1	11/28/2021 12:00	WG1780800

Sample Narrative:

L1434125-02 WG1780800: 9.28 at 19.6C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	231		10.0	1	11/25/2021 12:13	WG1780170

Sample Narrative:

L1434125-02 WG1780170: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	115		0.0852	0.500	1	11/30/2021 22:36	WG1781453
Cadmium	0.295	J	0.0471	0.500	1	11/30/2021 22:36	WG1781453
Copper	17.8		0.400	2.00	1	11/30/2021 22:36	WG1781453
Lead	10.5		0.208	0.500	1	11/30/2021 22:36	WG1781453
Nickel	12.7		0.132	2.00	1	11/30/2021 22:36	WG1781453
Selenium	U		0.764	2.00	1	11/30/2021 22:36	WG1781453
Silver	U		0.127	1.00	1	11/30/2021 22:36	WG1781453
Zinc	39.2		0.832	5.00	1	11/30/2021 22:36	WG1781453

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.464		0.0167	0.200	1	11/27/2021 10:40	WG1778873

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.37		0.100	1.00	5	11/30/2021 21:19	WG1781452

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.207		0.0217	0.100	1	11/24/2021 13:53	WG1779467
(S) a,a,a-Trifluorotoluene(FID)	*102*			*77.0-120*		*11/24/2021 13:53*	WG1779467

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	11/24/2021 20:33	WG1780030
Toluene	U		0.00130	0.00500	1	11/24/2021 20:33	WG1780030
Ethylbenzene	U		0.000737	0.00250	1	11/24/2021 20:33	WG1780030
Xylenes, Total	U		0.000880	0.00650	1	11/24/2021 20:33	WG1780030
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	11/24/2021 20:33	WG1780030
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	11/24/2021 20:33	WG1780030
(S) Toluene-d8	*102*			*75.0-131*		*11/24/2021 20:33*	WG1780030
(S) 4-Bromofluorobenzene	*100*			*67.0-138*		*11/24/2021 20:33*	WG1780030
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*11/24/2021 20:33*	WG1780030

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	4.62		1.61	4.00	1	11/30/2021 20:25	WG1780879
C28-C36 Motor Oil Range	15.2		0.274	4.00	1	11/30/2021 20:25	WG1780879
(S) o-Terphenyl	*75.2*			*18.0-148*		*11/30/2021 20:25*	WG1780879

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	11/30/2021 21:50	WG1781306
Acenaphthene	U		0.00209	0.00600	1	11/30/2021 21:50	WG1781306
Acenaphthylene	U		0.00216	0.00600	1	11/30/2021 21:50	WG1781306
Benzo(a)anthracene	U		0.00173	0.00600	1	11/30/2021 21:50	WG1781306
Benzo(a)pyrene	U		0.00179	0.00600	1	11/30/2021 21:50	WG1781306
Benzo(b)fluoranthene	U		0.00153	0.00600	1	11/30/2021 21:50	WG1781306
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	11/30/2021 21:50	WG1781306
Benzo(k)fluoranthene	U		0.00215	0.00600	1	11/30/2021 21:50	WG1781306
Chrysene	U		0.00232	0.00600	1	11/30/2021 21:50	WG1781306
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	11/30/2021 21:50	WG1781306
Fluoranthene	U		0.00227	0.00600	1	11/30/2021 21:50	WG1781306
Fluorene	U		0.00205	0.00600	1	11/30/2021 21:50	WG1781306
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	11/30/2021 21:50	WG1781306
Naphthalene	U		0.00408	0.0200	1	11/30/2021 21:50	WG1781306
Phenanthrene	U		0.00231	0.00600	1	11/30/2021 21:50	WG1781306
Pyrene	U		0.00200	0.00600	1	11/30/2021 21:50	WG1781306
1-Methylnaphthalene	U		0.00449	0.0200	1	11/30/2021 21:50	WG1781306
2-Methylnaphthalene	U		0.00427	0.0200	1	11/30/2021 21:50	WG1781306
2-Chloronaphthalene	U		0.00466	0.0200	1	11/30/2021 21:50	WG1781306
(S) p-Terphenyl-d14	*119*			*23.0-120*		*11/30/2021 21:50*	WG1781306
(S) Nitrobenzene-d5	*66.1*			*14.0-149*		*11/30/2021 21:50*	WG1781306
(S) 2-Fluorobiphenyl	*92.6*			*34.0-125*		*11/30/2021 21:50*	WG1781306

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.16		1	11/27/2021 12:16	WG1778876

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	12/06/2021 12:17	WG1780720

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.68	T8	1	11/28/2021 12:00	WG1780800

Sample Narrative:

L1434125-03 WG1780800: 8.68 at 19.6C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	528		10.0	1	11/25/2021 12:13	WG1780170

Sample Narrative:

L1434125-03 WG1780170: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	149		0.0852	0.500	1	11/30/2021 22:07	WG1781453
Cadmium	0.325	J	0.0471	0.500	1	11/30/2021 22:07	WG1781453
Copper	19.0		0.400	2.00	1	11/30/2021 22:07	WG1781453
Lead	12.2		0.208	0.500	1	11/30/2021 22:07	WG1781453
Nickel	13.6		0.132	2.00	1	11/30/2021 22:07	WG1781453
Selenium	U		0.764	2.00	1	11/30/2021 22:07	WG1781453
Silver	U	O1	0.127	1.00	1	11/30/2021 22:07	WG1781453
Zinc	40.0		0.832	5.00	1	11/30/2021 22:07	WG1781453

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.303		0.0167	0.200	1	11/27/2021 10:43	WG1778873

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	7.33		0.100	1.00	5	11/30/2021 20:58	WG1781452

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.276		0.0217	0.100	1	11/24/2021 14:58	WG1779467
(S) a,a,a-Trifluorotoluene(FID)	*103*			*77.0-120*		*11/24/2021 14:58*	WG1779467

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	11/24/2021 20:52	WG1780030
Toluene	U		0.00130	0.00500	1	11/24/2021 20:52	WG1780030
Ethylbenzene	U		0.000737	0.00250	1	11/24/2021 20:52	WG1780030
Xylenes, Total	U		0.000880	0.00650	1	11/24/2021 20:52	WG1780030
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	11/24/2021 20:52	WG1780030
1,3,5-Trimethylbenzene	0.00263	J	0.00200	0.00500	1	11/24/2021 20:52	WG1780030
(S) Toluene-d8	*102*			*75.0-131*		*11/24/2021 20:52*	WG1780030
(S) 4-Bromofluorobenzene	*99.6*			*67.0-138*		*11/24/2021 20:52*	WG1780030
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*11/24/2021 20:52*	WG1780030

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	10.9		1.61	4.00	1	11/30/2021 22:08	WG1780879
C28-C36 Motor Oil Range	37.2		0.274	4.00	1	11/30/2021 22:08	WG1780879
(S) o-Terphenyl	*83.6*			*18.0-148*		*11/30/2021 22:08*	WG1780879

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	11/30/2021 22:08	WG1781306
Acenaphthene	U		0.00209	0.00600	1	11/30/2021 22:08	WG1781306
Acenaphthylene	U		0.00216	0.00600	1	11/30/2021 22:08	WG1781306
Benzo(a)anthracene	U		0.00173	0.00600	1	11/30/2021 22:08	WG1781306
Benzo(a)pyrene	U		0.00179	0.00600	1	11/30/2021 22:08	WG1781306
Benzo(b)fluoranthene	U		0.00153	0.00600	1	11/30/2021 22:08	WG1781306
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	11/30/2021 22:08	WG1781306
Benzo(k)fluoranthene	U		0.00215	0.00600	1	11/30/2021 22:08	WG1781306
Chrysene	U		0.00232	0.00600	1	11/30/2021 22:08	WG1781306
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	11/30/2021 22:08	WG1781306
Fluoranthene	U		0.00227	0.00600	1	11/30/2021 22:08	WG1781306
Fluorene	U		0.00205	0.00600	1	11/30/2021 22:08	WG1781306
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	11/30/2021 22:08	WG1781306
Naphthalene	U		0.00408	0.0200	1	11/30/2021 22:08	WG1781306
Phenanthrene	U		0.00231	0.00600	1	11/30/2021 22:08	WG1781306
Pyrene	U		0.00200	0.00600	1	11/30/2021 22:08	WG1781306
1-Methylnaphthalene	U		0.00449	0.0200	1	11/30/2021 22:08	WG1781306
2-Methylnaphthalene	U		0.00427	0.0200	1	11/30/2021 22:08	WG1781306
2-Chloronaphthalene	U		0.00466	0.0200	1	11/30/2021 22:08	WG1781306
(S) p-Terphenyl-d14	*130*	J1		*23.0-120*		*11/30/2021 22:08*	WG1781306
(S) Nitrobenzene-d5	*72.9*			*14.0-149*		*11/30/2021 22:08*	WG1781306
(S) 2-Fluorobiphenyl	*103*			*34.0-125*		*11/30/2021 22:08*	WG1781306

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.18		1	11/27/2021 12:19	WG1778876

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	12/06/2021 16:16	WG1780719

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.87	T8	1	11/28/2021 12:00	WG1780800

Sample Narrative:

L1434125-04 WG1780800: 8.87 at 19.7C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	218		10.0	1	11/25/2021 12:13	WG1780170

Sample Narrative:

L1434125-04 WG1780170: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	137		0.0852	0.500	1	11/30/2021 22:39	WG1781453
Cadmium	0.333	J	0.0471	0.500	1	11/30/2021 22:39	WG1781453
Copper	17.4		0.400	2.00	1	11/30/2021 22:39	WG1781453
Lead	9.94		0.208	0.500	1	11/30/2021 22:39	WG1781453
Nickel	10.4		0.132	2.00	1	11/30/2021 22:39	WG1781453
Selenium	U		0.764	2.00	1	11/30/2021 22:39	WG1781453
Silver	U		0.127	1.00	1	11/30/2021 22:39	WG1781453
Zinc	41.5		0.832	5.00	1	11/30/2021 22:39	WG1781453

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.281		0.0167	0.200	1	11/27/2021 10:46	WG1778873

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	7.64		0.100	1.00	5	11/30/2021 21:23	WG1781452

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.175		0.0217	0.100	1	11/24/2021 15:41	WG1779467
(S) a,a,a-Trifluorotoluene(FID)	*103*			*77.0-120*		*11/24/2021 15:41*	WG1779467

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	11/24/2021 21:11	WG1780030
Toluene	U		0.00130	0.00500	1	11/24/2021 21:11	WG1780030
Ethylbenzene	U		0.000737	0.00250	1	11/24/2021 21:11	WG1780030
Xylenes, Total	0.00117	J	0.000880	0.00650	1	11/24/2021 21:11	WG1780030
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	11/24/2021 21:11	WG1780030
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	11/24/2021 21:11	WG1780030
(S) Toluene-d8	*99.1*			*75.0-131*		*11/24/2021 21:11*	WG1780030
(S) 4-Bromofluorobenzene	*99.5*			*67.0-138*		*11/24/2021 21:11*	WG1780030
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*		*11/24/2021 21:11*	WG1780030

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	4.66		1.61	4.00	1	11/30/2021 21:17	WG1780879
C28-C36 Motor Oil Range	15.9		0.274	4.00	1	11/30/2021 21:17	WG1780879
(S) o-Terphenyl	*71.5*			*18.0-148*		*11/30/2021 21:17*	WG1780879

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	11/30/2021 22:25	WG1781306
Acenaphthene	U		0.00209	0.00600	1	11/30/2021 22:25	WG1781306
Acenaphthylene	U		0.00216	0.00600	1	11/30/2021 22:25	WG1781306
Benzo(a)anthracene	U		0.00173	0.00600	1	11/30/2021 22:25	WG1781306
Benzo(a)pyrene	U		0.00179	0.00600	1	11/30/2021 22:25	WG1781306
Benzo(b)fluoranthene	U		0.00153	0.00600	1	11/30/2021 22:25	WG1781306
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	11/30/2021 22:25	WG1781306
Benzo(k)fluoranthene	U		0.00215	0.00600	1	11/30/2021 22:25	WG1781306
Chrysene	U		0.00232	0.00600	1	11/30/2021 22:25	WG1781306
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	11/30/2021 22:25	WG1781306
Fluoranthene	U		0.00227	0.00600	1	11/30/2021 22:25	WG1781306
Fluorene	U		0.00205	0.00600	1	11/30/2021 22:25	WG1781306
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	11/30/2021 22:25	WG1781306
Naphthalene	U		0.00408	0.0200	1	11/30/2021 22:25	WG1781306
Phenanthrene	U		0.00231	0.00600	1	11/30/2021 22:25	WG1781306
Pyrene	U		0.00200	0.00600	1	11/30/2021 22:25	WG1781306
1-Methylnaphthalene	U		0.00449	0.0200	1	11/30/2021 22:25	WG1781306
2-Methylnaphthalene	U		0.00427	0.0200	1	11/30/2021 22:25	WG1781306
2-Chloronaphthalene	U		0.00466	0.0200	1	11/30/2021 22:25	WG1781306
(S) p-Terphenyl-d14	*117*			*23.0-120*		*11/30/2021 22:25*	WG1781306
(S) Nitrobenzene-d5	*67.8*			*14.0-149*		*11/30/2021 22:25*	WG1781306
(S) 2-Fluorobiphenyl	*95.0*			*34.0-125*		*11/30/2021 22:25*	WG1781306

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	13.9		1	11/27/2021 12:22	WG1778876

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	12/06/2021 12:32	WG1780720

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.00	T8	1	11/28/2021 12:00	WG1780800

Sample Narrative:

L1434125-05 WG1780800: 9 at 19.8C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	254		10.0	1	11/25/2021 12:13	WG1780170

Sample Narrative:

L1434125-05 WG1780170: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	148		0.0852	0.500	1	11/30/2021 22:42	WG1781453
Cadmium	0.293	J	0.0471	0.500	1	11/30/2021 22:42	WG1781453
Copper	18.4		0.400	2.00	1	11/30/2021 22:42	WG1781453
Lead	9.12		0.208	0.500	1	11/30/2021 22:42	WG1781453
Nickel	12.4		0.132	2.00	1	11/30/2021 22:42	WG1781453
Selenium	U		0.764	2.00	1	11/30/2021 22:42	WG1781453
Silver	U		0.127	1.00	1	11/30/2021 22:42	WG1781453
Zinc	41.1		0.832	5.00	1	11/30/2021 22:42	WG1781453

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.265		0.0167	0.200	1	11/27/2021 10:49	WG1778873

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.30		0.100	1.00	5	11/30/2021 21:35	WG1781452

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.253		0.0217	0.100	1	11/24/2021 16:02	WG1779467
(S) a,a,a-Trifluorotoluene(FID)	*102*			*77.0-120*		*11/24/2021 16:02*	WG1779467

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	11/24/2021 21:30	WG1780030
Toluene	U		0.00130	0.00500	1	11/24/2021 21:30	WG1780030
Ethylbenzene	U		0.000737	0.00250	1	11/24/2021 21:30	WG1780030
Xylenes, Total	U		0.000880	0.00650	1	11/24/2021 21:30	WG1780030
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	11/24/2021 21:30	WG1780030
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	11/24/2021 21:30	WG1780030
(S) Toluene-d8	*103*			*75.0-131*		*11/24/2021 21:30*	WG1780030
(S) 4-Bromofluorobenzene	*98.3*			*67.0-138*		*11/24/2021 21:30*	WG1780030
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*		*11/24/2021 21:30*	WG1780030

Semi-Volatile Organic Compounds (GC) by Method 8015M

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	1.75	J	1.61	4.00	1	11/30/2021 19:20	WG1780879
C28-C36 Motor Oil Range	4.02		0.274	4.00	1	11/30/2021 19:20	WG1780879
(S) o-Terphenyl	*75.4*			*18.0-148*		*11/30/2021 19:20*	WG1780879

Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.00230	0.00600	1	11/30/2021 22:42	WG1781306
Acenaphthene	U		0.00209	0.00600	1	11/30/2021 22:42	WG1781306
Acenaphthylene	U		0.00216	0.00600	1	11/30/2021 22:42	WG1781306
Benzo(a)anthracene	U		0.00173	0.00600	1	11/30/2021 22:42	WG1781306
Benzo(a)pyrene	U		0.00179	0.00600	1	11/30/2021 22:42	WG1781306
Benzo(b)fluoranthene	U		0.00153	0.00600	1	11/30/2021 22:42	WG1781306
Benzo(g,h,i)perylene	U		0.00177	0.00600	1	11/30/2021 22:42	WG1781306
Benzo(k)fluoranthene	U		0.00215	0.00600	1	11/30/2021 22:42	WG1781306
Chrysene	U		0.00232	0.00600	1	11/30/2021 22:42	WG1781306
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	11/30/2021 22:42	WG1781306
Fluoranthene	U		0.00227	0.00600	1	11/30/2021 22:42	WG1781306
Fluorene	U		0.00205	0.00600	1	11/30/2021 22:42	WG1781306
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	11/30/2021 22:42	WG1781306
Naphthalene	U		0.00408	0.0200	1	11/30/2021 22:42	WG1781306
Phenanthrene	U		0.00231	0.00600	1	11/30/2021 22:42	WG1781306
Pyrene	U		0.00200	0.00600	1	11/30/2021 22:42	WG1781306
1-Methylnaphthalene	U		0.00449	0.0200	1	11/30/2021 22:42	WG1781306
2-Methylnaphthalene	U		0.00427	0.0200	1	11/30/2021 22:42	WG1781306
2-Chloronaphthalene	U		0.00466	0.0200	1	11/30/2021 22:42	WG1781306
(S) p-Terphenyl-d14	*121*	J1		*23.0-120*		*11/30/2021 22:42*	WG1781306
(S) Nitrobenzene-d5	*68.9*			*14.0-149*		*11/30/2021 22:42*	WG1781306
(S) 2-Fluorobiphenyl	*93.9*			*34.0-125*		*11/30/2021 22:42*	WG1781306

QUALITY CONTROL SUMMARY

L1434125-02,04

Method Blank (MB)

(MB) R3737879-1 12/06/21 14:47

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Hexavalent Chromium	U		0.255	1.00

L1434125-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1434125-04 12/06/21 16:16 • (DUP) R3737879-7 12/06/21 16:21

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	U	U	1	0.000		20

L1434172-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1434172-07 12/06/21 17:06 • (DUP) R3737879-8 12/06/21 17:11

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3737879-2 12/06/21 14:53

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	10.8	108	80.0-120	

L1432690-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1432690-01 12/06/21 15:03 • (MS) R3737879-3 12/06/21 15:08 • (MSD) R3737879-4 12/06/21 15:13

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	20.0	1.13	20.9	22.0	98.7	104	1	75.0-125			5.12	20

L1432690-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1432690-01 12/06/21 15:03 • (MS) R3737879-5 12/06/21 15:19

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	653	1.13	640	98.0	50	75.0-125	

QUALITY CONTROL SUMMARY

L1434125-01,03,05

Method Blank (MB)

(MB) R3737878-1 12/06/21 11:28

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Hexavalent Chromium	U		0.255	1.00

L1432686-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1432686-01 12/06/21 11:40 • (DUP) R3737878-3 12/06/21 11:46

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	U	0.380	1	200	J P1	20

L1435363-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1435363-03 12/06/21 13:14 • (DUP) R3737878-4 12/06/21 13:19

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3737878-2 12/06/21 11:35

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	10.8	108	80.0-120	

L1435465-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1435465-01 12/06/21 13:35 • (MS) R3737878-5 12/06/21 13:40 • (MSD) R3737878-6 12/06/21 13:45

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	20.0	0.642	12.1	19.5	57.2	94.2	1	75.0-125	J6	J3	46.8	20

L1435465-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1435465-01 12/06/21 13:35 • (MS) R3737878-7 12/06/21 13:50

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	643	0.642	663	103	50	75.0-125	

L1434125-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1434125-05 11/28/21 12:00 • (DUP) R3734414-2 11/28/21 12:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	9.00	8.99	1	0.111		1

Sample Narrative:

OS: 9 at 19.8C

DUP: 8.99 at 19.8C

L1434837-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1434837-02 11/28/21 12:00 • (DUP) R3734414-3 11/28/21 12:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.24	8.23	1	0.121		1

Sample Narrative:

OS: 8.24 at 19.3C

DUP: 8.23 at 19.4C

Laboratory Control Sample (LCS)

(LCS) R3734414-1 11/28/21 12:00

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

Sample Narrative:

LCS: 9.99 at 18.1C

Method Blank (MB)

(MB) R3733852-1 11/25/21 12:13

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

Sample Narrative:
BLANK: at 25C

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3733852-3 11/25/21 12:13

Analyte	Original Result	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance		2110	1	9.87		20

Sample Narrative:
DUP: at 25C

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3733852-4 11/25/21 12:13

Analyte	Original Result	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance		107	1	6.84		20

Sample Narrative:
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3733852-2 11/25/21 12:13

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	268	262	97.8	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R3735627-1 11/30/21 22:02

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Barium	U		0.0852	0.500
Cadmium	U		0.0471	0.500
Copper	U		0.400	2.00
Lead	U		0.208	0.500
Nickel	U		0.132	2.00
Selenium	U		0.764	2.00
Silver	U		0.127	1.00
Zinc	U		0.832	5.00

Laboratory Control Sample (LCS)

(LCS) R3735627-2 11/30/21 22:04

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	100	100	100	80.0-120	
Cadmium	100	94.8	94.8	80.0-120	
Copper	100	97.8	97.8	80.0-120	
Lead	100	97.3	97.3	80.0-120	
Nickel	100	97.2	97.2	80.0-120	
Selenium	100	97.8	97.8	80.0-120	
Silver	20.0	18.6	93.2	80.0-120	
Zinc	100	94.8	94.8	80.0-120	

L1434125-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1434125-03 11/30/21 22:07 • (MS) R3735627-5 11/30/21 22:16 • (MSD) R3735627-6 11/30/21 22:19

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Barium	100	149	227	226	77.7	76.1	1	75.0-125			0.685	20
Cadmium	100	0.325	95.0	92.4	94.6	92.1	1	75.0-125			2.69	20
Copper	100	19.0	115	113	95.7	94.1	1	75.0-125			1.34	20
Lead	100	12.2	108	106	95.4	94.1	1	75.0-125			1.19	20
Nickel	100	13.6	111	110	97.4	96.6	1	75.0-125			0.700	20
Selenium	100	U	91.7	90.5	91.7	90.5	1	75.0-125			1.39	20
Silver	20.0	U	18.9	18.4	94.7	92.1	1	75.0-125			2.74	20
Zinc	100	40.0	126	127	85.8	86.7	1	75.0-125			0.736	20

Method Blank (MB)

(MB) R3734266-1 11/27/21 09:53

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Hot Water Sol. Boron	U		0.0167	0.200

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

(LCS) R3734266-2 11/27/21 09:56 • (LCSD) R3734266-3 11/27/21 09:59

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 %
Hot Water Sol. Boron	1.00	1.09	1.03	109	103	80.0-120			5.41	20

Method Blank (MB)

(MB) R3735490-1 11/30/21 20:51

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00

Laboratory Control Sample (LCS)

(LCS) R3735490-2 11/30/21 20:55

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	92.4	92.4	80.0-120	

L1434125-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1434125-03 11/30/21 20:58 • (MS) R3735490-5 11/30/21 21:09 • (MSD) R3735490-6 11/30/21 21:12

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	7.33	91.1	89.6	83.8	82.2	5	75.0-125			1.73	20

Method Blank (MB)

(MB) R3733511-2 11/24/21 06:58

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*107*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3733511-1 11/24/21 05:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	4.46	81.1	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*95.7*	*77.0-120*	

Method Blank (MB)

(MB) R3735188-2 11/24/21 17:29

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	*100*			*75.0-131*
(S) 4-Bromofluorobenzene	*98.2*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*115*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3735188-1 11/24/21 16:33

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.119	95.2	70.0-123	
Ethylbenzene	0.125	0.111	88.8	74.0-126	
Toluene	0.125	0.113	90.4	75.0-121	
1,2,4-Trimethylbenzene	0.125	0.117	93.6	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.119	95.2	73.0-127	
Xylenes, Total	0.375	0.328	87.5	72.0-127	
(S) Toluene-d8			*99.5*	*75.0-131*	
(S) 4-Bromofluorobenzene			*97.4*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*115*	*70.0-130*	

Method Blank (MB)

(MB) R3735487-1 11/30/21 11:34

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	U		0.274	4.00
(S) o-Terphenyl	*75.1*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3735487-2 11/30/21 11:47

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	38.6	77.2	50.0-150	
(S) o-Terphenyl			*102*	*18.0-148*	

L1434125-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1434125-01 11/30/21 20:38 • (MS) R3735487-3 11/30/21 20:51 • (MSD) R3735487-4 11/30/21 21:04

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	49.5	5.57	42.5	40.4	74.6	70.4	1	50.0-150			5.07	20
(S) o-Terphenyl					*95.0*	*88.9*		*18.0-148*				

Method Blank (MB)

(MB) R3735514-2 11/30/21 17:30

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	*77.1*			*14.0-149*
(S) 2-Fluorobiphenyl	*106*			*34.0-125*
(S) p-Terphenyl-d14	*135*	J1		*23.0-120*

Laboratory Control Sample (LCS)

(LCS) R3735514-1 11/30/21 17:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0890	111	50.0-126	
Acenaphthene	0.0800	0.0870	109	50.0-120	
Acenaphthylene	0.0800	0.0912	114	50.0-120	
Benzo(a)anthracene	0.0800	0.0830	104	45.0-120	
Benzo(a)pyrene	0.0800	0.0653	81.6	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0800	100	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0787	98.4	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0780	97.5	49.0-125	
Chrysene	0.0800	0.0860	108	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0720	90.0	47.0-125	
Fluoranthene	0.0800	0.0861	108	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3735514-1 11/30/21 17:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0813	102	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0759	94.9	46.0-125	
Naphthalene	0.0800	0.0853	107	50.0-120	
Phenanthrene	0.0800	0.0876	110	47.0-120	
Pyrene	0.0800	0.0876	110	43.0-123	
1-Methylnaphthalene	0.0800	0.0801	100	51.0-121	
2-Methylnaphthalene	0.0800	0.0788	98.5	50.0-120	
2-Chloronaphthalene	0.0800	0.0841	105	50.0-120	
(S) Nitrobenzene-d5			*82.4*	*14.0-149*	
(S) 2-Fluorobiphenyl			*112*	*34.0-125*	
(S) p-Terphenyl-d14			*139*	*23.0-120*	J1

L1434114-50 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1434114-50 11/30/21 18:40 • (MS) R3735514-3 11/30/21 18:57 • (MSD) R3735514-4 11/30/21 19:14

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0780	U	0.0742	0.0762	95.1	97.7	1	10.0-145			2.66	30
Acenaphthene	0.0780	U	0.0745	0.0752	95.5	96.4	1	14.0-127			0.935	27
Acenaphthylene	0.0780	U	0.0764	0.0769	97.9	98.6	1	21.0-124			0.652	25
Benzo(a)anthracene	0.0780	U	0.0706	0.0738	90.5	94.6	1	10.0-139			4.43	30
Benzo(a)pyrene	0.0780	U	0.0699	0.0726	89.6	93.1	1	10.0-141			3.79	31
Benzo(b)fluoranthene	0.0780	U	0.0700	0.0715	89.7	91.7	1	10.0-140			2.12	36
Benzo(g,h,i)perylene	0.0780	U	0.0694	0.0718	89.0	92.1	1	10.0-140			3.40	33
Benzo(k)fluoranthene	0.0780	U	0.0692	0.0737	88.7	94.5	1	10.0-137			6.30	31
Chrysene	0.0780	U	0.0754	0.0795	96.7	102	1	10.0-145			5.29	30
Dibenz(a,h)anthracene	0.0780	U	0.0627	0.0648	80.4	83.1	1	10.0-132			3.29	31
Fluoranthene	0.0780	U	0.0705	0.0725	90.4	92.9	1	10.0-153			2.80	33
Fluorene	0.0780	U	0.0683	0.0715	87.6	91.7	1	11.0-130			4.58	29
Indeno(1,2,3-cd)pyrene	0.0780	U	0.0642	0.0661	82.3	84.7	1	10.0-137			2.92	32
Naphthalene	0.0780	U	0.0733	0.0723	94.0	92.7	1	10.0-135			1.37	27
Phenanthrene	0.0780	U	0.0734	0.0753	94.1	96.5	1	10.0-144			2.56	31
Pyrene	0.0780	U	0.0733	0.0764	94.0	97.9	1	10.0-148			4.14	35
1-Methylnaphthalene	0.0780	U	0.0677	0.0682	86.2	86.8	1	10.0-142			0.736	28
2-Methylnaphthalene	0.0780	U	0.0645	0.0637	82.2	81.2	1	10.0-137			1.25	28
2-Chloronaphthalene	0.0780	U	0.0722	0.0734	92.4	93.9	1	29.0-120			1.65	24
(S) Nitrobenzene-d5					*77.0*	*77.1*		*14.0-149*				
(S) 2-Fluorobiphenyl					*105*	*106*		*34.0-125*				
(S) p-Terphenyl-d14					*127*	*129*		*23.0-120*	J1	J1		

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.

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.
(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
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
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.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
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	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
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

* 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 Analytical.

UTAH GAS CORP
***UTAHGASRCO**

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Project Description: PMF 9015 pit

City/State Collected:

Please Circle: PT MT CT ET

Phone: **970-629-3520**

Client Project #: PMF 9015 pit

Lab Project #

Collected by (print): Dana Pollack

Site/Facility ID #: PMF 9015

P.O. #

Collected by (signature): Dana Pollack

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Quote #

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Table915 GRO/DRO/ORO 4ozClr-NoPres	Table915 Metals 4ozClr-NoPres	Table915 PAHs 4ozClr-NoPres	Table915 VOCs 4ozClr-NoPres	Table915 pH SPCONSAR 4ozClr-NoPres					Remarks	Sample # (lab only)
PMF 9015 Nwall	grab	SS	5'	11/17/21		3	X	X	X	X	X						-01
PMF 9015 Ewall			5'				X	X	X	X	X						-02
PMF 9015 Swall			5'				X	X	X	X	X						-03
PMF 9015 Wwall			5'				X	X	X	X	X						-04
PMF 9015 pit bot			6'				X	X	X	X	X						-05

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

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Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1434125

D128

Acctnum:

Template:

Prelogin:

PM: **824 - Chris Ward**

PB:

Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 5016 1232 4278

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Dana Pollack	11/18/21	1600			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: NSAC 3.3+0=3.3 Bottles Received: 15	
	11/19/21	09:30			
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 11/20/21 Time: 0900	Hold: Condition: NCF / (OK)
	11/19/21	945			