



ENVIRONMENTAL DAILY FIELD REPORT

PROJECT NAME: RA11 Flowline Investigation

DATE: 8/23/2022

SITE LOCATION: RA11 Pad

PERSONNEL: Jordan Veith, Tristan Schmalz

PROJECT MANAGER: Vince DeCianne

WEATHER CONDITIONS: Clear, sunny, winds <5mph, temps mid-60s.

TIME ARRIVED: 7:00AM

TIME DEPARTED: 11:30AM

SUBCONTRACTOR: WCO Oil Field Services

NAME / FIRM: Dave & Louis, WCO.

SITE VISITORS: Caerus Pumper (Marco)

PRIMARY ASSIGNMENTS:

Collect five (5) background grab soil samples at 1 foot below ground surface (bgs) from five locations located in a gully east of the RA11 facility and collect eight (8) background grab soil samples ranging from 3 to 13 feet bgs from three separate potholes east and west of the RA11. Submit these samples to Pace Analytical Laboratories for full COGCC Table 915-1 analytes minus organics. Collect one (1) produced water sample from a produced water tank on the RA11 facility and submit to Pace Analytical Laboratories and analyze for pH and arsenic. Collect photos and GPS points of sample locations.

FIELD NOTES:

Jordan Veith and Tristan Schmalz of Kleinfelder arrived onsite at 7:00AM. Utility locate requests through Colorado 811 were completed by Kleinfelder prior to arrival (Ticket B222401143).

Five locations were identified in a gully located approximately 0.25 miles east of the RA11 facility as background soil sample locations. The gully was identified as a sampling area by Caerus during a site walk on 8/11/2022. Sample locations were chosen to reflect the variety of soil types encountered in the area. One soil sample was collected from each of the five locations at 1-foot bgs using a stainless-steel hand auger.

Dave and Louis of WCO arrive on-site at approximately 7:30 AM. A suitable pothole location was identified approximately 0.10 miles east of the RA11 facility. The pothole location was identified by Caerus on 8/11/2022 based on its proximity to the RA11 and the ability for a hydrovac to be able to operate. WCO was tasked to hydrovac to a depth of 15 feet bgs, however WCO encountered a layer of large rocks at 7 feet bgs. Kleinfelder was only able to collect samples at 3 and 5 feet bgs due to the rock layer. Both samples were collected using a stainless-steel hand auger.

A second suitable pothole location was identified approximately 0.05 miles west of the RA11 facility. The pothole location was identified by Caerus on 8/11/2022 based on its proximity to the RA11 and the ability for a hydrovac to be able to operate. WCO was tasked to hydrovac to a depth of 15 feet bgs, however WCO encountered a layer of what

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appeared to be hard-packed shale at approximately 5 feet bgs. Kleinfelder was only able to collect a sample at 3 feet bgs due to the shale. The sample contained a mix of shale and soil and was collected using a stainless-steel hand trowel.

A third pothole location was identified by WCO approximately 50 feet west of the second location. WCO was unable to reach a depth of 15 feet bgs due to the distance of the pothole location in relation to the hydrovac truck. The resulting depth of the pothole was 13 feet bgs. One sample was collected at a depth of 5, 7, 9, 11, and 13 feet, respectively, for a total of five samples. Samples were collected using a stainless-steel hand auger.

A Caerus pumper (Marco) arrived at approximately 8:45 AM to assist with the collection of a produced water sample. The sample was collected directly from the tank loadout valve into a 1-liter unpreserved polyethylene collection bottle.

Departed RA11 at approximately 11:30 AM en-route to meet the Pace Analytical courier.

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COGCC Soil Sampling

by **Jordan Veith** on **8/23/2022**
for **Caerus RA 11**

Caerus - 2022 Sampling Support
Services
20231065.001A
DeCianne, Vincent G. (Vince)

Sample Register

Sample ID	Sample Type	Date	Time	Depth	PID (ppmv)	Odor	Staining	Comments
20220823_RA 11_BG03@1ft	Background	08/23/2022	07:15 AM	1 to 1	0	N	N	Soil is light tan in color.
20220823_RA 11_BG04@1ft	Background	08/23/2022	07:20 AM	1 to 1	0	N	N	Soil is light tan/light red in color.
20220823_RA 11_BG08@3ft	Background	08/23/2022	07:45 AM	3 to 3	0	N	N	
20220823_RA 11_BG08@5ft	Background	08/23/2022	07:55 AM	5 to 5	0	N	N	
20220823_RA 11_BG09@3ft	Background	08/23/2022	08:20 AM	3 to 3	0	N	N	Rocky soil.
20220823_RA 11_PW01	Other	08/23/2022	08:45 AM	0 to 0	0	Y	N	PID measurement not collected.
20220823_RA 11_BG10@5ft	Background	08/23/2022	08:50 AM	5 to 5	0	N	N	
20220823_RA 11_BG10@7ft	Background	08/23/2022	09:20 AM	7 to 7	0	N	N	
20220823_RA 11_BG10@9ft	Background	08/23/2022	09:50 AM	9 to 9	0	N	N	
20220823_RA 11_BG10@11ft	Background	08/23/2022	10:15 AM	11 to 11	0	N	N	
20220823_RA 11_BG10@13ft	Background	08/23/2022	10:45 AM	13 to 13	0	N	N	
20220823_RA 11_BG05@1ft	Background	08/23/2022	11:00 AM	1 to 1	0	N	N	Soil is white/yellow in color.
20220823_RA 11_BG06@1ft	Background	08/23/2022	11:10 AM	1 to 1	0	N	N	Soil is white/yellow in color.
20220823_RA 11_BG07@1ft	Background	08/23/2022	11:20 AM	1 to 1	0	N	N	In drainage gully.

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Photo Log

Fig. 1: General background sample area - North.



Fig. 2: General background sample area - East



Fig. 3: General background sample area - South

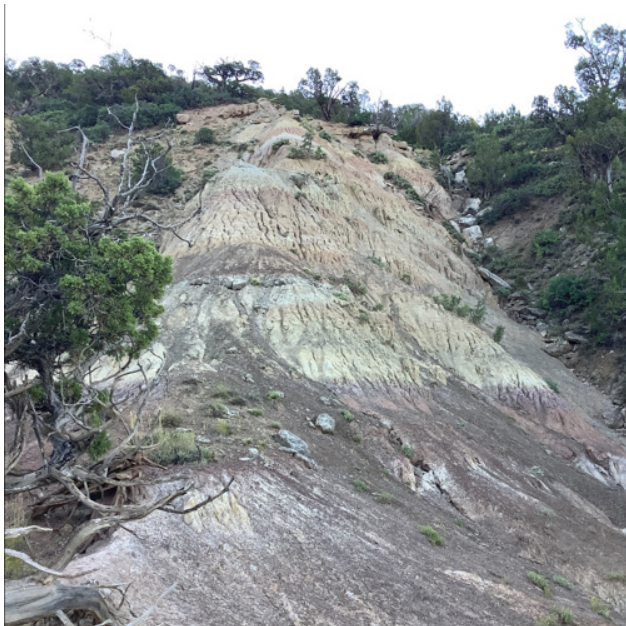


Fig. 4: General background sample area - West



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Fig. 5: 20220823_RA 11_BG03@1ft



Fig. 6: 20220823_RA 11_BG04@1ft



Fig. 6: 20220823_RA 11_BG08@3ft



Fig. 7: 20220823_RA 11_BG08@5ft



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Fig. 8: 20220823_RA11_BG08



Fig. 9: 20220823_RA 11_BG09@3ft



Fig. 10: 20220823_RA11_BG09



Fig. 11: 20220823_RA 11_PW01



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Fig. 12: 20220823_RA 11_BG10@5ft



Fig. 12: 20220823_RA 11_BG10@7ft



Fig. 13: 20220823_RA 11_BG10@9ft



Fig. 14: 20220823_RA 11_BG10@11ft



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Photo Log

Fig. 15: 20220823_RA 11_BG10@13ft



Fig. 16: 20220823_RA11_BG10



Fig. 17: 20220823_RA 11_BG05@1ft



Fig. 18: 20220823_RA 11_BG06@1ft



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Fig. 18: 20220823_RA 11_BG07@1ft



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RA11 Flowline Investigation
East Background Samples
Caerus Piceance, LLC
NENE Sec. 11 T7S R94W
Garfield County, Colorado

PN 20231065.001A

Figure

3



RA11 Flowline Investigation
West Background and Produced Water Samples
Caerus Piceance, LLC
NENE Sec. 11 T7S R94W
Garfield County, Colorado

PN 20231065.001A

Figure

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