November 15, 2021

Mr. Blair Rollins
Caerus Oil and Gas
143 Diamond Avenue
Parachute, CO 81635

RE: Report of Work Completed
KE Road – Drilling and Sampling
COGCC Remediation Number 15310
Mesa County, Colorado

Mr. Rollins,

Entrada Consulting Group (Entrada) has prepared this Report of Work Completed (ROWC) for Caerus Oil and Gas (Caerus) related to the Plateau Pipeline site (Site) located in Mesa County, Colorado. The Site is located on Caerus's Plateau operating area and near KE road east of the town of Mesa, Colorado. The center location coordinates of the release area are approximately 39.174425 latitude, and -108.100587 longitude.

Entrada was contracted to oversee drilling and collect subsurface soil samples to vertically delineate the previously identified elevated levels of electrical conductivity (EC) and sodium adsorption ratio (SAR) in accordance with the Colorado Oil and Gas Conservation Commission (COGCC) approved sampling plan (Form 27 Document Number 402643150). Additionally, Entrada was contracted to oversee drilling and collect subsurface background samples for this project.

DRILLING AND SUBSURFACE SOIL SAMPLING ACTIVITIES

An Entrada geologist was onsite to oversee drilling and to investigate the subsurface during the advancement of all borings. On June 11, 2021, and July 1, 2021, SB1 and SB1-R borings were advanced respectively. Boring SB1 was advanced to total depth of 20.5 feet below ground surface (ft-bgs) on June 11, 2021, and was redrilled in the same location on July 1, 2021, as SB1-R to a total depth of 25 ft-bgs. Soil borings SB1 and SB1R were located in the center of the area with previously identified elevated EC and SAR levels. Additionally, on July 1, 2021 a background boring was advanced (BKGND-SB1) to a depth of 27 ft-bgs. On August 31st, 2021 four additional background borings were advanced (BG-SB2, BG-SB3, BG-SB4, and BG-SB5) to depths ranging from 21 ft-bgs to 25 ft-bgs. The background borings (BKGND-SB1, BG-SB2, BG-SB3, BG-SB4, and BG-SB5) were located outside of the area with previously identified elevated EC and SAR levels to characterize native conditions.

Borings were advanced with a track mounted 6-inch outside diameter solid stem auger drilling rig with a 2-foot split spoon sampler for sample collection. Soil samples were obtained from the soil borings using a 2-foot split spoon sampler driven at 5-foot vertical intervals. In some cases these intervals were altered due to drilling conditions or lithology. In other cases auger surface samples were utilized due to inability to drive a split spoon sample because of subsurface conditions. Please see the attached **Soil Boring Lithological Logs** for additional details.

The lithology in all soil borings was generally volcanic cobbles at near surface depths grading into gravelly and sandy clays and claystones of the Wasatch Formation. Groundwater was not observed in any boring during this investigation. The soil boring locations are shown on **Figure 1**. The soil boring lithological logs and completion diagrams are included as **Attachment 1**.

SOIL ANALYSIS

A reduced analyte suite was approved in November 2020 by the COGCC under remediation project number 15310 for all soil samples limiting analysis to EC and SAR.

Soil samples were collected in sample containers appropriate for the specified analyses, sealed, labeled, and placed into an ice filled cooler for preservation. Soil samples were submitted to Pace Analytical in Mt. Juliet, Tennessee following chain of custody procedures and analyzed for:

- EC and SAR by U.S. Environmental Protection Agency Method 9050A Modified (all borings);
- pH by EPA Method 9045D (BG-SB2, BG-SB3, BG-SB4 and BG-SB5); and
- Arsenic by EPA Method 6020 (BG-SB2, BG-SB3, BG-SB4 and BG-SB5).

In total, forty samples were collected and submitted for laboratory analysis. The sample collected from the 16 ft-bgs interval in soil boring BKGND-SB1 was not analyzed for SAR due to insufficient sample quantity. The vertical interval of each sample collected from each soil boring for laboratory analysis are listed below in ft-bgs.

- SB1: 5 to 6.5, 10 to 12, 15 to 17, and 20;
- SB1R: 20 to 20.5, 20.5 to 21.5, 22 to 23, 23 to 24, and 24 to 25;
- BKGND-SB1: 5 to 7, 7, 8, 10 to 12, 15, 16, 20, 21, and 25 to 27;
- BG-SB2: 4 to 6, 8, 12, 16, 20, and 25;
- BG-SB3: 4 to 6, 9, 12, 16, 20, and 24;
- BG-SB4: 4 to 6, 8, 12, 16, and 20;
- BG-SB5: 4 to 6, 12, 16, 20, and 24;

SOIL ANALYTICAL RESULTS

The laboratory soil analytical results were compared to the COGCC Table 915-1 Cleanup Concentrations. The soil analytical results reported above the COGCC Table 915-1 for SB1 and SB1R are summarized below.

- All SAR levels in SB1 and SB1R were reported above the applicable COGCC Table 915-1 Cleanup Concentration, with values ranging from 20.1 to 98.3. The COGCC Table 915-

1 Cleanup Concentrations for SAR is less than 6. However, only three samples exceeded the local background for SAR of 68.6 (BG-SB2, 12 ft-bgs).

The soil analytical results are summarized in **Table 1** and the laboratory analytical report is included as **Attachment 2**.

CONCLUSIONS

A recent interview was conducted of an EHS personal that responded to the incident in (2014). His statement is as followed “The pipeline failure occurred below KE Rd within the primary dry gas pipeline, the fluid release occurred above ground from the road casing style vent pipe off the secondary sealed pipeline that encases the primary pipeline. The EHS personal arrived at the leak and identified fluid spraying out of the riser vent in a mist which had run downhill into the roadside ditch immediately adjacent to the riser vent. A Hydrovac was dispatched, and all moist soils were recovered, the soils below the riser vent did not show signs of moisture below 2 feet below ground surface. Due to the release occurring from the pipeline post drying and separation at the Plateau Compressor Station minimal fluid was within the pipeline. The spill was identified and reported as 2 barrels”

The location of the spill was approximately 8 to 10 ft south of KE road near the pipeline riser. The produced water released flowed downgradient towards KE road and west along the roadside ditch. The locations of SB1 and SB1R are approximately 60 to 70 ft south and approximately 30 to 40 ft higher in elevation then the spill origin in an area which was not impacted by the release. During the original spill cleanup, the area around SB1 and SB1R was excavated to a depth of approximately 6 ft-bgs in order to remove the old pipeline uphill away from KE road. The soil, and SAR concentrations present, at SB1 and SB1R below the 6 ft excavated depth should be considered native soil.

The original estimate for produced water spilled was two barrels with one barrel recovered. Approximately two cubic yards of material were subsequently excavated. Soil results from background soil borings clearly indicate that naturally elevated SAR and pH are present in and adjacent to the spill area. When compared to the background results, it is reasonable to suspect that the SAR encountered in SB1 and SB1R is likely naturally occurring. The SAR concentration in SB1 at the 4 to 6 ft interval was within local background level with the highest SAR concentrations were at the 10 to 17 ft interval. The SAR concentrations in SB1R were 63.2 at the 20 to 25 ft interval, then decreased to 20.1 at the 22 to 23 ft interval then increased to 76.8 at the 23 to 24 ft interval indicating highly variable background concentrations. The presence of elevated SAR at the surface was likely due to the deeper native soils being mixed in during the backfill process and not as a direct result of the produced water spilled.

Excluding background samples, all subsurface sample results for EC were compliant with the applicable COGCC Table 915-1 Cleanup Concentration. All subsurface sample results for SAR were above the applicable COGCC Table 915-1 Cleanup Concentration. However, only three samples exceeded the local background concentration of 68.6.

The SAR present in the surface soils will eventually percolate below vegetative growth zones, however it is recommended that soil amendments be incorporated to better allow for future plant nutrient uptake.

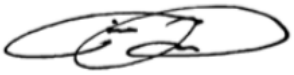
Entrada recommends that Caerus pursue closure with the COGCC regarding REM# 15310.

We appreciate the opportunity to assist Caerus Oil and Gas. Please contact me (720) 253-2940 if you have any questions.

Sincerely,

ENTRADA CONSULTING GROUP

Reed Johnson, PG
Senior Project Geologist

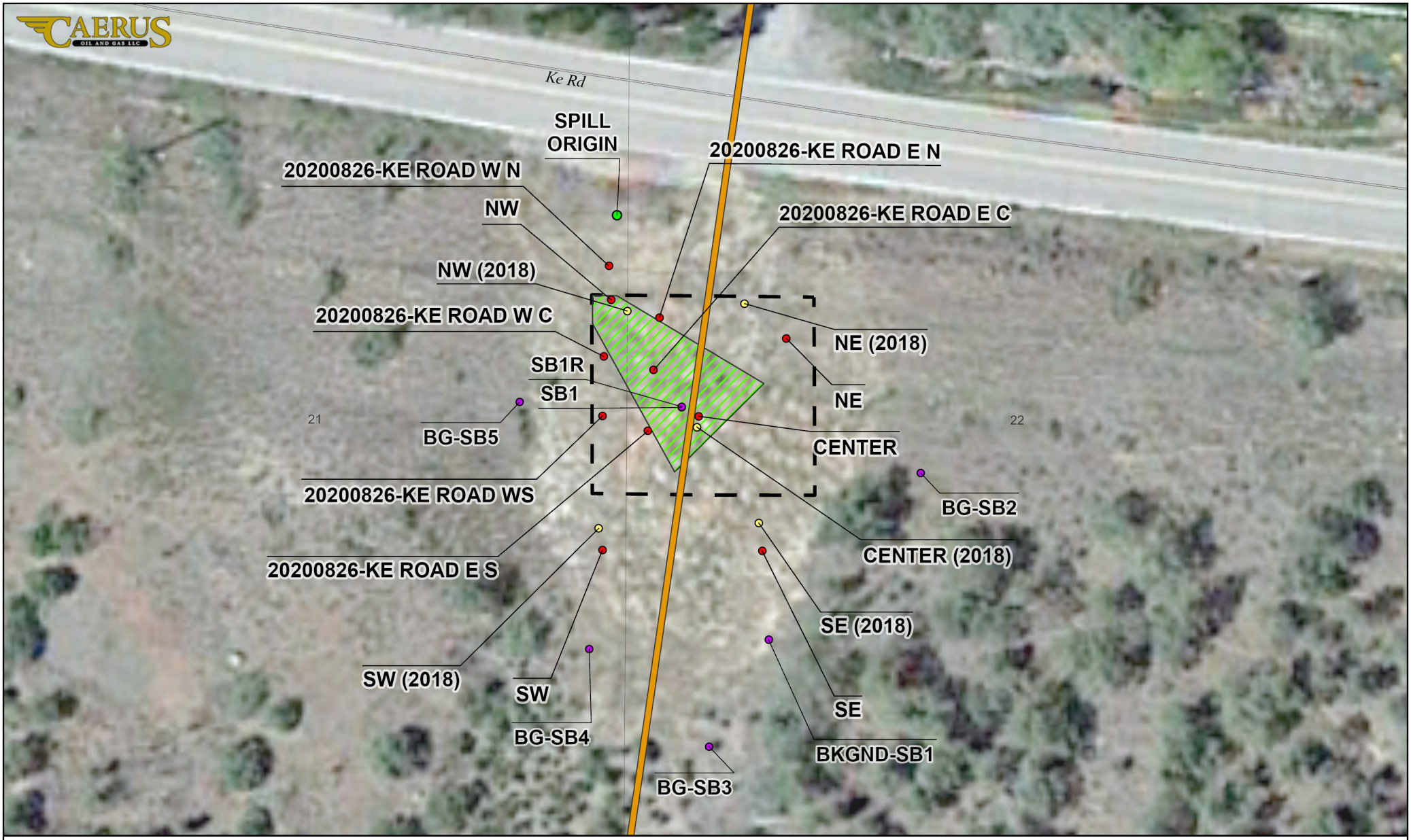


Tim Dobransky
Principal Scientist

Attachments:

Figure 1 – Sample Location Map
Table 1 – Soil Data Summary
Soil Boring Lithological Logs
Laboratory Analytical Reports

FIGURES



LEGEND

- 2018 Soil Sample Location
- 2020 Soil Sample Location
- 2021 Soil Sample Location
- Pipeline
- Soil Amendment Area 0-6" (51 cubic yards)
- Soil Amendment Area 6-36" (96 cubic yards)

0 40 80 Feet

1 inch = 40 ft

Project No:	020-024
Map By:	NDB
Date:	11/15/2021

KE Road Site Diagram
Caerus Oil and Gas, LLC
SENE, Section 21, T10S R96W, 6th PM
SWNW, Section 22, T10S R96W, 6th PM
Mesa County, Colorado

ENTRADA CONSULTING GROUP
330 Grand Avenue, Unit C
Grand Junction, CO 81501
970-579-1015

Figure
1

ENTRADA CONSULTING GROUP

Caerus Oil and Gas LLC
143 Diamond Ave
Parachute, CO 81635

KE Road

BG-SB3

Date Started	: 08/31/21
Detector	: NA
Hole Diameter	: 6"
Drilling Method	: Solid Stem Auger
Sampling Method	: Split Spoon/Auger Direct
Drilling Company	: CO Drilling and Sampling
Latitude	: 39.174225
Longitude	: -108.100591
Project Number	: 021-012
Logged By	: R. Johnson

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Moisture (%)	Fines (%)	Structure	PID (ppm)	Staining	Recovery (in)	Sample	Blow Count
0			0-4: Difficult drilling through Basalt Cobbles.								
	CL		4-6: Brown sandy clay into weathered shale.	20	80	P	NA	N	12	4-6 (1110)	19,50
5	SH										
	SH		Switched to auger sampling to avoid getting split spoon stuck.								
	SH		9: Sandy clay with trace gravel. Auger Sample.	20	80	NA	NA	N	AUG	8 (1135)	NA
10											
	SH		12: Sandy clay with trace gravel. Auger sample.	30	80	NA	NA	N	AUG	12 (1150)	NA
	SH										
15											
	SH		16: Maroon and grey mottled shale. Sandy. Auger Sample.	30	70	NA	NA	N	AUG	16 (1205)	NA
	SH										
20											
	SH		20: Maroon and grey mottled shale. Sandy. Auger Sample.	30	70	NA	NA	N	AUG	20 (1230)	NA
	SH										
25			24: Maroon and orange mottled shale. Stiff. Auger Sample.	40	80	NA	NA	N	AUG	24 (1245)	NA

TD at 25' @ 1250

TABLES

CAERUS OPERATING LLC
KE ROAD SPILL INVESTIGATION
SOIL ANALYTICAL RESULTS
MESA COUNTY, COLORADO

						Soil Suitability for Reclamation				Metals in Soil
PROTECTION OF GROUNDWATER SOIL SCREENING LEVEL CONCENTRATION (mg/Kg)						<4.0 mmhos/cm	<6	6 - 8.3	2 mg/L	0.29
RESIDENTIAL SOIL SCREENING LEVEL CONCENTRATION (mg/Kg)										0.68
Location	Lab Report #	Sampler	Sample Date	Sample Matrix	Matrix Notes	Electrical Conductivty (EC) (by saturated paste method)	Sodium Adsorption Ratio (SAR) by saturated paste method)	pH (by saturated paste method)	Boron (hot water soluble soil extract)	Arsenic
KE Road	L1374023	RJ	07/01/21	Background	20210701-KE RD-SB1R (20-20.5')	1.75	**63.2**			
KE Road	L1374023	RJ	07/01/21	Background	20210701-KE RD-SB1R (20.5-21.5')	2.56	**65.6**			
KE Road	L1374023	RJ	07/01/21	Background	20210701-KE RD-SB1R (22-23')	2.95	**20.1**			
KE Road	L1374023	RJ	07/01/21	Background	20210701-KE RD-SB1R (23-24')	2.27	**76.8**			
KE Road	L1374023	RJ	07/01/21	Background	20210701-KE RD-SB1R (24-25')	2.2	**52.5**			
KE Road	L1365774	RJ	06/11/21	Spill	20210611-KE RD-SB1 (5-6.5')	2.74	**49.1**			
KE Road	L1365774	RJ	06/11/21	Background	20210611-KE RD-SB1 (10-12')	1.55	**82.6**			
KE Road	L1365774	RJ	06/11/21	Background	20210611-KE RD-SB1 (13-17')	2.16	**98.3**			
KE Road	L1365774	RJ	06/11/21	Background	20210611-KERD-SB1 (20')	1.3	**63**			
KE Road	L1374034	RJ	07/01/21	Background	20210701-KE RD-BKGND-SB1 (5-7')	0.896	**24.7**			
KE Road	L1374034	RJ	07/01/21	Background	20210701-KE RD-BKGND-SB1 (7')	1.53	**42.5**			
KE Road	L1374034	RJ	07/01/21	Background	20210701-KE RD-BKGND-SB1 (8')	2.77	**47.4**			
KE Road	L1374034	RJ	07/01/21	Background	20210701-KE RD-BKND-SB1 (10-12')	1.95	**45.1**			
KE Road	L1374034	RJ	07/01/21	Background	20210701-KE RD-BKGND-SB1 (15')	1.61	**12.9**			
KE Road	L1374034	RJ	07/01/21	Background	20210701-KE RD-BKGND-SB1 (20')	1.56	**9.86**			
KE Road	L1374034	RJ	07/01/21	Background	20210701-KE RD-BKGND-SB1 (21')	1.5	**10**			
KE Road	L1374034	RJ	07/01/21	Background	20210701-KE RD-BKGND-SB1 (16')	1.53				
KE Road	L1374034	RJ	07/01/21	Background	20210701-KE RD-BKGND-SB1 (25-27')	1.35	**7.4**			
KE Road	L1397942	RJ	08/31/21	Background	20210831-KERD-BG-SB2(4-6')	**4.37**	**61.8**	**10.1**		**4.32**
KE Road	L1397942	RJ	08/31/21	Background	20210831-KERD-BG-SB2(8')	2.85	**56.5**	**9.91**		**3.35**
KE Road	L1397942	RJ	08/31/21	Background	20210831-KERD-BG-SB2(12')	3.23	**68.6**	**9.95**		**3.19**
KE Road	L1397942	RJ	08/31/21	Background	20210831-KERD-BG-SB2(16')	1.86	**45.6**	**9.44**		**2.29**
KE Road	L1397942	RJ	08/31/21	Background	20210831-KERD-BG-SB2(20')	3.35	**60.2**	**9.84**		**2.79**
KE Road	L1397942	RJ	08/31/21	Background	20210831-KERD-BG-SB2(25')	1.36	**39.8**	**10**		**2.67**
KE Road	L1397942	RJ	08/31/21	Background	20210831-KERD-BG-SB3(4-6')	0.535	**11.2**	**9.56**		**3.82**
KE Road	L1397942	RJ	08/31/21	Background	20210831-KERD-BG-SB3(9')	0.905	**16.5**	**9.68**		**3.13**
KE Road	L1397942	RJ	08/31/21	Background	20210831-KERD-BG-SB3(12')	0.921	4.48	**9.88**		**3.31**
KE Road	L1397942	RJ	08/31/21	Background	20210831-KERD-BG-SB3(16')	0.943	4.83	**10**		**3.41**
KE Road	L1397942	RJ	08/31/21	Background	20210831-KERD-BG-SB3(20')	0.805	4.6	**9.88**		**2.92**
KE Road	L1397942	RJ	08/31/21	Background	20210831-KERD-BG-SB3(24')	0.773	5.02	**9.92**		**3.16**
KE Road	L1397942	RJ	08/31/21	Background	20210831-KERD-BG-SB4(4-6')	3.26	**33.6**	**10.1**		**5.2**
KE Road	L1397942	RJ	08/31/21	Background	20210831-KERD-BG-SB4(8')	1.86	**38.3**	**9.76**		**3.8**
KE Road	L1397942	RJ	08/31/21	Background	20210831-KERD-BG-SB4(12')	2.37	**38.9**	**10**		**3.28**
KE Road	L1397942	RJ	08/31/21	Background	20210831-KERD-BG-SB4(16')	2.44	**16**	**9.98**		**3.55**
KE Road	L1397942	RJ	08/31/21	Background	20210831-KERD-BG-SB4(20')	2.35	**53.1**	**9.96**		**3.11**
KE Road	L1397942	RJ	08/31/21	Background	20210831-KERD-BG-SB5(4-6')	**4.03**	**49.8**	**9.28**		**4.48**
KE Road	L1397942	RJ	08/31/21	Background	20210831-KERD-BG-SB5(12')	3.01	**46.5**	**9.91**		**3.26**
KE Road	L1397942	RJ	08/31/21	Background	20210831-KERD-BG-SB5(16')	2.19	**10.4**	**10.1**		**2.66**
KE Road	L1397942	RJ	08/31/21	Background	20210831-KERD-BG-SB5(20')	1.3	**10.1**	**10.1**		**2.8**
KE Road	L1397942	RJ	08/31/21	Background	20210831-KERD-BG-SB5(24')	1.91	**11.8**	**10.2**		**2.14**

BORING LOGS

ENTRADA CONSULTING GROUP

Caerus Oil and Gas LLC
143 Diamond Ave
Parachute, CO 81635

KE Road

BG-SB2

Date Started	: 08/31/21
Detector	: NA
Hole Diameter	: 6"
Drilling Method	: Solid Stem Auger
Sampling Method	: Split Spoon/Auger Direct
Drilling Company	: CO Drilling and Sampling
Latitude	: 39.174403
Longitude	: -108.100414
Project Number	: 021-012
Logged By	: R. Johnson

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Moisture (%)	Fines (%)	Structure	PID (ppm)	Staining	Recovery (in)	Sample	Blow Count
0			3-4: Difficult drilling through Basalt Cobbles.								
5	CL		4-6: Clay with trace gravel and sand. Stiff. Moist.	50	85	M	NA	N	18	4-6 (0855)	5,8,11,16
			Switched to auger sampling to avoid getting split spoon stuck.								
			8: Silty and sandy brown clay. Auger sample.	50	90	NA	NA	N	AUG	8 (0905)	NA
10	SH		Gradual color change in cuttings from brown to maroon from 9-12'.								
			12: Silty clay. Auger sample.	50	90	NA	NA	N	AUG	12 (0920)	NA
15	SH										
			16: Clay with trace sand. Auger Sample.	50	90	NA	NA	N	AUG	16 (0945)	NA
20	SH										
			20: Clay with trace sand. Auger sample.	50	90	NA	NA	N	AUG	20 (1005)	NA
	SC		24: Clay with sandy lenses. Auger Sample.	50	70	NA	NA	N	AUG	24 (1030)	NA
25			TD at 25' @ 1040								

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Caerus Oil and Gas LLC
143 Diamond Ave
Parachute, CO 81635

KE Road

BG-SB4

Date Started	: 08/31/21
Detector	: NA
Hole Diameter	: 6"
Drilling Method	: Solid Stem Auger
Sampling Method	: Split Spoon/Auger Direct
Drilling Company	: CO Drilling and Sampling
Latitude	: 39.174289
Longitude	: -108.100692
Project Number	: 021-012
Logged By	: R. Johnson

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Moisture (%)	Fines (%)	Structure	PID (ppm)	Staining	Recovery (in)	Sample	Blow Count
0			0-4: Basalt Cobbles.								
5			4-6: Brown and maroon claystone. Mottled. Sandy.	20	70	M	NA	N	14	4-6 (1315)	19,31
			Switched to auger sampling to avoid getting split spoon stuck.								
			8: Sandy clay. Auger sample.	30	80	NA	NA	N	AUG	8 (1325)	NA
10	SH										
			12: Maroon and grey claystone. Sandy. Auger sample.	30	80	NA	NA	N	AUG	12 (1335)	NA
	SH										
15			16: Maroon and grey claystone. Sandy. Auger sample.	30	80	NA	NA	N	AUG	16 (1350)	NA
	SH										
20											
	SH		20: Maroon and grey mottled claystone. Auger sample.	30	80	NA	NA	N	AUG	20 (1405)	NA

TD at 21' @ 1410

ENTRADA CONSULTING GROUP

Caerus Oil and Gas LLC
143 Diamond Ave
Parachute, CO 81635

KE Road

BG-SB5

Date Started	: 08/31/21
Detector	: NA
Hole Diameter	: 6"
Drilling Method	: Solid Stem Auger
Sampling Method	: Split Spoon/Auger Direct
Drilling Company	: CO Drilling and Sampling
Latitude	: 39.174449
Longitude	: -108.100750
Project Number	: 021-012
Logged By	: R. Johnson

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Moisture (%)	Fines (%)	Structure	PID (ppm)	Staining	Recovery (in)	Sample	Blow Count
0			0-4: Basalt Cobbles.								
5	GC		4-6: Sandy clay into basalt cobbles into sandy clay with trace gravel.	20	60	P	NA	N	14	4-6 (1430)	19,31
			6.5-11.5: Basalt Boulder(s).								
10			Switched to auger sampling to avoid getting split spoon stuck.								
	SH		12: Brown, maroon, and grey mottled claystone. Silty. Auger sample.	30	80	NA	NA	N	AUG	12 (1505)	NA
15	SH		16: Maroon and grey mottled claystone. Silty. Auger sample.	30	80	NA	NA	N	AUG	16 (1515)	NA
20	SH		20: Maroon and orange mottled claystone. Sandy. Auger sample.	30	80	NA	NA	N	AUG	20 (1535)	NA
25	SH		24: Maroon silty clay. Trace white mottling. Auger sample.	30	90	NA	NA	N	AUG	24 (1555)	NA
			TD at 25' @ 1600								

ENTRADA CONSULTING GROUP

Caerus Oil and Gas LLC
143 Diamond Ave
Parachute, CO 81635

KE Road

BKGND-SB1

Date Started	: 07/1/21
Detector	: MiniRae PID
Hole Diameter	: 6"
Drilling Method	: Solid Stem Auger
Sampling Method	: Split Spoon
Drilling Company	: CO Drilling and Sampling
Latitude	: 39.1742946147671
Longitude	: -108.100541273383
Project Number	: 021-012
Logged By	: R. Johnson

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Moisture (%)	Fines (%)	Structure	PID (ppm)	Staining	Recovery (in)	Sample	Blow Count
0			2-4: Hard drilling. Basalt Cobbles.								
5	CL		5-7: Gravelly clay. Mottled. Sandy. Dry.	10	50	N	NA	N	12	5-7	54
	SH		7-8: Variegated claystone. Silty. Maroon & Orange. Some white mottling observed in 7' sample.	10	70	S	NA	N	16	7 & 8	13,24
10	SH		10-12: Maroon variegated claystone. Dry. Silty.	10	70	S	NA	N	14	10-12	50 for 13
15	SH		15-17: 8" Maroon claystone into 8" grey claystone. Dry. Silty.	10	80	S	NA	N	16	15 & 16	35,15
	SH										
20	SH		20-22: 10" maroon claystone (20' sample) into 5" of maroon claystone with white mottling (21' sample).	10	80	S	NA	N	15	20 & 21	50 for 7
	SH		22-23: Poor recovery due to water added to hole to facilitate drilling.	NA	NA	NA	NA	NA	NA	NA	50 for 4.5
25	SH		25-27: Grey mudstone. No staining or mottling.	10	80	S	NA	N	12	25-27	50 for 4

TD at 27'

ENTRADA CONSULTING GROUP

Caerus Oil and Gas LLC
143 Diamond Ave
Parachute, CO 81635

KE Road

SB1

Date Started	: 06/11/21
Detector	: MiniRae PID
Hole Diameter	: 6"
Drilling Method	: Solid Stem Auger
Sampling Method	: Split Spoon
Drilling Company	: CO Drilling and Sampling
Latitude	: 39.1744458°
Longitude	: -108.1006146°
Project Number	: 021-012
Logged By	: R. Johnson

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Moisture (%)	Fines (%)	Structure	PID (ppm)	Staining	Recovery (in)	Sample	Blow Count
0											
5	CL		5-6.5: Volcanic cobble into brown sandy clay. Trace gravel. Dry.	20	90	N	NA	N	18	5-6.5	7,14,17
10	CL		10-12: Hard red clay. Trace gravel. Mottled.	20	90	N	NA	N	24	10-12	12,17,29
15	SH		15-17: Weathered shale. Dry. No odor.	20	90	S	NA	N	16	15-17	50
20	SH		20: Cuttings sample. Shale cuttings.	20	90	NA	NA	N	NA	20-20.5	NA

TD at ~20.5.

ENTRADA CONSULTING GROUP

Caerus Oil and Gas LLC
143 Diamond Ave
Parachute, CO 81635

KE Road

SB1R

Date Started	: 07/1/21
Detector	: MiniRae PID
Hole Diameter	: 6"
Drilling Method	: Solid Stem Auger
Sampling Method	: Split Spoon
Drilling Company	: CO Drilling and Sampling
Latitude	: 39.1744458°
Longitude	: -108.1006146°
Project Number	: 021-012
Logged By	: R. Johnson

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Moisture (%)	Fines (%)	Structure	PID (ppm)	Staining	Recovery (in)	Sample	Blow Count
0			Re-enter old boring and advance to 20'.								
20	SH		20-20.5: Maroon claystone into light grey claystone. Friable.	10	90	S	NA	N	8	20-20.5	50 for 6
	SH		20.5-21.5: Maroon claystone with white mottling.	10	90	S	NA	N	7	20.5-21.5	50 for 7
	SH		22-23: Dark grey claystone. White mottling.	10	90	S	NA	N	10	22-23	50 for 12
	SH		23-24: Dark grey claystone. White mottling.	10	90	S	NA	N	7	23-24	50 for 8
	SH		24-25: Dark grey claystone. White mottling.	10	90	S	NA	N	9	24-25	50 for 9
25			TD at 25' due to weather.								

SOIL ANALYTICAL REPORTS

ANALYTICAL REPORT

June 25, 2021

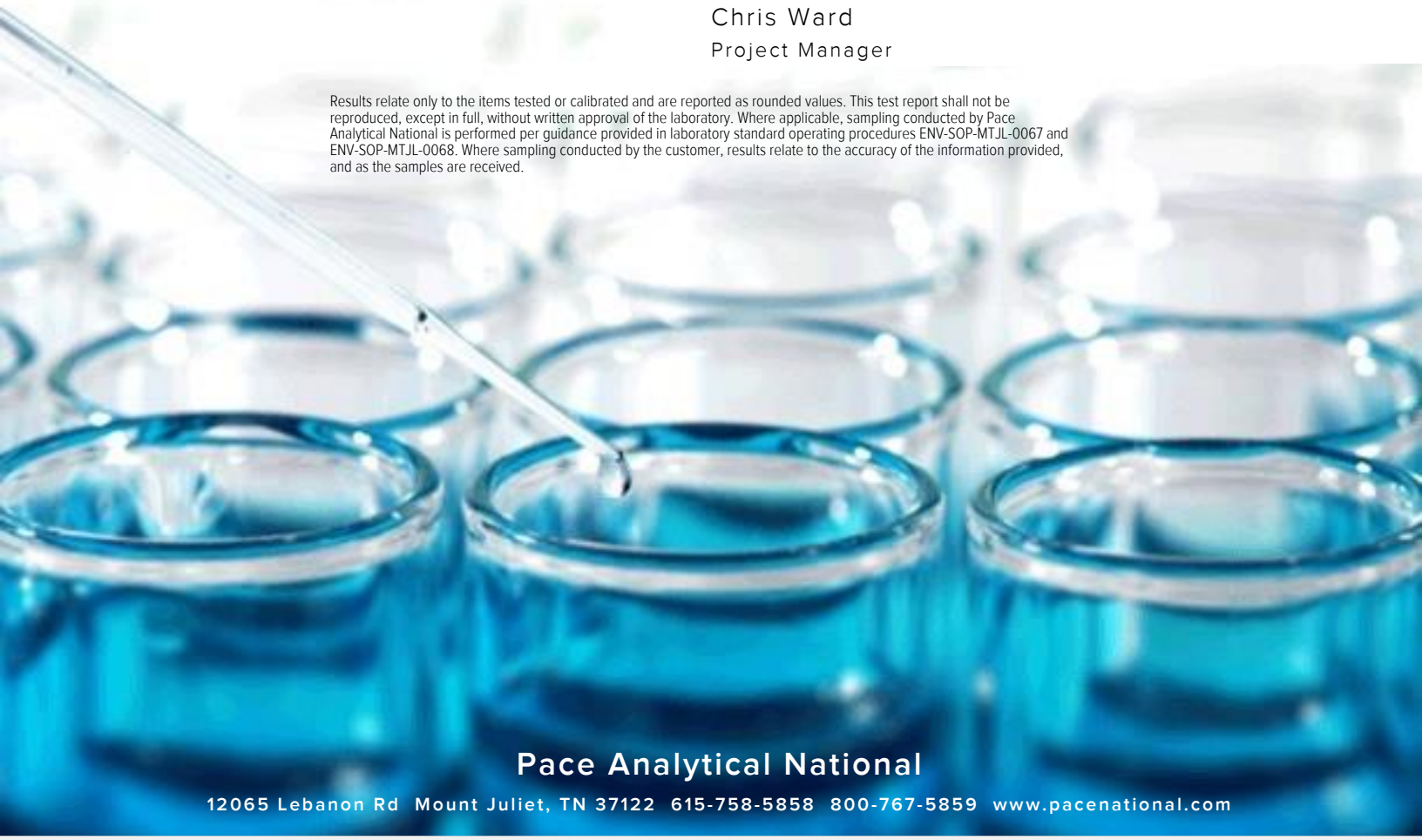
Caerus Oil and Gas

Sample Delivery Group:	L1365774
Samples Received:	06/12/2021
Project Number:	
Description:	KE Road

Report To: Blair Rollins
143 Diamond Avenue
Parachute, CO 81635

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

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SAMPLE SUMMARY

20210611-KERD-SB1 (5-6.5) L1365774-01 Solid

Collected by: Reed Johnson
Collected date/time: 06/11/21 09:15
Received date/time: 06/12/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1688378	1	06/25/21 12:03	06/25/21 12:03	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1690430	1	06/17/21 14:10	06/17/21 19:26	AMH	Mt. Juliet, TN

20210611-KERD-SB1 (10-12') L1365774-02 Solid

Collected by: Reed Johnson
Collected date/time: 06/11/21 09:40
Received date/time: 06/12/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1688378	1	06/25/21 12:06	06/25/21 12:06	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1690430	1	06/17/21 14:10	06/17/21 19:26	AMH	Mt. Juliet, TN

20210611-KERD-SB1 (13-17') L1365774-03 Solid

Collected by: Reed Johnson
Collected date/time: 06/11/21 10:05
Received date/time: 06/12/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1688378	1	06/25/21 12:09	06/25/21 12:09	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1690430	1	06/17/21 14:10	06/17/21 19:26	AMH	Mt. Juliet, TN

20210611-KERD-SB1 (20') L1365774-04 Solid

Collected by: Reed Johnson
Collected date/time: 06/11/21 10:20
Received date/time: 06/12/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1688378	1	06/25/21 12:12	06/25/21 12:12	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1690430	1	06/17/21 14:10	06/17/21 19:26	AMH	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	49.1		1	06/25/2021 12:03	WG1688378

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	2740		10.0	1	06/17/2021 19:26	WG1690430

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	82.6		1	06/25/2021 12:06	WG1688378

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1550		10.0	1	06/17/2021 19:26	WG1690430

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	98.3		1	06/25/2021 12:09	WG1688378

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	2160		10.0	1	06/17/2021 19:26	WG1690430

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	63.0		1	06/25/2021 12:12	WG1688378

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1300		10.0	1	06/17/2021 19:26	WG1690430

Method Blank (MB)

(MB) R3668766-1 06/17/21 19:26

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

L1365782-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1365782-01 06/17/21 19:26 • (DUP) R3668766-3 06/17/21 19:26

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	6440	6510	1	1.08		20

L1365816-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1365816-02 06/17/21 19:26 • (DUP) R3668766-4 06/17/21 19:26

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	796	853	1	6.91		20

Laboratory Control Sample (LCS)

(LCS) R3668766-2 06/17/21 19:26

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	268	275	103	85.0-115	

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

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

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.

Company Name/Address:
Caerus Oil and Gas

143 Diamond Ave.
Parachute, CO 81635

Billing Information:
Caerus Oil and Gas
143 Diamond Ave.
Parachute, CO 81635

Report to:
Blair Rollins

Email To:
brollins@caerusoilandgas.com

Project Description: KE Road

City/State Collected: ~~Parachute, CO~~ Mesa, CO

Phone: **(970) 640-6919**
Fax:

Client Project #

Lab Project #

Collected by (print):
Reed Johnson

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ____ Y ✓

Rush? (Lab MUST Be Notified)
____ Same Day 200%
____ Next Day 100%
____ Two Day 50%
____ Three Day 25%

Date Results Needed

Email? ___No ✓Yes
FAX? ✓No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Table 915 GRO/DRO/ORO	Table 915 Metals	Table 915 PAHs	Table 915 VOCs	Table 915 pH, SPCON, SAR						Rem./Contaminant	Sample # (lab only)
20210611-KERd-SB1 (5-6.5)	Grab	SS	5-6.5	6/11/21	0915	2					X							-01
20210611-KERd-SB1 (10-12')	"	"	10-12'	"	0940	2					X							-02
20210611-KERd-SB1 (15-17')	"	"	15-17'	"	1005	2					X							-03
20210611-KERd-SB1 (20')	"	"	20'	"	1020	2					X							-04

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

ESC LAB SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 136577
J049

Acctnum:
Template:
Prelogin:
TSR:
Cooler:
Shipped Via:

Sample Receipt Checklist
COC Seal Present/Intact: ___Y ___N
COC Signed/Accurate: ✓Y ___N
Bottles arrive intact: ✓Y ___N
Correct bottles used: ✓Y ___N
Sufficient volume sent: ✓Y ___N
RAD Screen <0.5 mR/hr: ✓Y ___N
If Applicable
VOA Zero Headspace: ___Y ___N
Pres.Correct/Check: ___Y ___N

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/11/21	1230	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	6/11/21	1300	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			T. Kobernusky

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Temp: 4.2-8 °C Bottles Received:

Date: 6/12/21 Time: 945

Condition: (lab use only)

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

ANALYTICAL REPORT

July 23, 2021

Caerus Oil and Gas

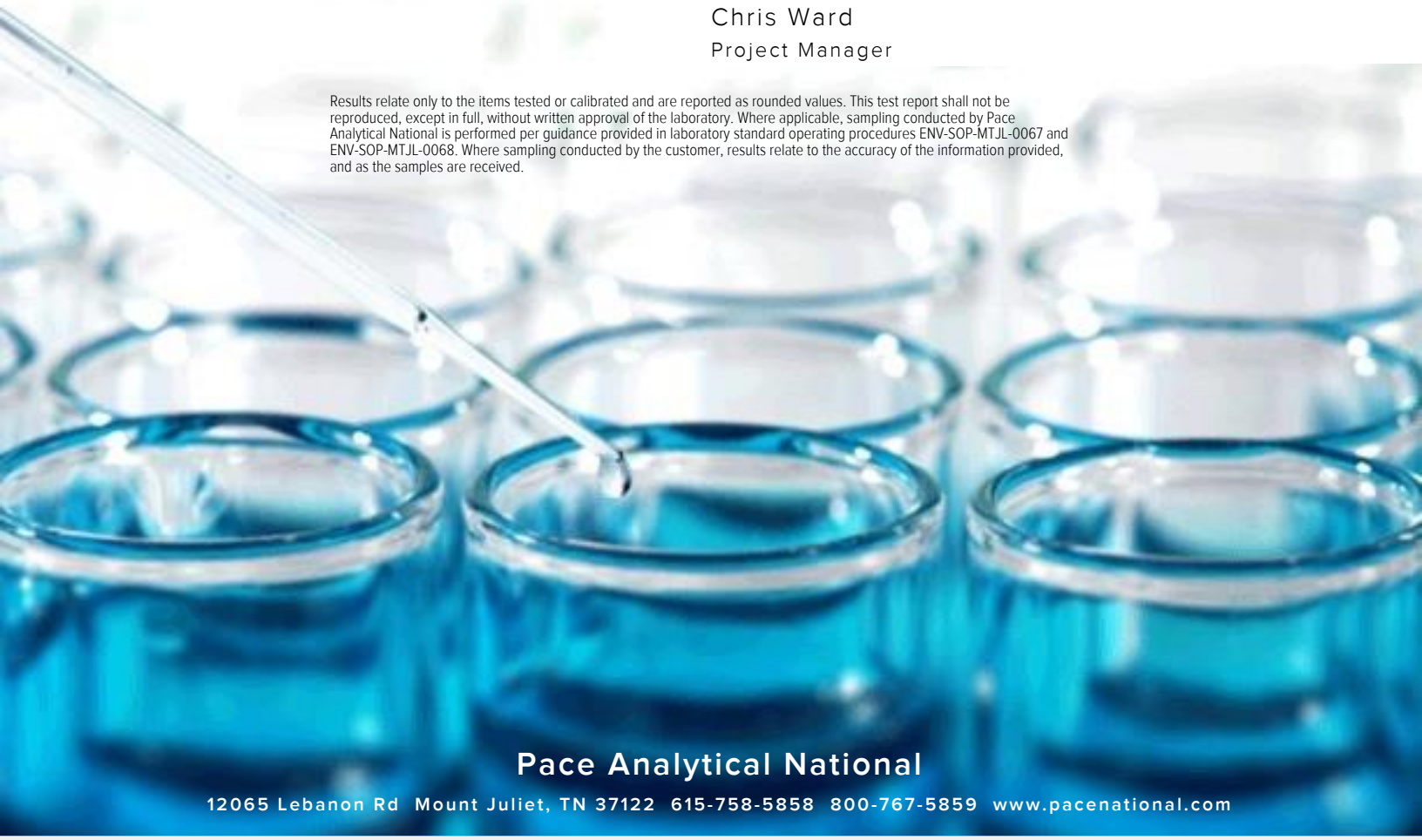
Sample Delivery Group:	L1374023
Samples Received:	07/02/2021
Project Number:	
Description:	KE Road SB1 Redrill

Report To:

Blair Rollins
143 Diamond Avenue
Parachute, CO 81635

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

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SAMPLE SUMMARY

20210701-KERM-SB1R (20-20.5) L1374023-01 Solid

Collected by: Reed Johnson | Collected date/time: 07/01/21 12:10 | Received date/time: 07/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1701791	1	07/22/21 00:30	07/22/21 00:30	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1701964	1	07/08/21 14:30	07/08/21 19:18	AMH	Mt. Juliet, TN

20210701-KERM-SB1R (20.5-21.5) L1374023-02 Solid

Collected by: Reed Johnson | Collected date/time: 07/01/21 12:20 | Received date/time: 07/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1701791	1	07/22/21 00:33	07/22/21 00:33	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1701964	1	07/08/21 14:30	07/08/21 19:18	AMH	Mt. Juliet, TN

20210701-KERM-SB1R (22-23) L1374023-03 Solid

Collected by: Reed Johnson | Collected date/time: 07/01/21 12:40 | Received date/time: 07/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1701791	1	07/22/21 00:35	07/22/21 00:35	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1701964	1	07/08/21 14:30	07/08/21 19:18	AMH	Mt. Juliet, TN

20210701-KERM-SB1R (23-24) L1374023-04 Solid

Collected by: Reed Johnson | Collected date/time: 07/01/21 12:50 | Received date/time: 07/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1701791	1	07/22/21 00:38	07/22/21 00:38	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1701964	1	07/08/21 14:30	07/08/21 19:18	AMH	Mt. Juliet, TN

20210701-KERM-SB1R (24-25) L1374023-05 Solid

Collected by: Reed Johnson | Collected date/time: 07/01/21 13:00 | Received date/time: 07/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1701791	1	07/22/21 00:41	07/22/21 00:41	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1701964	1	07/08/21 14:30	07/08/21 19:18	AMH	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	63.2		1	07/22/2021 00:30	WG1701791

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1750		10.0	1	07/08/2021 19:18	WG1701964

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	65.6		1	07/22/2021 00:33	WG1701791

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	2560		10.0	1	07/08/2021 19:18	WG1701964

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	20.1		1	07/22/2021 00:35	WG1701791

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	2950		10.0	1	07/08/2021 19:18	WG1701964

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	76.8		1	07/22/2021 00:38	WG1701791

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	2270		10.0	1	07/08/2021 19:18	WG1701964

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	52.5		1	07/22/2021 00:41	WG1701791

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	2200		10.0	1	07/08/2021 19:18	WG1701964

Method Blank (MB)

(MB) R3677285-1 07/08/21 19:18

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

L1374020-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1374020-02 07/08/21 19:18 • (DUP) R3677285-3 07/08/21 19:18

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	224	232	1	3.38		20

L1374023-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1374023-05 07/08/21 19:18 • (DUP) R3677285-4 07/08/21 19:18

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	2200	2070	1	6.10		20

Laboratory Control Sample (LCS)

(LCS) R3677285-2 07/08/21 19:18

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	899	902	100	85.0-115	

GLOSSARY OF TERMS

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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.
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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.
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Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

ACCREDITATIONS & LOCATIONS

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.

Company Name/Address:
Caerus Oil and Gas

143 Diamond Ave.
Parachute, CO 81635

Billing Information:
Caerus Oil and Gas
143 Diamond Ave.
Parachute, CO 81635

Report to:
Blair Rollins

Email To:
brollins@caerusoilandgas.com

Project Description: KE Road SB1 Redrill

City/State Collected: ~~Parachute, CO~~ Mesa CO

Phone: **(970) 640-6919**
Fax:

Client Project #

Lab Project #

Collected by (print):
Reed Johnson

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No ✓Yes
FAX? ✓No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	~~Table 915 GRO/DRO/ORO~~	~~Table 915 Metals~~	~~Table 915 PAH's~~	~~Table 915 VOCs~~	~~Table 915 pH~~, SPCON, SAR					Rem./Contaminant	Sample # (lab only)
20210701-KERD-SB1R (20-20.5)	Grab	SS	20-20.5	7/1/21	1210	1					X						-01
20210701-KERD-SB1R (20.5-21.5)	"	"	20.5-21.5	"	1220	1					X						-02
20210701-KERD-SB1R (22-23)	"	"	22-23	"	1240	2					X						-03
20210701-KERD-SB1R (23-24)	"	"	23-24	"	1250	1					X						-04
20210701-KERD-SB1R (24-25)	"	"	24-25	"	1300	2					X						-05

Sample Receipt Checklist

COC Seal Present/Intact:	Y N	If Applicable	
COC Signed/Accurate:	Y N	VOA Zero Headspace:	Y N
Bottles arrive intact:	Y N	Pres.Correct/Check:	Y N
Correct bottles used:	Y N		
Sufficient volume sent:	Y N		
RAD Screen <0.5 mR/hr:	Y N		

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	7/1/21	1500	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	7/1/21	1700	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Temp: 0.7+0.8°C Bottles Received: 7
2.3+.1=2.4

Date: 7/2/21 Time: 9:00

Hold #

Condition: (lab use only)

COC Seal Intact: ___ Y ___ N ✓ NA

pH Checked: NCF:

Chain of Custody Page 1 of 1

ESC LABORATORY SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 1374023
E004

Acctnum:
Template:
Prelogin:
TSR:
Cooler:
Shipped Via:

ANALYTICAL REPORT

July 23, 2021

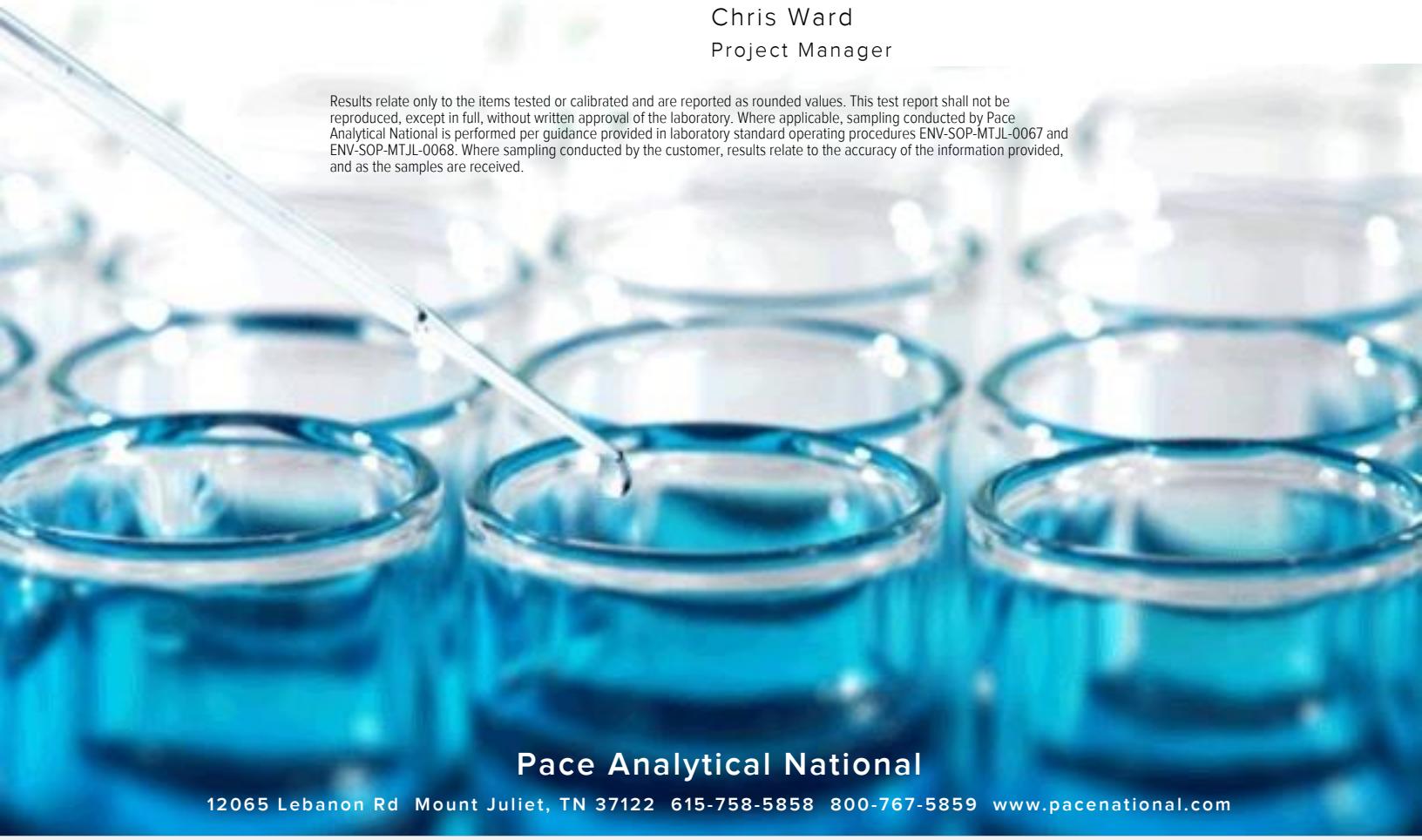
Caerus Oil and Gas

Sample Delivery Group:	L1374034
Samples Received:	07/02/2021
Project Number:	
Description:	KE Road Background

Report To: Blair Rollins
143 Diamond Avenue
Parachute, CO 81635

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

20210701-KERM-BKGND-SB1 (5-7) L1374034-01 Solid

Collected by: Reed Johnson | Collected date/time: 07/01/21 09:30 | Received date/time: 07/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1701791	1	07/22/21 00:44	07/22/21 00:44	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1701964	1	07/08/21 14:30	07/08/21 19:18	AMH	Mt. Juliet, TN

20210701-KERM-BKGND-SB1 (7) L1374034-02 Solid

Collected by: Reed Johnson | Collected date/time: 07/01/21 09:40 | Received date/time: 07/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1701791	1	07/22/21 00:47	07/22/21 00:47	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1701964	1	07/08/21 14:30	07/08/21 19:18	AMH	Mt. Juliet, TN

20210701-KERM-BKGND-SB1 (8) L1374034-03 Solid

Collected by: Reed Johnson | Collected date/time: 07/01/21 09:45 | Received date/time: 07/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1701791	1	07/22/21 00:50	07/22/21 00:50	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1701964	1	07/08/21 14:30	07/08/21 19:18	AMH	Mt. Juliet, TN

20210701-KERM-BKGND-SB1 (10-12) L1374034-04 Solid

Collected by: Reed Johnson | Collected date/time: 07/01/21 09:55 | Received date/time: 07/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1701791	1	07/22/21 00:53	07/22/21 00:53	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1701964	1	07/08/21 14:30	07/08/21 19:18	AMH	Mt. Juliet, TN

20210701-KERM-BKGND-SB1 (15) L1374034-05 Solid

Collected by: Reed Johnson | Collected date/time: 07/01/21 10:05 | Received date/time: 07/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1701791	1	07/22/21 01:02	07/22/21 01:02	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1701964	1	07/08/21 14:30	07/08/21 19:18	AMH	Mt. Juliet, TN

20210701-KERM-BKGND-SB1 (16) L1374034-06 Solid

Collected by: Reed Johnson | Collected date/time: 07/01/21 10:10 | Received date/time: 07/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9050AMod	WG1701964	1	07/08/21 14:30	07/08/21 19:18	AMH	Mt. Juliet, TN

20210701-KERM-BKGND-SB1 (20) L1374034-07 Solid

Collected by: Reed Johnson | Collected date/time: 07/01/21 10:35 | Received date/time: 07/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1701791	1	07/22/21 01:05	07/22/21 01:05	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1701964	1	07/08/21 14:30	07/08/21 19:18	AMH	Mt. Juliet, TN

SAMPLE SUMMARY

20210701-KERM-BKGND-SB1 (21) L1374034-08 Solid

Collected by: Reed Johnson
Collected date/time: 07/01/21 10:40
Received date/time: 07/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1701791	1	07/22/21 01:08	07/22/21 01:08	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1701964	1	07/08/21 14:30	07/08/21 19:18	AMH	Mt. Juliet, TN

20210701-KERM-BKGND-SB1 (25-27) L1374034-09 Solid

Collected by: Reed Johnson
Collected date/time: 07/01/21 11:10
Received date/time: 07/02/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1701791	1	07/22/21 01:11	07/22/21 01:11	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1701964	1	07/08/21 14:30	07/08/21 19:18	AMH	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

Project Narrative

Jar for -06 was broken before sample was split for SAR

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	24.7		1	07/22/2021 00:44	WG1701791

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	896		10.0	1	07/08/2021 19:18	WG1701964

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	42.5		1	07/22/2021 00:47	WG1701791

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1530		10.0	1	07/08/2021 19:18	WG1701964

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	47.4		1	07/22/2021 00:50	WG1701791

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	2770		10.0	1	07/08/2021 19:18	WG1701964

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	45.1		1	07/22/2021 00:53	WG1701791

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1950		10.0	1	07/08/2021 19:18	WG1701964

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	12.9		1	07/22/2021 01:02	WG1701791

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1610		10.0	1	07/08/2021 19:18	WG1701964

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	umhos/cm		umhos/cm		date / time	
Specific Conductance	1530		10.0	1	07/08/2021 19:18	WG1701964

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	9.86		1	07/22/2021 01:05	WG1701791

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1560		10.0	1	07/08/2021 19:18	WG1701964

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	10.0		1	07/22/2021 01:08	WG1701791

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1500		10.0	1	07/08/2021 19:18	WG1701964

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	7.40		1	07/22/2021 01:11	WG1701791

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1350		10.0	1	07/08/2021 19:18	WG1701964

Method Blank (MB)

(MB) R3677285-1 07/08/21 19:18

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

L1374020-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1374020-02 07/08/21 19:18 • (DUP) R3677285-3 07/08/21 19:18

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	224	232	1	3.38		20

L1374023-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1374023-05 07/08/21 19:18 • (DUP) R3677285-4 07/08/21 19:18

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	2200	2070	1	6.10		20

Laboratory Control Sample (LCS)

(LCS) R3677285-2 07/08/21 19:18

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	899	902	100	85.0-115	

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.
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The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

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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

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

Company Name/Address:
Caerus Oil and Gas
143 Diamond Ave.
Parachute, CO 81635

Billing Information:
Caerus Oil and Gas
143 Diamond Ave.
Parachute, CO 81635

Report to: **Blair Rollins**

Email To: brollins@caerusoilandgas.com

Project Description: KE Road Background

City/State Collected: Mesa CO

Phone: **(970) 640-6919**
Fax:

Client Project #

Lab Project #

Collected by (print): Reed Johnson

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No ✓Yes
FAX? ✓No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Table 915 GRO/DRO/ORO	Table 915 Metals	Table 915 PAH's	Table 915 VOCs	Table 915 pH, SPCON, SAR						Rem./Contaminant	Sample # (lab only)
20210701 - KERd - BKGND-SB1 (5-7)	Grab	SS	5-7'	7/1/21	0930	3					X							-01
20210701 - KERd - BKGND-SB1 (7)			7'		0940	1					X							-02
20210301 - KERd - BKGND-SB1 (8)			8'		0945	2					X							-03
20210701 - KERd - BKGND-SB1 (10-12)			10-12		0955	2					X							-04
20210701 - KERd - BKGND-SB1 (15)			15		1005	1					X							-05
20210701 - KERd - BKGND-SB1 (16)			16		1010	1					X							-06
20210701 - KERd - BKGND-SB1 (20)			20		1035	1					X							-07
20210701 - KERd - BKGND-SB1 (21)			21		1040	1					X							-08
20210701 - KERd - BKGND-SB1 (25-27)			25-27		1110	2					X							-09

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

ESC LABORATORY SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 1374034
Table E003
Acctnum:
Template:
Prelogin:
TSR:
Cooler:
Shipped Via:

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other ___

pH ___ Temp ___
Flow ___ Other ___

Remarks:

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	7/1/21	1500	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	7/1/21	1700	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ ___
Temp 0.7 °C Bottles Received: 14
2.3+1=2.4
Date: 7-2-21 Time: 9:18

Condition: (lab use only)
COC Seal Intact: ___Y ___N ___NA
pH Checked: NCF:

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client: CAERUSPCO	L1374034	
Cooler Received/Opened On: 7/2/21 Temperature:	2.4	
Received By: Delisha Kirkendoll		
Signature:		

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	/		
COC Signed / Accurate?		/	
Bottles arrive intact?		/	
Correct bottles used?		/	
Sufficient volume sent?		/	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			

ANALYTICAL REPORT

September 09, 2021

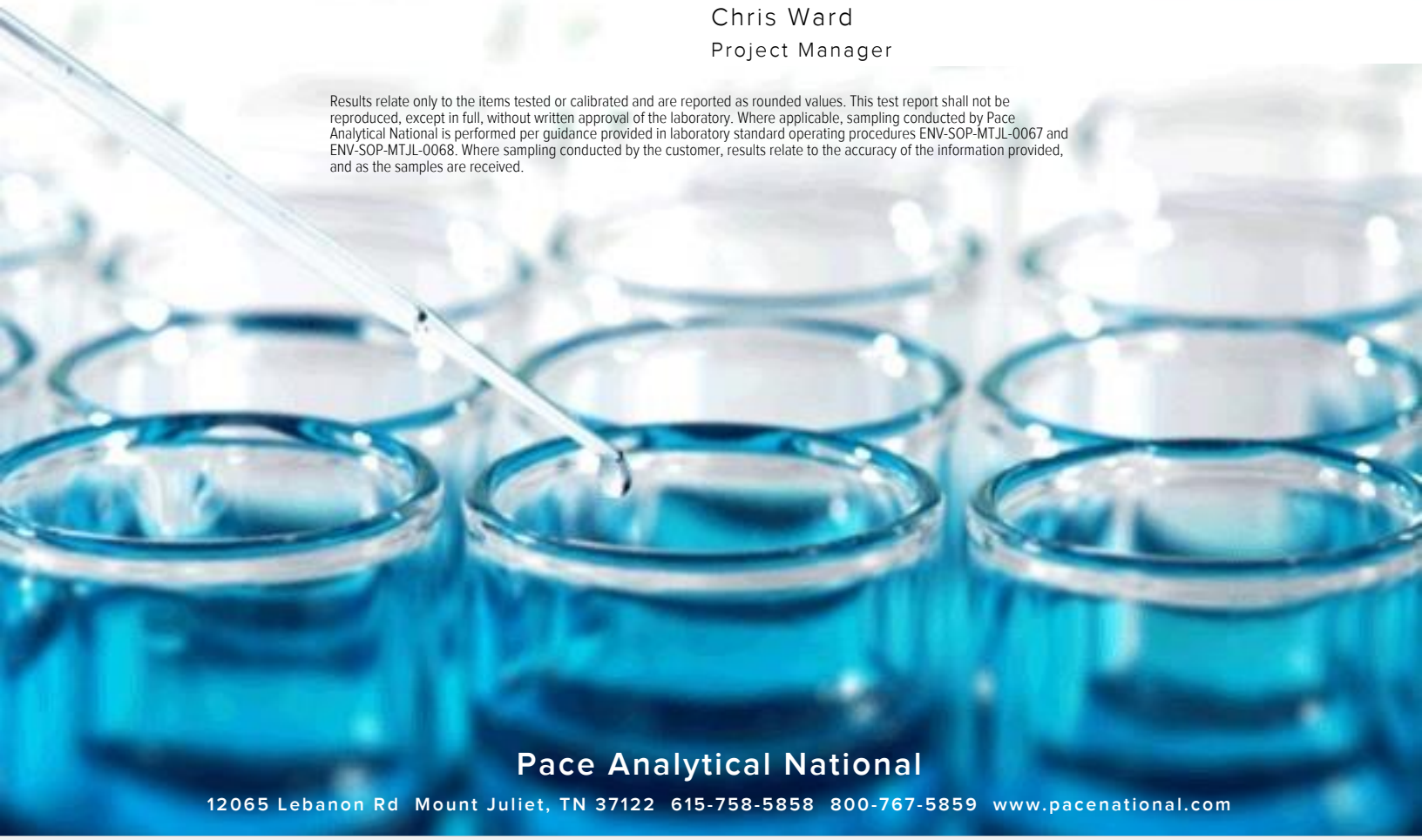
Caerus Oil and Gas

Sample Delivery Group:	L1397942
Samples Received:	09/01/2021
Project Number:	
Description:	KE Road

Report To: Blair Rollins
143 Diamond Avenue
Parachute, CO 81635

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

20210831-KERD-B6-SB2(4-6) L1397942-01 Solid

Collected by: Reed Johnson | Collected date/time: 08/31/21 08:55 | Received date/time: 09/01/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1733672	1	09/08/21 18:01	09/08/21 18:01	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1735855	1	09/06/21 19:30	09/07/21 01:01	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1735448	1	09/05/21 12:04	09/07/21 16:50	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1734433	5	09/03/21 13:25	09/06/21 10:20	LAT	Mt. Juliet, TN

20210831-KERD-B6-SB2(8') L1397942-02 Solid

Collected by: Reed Johnson | Collected date/time: 08/31/21 09:05 | Received date/time: 09/01/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1733672	1	09/08/21 18:04	09/08/21 18:04	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1735855	1	09/06/21 19:30	09/07/21 01:01	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1735448	1	09/05/21 12:04	09/07/21 16:50	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1734433	5	09/03/21 13:25	09/06/21 10:37	LAT	Mt. Juliet, TN

20210831-KERD-B6-SB2(12') L1397942-03 Solid

Collected by: Reed Johnson | Collected date/time: 08/31/21 09:20 | Received date/time: 09/01/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1733672	1	09/08/21 18:07	09/08/21 18:07	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1735855	1	09/06/21 19:30	09/07/21 01:01	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1735448	1	09/05/21 12:04	09/07/21 16:50	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1734433	5	09/03/21 13:25	09/06/21 10:40	LAT	Mt. Juliet, TN

20210831-KERD-B6-SB2(16') L1397942-04 Solid

Collected by: Reed Johnson | Collected date/time: 08/31/21 09:45 | Received date/time: 09/01/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1733672	1	09/08/21 18:10	09/08/21 18:10	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1735855	1	09/06/21 19:30	09/07/21 01:01	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1735448	1	09/05/21 12:04	09/07/21 16:50	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1734433	5	09/03/21 13:25	09/06/21 10:44	LAT	Mt. Juliet, TN

20210831-KERD-B6-SB2(20') L1397942-05 Solid

Collected by: Reed Johnson | Collected date/time: 08/31/21 10:05 | Received date/time: 09/01/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1733672	1	09/08/21 18:13	09/08/21 18:13	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1735855	1	09/06/21 19:30	09/07/21 01:01	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1735448	1	09/05/21 12:04	09/07/21 16:50	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1734433	5	09/03/21 13:25	09/06/21 10:57	LAT	Mt. Juliet, TN

20210831-KERD-B6-SB2(25') L1397942-06 Solid

Collected by: Reed Johnson | Collected date/time: 08/31/21 10:30 | Received date/time: 09/01/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1733672	1	09/08/21 18:16	09/08/21 18:16	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1735855	1	09/06/21 19:30	09/07/21 01:01	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1735448	1	09/05/21 12:04	09/07/21 16:50	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1734433	5	09/03/21 13:25	09/06/21 11:01	LAT	Mt. Juliet, TN

20210831-KERD-B6-SB3(4-6') L1397942-07 Solid

Collected by: Reed Johnson | Collected date/time: 08/31/21 11:10 | Received date/time: 09/01/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1733672	1	09/08/21 18:19	09/08/21 18:19	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1735855	1	09/06/21 19:30	09/07/21 01:01	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1735448	1	09/05/21 12:04	09/07/21 16:50	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1734433	5	09/03/21 13:25	09/06/21 11:04	LAT	Mt. Juliet, TN

20210831-KERD-B6-SB3(9') L1397942-08 Solid

Collected by: Reed Johnson | Collected date/time: 08/31/21 11:35 | Received date/time: 09/01/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1733672	1	09/08/21 18:22	09/08/21 18:22	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1735855	1	09/06/21 19:30	09/07/21 01:01	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1735448	1	09/05/21 12:04	09/07/21 16:50	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1734433	5	09/03/21 13:25	09/06/21 11:08	LAT	Mt. Juliet, TN

20210831-KERD-B6-SB3(12') L1397942-09 Solid

Collected by: Reed Johnson | Collected date/time: 08/31/21 11:50 | Received date/time: 09/01/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1733672	1	09/08/21 18:25	09/08/21 18:25	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1735855	1	09/06/21 19:30	09/07/21 01:01	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1735448	1	09/05/21 12:04	09/07/21 16:50	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1734433	5	09/03/21 13:25	09/06/21 11:11	LAT	Mt. Juliet, TN

20210831-KERD-B6-SB3(16') L1397942-10 Solid

Collected by: Reed Johnson | Collected date/time: 08/31/21 12:05 | Received date/time: 09/01/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1733672	1	09/08/21 18:33	09/08/21 18:33	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1735855	1	09/06/21 19:30	09/07/21 01:01	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1735448	1	09/05/21 12:04	09/07/21 16:50	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1734433	5	09/03/21 13:25	09/06/21 11:14	LAT	Mt. Juliet, TN

20210831-KERD-B6-SB3(20') L1397942-11 Solid

Collected by: Reed Johnson | Collected date/time: 08/31/21 12:30 | Received date/time: 09/01/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1733672	1	09/08/21 18:36	09/08/21 18:36	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1735855	1	09/06/21 19:30	09/07/21 01:01	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1735448	1	09/05/21 12:04	09/07/21 16:50	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1734433	5	09/03/21 13:25	09/06/21 11:18	LAT	Mt. Juliet, TN

20210831-KERD-B6-SB3(24') L1397942-12 Solid

Collected by: Reed Johnson | Collected date/time: 08/31/21 12:45 | Received date/time: 09/01/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1733672	1	09/08/21 18:39	09/08/21 18:39	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1735855	1	09/06/21 19:30	09/07/21 01:01	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1735448	1	09/05/21 12:04	09/07/21 16:50	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1734433	5	09/03/21 13:25	09/06/21 11:21	LAT	Mt. Juliet, TN

20210831-KERD-B6-SB4(4-6) L1397942-13 Solid

Collected by: Reed Johnson | Collected date/time: 08/31/21 13:15 | Received date/time: 09/01/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1733672	1	09/08/21 18:42	09/08/21 18:42	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1735855	1	09/06/21 19:30	09/07/21 01:01	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1735448	1	09/05/21 12:04	09/07/21 16:50	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1734433	5	09/03/21 13:25	09/06/21 11:25	LAT	Mt. Juliet, TN

20210831-KERD-B6-SB4(8) L1397942-14 Solid

Collected by: Reed Johnson | Collected date/time: 08/31/21 13:25 | Received date/time: 09/01/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1733672	1	09/08/21 18:45	09/08/21 18:45	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1735855	1	09/06/21 19:30	09/07/21 01:01	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1735448	1	09/05/21 12:04	09/07/21 16:50	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1734433	5	09/03/21 13:25	09/06/21 11:28	LAT	Mt. Juliet, TN

20210831-KERD-B6-SB4(12) L1397942-15 Solid

Collected by: Reed Johnson | Collected date/time: 08/31/21 13:35 | Received date/time: 09/01/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1733672	1	09/08/21 18:48	09/08/21 18:48	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1735855	1	09/06/21 19:30	09/07/21 01:01	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1735448	1	09/05/21 12:04	09/07/21 16:50	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1734433	5	09/03/21 13:25	09/06/21 11:50	LAT	Mt. Juliet, TN

20210831-KERD-B6-SB4(16) L1397942-16 Solid

Collected by: Reed Johnson | Collected date/time: 08/31/21 13:50 | Received date/time: 09/01/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1733672	1	09/08/21 18:51	09/08/21 18:51	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1735855	1	09/06/21 19:30	09/07/21 01:01	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1735448	1	09/05/21 12:04	09/07/21 16:50	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1734433	5	09/03/21 13:25	09/06/21 11:53	LAT	Mt. Juliet, TN

20210831-KERD-B6-SB4(20) L1397942-17 Solid

Collected by: Reed Johnson | Collected date/time: 08/31/21 14:05 | Received date/time: 09/01/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1733672	1	09/08/21 18:54	09/08/21 18:54	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1735855	1	09/06/21 19:30	09/07/21 01:01	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1735448	1	09/05/21 12:04	09/07/21 16:50	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1734433	5	09/03/21 13:25	09/06/21 11:57	LAT	Mt. Juliet, TN

20210831-KERD-B6-SB5(4-6) L1397942-18 Solid

Collected by: Reed Johnson | Collected date/time: 08/31/21 14:30 | Received date/time: 09/01/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1733672	1	09/08/21 18:57	09/08/21 18:57	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1735855	1	09/06/21 19:30	09/07/21 01:01	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1735448	1	09/05/21 12:04	09/07/21 16:50	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1734433	5	09/03/21 13:25	09/06/21 12:00	LAT	Mt. Juliet, TN

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

20210831-KERD-B6-SB5(12') L1397942-19 Solid

Collected by: Reed Johnson | Collected date/time: 08/31/21 15:05 | Received date/time: 09/01/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1733672	1	09/08/21 19:00	09/08/21 19:00	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1735855	1	09/06/21 19:30	09/07/21 01:01	KAB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1735448	1	09/05/21 12:04	09/07/21 16:50	AMH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1734433	5	09/03/21 13:25	09/06/21 12:04	LAT	Mt. Juliet, TN

20210831-KERD-B6-SB5(16') L1397942-20 Solid

Collected by: Reed Johnson | Collected date/time: 08/31/21 15:15 | Received date/time: 09/01/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1733672	1	09/08/21 19:09	09/08/21 19:09	KMG	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1736312	1	09/07/21 12:00	09/07/21 15:00	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1736710	1	09/08/21 15:59	09/09/21 13:20	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1734433	5	09/03/21 13:25	09/06/21 12:07	LAT	Mt. Juliet, TN

20210831-KERD-B6-SB5(20') L1397942-21 Solid

Collected by: Reed Johnson | Collected date/time: 08/31/21 15:35 | Received date/time: 09/01/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1733671	1	09/06/21 18:45	09/06/21 18:45	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1736312	1	09/07/21 12:00	09/07/21 15:00	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1736710	1	09/08/21 15:59	09/09/21 13:20	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1734434	5	09/03/21 09:55	09/05/21 20:39	LD	Mt. Juliet, TN

20210831-KERD-B6-SB5(24') L1397942-22 Solid

Collected by: Reed Johnson | Collected date/time: 08/31/21 15:55 | Received date/time: 09/01/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1733671	1	09/06/21 18:48	09/06/21 18:48	CCE	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1736312	1	09/07/21 12:00	09/07/21 15:00	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1736710	1	09/08/21 15:59	09/09/21 13:20	ARD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1734434	5	09/03/21 09:55	09/05/21 20:42	LD	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	61.8		1	09/08/2021 18:01	WG1733672

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	10.1	T8	1	09/07/2021 01:01	WG1735855

Sample Narrative:
L1397942-01 WG1735855: 10.05 at 21.1C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	4370		10.0	1	09/07/2021 16:50	WG1735448

Sample Narrative:
L1397942-01 WG1735448: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.32		1.00	5	09/06/2021 10:20	WG1734433

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	56.5		1	09/08/2021 18:04	WG1733672

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.91	T8	1	09/07/2021 01:01	WG1735855

Sample Narrative:
L1397942-02 WG1735855: 9.91 at 21.5C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	2850		10.0	1	09/07/2021 16:50	WG1735448

Sample Narrative:
L1397942-02 WG1735448: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.35		1.00	5	09/06/2021 10:37	WG1734433

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	68.6		1	09/08/2021 18:07	WG1733672

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.95	T8	1	09/07/2021 01:01	WG1735855

Sample Narrative:
L1397942-03 WG1735855: 9.95 at 21.9C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	3230		10.0	1	09/07/2021 16:50	WG1735448

Sample Narrative:
L1397942-03 WG1735448: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.19		1.00	5	09/06/2021 10:40	WG1734433

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	45.6		1	09/08/2021 18:10	WG1733672

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	su				
pH	9.44	T8	1	09/07/2021 01:01	WG1735855

Sample Narrative:

L1397942-04 WG1735855: 9.44 at 21.6C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	umhos/cm		umhos/cm			
Specific Conductance	1860		10.0	1	09/07/2021 16:50	WG1735448

Sample Narrative:

L1397942-04 WG1735448: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	2.29		1.00	5	09/06/2021 10:44	WG1734433

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	60.2		1	09/08/2021 18:13	WG1733672

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	su				
pH	9.84	T8	1	09/07/2021 01:01	WG1735855

Sample Narrative:

L1397942-05 WG1735855: 9.84 at 21.2C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	umhos/cm		umhos/cm			
Specific Conductance	3350		10.0	1	09/07/2021 16:50	WG1735448

Sample Narrative:

L1397942-05 WG1735448: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	2.79		1.00	5	09/06/2021 10:57	WG1734433

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	39.8		1	09/08/2021 18:16	WG1733672

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	10.0	T8	1	09/07/2021 01:01	WG1735855

Sample Narrative:
L1397942-06 WG1735855: 10.02 at 21.2C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1360		10.0	1	09/07/2021 16:50	WG1735448

Sample Narrative:
L1397942-06 WG1735448: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.67		1.00	5	09/06/2021 11:01	WG1734433

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	11.2		1	09/08/2021 18:19	WG1733672

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.56	T8	1	09/07/2021 01:01	WG1735855

Sample Narrative:
L1397942-07 WG1735855: 9.56 at 20.8C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	535		10.0	1	09/07/2021 16:50	WG1735448

Sample Narrative:
L1397942-07 WG1735448: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.82		1.00	5	09/06/2021 11:04	WG1734433

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	16.5		1	09/08/2021 18:22	WG1733672

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.68	T8	1	09/07/2021 01:01	WG1735855

Sample Narrative:
L1397942-08 WG1735855: 9.68 at 20.7C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	905		10.0	1	09/07/2021 16:50	WG1735448

Sample Narrative:
L1397942-08 WG1735448: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.13		1.00	5	09/06/2021 11:08	WG1734433

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	4.48		1	09/08/2021 18:25	WG1733672

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.88	T8	1	09/07/2021 01:01	WG1735855

Sample Narrative:

L1397942-09 WG1735855: 9.88 at 21.2C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	921		10.0	1	09/07/2021 16:50	WG1735448

Sample Narrative:

L1397942-09 WG1735448: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.31		1.00	5	09/06/2021 11:11	WG1734433

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	4.83		1	09/08/2021 18:33	WG1733672

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	su				
pH	10.0	T8	1	09/07/2021 01:01	WG1735855

Sample Narrative:

L1397942-10 WG1735855: 10.04 at 21C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	umhos/cm		umhos/cm			
Specific Conductance	943		10.0	1	09/07/2021 16:50	WG1735448

Sample Narrative:

L1397942-10 WG1735448: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	3.41		1.00	5	09/06/2021 11:14	WG1734433

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	4.60		1	09/08/2021 18:36	WG1733672

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	su				
pH	9.88	T8	1	09/07/2021 01:01	WG1735855

Sample Narrative:

L1397942-11 WG1735855: 9.88 at 20.8C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	umhos/cm		umhos/cm			
Specific Conductance	805		10.0	1	09/07/2021 16:50	WG1735448

Sample Narrative:

L1397942-11 WG1735448: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	2.92		1.00	5	09/06/2021 11:18	WG1734433

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	5.02		1	09/08/2021 18:39	WG1733672

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	su				
pH	9.92	T8	1	09/07/2021 01:01	WG1735855

Sample Narrative:

L1397942-12 WG1735855: 9.92 at 20.9C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	umhos/cm		umhos/cm			
Specific Conductance	773		10.0	1	09/07/2021 16:50	WG1735448

Sample Narrative:

L1397942-12 WG1735448: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	3.16		1.00	5	09/06/2021 11:21	WG1734433

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	33.6		1	09/08/2021 18:42	WG1733672

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	su				
pH	10.1	T8	1	09/07/2021 01:01	WG1735855

Sample Narrative:

L1397942-13 WG1735855: 10.12 at 21.2C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	umhos/cm		umhos/cm			
Specific Conductance	3260		10.0	1	09/07/2021 16:50	WG1735448

Sample Narrative:

L1397942-13 WG1735448: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	5.20		1.00	5	09/06/2021 11:25	WG1734433

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	38.3		1	09/08/2021 18:45	WG1733672

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.76	T8	1	09/07/2021 01:01	WG1735855

Sample Narrative:
L1397942-14 WG1735855: 9.76 at 21.1C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1860		10.0	1	09/07/2021 16:50	WG1735448

Sample Narrative:
L1397942-14 WG1735448: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.80		1.00	5	09/06/2021 11:28	WG1734433

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	38.9		1	09/08/2021 18:48	WG1733672

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	10.0	T8	1	09/07/2021 01:01	WG1735855

Sample Narrative:
L1397942-15 WG1735855: 10.04 at 21.4C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	2370		10.0	1	09/07/2021 16:50	WG1735448

Sample Narrative:
L1397942-15 WG1735448: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.28		1.00	5	09/06/2021 11:50	WG1734433

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	16.0		1	09/08/2021 18:51	WG1733672

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.98	T8	1	09/07/2021 01:01	WG1735855

Sample Narrative:
L1397942-16 WG1735855: 9.98 at 21.1C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	2440		10.0	1	09/07/2021 16:50	WG1735448

Sample Narrative:
L1397942-16 WG1735448: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.55		1.00	5	09/06/2021 11:53	WG1734433

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	53.1		1	09/08/2021 18:54	WG1733672

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.96	T8	1	09/07/2021 01:01	WG1735855

Sample Narrative:
L1397942-17 WG1735855: 9.96 at 20.8C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	2350		10.0	1	09/07/2021 16:50	WG1735448

Sample Narrative:
L1397942-17 WG1735448: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.11		1.00	5	09/06/2021 11:57	WG1734433

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	49.8		1	09/08/2021 18:57	WG1733672

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.28	T8	1	09/07/2021 01:01	WG1735855

Sample Narrative:
L1397942-18 WG1735855: 9.28 at 21.2C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	4030		10.0	1	09/07/2021 16:50	WG1735448

Sample Narrative:
L1397942-18 WG1735448: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.48		1.00	5	09/06/2021 12:00	WG1734433

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	46.5		1	09/08/2021 19:00	WG1733672

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	su				
pH	9.91	T8	1	09/07/2021 01:01	WG1735855

Sample Narrative:

L1397942-19 WG1735855: 9.91 at 21C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	umhos/cm		umhos/cm			
Specific Conductance	3010		10.0	1	09/07/2021 16:50	WG1735448

Sample Narrative:

L1397942-19 WG1735448: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	3.26		1.00	5	09/06/2021 12:04	WG1734433

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	10.4		1	09/08/2021 19:09	WG1733672

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	10.1	T8	1	09/07/2021 15:00	WG1736312

Sample Narrative:
L1397942-20 WG1736312: 10.06 at 23.3C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	2190		10.0	1	09/09/2021 13:20	WG1736710

Sample Narrative:
L1397942-20 WG1736710: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.66		1.00	5	09/06/2021 12:07	WG1734433

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	10.1		1	09/06/2021 18:45	WG1733671

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	10.1	T8	1	09/07/2021 15:00	WG1736312

Sample Narrative:

L1397942-21 WG1736312: 10.06 at 22.9C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1300		10.0	1	09/09/2021 13:20	WG1736710

Sample Narrative:

L1397942-21 WG1736710: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.80		1.00	5	09/05/2021 20:39	WG1734434

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	11.8		1	09/06/2021 18:48	WG1733671

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	su				
pH	10.2	T8	1	09/07/2021 15:00	WG1736312

Sample Narrative:

L1397942-22 WG1736312: 10.2 at 23.5C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	umhos/cm		umhos/cm			
Specific Conductance	1910		10.0	1	09/09/2021 13:20	WG1736710

Sample Narrative:

L1397942-22 WG1736710: at 25C

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	2.14		1.00	5	09/05/2021 20:42	WG1734434

L1397146-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1397146-01 09/07/21 01:01 • (DUP) R3700844-3 09/07/21 01:01

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	6.88	6.84	1	0.583		1

Sample Narrative:

OS: 6.88 at 23.5C

DUP: 6.84 at 21C

L1397942-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1397942-10 09/07/21 01:01 • (DUP) R3700844-4 09/07/21 01:01

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	10.0	9.99	1	0.499		1

Sample Narrative:

OS: 10.04 at 21C

DUP: 9.99 at 21C

Laboratory Control Sample (LCS)

(LCS) R3700844-1 09/07/21 01:01

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 24.1C

L1397950-23 Original Sample (OS) • Duplicate (DUP)

(OS) L1397950-23 09/07/21 15:00 • (DUP) R3701291-2 09/07/21 15:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.69	8.70	1	0.115		1

Sample Narrative:

OS: 8.69 at 22.7C

DUP: 8.7 at 22.7C

L1398692-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1398692-01 09/07/21 15:00 • (DUP) R3701291-3 09/07/21 15:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	10.4	10.4	1	0.385		1

Sample Narrative:

OS: 10.38 at 21.4C

DUP: 10.42 at 21.5C

Laboratory Control Sample (LCS)

(LCS) R3701291-1 09/07/21 15:00

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	10.1	101	99.0-101	

Sample Narrative:

LCS: 10.05 at 21.4C

Method Blank (MB)

(MB) R3701283-1 09/07/21 16:50

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

L1397942-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1397942-05 09/07/21 16:50 • (DUP) R3701283-3 09/07/21 16:50

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	3350	3300	1	1.50		20

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

L1397942-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1397942-15 09/07/21 16:50 • (DUP) R3701283-4 09/07/21 16:50

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	2370	2300	1	2.87		20

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

Laboratory Control Sample (LCS)

(LCS) R3701283-2 09/07/21 16:50

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	899	906	101	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R3702251-1 09/09/21 13:20

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

L1397942-20 Original Sample (OS) • Duplicate (DUP)

(OS) L1397942-20 09/09/21 13:20 • (DUP) R3702251-3 09/09/21 13:20

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	2190	2150	1	1.66		20

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

L1398389-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1398389-03 09/09/21 13:20 • (DUP) R3702251-4 09/09/21 13:20

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	1380	1380	1	0.000		20

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

Laboratory Control Sample (LCS)

(LCS) R3702251-2 09/09/21 13:20

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	899	912	101	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R3700742-1 09/06/21 10:13

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) R3700742-2 09/06/21 10:16

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	97.0	97.0	80.0-120	

L1397942-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1397942-01 09/06/21 10:20 • (MS) R3700742-5 09/06/21 10:30 • (MSD) R3700742-6 09/06/21 10:34

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	4.32	80.0	82.9	75.6	78.6	5	75.0-125			3.63	20

Method Blank (MB)

(MB) R3700621-1 09/05/21 19:31

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) R3700621-2 09/05/21 19:35

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	95.0	95.0	80.0-120	

L1397785-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1397785-01 09/05/21 19:38 • (MS) R3700621-5 09/05/21 19:48 • (MSD) R3700621-6 09/05/21 19:51

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 %
Arsenic	100	6.40	86.7	84.3	80.3	77.9	5	75.0-125			2.85	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	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.

Company Name/Address:

Billing Information:
Caerus Oil and Gas
143 Diamond Ave.
Parachute, CO 81635

Report to:
Blair Rollins

Email To:
brollins@caerusoilandgas.com

Project Description: KE Road

City/State Collected: Mesa, CO

Phone: **(970) 640-6919**
Fax:

Client Project #

Lab Project #

Collected by (print):
Reed Johnson

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ____ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No ✓Yes
FAX? ✓No ___Yes

Analysis / Container / Preservative

Chain of Custody Page 1 of 3

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

L# 139792
A205

Acctnum:
Template:
Prelogin:
TSR:
Cooler:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	EC, SAR, pH	Arsenic	Rem./Contaminant	Sample # (lab only)
20210831-KERD-BG-SB2 (4-6)	Grab	SS	4-6'	8/31/21	0855	2				-01
20210831-KERD-BG-SB2 (8')			8'		0905	2				-02
20210831-KERD-BG-SB2 (12')			12'		0920	2				-03
20210831-KERD-BG-SB2 (16')			16'		0945	2				-04
20210831-KERD-BG-SB2 (20')			20'		1005	2				-05
20210831-KERD-BG-SB2 (25')			25'		1030	2				-06
20210831-KERD-BG-SB3 (4-6')			4-6'		1110	2				-07
20210831-KERD-BG-SB3 (9')			9'		1135	2				-08
20210831-KERD-BG-SB3 (12')			12'		1150	2				-09
20210831-KERD-BG-SB3 (16')			16'		1205	2				-10

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Hold #

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	8/31/21	1715	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	8/31/21	1800	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Temp: A201 °C Bottles Received: 44

1.2-1=1.1

Date: 9/1/21 Time: 930

Condition: (lab use only)

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

Company Name/Address:

Billing Information:
Caerus Oil and Gas
143 Diamond Ave.
Parachute, CO 81635

Report to: **Blair Rollins**

Email To: brollins@caerusoilandgas.com

Project Description: KE Road

City/State Collected: Mesa, CO

Phone: **(970) 640-6919**
Fax:

Client Project #

Lab Project #

Collected by (print): Reed Johnson

Site/Facility ID #

P.O. #

Collected by (signature): SD
Immediately Packed on Ice N ____ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No ✓Yes
FAX? ✓No ___Yes

Analysis / Container / Preservative

Chain of Custody Page 2 of 3

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

L # 1397942

Table #

Acctnum:

Template:

Prelogin:

TSR:

Cooler:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	EC, SAR, pH	Arsenic	Rem./Contaminant	Sample # (lab only)
20210831-KERJ-BG-583 (20')	Grab	SS	20'	8/31/21	1230	2				-11
20210831-KERJ-BG-583 (24')			24'		1245	2				-12
20210831-KERJ-BG-584 (4-6')			4-6'		1315	2				-13
20210831-KERJ-BG-584 (8')			8'		1325	2				-14
20210831-KERJ-BG-584 (12')			12'		1335	2				-15
20210831-KERJ-BG-584 (16')			16'		1350	2				-16
20210831-KERJ-BG-584 (20')			20'		1405	2				-17
20210831-KERJ-BG-585 (4-6')			4-6'		1430	2				-18
20210831-KERJ-BG-585 (12')			12'		1505	2				-19
20210831-KERJ-BG-585 (16')			16'		1515	2				-20

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
SD	8/31/21	1715	
	8/31/21	1800	
			Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Temp: 1.2 °C Bottles Received: 44

Date: 9/1/21 Time: 930

Condition: (lab use only)

COC Seal Intact: ____Y ____N ____NA

pH Checked: NCF:

Company Name/Address:

Billing Information:
Caerus Oil and Gas
143 Diamond Ave.
Parachute, CO 81635

Report to: **Blair Rollins**

Email To: brollins@caerusoilandgas.com

Project Description: KE Road

City/State Collected: Mesa, CO

Phone: **(970) 640-6919**
Fax:

Client Project #

Lab Project #

Collected by (print): Reed Johnson

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No ✓Yes
FAX? ✓No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	EC, SAR, pH	Arsnic								Rem./Contaminant	Sample # (lab only)
20210831-KERJ-[redacted]06-505 (20')	Gmb	SS	20'	8/31/21	1535	2	1	1									-21
20210831-KERJ-06-505 (24')	1	1	24'	1	1555	2	1	1									-22

Sample Receipt Checklist
COC Seal Present/Intact: __Y__N
COC Signed/Accurate: __Y__N
Bottles arrive intact: __Y__N
Correct bottles used: __Y__N
Sufficient volume sent: __Y__N
RAD Screen <0.5 mR/hr: __Y__N
If Applicable
VOA Zero Headspace: __Y__N
Pres.Correct/Check: __Y__N

Chain of Custody Page 3 of 3

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L# 139742
Table #
Acctnum:
Template:
Prelogin:
TSR:
Cooler:
Shipped Via:

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____	Condition: (lab use only)
Relinquished by : (Signature)	Date: 8/31/21	Time: 1801	Received by: (Signature)	Temp: 1.2-1=1.1 °C Bottles Received: 44	COC Seal Intact: ___Y ___N ___NA
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 9/1/21 Time: 930	pH Checked: / NCF: