

Voluntary – 43 CFR 3809 Plan of Operations Form



United States Department of the Interior
BUREAU OF LAND MANAGEMENT
COLORADO



Section 1: General Information

Pursuant to 43 CFR 3809.401(b)(1).

This form is designed to streamline the required information for a Plan of Operations with the BLM (43 CFR 3809.400) and to parallel the Colorado Division of Reclamation and Mine Safety (CDRMS) mining permit applications in hopes of streamlining the paperwork. Plans of Operation will most likely be subject to the CRDMS 110 or 112 permits. The 112 application encompasses more details of the operation and was chosen as a model for this BLM voluntary form. The applicant should be able to copy and paste similar information into each application, as well as each Exhibit in its entirety. CDRMS requirements and regulations can be found at

<http://mining.state.co.us/Programs/MineralMines/Rules/Pages/RulesRegs.aspx>.

1. General Information

Applicant/Operator or company name:

Operation name (pit, mine, or site name):

Permitted acreage (new or existing site): Based on Amendment to M-2008-050 acres

Change in acreage (+) acres

Total Acreage in Permit Area acres

2. **Type of mining operation:** Surface Underground In-situ

3. **General Description:** (local roads, nearest towns, landmarks, etc.)

Will this operation use designated chemicals, result in, or presently have acid mine drainage? Yes No

4. Operator Information

Operator Name:

Mailing Address:

City: State: Zip Code:

Phone #: Alternate Phone #:

Operator Tax Payer Identification Number:

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5. Claimant/Claim Information, if applicable; if open minerals check here

Primary Claimant:

Mailing Address:

City: State: Zip Code:

Phone #: Alternate Phone #:

Additional claimant name(s):

Claims Information: Please list the CMC numbers, claim names, and claim type (i.e. placer, lode, mill site, tunnel site) for all claims involved in the proposed operations.

CMC	Claim Name	Claim Type

6. Inspection Contact: Check here if same as applicant/operator above:

Contact's Name: Title:

Company Name:

Street/P.O. Box:

City: State: Zip Code:

Telephone Number Fax Number

Section 2: Cultural and Paleontological Resources, & Fish, Wildlife, and Plant Habitats

Pursuant to 43 CFR 3809.420.

Cultural and Paleontological Resources:

1. Operators shall not knowingly disturb, alter, injure, or destroy any scientifically important paleontological remains or any historical or archaeological site, structure, building or object on Federal lands.
2. Operators shall immediately bring to the attention of the authorized officer any cultural and/or paleontological resources that might be altered or destroyed on Federal lands by his/her operations, and shall leave such discovery intact until told to proceed by the authorized officer. The authorized officer shall evaluate the discoveries brought to his/her attention, take action to protect or remove the resource, and allow operations to proceed within 10 working days after notification to the authorized officer of such discovery.
3. The Federal Government shall have the responsibility and bear the cost of investigations and salvage of cultural and paleontology values discovered after a plan of operations has been approved, or where a plan is not involved.

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Fish, Wildlife, and Plant Habitat:

1. The operator shall take such action as may be needed to prevent adverse impacts to threatened or endangered species, and their habitat which may be affected by operations.

Section 3: Operational and Baseline Environmental Information

Pursuant to 43 CFR 3809.401(c).

The BLM may require information to use in analyzing potential environmental impacts as required by the National Environmental Policy Act (NEPA) and to determine if your plan of operations will prevent unnecessary or undue degradation. Types of information required may include, but is not limited to, geology, paleontology, hydrology, soils, vegetation, wildlife, air quality, cultural resources, socioeconomic conditions, etc. If you have background information that may be pertinent to review this proposal please provide that data below.

Section 4: Financial Warranty

Pursuant to 43 CFR 3809.500-599.

A financial warranty must be provided for the cost of reclamation of the disturbance described in this Plan of Operations. The financial warranty must be submitted and accepted by the BLM prior to entry upon lands for the purpose of prospecting/mining in a manner greater than casual use. Information on the types of financial warranties permitted can be found in the regulations. (www.ecfr.gov; title 43, subpart 3809)

Section 5: Terms and Conditions for Plan Level Operations

Approval and Starting Work under a Plan of Operations:

1. BLM will review your plan of operations within 30 calendar days and will notify you that—
 - a. Your plan of operations is complete, that is, it meets the content requirements of § 3809.401(b);
 - b. Your plan does not contain a complete description of the proposed operations under § 3809.401(b). BLM will identify deficiencies that you must address before BLM can continue processing your plan of operations. If necessary, BLM may repeat this process until your plan of operations is complete; or
 - c. The description of the proposed operations is complete, but BLM cannot approve the plan until certain additional steps are completed, including one or more of the following:
 - i. You collect adequate baseline data;
 - ii. BLM completes the environmental review required under the National Environmental Policy Act;
 - iii. BLM completes any consultation required under the National Historic Preservation Act, the Endangered Species Act, or the Magnuson-Stevens Fishery Conservation and Management Act;
 - iv. BLM or the Department of the Interior completes other Federal responsibilities, such as Native American consultation;

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- v. BLM conducts an on-site visit;
 - vi. BLM completes review of public comments on the plan of operations;
 - vii. For public lands where BLM does not have responsibility for managing the surface, BLM consults with the surface-managing agency;
 - viii. In cases where the surface is owned by a non-Federal entity, BLM consults with the surface owner; and
 - ix. BLM completes consultation with the State to ensure your operations will be consistent with State water quality requirements.
2. Pending final approval of your plan of operations, BLM may approve any operations that may be necessary for timely compliance with requirements of Federal and State laws, subject to any terms and conditions that may be needed to prevent unnecessary or undue degradation.
 3. Following receipt of your complete plan of operations and before BLM acts on it, we will publish a notice of the availability of the plan in either a local newspaper of general circulation or a NEPA document and will accept public comment for at least 30 calendar days on your plan of operations.
 4. Upon completion of the review of your plan of operations, including analysis under NEPA and public comment, BLM will notify you that—
 - a. BLM approves your plan of operations as submitted (See part 3810, subpart 3814 of this title for specific plan-related requirements applicable to operations on Stock Raising Homestead Act lands.);
 - b. BLM approves your plan of operations subject to changes or conditions that are necessary to meet the performance standards of § 3809.420 and to prevent unnecessary or undue degradation. BLM may require you to incorporate into your plan of operations other agency permits, final approved engineering designs and plans, or other conditions of approval from the review of the plan of operations filed under § 3809.401(b); or
 - c. BLM disapproves, or is withholding approval of your plan of operations because the plan:
 - i. Does not meet the applicable content requirements of § 3809.401;
 - ii. Proposes operations that are in an area segregated or withdrawn from the operation of the mining laws, unless the requirements of § 3809.100 are met; or
 - iii. Proposes operations that would result in unnecessary or undue degradation of public lands.

Per 43 CFR 3809.411 you must not begin operations until BLM approves your plan of operations and you provide the financial guarantee required under § 3809.551.

Section 6: Departmental Use Only

Case File # Reviewed By:

Received on: _____ Response Due by: _____

Remarks:

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Section 7: Maps & Exhibits

Submit complete unbound copies of the following application exhibits:

EXHIBIT I – Legal Description and Location Map

EXHIBIT II – Site Description

EXHIBIT III – Pre-Mining and Mining Plan Map(s) of Affected Lands

EXHIBIT IV – Mining Plan

EXHIBIT V – Reclamation Plan

EXHIBIT VI – Reclamation Plan Map

EXHIBIT VII – Water Information

EXHIBIT VIII – Wildlife Information

EXHIBIT IX – Soils Information

EXHIBIT X – Vegetation Information

EXHIBIT XI – Climate Information

EXHIBIT XII – Reclamation Costs

EXHIBIT XIII – List of other permits and licenses required

EXHIBIT XIV – Geotechnical Stability

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EXHIBIT I

Legal Description and Location Map

This Exhibit may be applied to CDRMS Hardrock 110/112 Exhibit A, additional information may be required.

Legal Description

Principal Meridian	Township (North or South)	Range (East or West)	Section	Quarter Section (NE, SE, SW, NW)	Quarter Quarter Section (NE, SE, SW, NW)

County: _____

Land Status:

- a. Surface Ownership: Private BLM USFS State Other _____
- b. Mineral Ownership: Private Federal State Other _____

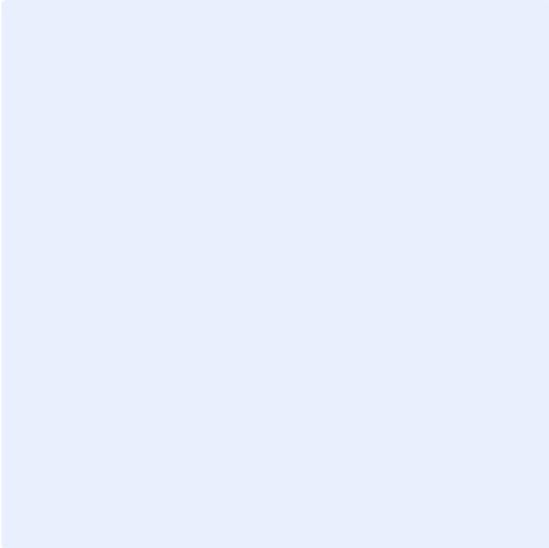
General Description: Include any additional information (nearby towns, etc.) that will help identify the project location.

Access: Please identify the intended access to work sites. Describe in writing and on the location map.

Primary Mine Entrance Location:

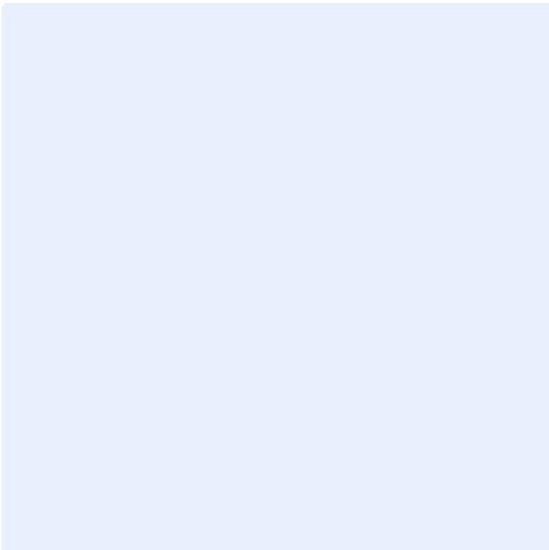
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Maps & Drawings of Operations: A map showing information sufficient to determine the location of the affected land on the ground and existing and proposed roads or access routes to be used in connection with the mining operation. Names of all immediately adjacent surface owners of record shall also be shown. The operation location map shall be a standard 1:24,000 scale U.S. Geological Survey map. The location of the proposed operation shall be shown and labeled with the mine site name.



SEE EXHIBIT I MAPS ATTACHED SEPARATELY

Index map (*This Exhibit can be substituted for CDMS Hardrock112 Exhibit B*): Provide a general location map that demonstrates relationships to major roads, cities, etc.



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EXHIBIT II

Site Description

*This Exhibit may be applied to CDRMS Hardrock 110 Exhibit B, additional information may be required.
Additional information and/or mitigation may be included in the corresponding NEPA analysis for the proposed project.*

Items (a)-(c) below must be addressed to the extent necessary to demonstrate compliance with the applicable performance standard requirements of Rule 3. At a minimum, the Operator/Applicant shall include the following information:

- (a) a description of the vegetation and soil characteristics in the area of the proposed operation. The local office of the Natural Resources Conservation Service (NRCS) may provide you with this information as well as recommendations for Exhibit D - Reclamation Plan;

- (b) identify any permanent man-made structures within two hundred (200) feet of the affected area and the owner of each structure. Each structure should be located on Exhibit E - Map;

- (c) a description of the water resources in the area of the proposed operation. Identify any streams, springs, lakes, stock water ponds, ditches, reservoirs, and aquifers that would receive drainage directly from the affected area.

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EXHIBIT III

Pre-Mining and Mining Plan Map(s) of Affected Lands

This Exhibit may be applied to CDRMS Hardrock 112 Exhibit C or a portion of Hardrock 110 Exhibit E, additional information may be required.

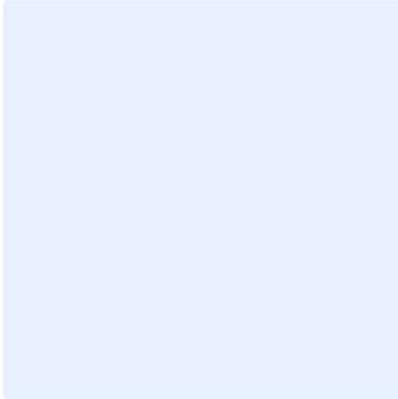
Please include an accurate topographic base map showing the location of the proposed project with this form. The prospector may submit a U.S.G.S 7.5 minute quadrangle or similar map of adequate scale.

One or more maps may be necessary to legibly portray the following information:

1. all immediately adjoining surface owners of record 112(4)(c);
2. the name and location of all creeks, roads, buildings, oil and gas wells and lines, and power and communication lines on the area of affected land and within two hundred (200) feet of all boundaries of such area 112(4)(e);
3. the existing topography of the area with contour lines of sufficient detail to portray the direction and rate of slope of the affected land 112(4)(g);
4. the total area to be involved in the operation, including the area to be mined and the area of affected lands (see definition of "Affected Land") 112(4)(f) ;
5. the type of present vegetation covering the affected lands 112(4)(i); and in conjunction with Exhibit G - Water Information, Subsection 6.4.7, if required by the Office, further water resources information will be presented on a map in this section. 112(3)(c) and 115(409e)
6. Show the owner's name, type of structures, and location of all significant, valuable, and permanent man-made structures contained on the area of affected land and within two hundred (200) feet of the affected land.
7. In conjunction with Exhibit I - Soils Information, Subsection 6.4.9, soils information may be presented on a map in this section;
 - a. Aerial photos, if available, may be included in this section.

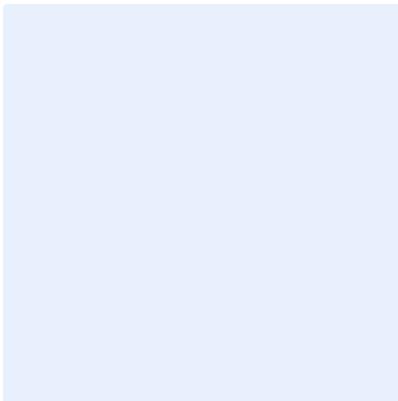
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1. Pre-mining map



2. Mining Plan Map

- a. Identifies the proposed prospecting site(s) or activity areas involving surface disturbance. Activity areas include, but are not limited to, all drill holes, mud pits, excavations, trenches, adits, shafts, tunnels, rock dumps, stockpiles, impoundments, prospecting roads, etc.; and
- b. Includes sufficient detail to identify and locate known prospecting features and facilities that may be affected and those that are not anticipated to be affected. This includes, but is not limited to, the location of all drill holes, mud pits, excavations, trenches, adits, shafts, tunnels, rock dumps, stockpiles, impoundments, prospecting roads, etc. Color photographs, adequately labeled (including date, orientation and location) may be included to document existing conditions.



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EXHIBIT IV

Mining Plan [Pursuant to 43 CFR 3809.401(b)(2)]

This Exhibit may be applied to CDRMS Hardrock 110 Exhibit C or Hardrock 112 Exhibit D, additional information may be required. Additional information and/or mitigation may be included in the corresponding NEPA analysis for the proposed project.

1. **Commodity:**

Primary _____ Secondary _____ Others _____

2. **Period of Operation:**

Beginning: _____ Ending: _____

3. Will operations take place more than 180 days of the year? Yes No

4. **General Schedule of Operations:** Please describe the different parts of operation (Site Development, Operational Phases, Reclamation Phases). Describe each phase of the mining operation including design, operations, timeframe for completion, and reclamation. Include preliminary/conceptual designs and cross-sections.

5. **Access:** Include information such as the type (haul, light vehicle, access), location(s), maintenance, upgrades, uses, temporary, permanent, etc. Indicate any part of the access that is in current existence and condition. Indicate these items on the location map(s) in Exhibits III. Include plans for power, water and support services.

6. **Equipment:** Please list all vehicles, equipment and devices that will be used during the life of the mine and reclamation.

Site Development	General Type	Size	Quantity	Model Year
Site Operations	General Type	Size	Quantity	Model Year

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Processing Operations	General Type	Size	Quantity	Model Year
Reclamation	General Type	Size	Quantity	Model Year
Other	General Type	Size	Quantity	Model Year

7. Soil, Waste, & Mineable Materials: Please indicate location of stockpiles on Exhibit III.

	Thickness (feet)	Quantity (tons)	Details on Use, Stockpiling, or Method of Disposal
Soil			
Overburden or Waste Rock			
Mineralized Material			

8. Exploration operations: include all proposed activities such as, but not limited to, seismic surveys, trenching, drill pads, sumps, roads, material storage site, water source, pipelines, generator/pump, storage containers, number of drill holes that will be left open at any one time, number of drill rigs that will be on site at any one time, etc. Indicate these items on the location map(s) in Exhibit III.

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9. Operating Practices:

- a. Mining Methods: Identify the type or method of mining proposed and the quantity to be extracted including, but not limited to, dredging, high banking, cuts, pits, trenches, shafts, tunnels, adits, declines, air drilling, fluid drilling, blasting, etc. If drilling is involved provide details for mud pits, drill pads, and drill holes including, but not limited to, quantity, average width, average depth, average length, and diameter and method for plugging (Refer to Colorado Division of Reclamation and Mining Safety (CDRMS) Rule 5.4 and State of Colorado regulations for required abandonment procedures).

Type or Method of Mining	Quantity of Material Removed (tons)	Estimated Area of Surface Disturbance (acres)
TOTAL		

- b. Underground Operations: Describe the proposed underground work including reopening of old workings, advancement of adits or shafts, trenches, pits, cuts, rock dumps, or other similar types of disturbance. Further describe dimensions if necessary:

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Scope of Operation: Describe in detail the type and extent of the operation to be performed. Provide detailed information for any surface excavation or other land disturbance including roads, pits, trenches, waste piles, drill pads and collar areas of underground workings, ponds, etc. For placer type mining include the amount of material to be processed and dimension from each work location, and the dimension of test sites. Indicate the different types and locations of disturbance on the location map(s) in Exhibit III.

10. Use and Occupancy, *if applicable:*

The following information must be included in the proposed Plan of Operations in order to comply with the 43 CFR 3715, Use and Occupancy Under the Mining Laws, when use or occupancy exceeds 14-days in a 30-day period. The definitions of terms are found in 43 CFR 3715.0-5. These regulations apply to public lands administered by the BLM. Please provide a written description of the proposed occupancy that describes in detail: (see 43 CFR 3715.3-2):

- a. How the proposed occupancy is reasonably incident;
- b. How the proposed occupancy meets the conditions specified in 43 CFR 3715.2 and 43 CFR 3715.2-1
- c. Where you will place temporary or permanent structures for occupancy;
- d. The location of and reason you need enclosures, fences, gates, and signs intended to exclude the general public;
- e. The location of reasonable public passage or access routes through or around the area to adjacent public lands; and
- f. The estimated period of use of the structures, enclosures, fences, gates and signs, as well as, the schedule for removal and reclamation when operations end.
- g. Indicate these items on the location map(s) in Exhibit III.

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11. Hazmat: include information such as, but not limited to, type of generator, chemicals, fuels, quantities, disposal, storage, etc. If chemical processing plants are proposed in site operations, be sure to include tank capacities and operating solution volumes. Indicate locations of use and storage of hazardous materials on location map(s) in Exhibit III.



12. Rock Characterization and Handling Plans: Please include the following information and note N/A if something doesn't apply to the proposed operation. Depending on the proposal, these details may be minimal or very detailed.

II. Materials Characterization Plan must encompass:

1. Waste rock
2. Ore
3. Tailings
4. Pit wall and floor rock
5. Pit backfill rock (dry/wet scenarios)
6. Cap/cover materials (identified site specific sources)

III. Approach/Procedures for Characterization

1. Statistical Approach to Characterization (define statistical adequacy) to include:
 - a. Sample selection
 - b. Number of samples
 - c. Quantity of material
 - d. Review by BLM/CDRMS
2. Characterization Procedures
 - a. Sample selection
 - b. Identify by rock type/final disposition (ore, waste, pit wall, pit floor, backfill, etc)
 - c. Record locations (both surface and at depth)
 - d. Mineralogical analyses such as XRD, XRF, Petrology, Petrography, etc.
 - e. Static testing – (required for ore, waste rock and tailings) such as Acid-Base Accounting, Net Acid/Alkaline Production, net carbonate value, etc.
 - f. Kinetic testing (required for ore, waste rock and tailings but not for metallurgical ore recovery) such as Humidity cell/column leach

IV. Cap/Cover Geotechnical Protocols (may include waste rock, spent leach, etc) to include:

1. Grain Size
2. Atterburg limits
3. Initial moisture content
4. Dry bulk density

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5. Calculated porosity
 6. Constant head analyses for saturated hydraulic conductivity test
 7. Hanging column
 8. Pressure plate
 9. Unsaturated hydraulic conductivity
 10. Proctor compaction
 - V. Infiltration Modeling needed, such as Heap Leach Draindown Estimation, Tailings Impoundment Draindown Estimation, cap/cover materials, etc.
- VI. Waste Rock Management Plan
1. Work plan history with geochemical and geotechnical summaries.
 2. Operating/post reclamation management of the waste rock dumps (WRDs)
 3. Describe mining sequence of rock types/volumes/final disposition (see section III.2 above).
 4. Describe how potentially acid generating (PAG) rock will be selectively mined, segregated and managed to preclude exposure to air and water. Need to address metals mobility/accumulation for both PAG and non-PAG materials (see section III.5.c).
 5. For each benign and PAG WRD facility, include a text description for: toe elevation, crest elevation, ultimate height, reclaimed slope, plan dimensions, tonnage capacity and acres. Provide a summary table for volumes by facility for life-of-mine (LOM).
 6. Supplement the text with plan and cross sectional drawings showing: plan views and related alluvial/cover stockpile locations, cross sectional views showing operational and post reclamation slopes, grades, toe and crest elevations, existing ground slope and cap thicknesses for LOM.
 7. For pit backfill scenarios, include the same text and supporting drawings previously described, describe any amendment requirements. Provide information on the total volume to be backfilled with rock type and its origin, final backfill elevation and rebound ground water elevation.
 8. Tailings impoundments, heaps, ore stockpiles, topsoil stockpiles should include the same text and supporting drawings previously described.

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13. Quality Assurance Plan: Please provide a systematic monitoring and evaluation of the various aspects of the project including, but not limited to, what is being monitored, parameters for monitoring, frequency of monitoring, who will conduct the monitoring, monitoring equipment, etc.

14. Spill Contingency Plan: Please provide the plan for handling and remediating potential spills of hazardous materials and petroleum products. (Note – The operator is responsible for notifying the BLM authorized officer in the event of a spill and complying with state and federal regulations on spill handling, cleanup, and reporting.)

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15. Monitoring Plan [*Pursuant to 43 CFR 3809.401(b)(4)*]

Monitoring plans may incorporate existing State or other Federal monitoring requirements to avoid duplication. The scope of monitoring depends on the location and complexity of the operation. Generally, exploration activity may require some monitoring, while mining activities may require various levels of comprehensive monitoring plans.

The monitoring plan must be designed to meet the following objectives:

- a. To demonstrate compliance with the approved plan of operations and other Federal and State environmental laws and regulations;
- b. To provide early detection of potential problems; and
- c. To supply information that will assist in directing corrective actions should they become necessary.

Where applicable, the monitoring plan must include: details on type and location of monitoring devices; sampling parameters and frequency; analytical methods; reporting procedures; and procedures to respond to adverse monitoring results. Examples of monitoring programs which may be necessary include surface- and ground-water quality and quantity, air quality, revegetation, stability, and noise levels.

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16. Interim Management Plan [Pursuant to 43 CFR 3809.401(b)(5)]

Include a plan describing the management of the project area during period of temporary closure, including periods of seasonal closure, to prevent unnecessary or undue degradation.

The interim management plan must include, where applicable, the following:

- a. Measures to stabilize excavations and workings;
- b. Measures to isolate or control toxic or deleterious materials (see also the requirements in 43 CFR 3809.420(c)(12)(vii));
- c. Provisions for the storage or removal of equipment, supplies, and structures;
- d. Measures to maintain the project area in a safe and clean condition;
- e. Plans for monitoring site conditions during periods of non-operation;
- f. A schedule of anticipated periods of temporary closure during which you would implement the interim management plan, including provisions for notifying BLM and other involved agencies of unplanned or extended temporary closures; and
- g. In cases of temporary or seasonal closure, you must provide adequate maintenance, monitoring, security, and financial guarantee, and BLM may require you to detoxification of process solutions.

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17. Water Management Plan

- a. Specify how much water will be used in conjunction with the operation and the source of this water. Please include any necessary permits in Exhibit XIII.

- b. Describe any associated drainage and runoff conveyance structures to include sufficient information to evaluate structure sizing. Describe what measures will be taken to minimize disturbance to the hydrologic balance, prevent off-site damage, and provide for a stable configuration of the reclaimed area consistent with the proposed future land use. Describe the measures used to divert upland drainage away from the site both during and after operation. This must include design details demonstrating the capacity of ditches and impoundment structures to contain operating solutions and the volume of water generated by a one hundred (100) year 24-hour rainfall event.

- c. Specify how you will comply with applicable Colorado water laws and regulations governing injury to existing water rights.

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- d. Describe anticipated relationship to surface water and groundwater (proximity to streams, penetration of ground water aquifers, known water depth of lenses, major watershed, storm water plan per CDPHE regulations, etc.). Describe how mining will affect the quantity and quality of the surface or groundwater and the methods to be used to minimize disturbance to the surface and groundwater systems including, but not limited to, dewatering, sediment containment, chemical treatment systems, storm water run-off controls, and groundwater points of compliance.

- e. Specify whether the deposit/ore will be processed on site. Processing includes crushing, screening, washing, concrete or asphalt mixing, leaching or milling. If the deposit/ore will be processed, then describe the nature of the process, facilities and chemicals utilized. The process area and any structures must be described in Exhibit III.

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EXHIBIT V

Reclamation Plan [Pursuant to 43 CFR 3809.401(b)(3)]

This Exhibit may be applied to CDRMS Hardrock 110 Exhibit D or Hardrock 112 Exhibit E, additional information may be required.

Additional information and/or mitigation may be included in the corresponding NEPA analysis for the proposed project.

1. A plan for reclamation to meet the standards in 43 CFR 3809.420 is required with this application. If multiple state/federal agencies are involved in the proposed operation, one reclamation plan must be included in your submittal to the agencies that meets the requirements of both sets of regulations.

The reclamation plan should include, but is not limited to, a description of the equipment and devices, practices you propose to use, a timeline for completion, etc. Also address wildlife and riparian habitat mitigation (as applicable).

Features and designs outlined below should be incorporated into Exhibit VI.

- a. It is suggested that a photographic record of the pre- mining, post-mining, and post-reclamation conditions be kept by the prospector. These photos should be taken from the same location and by the same method to clearly show the pre-site conditions of the land and the reclamation efforts. Upon completion of reclamation and request for bond or surety release, the photos may be considered as evidence of adequate reclamation, and thus, be able to act more quickly on the request for release.
- b. Per 43 CFR 3809.420 you are required to reclaim concurrent with mining as is feasible. Please describe the general methods, steps, and timing of both interim and final reclamation. Include slopes or gradients to be used during interim and final stages. Provide the technical criteria used to determine the gradient and stability of slopes created or affected by the mining operation.

- c. Provide a description of the native vegetation of the area to be disturbed, including tree, shrub, and grass communities of the area. Color photographs, sufficient to adequately represent the ecology of the site and adequately labeled (including date, orientation and location), may be used to help support a written description.

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- d. Describe the estimated topsoil depth and how topsoil will be salvaged, stockpiled, managed during operations, and redistributed for the re-establishment of vegetation at final reclamation. Specify approximate redistribution depth.

- e. Describe how portals, adits, shafts, ponds, excavations, drill holes or other disturbances will be reclaimed (refer to the State of Colorado for specific reclamation performance standards that may apply). The removal/stabilization of buildings, structures and facilities should be addressed, as applicable. You may wish to contact other State and Federal Agencies for closure specifications. Indicate if there are any facilities, roads, ponds, etc. to be left after final reclamation. The location of these features should be noted in Exhibit VI. Describe how roads will be reclaimed or returned to their pre-prospecting/mining (or better) condition.

- f. Describe any reclamation that is necessary because of in-stream mining.

- g. Toxic and Deleterious Materials, *as applicable*

- i. Provide the methods for reclaiming any waste rock, ore, and other stock piles (including original underlying topography, operational slope, and proposed reclaimed slope).

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If the soil is deficient in nutrients to be an adequate seedbed, please indicate and detail the use of fertilizer or other amendments. If mulch is to be used, please describe the type, rate, and method of application.

- j. Please provide a description of post closure management to include activities, monitoring, timelines, etc.

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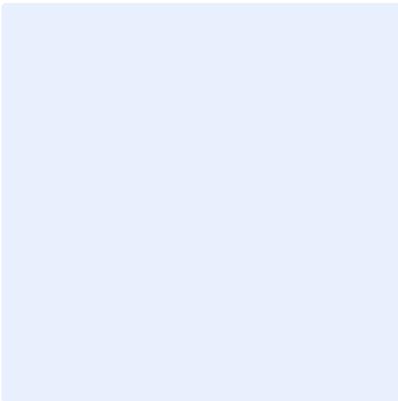
EXHIBIT VI

Reclamation Plan Map

This Exhibit may be applied to CDRMS Hardrock 112 Exhibit F or a portion of Hardrock 110 Exhibit E, additional information may be required.

Please provide a map depicting final reclamation of the affected area.

- i. Show the gradient of all reclaimed slopes (horizontal: vertical) sufficient to describe the post mine topography;
- ii. Indicate where vegetation will not be established and the general area(s) for shrub or tree planting;
- iii. If ponds are a part of the Reclamation Plan, outline the final shore configuration of the ponds and shallow areas if the future land use is for wildlife;
- iv. State the average thickness of replaced overburden by reclamation area or phase; and
- v. State the average thickness of replaced topsoil by reclamation area or phase.



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EXHIBIT VII

Water Information

*This Exhibit may be applied to CDRMS Hardrock 112 Exhibit G, additional information may be required.
Additional information and/or mitigation may be included in the corresponding NEPA analysis for the proposed project.*

Describe anticipated relationship to surface water and groundwater (proximity to streams, penetration of ground water aquifers, known water depth of lenses, etc.).

If the use of water is required, describe the location of source and quantity to be used. Please include any necessary permits in Exhibit XIII.

Provide additional information including, but not limited to, major watershed, all known aquifers, floodplain proximity, storm water plan per CDPHE regulations, etc.

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EXHIBIT VIII

Wildlife Information

*This Exhibit may be applied to CDRMS Hardrock 112 Exhibit H, additional information may be required.
Additional information and/or mitigation may be included in the corresponding NEPA analysis for the proposed project.*

1. The Operator/Applicant shall include in this Exhibit, a description of the game and non-game resources on and in the vicinity of the application area, including:
 - a. a description of the significant wildlife resources on the affected land;
 - b. seasonal use of the area;
 - c. a description of the general effect during and after the proposed operation on the existing wildlife of the area, including but not limited to temporary and permanent loss of food and habitat, interference with migratory routes, and the general effect on the wildlife from increased human activity, including noise.

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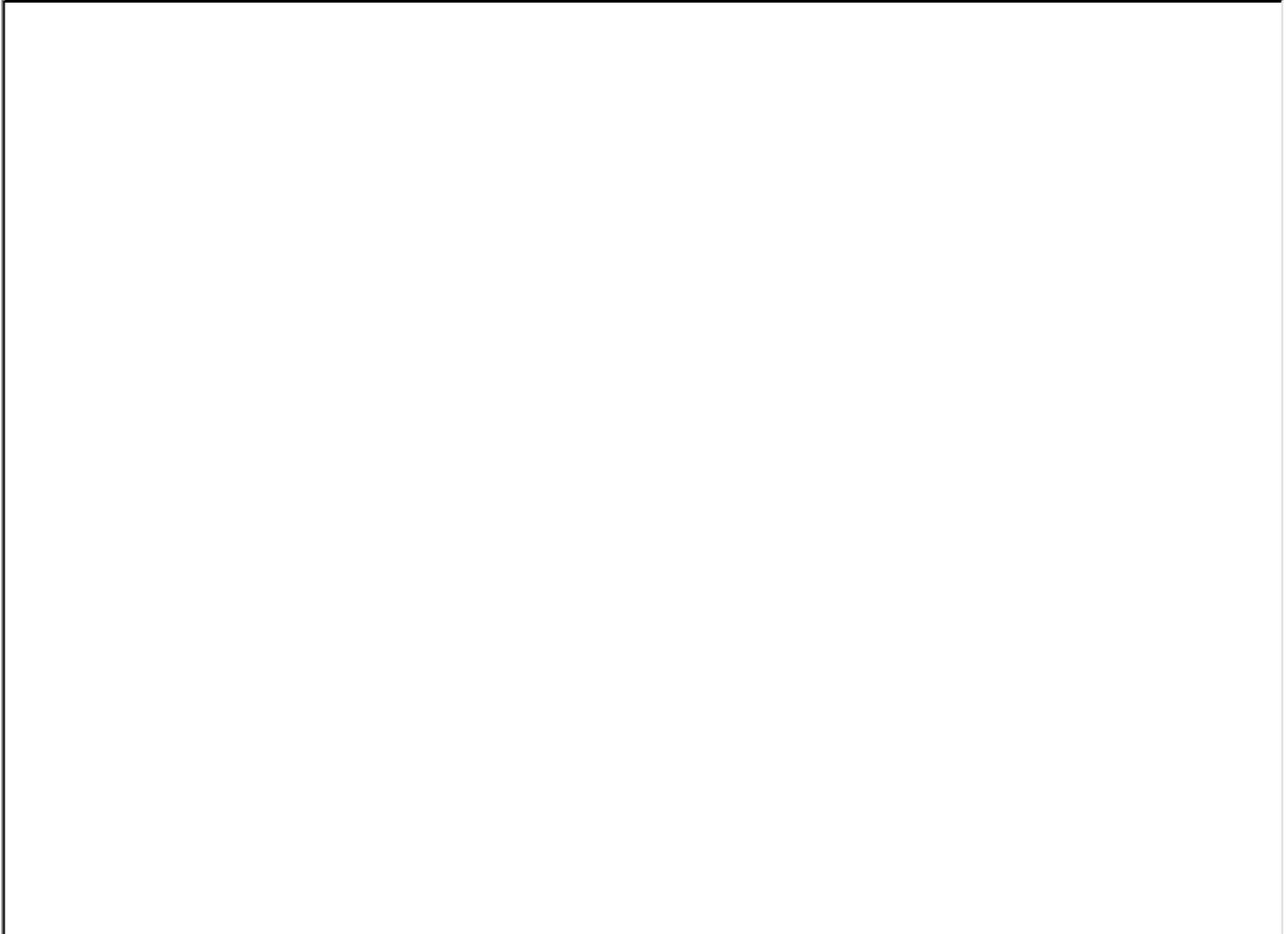
EXHIBIT IX

Soils Information

This Exhibit may be applied to CDRMS Hardrock 112 Exhibit I, additional information may be required.

Additional information and/or mitigation may be included in the corresponding NEPA analysis for the proposed project.

1. The Operator/Applicant shall indicate on a map (in Exhibit III) or by a statement, the general type, thickness and distribution of soil over the affected land. Such description will address suitability of topsoil (or other material) for establishment and maintenance of plant growth.



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EXHIBIT X

Vegetation Information

This Exhibit may be applied to CDRMS Hardrock 112 Exhibit J, additional information may be required.

Additional information and/or mitigation may be included in the corresponding NEPA analysis for the proposed project.

1. The Operator/Applicant shall include in this Exhibit a narrative of the following items:
 - a. descriptions of present vegetation types, which include quantitative estimates of cover and height for the principal species in each life-form represented (i.e., trees, tall shrubs, low shrubs, grasses, forbs);
 - b. the relationship of present vegetation types to soil types, or alternatively, the information may be presented on a map; and
 - c. estimates of average annual production for hay meadows and croplands, and carrying capacity for range lands on or in the vicinity of the affected land, if the choice of reclamation is for range or agriculture.
2. The Operator/Applicant shall show the relation of the types of vegetation to existing topography on a map in Exhibit C. In providing such information, the Operator/Applicant may want to contact the local Soil Conservation District.

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EXHIBIT XI

Climate Information

*This Exhibit may be applied to CDRMS Hardrock 112 Exhibit K, additional information may be required.
Additional information and/or mitigation may be included in the corresponding NEPA analysis for the proposed project.*

Provide a description of the significant climatological factors for the locality which could apply to the environmental analysis for this Plan of Operations. Additional information may be required for CDRMS permit as discussed in Paragraph 6.4.21(13) of the CDRMS Hardrock/Metal Mining Rules.

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EXHIBIT XII

Reclamation Costs [Pursuant to 43 CFR 3809.552]

*This Exhibit may be applied to CDRMS Hardrock 112 Exhibit L, additional information may be required.
Additional information and/or mitigation may be included in the corresponding NEPA analysis for the proposed project.*

The reclamation cost estimate must ensure:

1. the estimated costs as if BLM/CDRMS were to contract with a third party to reclaim the operations according to the reclamation plan, including construction and maintenance costs for any treatment facilities necessary to meet Federal and State environmental standards.
2. The Cost of Equipment Rental, Operation and Labor Appropriate for the Geographic Area, or;

Enter those values in the cost estimate that are appropriate to this project. Attach sources/information used in cost estimate (examples: Caterpillar Performance Handbook, contractor’s estimate, etc.).

A. Earthwork/Recontouring	Labor ⁽¹⁾	Equipment ⁽²⁾	Materials	Total
Exploration	\$	\$	\$	\$
Exploration Roads & Drill Pads				
Roads				
Drill Hole Abandonment				
Pits				
Underground Openings				
Process Ponds				
Heaps				
Waste Rock Dumps				
Tailings				
Foundation & Buildings Area				
Lay down/storage yards, Etc.				
Drainage & Sediment Control				
Other				
Mobilization/Demobilization				
Subtotal "A"				
B. Revegetation/Stabilization	Labor ⁽¹⁾	Equipment ⁽²⁾	Materials	Total
Exploration	\$	\$	\$	\$
Exploration Roads & Drill Pads				
Roads				
Drill Hole Abandonment				
Pits				
Underground Openings				
Process Ponds				
Heaps				
Waste Rock Dumps				
Tailings				

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Foundation & Buildings Area				
Lay down/storage yards, Etc.				
Drainage & Sediment Control				
Contingency				
Subtotal "B"				
C. Detoxification/Water Treatment/Disposal of Wastes	Labor⁽¹⁾	Equipment⁽²⁾	Materials	Total
Interim Fluid Management	\$	\$	\$	\$
Process Ponds/Sludge				
Heaps				
Transport and Disposal of Waste				
Tailings				
Surplus Water Disposal				
Monitoring				
Other				
Subtotal "C"				
D. Structure, Equipment and Facility	Labor⁽¹⁾	Equipment⁽²⁾	Materials	Total
Foundation & Buildings Area	\$	\$	\$	\$
Other Demolition				
Equipment Removal				
Fence Removal				
Pipe & culvert Removal				
Powerline Removal				
Transformer Removal				
Rip-Rap, rock lining, gabions				
Other Misc. Costs				
Other				
Subtotal "D"				
E. Monitoring	Labor⁽¹⁾	Equipment⁽²⁾	Materials	Total
Reclamation Monitoring & Maintenance	\$	\$	\$	\$
Ground and Surface Water Monitoring				
Subtotal "E"				
F. Construction Management & Support	Labor⁽¹⁾	Equipment⁽²⁾	Materials	Total
Construction Management	\$	\$	\$	\$
Road Maintenance				
Other				
Subtotal "F"				
G. Operation & Maintenance Costs	Labor⁽¹⁾	Equipment⁽²⁾	Materials	Total
Subtotal A through F	\$	\$	\$	\$
H. Indirect Costs (see text below for further information)				

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1. Engineering, Design and Construction (ED&C) Plan (6.1)	
4. Bond (6.2)	
5. Contractor Profit (6.3)	
6. Contract Administration (6.4)	
Subtotal Add-on Costs	
GRAND TOTAL	

RECLAMATION COST ESTIMATION SUMMARY SHEET FOOTNOTES

1. Federal construction contracts require Davis-Bacon wage rates for contracts over \$2,000. Wage rate estimates may include base pay, payroll loading, overhead and profit. (NOTE – Depending on type of operations, it may be issued as a service contract.)
2. The reclamation cost estimate must include the estimated plugging cost for holes utilizing the most reliable assumption of total depth.
3. Miscellaneous items should be itemized on accompanying worksheets.
4. Management plans for hazardous material to include petroleum products
5. Any mitigation measures required in the Plan of Operations must be included in the reclamation cost estimate. Mitigation may include measures to avoid, minimize, rectify and reduce or eliminate the impact, or compensate for the impact.
6. Fluid management should be calculated only when mineral processing activities are involved. Fluid management represents the costs of maintaining proper fluid management to prevent overflow of solution ponds through premature cessation or abandonment of operations. Calculate a minimum six month direct cost estimate which includes power, supplies, equipment, labor and maintenance.
7. Details in reference to section “H – Indirect Costs” of the table above.
 - (1) Engineering, design and construction (ED&C) plans are often necessary to provide details on the reclamation needed to contract for the required work. To estimate the cost to develop an ED&C plan use 4. 8% of the operations and maintenance cost. Inclusion of a line item for the development of an ED&C plan may not be necessary for small operations, such as notice-level exploration. With small, uncomplicated reclamation efforts contracting may be able to proceed without developing an ED&C plan.
 - (2) Federal construction contracts exceeding \$100,000 require both a performance and a payment bond (Miller Act, 40 USC 270et seq.). Each bond premium is figured at 1.5% of the O&M cost. Enter the sum of both premium costs on this line, as applicable.
 - (3) For Federal construction contracts, use 7% of estimated O&M cost for the contractor’s profit.
 - (4) To estimate the contract administration cost, use 6 to 10% of the operational and maintenance (O&M) cost.

Comments:

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EXHIBIT XIII

List of other permits and licenses required

This Exhibit may be applied to CDRMS Hardrock 112 Exhibit M or Hardrock 110 Exhibit F, additional information may be required.

Please list any and all permits associated with the proposed operations:

Issuing Agency	Permit Type	Permit #	Date of Expiration

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EXHIBIT XIV as applicable

Geotechnical Stability

*This Exhibit may be applied to CDRMS Hardrock 110/112 Geotechnical Stability Exhibit, additional information may be required.
Additional information and/or mitigation may be included in the corresponding NEPA analysis for the proposed project.*

1. On a site-specific basis, an Applicant shall be required to provide a geotechnical evaluation of all geologic hazards that have the potential to affect any proposed impoundment, slope, embankment, highwall, or waste pile within the affected area. The Applicant may also be required to provide a geotechnical evaluation of all geologic hazards, within or in the vicinity of the affected lands that may be de-stabilized or exacerbated by mining or reclamation activities.
2. On a site-specific basis, an Applicant shall be required to provide engineering stability analyses for proposed final reclaimed slopes, highwalls, waste piles, embankments, and ore leach facilities. An Applicant may also be required to provide engineering stability analyses for certain slope configurations as they will occur during operations, including, but not limited to, embankments and ore leach facilities. Information for slope stability analyses may include, but would not be limited to, slope angles and configurations, compaction and density, physical characteristics of earthen materials, pore pressure information, slope height, post-placement use of site, and information on structures or facilities that could be adversely affected by slope failure.
3. Where there is the potential for off-site impacts due to failure of any geologic structure or constructed earthen facility, which may be caused by mining or reclamation activities, the Applicant shall demonstrate through appropriate geotechnical and stability analyses that off-site areas will be protected with appropriate factors of safety incorporated into the analysis. The minimum acceptable safety factors will be subject to review by BLM, on a case-by-case basis, depending upon the degree of certainty of soil or rock strength determinations _____ utilized in the stability analysis, depending upon the consequences associated with a potential failure, and depending upon the potential for seismic activity at each site.
4. At sites where blasting is part of the proposed mining or reclamation plan, the Applicant shall demonstrate through appropriate blasting, vibration, geotechnical, and structural engineering analyses, that off-site areas will not be adversely affected by blasting

SECTION 2 ADDITIONAL INFORMATION



P.O. Box 272150
Fort Collins, CO 80527
(303) 818-1978

To: Stephen Cohen, DISA Technologies Inc.

From: Hunter Koperweis, Cedar Creek Associates Inc.

Date: November 25, 2025

Subject: **October Pile Survey**

Introduction

Disa Technologies Inc. (Disa) intends to initiate a High-Pressure Slurry Ablation (HPSA) technology at the "October Pile" Project Site, located in Mesa County, Colorado. Disa proposes to begin work at the Project Site in December 2026. Based on GIS data and the 110(d) Designated Mining Operation Application (110(d) Application) provided, the approximate area of disturbance at the Project Site is 0.35 acres.

Desktop Information

A letter from Colorado Parks and Wildlife (June 5, 2008) describes wildlife use in and around the Project Site (see Attachment to the 110d Application). This letter describes the use of the Project Site by wintering mule deer, elk, and black bears. Bat roosts may be nearby. There is no critical or important wildlife habitat or wildlife species that would be impacted by the reclamation of the October Pile.

According to the 110d Application and additional desktop verification, there are no water features in or around the Project Site.

Wildlife data was mapped for the Project Site by visiting <https://geodata.colorado.gov/apps/b3e1f4c17e98481c85f9683b02e91250/explore> on November 12, 2025, and by reviewing all mapping data provided by Colorado Parks and Wildlife (CPW). In addition, data from the Colorado Natural Heritage Program's Colorado Conservation Data Explorer (Codex) and the United States Fish and Wildlife Service's (USFWS) Information Planning and Conservation System (IPaC) were used to aid in the evaluation of potential natural and biological resources within the Project Site. Both reports are available as attachments. The following are the results of this mapping exercise:

- The Project Site is outside of Bald eagle winter range and winter forage range, and within the Golden eagle breeding range. There are no Bald or Golden eagle nests, roosts, or communal roosts reported within 1 mile of the Project Site.
- The Project Site is outside of bighorn sheep ranges and watering sites.
- The Project Site is within 1 mile of documented occurrences of Canyon Treefrogs.

- The Project Site is within the range of most bats tracked by CPW, with the exception of tri-colored, red, and Allen's big-eared bat.
- The Project Site is within the burrowing owl breeding range. There are no reported burrowing owl nest sites within 1 mile of the Project Site.
- The Project Site is within the overall black bear concentration range, but outside of summer and fall concentration ranges and is not within a black bear human conflict area.
- The Project Site is within the elk overall range and winter range, and within the limited use area. Other seasonal ranges and corridors are mapped outside of the Project Site.
- The Project Site is within mule deer summer and winter ranges and mule deer overall range. Other ranges and corridors are mapped outside of the Project Site.
- There are no grouse habitats mapped within 1 mile of the Project Site. Gunnison's sage-grouse and greater sage-grouse habitats are more than 4 miles from the Project Site.
- The Project Site is within the overall wild turkey range and near the wild turkey winter range.
- The Project Site is outside of all other game species, sensitive, listed, and candidate species maps provided by CPW.

Site Visit

A pre-construction (also called a pre-clearance) survey for the following types of protected species was conducted on November 20, 2025 by a Cedar Creek Associates Inc. biologist. During the Project Site visit, the biologist surveyed the 0.35 acre October Pile and surrounding areas, confirmed the vegetation community type and the activity status of nests, burrows, or dens, and recorded all incidental wildlife observations, including reptiles, in and around the Project Site. Buffer distances were also surveyed (shown below), which reflect raptor buffer recommendations from CPW and other guidelines published by the Bureau of Land Management (BLM) Southwest District:

- Migratory birds (within 100 feet of disturbances)
- Raptors/Raptor Nests (within a half mile of disturbances)
- Burrowing owls/dens (within 660 feet of disturbances)
- Bat roost (within a quarter mile of disturbances)
- Vegetation / Listed plant species (within 100 feet of disturbances, if they have the potential to occur).

The vegetation observed on the October Pile was sparse, and most of the pile's surface was bare ground. The species on the pile included Utah juniper (*Juniperus osteosperma*), Colorado pinyon (*Pinus edulis*), Gambel oak (*Quercus gambelii*), Green ephedra (*Ephedra viridis*), Western wheatgrass (*Pascopyrum smithii*), Bottlebrush squirreltail (*Elymus*

elymoides), Cheatgrass (*Bromus tectorum*), Tall tumbled mustard (*Sisymbrium altissimum*), and Flat-spine bur ragweed (*Ambrosia acathincarpa*).

The area immediately surrounding the Project Site was dominated by a pinyon-juniper forest vegetation community; however, this community extended only within a 150-meter radius of the October Pile. Outside the 150-meter radius, the vegetation reflects a post-fire community from the Cone Mountain fire in 2000. Vegetation in the burn scar consists of scrub oak, pinyon and juniper saplings, and grasses.

Plant species observed immediately adjacent to the pile included Utah juniper, Colorado pinyon, Gambel oak, Rubber rabbitbrush (*Ericameria nauseosa*), Sagebrush (*Artemisia tridentata*), Broom snakeweed (*Gutierrezia sarothrae*), Silver wormwood (*Artemisia ludoviciana*), Plains prickly pear (*Opuntia polyacantha*), Brittle prickly pear (*Opuntia fragilis*), Needle and thread grass (*Hesperostipa comata*), Indian ricegrass (*Eriocoma hymenoides*), Bottlebrush squirreltail, Smooth brome (*Bromus inermis*), Cheatgrass, and Longleaf phlox (*Phlox longifolia*). Much of the vegetation immediately adjacent to the Project Site had been grazed by wildlife, most likely by deer or cattle, as scat from both species was observed.

No burrows, nests, or bat roosts were observed on the pile or within buffer distances. Birds in and around the Project Site were those of the Common raven (*Corvus corax*), Clark's nutcracker (*Nucifraga columbiana*), Black capped chickadee (*Poecile atricapillus*), and Mountain bluebird (*Sialia currucoides*). During the pre-clearance survey, a Golden eagle (*Aquila chrysaetos*) was observed flying over the Project Site, heading southeast towards a band of cliffs about a mile from the October Pile. Additionally, a Desert Cottontail rabbit (*Sylvilagus audubonii*) was observed foraging approximately 100 meters from the Project Site.

The surrounding ecological environment held no standing or ponding water that was observed during the site visit. A small cliff band observed southeast of the Project Site could provide nesting substrate for raptors.

Human-caused disturbances and debris observed at the site included a pile of stacked logs adjacent to the southwest corner of the October Pile, and mining debris from legacy mining operations.

Based on the Project Site visit, the potential to occur of USFWS and CPW-listed species from the IPAC and CODEX queries are shown in Table 1.

Table 1 Species Screening of the Project Site IPAC and CODEX Query

Species	Type of Species	Protection Status	Habitat	Potential to Occur
Canyon Treefrog	Amphibian	Imperiled in Colorado	Inhabits pools in rocky arid scrub and mountains from 300 to 3,000m, found in rocky canyons and streams. It is frequent in arroyos in semi-arid grasslands and streams in pinon-juniper and pine-oak woodlands. Mainly terrestrial, it breeds in pools along canyon streams.	No suitable riparian habitat occurs in the Project Site. This species requires ponding water, but none was found in or near the Project Site.
Golden Eagle	Bird	Protected by the Bald and Golden Eagle Protection Act	Golden eagles inhabit open and semi-open areas like prairies, sagebrush, tundra, savannah, sparse woodlands, and barren regions, mainly in hilly or mountainous zones with ample prey and suitable nesting sites.	No nesting habitat occurs at the Project Site. Potentially suitable nesting habitat is associated with nearby cliffs.
Mexican Spotted Owl	Bird	Threatened	Mixed conifer forests, rocky canyons and cliff ledges	No nesting habitat occurs at the Project Site. Potentially suitable nesting habitat is associated with nearby cliffs.
Bonytail	Fish	Endangered	Free-flowing backwaters with rocky and muddy bottoms and flowing pools	No potential habitat in the Project Site.
Colorado Pikeminnow	Fish	Endangered	Large, warm rivers with gravelly or sandy riverbeds	No potential habitat in the Project Site.
Humback Chub	Fish	Threatened	Deep, swift canyon reaches, turbid rivers with seasonally variable flows and temperatures	No potential habitat in the Project Site.
Razorback Sucker	Fish	Endangered	Backwaters, floodplains, flat water river sections and can tolerate a wide range of temperatures	No potential habitat in the Project Site.
Monarch Butterfly	Insect	Candidate	No critical habitat has been designated for this species. Known to inhabit open fields and meadows with milkweed in the spring and summer months.	No Showy milkweed was observed on-site, and no monarch butterflies were observed
Silverspot	Insect	Threatened	No critical habitat has been designated for this species. Prefers moist open meadows with vegetation for shelter and nectar	No potential habitat in the Project Site.
Suckley's Cuckoo Bumble Bee	Insect	Proposed Engangered	No critical habitat has been designated for this species. Known to inhabit meadows, subalpine zones and areas with abundance flowering plants	No potential habitat in the Project Site.
Western Blanket-flower	Plant	Critically imperiled in Colorado	Desert steppe and rim rock. Salt desert shrub and shrubgrass communities at 1220-2320 meters. Shadscale, saltbush, desert shrub.	No suitable habitat in the Project Site.

Note: This screening is based on the IPAC and CODEX results for the Project Site.

Project Site Photos



This photo shows the October Pile.



This photo shows the view from the top of the October Pile looking north.



This photo shows the view from the top of the October Pile looking east.



This photo shows the view from the top of the October Pile looking south.



This photo shows the view from the top of the October Pile looking west.



This photo shows an overview of the Project Site.



This photo was taken across the valley from the Project Site, showing the Pinyon-Juniper vegetation community and the cliff bands below.



This photo shows the large juniper trees adjacent to the October Pile.



This photo shows Cave Canyon, which exists just below the Project Site.

Report Attachments

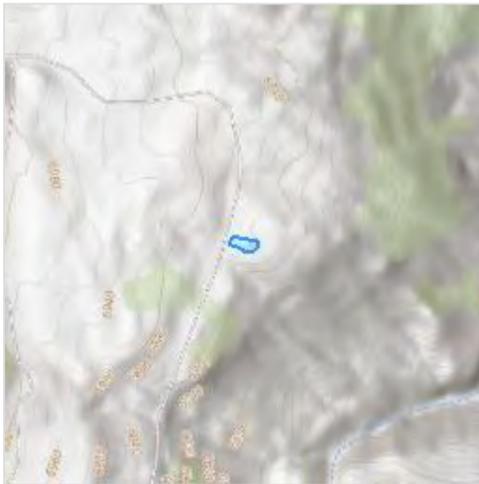
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Mesa County, Colorado



Local office

Western Colorado Ecological Services Field Office

☎ (970) 628-7180

📠 (970) 245-6933

445 West Gunnison Avenue, Suite 240

Grand Junction, CO 81501-5711

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Gray Wolf <i>Canis lupus</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4488	EXPN

Birds

NAME	STATUS
Mexican Spotted Owl <i>Strix occidentalis lucida</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8196	Threatened

Fishes

NAME	STATUS
Bonytail <i>Gila elegans</i> Wherever found This species only needs to be considered if the following condition applies: <ul style="list-style-type: none">• Water depletions in the upper Colorado River basin adversely affect this species and its critical habitat. Effects of water depletions must be considered even outside of occupied range. There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/1377	Endangered

Colorado Pikeminnow *Ptychocheilus lucius* Endangered

This species only needs to be considered if the following condition applies:

- Water depletions in the upper Colorado River basin adversely affect this species and its critical habitat. Effects of water depletions must be considered even outside of occupied range.

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/3531>

Humpback Chub *Gila cypha* Threatened

Wherever found

This species only needs to be considered if the following condition applies:

- Water depletions in the upper Colorado River basin adversely affect this species and its critical habitat. Effects of water depletions must be considered even outside of occupied range.

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/3930>

Razorback Sucker *Xyrauchen texanus* Endangered

Wherever found

This species only needs to be considered if the following condition applies:

- Water depletions in the upper Colorado River basin adversely affect this species and its critical habitat. Effects of water depletions must be considered even outside of occupied range.

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/530>

Insects

NAME

STATUS

Monarch Butterfly *Danaus plexippus*

Proposed Threatened

Wherever found

There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/9743>

Silverspot *Speyeria nokomis nokomis*

Threatened

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/2813>

Suckley's Cuckoo Bumble Bee *Bombus suckleyi*

Proposed Endangered

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/10885>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act ² and the Migratory Bird Treaty Act (MBTA) ¹. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>

- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

There are Bald Eagles and/or Golden Eagles in your [project](#) area.

Measures for Proactively Minimizing Eagle Impacts

For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the [National Bald Eagle Management Guidelines](#). You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#).

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

If disturbance or take of eagles cannot be avoided, an [incidental take permit](#) may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the [Do I Need A Permit Tool](#). For assistance making this determination for golden eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

Ensure Your Eagle List is Accurate and Complete

If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the [Supplemental Information on Migratory Birds and Eagles](#), to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

Review the FAQs

The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
Golden Eagle <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Dec 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read ["Supplemental Information on Migratory Birds and Eagles"](#), specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

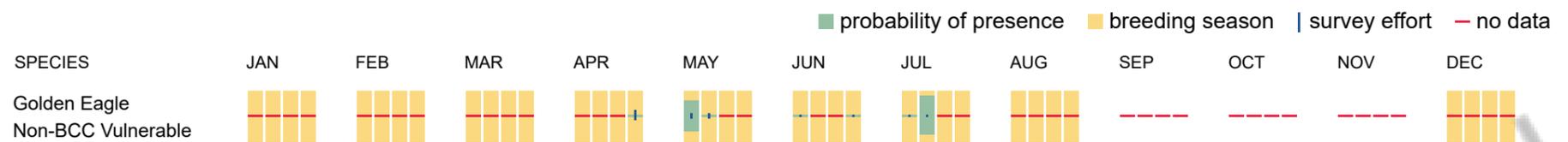
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Bald & Golden Eagles FAQs

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are an eagle ([Bald and Golden Eagle Protection Act](#) requirements may apply).

Proper interpretation and use of your eagle report

On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort line or no data line (red horizontal) means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

How do I know if eagles are breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the [RAIL Tool](#) and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:

The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Migratory birds

The Migratory Bird Treaty Act (MBTA) ¹ prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

Measures for Proactively Minimizing Migratory Bird Impacts

Your IPaC Migratory Bird list showcases [birds of concern](#), including [Birds of Conservation Concern \(BCC\)](#), in your project location. This is not a comprehensive list of all birds found in your project area. However, you can help proactively minimize significant impacts to all birds at your project location by implementing the measures in the [Nationwide avoidance and minimization measures for birds](#) document, and any other project-specific avoidance and minimization measures suggested at the link [Measures for avoiding and minimizing impacts to birds](#) for the birds of concern on your list below.

Ensure Your Migratory Bird List is Accurate and Complete

If your project area is in a poorly surveyed area, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the [Supplemental Information on Migratory Birds and Eagles document](#), to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

Review the FAQs

The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
Broad-tailed Hummingbird <i>Selasphorus platycercus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 25 to Aug 21
Clark's Nutcracker <i>Nucifraga columbiana</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Jan 15 to Jul 15
Golden Eagle <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Dec 1 to Aug 31
Grace's Warbler <i>Setophaga graciae</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 20 to Jul 20
Lewis's Woodpecker <i>Melanerpes lewis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9408	Breeds Apr 20 to Sep 30

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9441>

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

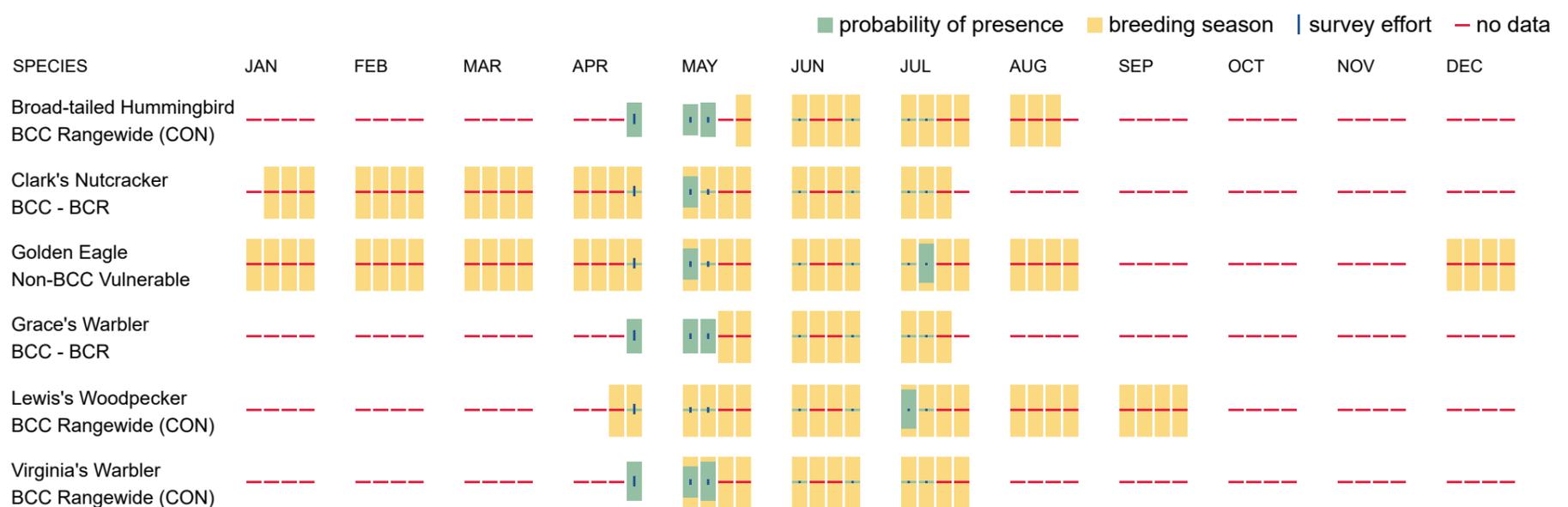
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Migratory Bird FAQs

Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Avoidance & Minimization Measures for Birds](#) describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed in your project area, view the Probability of Presence Summary. [Additional](#)

[measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the [Bald and Golden Eagle Protection Act](#) and those species marked as "Vulnerable". See the FAQ "What are the levels of concern for migratory birds?" for more information on the levels of concern covered in the IPaC migratory bird species list.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) with which your project intersects. These species have been identified as warranting special attention because they are BCC species in that area, an eagle ([Bald and Golden Eagle Protection Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, and to verify survey effort when no results present, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

Why are subspecies showing up on my list?

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for **the species** are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the [RAIL Tool](#) and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern \(BCC\)](#) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Bald and Golden Eagle Protection Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ "Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Proper interpretation and use of your migratory bird report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list does not represent all birds present in your project area. It is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide implementation of avoidance and minimization measures to eliminate or reduce potential impacts from your project activities, should presence be confirmed. To learn more about avoidance and minimization measures, visit the FAQ "Tell me about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:

The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

This location did not intersect any wetlands mapped by NWI.

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

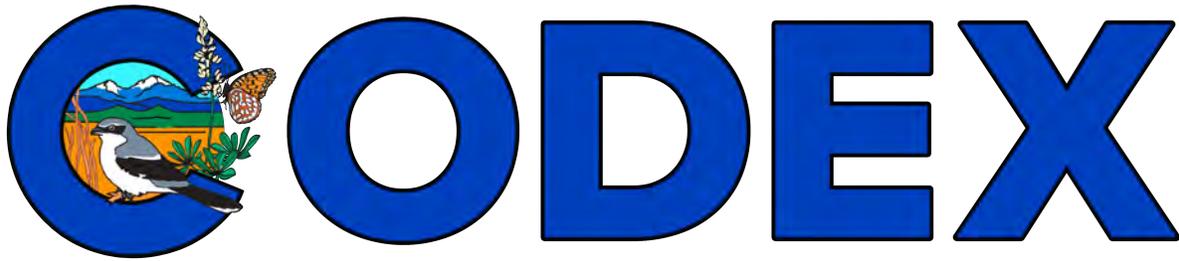
Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION



Colorado's Conservation Data Explorer

Project Review Report

Project Description

Understanding Species existence

Project Information

Report Generation Date: 11/17/2025 09:07:36 AM

Project Title: October Pile

User Project Number(s):

System Generated ID: CODEX-6740

Project Type: Mining

Project Size: 0.23 (acres)

Latitude/Longitude: 38.623623 / -108.984646

County(s): MESA

Watershed(s) HUC 8: Lower Dolores

Township/Range and/or Section(s): 050N019W - 04 - NM

Contact Information

Organization: Cedar Creek Associates

Contact Name: Huter Koperweis

Contact Phone: 7326688902

Contact Email: hkoperweis@cedarcreek.app

Contact Address: 9401 North County Road 19, Fort Collins, CO 80524

Submitted On Behalf Of:

Prepared By:

Project Report:

The information contained herein represents the results of a search of Colorado's Conservation Data Explorer (CODEX) and can be used as notice to anticipate possible impacts or identify areas of interest. This tool queries multiple conservation datasets and includes a synthesis of Colorado Natural Heritage Program (CNHP) and Colorado Parks and Wildlife (CPW) data for sensitive animal and plant species and natural communities. Care should be taken in interpreting these data.

Please note that the absence of data for a particular area, species, or habitat does not necessarily mean that these natural heritage resources do not occur on or adjacent to the project site, rather that our files do not currently contain information to document their presence. CODEX information should not replace field studies necessary for more localized planning efforts, especially if impacts to wildlife habitat are possible. Although every attempt is made to provide the most current and precise information possible, please be aware that some of our sources provide a higher level of accuracy than others, and some interpretation may be required. CODEX data is constantly updated and revised. Please contact CNHP, CPW and our partners for assistance with interpretation of this report or to obtain more information.

Disclaimer:

1. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area. **This review does not constitute environmental consultation (including federal consultation under the Endangered Species Act), land use permitting, or the review of site-specific projects by CNHP and CPW and our partners.**
2. This Project Report is based on the project study area that was entered. The report must be updated if the project study area, location, or the type of project changes.
3. The Conservation Data Explorer (CODEX) data is constantly changing and being updated and is not intended to be the final word on the potential distribution of special status species. Colorado is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. CODEX data contains information about species occurrences that have actually been reported to CNHP, CPW and our partners. Not all of Colorado has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.

Location Accuracy Disclaimer:

Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Report is solely responsible for the project location and thus the correctness of the Project Review Report content.

Contact for CODEX Support:

Colorado Natural Heritage Program (CNHP)

CNHP

Colorado State University

1475 Campus Delivery

Fort Collins, CO 80523-1475

Tel: (970) 491-7331

Email: CNHP_codex_support@mail.colostate.edu

CNHP Website: cnhp.colostate.edu

Colorado Parks and Wildlife

For support regarding project review of land use impacts to wildlife, please contact the regional office in which your project resides and visit <https://cpw.state.co.us/conservation/Pages/CON-Energy-Land.aspx>

CPW Website : cpw.state.co.us

Northeast Region

Denver Office

6060 Broadway

Denver, CO 80216

Tel: (303) 291-7227

Northwest Region

Grand Junction Office

711 Independent Avenue

Grand Junction, CO 81505

Tel: (970) 255-6100

Southeast Region

Colorado Springs Office

4255 Sinton Road

Colorado Springs, CO 80907

Tel: (719) 227-5200

Southwest Region

Durango Office

151 East 16th Street

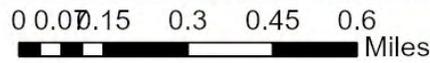
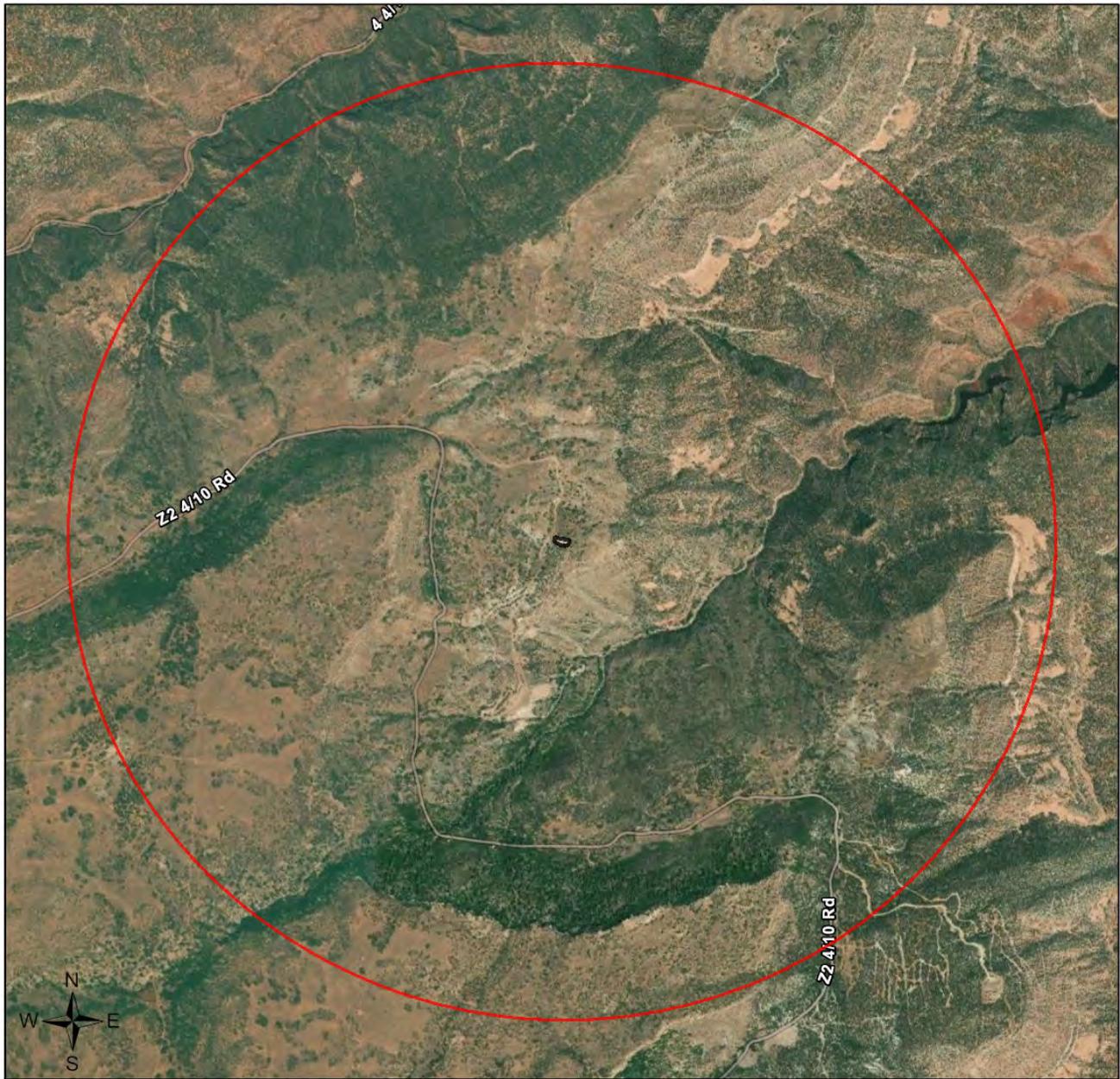
Durango, CO 81301

Tel: (970) 247-0855

For questions regarding CPW data in CODEX please contact 303-291-7152 or matt.schulz@state.co.us

October Pile

Aerial Image with Locator Map

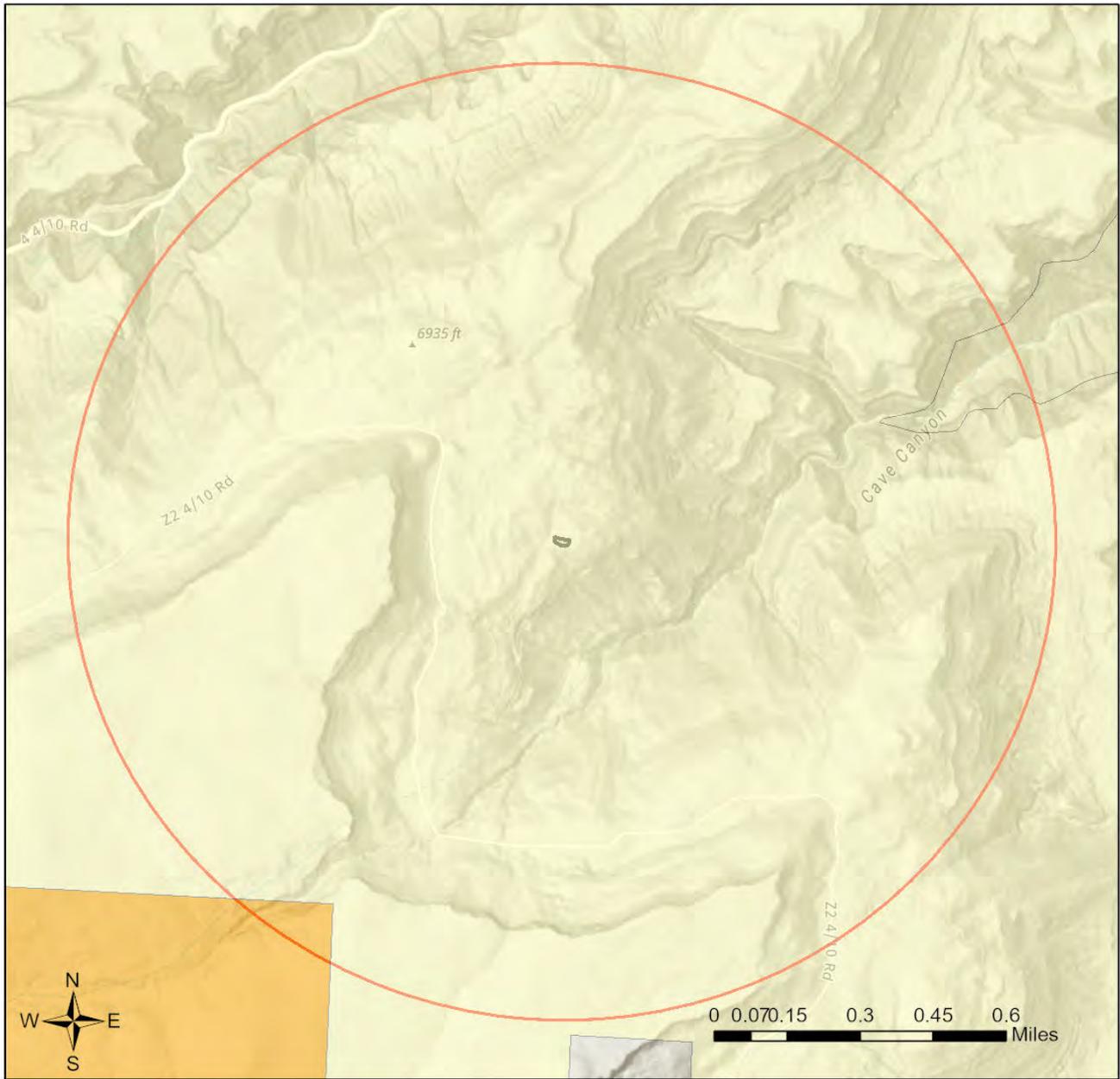


-  Buffered Search Area
-  Project Boundary



Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS
Montrose County, CO, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US
Census Bureau, USDA, USFWS

October Pile Topographic Map with Land Management Status



- | | | |
|-------------------------------|--------|----------------------|
| Buffered Search Area | NPS | Local |
| Project Boundary | USFS | NGO/Land Trust |
| Misc Federal (BOR, DOD, Misc) | USFWS | Private Conservation |
| BLM | Tribal | Private |
| | State | |

Montrose County, CO, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS
Esri, NASA, NGA, USGS, FEMA

Regulatory Species

Table 1. Documented Occurrences Within 1 Miles Of Project Area

No results were found for this project area.

Table 2. Potential Regulatory Species within Project Area: Models, Range Maps, or Records with Low Precision

Major Group	Scientific Name	Common Name	Data Type	Global Rarity	State Rarity	ESA Status	CO Status	Other Status	Data Source
Birds	Aquila chrysaetos	Golden Eagle	CPW Breeding Range	G5	S3S4B,S 4N			BGEPA/BLM/SWAP Tier 1	CPW 20250113

Table 3. Fish & Wildlife Service Critical Habitats within 1 Miles of Project Area

No results were found for this project area.

Other Species of Concern

Table 4. Documented Occurrences within 1 Miles of Project Area: Rare Species, Natural Communities, and Species of Economic, Recreational or Conservation Value

Major Group	Scientific Name	Common Name	Data Type	Global Rarity	State Rarity	Viability Rank	Last Observation	ESA Status	CO Status	Other Status	CNHP Identifier	Data Source
Amphibians	Dryophytes arenicolor	Canyon Treefrog	CPW HUC12 Presence	G5	S2					BLM/SWAP SGIN		CPW 20 250113
Birds	Meleagris gallopavo	Wild Turkey	CPW Winter Concentration Area	G5	S5							CPW 20 250113
Fish	Catostomus latipinnis	Flannelmouth Sucker	CPW HUC12 Presence	G3G4	S3					BLM/SWAP Tier 1/USFS/USFS GMUG		CPW 20 250113
Fish	Gila robusta	Roundtail Chub	CPW HUC12 Presence	G3	S2				SC	BLM/SWAP Tier 1/USFS		CPW 20 250113
Fish	Pantosteus discobolus	Bluehead Sucker	CPW HUC12	G4G5	S4					BLM/SWAP Tier		CPW 20

Table 4. Documented Occurrences within 1 Miles of Project Area: Rare Species, Natural Communities, and Species of Economic, Recreational or Conservation Value

Major Group	Scientific Name	Common Name	Data Type	Global Rarity	State Rarity	Viability Rank	Last Observation	ESA Status	CO Status	Other Status	CNHP Identifier	Data Source
			Presence							1/USFS		250113
Mammals	Cervus canadensis	Elk	CPW Limited Use Area	G4	S5							CPW 20250113
Mammals	Cervus canadensis	Elk	CPW Migration Corridors	G4	S5							CPW 20250113
Mammals	Cervus canadensis	Elk	CPW Severe Winter Range	G4	S5							CPW 20250113
Mammals	Cervus canadensis	Elk	CPW Winter Concentration Area	G4	S5							CPW 20250113
Mammals	Odocoileus hemionus	Mule Deer	CPW Severe Winter Range	G5	S4							CPW 20250113
Mammals	Ursus americanus	Black Bear	CPW Fall Concentration	G5	S5							CPW 20250113
Mammals	Ursus americanus	Black Bear	CPW Summer Concentration Area	G5	S5							CPW 20250113
Vascular Plants	Gaillardia spathulata	Western Blanket-flower	CNHP EO	G4	S1	H	1982-06-16				21572	CNHP 20250901

Table 5. Potential Occurrences within Project Area: Models, Range Maps, or Records with Low Precision

Major Group	Scientific Name	Common Name	Data Type	Global Rarity	State Rarity	ESA Status	CO Status	Other Status	Data Source
Birds	Athene cunicularia	Burrowing Owl	CPW Breeding Range	G4	S4B		ST	BLM/SWAP Tier 2/USFS	CPW 20250113
Birds	Baeolophus ridgwayi	Juniper Titmouse	CPW Breeding Range	G5	S4			SWAP SGIN	CPW 20250113
Birds	Circus hudsonius	Northern Harrier	CPW Breeding Range	G5	S3B			SWAP Tier 2/USFS	CPW 20250113
Birds	Falco mexicanus	Prairie Falcon	CPW Breeding Range	G5	S4B,S4N			BLM/SWAP Tier 1	CPW 20250113
Birds	Gymnorhinus cyanocephalus	Pinyon Jay	CPW Breeding Range	G3	S3			BLM/SWAP Tier 1/USFS	CPW 20250113
Birds	Leiothlypis virginiae	Virginia's Warbler	CPW Breeding Range	G5	S5			SWAP Tier 2/USFS	CPW 20250113
Birds	Melanerpes lewis	Lewis's Woodpecker	CPW Breeding Range	G4	S4			BLM/SWAP SGIN/USFS	CPW 20250113
Birds	Meleagris gallopavo	Wild Turkey	CPW Overall Range	G5	S5				CPW 20250113
Birds	Passerina amoena	Lazuli Bunting	CPW Breeding Range	G5	S5B				CPW 20250113
Birds	Patagioenas fasciata	Band-tailed Pigeon	CPW Breeding Range	G4	S4B			SWAP SGIN	CPW 20250113

Table 5. Potential Occurrences within Project Area: Models, Range Maps, or Records with Low Precision

Major Group	Scientific Name	Common Name	Data Type	Global Rarity	State Rarity	ESA Status	CO Status	Other Status	Data Source
Birds	Setophaga graciae	Grace's Warbler	CPW Breeding Range	G5	S3B			SWAP Tier 2/USFS	CPW 20250113
Birds	Spizella breweri	Brewer's Sparrow	CPW Breeding Range	G5	S4B			BLM/USFS/USFS RGNF	CPW 20250113
Birds	Vireo vicinior	Gray Vireo	CPW Breeding Range	G5	S2B			BLM/SWAP SGIN	CPW 20250113
Insects	Aseptis harpi	A Noctuid Moth	Range Map - within range	GNR	S1				CNHP 20210615
Insects	Bombus morrisoni	Morrison's Bumble Bee	Range Map - within range	G3	S2S4			SWAP Tier 1	CNHP 20210615
Insects	Callophrys fotis	Desert Elfin	Range Map - within range	G4	S2S3			SWAP Tier 2	CNHP 20210615
Insects	Cochisea barnesi	A Geometrid Moth	Range Map - present	GU	S1				CNHP 20210615
Insects	Danaus plexippus	Monarch	Range Map - present	G4	S5			BLM/SWAP Tier 1/USFS	CNHP 20210615
Insects	Macaria prunosata	An Angle Moth	Range Map - present	GU	S3				CNHP 20210615
Insects	Ochlodes yuma	Yuma Skipper	Range Map - present	G4	S2S3				CNHP 20210615
Insects	Phyciodes batesii	Tawny Crescent	Range Map - within range	G3G4	SNA				CNHP 20210615
Insects	Sympistis hapi	A Noctuid Moth	Range Map - present	GNR	S2				CNHP 20210615
Insects	Sympistis minor	A Noctuid Moth	Range Map - present	GNR	S2				CNHP 20210615
Mammals	Antrozous pallidus	Pallid Bat	CPW Overall Range	G4	S4				CPW 20250113
Mammals	Cervus canadensis	Elk	CPW Overall Range	G4	S5				CPW 20250113
Mammals	Cervus canadensis	Elk	CPW Winter Range	G4	S5				CPW 20250113
Mammals	Corynorhinus townsendii	Townsend's Big-eared Bat	CPW Overall Range	G4	S2			BLM/SWAP Tier 2/USFS/USFS RGNF	CPW 20250113
Mammals	Eptesicus fuscus	Big Brown Bat	CPW Overall Range	G5	S5			SWAP Tier 2	CPW 20250113
Mammals	Euderma maculatum	Spotted Bat	CPW Overall Range	G4	S2			BLM/SWAP SGIN/USFS	CPW 20250113
Mammals	Lasionycteris noctivagans	Silver-haired Bat	CPW Overall Range	G4	S3S4			SWAP Tier 2	CPW 20250113
Mammals	Lasiurus cinereus	Northern Hoary Bat	CPW Overall Range	G3G4	S3S4B			BLM/SWAP Tier 1/USFS	CPW 20250113
Mammals	Myotis californicus	California Myotis	CPW Overall Range	G5	S3			BLM/SWAP Tier 1	CPW 20250113
Mammals	Myotis ciliolabrum	Western Small-footed Myotis	CPW Overall Range	G5	S4			BLM/SWAP Tier 1	CPW 20250113
Mammals	Myotis evotis	Long-eared Myotis	CPW Overall Range	G5	S4			BLM/SWAP Tier 1	CPW 20250113
Mammals	Myotis lucifugus	Little Brown Myotis	CPW Overall Range	G3G4	S4			BLM/SWAP Tier 1	CPW 20250113
Mammals	Myotis thysanodes	Fringed Myotis	CPW Overall Range	G4	S3			BLM/SWAP Tier 1/USFS/USFS RGNF	CPW 20250113
Mammals	Myotis volans	Long-legged Myotis	CPW Overall Range	G4G5	S5			SWAP Tier 1	CPW 20250113
Mammals	Myotis yumanensis	Yuma Myotis	CPW Overall Range	G5	S3			BLM/SWAP Tier 1	CPW 20250113
Mammals	Neotamias rufus	Hopi Chipmunk	Range Map - within range	G5	S5				CNHP 20210615

Table 5. Potential Occurrences within Project Area: Models, Range Maps, or Records with Low Precision

Major Group	Scientific Name	Common Name	Data Type	Global Rarity	State Rarity	ESA Status	CO Status	Other Status	Data Source
Mammals	Nyctinomops macrotis	Big Free-tailed Bat	CPW Overall Range	G5	S1			SWAP SGIN	CPW 20250113
Mammals	Odocoileus hemionus	Mule Deer	CPW Overall Range	G5	S4				CPW 20250113
Mammals	Odocoileus hemionus	Mule Deer	CPW Summer Range	G5	S4				CPW 20250113
Mammals	Odocoileus hemionus	Mule Deer	CPW Winter Range	G5	S4				CPW 20250113
Mammals	Oreamnos americanus	Mountain Goat	CPW Overall Range	G5	SNA				CPW 20250113
Mammals	Parastrellus hesperus	Canyon Bat	CPW Overall Range	G5	S4			SWAP Tier 1	CPW 20250113
Mammals	Puma concolor	Mountain Lion	CPW Overall Range	G5	S4				CPW 20250113
Mammals	Tadarida brasiliensis	Brazilian Free-tailed Bat	CPW Overall Range	G5	S1				CPW 20250113
Mammals	Ursus americanus	Black Bear	CPW Overall Range	G5	S5				CPW 20250113
Reptiles	Aspidoscelis tigris	Western Whiptail	CPW Overall Range	G5	S4				CPW 20250113
Reptiles	Aspidoscelis velox	Plateau Striped Whiptail	CPW Overall Range	G5	S4				CPW 20250113
Reptiles	Coluber constrictor	Racer	CPW Overall Range	G5	S5				CPW 20250113
Reptiles	Crotalus oreganus	Western Rattlesnake	CPW Overall Range	G5	SNR			BLM/SWAP SGIN	CPW 20250113
Reptiles	Crotalus viridis	Western Rattlesnake	CPW Overall Range	G5	S5				CPW 20250113
Reptiles	Crotaphytus collaris	Collared Lizard	CPW Overall Range	G5	S5				CPW 20250113
Reptiles	Gambelia wislizenii	Long-nosed Leopard Lizard	CNHP General EO	G5	S1		SC	BLM/SWAP Tier 2	CNHP 20250901
Reptiles	Gambelia wislizenii	Long-nosed Leopard Lizard	CPW Overall Range	G5	S1		SC	BLM/SWAP Tier 2	CPW 20250113
Reptiles	Lampropeltis gentilis	Western Milksnake	CPW Overall Range	G5	S5			BLM	CPW 20250113
Reptiles	Masticophis taeniatus (Coluber taeniatus)	Striped Whipsnake	CPW Overall Range	G5	S4				CPW 20250113
Reptiles	Pantherophis emoryi	Great Plains Ratsnake	CPW Overall Range	G5	S3S4				CPW 20250113
Reptiles	Phrynosoma hernandesi	Hernandez's Short-horned Lizard	CPW Overall Range	G5	S5			SWAP Tier 2	CPW 20250113
Reptiles	Pituophis catenifer sayi	Bullsnake	CPW Overall Range	G5T5	S5				CPW 20250113
Reptiles	Sceloporus consobrinus	Prairie Lizard	CPW Overall Range	G5	S5				CPW 20250113
Reptiles	Sceloporus graciosus	Sagebrush Lizard	CPW Overall Range	G5	S5				CPW 20250113
Reptiles	Sceloporus tristichus	Southern Plateau Lizard	CPW Overall Range	G5	S3				CPW 20250113
Reptiles	Tantilla hobartsmithi	Smith's Black-headed Snake	CPW Overall Range	G5	S2?			SWAP SGIN	CPW 20250113
Reptiles	Thamnophis elegans	Western Terrestrial Garter Snake	CPW Overall Range	G5	S5				CPW 20250113
Reptiles	Urosaurus ornatus	Ornate Tree Lizard	CPW Overall Range	G5	S4				CPW 20250113
Reptiles	Uta stansburiana	Side-blotched Lizard	CPW Overall Range	G5	S4				CPW 20250113
Vascular Plants	Astragalus naturitensis	Naturita Milkvetch	CNHP Model	G3	S3			BLM/SWAP Tier 2/USFS GMUG	CNHP 20210318

Special Areas and Land Status

Table 6. CNHP Potential Conservation Areas and Other Special Areas within 1 Miles of Project Area

Name	Data Type	CNHP Biodiversity Rank	CNHP Edit Date	CNHP Identifier	Data Source
Elk Migration Corridor	CPW High Priority Habitat				CPW 20250522
Elk Severe Winter Range	CPW High Priority Habitat				CPW 20250522
Elk Winter Concentration Area	CPW High Priority Habitat				CPW 20250522
Gateway	CNHP PCA (Important Plant Area)	B1: Outstanding Biodiversity Significance	2008-12-10	329	CNHP 20250901
Mule Deer Severe Winter Range	CPW High Priority Habitat				CPW 20250522

Table 7. Managed Areas within Project Area

Name	Owner	Manager	Management Description	Public Access*	Protection Mechanism	Easement Holder	Data Source
	BLM	BLM	BLM - General	Yes	Fee		COMaP 20240702

* It is the responsibility of the user to verify public access on any site as access can change over time. Entering an area that is not open to the public subjects an individual to possible sanctions for trespass under Colorado law.

Water and Wetlands

Table 8. National Wetland Inventory (NWI) Features within Project Area

No results were found for this project area.

Project Report Appendix

Please visit the [CNHP website](#) for a more extensive collection of definitions for CODEX reports in addition to what is provided here below.

About CNHP Data

One of CNHP's core research activities is managing a statewide database that details the locations of rare and imperiled species and natural plant communities in Colorado. We gather data from CNHP surveys and monitoring projects, as well as from partners and other trusted sources like herbariums. All of our data are compiled and managed in the Biodiversity Information Management System (Biotics), a web-enabled database platform hosted by [NatureServe](#). The species and natural plant communities we track are assigned global and state imperilment ranks based on rarity, threats, and trends, and their locations are mapped as element occurrences. Element occurrences include spatial data as well as details on condition, size, and landscape context. This information allows us to track both overall distribution and site-specific details describing how well elements are thriving at each location. We use element occurrences to delineate Potential Conservation Areas that represent the primary area needed to support the element occurrences, and often include additional suitable habitat or buffers from disturbance. **Please visit the [CNHP website](#) for more definitions and details related to CNHP data in CODEX.**

CODEX Report Definitions

CNHP Biodiversity Rank – The significance of a potential conservation area in terms of its biological diversity ranging from B1 (Outstanding Biodiversity significance meaning protection of this potential conservation area can prevent a species from going extinct) to B5 (General interest or open space for more globally secure species).

CNHP Edit Date– The date the CNHP potential conservation area record was last updated.

CNHP Identifier– A unique identifier for each CNHP data type, applicable only to CNHP data records.

Managed Areas Name – Name of the managed area.

Manager – The general land Manager.

Management Description - The general category of how the feature is managed.

Other Species of Concern – Other globally rare species and plant communities, BLM or USFS sensitive species, state listed species, or Tier 1 and Tier 2 priority species from Colorado's State Wildlife Action Plan, and species of economic and recreational value.

CO Status – State status per Colorado Parks & Wildlife: Endangered (SE), Threatened (ST), or State Special Concern (SC).

Common Name – The common name of the species or plant community.

Critical Habitat Status – Critical habitat status for federally listed species under the Endangered Species Act.

Proposed – Proposed critical habitat

Final – Final critical habitat

Critical Habitat Federal Register- The volume number and first page of the federal register publication describing the critical habitat.

Critical Habitat Publication Date - Federal Register publication date.

Data Source – The agency and date of the data provided.

Data Type –

[CNHP EO](#) – A location in which an element is, or was, present.

CNHP General EO – An element occurrence with imprecise directions; broadly mapped and typically historical or extirpated.

[CNHP Observation](#) – Sightings of species on CNHP's watchlist or sightings of tracked elements that do not meet the minimum criteria necessary to make an occurrence.

[CNHP PCA](#) – Areas in the state contributing to Colorado's

Other Status – Other status such as BLM sensitive species (BLM), U.S Forest Service sensitive species (USFS), and Tier 1 and Tier 2 priority species from Colorado's State Wildlife Action Plan (SWAP Tier 1, SWAP Tier 2).

Owner – The general land owner.

Public Access – Level of public access to the feature.

Protection Mechanism – Any mechanism of protection assigned to the managed area.

Regulatory Species – Species with federal protection under the Endangered Species Act or Bald and Golden Eagle Protection Act along with FWS designated critical habitat.

Return on Investment Report - Provides maps and the estimated annual benefit in dollars of conserved ecosystem services by ecosystem type within the project area in PDF format. Ecosystem types are derived from the 2016 National Land Cover Database (NLCD).

Scientific Name – The scientific name of the species or plant community

Special Areas and Land Status – CNHP Potential Conservation Areas ([PCA](#)), [State Designated Natural Areas](#), [Important Bird Areas](#), and managed lands from the Colorado Ownership, Management and Protection database ([COMaP](#)), SB181 High Priority Habitat

Special Areas Name – The name of the special area.

biological diversity.

CNHP Model – Modeled presumed presence or habitat for a particular species.

CNHP PCA (Important Plant Area) – B1 or B2 CNHP potential conservation area supporting globally rare plants.

CNHP Range Map – Overall range for a particular species by HUC 10 and HUC 12 for aquatics.

Important Bird Area – The most important places for birds as identified by the National Audubon Society.

State Natural Area - Areas that contain at least one unique or high-quality natural feature of statewide significance as designated by the Colorado Natural Areas Program.

CPW <description> - CPW data with a long list of data types: observations, nest sites, leks, etc.

Easement Holder – Organization or agency holding an easement (if present).

ESA Status – Federal status under the [Endangered Species Act](#): Endangered (E), Threatened (T), or Federal Candidate (C) with qualifiers for Partial Status (PS) and experimental populations (XN).

Global Rarity – The [rarity rank](#) used by CNHP and The Natural Heritage Network to track how rare a species or plant community is globally, ranging from G1 (rarest) to G5 (most common).

State Rarity - The [rarity rank](#) used by CNHP and The Natural Heritage Network to track how rare a species or plant community is in Colorado, ranging from S1 (rarest) to S5 (most common).

Viability Rank – The estimated viability of the species or ecological integrity of the natural community based on condition, size, and landscape context, ranging from A (excellent) to D (poor).

Water and Wetlands – Wetland types from the [National Wetland Inventory database](#).

Class - The general appearance of the habitat in terms of either the dominant life form of the vegetation, or the physiography and composition of the substrate.

Modifier - Modifier assigned to further describe wetlands and deepwater habitats within the classification hierarchy based on water chemistry or ph, wetland or deepwater alteration, or soil type.

NWI Code – An alpha-numeric code corresponding to the classification nomenclature that best describes a particular wetland habitat. For more information on NWI data values, visit <https://www.fws.gov/wetlands/data/wetland-codes.html>

System – A complex of wetlands and deepwater habitats that share the influence of similar hydrologic, geomorphologic, chemical or biological factors.

Water Regime - Description of water duration within a wetland habitat.

Wetland Total Acres

- Total acres of the wetland type in the project

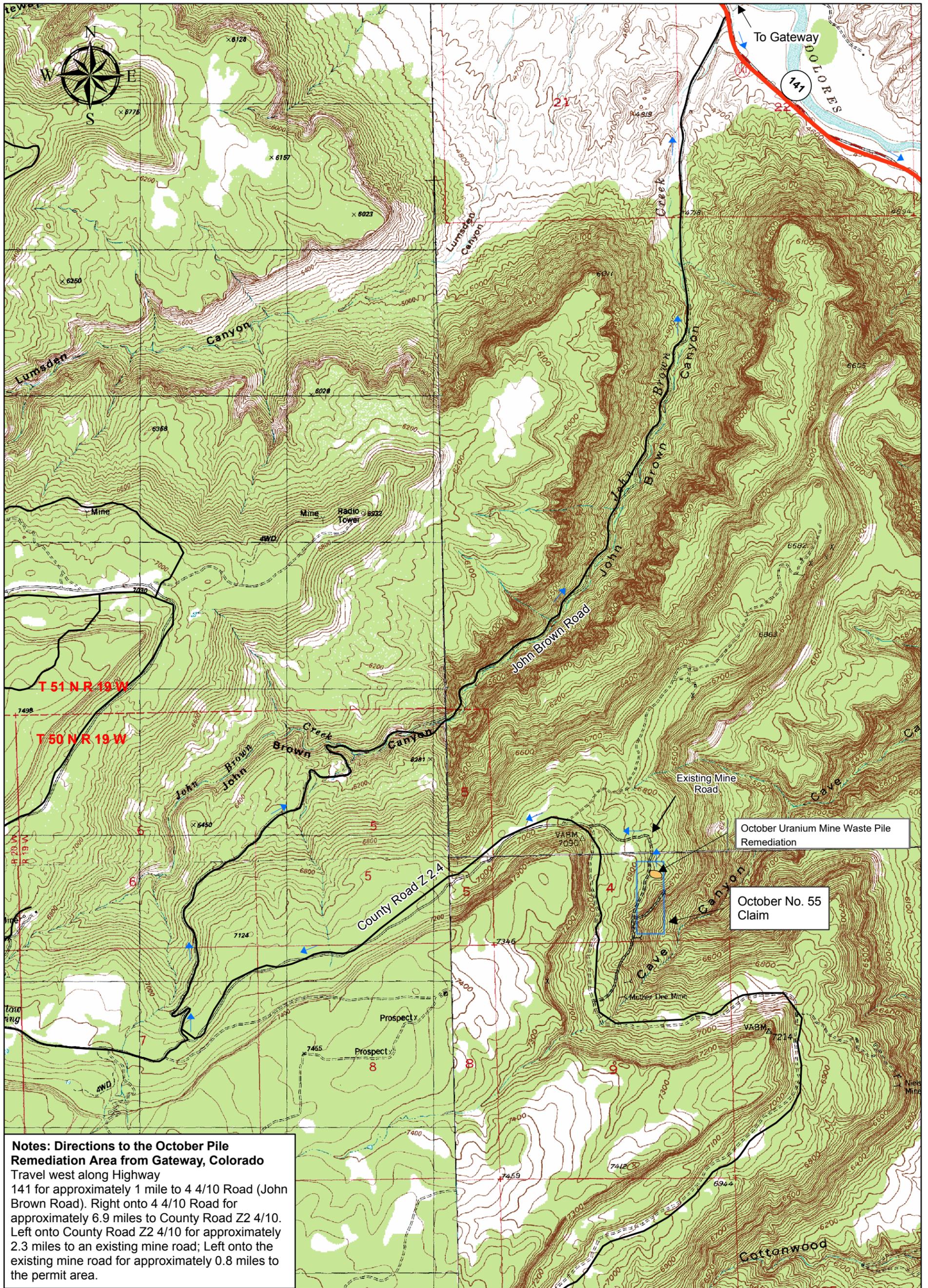
Last Observation – The most recent field observation.

area.

Major group – The major group in which the element falls: Amphibians, Birds, Crayfish, Fish, Insects, Mammals, Mollusks, Natural Communities, Nonvascular Plants, Reptiles, and Vascular Plants.

Wetland Type – The generalized [Cowardin](#) wetland type.

EXHIBIT I ATTACHMENTS



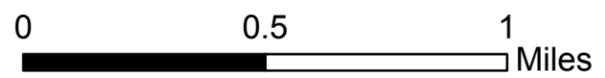
Notes: Directions to the October Pile Remediation Area from Gateway, Colorado
 Travel west along Highway 141 for approximately 1 mile to 4 4/10 Road (John Brown Road). Right onto 4 4/10 Road for approximately 6.9 miles to County Road Z2 4/10. Left onto County Road Z2 4/10 for approximately 2.3 miles to an existing mine road; Left onto the existing mine road for approximately 0.8 miles to the permit area.

- Legend**
- State Highway
 - Mesa County Roads
 - Mine Road
 - October Ore Pile
 - October No. 55 Claim
 - Transport Route

October Uranium Mine Waste Pile Remediation

AURA GRIT

Exhibit A. Map 1. Index Map.



1:24,000

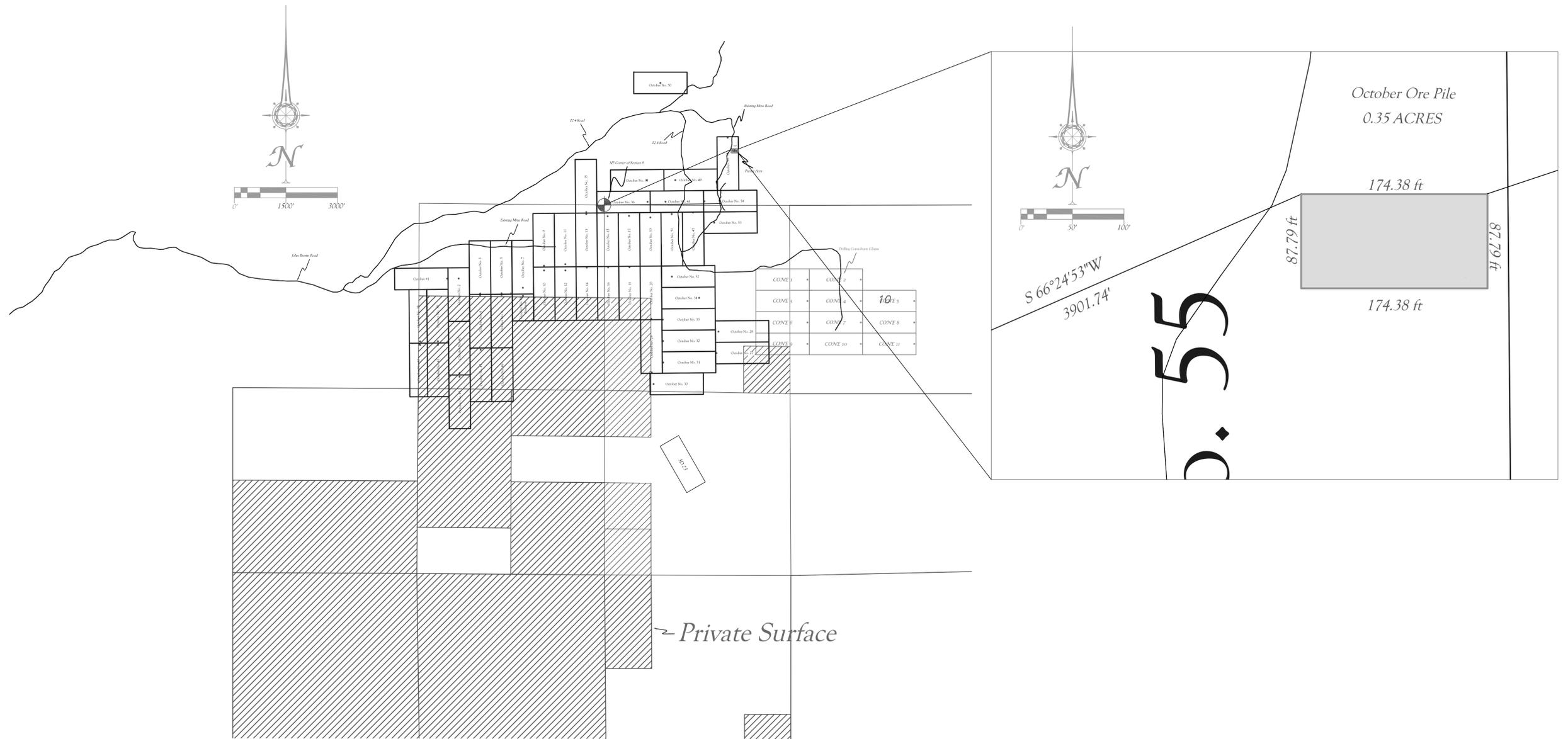
Adapted from USGS Gateway, Juanita Arch, Dolores Point North, and Dolores Point South 7 1/2 min quadrangle maps.

PROJECT	DRAWING	SCALE	DATE	REVISION
Nuvmco	N/A	1:24,000		1.0

APPLICANT: **NUVEMCO, LLC**

T50N, R19W, SEC. 4, 5, 8 & 9 N.M.P.M.

OCTOBER ORE PILE RECLAMATION EXHIBIT "A" LOCATION MAP & LEGAL DESCRIPTION



Parcel ID	LINE	BEARING	DISTANCE
L28	L28	East	174.38'
	L29	South	87.79'
	L30	West	174.38'
	L31	North	87.79'

October Ore Pile
 Beginning at a point whence the Northeast corner of section 8, T 50 N, R 19 W, of the N.M.P.M. bears S 66°24'53" W a distance of 3901.74 feet;
 thence East 174.38 feet; thence South 87.79 feet;
 thence West 174.38 feet; thence North 87.79 feet
 more or less to the point of beginning. Containing 0.35 acres more or less.

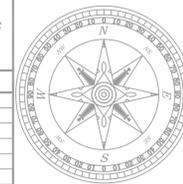
Notes:
 To arrive at the October Ore Pile Reclamation Area from Gateway Colorado, do the following:
 From Gateway travel West along Highway 141 for approximately 1 mile to John Brown Road, Take a right onto John Brown Road and follow it for approximately 6.9 miles to County Road Z2.4. Take a left onto County Road Z2.4 and follow it for approximately 2.3 miles to an existing mine road. Take a left onto the existing mine road and follow it for approximately 0.8 miles and you have entered the permit area

- LEGEND**
- Private Surface
 - Permit Area Boundary Line
 - Road
 - Tie Lines
 - Mine Portal

Signed by:

 E. Schaaf & Associates Inc.

U.S. MINERAL SURVEYORS REGISTERED LAND SURVEYORS AK, AZ, CO, NM, NV 1-800-214-4541	
PLAN SCALE: *VARIES*	REVISIONS:
FIELD CREW:	
DRAFTER: CDD	
SHEET 2 of 4	



E. SCHAAF & ASSOCIATES, INC.
 340 PALMER ST., DELTA, COLORADO 81416 EMAIL: dthatter@eschaaf.com

October Ore Pile Reclamation EXHIBIT "A"
 Map 2. Location Map
 October Claims and Ore Pile Location

Nuvmco, LLC
 650 Linden Avenue,
 Boulder, Colorado 80304

FW: _____ JOB #: 08-20 Nuvmco

Account number: R079581
Parcel Number: 3741-161-00-004
Owner: BLM
Joint Owner:
Address: 470 Z2 4/10 RD
City: GATEWAY
Zip Code: 81522
Sale Date:
Zoning: AFT
Tax Assessor Code: 13410
Approximate Acres: 18294.35
Jurisdiction: Unincorporated Mesa County
Subdivision: AREA 31
Google Earth

October Uranium Mine Waste Pile
Lat: 38.623665°
Long: -108.984712°

Account number: R079726
Parcel Number: 3743-133-00-040
Owner: HENDRICKS JOHN S
Joint Owner:
Address: 95004 4 4/10 RD
City: GATEWAY
Zip Code: 81522
Sale Date: 4/26/1999
Zoning: AFT
Tax Assessor Code: 13410
Approximate Acres: 5151.86
Jurisdiction: Unincorporated Mesa County
Subdivision: AREA 31 M&B AYB 2001-2020; 2001-2500SF
Google Earth

Source: /emap.mesacounty.us/viewer



2,000 ft

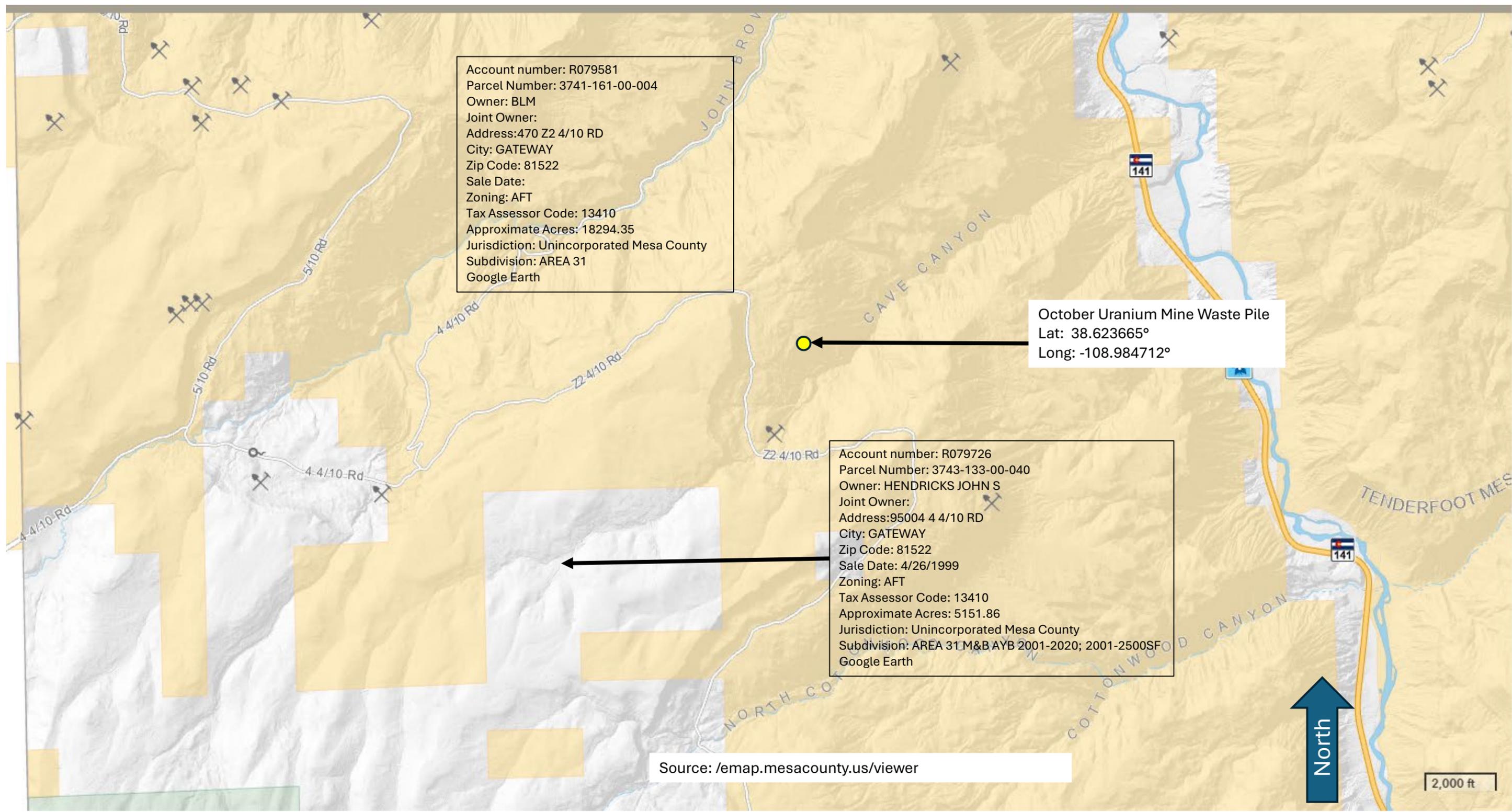
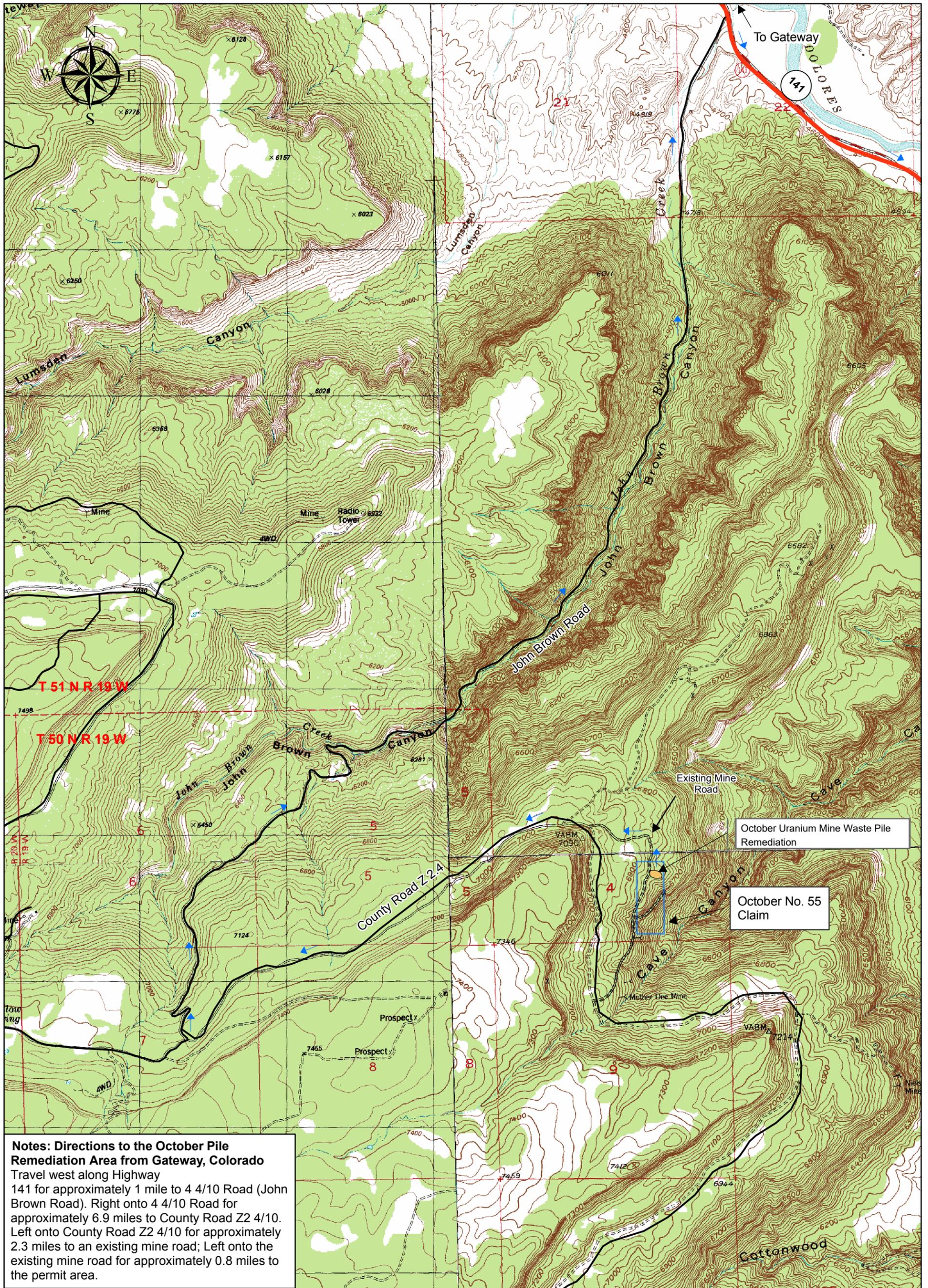


EXHIBIT II ATTACHMENTS



Notes: Directions to the October Pile Remediation Area from Gateway, Colorado
 Travel west along Highway 141 for approximately 1 mile to 4 4/10 Road (John Brown Road). Right onto 4 4/10 Road for approximately 6.9 miles to County Road Z2 4/10. Left onto County Road Z2 4/10 for approximately 2.3 miles to an existing mine road; Left onto the existing mine road for approximately 0.8 miles to the permit area.

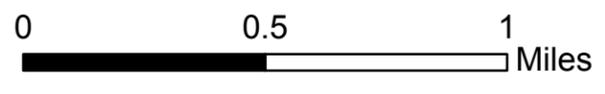
Legend

- State Highway
- Mesa County Roads
- Mine Road
- October Ore Pile
- October No. 55 Claim
- Transport Route

October Uranium Mine Waste Pile Remediation

AURA GRIT

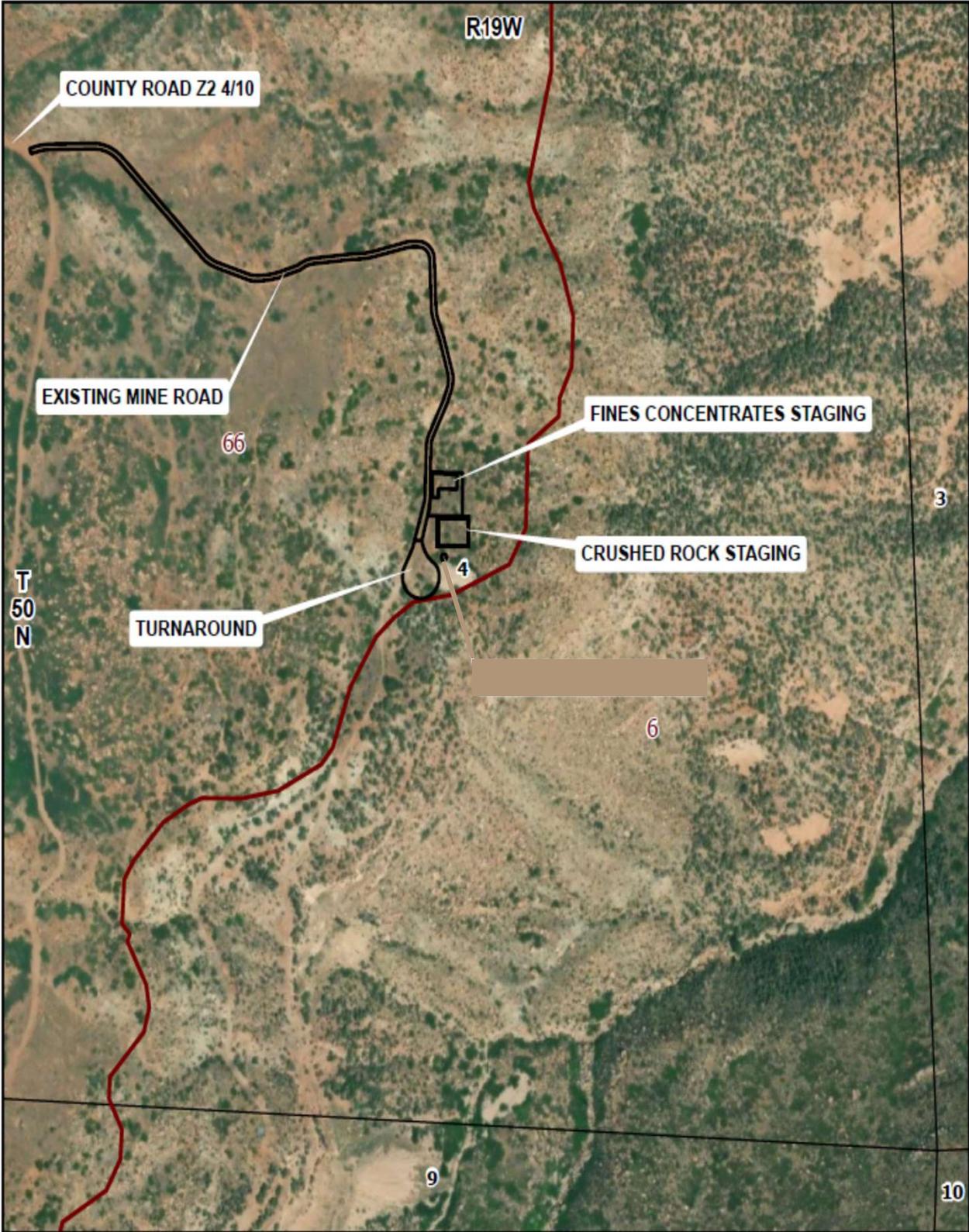
Exhibit A. Map 1. Index Map.



1:24,000

Adapted from USGS Gateway, Juanita Arch, Dolores Point North, and Dolores Point South 7 1/2 min quadrangle maps.

PROJECT	DRAWING	SCALE	DATE	REVISION
Nuvmco	N/A	1:24,000		1.0



Legend

NRCS Soils

N

0 150 300 600
US Feet

Map Unit Symbol	Map Unit Name
6	Rock outcrop-Sedgran complex, 40 to 65 percent slopes, very stony
66	Bodot-Silli-Rock outcrop complex, 6 to 25 percent slopes, very bouldery

AURA GRIT, LLC

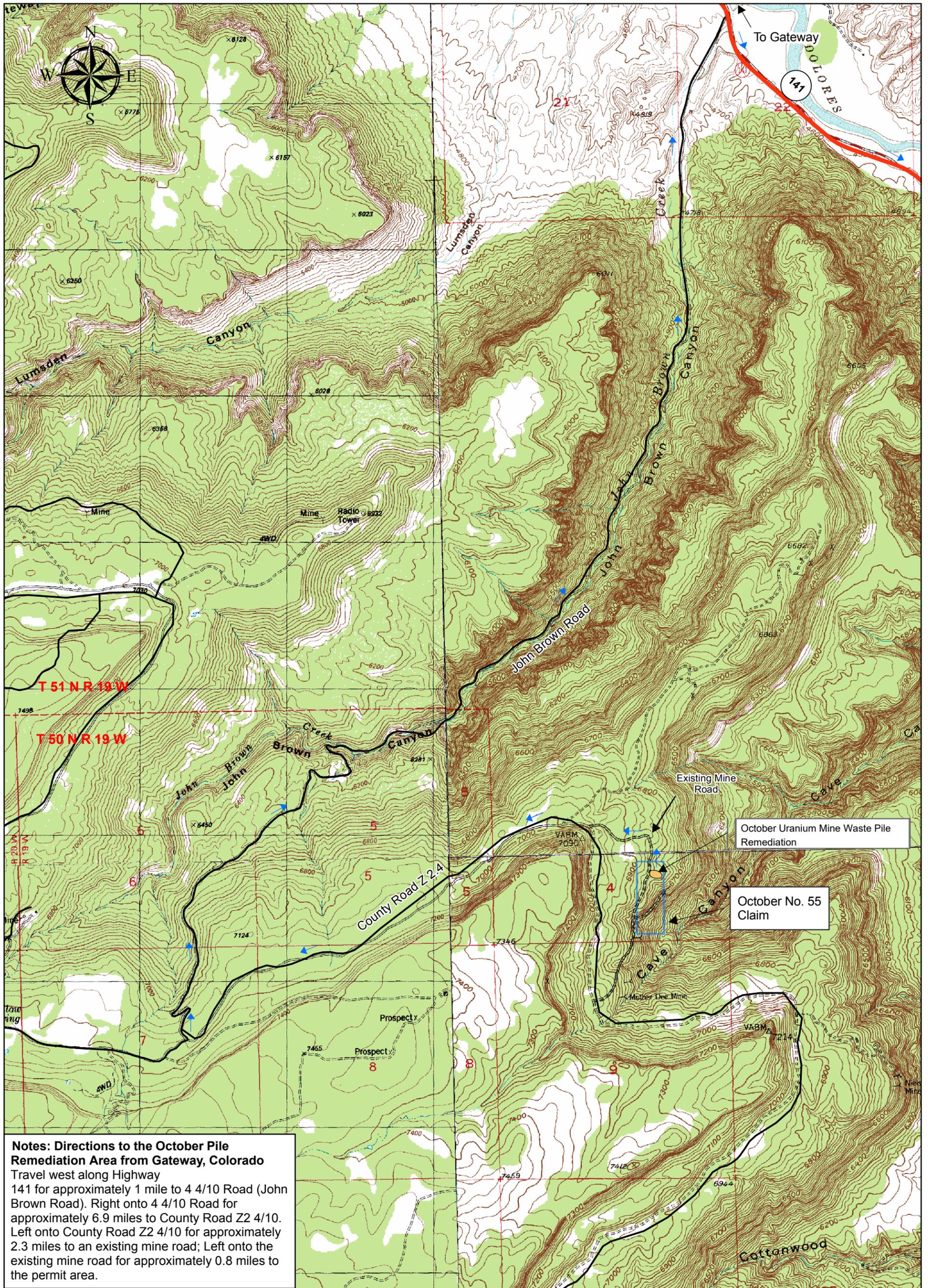
6571 E. 2nd St. Ste 2, Casper, Wyoming 82609

SOILS MAP

Date: Jan 2026 By: WWC/JRK Checked: WWC/BW



EXHIBIT III ATTACHMENTS



Notes: Directions to the October Pile Remediation Area from Gateway, Colorado
 Travel west along Highway 141 for approximately 1 mile to 4 4/10 Road (John Brown Road). Right onto 4 4/10 Road for approximately 6.9 miles to County Road Z2 4/10. Left onto County Road Z2 4/10 for approximately 2.3 miles to an existing mine road; Left onto the existing mine road for approximately 0.8 miles to the permit area.

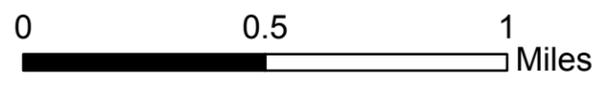
Legend

- State Highway
- Mesa County Roads
- Mine Road
- October Ore Pile
- October No. 55 Claim
- Transport Route

October Uranium Mine Waste Pile Remediation

AURA GRIT

Exhibit A. Map 1. Index Map.



1:24,000

Adapted from USGS Gateway, Juanita Arch, Dolores Point North, and Dolores Point South 7 1/2 min quadrangle maps.

PROJECT	DRAWING	SCALE	DATE	REVISION
Nuvmco	N/A	1:24,000		1.0

LAND OWNERSHIP MAP

Account number: R079581
Parcel Number: 3741-161-00-004
Owner: BLM
Joint Owner:
Address: 470 Z2 4/10 RD
City: GATEWAY
Zip Code: 81522
Sale Date:
Zoning: AFT
Tax Assessor Code: 13410
Approximate Acres: 18294.35
Jurisdiction: Unincorporated Mesa County
Subdivision: AREA 31
Google Earth

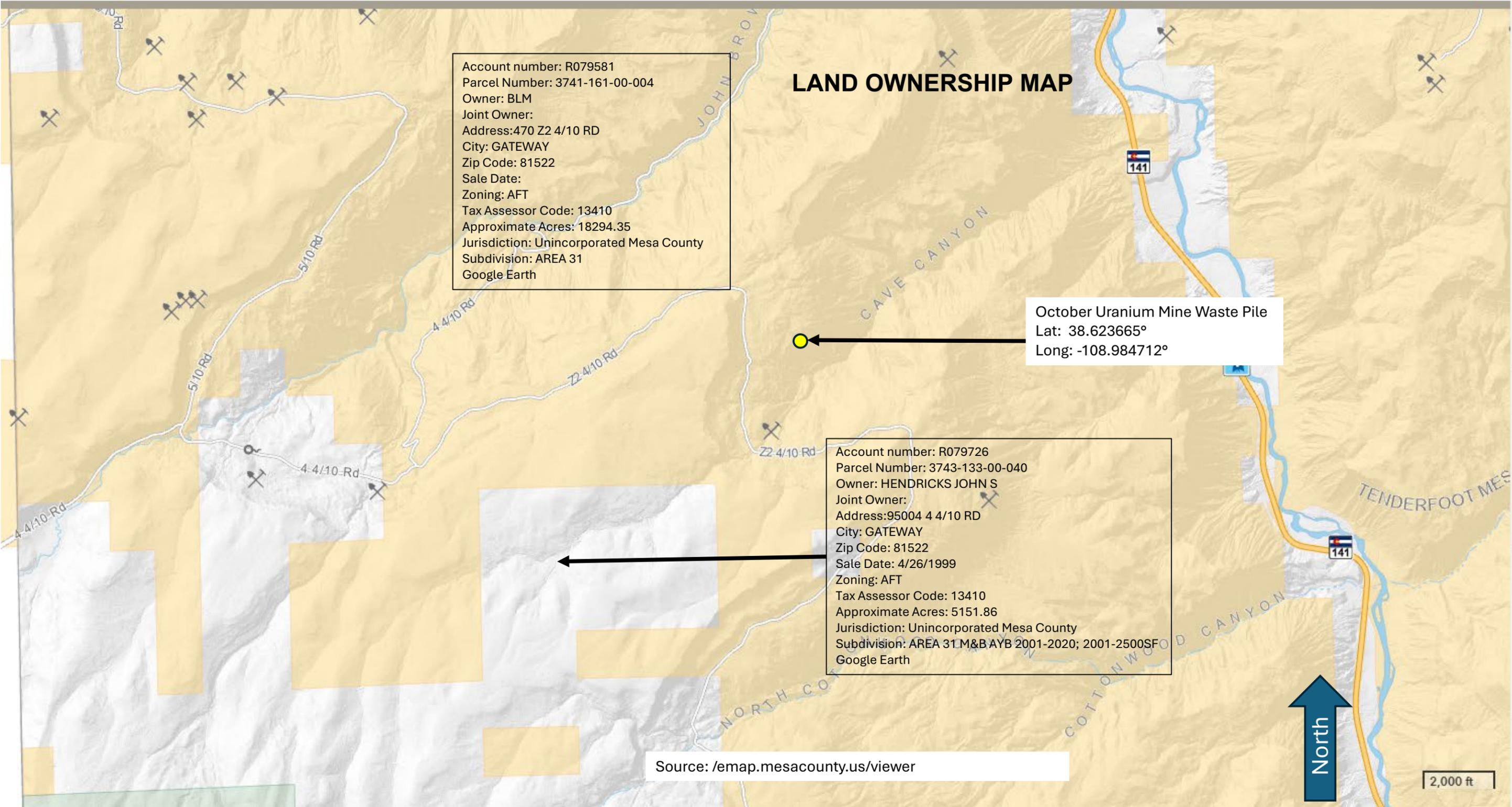
October Uranium Mine Waste Pile
Lat: 38.623665°
Long: -108.984712°

Account number: R079726
Parcel Number: 3743-133-00-040
Owner: HENDRICKS JOHN S
Joint Owner:
Address: 95004 4 4/10 RD
City: GATEWAY
Zip Code: 81522
Sale Date: 4/26/1999
Zoning: AFT
Tax Assessor Code: 13410
Approximate Acres: 5151.86
Jurisdiction: Unincorporated Mesa County
Subdivision: AREA 31 M&B AYB 2001-2020; 2001-2500SF
Google Earth

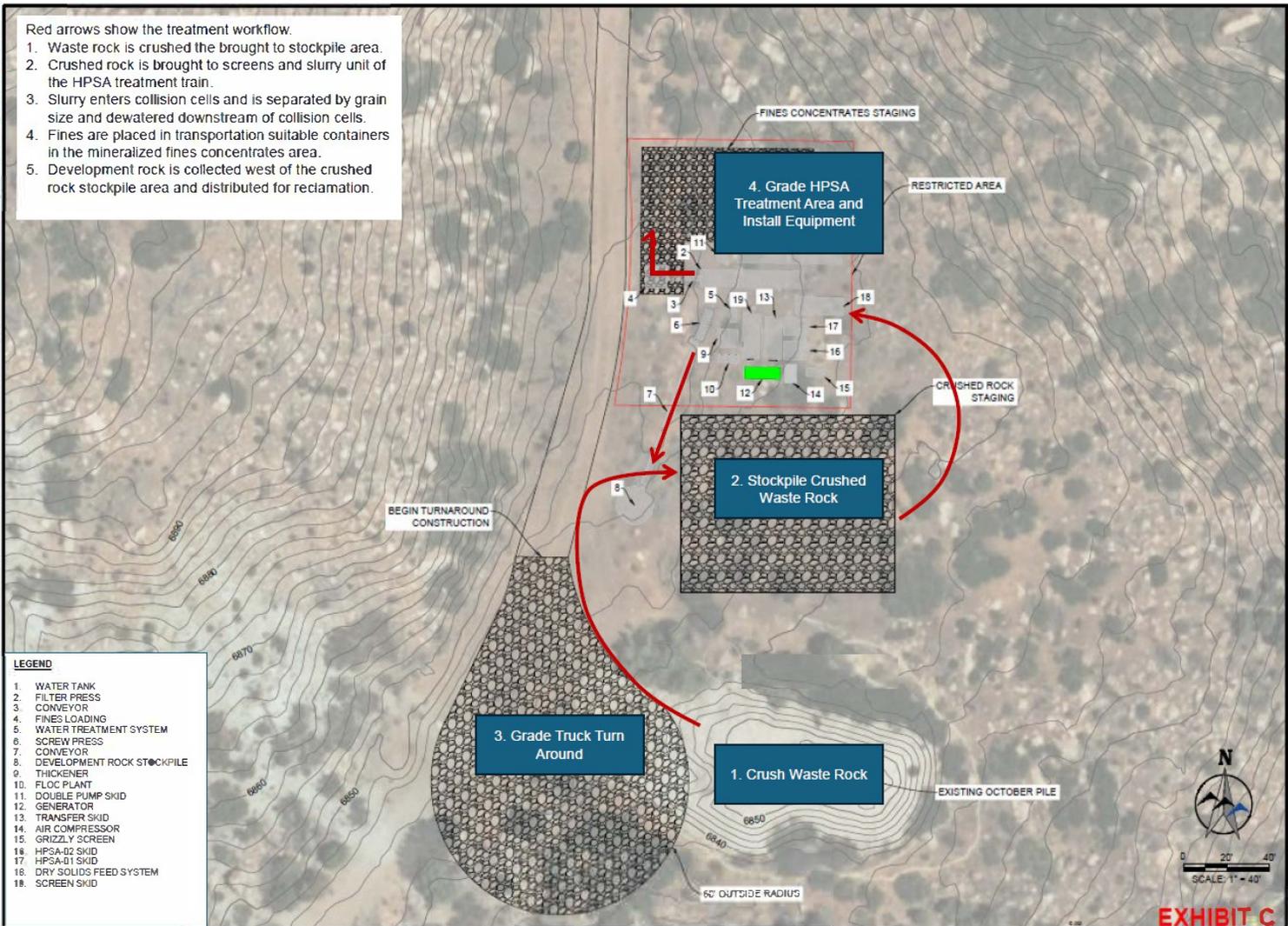
Source: /emap.mesacounty.us/viewer



2,000 ft



- Red arrows show the treatment workflow.
1. Waste rock is crushed the brought to stockpile area.
 2. Crushed rock is brought to screens and slurry unit of the HPSA treatment train.
 3. Slurry enters collision cells and is separated by grain size and dewatered downstream of collision cells.
 4. Fines are placed in transportation suitable containers in the mineralized fines concentrates area.
 5. Development rock is collected west of the crushed rock stockpile area and distributed for reclamation.

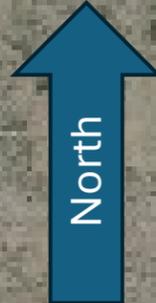


- LEGEND**
1. WATER TANK
 2. FILTER PRESS
 3. CONVEYOR
 4. FINES LOADING
 5. WATER TREATMENT SYSTEM
 6. SCREW PRESS
 7. CONVEYOR
 8. DEVELOPMENT ROCK STOCKPILE
 9. THICKENER
 10. FLOC PLANT
 11. DOUBLE PUMP SKID
 12. GENERATOR
 13. TRANSFER SKID
 14. AIR COMPRESSOR
 15. GRIZZLY SCREEN
 16. HPSA-02 SKID
 17. HPSA-01 SKID
 18. DRY SOLIDS FEED SYSTEM
 18. SCREEN SKID

EXHIBIT C

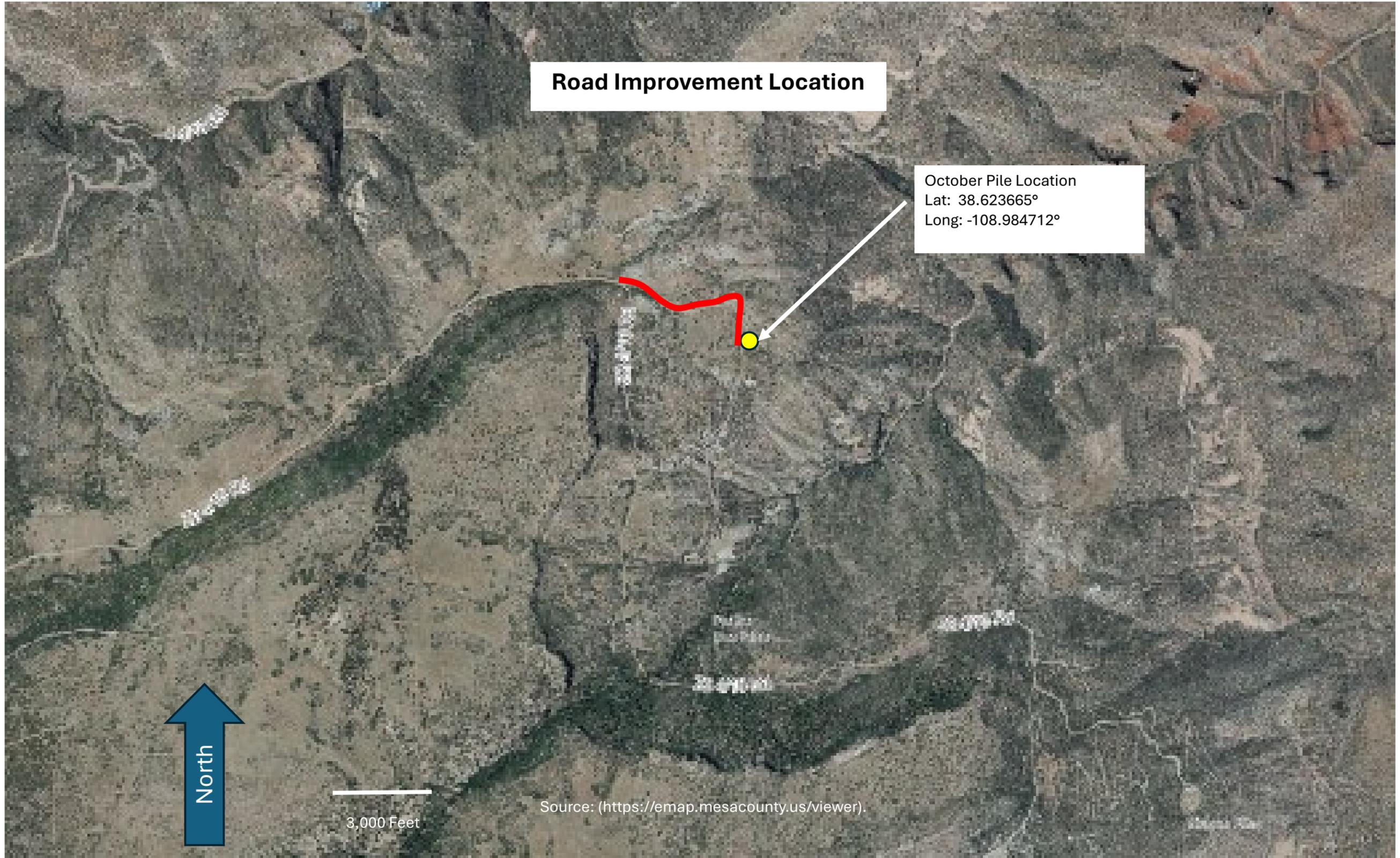
Road Improvement Location

October Pile Location
Lat: 38.623665°
Long: -108.984712°



3,000 Feet

Source: (<https://emap.mesacounty.us/viewer>).



Summary of Impacts:

Existing October Pile - 0.35 ac

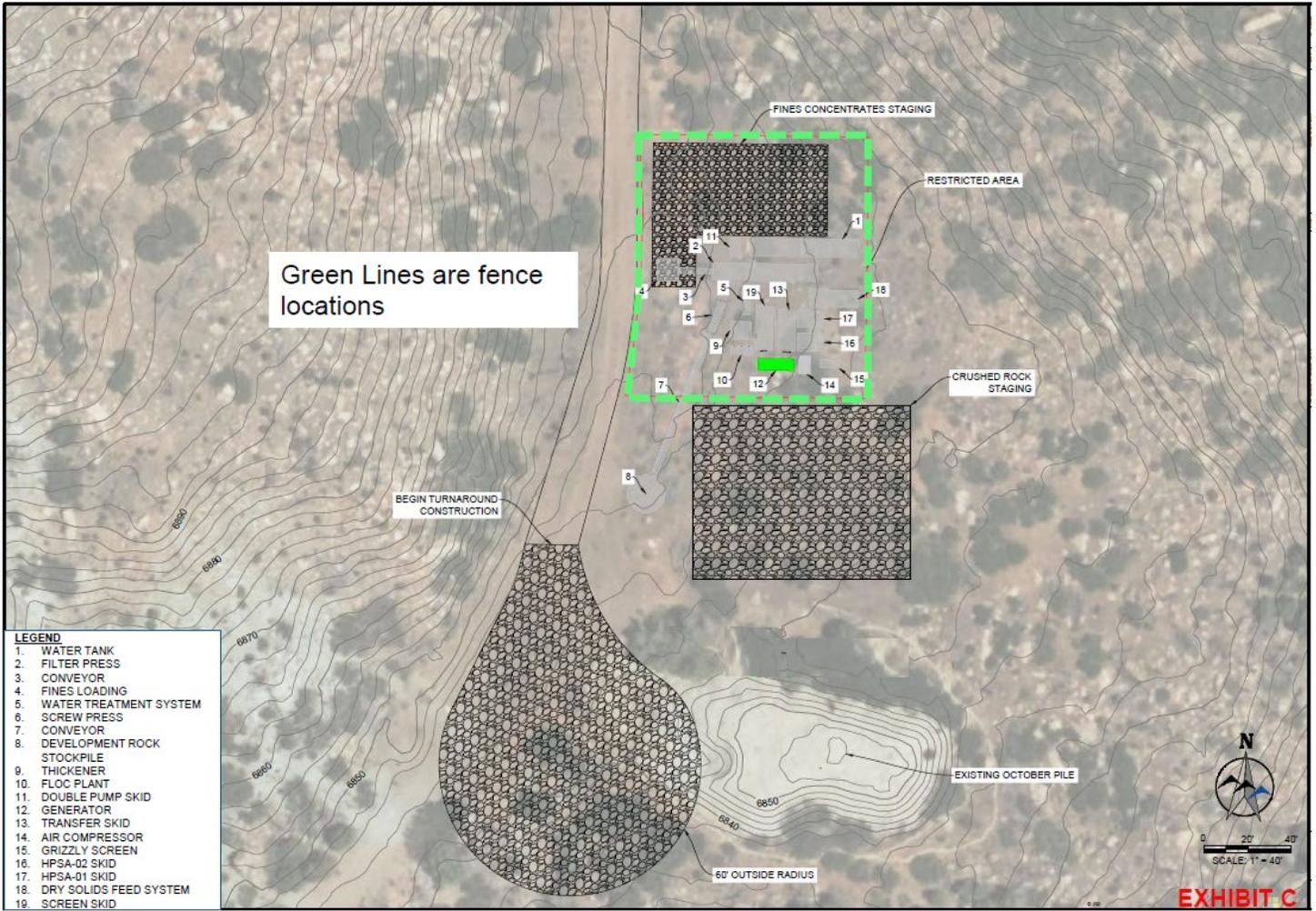
Access (Mine) Road Upgrades - 0.78 ac

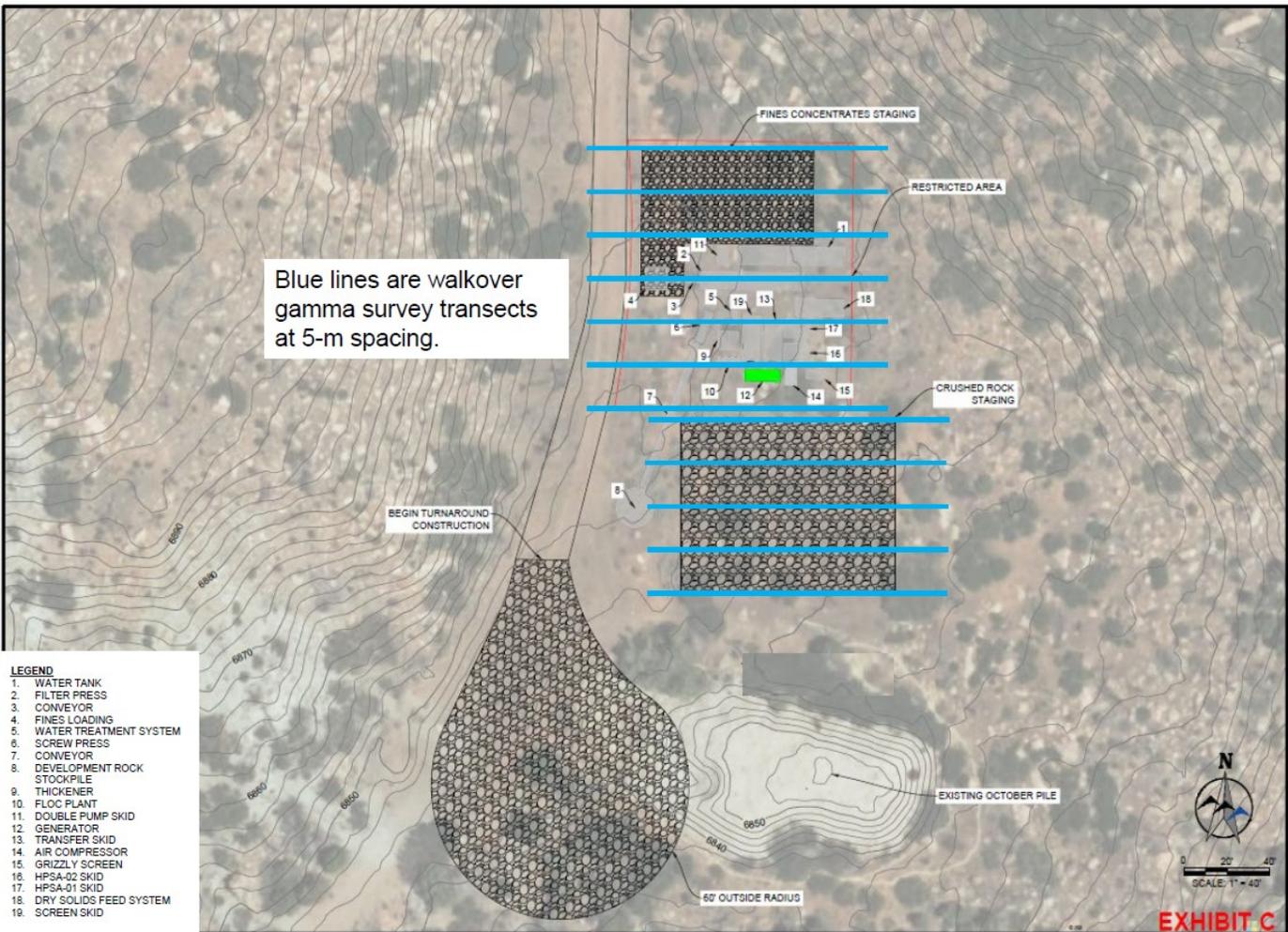
Turnaround - 0.30 ac

Crushed Waste Rock Pile - 0.20 ac

Restricted Area - 0.29 ac

EXHIBIT IV ATTACHMENTS





Blue lines are walkover gamma survey transects at 5-m spacing.

- LEGEND**
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 12. GENERATOR
 13. TRANSFER SKID
 14. AIR COMPRESSOR
 15. GRIZZLY SCREEN
 16. HPSA-02 SKID
 17. HPSA-01 SKID
 18. DRY SOLIDS FEED SYSTEM
 19. SCREEN SKID

EXHIBIT C

EXHIBIT V ATTACHMENTS

RECLAMATION MAP

Area will be graded by excavating and pushing from the west to the east. Development rock will be used to fill in area and restore to the approximate slope of 7%

Topsoil will be excavated to a depth of 1 foot. Area will be backfilled with clean coarse material and graded into the adjacent existing topography. Slope will be approximately 6%

Area will be graded by excavating and leveling area. Topsoil will be excavated to a depth of 1 foot. Development rock will be backfilled and graded into the adjacent existing topography. Slope will be approximately 6%.

Pile will be excavated and crushed. Soil below the pile will be excavated to max 1 foot deep. Development rock will be replaced to approximately 2 feet deep and graded into adjacent topography. Slope is approximately 6%

- LEGEND**
1. WATER TANK
 2. FILTER PRESS
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 4. FINES LOADING
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 17. HPSA-01 SKID
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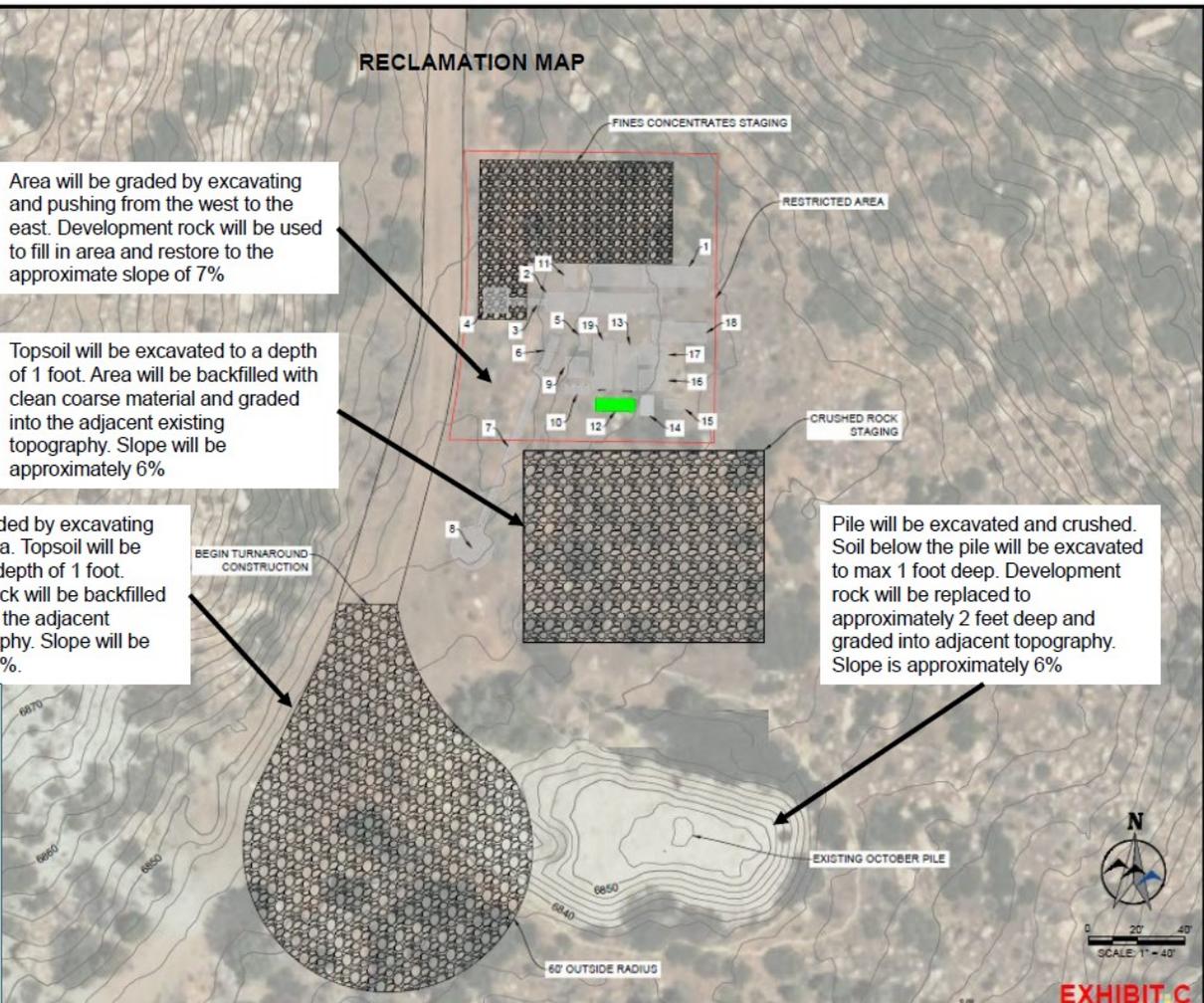


EXHIBIT C

PLS.

<u>SPECIES</u>	<u>APPLICATION RATE/LBS/ACRE PLS</u>
Arriba Western wheat grass	2.7
Primar Slender wheat grass	2.0
Luna Pubescent wheat grass	3.0
Nordan Crested wheat grass	1.5
Paloma Indian rice grass	2.1
Needle and Thread grass	2.4
Hachita Blue Grama	0.4
Lewis Flax	0.8
Cedar Palmer Penstemon	0.2
Lutana Cicer Milk Vetch	0.3
Rincon or Native Four Wing Salt Brush	<u>3.0</u>
PLS/acre Total	18.4 lbs.

EXHIBIT VI ATTACHMENTS

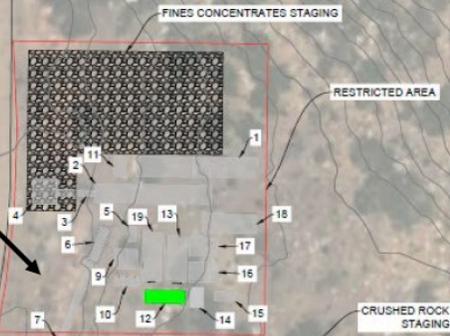
RECLAMATION MAP

Area will be graded by excavating and pushing from the west to the east. Development rock will be used to fill in area and restore to the approximate slope of 7%

Topsoil will be excavated to a depth of 1 foot. Area will be backfilled with clean coarse material and graded into the adjacent existing topography. Slope will be approximately 6%

Area will be graded by excavating and leveling area. Topsoil will be excavated to a depth of 1 foot. Development rock will be backfilled and graded into the adjacent existing topography. Slope will be approximately 6%.

BEGIN TURNAROUND CONSTRUCTION



Pile will be excavated and crushed. Soil below the pile will be excavated to max 1 foot deep. Development rock will be replaced to approximately 2 feet deep and graded into adjacent topography. Slope is approximately 6%

- LEGEND**
1. WATER TANK
 2. FILTER PRESS
 3. CONVEYOR
 4. FINES LOADING
 5. WATER TREATMENT SYSTEM
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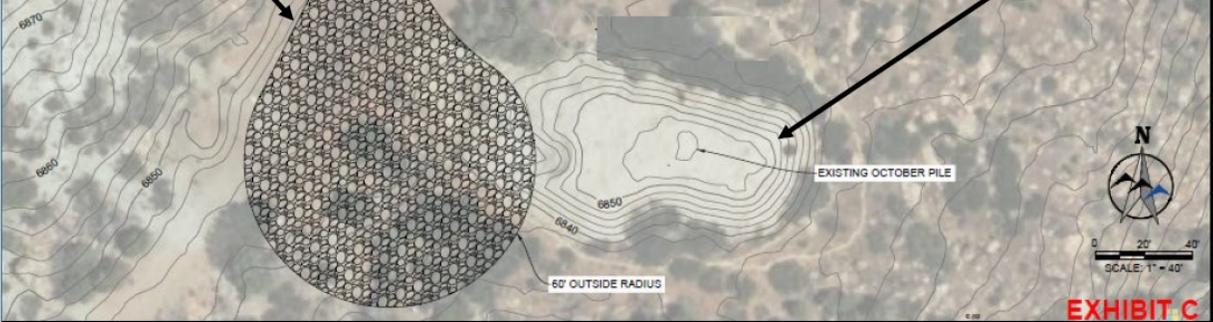


EXHIBIT C