

Field/Unit: _____

Spill #: 2022-0001

Spill Name: ACME SU 33-9 1000-1

ABOVE FIELDS FOR AGENCY USE ONLY



Southern Ute Indian Tribe Department of Energy Exploration & Production Spill/Release Report

14929 Highway 172, P.O. Box 1500, Ignacio, CO 81137

(970) 563-5550

This form is to be completed and submitted to the Southern Ute Indian Tribe Department of Energy by the operator responsible for the spill or release within 24 hours of spill discovery. Any release which threatens or reaches waters of the U.S. must be reported as soon as practicable. This form can be submitted by emailing the completed form to spill@sudoe.us. This form must be accompanied by a topographic or aerial map showing the release location and extent.

OPERATOR INFORMATION

Name of Operator: Acme Energy Company Operator No.: 1234
Address: 321 Valley View Drive Phone: 970-123-4567
City: Ignacio State: CO Zip: 81137 Mobile: 970-123-4567
Contact Person: John Doe Email: jd@acmeenergy.com

INITIAL SPILL/RELEASE REPORT

Initial Report Date: 1-2-22Date/Time of Occurance: 1-1-22 0800Spill Type: Produced Water

Spill/Release Point Location:

Legal Description of Release Location: QTRQTR SWSE SECTION 11 TWP 33
Latitude: 37.00000 RANGE 9 MERIDIAN NMPM
Longitude: -107.00000 Municipality/County: La Plata
(decimal degrees) ***A location map **MUST** be provided with this spill report***

Reference Location: (Well, ROW, CDP, Disposal Well, etc.) Lease #: ExampleFacility Type: Well Site Facility Name/API #: SU 33-9 1000-1 05-067-000x

Spill/Release Details:

Was one (1) barrel or more spilled outside of berms or secondary containment? YesWere five (5) barrels or more spilled? Yes

Secondary containment must be sufficiently impervious to contain any discharge from primary containment until cleanup occurs

Any injuries associated with release? No

Estimated Total Spill Volumes

Estimated Oil Spill Volume (bbl): 0 Estimated Condensate Spill Volume (bbl): 0Estimated Flowback Fluid Spill Volume (bbl): 0 Estimated Produced Water Spill Volume (bbl): 25Estimated Other E&P Spill Volume (bbl): 0 Estimated Drilling Fluid Spill Volume (bbl): 0Amount Recovered (bbl): 0 Amount Lost (bbl): 25

Cause and description of release, environmental impacts, actions taken to control release, and cleanup and response:

Well head packing seal failure caused 25bbl of produced water to be released. Produced water flowed across the working surface of the well site and into the interim reclamation. There were no visible or olfactory indications of hydrocarbons. See attached lab data. Maintenance was performed on the well head to stop leak.

What actions will be taken to prevent a recurrence or similar event? Well head will be inspected on a more routine basis.

Land Use:

Current Land Use: Gas well Other (Specify): NAWeather Conditions: ClearSurface Owner: SUIT Other (Specify): _____

Check if impacted or threatened by spill/release (Check all that apply):

Waters of the U.S. ☐ Residence/Occupied Structure ☐ Livestock ☐ Public Byway ☐Surface Water Supply Area ☐

NOTIFICATIONS

Date/Time	Agency	Contact Person	Phone	Response
1-1-22 0900	BLM	Jane Doe	970-123-4567	Phone Conversation
1-1-22 0900	SUIT DOE	John Doe	970-976-1234	Phone Conversation

OPERATOR CERTIFICATION STATEMENT

I hereby certify that all statements made in this form are to the best of my knowledge true, correct, and complete.

Signed: John Doe

Print Name: _____

Title: EHS Specialist

Date: 1-2-22

Email: jd@acmeenergy.com

ATTACHMENTS

Document Name	Description
ACME SU 33-9 1000-1 Map	Horizontal extent of spill path and initial sampling location
Photo documentation	Photo of spill path origin, mid point and terminus

Additional Comments/Information

See attached site characterization, spill characterization, sampling results, sampling map and remediation plan.

FINAL CLOSURE CERTIFICATION

Instructions: Operator must resubmit this form along with documentation of closure activities within 30 days of completion of closure activities. Do not complete this portion until closure activities are complete.

I hereby certify that the spill detailed above has been remediated in accordance with regulatory requirements and tribal requests, and all information submitted in connection with this spill and closure activities is true, accurate, and complete to the best of my knowledge.

Signature: _____

Title: _____

Name: _____

Date: _____

Email: _____

BIA/BLM Concurrence

☐ Attached

Date: _____

Comments: _____

ACME Energy Company ACME SU 33-9 1000-1 Spill # 2022-0001

Site Assessment/Spill Characterization and Remediation Plan

1. **Event and background:** See up to date spill report for facility and operator details. This release has met BLM NTL-3A reporting requirement and was reported to the BLM on *date*.
2. **Site assessment**
 - a. Potential impacts from the contaminants of concern:
 - Produced water from Fruitland coal formation – Sodium bicarbonate, impacts to soil structure.
 - b. Distance from producing agricultural land:
 - Spill migrated directly west of well head and remained on location. This well site is surrounded by producing agricultural fields.
 - c. Distance to nearest surface water, irrigation canal or Waters of the US (WOTUS):
 - Irrigated field lateral 330ft to the north (see attachment). Surrounding agricultural fields are intermittently irrigated throughout the growing season.
 - d. The geologic and hydrologic characteristics:
 - Direction of groundwater flow is southeast.
 - Soil type Sedillo gravelly loam, depth to restrictive zone more than 80 inches, drainage class is *well drained*, Runoff class *low* (see attachment for full description).
 - Seasonal hydrologic variability – Area has the potential to be flood irrigated during irrigation season.
 - e. Distance to nearest permitted domestic/agricultural water well and depth to groundwater:
 - Domestic water well approximately 1,200ft to the northeast, total well depth 130ft, static water level 13ft (see attachment).
 - f. Determination of cleanup standards:
 - Due to relatively shallow groundwater, well-drained soil, zero produced water recovery and sensitive receptors in the nearby area (agricultural fields and domestic water well) the Protection for Groundwater and Soil Screening Level Concentrations for organic compounds and metals on the COGCC Table 915-1 will be utilized.
3. **Spill Characterization/Sampling plan**
 - a. Sampling and analysis:
 - Three discrete soil samples were collected along the spill path on 1-3-22. One sample was collected near the well head (SS01), one near the mid-point in an area comprised of interim reclamation (SS02) and one near the terminus of the spill path (SS03). All samples were run for the entire COGCC Table 915-1. All samples were collected from the center of the spill path at a depth of 0-6”.
 - b. Background sampling:
 - A background soil sample (SSBG) was collected west of the spill terminus from an area that represents the interim rec that was impacted by the spill; samples were run for SAR, EC, pH and metals on the COGCC Table 915-1.

- c. Analytical results:
 - Indicated all constituents except for SAR were below cleanup thresholds. See attached Analytical Summary Table and lab report.
- d. See attached map for approximate sample locations.

4. Remediation Techniques and Methods:

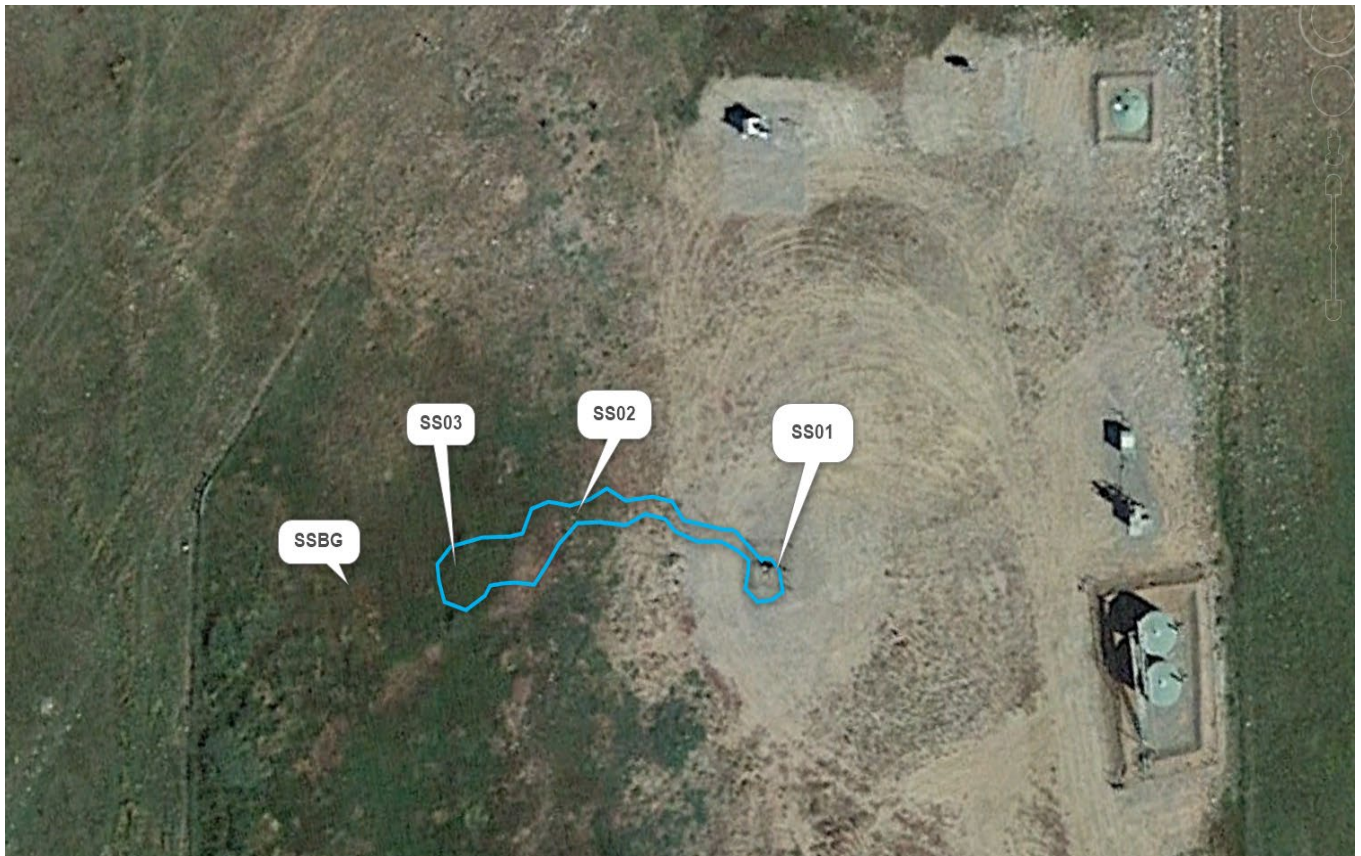
- a. ACME is proposing to amend the impacted soil with gypsum in order to expedite attenuation from sodium impacts.
- b. Gypsum will be tilled into all areas where there is currently vegetation with a tractor and implemented driven rototiller. Based on the cation exchange capacity at SS02, gypsum will be tilled into the soil at a rate of ### tons per acre with the end goal of 6 for SAR ([Managing Sodic Soils - 0.504 - Extension \(colostate.edu\)](#)).
- c. Follow up monitoring and sampling will be conducted on a semi-annual basis (spring and fall). Samples will be collected near SS02 and SS03 for SAR alone until the analytical results are below 6 for SAR.
- d. All areas that currently have vegetation and are to be tilled will be seeded and mulched with the following seed mixes. The impacted area will be accessed by using the well site access road and well site. No work will take place outside of the permitted area of the well site.
- e. All disturbed areas are flat. No temporary sediment and erosion control measures will be applied other than seed and mulch. Straw mulch will be applied to all disturbed areas that were seeded and mulched at a rate of 2 tons per acre and crimped.

- **Seed mix for interim rec on well site:**

Western Wheatgrass	7 LBS/PLS per acre
Antelope Bitter Brush	1 LBS/PLS per acre
Smooth Brome	4 LBS/PLS per acre
Intermediate Wheatgrass	3 LBS/PLS per acre
Annual Sterile Ryegrass	
or Sterile Triticale	12 LBS/PLS per acre

These are drilled rates. These rates shall be doubled for broadcast seeding

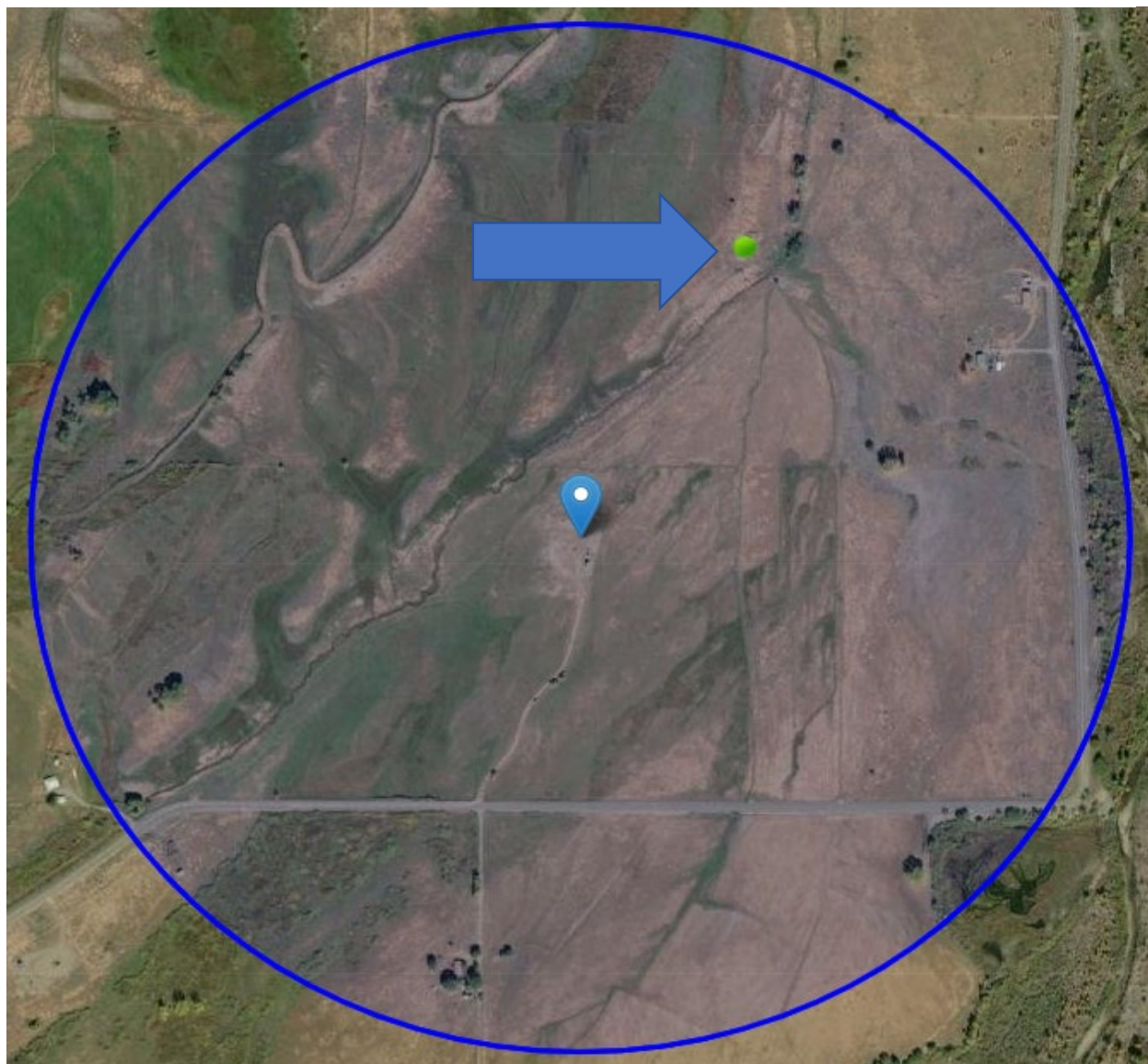
Map #1 – Horizontal spill extent & sample locations



Distance to live water



Location of domestic water well



Sample Summary Table Place Holder

▼ Construction Information

Elevation

6709.20

Well Depth

130

Aquifer(s)

Base of Grout

Top Perforated Casing

Bottom of Perforated Casing

▼ Well Measurement Summary

POR Start

5/2/1975

POR End

5/2/1975

POR Count

1

▼ Imaged Documents

☐ Well Permit and Construction Docs

☒ Water Level Summary Reports

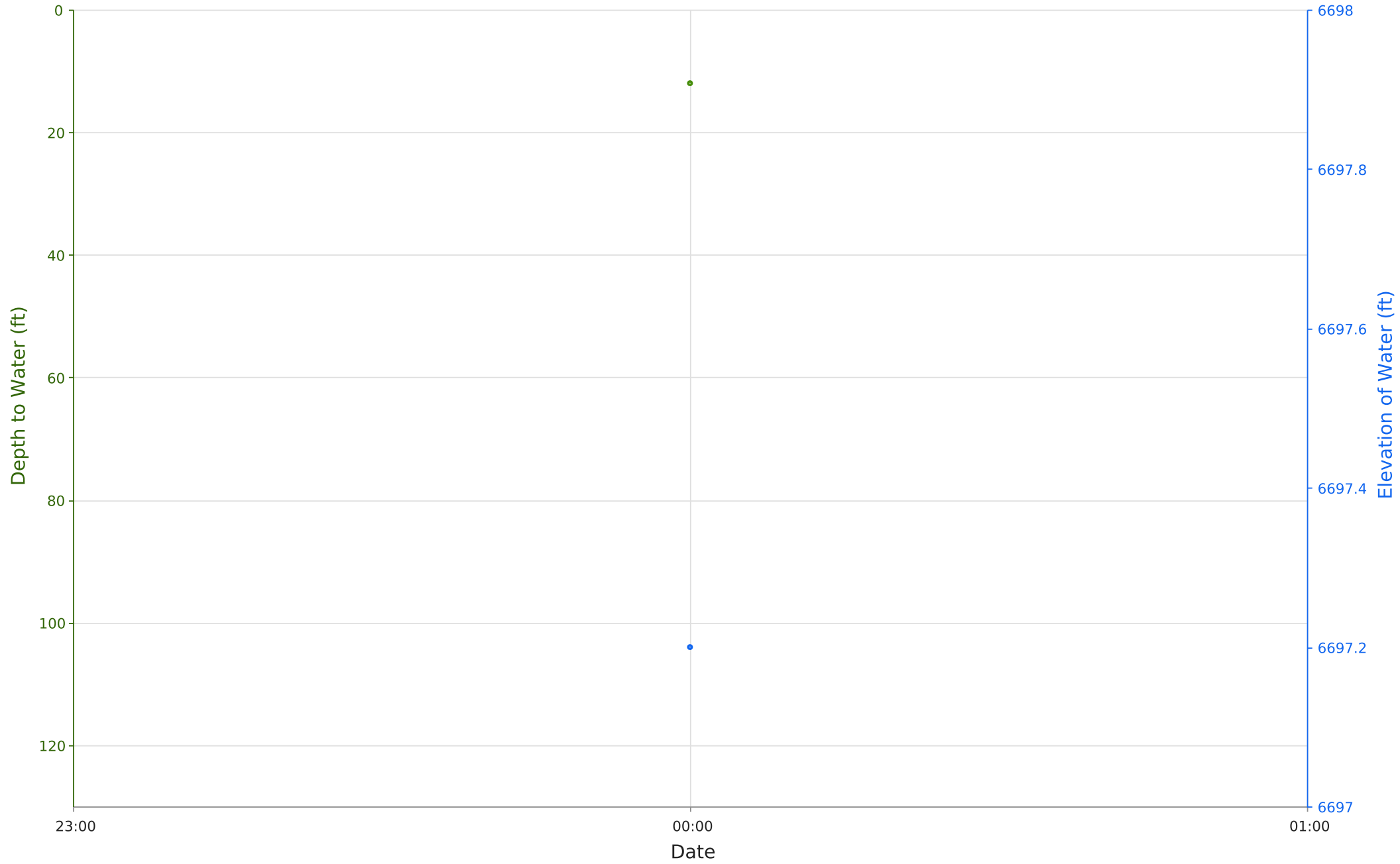
☐ Geophysical Logs

☐ All

	Document Category	Document Type	Year	Pages	Created
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NB03400727AAA

Depth Elevation



Map Unit Description

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 in this report, 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, soils that are similar to the named components, and some minor components that differ in use and management from the major soils.

Most of the soils similar to the major components 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. Some minor components, however, have properties and behavior 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*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given 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.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

La Plata County Area, Colorado

59—Sedillo gravelly loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1ypb

Elevation: 6,000 to 6,700 feet

Mean annual precipitation: 13 to 16 inches

Mean annual air temperature: 50 to 52 degrees F

Frost-free period: 110 to 130 days

Farmland classification: Not prime farmland

Map Unit Composition

Sedillo and similar soils: 80 percent

Minor components: 20 percent

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

Description of Sedillo

Setting

Landform: Terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Cobbly, glacial outwash and/or alluvium

Typical profile

H1 - 0 to 6 inches: gravelly loam

H2 - 6 to 21 inches: very cobbly sandy clay loam, very gravelly clay loam, very gravelly sandy clay loam

H2 - 6 to 21 inches: very cobbly sandy clay loam, very gravelly clay loam, very gravelly sandy clay loam

H2 - 6 to 21 inches:

H3 - 21 to 60 inches:

H3 - 21 to 60 inches:

H3 - 21 to 60 inches:

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water

(Ksat): Moderately high (0.20 to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 35 percent

Available water supply, 0 to 60 inches: Very high (about 14.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: C

Ecological site: R036XY346CO - Cobbly Foothills

Hydric soil rating: No

Minor Components

Nehar

Percent of map unit: 15 percent

Hydric soil rating: No

Other soils

Percent of map unit: 5 percent

Hydric soil rating: No

Data Source Information

Soil Survey Area: La Plata County Area, Colorado

Survey Area Data: Version 19, Sep 1, 2021

Laboratory Analytical Data Place Holder