

MINE CONTACT REPORT FORM

Date of Call: _____ **Date of E-mail:** 08/24/2023
Telephone call to: _____ **DENR Employee Contacted:** Roberta Hudson
Operator Contacted: Rich Williams
Company: GPNA representing SDO Services, LLC
Telephone: _____
Staff Signature: _____ \s/

On August 24, 2023, Rich Williams contacted me with additional information on the SDO Services, LLC EXNI-448 just south of Hill City, SD. Attached to the email was the remainder of the information required to consider the application submitted as complete. This included the seed mix and a map of the site to include the surrounding one-half mile area.

Below is a copy of the email sent by Mr. Williams. The email attachments have been included with this email. All attachments to the 08/24/2023 email are considered confidential at the request of Hill City's Administration Office.

From: Richard Williams <rwilliams@gpna.com>
Sent: Thursday, August 24, 2023 1:38 PM
To: Hudson, Roberta <Roberta.Hudson@state.sd.us>
Cc: Michael X. Schlumpberger <michael.schlumpberger@midwestlithium.com>; Linda Fletcher <lfletcher@gpna.com>
Subject: [EXT] SDO Services - EXNI 448 Mateen

Roberta,

I am attaching maps of the Hill City infrastructure and utilities. Due to the locations of Hill City's utilities on these maps, Hill City has asked that they remain confidential. Accordingly, I have stamped the attached as CONFIDENTIAL.

I believe these were the last items that we needed to complete the EXNI application.

Please let us know if we have forgotten anything.

Thanks,

From: Richard Williams
Sent: Wednesday, August 16, 2023 4:28 PM
To: Hudson, Roberta <Roberta.Hudson@state.sd.us>
Cc: Michael X. Schlumpberger <michael.schlumpberger@midwestlithium.com>; Linda Fletcher <lfletcher@gpna.com>
Subject: RE: SDO Services - EXNI 448 Mateen

Roberta,

I was looking over the procedural completeness letter for Mateen and realized that we had forgotten to include the Seeding Plan assembled by NRCS. The information from NRCS is attached.

I am also attaching an additional map showing at least one-half mile around the proposed exploration area. We are working to identify the location, if any, of water pipelines in the area and will include any findings on an additional map.

As to paragraph 6, there appears to have been a typographical error on the Purchase Agreement. The Application for the EXNI includes the correct legal description.

Thank you.

From: Hudson, Roberta <Roberta.Hudson@state.sd.us>
Sent: Friday, August 11, 2023 12:12 PM
To: Michael X. Schlumpberger <michael.schlumpberger@midwestlithium.com>; Richard Williams <rwilliams@gpna.com>
Subject: SDO Services - EXNI 448 Mateen

Gentlemen,

Please find the procedural completeness letter for the proposed mineral exploration at the Mateen site near Hill City. If you have any questions, please feel free to contact me.

Thank you!

Roberta Hudson, PE

Engineer Manager I
Minerals, Mining, and Superfund Program

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Roberta Hudson, PE

Engineer Manager I
Minerals, Mining, and Superfund Program

Instructions

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SEEDING PLAN

AUG 16 2023

MLRA

Producer: SDO Services, LLC Conservation District: Pennington MINERALS & MINING PROGRAM MLRA: 62

Program: CTA Practice No.: 342 Practice Name: Critical Area Seeding

Cl or Referral No.: _____ Contract #: _____

Resource Concern (CPPE Impact): _____ Purpose: 342- Stabilize areas with existing or expected high rates of soil erosion by wind or water

PLANNED		
Tract		Seedbed Preparation
Field	<u>NA</u>	Clean, smooth, weed free seedbed will be prepared
Acres	<u>20.41</u>	
Group or Site	<u>Critical Area Group</u>	
Site	<u>Loamy or Silty Texture</u>	Have the past 3 years of Herbicide Carryover been considered?
Date to be Planted	<u>Early Spring Prior to 5/15</u>	
Alternative planting dates		Protection Provided
Alternative planting dates		
Seeding Equipment	<u>Special Grass Drill</u>	Clip weeds before they compete for moisture and light
Companion Crop		

PLANNED						
Species * **	1/ Select Improved Variety (recommended) or select common seed (see note below)	Percent in Mixture	Pure Live Seeds (PLS) per square foot	Pure Live Seed (PLS) lbs/ac Needed	Acres to Seed	Pure Live Seed (PLS) lbs Required
		<u>100</u>	<u>38.93</u>			
Big bluestem		<u>15.0</u>	<u>6.75</u>	<u>1.67</u>	<u>20.41</u>	<u>34.10</u>
Sidecoats grama		<u>10.0</u>	<u>4.50</u>	<u>1.09</u>	<u>20.41</u>	<u>22.23</u>
Little bluestem		<u>4.0</u>	<u>1.80</u>	<u>0.27</u>	<u>20.41</u>	<u>5.60</u>
Green needlegrass		<u>5.0</u>	<u>2.25</u>	<u>0.54</u>	<u>20.41</u>	<u>11.11</u>
Canada wildrye		<u>15.0</u>	<u>4.50</u>	<u>1.70</u>	<u>20.41</u>	<u>34.79</u>
Western wheatgrass		<u>35.0</u>	<u>13.13</u>	<u>5.10</u>	<u>20.41</u>	<u>104.19</u>
Slender wheatgrass		<u>15.0</u>	<u>5.63</u>	<u>1.58</u>	<u>20.41</u>	<u>32.26</u>
Purple prairie clover		<u>1.0</u>	<u>0.38</u>	<u>0.06</u>	<u>20.41</u>	<u>1.15</u>

To meet SD NRCS Standards Please Note:

1/ Improved varieties recommended above have no restrictions on their origin.

1/ Origin of Common grass seed must be ND, SD, NE, MT, WY, MN, or IA. Exception: Smooth Bromegrass any locale.

1/ Common Native forbs and legumes will originate or be grown in (USA): ND, SD, NE, MT, IA, WY, ID, WA, OR, MN, WI, and (CAN): AB, BC, MB, ON, SK.

- Seed test must be completed according to SD Seed laws (see link below) and no more than 9 months prior to the date planted.
- All legumes must be pre-inoculated. Producer will provide all seed tags to NRCS [Legume inoculants](#)
- Tetrazolium (TZ) tests may be used as a substitute for germination tests ONLY for Green Needlegrass
- For Alfalfa Salinity tolerance use F or G from the web site link ---> [Alfalfa Variety Ratings](#)

* Pubescent wheatgrass and Intermediate wheatgrass are the same species and can be substituted for one another at any time.

** Thickspike wheatgrass may be substituted for western wheatgrass if the later is not available but only west of the Missouri River.

To calculate the amount needed multiply the western wheatgrass seeding rate by .72

SD Seed Laws [Codified Laws Statute 38-12A](#) Seed testing [SD state seed-lab](#)

LOCATION MAP

Tract _____

Planning Assistance By: Mitch Faulkner 7/28/2023
Name Date

Plan Meets SD Standards (if no explain) Yes No

The seedings plan was developed from recommendations based on the NRCS Soil Survey and South Dakota Field Office Technical Guide.

Critical Area Group

This seeding is planned in Major Land Resource Area (MLRA) 62. Varieties/Cultivars that are approved for South Dakota include:

Loamy or Silty Texture

62



Common Name

Big bluestem East Central Iowa Gormplem Purpure	Bonanza Champ Reubne	Bonks Common Sandyview	Bouty Northern Iowa Gormplem
Sideoats grama Blue Northern Iowa Gormplem	Central Iowa Gormplem Pura	Common Southern Iowa Gormplem	Hilder Tribbey
LITTLE BLUESTEM Sudanic Escape Common	Blue Basis	Casper Northern Iowa Gormplem	Central Iowa Gormplem Southern Iowa Gormplem
Green's meadowgrass AC Malara Ecover	Common	Lodoni	
Canada wildrye Clavson	Mander		
Western wheatgrass Archie Recovery	Baton Rabin	Common Rosana	Finkbe Wish
Slender wheatgrass AC Petal Ecover (Rounded) Common Pyr	AC Sping Ecover (Rounded) Eave Reverna	Hider FridStar	AC: Hider Priner
Purple prairie clover Silverc	Common	Kane	

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Guidance for Critical Area Planting (342)

The following is an excerpt from RANGE TECHNICAL NOTE NO. 4 PERENNIAL VEGETATION ESTABLISHMENT GUIDE.
[SD/Range Tech Note 4.pdf](#)

14. GUIDANCE FOR CRITICAL AREA PLANTING (342)

Seeding of a critical area may take place at any time of the year as long as a reasonable expectation of a successful seeding establishment is expected.

Site Preparation:

Follow guidance for seedbed preparation (Section 2 above) and the additional following criteria.

If necessary, divert offsite water away from the critical area. This may require a permanent conservation practice, or in other instances, a temporary measure that will be effective during the period of establishment.

Where practical, grade to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and anchoring. Cabling of equipment to prevent rollover may be necessary on some slopes such as newly constructed dams.

On construction sites where the exposed and underlying soil material will not support adequate vegetation, minimum topsoil dressing of six inches will be applied as part of construction.

After construction is complete, the seedbed will be worked to a depth of three to five inches to break up compacted areas and permit rapid root development. Drag or pack to break up large clods and firm the seedbed.

Where slopes are steeper than 1.5:1, use some means other than vegetation to stabilize slopes.

Species Selection:

Allowable species will be selected from Table 7 for the appropriate MLRA.

Between 50 to 75% of the mixture will be made up of sod forming species. Grass mixtures may include all native species, all introduced species, or a mixture of native and introduced species. Mixing smooth brome grass, Kentucky bluegrass, and/or crested wheatgrass with native species is not recommended.

When smooth brome is to be seeded in a mixture, do not include more than 10% of other native or introduced species for early establishment.

Single species may be used on saline or wet areas (Table 7).

Do not select aggressive species such as smooth brome grass when the adjacent area is dominated by native species.

When quick growth and/or protection of a critical area is needed, a quick establishing grass can be added in addition to the selected permanent seeding mixture. Use either slender wheatgrass or annual ryegrass. Slender wheatgrass can be used statewide and annual rye grass can be used in MLRAs 102A, 102B, 102C, 53B, 53C, 55B, 55C, 63B, 66, and 62. Add a maximum of three PLS lbs./ac of slender wheatgrass or a maximum of two PLS lbs./ac of annual ryegrass to the selected full seeding.

Conventional Seeding:

Seeding activities will follow recommendations found elsewhere in this technical note unless otherwise stated in this section.

Seeding rates will be 1.5 times those recommended in Table 2 when using a drill (recommended rate multiplied by 1.5).

When possible, drilling will be accomplished perpendicular to the slope. On grassed waterways, drilling will follow a serpentine pattern.

Broadcasting:

Many critical area plantings are too steep or too small to efficiently and safely utilize a drill. In these cases, seed may be broadcast and incorporated by harrowing, packing, or raking by hand. When broadcast seeding, increase the seeding rates found in Table 2 by two times (recommended rate multiplied by two).

Hydroseeding:

On sites that are too steep for regular equipment to operate, the use of a hydro seeder is an acceptable alternative. Seed, fertilizer, and mulch materials will be applied in one operation. Limit the application of 150 lbs. of solids per 100 gallons of water. If a legume seed is included in the mixture, any lime or fertilizer should be applied separately. A second trip may also be needed to apply an asphalt emulsion to long fiber mulches.

When using hydroseeding technique, increase seeding rates found in Table 2 by a factor of two (recommended rate multiplied by two).

Sodding:

Sod may be used on areas requiring immediate cover to prevent erosion. The sod should be in strips or blocks of native grass mixture, switchgrass, prairie cordgrass, reed canary grass, or other suitable grasses. Bluegrass sod is to be used only when the area is irrigated and is desired for aesthetic purposes. Sod materials are to be taken from solid, thick growing stands.

Sod will be cut in strips of uniform width and to a uniform thickness of at least three inches for tall grass and ½ to 1½ inches for short grasses. Lay sod within 24 hours after it was cut.

Sod strips should be carefully placed in rows across (at right angles) to the direction of slope. The sod strips will be placed together tightly so that no open joints are left between the strips or between the end of strips. Joints between the end strips will be staggered. Any spaces between the joints will be filled with topsoil and all edges covered with topsoil at least two inches deep. The edge of the sod at the top of slopes will be turned under and a layer of soil compacted over the edge so as to conduct surface water over and onto the top of the sod. The sod will be well tramped to help it remain in place.

Fertilizing:

Do not fertilize predominantly warm-season grass seeding unless the soil material is very infertile.

Thoroughly mix all fertilizer into the upper three to five inches of the soil during final seedbed preparation.

Apply fertilizer based on the recommendations from a soil test or apply 30 to 40 lbs. of actual Nitrogen (N) and 40 to 60 lbs. of Phosphorus pentoxide (P_2O_5) per ac. Ten to 15 tons of manure per ac may be used in lieu of the commercial fertilizer and will also increase organic matter.

On medium textured soils, the addition of 5 to 10 lbs. of zinc per ac may speed up growth.

Mulching:

All mulching will be done in accordance with the SD CPS for Mulching (484). Mulching of critical area plantings is required for any of the following conditions:

Where seeding cannot be accomplished during the approved seeding periods and a cover crop is not used;

On grassed waterways, where a cover crop or companion crop is not used, and seeding is placed on a bare seedbed, and the design velocity is more than 2.5 ft per second;

Where a grassed waterway is established at the time of terrace construction, and the channel slope is 2% or greater;

On slopes 3:1 or steeper that are 10 ft or more in vertical height or longer than 20 ft; on cut south and west facing slopes; On all saline and alkaline areas.

Drill grass in the prepared seedbed, immediately prior to mulching or at the next suitable seeding period after mulching.

Management of Critical Areas During and After Establishment:

Weeds will be controlled as described elsewhere in this technical note. All use will be excluded until vegetation is well established.

Mow grassed waterways for hay annually after establishment. Other critical areas may be mowed as needed for stand maintenance.

Fertilize as necessary to maintain stand.

Inspect critical areas each spring and following heavy rain. Reshape and reseed eroded areas promptly. Reinforce grass seeding where stands are thin.

Manage any grazing use to ensure long-term survival of the stand.

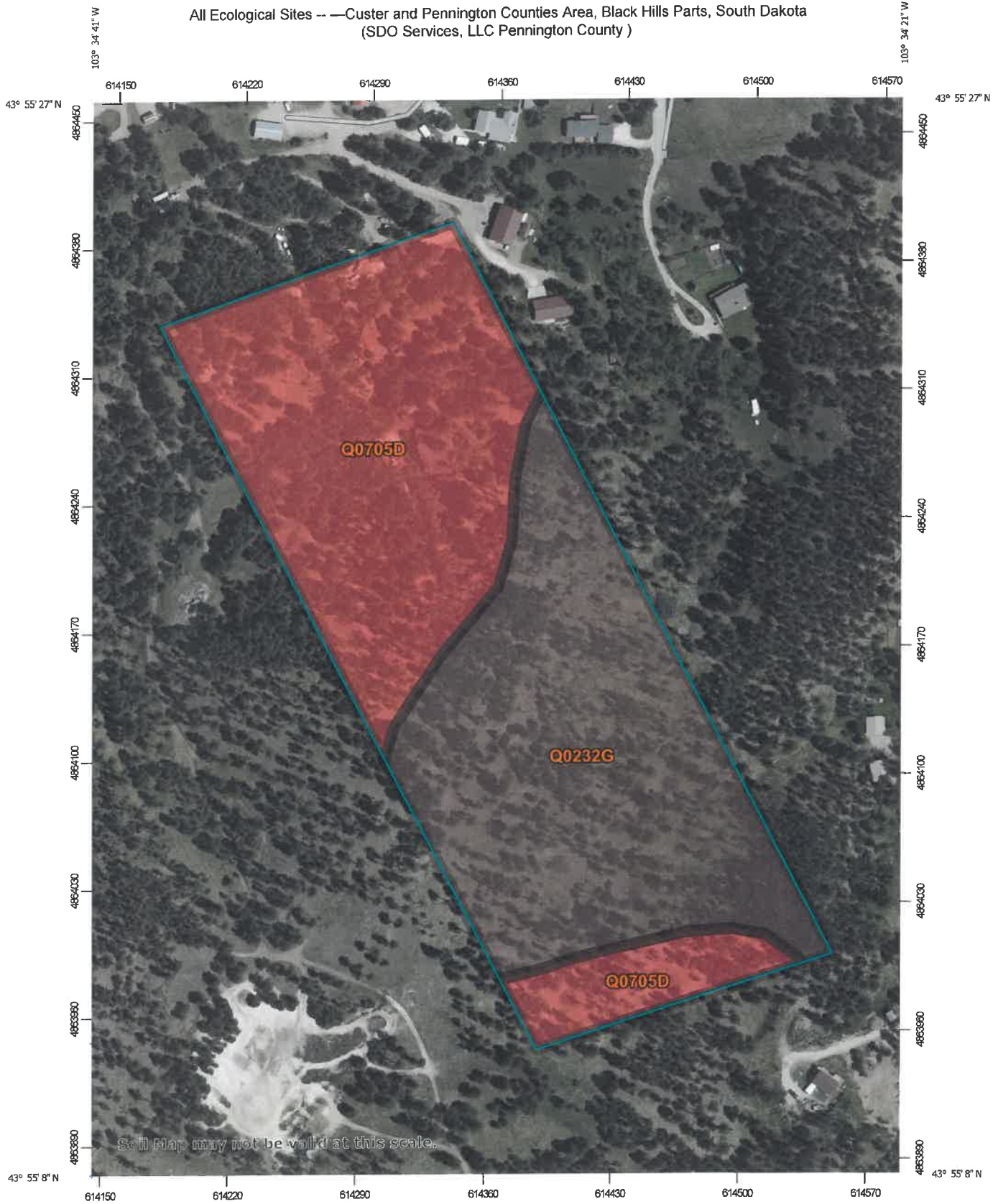
Lift tillage implements and shut off sprayers when crossing critical areas. Do not till parallel to grassed waterways.

Avoid vehicular travel on critical areas.

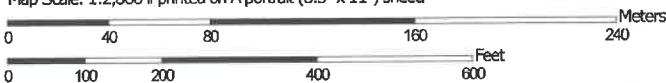
Providing Food, Cover, and Shelter for Wildlife:

Wildlife habitat should be considered when developing critical area planting plans and species selection. For plant species to improve wildlife habitat, refer to the SD CPS Upland Wildlife Habitat Management (645).

All Ecological Sites -- Custer and Pennington Counties Area, Black Hills Parts, South Dakota
(SDO Services, LLC Pennington County)



Map Scale: 1:2,860 if printed on A portrait (8.5" x 11") sheet.



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

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Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

7/28/2023
Page 1 of 3




MAP LEGEND

Area of Interest (AOI)




 Area of Interest (AOI)

Soils




Soil Rating Polygons

-  F062XY051SD
-  R062XY999SD
-  Not rated or not available

Soil Rating Lines

-  F062XY051SD
-  R062XY999SD
-  Not rated or not available






Soil Rating Points

-  F062XY051SD
-  R062XY999SD
-  Not rated or not available

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: Custer and Pennington Counties Area, Black Hills Parts, South Dakota

Survey Area Data: Version 12, Sep 9, 2022

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

Date(s) aerial images were photographed: Jun 8, 2022—Jun 21, 2022

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.

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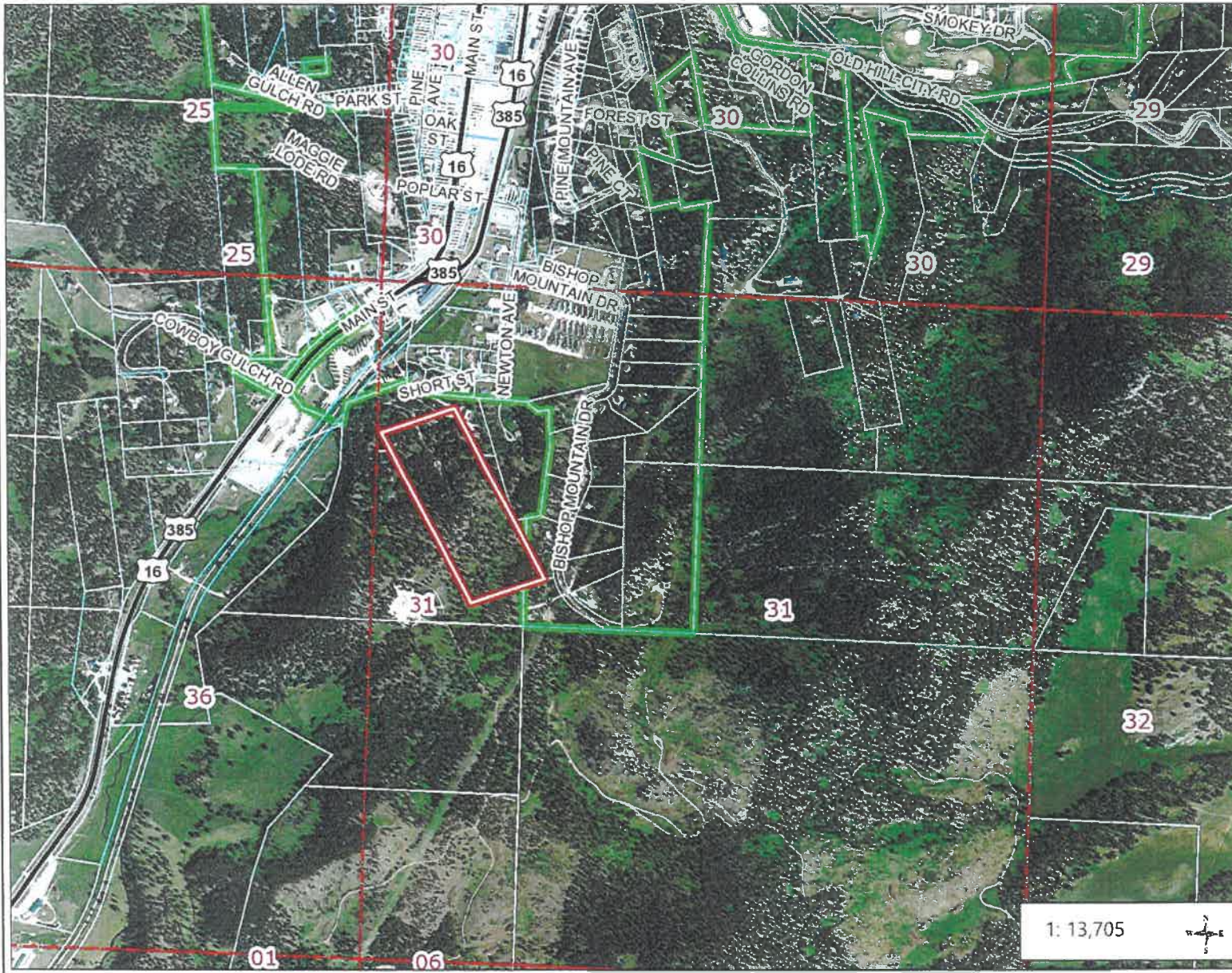
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All Ecological Sites —

Map unit symbol	Map unit name	Component name (percent)	Ecological site	Acres in AOI	Percent of AOI
Q0232G	Pactola-Pactola, shallow-Rock outcrop complex, 40 to 80 percent slopes	Pactola (40%)	F062XY051SD — Very Steep Low Mountain Slopes	9.2	49.2%
		Pactola, shallow (20%)	F062XY051SD — Very Steep Low Mountain Slopes		
		Rock outcrop, schist (20%)	R062XY999SD — Non-site		
		Cordeston (4%)	R062XY043SD — Valley Loam		
		Grizzly (4%)	F062XY051SD — Very Steep Low Mountain Slopes		
		Rapidcreek, nonacid, rarely flooded (4%)	R062XA020SD — Loamy Overflow - North		
		Rubbleland, schist (4%)	R062XY999SD — Non-site		
		Virkula (4%)	F062XY051SD — Very Steep Low Mountain Slopes		
Q0705D	Udarents, reclaimed gravel pits	Udarents, reclaimed (90%)	R062XY999SD — Non-site	9.5	50.8%
		Rock outcrop (10%)	R062XY999SD — Non-site		
Totals for Area of Interest				18.7	100.0%

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Legend

Roads

- Interstate
- US highway
- SD highway
- County highway
- Main road
- Minor arterial
- Collector
- Ramp
- Paved road
- Unpaved road
- Unimproved road
- Trail
- Airport Runway
- Not yet coded

□ Section Lines 0-25k

Tax Parcels

Lot Lines

- <Null>
- Lot Line
- Parcel Line

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1:13,705



2,284.2 0 1,142.08 2,284.2 Feet

Map Notes: