

Edith Ann-Duckworth Facilities 21H-O268

NWSE Sec. 21-T2N-R68W

Facility ID: 434303

Remediation Project #: 40725

Facility Decommissioning Package

August 2025

Prepared by Tasman, Inc.



On behalf of Crestone Peak Resources Operating, LLC





February 13, 2026

Decommissioning Package and No Further Action Request

Project Name: Edith Ann-Duckworth Facilities 21H-O268

REM #: 40725

Site History: On August 4, 2025, Crestone Peak Resources Operating, LLC (Client) initiated decommissioning activities at the Edith Ann-Duckworth Facilities 21H-O268 (Site). All separators have been sampled as described in Energy and Carbon Management Commission Form 27i No. 404151732. No releases are associated with the Site. This package illustrates decommissioning activities completed in August 2025.

Soil Summary: Tasman, Inc. (Tasman) collected a total of six (6) confirmation soil samples from the decommissioning activities at the Site at depths ranging from approximately 3 inches below ground surface (bgs). The Site lithology generally consists of well-graded to clayey sand from approximately 0 to 8 feet bgs. A total of ten (10) background samples from the Edith Ann 33-21 site assessment (REM #: 34620) site assessment were utilized for background comparison to the Site based on their similar depths, similar lithology, and proximity. Soil sample locations left in place have concentrations of arsenic and barium which exceeded ECMC Table 915-1 standards, but were below Site-specific backgrounds.

Groundwater Summary: Groundwater was not encountered through decommissioning activities.

Conclusion and Recommendations: Based on analytical results, no concentrations above applicable ECMC Table 915-1 soil standards or Site-specific background concentrations are currently left in place at the Site. Based on this information, Tasman, on behalf of the Client, requests that a No Further Action determination be issued Edith Ann-Duckworth Facilities 21H-O268 (REM #: 40725).

Following your review, feel free to contact Tasman at tasmanreports-civitas@tasman-geo.com if you have any questions.

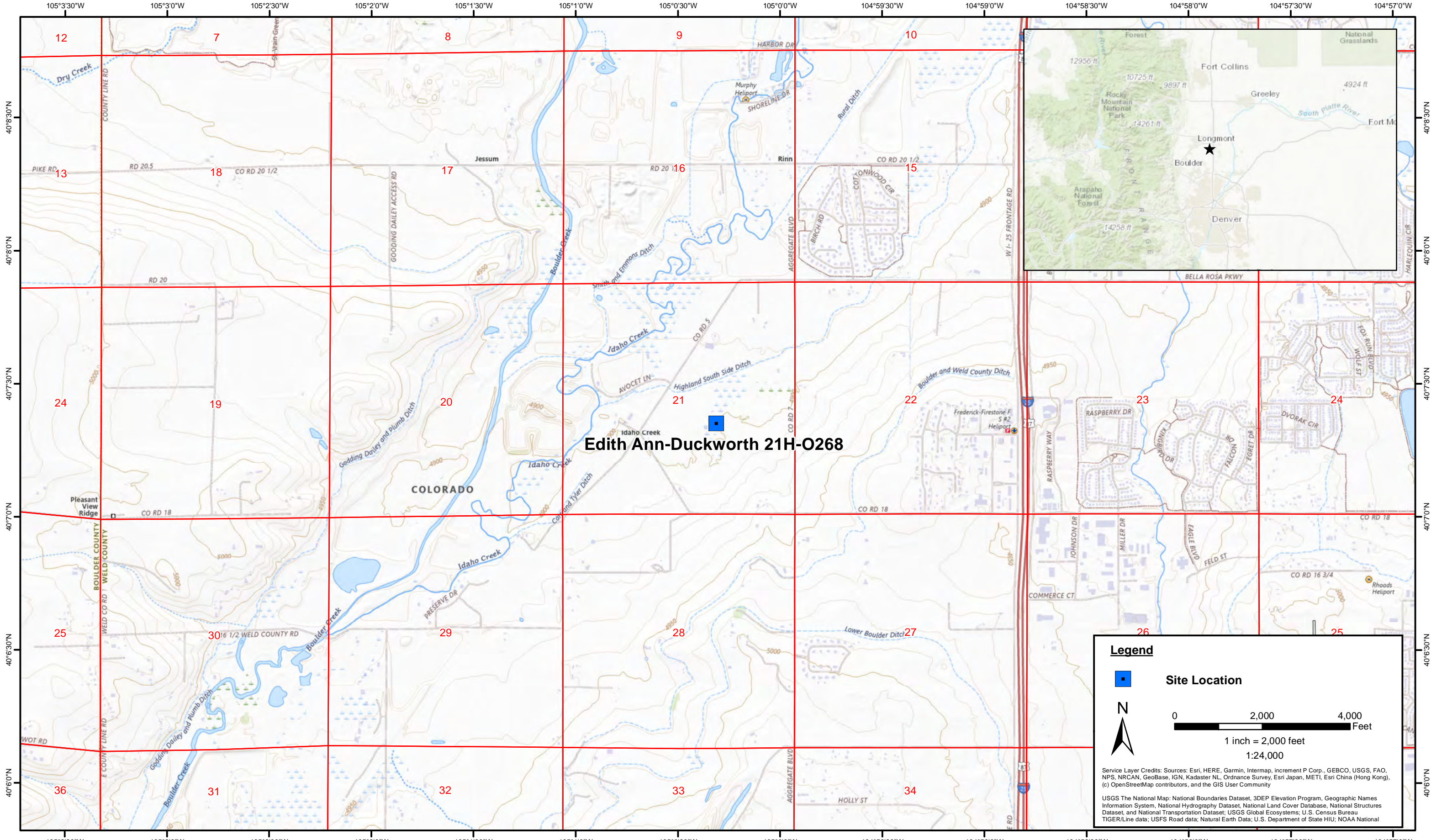
Written by:

Gabrielle Mather
Environmental Scientist I

Reviewed by:

Alexandra Tullos
Environmental Geologist II

FIGURES



Edith Ann-Duckworth 21H-O268

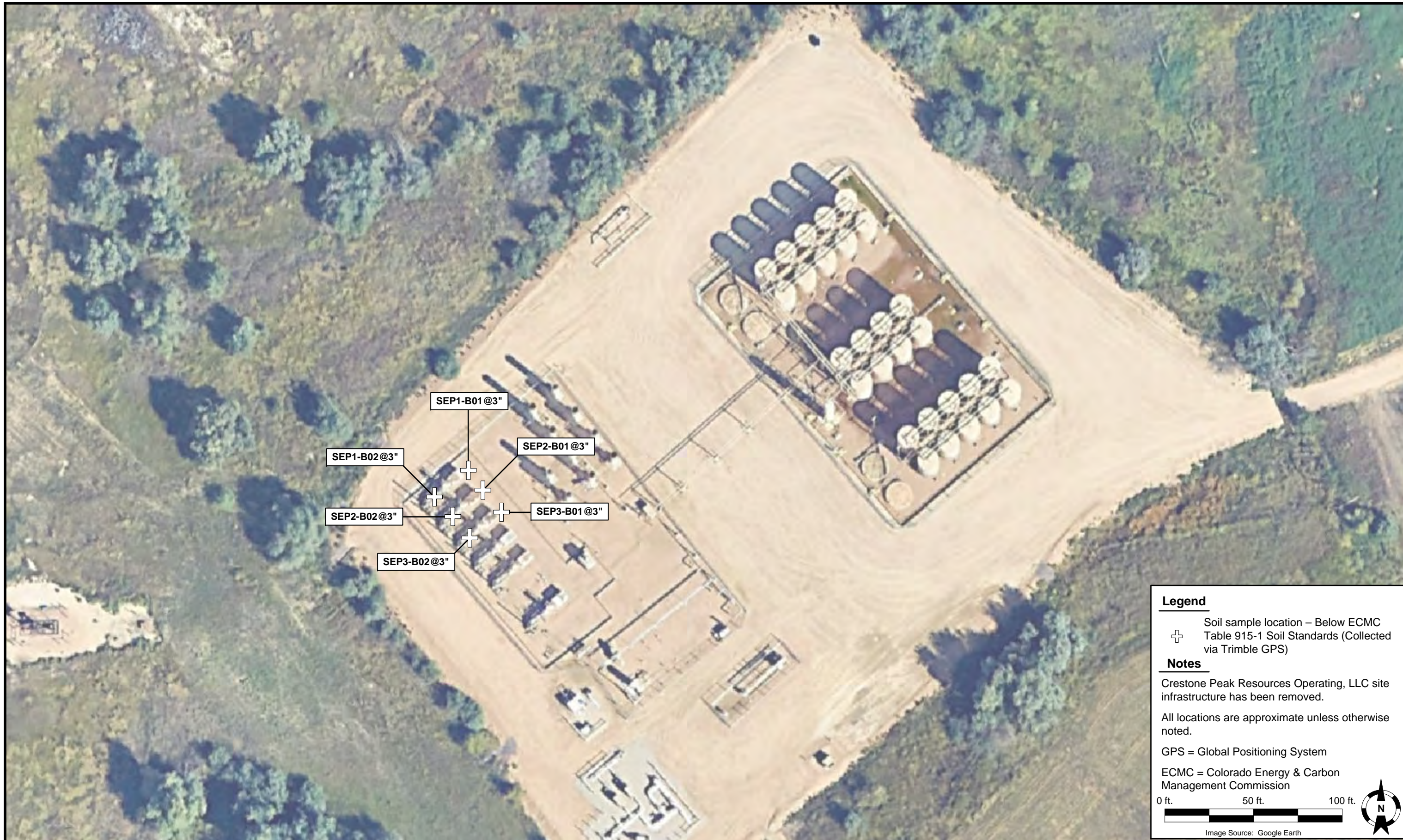
DATE:	August 2025
DESIGNED BY:	S. Vogt
DRAWN BY:	J. Woffinden

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

Crestone Peak Resources Operating, LLC
Edith Ann-Duckworth Facilities 21H-O268
NWSE Sec. 21-T2N-R68W
Weld County, Colorado

Site Location Map

Figure
1



Legend

⊕ Soil sample location – Below ECMC Table 915-1 Soil Standards (Collected via Trimble GPS)

Notes

Crestone Peak Resources Operating, LLC site infrastructure has been removed.


All locations are approximate unless otherwise noted.

GPS = Global Positioning System

ECMC = Colorado Energy & Carbon Management Commission

0 ft. 50 ft. 100 ft.

Image Source: Google Earth



DATE:	January 21, 2026
DESIGNED BY:	S. Vogt
DRAWN BY:	G. Mather



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

Crestone Peak Resources Operating, LLC
 Edith Ann-Duckworth Facilities 21H-O268
 NWSE Sec. 21-T2N-R68W
 Weld County, Colorado

Facility Soil Sample
 Location Map
 (08/04/2025)

Figure
 2



Legend

- Background soil sample location (Collected via Trimble GPS)

Notes

Crestone Peak Resources Operating, LLC site infrastructure has been removed.

All locations are approximate unless otherwise noted.

GPS = Global Positioning System

* Sample collected as part of Edith Ann 33-21 (REM #:34620)


0 ft. 50 ft. 100 ft. 

Image Source: Google Earth

DATE:	January 21, 2026
DESIGNED BY:	S. Vogt
DRAWN BY:	G. Mather



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

Crestone Peak Resources Operating, LLC
Edith Ann-Duckworth Facilities 21H-0268
 NWSE Sec. 21-T2N-R68W
 Weld County, Colorado

Background Soil Sample
 Location Map
 (06/09/2025)

Figure
 3

TABLES

TABLE 1
EDITH ANN-DUCKWORTH FACILITIES 21H-O268
SOIL SAMPLE LOCATIONS
CRESTONE PEAK RESOURCES OPERATING, LLC



Soil Sample Location	Depth	Date	PID Reading (ppm)	Latitude	Longitude	GPS PDOP Value	Lab (Y/N)
SEP1-B01@3"	3"	08/04/2025	2.0	40.122601	-105.005029	1.1	Y
SEP1-B02@3"	3"	08/04/2025	1.4	40.122560	-105.005096	0.8	Y
SEP2-B01@3"	3"	08/04/2025	1.6	40.122568	-105.004999	0.8	Y
SEP2-B02@3"	3"	08/04/2025	3.2	40.122528	-105.005058	0.8	Y
SEP3-B01@3"	3"	08/04/2025	0.6	40.122536	-105.004960	0.9	Y
SEP3-B02@3"	3"	08/04/2025	0.2	40.122495	-105.005025	0.8	Y
BACKGROUND							
BG01@6'*	6'	06/09/2025	0.2	40.122166	-105.006062	0.9	Y
BG01@8'*	8'	06/09/2025	1.1	40.122166	-105.006062	0.9	Y
BG02@6'*	6'	06/09/2025	0.7	40.122141	-105.006012	0.8	Y
BG02@8'*	8'	06/09/2025	0.7	40.122141	-105.006012	0.8	Y
BG03@6'*	6'	06/09/2025	1.2	40.122124	-105.005942	0.8	Y
BG03@8'*	8'	06/09/2025	1.3	40.122124	-105.005942	0.8	Y
BG04@6'*	6'	06/09/2025	0.3	40.122127	-105.005873	0.7	Y
BG04@8'*	8'	06/09/2025	0.0	40.122127	-105.005873	0.7	Y
BG05@6'*	6'	06/09/2025	0.0	40.122132	-105.005761	0.8	Y
BG05@8'*	8'	06/09/2025	0.1	40.122132	-105.005761	0.8	Y

Notes:

PID = Photoionization Detector

ppm = parts per million

GPS = Global Positioning System

PDOP = Position Dilution of Precision

* Sample collected as part of Edith Ann 33-21 (REM #:34620)

- = Not applicable

TABLE 2
EDITH ANN-DUCKWORTH FACILITIES 21H-0268
SOIL ANALYTICAL DATA - VOCs
CRESTONE PEAK RESOURCES OPERATING, LLC



Soil Sample Location	Depth	Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (mg/kg)	TVPH-GRO (mg/kg)	TEPH-DRO (mg/kg)	TEPH-ORO (mg/kg)	1,2,4-TMB (mg/kg)	1,3,5-TMB (mg/kg)
ECMC Organic Compounds in Soils - GSSL ⁽¹⁾			0.0026	0.69	0.78	9.9	0.0038	500			0.0081	0.0087
ECMC Organic Compounds in Soils - RSSL ⁽²⁾			1.2	490	5.8	58	2	500			30	27
SEP1-B01@3"	3"	08/04/2025	<0.0010	<0.0021	<0.0021	<0.0021	<0.0020	<0.21	<4.1	15.5	<0.0021	<0.0021
SEP1-B02@3"	3"	08/04/2025	<0.00095	<0.0019	<0.0019	<0.0019	<0.0020	<0.19	4.24	17.8	<0.0019	<0.0019
SEP2-B01@3"	3"	08/04/2025	<0.0011	<0.0021	<0.0021	<0.0021	<0.0021	<0.21	13.2	31.5	<0.0021	<0.0021
SEP2-B02@3"	3"	08/04/2025	<0.0010	<0.0021	<0.0021	<0.0021	<0.0021	<0.21	<4.1	15.4	<0.0021	<0.0021
SEP3-B01@3"	3"	08/04/2025	<0.0010	<0.0020	<0.0020	<0.0020	<0.0020	<0.20	<4.0	9.59	<0.0020	<0.0020
SEP3-B02@3"	3"	08/04/2025	<0.00095	<0.0019	<0.0019	<0.0019	<0.0021	<0.19	<4.1	11.7	<0.0019	<0.0019

Notes:

VOCs = Volatile Organic Compounds

(1) Standards for soil are taken from ECMC Table 915-1: Organic Compounds in Soils - Protection of Groundwater Soil Screening Level Concentrations (Effective January 15, 2021)

(2) Standards for soil are taken from ECMC Table 915-1: Organic Compounds in Soils - Residential Soil Screening Level Concentrations (Effective January 15, 2021)

ECMC = Colorado Energy & Carbon Management Commission

GSSL = Protection of Groundwater Soil Screening Level

RSSL = Residential Soil Screening Level

(<) = Analytical result is less than the indicated laboratory detection limit

mg/kg = milligrams per kilogram

TVPH - GRO = Total Volatile Petroleum Hydrocarbons - Gasoline Range Organics

TEPH - DRO = Total Extractable Petroleum Hydrocarbons - Diesel Range Organics

TEPH - ORO = Total Extractable Petroleum Hydrocarbons - Oil Range Organics

1,2,4 - TMB = 1,2,4 - Trimethylbenzene

1,3,5 - TMB = 1,3,5 - Trimethylbenzene

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Organic Compounds in Soils - Protection of Groundwater Soil Screening Level Concentrations

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Organic Compounds in Soils - Residential Soil Screening Level Concentrations

TABLE 3
EDITH ANN-DUCKWORTH FACILITIES 21H-0268
SOIL ANALYTICAL DATA - PAHs
CRESTONE PEAK RESOURCES OPERATING, LLC



Soil Sample Location	Depth	Date	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo(a)A (mg/kg)	Benzo(b)F (mg/kg)	Benzo(k)F (mg/kg)	Benzo(a)P (mg/kg)	Chrysene (mg/kg)	D (a,h) A (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	1-M (mg/kg)	2-M (mg/kg)	Pyrene (mg/kg)
ECMC Organic Compounds in Soils - GSSL ⁽¹⁾			0.55	5.8	0.011	0.3	2.9	0.24	9	0.96	8.9	0.54	0.98	0.006	0.019	1.3
ECMC Organic Compounds in Soils - RSSL ⁽²⁾			360	1,800	1.1	1.1	11	0.11	110	0.11	240	240	1.1	18	24	180
SEP1-B01@3"	3"	08/04/2025	<0.0040	<0.0040	<0.0050	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
SEP1-B02@3"	3"	08/04/2025	<0.0040	<0.0040	<0.0049	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
SEP2-B01@3"	3"	08/04/2025	<0.0042	<0.0042	<0.0052	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042
SEP2-B02@3"	3"	08/04/2025	<0.0042	<0.0042	<0.0052	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042
SEP3-B01@3"	3"	08/04/2025	<0.0041	<0.0041	<0.0051	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041
SEP3-B02@3"	3"	08/04/2025	<0.0042	<0.0042	<0.0053	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042

Notes:

PAHs = Polycyclic Aromatic Hydrocarbons

(1) Standards for soil are taken from ECMC Table 915-1: Organic Compounds in Soils - Protection of Groundwater Soil Screening Level Concentrations (Effective January 15, 2021)

(2) Standards for soil are taken from ECMC Table 915-1: Organic Compounds in Soils - Residential Soil Screening Level Concentrations (Effective January 15, 2021)

ECMC = Colorado Energy & Carbon Management Commission

GSSL = Protection of Groundwater Soil Screening Level

RSSL = Residential Soil Screening Level

(<) = Analytical result is less than the indicated laboratory detection limit

mg/kg = milligrams per kilogram

Benzo(a)A = Benzo(a)Anthracene

Benzo(b)F = Benzo(b)Fluoranthene

Benzo(k)F = Benzo(k)Fluoranthene

Benzo(a)P = Benzo(a)Pyrene

D (a,h) A = Dibenz(a,h)Anthracene

1,2,3-CD = Indeno(1,2,3-cd)Pyrene

1-M = 1-Methylnaphthalene

2-M = 2-Methylnaphthalene

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Organic Compounds in Soils - Protection of Groundwater Soil Screening Level Concentrations

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Organic Compounds in Soils - Residential Soil Screening Level Concentrations

TABLE 4
EDITH ANN-DUCKWORTH FACILITIES 21H-0268
SOIL ANALYTICAL DATA - METALS
CRESTONE PEAK RESOURCES OPERATING, LLC



Soil Sample Location	Depth	Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
ECMC Metals in Soils - GSSL ⁽¹⁾			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
ECMC Metals in Soils - RSSL ⁽²⁾			0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
SEP1-B01@3"	3"	08/04/2025	2.9*	84.4*	0.18	<0.42	10.5	11.0	9.0	0.21	<0.051	37.9
SEP1-B02@3"	3"	08/04/2025	2.0*	55.0	0.15	<0.41	7.9	6.1	6.4	0.21	<0.049	28.9
SEP2-B01@3"	3"	08/04/2025	1.9*	54.8	0.11	<0.41	9.0	6.6	7.0	<0.20	<0.051	24.1
SEP2-B02@3"	3"	08/04/2025	1.9*	58.8	0.11	<0.43	8.5	5.8	6.3	<0.20	<0.050	26.2
SEP3-B01@3"	3"	08/04/2025	2.0*	60.8	0.094	<0.42	9.9	9.0	7.3	<0.20	<0.050	24.1
SEP3-B02@3"	3"	08/04/2025	2.0*	57.8	0.099	<0.42	7.6	5.5	6.2	<0.20	<0.050	26.2
BACKGROUND												
BG01@6'***	6'	06/09/2025	5.07	189	0.249	0.303	15.6	11.0	18.9	0.210	<0.500	57.6
BG02@6'***	6'	06/09/2025	3.45	149	0.210	<0.200	16.1	11.4	17.7	0.278	<0.500	64.0
BG03@6'***	6'	06/09/2025	3.42	185	0.199	0.357	16.6	11.3	17.1	0.298	<0.500	65.9
BG04@6'***	6'	06/09/2025	3.50	93.1	0.129	0.344	11.2	<10.0	12.8	0.330	<0.500	<50.0
BG05@6'***	6'	06/09/2025	2.68	74.8	0.118	<0.200	10.6	<10.0	11.8	0.206	<0.500	<50.0
BG01@8'***	8'	06/09/2025	3.23	149	0.341	0.415	20.1	13.0	18.8	0.302	<0.500	72.7
BG02@8'***	8'	06/09/2025	3.27	169	0.279	0.382	21.6	15.4	22.1	0.275	<0.500	74.7
BG03@8'***	8'	06/09/2025	2.39	120	0.127	0.964***	17.6	10.9	13.1	0.221	<0.500	59.9
BG04@8'***	8'	06/09/2025	4.36	114	<0.100	0.282	16.2	10.1	15.9	0.307	<0.500	<50.0
BG05@8'***	8'	06/09/2025	4.67	63.7	0.123	0.255	14.4	11.0	16.6	0.202	<0.500	58.7
Highest Background @ 0'- 8' x1.25 (SC/SW)			6.34	236	0.426	0.519	27.0	19.3	27.6	0.413	-	93.4

Notes:

(1) Standards for soil are taken from ECMC Table 915-1: Metals in Soils - Protection of Groundwater Soil Screening Level Concentrations (Effective January 15, 2021)

(2) Standards for soil are taken from ECMC Table 915-1: Metals in Soils - Residential Soil Screening Level Concentrations (Effective January 15, 2021)

ECMC = Colorado Energy & Carbon Management Commission

GSSL = Protection of Groundwater Soil Screening Level

RSSL = Residential Soil Screening Level

(<) = Analytical result is less than the indicated laboratory detection limit

TABLE 4
EDITH ANN-DUCKWORTH FACILITIES 21H-0268
SOIL ANALYTICAL DATA - METALS
CRESTONE PEAK RESOURCES OPERATING, LLC



Soil Sample Location	Depth	Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
ECMC Metals in Soils - GSSL ⁽¹⁾			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
ECMC Metals in Soils - RSSL ⁽²⁾			0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000

Chromium (VI) = Hexavalent Chromium

mg/kg = milligrams per kilogram

SC = Sandy Clay

SW = Well-Graded Sand

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Metals in Soils - Protection of Groundwater Soil Screening Level Concentrations

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Metals in Soils - Residential Soil Screening Level Concentrations

Highest background concentration x1.25

Italics = Laboratory detection limit exceeds the ECMC Table 915-1 Standard

* Result exceeded the ECMC Table 915-1 standard, but was within site-specific 1.25x background multiplier levels

** Sample collected as part of Edith Ann 33-21 site assessment (REM #: 34620)

*** Result is considered anomalously high and not considered for site-specific background concentration

- = Not applicable

TABLE 5
EDITH ANN-DUCKWORTH FACILITIES 21H-0268
SOIL ANALYTICAL DATA - SOIL RECLAMATION
CRESTONE PEAK RESOURCES OPERATING, LLC



Soil Sample Location	Depth	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
ECMC Soil Suitability for Reclamation⁽¹⁾			6 - 8.3	< 6	< 4	2
SEP1-B01@3"	3"	08/04/2025	8.15	0.0950	0.30	<0.25
SEP1-B02@3"	3"	08/04/2025	7.97	0.887	0.67	<0.25
SEP2-B01@3"	3"	08/04/2025	8.15	1.77	1.4	<0.25
SEP2-B02@3"	3"	08/04/2025	7.97	1.64	0.47	<0.25
SEP3-B01@3"	3"	08/04/2025	8.11	2.39	0.87	<0.25
SEP3-B02@3"	3"	08/04/2025	8.25	0.237	0.26	<0.25
BACKGROUND						
BG01@6'***	6'	06/09/2025	7.90	5.07***	2.06	0.541
BG02@6'***	6'	06/09/2025	7.94	2.87	1.31	0.456
BG03@6'***	6'	06/09/2025	7.93	2.05	0.929	0.429
BG04@6'***	6'	06/09/2025	7.89	1.92	1.01	0.385
BG05@6'***	6'	06/09/2025	8.21	2.16	0.770	0.248
BG01@8'***	8'	06/09/2025	7.85	4.37	1.84	0.516
BG02@8'***	8'	06/09/2025	7.95	2.70	1.21	0.473
BG03@8'***	8'	06/09/2025	7.92	2.62	0.834	0.312
BG04@8'***	8'	06/09/2025	7.94	2.05	0.975	0.342
BG05@8'***	8'	06/09/2025	8.07	2.05	0.891	0.520
Highest Background @ 0-8' (SC/SW)			8.21	4.37	2.06	0.541

Notes:

(1) Standards for soil are taken from ECMC Table 915-1: Soil Suitability for Reclamation (Effective January 15, 2021)

ECMC = Colorado Energy & Carbon Management Commission

(<) = Analytical result is less than the indicated laboratory detection limit

mmhos/cm = millimhos per centimeter

mg/L = milligrams per liter

pH = Potential of Hydrogen

SAR = Sodium Adsorption Ratio

EC = Electrical Conductivity

SC = Sandy Clay

SW = Well-Graded Sand

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Soil Suitability for Reclamation Concentrations

Highest background concentration

* Result exceeded the ECMC Table 915-1 standard, but was within site-specific background concentrations

** Sample collected as part of Edith Ann 33-21 site assessments (REM #: 34620)

*** Result is considered anomalously high and not considered for site-specific background concentration

ATTACHMENT A
EXCAVATION FIELD NOTES AND PHOTO LOG



Civitas Decommissioning Form

SITE NAME: Edith Ann-Duckworth Facilities 21H-O268	DATE: 8/4/2025	REM. PROJECT #: 40725	WEATHER: 80(F), Sunny
SITE DIRECTIONS: Aggregate Blvd & Godding Hollow Pkwy, N 0.44 mi, W 0.11 mi, SW 0.15 mi INTO	CLIENT: Crestone Peak Resources Operating, LLC		
LEGALS AND LAT/LONG: 40.122520, -105.005080	TASMAN PERSONNEL: Isabel Eikermann		
SOIL TYPES: SW - well-graded sand, fine to coarse sand	SURFACE GRADIENT: South		
SURROUNDING LAND USE: Rangeland	CROP: N/A		

SOIL SAMPLING								FACILITY INFRASTRUCTURE		
Date/Time	Soil Sample ID	PID (ppm)	Visual	Olfactory	Photo? (Y/N)	USCS	Lab (Y/N)	EQUIPMENT	Quantity	
8/4/2025 13:06	SEP1-B01@3"	2.0	No Staining	No Odor	Y	SW	Y	Above Ground Storage Tank (AST)		
8/4/2025 13:08	SEP1-B02@3"	1.4	No Staining	No Odor	Y	SW	Y	Produced Water Vessel (PWV)		
8/4/2025 13:10	SEP2-B01@3"	1.6	No Staining	No Odor	Y	SW	Y	Separator (SEP)	3	
8/4/2025 13:12	SEP2-B02@3"	3.2	No Staining	No Odor	Y	SW	Y	Emission Control Device (ECD)		
8/4/2025 13:14	SEP3-B01@3"	0.6	No Staining	No Odor	Y	SW	Y	Dump Line (DL)		
8/4/2025 13:16	SEP3-B02@3"	0.2	No Staining	No Odor	Y	SW	Y	Wellhead (WH)		
								Flowline (FL)		
								FL Method of Closure		
								FL Footage Removed		
								Footaged Abandoned in Place		
								Other:		
								Soil Loads Removed		
								IMPACTED SOIL IDENTIFIED? No		
								ESTIMATED VOLUME OF IMPACTS: Assessment Activities Complete		
								Date	Number	CY
								Total Removed	0	0
								Disposal Facility:		

GROUNDWATER SAMPLING								Date	BBLs
Date/Time	Groundwater Sample ID	Depth Collected	Turbid?	Sheen?	Odor?	Photo?			
								Total Removed	0
								Disposal Facility:	



Photographic Log

04 Aug 2025, 13:39:59			04 Aug 2025, 13:40:15		
Equipment ID:		Equipment Type:	Equipment ID:		Equipment Type:
Material:	Volume:	Contents:	Material:	Volume:	Contents:
Notes/Conditions: Soil sampling location			Notes/Conditions: Soil sampling location		



Photographic Log

						<p> S 150 180 210 240 270 300 330 N 0 30 60 90 120 150 </p> <p> SW W NW NE E SE </p> <p> 234°SW (T) ● 40°7'21"N, 105°0'17"W ±16ft ▲ 4903ft 58°NE (T) ● 40°7'21"N, 105°0'18"W ±16ft ▲ 4903ft </p>	
<p>SEP2-B01@3"</p> <p>X</p> <p>04 Aug 2025, 13:27:15</p>			<p>SEP2-B02@3"</p> <p>X</p> <p>04 Aug 2025, 13:27:36</p>				
Equipment ID:		Equipment Type:		Equipment ID:		Equipment Type:	
Material:		Volume:		Material:		Volume:	
Contents:				Contents:			
Notes/Conditions: Soil sampling location				Notes/Conditions: Soil sampling location			



Photographic Log



Equipment ID:		Equipment Type:		Equipment ID:		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions: Soil sampling location				Notes/Conditions: Soil sampling location			

**ATTACHMENT B
USDA SOIL 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 Weld County, Colorado, Southern Part



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

Preface	2
How Soil Surveys Are Made	5
Soil Map	8
Soil Map.....	9
Legend.....	10
Map Unit Legend.....	11
Map Unit Descriptions.....	11
Weld County, Colorado, Southern Part.....	13
4—Aquolls and Aquepts, flooded.....	13
76—Vona sandy loam, 1 to 3 percent slopes.....	14
References	16

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

Custom Soil Resource Report

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

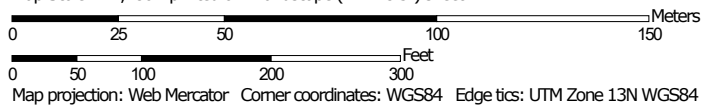
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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

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



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 1:24,000.

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: Weld County, Colorado, Southern Part
 Survey Area Data: Version 24, Aug 29, 2025

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

Date(s) aerial images were photographed: Aug 29, 2023—Sep 8, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
4	Aquolls and Aquepts, flooded	8.5	100.0%
76	Vona sandy loam, 1 to 3 percent slopes	0.0	0.0%
Totals for Area of Interest		8.6	100.0%

Map Unit Descriptions

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,

Custom Soil Resource Report

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.

Weld County, Colorado, Southern Part

4—Aquolls and Aquepts, flooded

Map Unit Setting

National map unit symbol: 3621

Elevation: 3,600 to 4,700 feet

Mean annual precipitation: 12 to 16 inches

Mean annual air temperature: 50 to 55 degrees F

Frost-free period: 100 to 165 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Aquolls and similar soils: 55 percent

Aquepts, flooded, and similar soils: 25 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Aquolls

Setting

Landform: Drainageways, plains, depressions

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Recent alluvium

Typical profile

H1 - 0 to 8 inches: variable

H2 - 8 to 60 inches: stratified sandy loam to clay

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high
(0.06 to 6.00 in/hr)

Depth to water table: About 6 to 36 inches

Frequency of flooding: Frequent

Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Maximum salinity: Moderately saline to strongly saline (8.0 to 16.0 mmhos/cm)

Sodium adsorption ratio, maximum: 5.0

Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): 6w

Land capability classification (nonirrigated): 6w

Hydrologic Soil Group: D

Ecological site: R067BY035CO - Salt Meadow

Hydric soil rating: Yes

Description of Aquepts, Flooded

Setting

Landform: Stream terraces

Custom Soil Resource Report

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Recent alluvium

Typical profile

H1 - 0 to 8 inches: variable
H2 - 8 to 60 inches: stratified sandy loam to clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high
(0.06 to 6.00 in/hr)
Depth to water table: About 6 to 36 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Moderately saline to strongly saline (8.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): 6w
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: D
Ecological site: R067BY038CO - Wet Meadow
Hydric soil rating: Yes

Minor Components

Thedalund

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

Haverson

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

76—Vona sandy loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 363w
Elevation: 4,600 to 5,200 feet
Mean annual precipitation: 13 to 15 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 130 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Vona and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Vona

Setting

Landform: Terraces, plains

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium and/or eolian deposits

Typical profile

H1 - 0 to 6 inches: sandy loam

H2 - 6 to 28 inches: fine sandy loam

H3 - 28 to 60 inches: sandy loam

Properties and qualities

Slope: 1 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 6.00 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 slightly saline (0.0 to 4.0 mmhos/cm)

Available water supply, 0 to 60 inches: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: A

Ecological site: R067BY024CO - Sandy Plains

Hydric soil rating: No

Minor Components

Remmit

Percent of map unit: 9 percent

Hydric soil rating: No

Olney

Percent of map unit: 3 percent

Hydric soil rating: No

Julesburg

Percent of map unit: 3 percent

Hydric soil rating: No

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Custom Soil Resource Report

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