

Colorado Oil & Gas Conservation

Sample Delivery Group: L1379288
Samples Received: 07/16/2021
Project Number:
Description:
Site: 465402
Report To: Nikki Graber
5405 Sacramento Pl.
Colorado Springs, CO 80917

Entire Report Reviewed By:



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.

Pace Analytical National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

Cp: Cover Page	1	¹ Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	² Tc
Cn: Case Narrative	4	
Sr: Sample Results	5	³ Ss
F1 L1379288-01	5	
F9 L1379288-02	6	⁴ Cn
Qc: Quality Control Summary	7	⁵ Sr
Volatile Organic Compounds (GC) by Method 8015D/GRO	7	
Volatile Organic Compounds (GC/MS) by Method 8260B	8	⁶ Qc
Semi-Volatile Organic Compounds (GC) by Method 8015	9	
Gl: Glossary of Terms	10	⁷ Gl
Al: Accreditations & Locations	11	⁸ Al
Sc: Sample Chain of Custody	12	⁹ Sc

SAMPLE SUMMARY

F1 L1379288-01 Solid

Collected by
KB/NG

Collected date/time
07/15/21 11:55

Received date/time
07/16/21 08:50

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1707036	250	07/16/21 20:30	07/17/21 23:10	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1707103	20	07/16/21 20:30	07/17/21 15:13	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1707478	200	07/19/21 20:20	07/20/21 07:36	CAG	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

F9 L1379288-02 Solid

Collected by
KB/NG

Collected date/time
07/15/21 11:44

Received date/time
07/16/21 08:50

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1707036	250	07/16/21 20:30	07/17/21 23:31	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1707103	20	07/16/21 20:30	07/17/21 15:32	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1707478	200	07/19/21 20:20	07/20/21 15:08	CAG	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



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	699		25.0	250	07/17/2021 23:10	WG1707036
(S) a,a,a-Trifluorotoluene(FID)	93.5		77.0-120		07/17/2021 23:10	WG1707036

1
Cp2
Tc3
Ss

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.0495		0.0200	20	07/17/2021 15:13	WG1707103
Toluene	0.971		0.100	20	07/17/2021 15:13	WG1707103
Ethylbenzene	0.927		0.0500	20	07/17/2021 15:13	WG1707103
Xylenes, Total	25.5		0.130	20	07/17/2021 15:13	WG1707103
Naphthalene	7.75	J3	0.250	20	07/17/2021 15:13	WG1707103
(S) Toluene-d8	90.1		75.0-131		07/17/2021 15:13	WG1707103
(S) 4-Bromofluorobenzene	100		67.0-138		07/17/2021 15:13	WG1707103
(S) 1,2-Dichloroethane-d4	124		70.0-130		07/17/2021 15:13	WG1707103

4
Cn5
Sr6
Qc7
Gl

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	25200		800	200	07/20/2021 07:36	WG1707478
C28-C40 Oil Range	12800		800	200	07/20/2021 07:36	WG1707478
(S) o-Terphenyl	0.000	J7	18.0-148		07/20/2021 07:36	WG1707478

8
Al9
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	816		25.0	250	07/17/2021 23:31	WG1707036
(S) a,a,a-Trifluorotoluene(FID)	96.6		77.0-120		07/17/2021 23:31	WG1707036

¹ Cp² Tc³ Ss

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.133		0.0200	20	07/17/2021 15:32	WG1707103
Toluene	4.71		0.100	20	07/17/2021 15:32	WG1707103
Ethylbenzene	4.75		0.0500	20	07/17/2021 15:32	WG1707103
Xylenes, Total	38.3		0.130	20	07/17/2021 15:32	WG1707103
Naphthalene	10.8	J3	0.250	20	07/17/2021 15:32	WG1707103
(S) Toluene-d8	90.5		75.0-131		07/17/2021 15:32	WG1707103
(S) 4-Bromofluorobenzene	97.4		67.0-138		07/17/2021 15:32	WG1707103
(S) 1,2-Dichloroethane-d4	121		70.0-130		07/17/2021 15:32	WG1707103

⁴ Cn⁵ Sr⁶ Qc⁷ Gl

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	18800		800	200	07/20/2021 15:08	WG1707478
C28-C40 Oil Range	8200		800	200	07/20/2021 15:08	WG1707478
(S) o-Terphenyl	0.000	J7	18.0-148		07/20/2021 15:08	WG1707478

⁸ Al⁹ Sc

Method Blank (MB)

(MB) R3681896-2 07/17/21 15:38

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)	106			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3681896-1 07/17/21 14:55

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	4.65	84.5	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			94.7	77.0-120	

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Method Blank (MB)

(MB) R3681980-3 07/17/21 14:14

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
Naphthalene	U		0.00488	0.0125
Toluene	U		0.00130	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	96.2			75.0-131
(S) 4-Bromofluorobenzene	101			67.0-138
(S) 1,2-Dichloroethane-d4	122			70.0-130

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

(LCS) R3681980-1 07/17/21 12:23 • (LCSD) R3681980-2 07/17/21 13:17

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.133	0.126	106	101	70.0-123			5.41	20
Ethylbenzene	0.125	0.110	0.112	88.0	89.6	74.0-126			1.80	20
Naphthalene	0.125	0.0761	0.0994	60.9	79.5	59.0-130		J3	26.6	20
Toluene	0.125	0.116	0.107	92.8	85.6	75.0-121			8.07	20
Xylenes, Total	0.375	0.330	0.319	88.0	85.1	72.0-127			3.39	20
(S) Toluene-d8				95.9	93.6	75.0-131				
(S) 4-Bromofluorobenzene				100	102	67.0-138				
(S) 1,2-Dichloroethane-d4				125	125	70.0-130				

L1378997-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1378997-01 07/17/21 19:00 • (MS) R3681980-4 07/17/21 21:50 • (MSD) R3681980-5 07/17/21 22:09

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	1.00	ND	0.484	1.14	47.9	114	8	10.0-149		J3	80.8	37
Ethylbenzene	1.00	0.0740	0.450	1.03	37.6	95.6	8	10.0-160		J3	78.4	38
Naphthalene	1.00	0.479	1.51	1.98	103	150	8	10.0-160			26.9	36
Toluene	1.00	ND	0.400	0.953	40.0	95.3	8	10.0-156		J3	81.7	38
Xylenes, Total	3.00	1.26	2.70	4.50	48.0	108	8	10.0-160		J3	50.0	38
(S) Toluene-d8					95.6	93.6		75.0-131				
(S) 4-Bromofluorobenzene					99.3	101		67.0-138				
(S) 1,2-Dichloroethane-d4					116	124		70.0-130				

Sample Narrative:

OS: Non-target compounds too high to run at a lower dilution.

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3681448-1 07/20/21 01:43

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	2.53	J	1.61	4.00
C28-C40 Oil Range	1.69	J	0.274	4.00
(S) o-Terphenyl	60.5			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3681448-2 07/20/21 01:56

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	36.1	72.2	50.0-150	
(S) o-Terphenyl			74.3	18.0-148	

L1378769-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1378769-06 07/20/21 14:14 • (MS) R3681894-1 07/20/21 14:28 • (MSD) R3681894-2 07/20/21 14:41

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	13.6	35.9	48.4	45.1	71.2	2	50.0-150	J6	J3	29.7	20
(S) o-Terphenyl					60.8	66.0		18.0-148				

Sample Narrative:

OS: Dilution due to matrix impact during extraction procedure

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

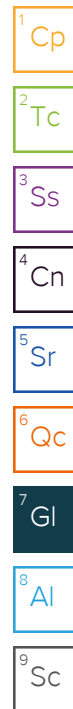
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. 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.
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.
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.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.



ACCREDITATIONS & LOCATIONS

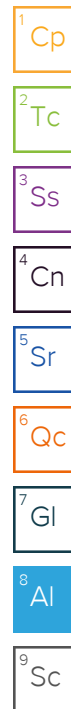
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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	LA000356
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.



COGCC

1230 12th St.
Greeley, CO 80631

Billing Information:

Analysis / Container / Preservative

Chain of Custody Page ____ of ____

Pres
Chk12065 Lebanon Rd.
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859Report to:
Nikki GraberEmail To:
candice.graber@state.co.usProject
Description: *den.*City/State
Collected:Phone:
Fax:

Client Project #

Lab Project #

Collected by (print):

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

Quote #

☐ Same Day ☐ Five Day
☐ Next Day ☐ 5 Day (Rad Only)
☐ Two Day ☐ 10 Day (Rad Only)
☒ Three Day

Date Results Needed

Immediately
Packed on Ice N ☐ Y ☐No.
of
Cntr

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

Cntr

F1
P9Grab
↓

Soil

4' 2.5

7/15/21

1:55

2

✓

✓

✓

4'

7/15/21

1:44

2

✓

✓

✓

L# L1379288

K033

Acctnum: COILGASKU

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Remarks

Sample # (lab only)

-01
-02

* Matrix:

SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other _____

Remarks:

Samples returned via:

☐ UPS ☐ FedEx ☐ Courier _____

Tracking #

5217 33055385

pH _____ Temp _____

Flow _____ Other _____

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: ☒ X ☐ N

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Trip Blank Received: Yes ☒ No ☐
 HCL / MeOH
 TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: *16.7* °C Bottles Received: *4*
1.7/10=10

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: *7/16/21* Time: *0850*

Hold:

Condition:
NCF / OK