



January 5, 2026

Derek Horn
Environmental Specialist
QB Energy LLC
143 Diamond Ave.
Parachute, CO 81635

Report of Work Completed: E9W Tank Release Investigation

ECMC Location Name (ID)	HMU FEE-67S93W/9SWNW
Operator Location Name	E9W
Remediation Project #	43305
Form 27 Document #	404377141
Location ID	490928
Coordinates (Lat/Long)	39.462351°N, -107.784625°W

Mr. Horn,

On behalf of QB Energy LLC, (QB) HRL Compliance Solutions Inc. (HRL) has prepared this report of work completed (ROWC) to document the recent investigative soil sampling activities completed associated with the E9W Tank Release (Site). This document was prepared to provide necessary information for the State of Colorado Energy and Carbon Management Commission (ECMC) Form 27 regulatory submission. Reporting contents include Site background information, methodology, results of data evaluation, and proposes the next steps towards closure of Remediation Project Number (RPN) 43305.

Site and Release Event Background

The Site is located approximately 4.65 miles south of Rifle, Colorado within Garfield County. The Site is situated in the QB designated Grass Mesa (GM) region. Lithology within the GM region is described as mesas and stoney foothills with alluvial fans derived from sandstone and basalt. According to the *ECMC GIS Online mapping tool* the National Resources Conservation Service classifies the soil horizon within the Site boundaries as the Morval-Tridell complex, 6 to 25 percent slopes, (Map Unit Symbol 45). The Morval-Tridell complex consists of clay and stoney clay loams.

Groundwater has not been encountered or observed while completing investigative activities. Nearby constructed well (Well Permit Number 89441-F) is situated approximately 736 feet to the northeast of the Site. Based on the Well Construction and Test Report of well 89441-F groundwater was encountered at approximately 110 feet below ground surface (bgs). Well 89441-F is situated

at an elevation that is approximately 20 feet above mean sea level lower than the Site, which puts depth to groundwater at the Site at a minimum of 90 feet bgs.

On July 22, 2025, a QB operator, when arriving at the Site, noticed fluid within the tank battery secondary containment and areas where released fluids had escaped the secondary containment. Proper notifications were made, and the tank was promptly shut in and evacuated. On July 23, 2025, Initial Form 19 Document Number (DN) 404290473 was submitted to the ECMC to comply with Rule 912.b.(1): *Reporting Spills or Releases of E&P Waste, Gas, or Produced Fluids*. DN 404290473 opened Spill/Release Point ID: 491034. Subsequently, ECMC Supplemental Form 19 DN 404301113 was submitted on July 31, 2025, providing spill/release report details. It was determined that the release was due to the failure of a newly replaced gasket. Approximately 40 barrels of produced water were spilled and approximately half was recovered during initial spill response. The failed gasket was removed, and the point of failure was inspected for abnormalities that could have resulted in seal failure. On October 8, 2025, Initial Form 27 DN 404377141 was submitted to the ECMC to comply with Rule 913.e.(3) *Remediation of Spill and Release pursuant to Rule 912*, thus creating RPN 43305.

Methodology

Sub-surface Investigation

On October 23, 2025, Western Colorado Oilfield Services (WCO) personnel advanced potholes (borings) via hydro vacuum truck (hydro-vac) to define the horizontal and vertical extent of impacts surrounding the tank battery in accordance with ECMC Rule 915.e.(2).B. Two (2) borings were advanced within the secondary containment (SB01 and SB02), and the other borings were advanced on the south (SBS), east (SBE), and west (SBW) sides of the tank battery outside of the secondary containment. The north boring (SBN) could not be advanced due to standing water on the north side of the tank battery. During each respective boring advancement confirmation soil samples were collected using a hand auger in 2-foot intervals beginning at 2 feet bgs to the boring terminus. Collected soils were observed for any petroleum hydrocarbon odor and staining. The soil's headspace was field screened using a photoionization detector (PID) to monitor for the presence or absence of volatile organic compounds (VOCs). Two (2) confirmation soil samples were submitted from each boring. One (1) sample was submitted from the interval associated with the greatest field screening value and the other from the boring terminus. Completed boring depths range from 6 feet bgs (SBS, SB01, SB02) to 8 feet bgs (SBE). Field observations and screening results of the confirmation samples submitted for laboratory analysis are summarized in the inset table below.

Confirmation Soil Sample Observations – E9W Tank Release

Confirmation Sample ID	PID Reading (ppm)	Field Observations	Laboratory Analysis
20251023-E9W-(SB01)@4	0.0	Blue/green staining, no odor	EC, SAR, HWS-B, TPH, BTEX
20251023-E9W-(SB01)@6	0.0	No odor, no staining	EC, SAR, HWS-B, TPH, BTEX
20251023-E9W-(SBS)@4	0.0	No odor, no staining	EC, SAR, HWS-B, TPH, BTEX
20251023-E9W-(SBS)@6	0.0	No odor, no staining	EC, SAR, HWS-B, TPH, BTEX
20251023-E9W-(SBW)@6	162.5	Hydrocarbon odor, no staining	EC, SAR, HWS-B, TPH, BTEX
20251023-E9W-(SBW)@7.5	5.3	No odor, no staining	EC, SAR, HWS-B, TPH, BTEX
20251023-E9W-(SBE)@4	0.0	No odor, no staining	EC, SAR, HWS-B, TPH, BTEX
20251023-E9W-(SBE)@8	0.0	No odor, no staining	EC, SAR, HWS-B, TPH, BTEX
20251023-E9W-(SB02)@4	410.9	Hydrocarbon odor, no staining	EC, SAR, HWS-B, TPH, BTEX
20251023-E9W-(SB02)@6	1511	Hydrocarbon odor, no staining	EC, SAR, HWS-B, TPH, BTEX

Key: ID- identification ppm- parts per million PID- photoionization detector EC- electrical conductivity
 SAR- sodium adsorption ratio TPH- total petroleum hydrocarbons HWS-B- hot water-soluble boron
 BTEX- benzene, toluene, ethylbenzene, xylene

A total of 10 confirmation soil samples were submitted to Elevation Diagnostics of Aurora, Colorado for laboratory analysis of electrical conductivity (EC), sodium adsorption ratio (SAR), and hot water-soluble boron (HWS-B) (DN 404322558). As hydrocarbon odors and staining were observed during the investigation, all samples were submitted additionally for total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene, and xylene (BTEX). The soil boring locations were photographed and marked using a Trimble Global Positioning System device. The boring locations with respect to the Site can be referenced in Figure 1. A photolog of the event is included as Appendix A.

Analytical Results

Laboratory analytical results associated with the confirmation soil samples collected during the October 23, 2025, sampling event reported ECMC Table 915-1 Cleanup Concentrations (CCs) exceedances for TPH, SAR, and HWS-B.

The laboratory certified analytical report is provided as an attachment to DN 404489752 under “Laboratory Analytical Report”. Tabulated analytical data can be viewed in the “Tables” section below. Analytical exceedances with respect to the Site can be viewed in Figure 2.

Conclusion and Recommendations

This report presents the investigative activities completed by HRL on behalf of QB, in association with the E9W Tank Release project under RPN 43305.

Based on laboratory analytical data presented herein and in DN 404489752 there are remaining ECMC Table 915-1 CCs exceedances for TPH, EC, SAR, and HWS-B.

To obtain vertical delineation of the impacts beneath the tank battery, HRL recommends that QB temporarily relocate the tank batteries, liner, and associated equipment. Once the associated tank batteries, liner, and associated equipment are removed HRL recommends advancing a soil boring in the footprint of the tank battery associated with the release. The soil boring will be advanced using an environmental drill rig to a depth of 20 feet bgs to vertically define the extent of impacts. Confirmation soil samples will be collected beginning at 5 feet bgs and will continue to be collected in 5-foot intervals to the boring terminus. HRL recommends advancing step-out borings in each cardinal direction of the associated tank battery to laterally define impacts. Confirmation soil samples will be collected beginning at 5 feet bgs and in 5-foot intervals to the boring terminus of 20 feet bgs. If field screening or observations indicate impacts at 20 feet bgs, boring advancement will continue. Based on field observations two (2) additional contingency borings within the secondary containment are proposed to further define the extent of impacts. At a minimum, confirmation soil samples will be submitted every 10-foot interval from each investigative boring. All samples will be submitted for analysis of EC, SAR, HWS-B, TPH, and BTEX. Please reference Figure 3 for the proposed boring locations with respect to the Site.

HRL appreciates this opportunity to provide these services to QB and will diligently strive to meet future project objectives and deliverables. If you have any questions or require further information, please contact us at 970-243-3271.

Sincerely,
HRL Compliance Solutions, Inc.

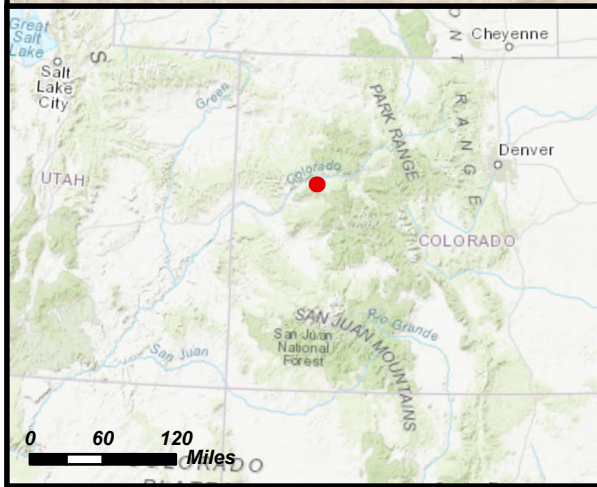
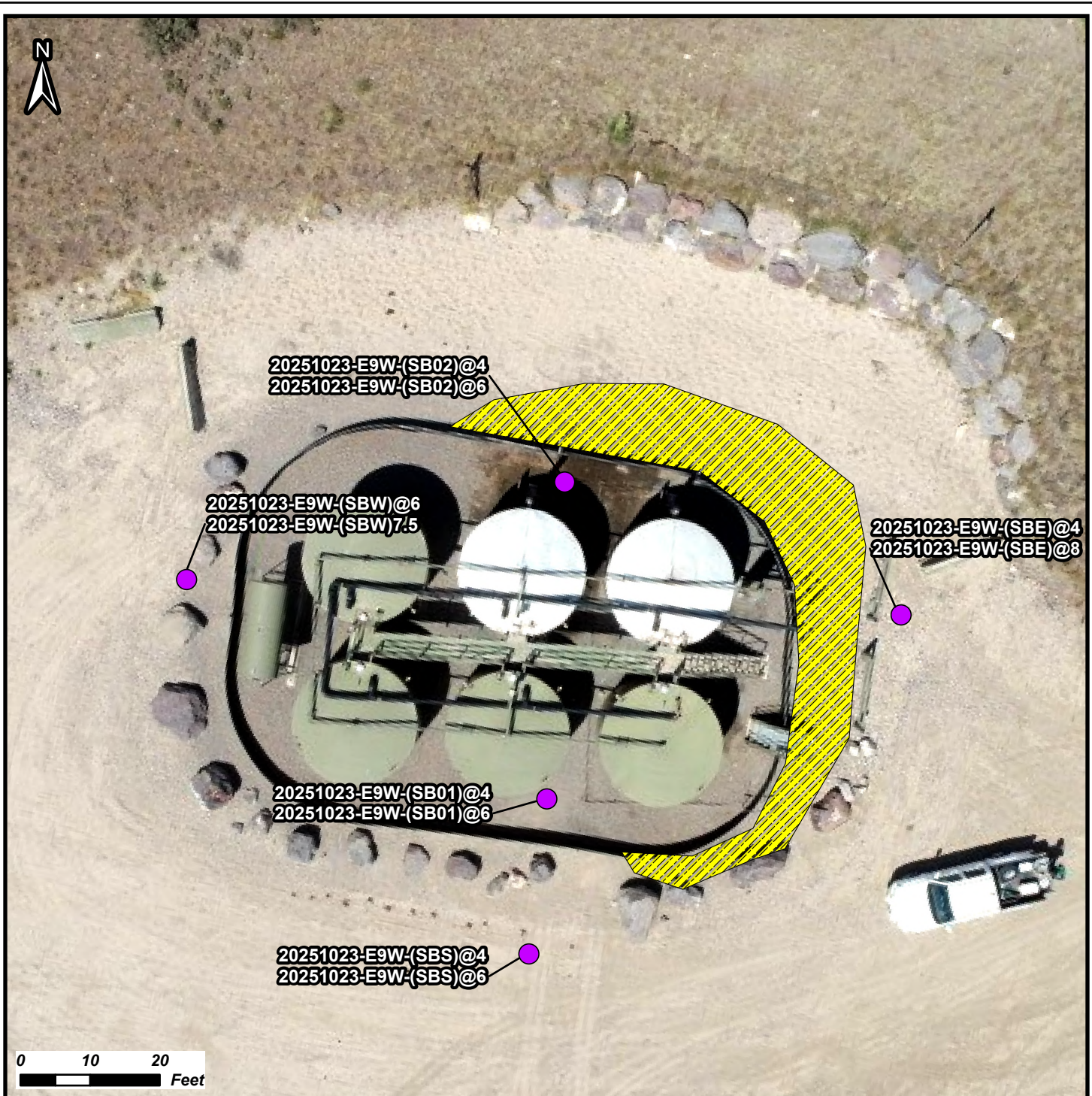


Nick D'Alessandro
Staff Environmental Scientist






Dustin Held
Division Manager

FIGURES



QB Energy Soil Boring Location Map
Figure 1
E9W Tank Release
 39.462466, -107.784589
 Section 9, Township 7.0 South, Range 93.0 West

Legend

 Estimate Spill Path	 Soil Boring Locations
 Outside Containment	
8/04/2025	

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Author: S. Dow
Revised by: D. Held
Date: 10/28/2025



20251023-E9W-(SB02)@4
 20251023-E9W-(SB02)@6
 SAR- 10.96 TPH- 1400.37

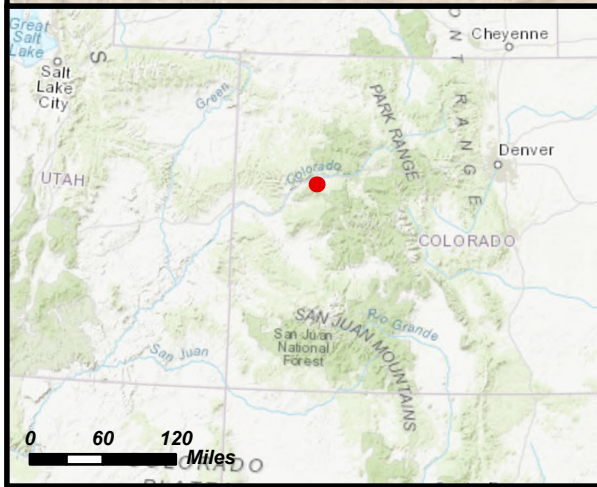
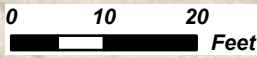
20251023-E9W-(SBW)@6
 SAR- 6.47 HWS B- 3.24
 20251023-E9W-(SBW)@7.5
 SAR- 12.92

20251023-E9W-(SBE)@4
 20251023-E9W-(SBE)@8

20251023-E9W-(SB01)@4
 20251023-E9W-(SB01)@6

20251023-E9W-(SBS)@4
 20251023-E9W-(SBS)@6

TPH- Total Petroleum Hyrdocarbons
 SAR- Sodium Adsorption Ratio
 HWS B - Hot Water Soluble Boron



**Soil Boring Analytical
 Exceedance Map
 Figure 2
 E9W Tank Release**

39.462466, -107.784589
 Section 9, Township 7.0 South, Range 93.0 West

Legend

Estimate Spill Path
 Outside Containment
 8/04/2025

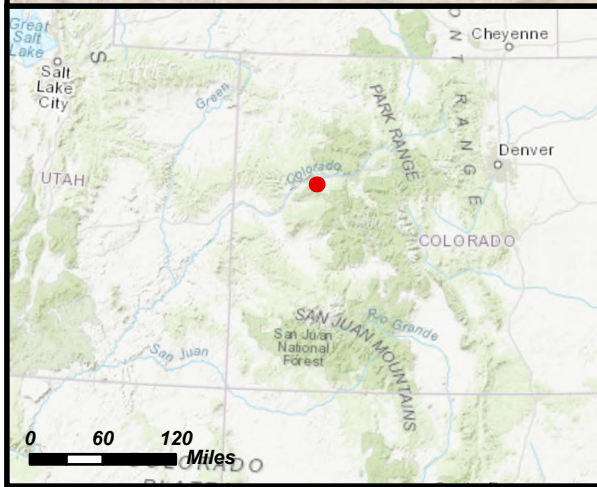
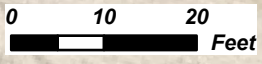
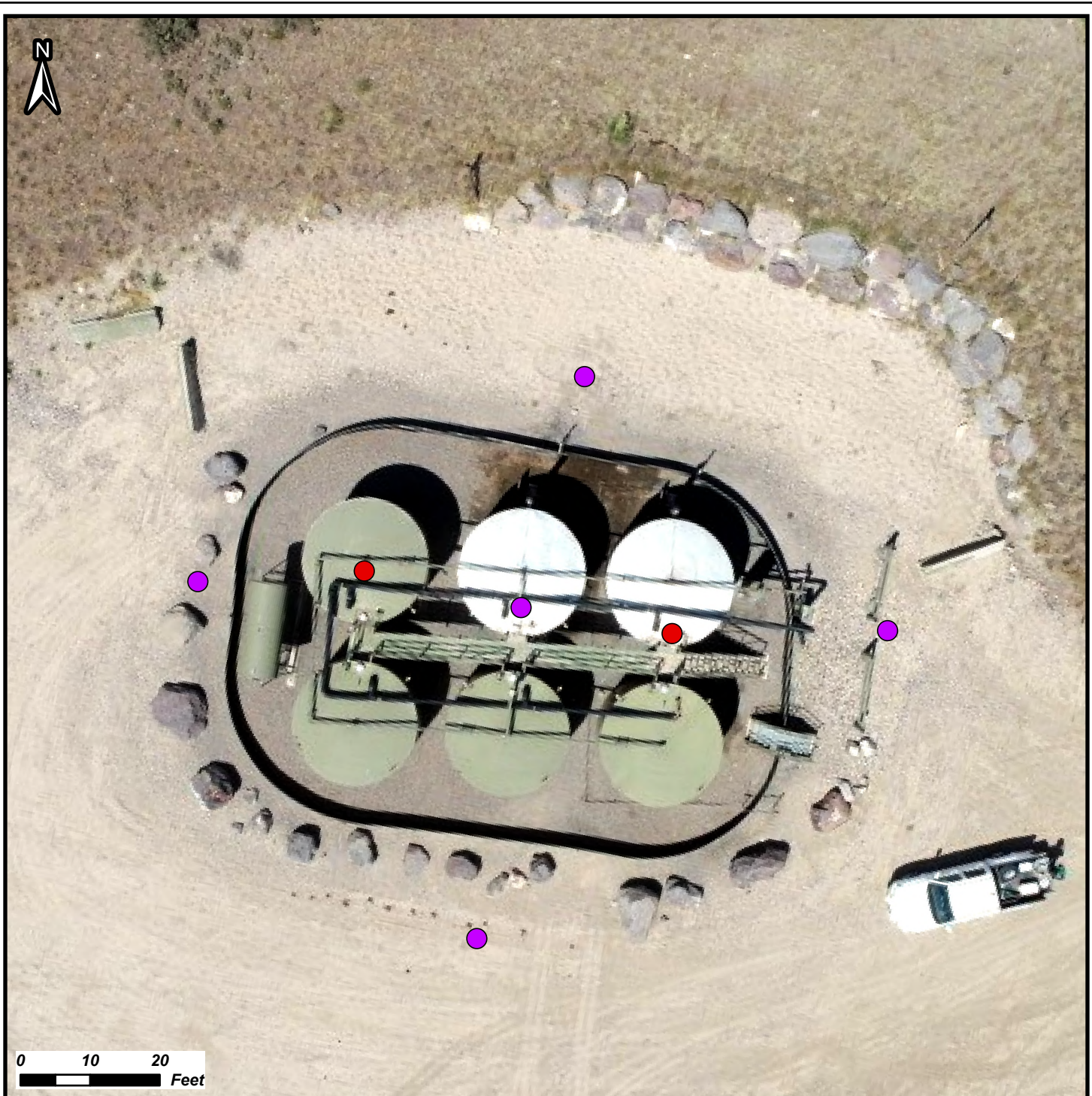
Soil Boring Locations

Notes/Comments:
 TPH is reported as mg/kg
 (Milligram per Kilogram)
 HWS B is reported as mg/L
 (Milligram per Liter)
 SAR is unitless



DISCLAIMER: This representation and the Geographic Information System (GIS) used to create it are designed as a source of reference and not intended to replace official records and/or legal surveys. HCS assumes no responsibility for any risks, dangers, or liabilities that may result from its use and makes no guarantees as to the quality or accuracy of the underlying data.

Author: S. Dow
 Revised by: D. Held
 Date: 12/31/2025



Proposed Soil Boring Locations Map
Figure 3
E9W Tank Release
 39.462466, -107.784589
 Section 9, Township 7.0 South, Range 93.0 West

Legend

-  Proposed Soil Boring Locations
-  Proposed Contingency Boring Locations



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 Revised by: D. Held
 Date: 12/31/2025

TABLES



SOIL ANALYTICAL RESULTS TABLE
E9W

				915-1 RESIDENTIAL SOIL																									
Analyte				GRO	DRO	ORO	Benzene	Toluene	Ethylbenzene	Total Xylenes	1,2,4-TMB	1,3,5-TMB	Acenaphthene	Anthracene	Benz(e)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Chrysene	Dibenz(a,h)anthracen	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyre	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Pyrene		
Units				500	500	500	1.2	490	5.8	58	30	27	360	1800	1.1	1.1	11	0.11	110	0.11	240	240	1.1	18	24	2	180		
Total TPH				500																									
Units				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Sample Name																													
20250804-E9W-(POR)@0.5	POR	08/04/2025	5815	220.25	2.73	117.52	< 100.00	< 0.0015	0.014	0.0047	0.149	0.066	0.060	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.027	0.083	0.037	< 0.010	
20250827-E9W-(POR2)@0.5	POR	08/27/2025	6304	< 200.223	< 0.223	< 100.00	< 100.00	< 0.0015	< 0.0016	< 0.0014	< 0.0043	< 0.0016	< 0.0015	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.00313	< 0.010	< 0.00306	< 0.010	
20250827-E9W-(POR3)@0.5	POR	08/27/2025	6304	213.421	0.551	112.87	< 100.00	< 0.0015	< 0.0016	< 0.0014	< 0.0043	< 0.0016	0.0066	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.021	< 0.00313	< 0.010	< 0.00306	< 0.010	
20251023-E9W-(SB01)@4	Soil Boring	10/23/2025	7511	< 200.223	< 0.223	< 100.00	< 100.00	< 0.0015	< 0.0016	< 0.0014	0.0050																		
20251023-E9W-(SB01)@6	Soil Boring	10/23/2025	7511	< 200.223	< 0.223	< 100.00	< 100.00	< 0.0015	< 0.0016	< 0.0014	< 0.0043																		
20251023-E9W-(SB02)@4	Soil Boring	10/23/2025	7511	205.53	5.53	< 100.00	< 100.00	0.0028	0.047	0.043	0.20																		
20251023-E9W-(SB02)@6	Soil Boring	10/23/2025	7511	1400.37	524.02	704.91	171.44	< 0.030	6.73	1.13	18.59																		
20251023-E9W-(SBE)@4	Soil Boring	10/23/2025	7511	< 200.223	< 0.223	< 100.00	< 100.00	< 0.0015	< 0.0016	< 0.0014	< 0.0043																		
20251023-E9W-(SBE)@8	Soil Boring	10/23/2025	7511	< 200.223	< 0.223	< 100.00	< 100.00	< 0.0015	< 0.0016	< 0.0014	< 0.0043																		
20251023-E9W-(SBS)@4	Soil Boring	10/23/2025	7511	< 200.223	< 0.223	< 100.00	< 100.00	< 0.0015	< 0.0016	< 0.0014	< 0.0043																		
20251023-E9W-(SBS)@6	Soil Boring	10/23/2025	7511	< 200.223	< 0.223	< 100.00	< 100.00	< 0.0015	< 0.0016	< 0.0014	< 0.0043																		
20251023-E9W-(SBW)@6	Soil Boring	10/23/2025	7511	295.38	6.47	188.91	< 100.00	< 0.0015	< 0.0016	0.099	0.224																		
20251023-E9W-(SBW)@7.5	Soil Boring	10/23/2025	7511	200.98	0.98	< 100.00	< 100.00	< 0.0015	< 0.0016	0.0036	0.036																		

Notes:
 Bold with silver highlight: Exceeds RSSLs
 "<" (as in, less than laboratory reporting detection limit)



**SOIL ANALYTICAL RESULTS TABLE
E9W**

Analyte 915-1 RESIDENTIAL SOIL Units				EC 4 mmhos/cm	SAR 6 No Unit	pH 8.3 SU	HWS Boron 2 mg/L	Arsenic 0.68 mg/kg	Barium 15000 mg/kg	Cadmium 71 mg/kg	Chromium VI 0.3 mg/kg	Copper 3100 mg/kg	Lead 400 mg/kg	Nickel 1500 mg/kg	Selenium 390 mg/kg	Silver 390 mg/kg	Zinc 23000 mg/kg
Sample Name	Sample Type	Sample Date	Lab Report														
20250804-E9W-(POR)@0.5	POR	08/04/2025	5815	0.57	0.29	8.18	0.10	5.49	548.04	0.22	< 0.080	12.78	8.85	14.91	2.93	< 0.25	37.01
20250827-E9W-(POR2)@0.5	POR	08/27/2025	6304	9.45	32.13	8.26	4.63	4.61	886.16	0.25	< 0.080	16.18	8.46	14.22	1.59	< 0.25	45.36
20250827-E9W-(POR3)@0.5	POR	08/27/2025	6304	7.37	33.70	8.31	2.79	4.99	718.33	0.31	< 0.080	12.39	7.83	9.30	1.43	< 0.25	31.85
20251023-E9W-(SB01)@4	Soil Boring	10/23/2025	7511	0.92	3.06		1.12										
20251023-E9W-(SB01)@6	Soil Boring	10/23/2025	7511	0.59	1.25		0.21										
20251023-E9W-(SB02)@4	Soil Boring	10/23/2025	7511	0.55	1.23		0.30										
20251023-E9W-(SB02)@6	Soil Boring	10/23/2025	7511	1.17	10.96		1.59										
20251023-E9W-(SBE)@4	Soil Boring	10/23/2025	7511	0.40	0.59		0.27										
20251023-E9W-(SBE)@8	Soil Boring	10/23/2025	7511	0.39	0.47		0.52										
20251023-E9W-(SBS)@4	Soil Boring	10/23/2025	7511	0.62	0.51		0.54										
20251023-E9W-(SBS)@6	Soil Boring	10/23/2025	7511	0.46	0.51		0.29										
20251023-E9W-(SBW)@6	Soil Boring	10/23/2025	7511	1.15	6.47		3.24										
20251023-E9W-(SBW)@7.5	Soil Boring	10/23/2025	7511	1.21	12.92		0.59										
20250804-GMBG-(E9W-N)@2.5	Background	08/04/2025	5783	0.36	0.12	7.67	0.21	7.28	251.15	0.14	0.11	13.51	12.56	21.75	4.21	< 0.25	46.97
20250804-GMBG-(E9W-N)@4	Background	08/04/2025	5783	0.37	0.12	7.66	0.21	7.39	266.13	0.14	0.09	11.85	11.54	19.26	3.77	< 0.25	43.88
20250804-GMBG-(E9W-W)@2	Background	08/04/2025	5783	0.28	0.09	6.89	0.30	4.03	186.99	0.68	< 0.16	16.90	11.28	18.60	4.11	< 0.25	57.56
20250804-GMBG-(E9W-W)@4	Background	08/04/2025	5783	0.40	0.06	6.45	0.46	4.20	189.30	0.50	< 0.8	17.73	11.42	17.85	3.64	< 0.25	52.43

Notes:
 Bold with silver highlight: Exceeds RSSLs
 Bold with blue highlight: Exceeds POGs
 "<" (as in, less than laboratory reporting detection limit)

APPENDIX A



☀ 82°E (T) ● 39°27'44"N, 107°47'4"W ±16ft ▲ 7138ft



Photograph #1	
Photograph description	SB01 pothole location marked



Photograph #2	
Photograph description	WCO personnel advancing the SB01 pothole



☉ 303°NW (T) ● 39°28'0"N, 107°47'4"W ±20659ft ▲ 7127ft



Photograph #3	
Photograph description	Confirmation soil sample collected from the 4-foot interval of the SB01 location
Sample ID	20251023-E9W-(SB01)@4



☉ 293°NW (T) ☉ 39°27'44"N, 107°47'5"W ±19ft ▲ 7113ft



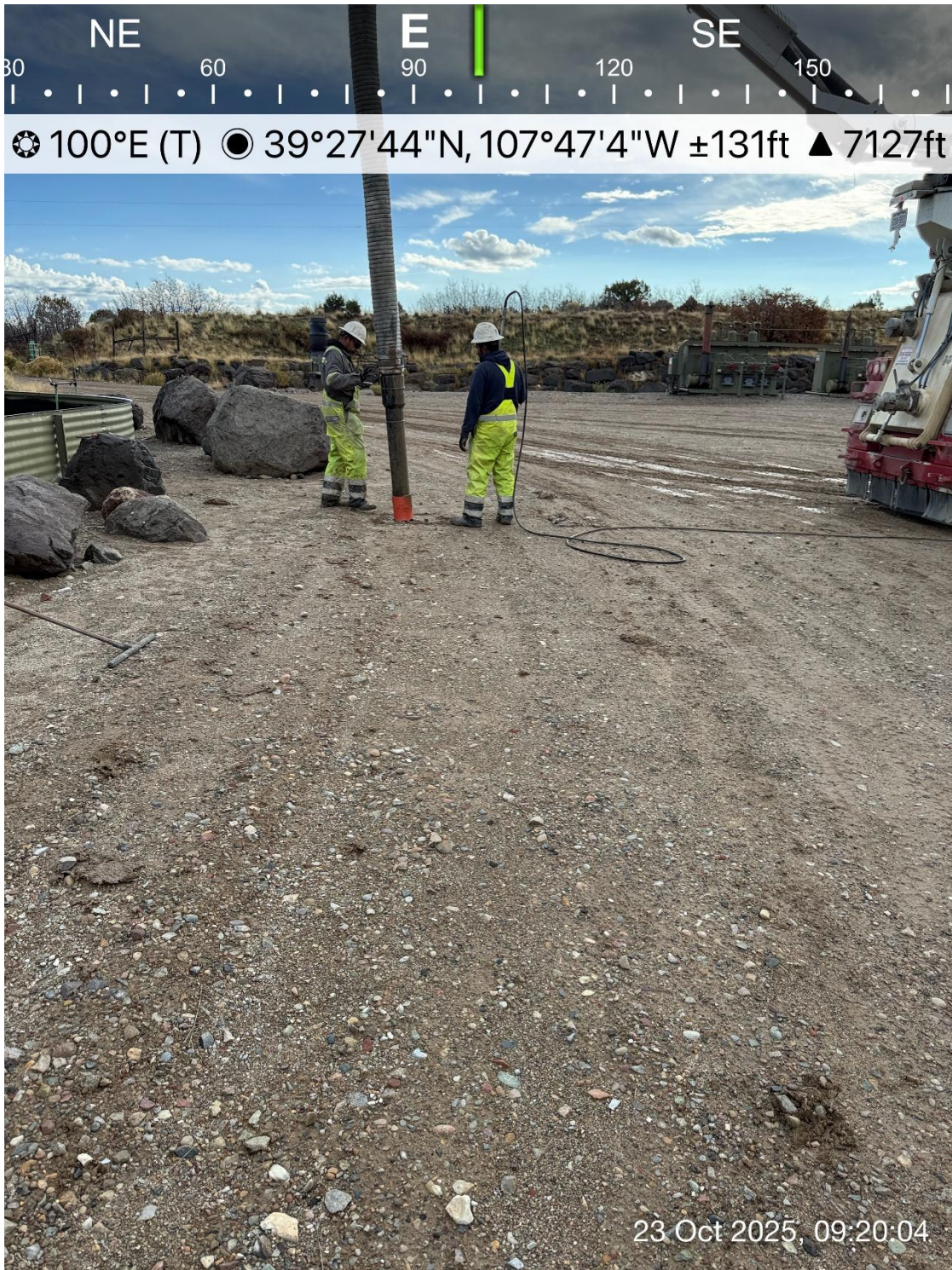
Photograph #4	
Photograph description	Confirmation soil sample collected from the 6-foot interval (terminus) of the SB01 location
Sample ID	20251023-E9W-(SB01)@6



86°E (T) 39°27'44"N, 107°47'4"W ±19ft ▲ 7129ft



Photograph #5	
Photograph description	SB01 pothole completed



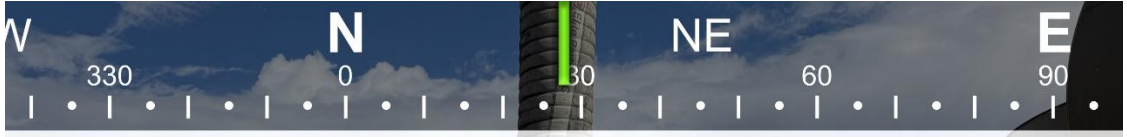
Photograph #6	
Photograph description	WCO personnel advancing the SBS pothole



Photograph #7	
Photograph description	Confirmation soil sample collected from the 4-foot interval of the SBS location
Sample ID	20251023-E9W-(SBS)@4



Photograph #8	
Photograph description	SBS pothole completed (not photographed - confirmation sample collected from SBS terminus)
Sample ID	20251023-E9W-(SBS)@6



☉ 28°NE (T) ☉ 39°27'46"N, 107°47'4"W ±7706ft ▲ 7131ft



Photograph #9	
Photograph description	WCO personnel advancing the SBW pothole



Photograph #10	
Photograph description	Confirmation soil sample collected from the 4-foot interval of the SBW location
Sample ID	20251023-E9W-(SBW)@4



Photograph #11	
Photograph description	Confirmation soil sample collected from the 7.5-foot interval (terminus) of the SBW location
Sample ID	20251023-E9W-(SBW)@7.5



☉ 357°N (T) ● 39°27'44"N, 107°47'3"W ±22ft ▲ 7124ft



Photograph #12	
Photograph description	WCO personnel advancing the SBE pothole



Photograph #13	
Photograph description	Confirmation soil sample collected from the 4-foot interval of the SBE location
Sample ID	20251023-E9W-(SBE)@4



☉ 274°W (T) ☉ 39°27'44"N, 107°47'3"W ±39ft ▲ 7120ft



Photograph #14	
Photograph description	SBE boring completed, not photographed – confirmation soil sample collected from the 8-foot interval (terminus) of SBE
Sample ID	20251023-E9W-(SBE)@8



Photograph #15	
Photograph description	WCO personnel advancing the SB02 pothole



Photograph #16	
Photograph description	Confirmation soil sample collected from the 4-foot interval of the SB02 location
Sample ID	20251023-E9W-(SB02)@4



☉ 291°W (T) ☉ 39°27'44"N, 107°47'5"W ±13ft ▲ 7126ft



Photograph #17	
Photograph description	Confirmation soil sample collected from the 6-foot interval of the SB02 location
Sample ID	20251023-E9W-(SB02)@4



☉ 118°SE (T) ● 39°27'44"N, 107°47'4"W ±29ft ▲ 7148ft



23 Oct 2025, 14:27:51

Photograph #18	
Photograph description	SB02 pothole completed