May 08, 2025

Karen Olson
Remediation Advisor
Chevron Rockies Business Unit
PDC Energy, Inc.
2115 117th Avenue
Greeley, CO 80631

Re: **Gus LD Pad**
Reclamation Plan
SENE, Section 21, Township 1 S, Range 67 W
Adams County, Colorado

Ms. Olson:

Tasman, Inc. (Tasman) has prepared this Reclamation Plan (Plan) on behalf of PDC Energy, Inc. (PDC) for the Gus LD Pad in Adams County, Colorado (Site). The Colorado Energy and Carbon Management Commission (ECMC) has assigned this project Remediation Project No. 36714. Surface areas disturbed by remediation activities shall be reclaimed per ECMC Rules 1003 *Interim Reclamation* and 1004 *Final Reclamation of Well Sites and Associated Production Facilities*. Additional remedial activities and assessment results associated with this project were presented to and approved by the ECMC in previously submitted Form 27 reports. In anticipation of reclamation activities, Tasman completed a Site inspection on October 22, 2024; the associated field notes and photo logs are included as Attachment A.

Site Description

The Site is located in Adams County in northeastern Colorado, in the SENE Quarter-Quarter of Section 21, Township 1 South, Range 67 West near the intersection of Quebec St. and East 136th Ave., approximately 4 miles southwest of the town of Brighton (Figures 1 and 3-A). There is one mapped Fish and Wildlife Service (FWS) Wetland (R4SBC: Riverine) located within 500 feet of the Site (Figures 2 and 3-B). The current landowner is Kortum Acres, Inc.

Site Background

An unintentional release from a failed bulk separator fire tube occurred in May 2024. In May 2024, following ECMC approval of the Initial Form 27 (Document No. 403883475), an initial remediation investigation was initiated by Fremont Environmental, Inc. (Fremont). During initial remediation activities, twelve confirmation soil samples (Waste Char, FS01, FS02, FS03, FS04, FS05, FS06, FS07, FS08, FS09, SS-01, and SS02) were collected and submitted to Summit Scientific Laboratory (Summit) for analysis of ECMC Table 915-1 Organic Compounds in Soils, total petroleum hydrocarbons (TPH) as total volatile hydrocarbons (C_6-C_{10}), total extractable hydrocarbons (C_{10}-C_{36}), Table 915-1 Metals, and Soil Suitability for Reclamation constituents.

- Analytical results indicated that the sodium adsorption ratio (SAR) values in eleven confirmation soil samples (Waste Char, FS-01, FS-02, FS-03, FS-04, FS-05, FS-07, FS-08, FS-09, SS-01, and SS-02) were above the applicable ECMC Table 915-1 regulatory standards.

- Analytical results indicated that electrical conductivity (EC) values in six confirmation soil samples (Waste Char, FS-01, FS-02, FS-07, FS-08, and SS-01) were above the applicable ECMC Table 915-1 regulatory standards.
- Analytical results indicated that the pH values in two confirmation soil samples (FS-04 and FS-05) were above the applicable ECMC Table 915-1 regulatory standards.
- Analytical results indicated that the boron values in two confirmation samples (Waster Char and SS-01) were above ECMC Table 915-1 regulatory standards.
- All remaining samples were in full compliance with ECMC Table 915-1 regulatory standards.

In May 2024, impacted material associated with the EC, SAR, and boron exceedances observed in one confirmation soil sample (Waste Char) was removed via hydro-vacuum excavation; the remaining exceedances were left in place. Confirmation soil sample locations are illustrated on Figure 3-C and analytical results are presented in Table 1.

In August 2024, Fremont collected five background samples (BG-NE-IN, BG-SE-IN, BG-SE-OFF, BG-S-C, and BG-S-W) and submitted to Summit for analysis of ECMC Table 915-1 Organic Compounds in Soils, TPH as total volatile hydrocarbons (C_6-C_{10}), total extractable hydrocarbons (C_{10}-C_{36}), Table 915-1 Metals, and Soil Suitability for Reclamation constituents.

- Analytical results indicated that the SAR values in two confirmation soil samples (FS-04 and FS-09) were above the applicable ECMC Table 915-1 but within Site-specific background concentrations.
- Analytical results indicated that the SAR values in eight confirmation soil samples (FS-01, FS-02, FS-03, FS-05, FS-07, FS-08, SS-01, and SS-02) were above the applicable ECMC Table 915-1 regulatory standards and Site-specific background concentrations.
- Analytical results indicated that the pH values in three confirmation soil samples (FS-04, FS-05, and FS-09) were above ECMC Table 915-1 regulatory standards but within Site-specific background concentrations.
- Analytical results indicated that electrical conductivity (EC) values in five confirmation soil samples (FS-01, FS-02, FS-07, FS-08, and SS-01) were above the applicable ECMC Table 915-1 regulatory standards and Site-specific background concentrations.
- All remaining samples were in full compliance with ECMC Table 915-1 regulatory standards.

Confirmation soil sample locations are illustrated on Figure 3-C and background soil sample locations are illustrated on Figure 3-D and Figure 3-E. Analytical results are presented in Table 1.

Following ECMC approval of Supplemental Form 27 Document No. 403996864, a supplemental Site investigation was conducted by Fremont, from November 2024 to January 2025, to delineate the EC and SAR exceedances observed in ten soil samples (FS-01, FS-02, FS-03, FS-04, FS-05, FS-07, FS-08, FS-09, SS-01, and SS-02). Four confirmation soil samples (SS-01[2] 1 Ft, SS-01[2] 2 Ft, FS-02[2], and FS-02[3]) were collected and submitted to Summit for analysis of ECMC Table 915-1 Organic Compounds in Soils, TPH as total volatile hydrocarbons (C_6-C_{10}), total extractable hydrocarbons (C_{10}-C_{36}), Table 915-1 Metals, and Soil Suitability for Reclamation constituents. In November 2024 and March 2025, five background soil samples were collected and submitted to Summit for the analysis of ECMC Table 915-1 Soil Suitability for Reclamation constituents and Table 915-1 Metals.

- Analytical results indicated that pH values in three confirmation soil samples (SS-01[2] 1 Ft, SS-01[2] 2 Ft, and FS02[3]) were above the applicable ECMC Table 915-1 regulatory standards but within Site-specific background concentrations.
- Analytical results indicated that the SAR values in seven confirmation soil samples (FS-03, FS-05, FS-07, FS-08, SS-02, and FS02[3] were above the applicable ECMC Table 915-1 regulatory standards but within Site-specific background concentrations.
- Analytical results indicated that the SAR values in three confirmation soil samples (FS-01, FS-02, and SS-01) were above the applicable ECMC Table 915-1 regulatory standards and Site-specific background concentrations
- Analytical results indicated that electrical conductivity (EC) values in five confirmation soil samples (FS-01, FS-02, FS-07, FS-08, and SS-01) were above the applicable ECMC Table 915-1 regulatory standards and Site-specific background concentrations.
- All remaining samples were in full compliance with ECMC standards and Site-specific background concentrations.

Confirmation soil sample locations are illustrated on Figure 3-C and background locations are illustrated on Figure 3-D and Figure 3-E. Analytical results are presented in Table 1.

In March 2025, Fremont collected three confirmation soil samples (FS-01 2FT, FS-07 2FT, and FS-08 2FT) and eight background samples (BG-E 1FT, BG-E 2FT, NG-N 1FT, BG-N 2FT, BG-S 1 FT, BG-S 2 FT, BG-W 1 FT, and BG-W 2 FT) were collected and submitted to Summit for analysis of ECMC Table 915-1 Organic Compounds in Soils, TPH as total volatile hydrocarbons (C_6-C_{10}), total extractable hydrocarbons (C_{10}-C_{36}), Table 915-1 Metals, and Soil Suitability for Reclamation constituents.

- Analytical results indicated that electrical conductivity (EC) values in five confirmation soil samples (FS-01, FS-02, FS-07, FS-08, SS-01, FS-01 2FT, FS-07 2FT, and FS-08 2FT) were above the applicable ECMC Table 915-1 regulatory standards but within Site-specific background concentrations.
- Analytical results indicated that the SAR values in three confirmation soil samples (FS-01, FS-02, and SS-01) were above the applicable ECMC Table 915-1 regulatory standards and Site-specific background concentrations
- Analytical results indicated that the SAR values in one confirmation soil samples (FS-07 2FT) was above the applicable ECMC Table 915-1 regulatory standards but within Site-specific background concentrations.
- All remaining samples were in full compliance with ECMC standards and Site-specific background concentrations.

Confirmation soil sample locations are illustrated on Figure 3-C and background locations are illustrated on Figure 3-D and Figure 3-E. Analytical results are presented in Table 1.

Soils and Vegetation Information

The primary soil type at Site is Gravelly Land-Shale outcrop complex. The primary mapped and described soil type located along the northern boundary of the Site is Samsil-Shingle complex, with 3-35% slopes (Attachment B). Samsil-Shingle complex soils consist of shallow, well drained soils formed in alluvium or residuum weathered from shale and are found on bedrock-controlled hillslopes and ridges. Native

vegetation in such soils is little bluestem, western wheatgrass, sideoats gramma, blue gramma, green needlegrass, sedges, and forbs. Such soils are used as native rangeland.

Tasman completed a Site inspection on October 22, 2024, to evaluate general soil and vegetive conditions. Current land use surrounding the Site is active oil and gas production associated with the Gus LD Pad. There is no existing vegetation on-Site and the Site is actively managed to prevent vegetation. As such, background reference vegetation was collected along the southern boundary of the Site; species observed include green needlegrass, slender wheatgrass, smooth brome, *kochia*, Russian thistle, and downy brome.

Reclamation Operations and Erosion Control

As the Site and surrounding area is an active oil and gas facility, reclamation seeding will not be completed. Excavation of the contaminated road base was completed in June 2024. Following excavation of the contaminated soils and road base, clean fill soil and new road base were emplaced to match pre-existing conditions.

Stormwater compliance to prevent soil erosion shall be maintained by a combination of earthwork practices and placement of non-erodible surfaces. No stormwater inspections related to remediation or reclamation activities will be required. If stormwater management is required, it will be implemented.

Annual Final Reclamation Monitoring

The Site will continue to operate as an active oil and gas facility; therefore, Final Reclamation annual inspections and/or monitoring will not be completed at this time.

Conclusion

Analytical results collected during the supplemental Site investigations completed from May 2024 to March 2025 indicated that the SAR, pH, and EC exceedances recorded during the initial unintentional release investigation were horizontally and vertically delineated and either were removed during the remedial excavation or could not be duplicated. The boron and SAR exceedances observed in confirmation soil sample SS-01 was resolved by completing resampling and vertical delineation with confirmation samples SS-01(2) 1FT and SS-01(2) 2FT. The SAR and EC exceedances observed in FS-02 and SS-01 were resolved with confirmation soil samples FS-02(2), FS02(3), SS-01(2) 1FT and SS-01(2) 2FT. The SAR exceedances of FS-01 has been horizontally and vertically completed using the following confirmation soil samples (SS-02[North], BG-E [East], FS-04[South], FS-05[West], and FS-01 2FT [Vertically]). When the Site is fully decommissioned all road base will be removed and replaced with stockpiled native topsoil from the Site, removing any remaining exceedances that are currently left in place. Based on native soil characteristics, and an understanding that the Site will remain an active oil and gas facility, there will be no long-term impacts to soil suitability at the Site and surrounding land.

If you have any questions about this Reclamation Plan, do not hesitate to contact Karen Olson at 303-860-5800 or karen.olson@chevron.com or myself at 303-726-9642 or acook@tasman-geo.com.

Sincerely,

Alex Cook, TECS, QSM

Environmental Scientist

Figures:

1. Site Location Map
2. Site Overview Map
3. Soil Sampling and Boring Location Maps
    A. Site Location Map (Fremont)
    B. Site Map (Fremont)
    C. Metals and Inorganic Soil Chemistry Map (Fremont)
    D. Background Sample Soil Chemistry Map (Fremont)
    E. Background Sample Soil Chemistry Map (Fremont)

Table:

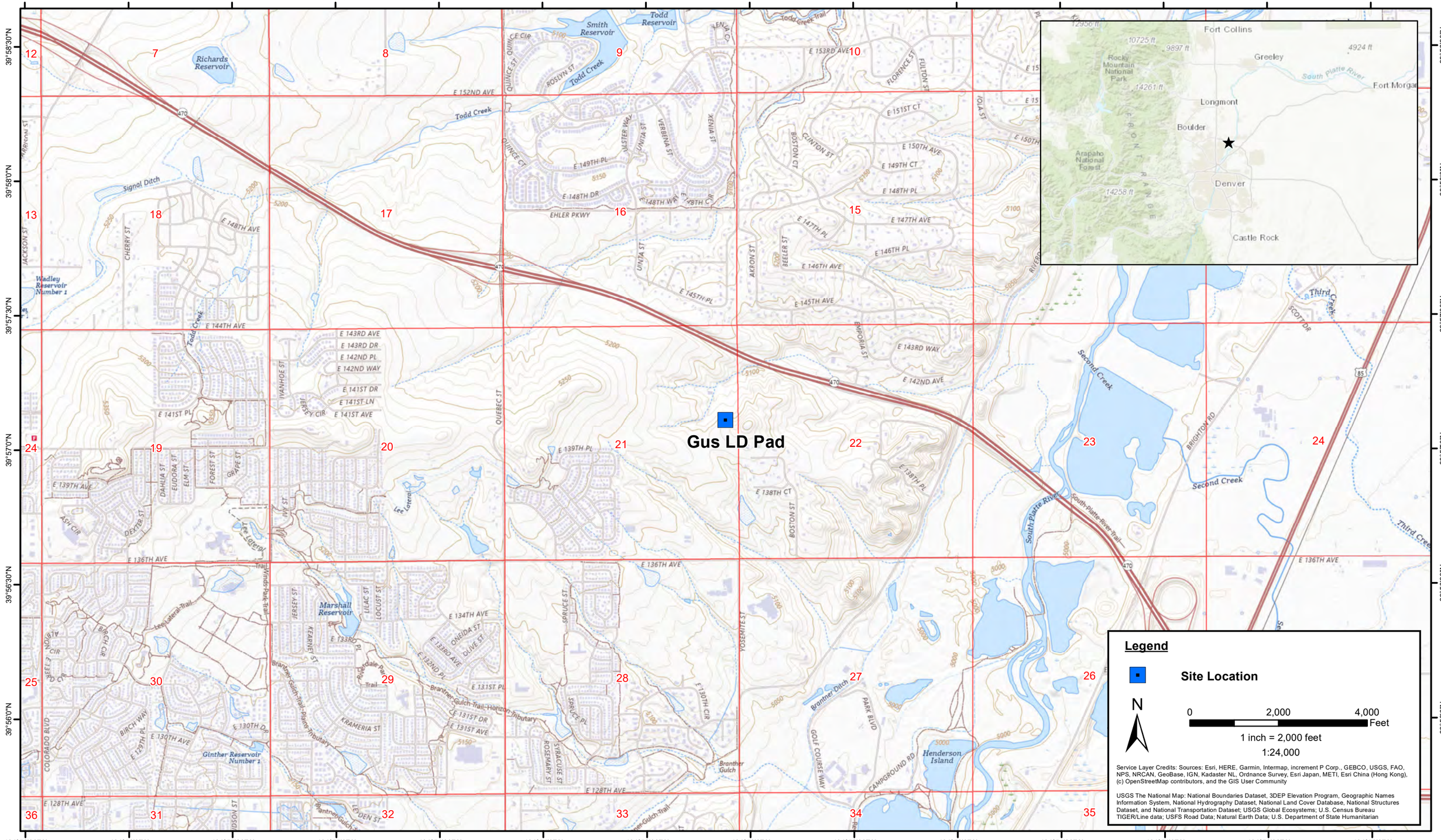
1. Summary of Soil Suitability for Reclamation (Fremont)

Attachments:

A. Vegetation Monitoring Report
B. United States Department of Agriculture (USDA) Custom Soil Resource Report

FIGURE 1

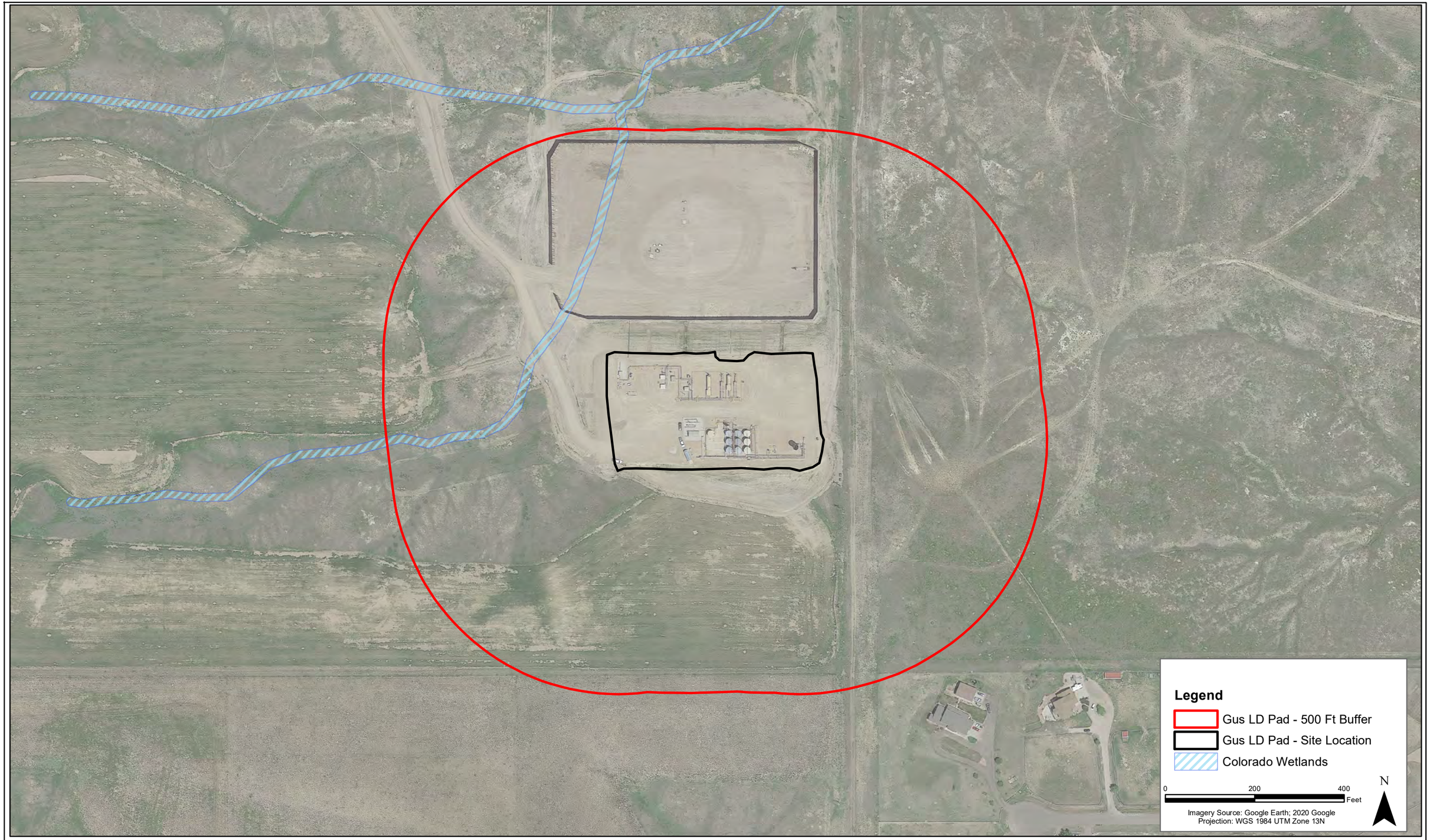
Site Location Map



DATE: April 28, 2025 DESIGNED BY: B. Nelson DRAWN BY: J. Woffinden	**Tasman, Inc.** **4725 Independence Street** **Wheat Ridge, CO 80033**	**PDC Energy, Inc. – 69175 – DJ Basin** **Gus LD Pad** SENE, Section 21, Township 1 South, Range 67 West Adams County, Colorado	Site Location Map	Figure 1

FIGURE 2

Site Overview Map



DATE: April 2025 DESIGNED BY: A. Cook DRAWN BY: J. Woffinden	**Tasman, Inc.** **4725 Independence Street** **Wheat Ridge, CO 80033**	**PDC Energy, Inc. – 69175 – DJ Basin** **Gus LD Pad** SENE, Section 21, Township 1 South, Range 67 West Adams County, Colorado	Site Overview Map	Figure 2

FIGURE 3

Figure 3-A, Site Location Map (Fremont)

Figure 3-B, Site Map (Fremont)

Figure 3-C, Metals and Inorganic Soil Chemistry Map (Fremont)

Figure 3-D, Background Sample Soil Chemistry Map (Fremont)

Figure 3-E, Background Sample Soil Chemistry Map (Fremont)

N

Scale (miles)
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1
0 1000 2000 3000 4000 5000
Scale (feet)

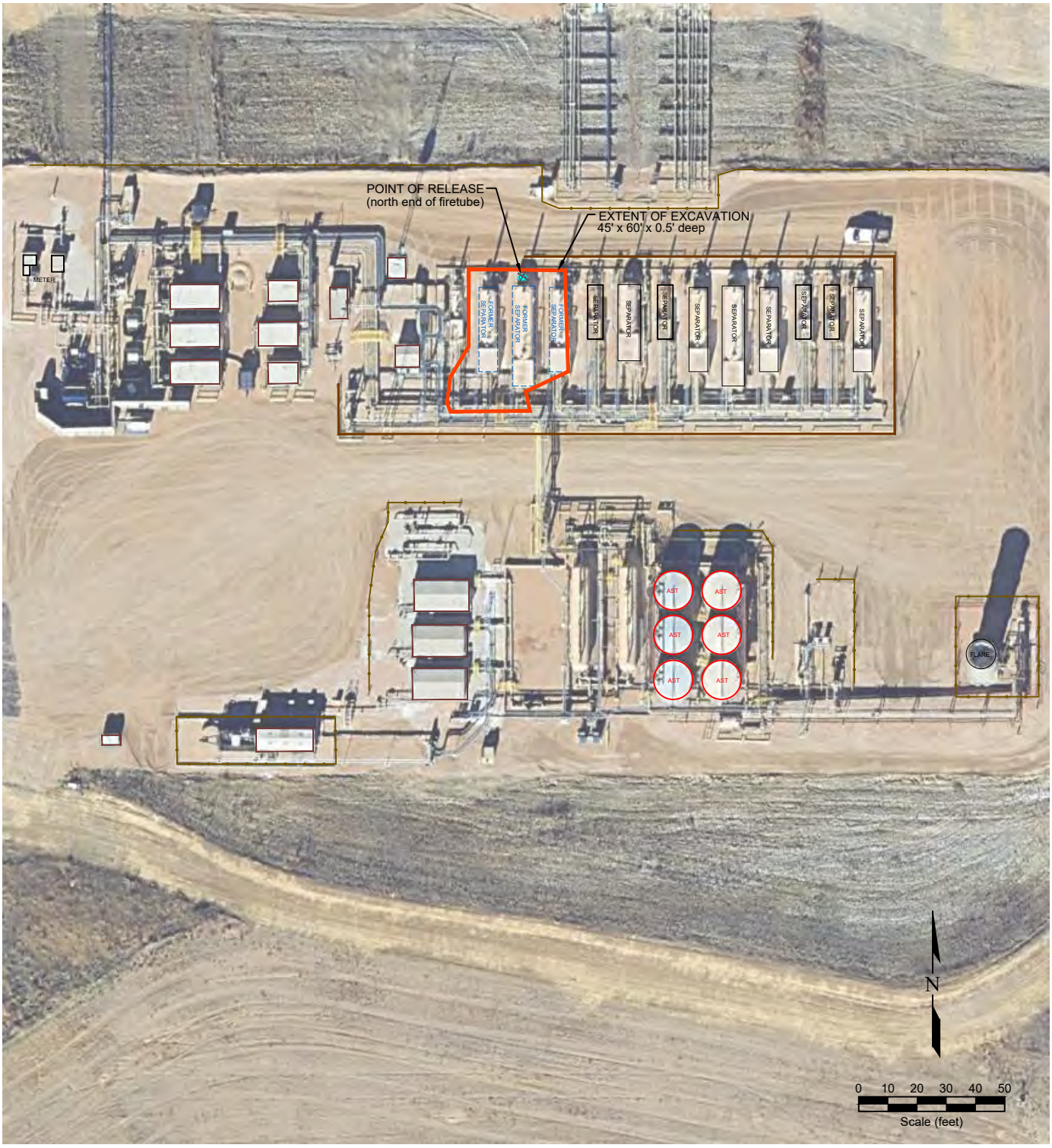
USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 3-A.
SITE LOCATION MAP

PDC Energy, Inc. ~ Gus LD Pad
SENE Sec. 21, T1S, R67W, 6th PM
Adams County, Colorado
39.952212°, -104.885496°

Project #	API #	Facility #
C024-122		
Date	Remediation #	Filename
4/16/25		**24122T**

FREMONT ENVIRONMENTAL



LEGEND

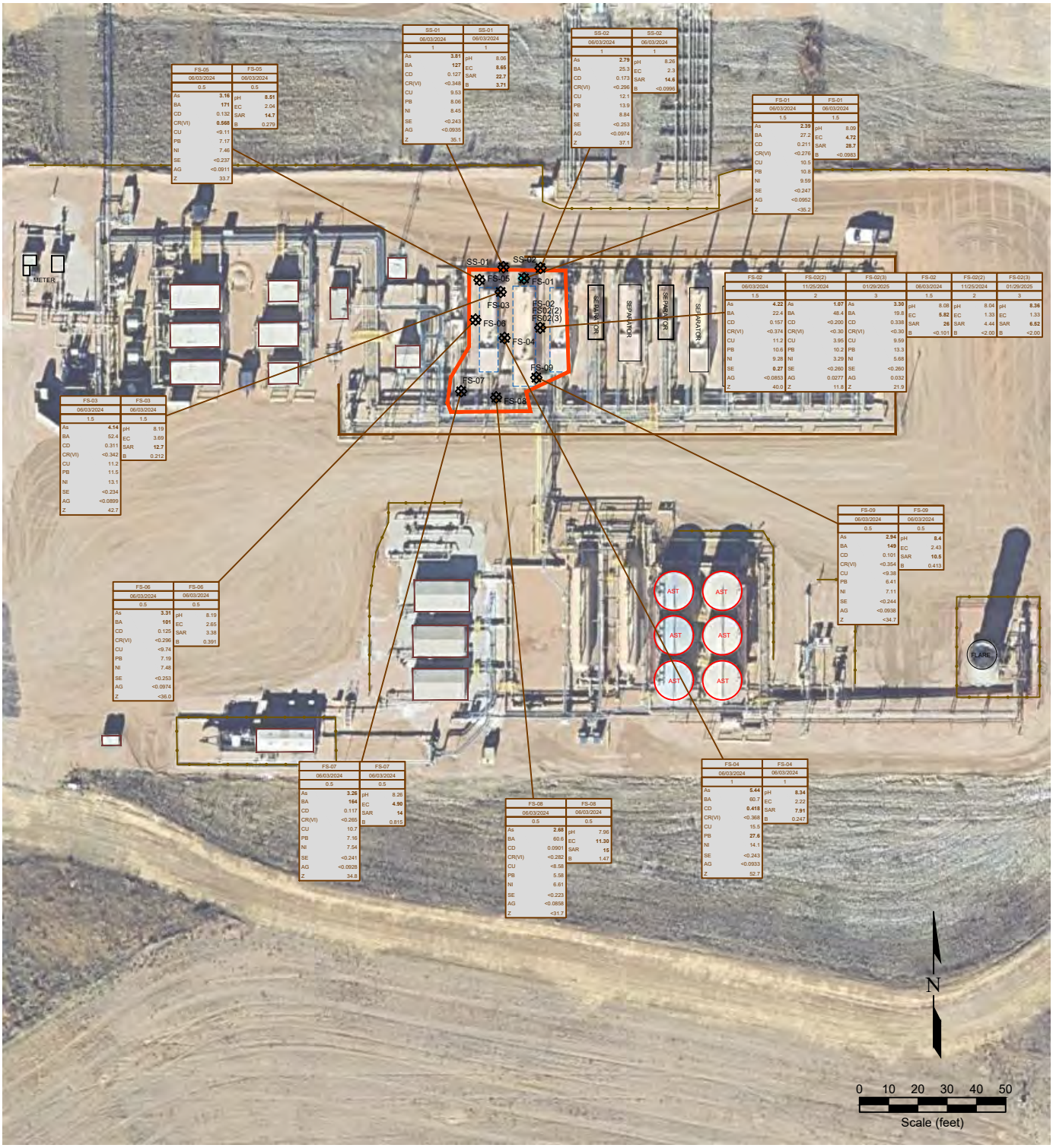
- POINT OF RELEASE
- ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- BUILDING
- EXTENT OF EXCAVATION
- FENCE LINE
- CONTAINMENT BERM
- CONTAINMENT WALL

Figure 3-B.
SITE MAP

PDC Energy, Inc. ~ Gus LD Pad
SENE Sec. 21, T1S, R67W, 6th PM
Adams County, Colorado
39.952212°, -104.885496°

Project No.	API #	Facility #
C024-122		
Date	Remediation #	Filename
4/16/25		**24122Q1**

FREMONT ENVIRONMENTAL



LEGEND

- POINT OF RELEASE
- SOIL SAMPLE LOCATION
- ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- BUILDING
- EXTENT OF EXCAVATION
- FENCE LINE
- CONTAINMENT BERM
- CONTAINMENT WALL

SAMPLE	SAMPLE ID
DATE	DATE SAMPLED
DEPTH	DEPTH (ft)
As	ARSENIC (mg/kg)
BA	BARIUM (mg/kg)
CD	CADMIUM (mg/kg)
CR(VI)	CHROMIUM (mg/kg)
CU	COPPER (mg/kg)
PB	LEAD (mg/kg)
NI	NICKEL (mg/kg)
SE	SELENIUM (mg/kg)
AG	SILVER (mg/kg)
Z	ZINC (mg/kg)

SAMPLE	SAMPLE ID
DATE	DATE SAMPLED
DEPTH	DEPTH (ft)
pH	pH (pH units)
EC	EC (mmhos/cm)
SAR	SAR (units)
B	BORON (mg/L)

Figure 3-C.

METALS AND INORGANIC SOIL CHEMISTRY MAP

PDC Energy, Inc. ~ Gus LD Pad

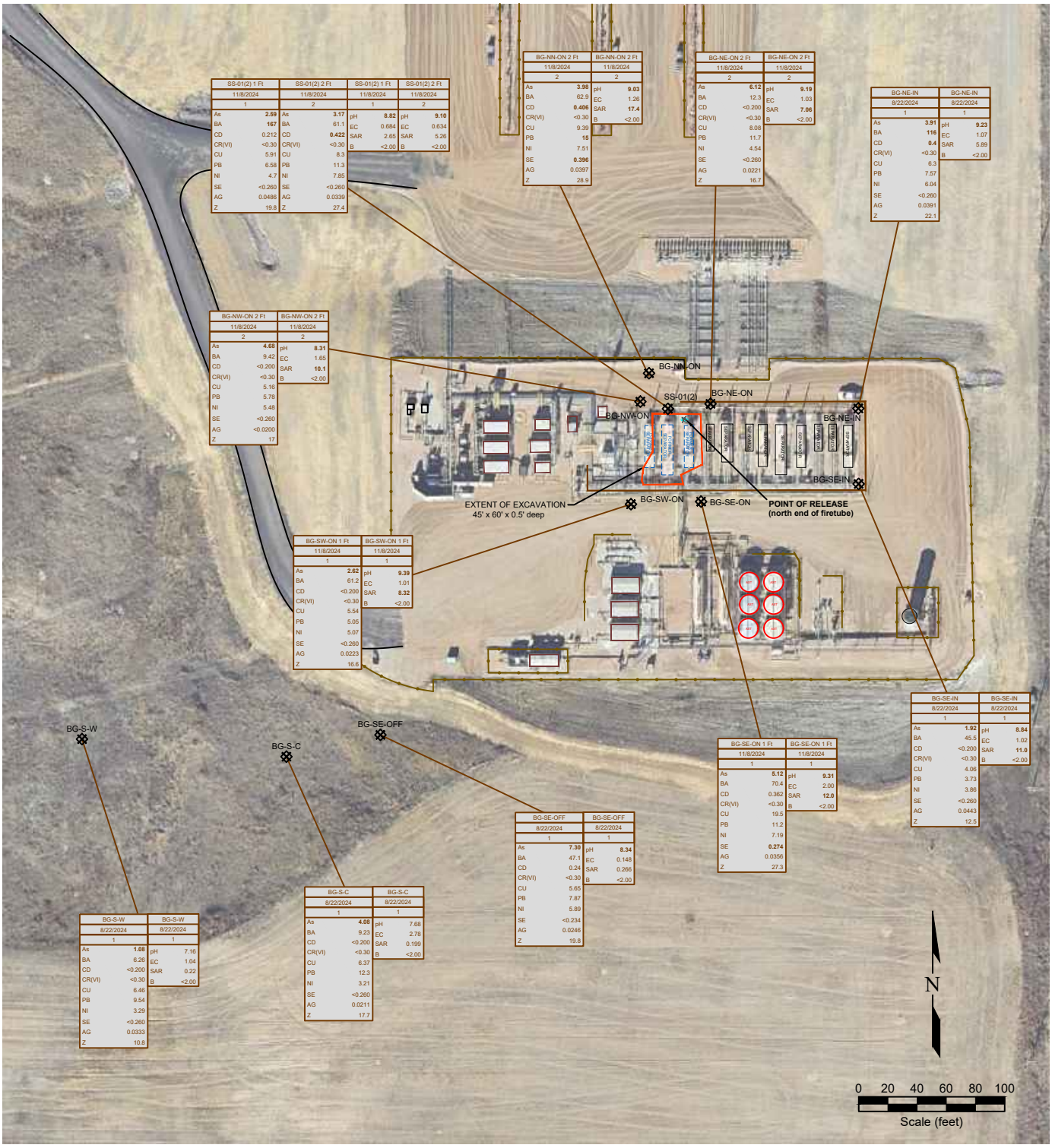
SENE Sec. 21, T1S, R67W, 6th PM

Adams County, Colorado

39.952212°, -104.885496°

Project No.	API #	Facility #
C024-122		
Date	**Remediation #**	**Filename**
4/16/25		**24122Q1**

FREMONT ENVIRONMENTAL



POINT OF RELEASE
SOIL SAMPLE LOCATION
ABOVE GROUND STORAGE TANK
FORMER FACILITY
BUILDING
EXTENT OF EXCAVATION
FENCE LINE
CONTAINMENT BERM
CONTAINMENT WALL

SAMPLE ID
DATE SAMPLED
DEPTH (ft)
ARSENIC (mg/kg)
BARIUM (mg/kg)
CADMIUM (mg/kg)
CHROMIUM (mg/kg)
COPPER (mg/kg)
LEAD (mg/kg)
NICKEL (mg/kg)
SELENIUM (mg/kg)
SILVER (mg/kg)
ZINC (mg/kg)

SAMPLE ID
DATE SAMPLED
DEPTH (ft)
pH (pH units)
EC (mmhos/cm)
SAR (units)
BORON (mg/L)

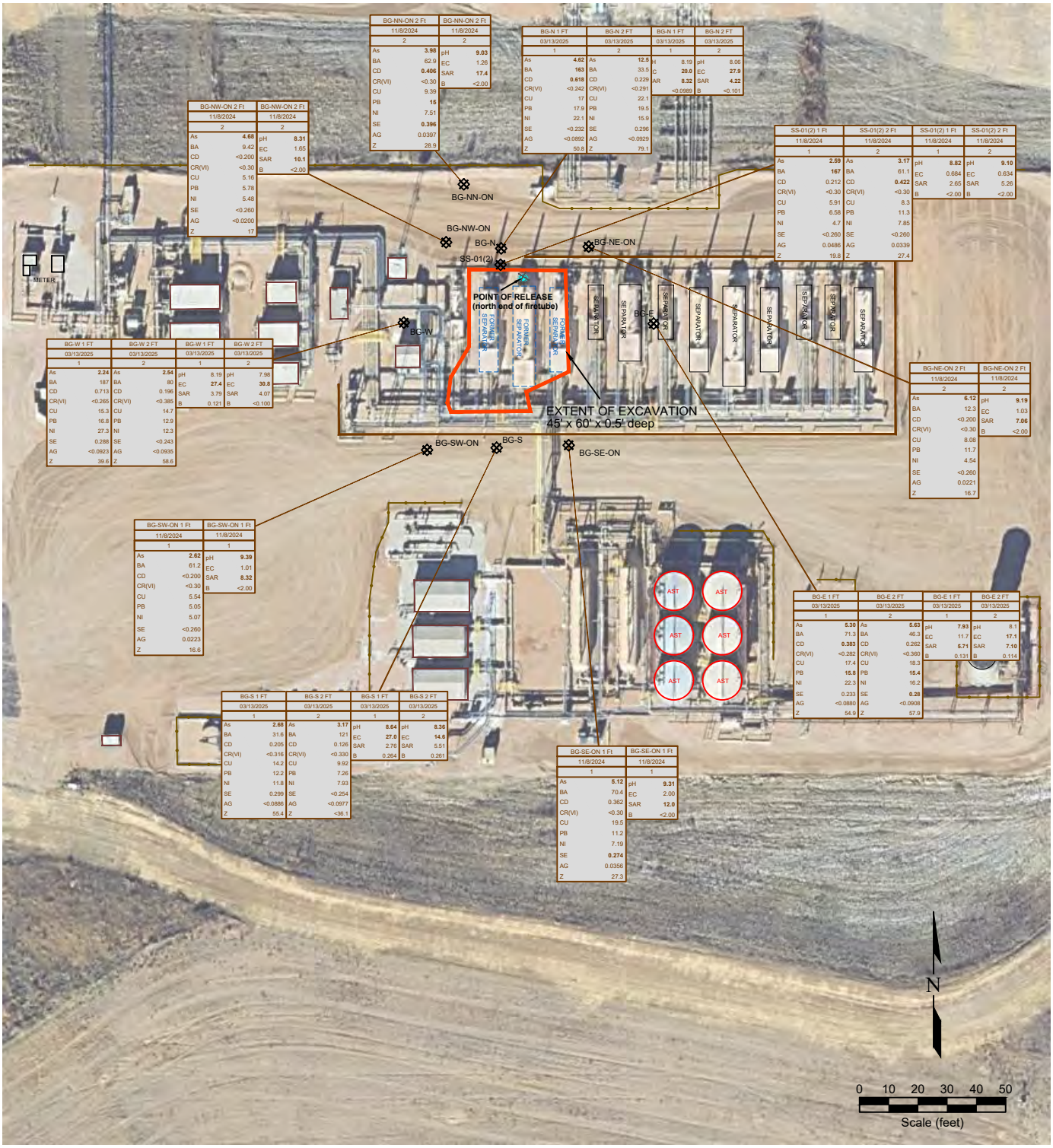
Figure 3-D.

BACKGROUND SAMPLE SOIL CHEMISTRY MAP

PDC Energy, Inc. ~ Gus LD Pad
SENE Sec. 21, T1S, R67W, 6th PM
Adams County, Colorado
39.952212°, -104.885496°

Project No.	API #	Facility #
C024-122		
Date	Remediation #	Filename
4/16/25		**24122QBKG**

FREMONT ENVIRONMENTAL



LEGEND

- POINT OF RELEASE
- SOIL SAMPLE LOCATION
- ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- BUILDING
- EXTENT OF EXCAVATION
- FENCE LINE
- CONTAINMENT BERM
- CONTAINMENT WALL

SAMPLE	SAMPLE ID
DATE	DATE SAMPLED
DEPTH	DEPTH (ft)
As	ARSENIC (mg/kg)
BA	BARIUM (mg/kg)
CD	CADMIUM (mg/kg)
CR(VI)	CHROMIUM (mg/kg)
CU	COPPER (mg/kg)
PB	LEAD (mg/kg)
NI	NICKEL (mg/kg)
SE	SELENIUM (mg/kg)
AG	SILVER (mg/kg)
Z	ZINC (mg/kg)

SAMPLE	SAMPLE ID
DATE	DATE SAMPLED
DEPTH	DEPTH (ft)
pH	pH (pH units)
EC	EC (mmhos/cm)
SAR	SAR (units)
B	BORON (mg/L)

Figure 3-E.

BACKGROUND SAMPLE SOIL CHEMISTRY MAP

PDC Energy, Inc. ~ Gus LD Pad
SENE Sec. 21, T1S, R67W, 6th PM
Adams County, Colorado
39.952212°, -104.885496°

Project No.	API #	Facility #
C024-122		
Date	Remediation #	Filename
4/16/25		**24122QBKG3**

FREMONT ENVIRONMENTAL

Table 1

Summary of Soil Suitability for Reclamation (Fremont)

TABLE 1

SUMMARY OF SOIL SUITABILITY FOR RECLAMATION

PDC 69175

GUS LD PAD, ADAMS COUNTY, COLORADO

REM # 36714

Sample ID	Sample Date	Depth (ft)	pH (Standard Units)	EC (mmhos/cm)	SAR (Standard Units)	Boron (mg/L)
ECMC Table 915-1 Soil Suitability Limits			6 - 8.3	<4	<6	2
Waste Char	5/30/2024	0.2	8.27	**8.36**	**37.5**	**6.59**
FS-01	06/03/2024	1.5	8.09	**4.72**	**28.7**	*<0.0983*
FS-02	06/03/2024	1.5	8.08	**5.82**	**26.0**	*<0.101*
FS-03	06/03/2024	1.5	8.19	3.69	**12.7**	0.212
FS-04	06/03/2024	1	**8.34**	2.22	**7.91**	0.247
FS-05	06/03/2024	0.5	**8.51**	2.04	**14.7**	0.279
FS-06	06/03/2024	0.5	8.19	2.65	3.38	0.391
FS-07	06/03/2024	0.5	8.26	**4.90**	**14.0**	0.815
FS-08	06/03/2024	0.5	7.96	**11.30**	**15.0**	1.47
FS-09	06/03/2024	0.5	**8.40**	2.43	**10.5**	0.413
SS-01	06/03/2024	1	8.06	**8.65**	**22.7**	**3.71**
SS-02	06/03/2024	1	8.26	2.30	**14.6**	*<0.0996*
BG-NE-IN	8/22/2024	1	**9.23**	1.07	5.89	*<2.00*
BG-SE-IN	8/22/2024	1	**8.84**	1.02	**11.0**	*<2.00*
BG-SE-OFF	8/22/2024	1	**8.34**	0.15	0.266	*<2.00*
BG-S-C	8/22/2024	1	7.68	2.78	0.199	*<2.00*
BG-S-W	8/22/2024	1	7.16	1.04	0.22	*<2.00*
BG-NE-ON 2 Ft	11/8/2024	2	**9.19**	1.03	**7.06**	*<2.00*
BG-NW-ON 2 Ft	11/8/2024	2	**8.31**	1.65	**10.1**	*<2.00*
BG-NN-ON 2 Ft	11/8/2024	2	**9.03**	1.26	**17.4**	*<2.00*
BG-SE-ON 1 Ft	11/8/2024	1	**9.31**	2.00	**12.0**	*<2.00*
BG-SW-ON 1 Ft	11/8/2024	1	**9.39**	1.01	**8.32**	*<2.00*
SS-01(2) 1 Ft	11/8/2024	1	**8.82**	0.68	2.65	*<2.00*
SS-01(2) 2 Ft	11/8/2024	2	**9.10**	0.63	5.26	*<2.00*
FS-02(2)	11/25/2024	2	8.04	1.33	4.44	*<2.00*
FS02(3)	1/29/2025	2	**8.36**	1.33	**6.52**	*<2.00*
BG-E 1 FT	03/13/2025	1	7.93	**11.7**	5.71	0.131
BG-E 2 FT	03/13/2025	2	8.1	**17.1**	**7.10**	0.114
BG-N 1 FT	03/13/2025	1	8.19	**20.0**	**8.32**	<0.0989
BG-N 2 FT	03/13/2025	2	8.06	**27.9**	4.22	<0.101
BG-S 1 FT	03/13/2025	1	**8.64**	**27.0**	2.76	0.264
BG-S 2 FT	03/13/2025	2	**8.36**	**14.6**	5.51	0.261

Sample ID	Sample Date	Depth (ft)	pH (Standard Units)	EC (mmhos/cm)	SAR (Standard Units)	Boron (mg/L)
ECMC Table 915-1 Soil Suitability Limits			6 - 8.3	<4	<6	2
BG-W 1 FT	03/13/2025	1	8.19	**27.4**	3.79	0.121
BG-W 2 FT	03/13/2025	2	7.98	**30.8**	4.07	<0.100
FS-01 2 FT	03/13/2025	2	7.94	**6.40**	4.84	<0.0983
FS-07 2 FT	03/13/2025	2	8.09	**17.1**	**7.55**	0.401
FS-08 2 FT	03/13/2025	2	8.11	**13.5**	5.86	0.370
			Revolved BG	Resolved BG	Delineated	Resolved
Maximum Background Concentration			9.39	30.8	17.4	*<2.00*

1. Bold faced values exceed the ECMC Table 915-1 limit(s)

2. Blue highlighted soil analytical values indicate a regulatory exceedance

NA - Not analyzed

= Source material characterization sample, excavated and transported off site for disposal.

= Material excavated and transported off site for disposal.

= Boron resolved via confirmation samples at 1 Ft and 2 Ft

ATTACHMENT A

Vegetation Monitoring Report

Vegetation Monitoring Report

Project: Gus LD Pad

Date & Time: 10/22/2024 12:17

Tasman Personnel: Alex Cook

Weather: Sunny, No Wind, 71F

Client: PDC Energy, Inc.

Stormwater Issues: None Observed

Debris/Trash On-Site: None Observed

Equipment On-Site: Yes, active facility.

Observations:

All excavation activities completed, clean roadbase and fill have been emplaced to match the existing Site contour. The Site has
returned to active production. The area is maintained to prevent vegetation growth, background vegetation collected south of the Site.
A mix of grass and invasive weeds are present, species include green needlegrass, slender wheatgrass, smooth brome, *kochia*,
Russian thistle, and downy brome. Photo locations are illustrated on Figure 1.

	Site Status	Comments
Vegetation Present?	No	Active Facility
Noxious or invasive weeds present?	No	Active Facility
Have weeds been managed according to the narrative?	No	No, initial site assessment.

Photo Log (descriptions below)

P1 - Looking north from the center of the Site, the Site and surrounding facility have returned to active production.

P2 - Looking east from the center of the Site, clean backfill and road base have been emplaced to match existing contour.

P3 - Looking south from the center of the Site, the Site and surrounding facility have returned to active production.

Photo Log Continued (descriptions below)

P4 - Looking west from the center of the Site, clean backfill and road base have been emplaced to match existing contour.

P5 - Clean backfill and road base have been emplaced to match the existing contour of the Site.

P6 - Clean backfill and road base have been emplaced to match the existing contour of the Site.

P7 - Clean backfill and road base have been emplaced to match the existing contour of the Site.

P8 - Looking north at background reference vegetation located on the southern boundary of the facility. Mixed native grass and weed growth present.

P9 - Looking east at background reference vegetation located on the southern boundary of the facility. Mixed native grass and weed growth present.

P10 - Looking south at background reference vegetation located on the southern boundary of the facility. Mixed native grass and weed growth present.

P11 - Looking west at background reference vegetation located on the southern boundary of the facility. Mixed native grass and weed growth present.

P12 - Vegetation growth up close,species observed include green needle grass, slender wheatgrass,smooth brome, *kochia,* Russian thistle, and downy brome.

Legend

Excavation Extent (Collected via Trimble GPS)

Photo Location

Notes

1) All locations are approximate unless otherwise noted.
2) Buried infrastructure has been spatially projected

GPS – Global Positioning System

0 ft. 40 ft. 80 ft.

N

Image Source: Google Earth; Google 2021
Projection: WGS 1984, UTM Zone 13 North

DATE:	October 30, 2024
DESIGNED BY:	A. Cook
DRAWN BY:	A.Cook

Tasman, Inc.
4725 Independence Street
Wheat Ridge, CO 80033

PDC Energy, Inc. – 69175 – DJ Basin
Gus LD Pad
SENE, Section 21, Township 1 South, Range 67 West
Adams County, Colorado

Reclamation Site Visit Map

FIGURE
1

ATTACHMENT B

UDSA Custom Soil Resources Map and Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Adams County Area, Parts of Adams and Denver Counties, Colorado

Gus LD Pad

October 21, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map (Gus LD Pad)

Map Scale: 1:3,850 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Adams County Area, Parts of Adams and Denver Counties, Colorado
Survey Area Data: Version 21, Aug 29, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 1, 2023—Sep 1, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (Gus LD Pad)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Gr	Gravelly land-Shale outcrop complex	27.3	40.1%
PlB	Platner loam, 0 to 3 percent slopes	0.2	0.2%
ShF	Samsil-Shingle complex, 3 to 35 percent slopes	28.2	41.5%
UlC	Ulm loam, 3 to 5 percent slopes	12.3	18.1%
Totals for Area of Interest		**68.0**	**100.0%**

Map Unit Descriptions (Gus LD Pad)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate

pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Adams County Area, Parts of Adams and Denver Counties, Colorado

Gr—Gravelly land-Shale outcrop complex

Map Unit Setting

National map unit symbol: 34vy
Elevation: 4,400 to 5,500 feet
Mean annual precipitation: 12 to 14 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 120 to 160 days

Map Unit Composition

Gravelly land: 65 percent
Shale outcrop: 35 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gravelly Land

Setting

Landform: Hillslopes
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium derived from mixed and/or slope alluvium derived from mixed

Typical profile

H1 - 0 to 3 inches: gravelly sand
H2 - 3 to 60 inches: gravelly sand

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: R067BY063CO - Gravel Breaks
Hydric soil rating: No

Description of Shale Outcrop

Typical profile

H1 - 0 to 60 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 45 percent
Depth to restrictive feature: 0 inches to paralithic bedrock
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydrologic Soil Group: D
Ecological site: R067BY045CO - Shaly Plains
Hydric soil rating: No

PlB—Platner loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2tln0
Elevation: 4,000 to 4,930 feet
Mean annual precipitation: 14 to 17 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 135 to 160 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Platner and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Platner

Setting

Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed eolian deposits over tertiary aged alluvium derived from igneous, metamorphic and sedimentary rock

Typical profile

Ap - 0 to 6 inches: loam
Bt1 - 6 to 11 inches: clay
Bt2 - 11 to 20 inches: clay
Bk1 - 20 to 27 inches: loam
Bk2 - 27 to 37 inches: sandy clay loam
C - 37 to 80 inches: sandy clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): 3s

Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: C
Ecological site: R067BY002CO - Loamy Plains
Hydric soil rating: No

Minor Components

Ascalon
Percent of map unit: 10 percent
Landform: Interfluves
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY002CO - Loamy Plains
Hydric soil rating: No

Rago, rarely flooded
Percent of map unit: 4 percent
Landform: Drainageways
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R067BY036CO - Overflow
Hydric soil rating: No

Rago, ponded
Percent of map unit: 1 percent
Landform: Playas
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R067BY010CO - Closed Depression
Hydric soil rating: No

ShF—Samsil-Shingle complex, 3 to 35 percent slopes

Map Unit Setting
National map unit symbol: 34wk
Elevation: 3,500 to 5,600 feet
Mean annual precipitation: 12 to 14 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 125 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition
Samsil and similar soils: 40 percent
Shingle and similar soils: 35 percent

Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Samsil

Setting

Landform: Hills
Landform position (three-dimensional): Head slope, nose slope, side slope, base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum weathered from shale

Typical profile

H1 - 0 to 4 inches: clay
H2 - 4 to 14 inches: silty clay
H3 - 14 to 18 inches: weathered bedrock

Properties and qualities

Slope: 3 to 35 percent
Depth to restrictive feature: 4 to 20 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Gypsum, maximum content: 2 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Very low (about 2.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R067BY045CO - Shaly Plains
Hydric soil rating: No

Description of Shingle

Setting

Landform: Hills
Landform position (three-dimensional): Head slope, nose slope, side slope, base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum weathered from shale

Typical profile

H1 - 0 to 3 inches: loam
H2 - 3 to 12 inches: loam
H3 - 12 to 16 inches: unweathered bedrock

Properties and qualities

Slope: 3 to 35 percent

Depth to restrictive feature: 10 to 20 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): 6s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: R067BY045CO - Shaly Plains
Hydric soil rating: No

Minor Components

Renohill

Percent of map unit: 10 percent
Hydric soil rating: No

Ulm

Percent of map unit: 10 percent
Hydric soil rating: No

Loamy alluvial land

Percent of map unit: 3 percent
Hydric soil rating: No

Satanta

Percent of map unit: 2 percent
Landform: Paleoterraces
Hydric soil rating: No

UIC—Ulm loam, 3 to 5 percent slopes

Map Unit Setting

National map unit symbol: 34x4
Elevation: 4,000 to 5,600 feet
Mean annual precipitation: 12 to 14 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 125 to 155 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Ulm and similar soils: 80 percent

Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ulm

Setting

Landform: Plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum weathered from sandstone and shale

Typical profile

H1 - 0 to 7 inches: loam
H2 - 7 to 13 inches: silty clay
H3 - 13 to 30 inches: clay
H4 - 30 to 48 inches: clay loam
H5 - 48 to 52 inches: unweathered bedrock

Properties and qualities

Slope: 3 to 5 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: R067BY002CO - Loamy Plains
Hydric soil rating: No

Minor Components

Renohill

Percent of map unit: 13 percent
Hydric soil rating: No

Shingle

Percent of map unit: 5 percent
Hydric soil rating: No

Apishapa

Percent of map unit: 2 percent
Landform: Swales
Ecological site: R067BY035CO - Salt Meadow
Hydric soil rating: Yes

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