

June 12, 2020

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Utah Gas Corporation

Sample Delivery Group: L1225821
Samples Received: 06/05/2020
Project Number:
Description: MFS Fed 8-1 Pit
Site: LANDFARM CLEARANCE
Report To: Mr. Steve Hale
1125 Escalante Drive
Rangely, CO 81648

Entire Report Reviewed By:

Chris Ward

Chris Ward
Project Manager

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



Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Sr: Sample Results	5
LANDFARM CLEARANCE L1225821-01	5
Qc: Quality Control Summary	6
Volatile Organic Compounds (GC) by Method 8015D/GRO	6
Semi-Volatile Organic Compounds (GC) by Method 8015	7
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	8
Gl: Glossary of Terms	10
Al: Accreditations & Locations	11
Sc: Sample Chain of Custody	12

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



LANDFARM CLEARANCE L1225821-01 Solid

Collected by
Steve HaleCollected date/time
06/04/20 11:40Received date/time
06/05/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1488911	1	06/06/20 11:10	06/08/20 21:10	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1489845	5	06/10/20 05:34	06/11/20 03:26	JN	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1490259	1	06/10/20 16:42	06/11/20 11:33	AAT	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1490259	10	06/10/20 16:42	06/11/20 20:28	AAT	Mt. Juliet, TN

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc



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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.261		0.100	1	06/08/2020 21:10	WG1488911
(S) a,a,a-Trifluorotoluene(FID)	97.1		77.0-120		06/08/2020 21:10	WG1488911

1 Cp

2 Tc

3 Ss

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	58.7	B	20.0	5	06/11/2020 03:26	WG1489845
(S) o-Terphenyl	65.7		18.0-148		06/11/2020 03:26	WG1489845

4 Cn

5 Sr

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	06/11/2020 11:33	WG1490259
Acenaphthene	ND		0.00600	1	06/11/2020 11:33	WG1490259
Acenaphthylene	ND		0.00600	1	06/11/2020 11:33	WG1490259
Benzo(a)anthracene	ND		0.00600	1	06/11/2020 11:33	WG1490259
Benzo(a)pyrene	ND		0.0600	10	06/11/2020 20:28	WG1490259
Benzo(b)fluoranthene	ND		0.0600	10	06/11/2020 20:28	WG1490259
Benzo(g,h,i)perylene	ND		0.0600	10	06/11/2020 20:28	WG1490259
Benzo(k)fluoranthene	ND		0.0600	10	06/11/2020 20:28	WG1490259
Chrysene	ND		0.00600	1	06/11/2020 11:33	WG1490259
Dibenz(a,h)anthracene	ND		0.0600	10	06/11/2020 20:28	WG1490259
Fluoranthene	ND		0.00600	1	06/11/2020 11:33	WG1490259
Fluorene	ND		0.00600	1	06/11/2020 11:33	WG1490259
Indeno(1,2,3-cd)pyrene	ND		0.0600	10	06/11/2020 20:28	WG1490259
Naphthalene	ND		0.0200	1	06/11/2020 11:33	WG1490259
Phenanthrene	ND		0.00600	1	06/11/2020 11:33	WG1490259
Pyrene	ND		0.00600	1	06/11/2020 11:33	WG1490259
1-Methylnaphthalene	ND		0.0200	1	06/11/2020 11:33	WG1490259
2-Methylnaphthalene	ND		0.0200	1	06/11/2020 11:33	WG1490259
2-Chloronaphthalene	ND		0.0200	1	06/11/2020 11:33	WG1490259
(S) p-Terphenyl-d14	55.9		23.0-120		06/11/2020 11:33	WG1490259
(S) p-Terphenyl-d14	71.1		23.0-120		06/11/2020 20:28	WG1490259
(S) Nitrobenzene-d5	81.1		14.0-149		06/11/2020 11:33	WG1490259
(S) Nitrobenzene-d5	77.6		14.0-149		06/11/2020 20:28	WG1490259
(S) 2-Fluorobiphenyl	80.2		34.0-125		06/11/2020 11:33	WG1490259
(S) 2-Fluorobiphenyl	70.4		34.0-125		06/11/2020 20:28	WG1490259

6 Qc

7 Gl

8 Al

9 Sc

Sample Narrative:

L1225821-01 WG1490259: IS/SURR failed on lower dilution.

Method Blank (MB)

(MB) R3536287-3 06/08/20 14:46

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)	102			77.0-120

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

Laboratory Control Sample (LCS)

(LCS) R3536287-2 06/08/20 14:04

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.72	104	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			99.5	77.0-120	



Method Blank (MB)

(MB) R3537370-1 06/10/20 19:24

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	12.1		0.769	4.00
(S) o-Terphenyl	78.2			18.0-148

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R3537370-2 06/10/20 19:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	41.8	83.6	50.0-150	
(S) o-Terphenyl			97.7	18.0-148	

Method Blank (MB)

(MB) R3537419-2 06/11/20 02:42

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	103			14.0-149
(S) 2-Fluorobiphenyl	89.1			34.0-125
(S) p-Terphenyl-d14	88.4			23.0-120

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R3537419-1 06/11/20 02:20

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0655	81.9	50.0-126	
Acenaphthene	0.0800	0.0663	82.9	50.0-120	
Acenaphthylene	0.0800	0.0673	84.1	50.0-120	
Benzo(a)anthracene	0.0800	0.0687	85.9	45.0-120	
Benzo(a)pyrene	0.0800	0.0599	74.9	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0660	82.5	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0596	74.5	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0643	80.4	49.0-125	
Chrysene	0.0800	0.0677	84.6	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0654	81.8	47.0-125	
Fluoranthene	0.0800	0.0677	84.6	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3537419-1 06/11/20 02:20

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Fluorene	0.0800	0.0676	84.5	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0614	76.8	46.0-125	
Naphthalene	0.0800	0.0614	76.8	50.0-120	
Phenanthrene	0.0800	0.0613	76.6	47.0-120	
Pyrene	0.0800	0.0644	80.5	43.0-123	
1-Methylnaphthalene	0.0800	0.0637	79.6	51.0-121	
2-Methylnaphthalene	0.0800	0.0640	80.0	50.0-120	
2-Chloronaphthalene	0.0800	0.0619	77.4	50.0-120	
(S) Nitrobenzene-d5			96.6	14.0-149	
(S) 2-Fluorobiphenyl			83.8	34.0-125	
(S) p-Terphenyl-d14			77.7	23.0-120	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
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.
---	--

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

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

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

State Accreditations

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

Third Party Federal Accreditations


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

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

Our Locations

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



Utah Gas Corp 1125 Escalante Dr. Rangely CO 81648				Billing Information: Utah Gas Op Ltd Company 110				Analysis / Container / Preservative				Chain of Custody Page ____ of ____	
Report to: Steve Hale				Email To: shale@utahgascorp.com				Pres Chk				 Pace Analytical® National Center for Testing & Innovation	
Project MFS Fed 8-1 Pit				City/State Rangely CO									
Description:				Client Project #									
Phone: 970-290-2812				Lab Project #									
Fax:				P.O. #									
Collected by (print): Steve Hale				Site/Facility ID # Landform Clearance				PAH, TPH (GRO, DRD)				L# 122580 E227	
Collected by (signature):				Quote #									
Immediately Packed on Ice N <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/>				Date Results Needed Std									
Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input checked="" type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day				No. of Cntrs									
Sample ID				Comp/Grab									
Landform Clearance				Comp				SS					
6"				16-4-20				11:40					
3				3				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	
1				1				1					
1				1				1					
1				1				1					
1				1				1					
1				1				1				01	