DRMS Recd: 5/22/2025

URANIUM LEASING PROGRAM
LESSEE ENVIRONMENTAL CHECKLIST

In accordance with ARTICLE IV. GENERAL PERFORMANCE REQUIREMENT and other provisions of the Lease, the U.S. Department of Energy (DOE) Office of Legacy Management (LM) will use this Uranium Leasing Program (ULP) Lessee Environmental Checklist to review information provided by the lessee (or their subcontractor) and determine if all environmental planning requirements and potential environmental impacts (physical, cultural, social, and economic) of proposed actions have been considered. This completed checklist will provide LM the information it needs to determine site-specific environmental requirements, including the requisite level of National Environmental Policy Act (NEPA) documentation, specific resource management plans, regulatory permits, and regulatory consultations.

Instructions, including responsibilities for completing this form, are provided separately in the *ULP Lessee Environmental Checklist Instructions* (LM-SOP-4-20-6.0-0.0).

SECTION I. PROJECT SUMMARY (TO BE COMPLETED BY LM)	
Application Number:	018
Project Title:	GEMI_JD-5_Reclamation_M-1977-248
Project Location:	38.22995, -108.74226
Lease Tract(s):	C-JD-5
Lease Tract County:	Montrose
U.S. Bureau of Land Management (BLM) Field Office(s):	Uncompahgre Field Office
Date Submitted:	05/01/2024
Date Approved:	*Refer to the LM NEPA Compliance Officer signature and date on page 17*
SECTION II. LESSEE CONTACT INFORMATION (TO BE COMPLETED BY THE LESSEE)	
Company:	Highbury Resources, Inc
Address:	PO Box 700, Nucla, CO 81424
Primary Point of Contact:	Corey Dias
Alternate Point of Contact:	Doug Beahm
Phone Number:	416-364-5928 or 307-857-3079
Email Address:	wshighburyr@gmail.com

SECTION III. SUMMARY OF PROJECT (TO BE COMPLETED BY THE LESSEE)

1. **Plan Type:** Please check one of the boxes below that correlates to the proposed activities described within the planning document. If more than one type of activity is proposed, please check all those that apply:

   ☐ Exploration ☐ Mining ☒ Reclamation ☐ Other

2. **Proposed Action Description:** In the box below, or as an attachment, please describe the proposed action, to include the entire set of related activities or stages of the project. Include information on construction, operation, and maintenance, as applicable. Include any utility, infrastructure, or emergency service requirements. Refer to the Exploration, Mining, or Reclamation Plans as appropriate.

The proposed action description should answer five questions:

1. *Who* is performing the work? As the Lessee, it is assumed you would take full responsibility for performing the work; however, please list any information regarding subcontractors and/or other personnel that would also be involved in the project.
2. *What* is the nature of the specific project? Details describing the proposed action should be provided at a level that would allow assessment of impacts, e.g., include quantities where appropriate.
3. *How* would the proposed action be executed? Summarize the activities to be conducted to complete the project. The description must include relevant physical actions and design features that would allow impacts to be assessed.
4. *What* mitigation measures, including Best Management Practices (BMPs), are planned to reduce adverse impacts associated with the work? Indicate which BMPs would be incorporated as design features within the proposed design (e.g., to enable construction that requires access through a designated wetland, only tracked vehicles would be used to traverse the wetland).
5. *When* would the proposed action be implemented and completed? As appropriate, describe the schedule of activities by phase (e.g., phases of mine development and operations). For larger projects, when schedules and phases are described, it is also necessary to describe numbers of workers that would be required during each phase. If multiple work shifts are required, a description of worker hours also should be described (e.g., to complete the required reclamation before nesting/breeding season, it would be necessary to use two, 10-hour shifts for a period of 4 weeks beginning in early March).
6. *Where* is the proposed action going to occur (e.g., lease tract[s] as well as areas within the lease tract[s])? What other locations or areas would be needed to supply resources or would be otherwise impacted by project-related activities (e.g., processing mill, borrow areas, transportation routes)? Figures at a relevant scale should be used to identify potentially disturbed or affected areas.

Description of the proposed action below:

The reclamation work to be completed on site is proposed to be done during the 2025 construction season and is anticipated to require 4 weeks. Highbury Resources will hire a qualified construction contractor(s) to perform the work under the direction of an experienced uranium mine reclamation specialist.

Highbury Resources, the Lessee, would submit a Technical Revision to DRMS for this lease. The nature of the technical revision originates from the need of the Lessee to preserve some reasonable amount of access to the resources contained within the areas leased from the DOE. Complete closure and reclamation of the mine features on this lease would negate the value of DOE lease to the Lessee. It is understood by Lessee that due to the intermediate state of reclamation proposed in the Technical Revision that full bond release would not occur until the site is fully reclaimed.

Beginning and ending dates are dependent on the NEPA process. Once the NEPA is completed the reclamation can be planned around any wildlife timeline restrictions and will start as soon as possible. The reclamation work remaining to be completed under Highbury Resources on the JD-5 Lease Tract is summarized below:

- Ore Bins
    - One ore bin contains an estimated 364 cubic yards of mineralized material. It will be graded and buried with an appropriate thickness of coversoil. The coversoil will then be amended and seeded.
    - Wood and debris including any concrete present and buried railroad tracks from the ore bins will be removed from the site. Concrete, if present, will be broken up. Approximately 80 yards of material will be taken to Broad Canyon Dump for disposal.
    - I-Beams will be removed and taken to Recla Metals for recycling.
    - Areas will be cut-filled and regraded to 3:1 or gentler slopes matching the surrounding topography and onsite material.
    - Areas will be covered with two feet of clean fill material sourced within the existing disturbance footprint or hauled in from JD-7.
    - These areas will then be covered with 3-6 inches of cover soil sourced from the stockpile on private surface northwest of JD-7. Up to 460 CY of cover soil will be taken from the stockpile.
    - Equipment to be utilized includes a tracked excavator, a tracked dozer, and an over the road truck for transportation. A tracked excavator will be utilized to remove the concrete with a pneumatic breaker attachment to be utilized if required to break the concrete.
    - A final gamma survey of the surface will be performed after the placement and grading of coversoil. The surface will be measured using a Ludlum Model 19 handheld scintillometer on a 10-foot grid. The detector will be held 1 meter above the ground. The cleanup criteria to be used will be Level A, <60 µR/hr above background, suggested in *Defense-Related Uranium Mines Verification and Validation Work Plan Campaign 2: Navajo Nation*, Section 7.0 Screening Levels. Background levels will be determined by readings taken at an undisturbed area proximal to the site. This area is shown on the provided map, *US DOE LEASE JD-5 RECLAMATION MAP*.
    - For a breakdown of the disturbance areas for JD-5 please see Table 1.
- Wood Cribbing and Ore Pad from the Joe Dandy Decline Area
    - Concrete ore pads, wood cribbing, and steel beams will be broken up and hauled to Broad Canyon Dump for disposal. The estimated volume to be hauled is approximately 35 cubic yards.
    - The steel tank for potable water will be removed and taken to Recla Metals for recycling.

- The area immediately behind the wood cribbing will be sloped off to match the surrounding hillside and seeded.

- Surface Facilities
  - The San Miguel Power Association has been consulted, and they own all the power poles on the JD-5 lease tract. They will be worked with to remove power poles prior to or during reclamation activities.
  - Technical Revision 02 dated 12/9/2013 describes removing the remaining buildings.
  - A head frame, hoist house, and compressor house remain on site. The structures were designated as eligible features of a historic property during a 2024 cultural resource survey (*A Class III Cultural Resources Inventory of the Gold Eagle Uranium Lease Areas in Montrose and San Miguel Counties, Colorado, October 2024*). The Colorado State Historic Preservation Office (SHPO) agreed with this determination in a letter sent to the DOE, signed 04/03/2025 (attached). It is the intent to file another Technical Revision with DRMS to clarify that each of these are Historical Structures and will remain on site, well secured within fencing and locked gates and doors. The DOE will be provided with a copy of the Proposed Technical Revision when it is submitted to DRMS. Fencing, gates, and doors will be installed during reclamation.
    - If a mine plan is submitted, the permanent closure of the mine entrance shaft and removal of the headframe, hoist house and compressor shop may be included in the reclamation plan for any proposed future activities. If it is decided that a mine plan will not be submitted, and DOE does not want to retain liability of these structures and mine entrance shaft, the structures and entrance shaft will be reclaimed at that time in accordance with all applicable regulatory requirements and agreements.

- Vents
  - Two ventilation shafts are located on the JD-5 Lease Tract.
  - The remaining ventilation fan and wood cribbing will be removed. If the fan can be recycled it will be taken to Recla Metals for recycling. If it cannot then the fan and the wood cribbing will be taken to the Broad Canyon Dump for disposal. An estimated 5 cubic yards of material will be hauled offsite. A surface cover will be installed over the shaft, similar to the other vent. It shall consist of a 1" grating welded over the vent to allow the mine workings to passively ventilate. The cover will be made and anchored to the foundation according to specifications in the Appendix, Figure Detail 1, Vent Grate Detail, which is adapted from *Standard Drawing No. 6 Grated Adit Closure* in the DRMS General Bid Specifications. If the existing collar is insufficiently competent to mount the cover, then it will be anchored in accordance with the specifications given in *Standard Drawing No. 4 Steel Grating Shaft Closure* in the DRMS General Bid Specifications.
  - It is the intent to file another Technical Revision with DRMS to clarify that the two vent shafts would remain. The DOE will be provided with a copy of the request for proposed Technical Revision when it is submitted to DRMS and a copy of the Conditional Approval, if approval is granted by DRMS.
    - If a mine plan is submitted, a permanent conical plug closure of the vent shafts would be included in the reclamation plan for any proposed future activities. If it is decided that a mine plan will not be submitted, the vent shafts will be reclaimed at that time.

- Access Roads
  - The access roads to the hoist and compressor house, Joe Dandy Decline area, and southern vent will be retained for future access without scarification or reseeding.
  - It is the intent to file another Technical Revision with DRMS to clarify that access roads would remain on site. The DOE will be provided with a copy of the request for proposed Technical Revision when it is submitted to DRMS and a copy of the Conditional Approval, if approval is granted by DRMS.
    - The access roads need to remain in place until all reclamation activities on site are completed at a minimum. The roads will be maintained in an environmentally sound and legal manner. Only water will be used for dust suppression. Any required permits will be obtained. If a mine plan is submitted, the access roads would be included in the reclamation plan for any proposed future activities. If it is decided that a mine plan will not be submitted, the roads will be reclaimed at that time as described below.
      - All access roads will be scarified, and drill seeded if DOE does not want to retain future access, and the county or BLM does not wish to retain and maintain the roads. Scarification will be performed with a motor grader or agricultural equipment, such as a chisel plow, depending on the condition of the access roads.

- Revegetation
  - The proposed total disturbance area is approximately 0.61 acres.
  - Reclamation disturbances will have cover soil material spread on them to a thickness of 3-6" based upon available resources on site.
  - Any existing topsoil piles will be used for the cover soil. Cover soil that can be salvaged during reclamation will be saved and used.
  - All disturbed areas will be scarified and seeded with the DOE and BLM approved seed mix. No cover crop will be used.
    - Scarification will be performed with a motor grader or agricultural equipment, such as a chisel plow, depending on the condition of the access roads.
    - Seeding will be performed by a rangeland drill.

- The vegetative cover must have an individual plant density of at least 70% pre-disturbance levels within five years. If this level is not achieved in this time frame, action will be taken to amend the area and reseed. In accordance with Title 34 regulations, revegetation efforts will be considered complete when a diverse, effective, and long-lasting vegetative cover that is capable of self-regeneration and at least equal in extent of cover to the natural vegetation of the surrounding area has been established.

Table 1: Breakdown of Disturbance Areas

	Approximate Disturbance Area (Acres)	
Feature	Without Technical Revision	With Technical Revision
Ore Bins	0.38	0.38
Joe Dandy Decline Area	0.05	0.05
Headframe, Compressor House, and Hoist House	0.08	0.00
JD-7 Cover Soil Borrow Area	0.06	0.06
Ventilation Fan and Wood Cribbing	0.03	0.03
Water Tank Area	0.04	0.04
Total	0.64	0.56

References:
Technical Revision 02 dated 12/09/2013
Letter to BLM dated 11/29/2023
JD-5 Mine Permit M-1977-248
US DOE Lease JD-5 Reclamation Map
Table 1 "Measures Identified to Minimize Potential Impacts from Reclamation at ULP Lease Tract JD-5"
Table 2 "Mitigative Action Plan to Minimize Potential Impacts from Reclamation at ULP Lease Tract JD-5"
Environmental Site Review – Department of Energy Leases Reclamation Project (wildlife survey by Real West Natural Resource Consulting) – May 2024
A Class III Cultural Resource Inventory of the Gold Eagle Uranium Lease Areas in Montrose and San Miguel Counties, Colorado (Alpine Archaeological Consultants, Inc.) – October 2024, and Limited-Results Cultural Resource Survey addendum – March 2025

3. **Access to or Use of Property:** Identify any access requirements or written agreements or use permissions that are in place or would need to be obtained for the proposed action.

Description of access requirements, agreements, or permissions:

Access to JD-5 is by Montrose County Road DD19 Rd from Hwy 90 in Paradox Valley. Access to both the JD-5 Shaft Area and the Joe Dandy Decline are shown on the plat in the attached Appendix.

SECTION IV. ENVIRONMENTAL AND SENSITIVE RESOURCE CONSIDERATIONS (TO BE COMPLETED BY THE LESSEE)

Please provide detailed information to facilitate LM's evaluation of all potential impacts from the proposed work. If the proposed action could result in an effect on the environmental and human health resources listed below, the "Yes" box should be checked, and an explanation provided (qualified or quantified when possible) in the Comments section. An item checked "Yes" does not necessarily mean that an adverse impact would occur; however, it does indicate that more details are warranted for LM to make an informed decision. After LM evaluates potential impacts, additional information may be requested to avoid, minimize, or otherwise mitigate impacts and comply with the ULP Programmatic Environmental Impact Statement (PEIS) and associated Mitigation Action Plan (MAP). Relevant sections of the ULP PEIS will be referenced in the resource sections, as applicable. If the "No" box is checked, additional explanation is generally not necessary but may be helpful.

Please use the Supporting Documentation portion of each resource to identify any supporting documentation that is enclosed as part of this checklist, or that will be submitted to DOE upon completion. Supporting documentation may include, but is not limited to emails, permits, reports, plans, etc.

Relevant site-specific mitigations should be provided by the Lessee to LM as an attachment to this checklist for LM review. These mitigations are included in the MAP that was prepared in support of the ULP PEIS.

Existing Resources and Potential Impacts

1. Air emissions or air quality

☒ **Yes** ☐ **No** Would any part of the proposed action result in air emissions, including regulated hazardous or criteria pollutants, from mobile or stationary sources? These include gases, vapors, or particulates put into the air from vehicles, equipment, generators, tanks, pipelines, underground sources, and other potential sources?

☒ **Yes** ☐ **No** Would the proposed action generate fugitive dust?

☐ **Yes** ☒ **No** Would the proposed action require any air permits or notifications to local, state, or federal regulatory agencies?

☐ **Yes** ☒ **No** Is the project currently located within a designated nonattainment area? (Refer to Section 3.1.3 of Volume I of the 2014 PEIS). Nonattainment areas are listed at: https://www.epa.gov/green-book

If you checked "Yes" for any of these questions, provide details in the comments section below regarding the type and source of air emissions, conformance with air permits or permitting requirements, and proposed mitigative actions or best management practices. As applicable, list and provide documentation of permits/notifications or identify if any are in process.

Comments:

Emissions from combustion engines and dust will be generated using heavy equipment during the reclamation process. Fugitive dust is exempt from requiring a permit or air pollutant emissions notice. As stated in Regulation Number 1, 5 CCR 1001-3 II.A.6 and III.D.2 and Regulation Number 3, 5 CCR 1001-5 Part B II.D of the Colorado regulations.

Per the Programmatic Environmental Impact Statement (PEIS), the following measures to minimize environmental impacts would be adhered to during site activities:

Compliance Measures

- Apply water using a water truck on unpaved haul roads, disturbed surfaces, and temporary stockpiles. The water will be from a municipal source, such as Naturita.
- Assure all heavy equipment meets emission standards as required.
- Avoid construction traffic and reduce speeds on unpaved surfaces.

BMP

- Limit idle time of vehicles and motorized equipment.
- Fuel all diesel engines used with ultra-low sulfur diesel (sulfur content of ≤ 15 parts per million [ppm]) except for older diesel equipment meeting emissions requirements that need higher sulfur content for proper functioning.

Supporting Information:

2. Noise

☒ **Yes** ☐ **No** Does the proposed action have the potential to generate noise impacts to adjacent communities, residences, project site workers, and or sensitive receptors (e.g., schools, hospitals, churches)?

☐ **Yes** ☒ **No** Is the proposed action located in an area that has a local noise ordinance?

☐ **Yes** ☒ **No** Does the proposed action have the potential to generate noise impacts to sensitive ecological resources such as wildlife refuges, areas containing noise-sensitive species, or bird rookeries?

If you checked "Yes" for any of these questions, provide details in the comments section below regarding(1) the source of the noise, (2) the receptors that may be impacted and estimated distance from the project activities including transportation routes, (3) the level of noise generated in A-weighted decibels (dBA) to each receptor, and (4) the anticipated duration of the noise (estimated duration per day, estimated days, and whether the duration would be continuous).

Comments:

Noise will include typical construction sources including diesel powered heavy equipment used for excavation, haulage, and demolition. There are no noise ordinances as the closest occupied structure is approximately 5 miles away. Workers will wear ear protection during construction operations.

Per the Programmatic Environmental Impact Statement (PEIS), the following measures to minimize environmental impacts would be adhered to during site activities:

Compliance Measures

- Maintain off site noise level below Colorado maximum permissible limit of 55 dBA during the day (7 a.m.-7 p.m.) and of 50 dBA at night (7 p.m.-7 a.m.), and below EPA guideline level of 55 dBA L_{dn} at receptor location as measured 25 ft from the exterior property line.

BMP

- Maintain equipment in good working order in accordance with manufacturer's specifications.
- Limit noisy activities to the least noise-sensitive times of the day (daytime between 7 a.m. and 7 p.m.) and weekdays and limit idle time for vehicles and motorized equipment.
- Employ noise-reduction devices (e.g., mufflers) as appropriate.
- Limit operational noise to 49 dBA or less within 2 mi (3 km) from an occupied/active Gunnison sage-grouse lek.

Supporting Information:

3. Human Health Risk

☒ **Yes** ☐ **No** Would the proposed action result in the potential for radiation exposure to workers or the public?

☐ **Yes** ☒ **No** Would the proposed action potentially expose workers or the public to hazardous materials (chemicals or other materials that have the potential to cause harm to humans)?

☒ **Yes** ☐ **No** Would the proposed action result in the potential for physical injury to workers or the public?

If you checked "Yes" for any of these questions, provide details in the comments section below regarding (1) specific activities anticipated to result in health and safety concerns, and (2) any best management practices that could be applied to reduce or minimize public or worker health and safety risks.

Comments:

The DOE sites are historic uranium mine sites which may contain materials with elevated radiometric levels above background. However, the site materials are anticipated to be low level materials and have not been concentrated or upgraded. Worker site exposure is not anticipated to approach or exceed the allowable annual industrial exposure levels so monitoring of individuals is not planned. During reclamation of ore pad areas with waste rock care will be taken to maintain distance, minimize time of exposure, and use shielding provided by the floorboards of earth-moving equipment to minimize exposure to radioactive materials to site workers.

While there is always the potential for physical injury on a construction site, best safety practices will be adhered to during all work activities. Employees will wear appropriate personal protective equipment (PPE), including hard hats, safety glasses, hearing protection, high visibility clothing, proper footwear, Tyvek suits, gloves, respirators, and other equipment as required for the work.

Per the Programmatic Environmental Impact Statement (PEIS), the following measures to minimize environmental impacts will be adhered to during site activities:

Mitigation Measures

- Assure an adequate thickness for the surface soil material covering waste-rock piles before seeding. The thickness should be adequate to prevent the underlying waste rocks from exposure to the ground surface over time. Through modeling and/or monitoring, evaluate measured uranium and decay product concentrations in waste rocks to determine whether the thickness is sufficient to mitigate potential radiation exposures.

Supporting Information:

4. Hazardous materials and waste generation or management

☒ **Yes** ☐ **No** Would waste rock or ore be generated, moved, managed, processed, or reclaimed as a result of the proposed action? *If "yes", describe how these activities would be performed in compliance with applicable federal, state, or local regulations.*

☒ **Yes** ☐ **No** Would the proposed action generate, store, treat, transport, or dispose of any federal or state regulated hazardous waste, radioactive waste, or mixed waste (waste that is both hazardous and radioactive)? *If "yes", describe how waste would be stored, managed, transported, and disposed in compliance with federal, state, or local environmental regulations. Include list of potential waste streams, anticipated volumes, methods of transportation, and expected disposal facilities to be utilized.*

☐ **Yes** ☒ **No** Would the proposed action require the onsite use or storage of radioactive material or regulated hazardous chemicals, hazardous or toxic substances, or extremely hazardous substances? *If "yes", provide details on the chemical or product and quantities to be used and/or stored.*

☐ **Yes** ☒ **No** Would the proposed action require the use of aboveground storage tanks or underground storage tanks? *If "yes", provide information regarding the type of tank, product to be stored, and storage capacity.*

☐ **Yes** ☒ **No** Would the proposed action require the use or onsite storage of pesticides, including herbicides? *If "yes", provide information regarding the type of pesticides/herbicides to be used and how the products would be stored and applied in compliance with applicable federal, state, or local regulations.*

☐ **Yes** ☒ **No** Would the proposed action have the potential to result in an unplanned or unpermitted release of radioactive materials; hazardous substances, pollutants, or contaminants; or petroleum or natural gas products to air, land, or water? *If "yes", identify the source of potential releases and any controls that would be in place to protect the environment from potential releases.*

☒ **Yes** ☐ **No** Would the proposed action generate solid wastes? *If "yes", please quantify the amount anticipated and the method of disposal*.

☒ **Yes** ☐ **No** Would the proposed action have the potential to divert solid wastes, including construction and demolition debris, from landfills through recycling, or reuse? *If "yes", describe waste streams that could be recycled or reused including type of material and estimated volumes.*

☐ **Yes** ☒ **No** Would the proposed action result in the need for a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with 40 CFR Part 112? *If "yes", please describe what activities would occur under the proposed action that would necessitate preparation of an SPCC Plan.*

If you checked "Yes" for any of the above questions, please describe in detail the specified additional information in the comments section below.

Comments:

An estimated 364 cubic yards of mineralized material will be buried on site. An estimated 120 cubic yards of solid waste will be taken to the Broad Canyon Dump. The solid waste will be scanned for gamma levels before being hauled off site. All performed earthwork on site reclamation as described in the scope above will be done in compliance with all state, local, and federal regulations and in accordance with best construction and reclamation practices. The contractor will be required to have a written Health and Safety Plan (HSP). Fuel will not be stored on the site. Vehicles will not be stored or fueled on site. Storage and fueling of vehicles will occur on private surface.

Supporting Information:

5. Water Resources

In which watershed(s) are the work areas located (check all that apply)?

☒ Upper Dolores ☐ San Miguel ☐ Lower Dolores

☐ **Yes** ☒ **No** Are any surface waters present on or adjacent to the proposed work areas? Surface waters include wetlands; ephemeral, intermittent, or perennial streams; drainage ditches; reservoirs, ponds, or lakes; and seeps or springs). *If "yes," describe the type of surface water(s), approximate size, and proximity to the work areas.*

☐ **Yes** ☒ **No** Would the proposed action result in a discharge of any type of sediment, wastewater, stormwater, pollutant, or contaminant to a sewer system, stormwater system, surface water, or groundwater? Would the size of the planned land disturbance require a stormwater permit? *If "yes," describe the type, estimated quantity, source, and location of discharge and/or land disturbance. Identify any required federal or state permits or notifications to local, state, or federal regulatory agencies. Identify any existing permits or stormwater plans, if applicable.*

☐ **Yes** ☒ **No** Would the proposed action involve dredging/excavating, filling, or crossing a known or potential Water of the U.S., including wetlands and special aquatic sites? *If "yes," describe the Water of the U.S. or potential Water of the U.S., its proximity to the work areas, and the dredging/excavating or filling activities. Identify any Clean Water Act requirements, including Section 404 permits and Section 401 Water Quality Certifications that may be required. Also include any wetland or ordinary high-water mark delineations or wetland assessments that have been prepared in the past.*

☐ **Yes** ☒ **No** Would the proposed action affect or take place in a floodplain? *If "yes," describe the floodplain, including its classification if applicable, and indicate whether it is regulated. Include any floodplain assessments that have been prepared in the past. Describe the actions to be taken within the floodplain.*

☒ **Yes** ☐ **No** Would the proposed action use or treat surface water or groundwater? *If "yes", identify water sources (e.g. mine seeps from shallow aquifers, municipal water supply, Dolores River Basin, Upper Colorado River Basin). Include any water rights that you currently hold or must acquire that would be applicable to the proposed work.*

Comments:

All water used will be tracked (dates and volumes) and reported to DOE within two weeks of completing proposed action. Water for fugitive dust control will be sourced from Naturita municipal water. No stormwater permit will be needed as the disturbance area is less than one acre. Four points along the planned haulage route for coversoil taken from JD7 to JD5 cross ephemeral streams marked in the national wetlands inventory mapping. These are ephemeral and will be dry in the summer when reclamation work occurs, therefore no special actions are needed. The route for haulage of coversoil is shown in the provided map, *US DOE LEASE JD-7 TO JD-5 COVERSOIL HAULAGE MAP*. See the images provided in the appendix of each ephemeral stream crossing which are completely dry.

Per the Programmatic Environmental Impact Statement (PEIS), the following measures to minimize environmental impacts would be adhered to during site activities:

Compliance Measures

- Maintain, repair, or replace barriers and sedimentation devices as necessary to ensure no offsite discharge of sediment shall occur.

Supporting Information:

6. Natural Resources

☐ **Yes** ☒ **No** With the exception of uranium or vanadium, would the proposed action result in the depletion of other non-renewable natural resources?

☐ **Yes** ☒ **No** Would any part of the proposed action involve displacing, removing, controlling, or relocating wildlife (mammals, birds, reptiles, amphibians, fish, insects, and other invertebrates)?

☐ **Yes** ☒ **No** Could the proposed action result in the deterioration, alteration, or destruction of existing habitat for wildlife as described above?

☐ **Yes** ☒ **No** Would the proposed action introduce a barrier to migratory pathways or otherwise impede wildlife movement?

☒ **Yes** ☐ **No** Does the proposed action include controlling invasive or non-native species (e.g. noxious weeds)? If relevant to the proposed action, please refer to the appropriate mitigations provided in the MAP.

☒ **Yes** ☐ **No** Have any surveys for plants, wildlife, or habitat been conducted? Are such surveys in progress?

If you checked "Yes" for any of these questions, provide details in the comments section below regarding, as applicable, the type of natural resources, how planned activities would affect the natural resources, planned mitigative measures including best management practices, and maps showing the location of planned disturbance related to natural resources. As applicable, include reports related to natural resources, including surveys that have been performed.

Comments:

Per the Programmatic Environmental Impact Statement (PEIS), the following measures to minimize environmental impacts would be adhered to during site activities:

Compliance Measures

- Monitor the area regularly and eradicate invasive species immediately.
- Use DOE-developed seed mixture and weed-free mulch.

BMP

- Clean vehicles and equipment to avoid introducing weeds.

Supporting Information:

Environmental Review – Department of Energy Leases Reclamation Project (Wildlife Survey by Real West Natural Resource Consulting), May 2024 (attached)

7. Federal or State Listed Threatened, Endangered, or Candidate Species

☒ **Yes** ☐ **No** Are any species present, or could any species be affected by the work, that are:

a) Listed or proposed to be listed as threatened or endangered under the Endangered Species Act (ESA)?
b) Listed as threatened or endangered by the State of Colorado?
c) Listed as sensitive (e.g., special status or species of concern) by a federal, state, or tribal government {e.g. U.S. Bureau of Land Management [BLM], U.S. Forest Service, U.S. Fish and Wildlife Service [USFWS] Birds of Conservation Concern, Colorado Parks and Wildlife)?

☐ **Yes** ☒ **No** Is designated critical habitat, as defined by the ESA, present on or adjacent to the work areas?

☐ **Yes** ☒ **No** Would the proposed action be conducted in a manner that was not analyzed within the ULP Biological Assessment and associated Biological Opinion?

☒ **Yes** ☐ **No** Would the proposed action result in any water depletions to the Upper Colorado River Basin?

☐ **Yes** ☒ **No** Would the proposed action occur on or adjacent to any Areas of Critical Environmental Concern (ACEC) as defined by the BLM (refer to the ULP PEIS for identification of relevant ACECs near ULP lease tracts)?

☐ **Yes** ☒ **No** Have any surveys for listed species been conducted or are in progress?

If you checked "Yes" for any of these questions, provide details in the comments section below regarding the species and/or habitat present and provide any additional information regarding how planned activities might impact the species. If the proposed action was not evaluated in the ULP PEIS Biological Assessment, please identify that below. If applicable, provide anticipated water volumes to be used (in acre-ft/yr) and the basin from which water would be used. If surveys have been conducted, attach a copy of the report(s).

Please note: LM is responsible for determining if the proposed action would require additional consultation with the USFWS under Section 7 of the ESA and would take the lead in all related communication and correspondence.

Comments:

A site survey has been completed for the presence of threatened and endangered species on the site. A site-specific environmental site report has been provided (attached).

The USFWS Information for Planning and Consultation online tool states - Federally listed species Gray Wolf, Gunnison Sage-grouse, Mexican Spotted Owl, Monarch butterfly, and the Silverspot butterfly are potentially in range of the work area.

USFWS's April 3, 2017, Biological Opinion (BO) stated that Gunnison Sage-grouse could be adversely affected by ULP activities. Gunnison Sage-grouse critical habitat could also be affected, but not by the scope of activities described. The 2017 BO indicated that human activity in sagebrush habitats during sage-grouse breeding season (March 1–July 15) could adversely affect the birds by disrupting mating rituals or attracting ravens, which are nest predators, to an area. However, the site is not within known habitat for the bird.

As best management practice, activities would be avoided in sagebrush habitats during the breeding season. Activities in other habitats (e.g., pinyon juniper woodland) would not be expected to result in significant impacts. Activities with a high potential to disrupt birds (e.g., prolonged use of heavy equipment) in sagebrush habitat during breeding season would require USFWS consultation prior to conducting the activities.

The proposed work could potentially affect milkweed plants, which provide important habitat for monarch butterflies, a federal candidate species. As a best management practice, trimming, crushing, or spraying of milkweed would not be performed during this work. Destruction of other flowering plants would be avoided to protect the Silverspot butterfly. However, activities would not adversely affect the species.

Suitable habitat for other listed species is not present on or in the immediate vicinity of any of the lease features as found in the wildlife report by the consulting agency; therefore, the proposed reclamation will have no effect on the species.

The water for fugitive dust suppression will be sourced from a municipal source, such as Naturita.

Colorado state listed species and BLM listed sensitive species may also be present at the proposed project locations.

Per the Programmatic Environmental Impact Statement (PEIS), the following measures to minimize environmental impacts would be adhered to during site activities:

BMP

- Avoid unnecessary disturbance or feeding of wildlife. The collection, harassment, or disturbance or wildlife and their habits should be reduced through employee and contactor education about applicable state and Federal laws.
- Relocate wildlife found in harm's way away from the area of the activity when safe to do so.

Compliance

- If any Federally listed threatened and endangered species are found during any phase of the project, consult with the USFWS as required by Section 7 of the ESA and determine an appropriate course of action to avoid or mitigate impacts.

Mitigation

- Conduct pre-disturbance surveys for threatened, endangered, and sensitive species within all areas that would be disturbed by mining activities. These surveys would be used to determine the presence of sensitive species on the lease tracts and develop the appropriate measures to avoid, minimize, or mitigate impacts on these species. If sensitive species are located in the area that might be developed, coordination with the USFWS and CPW would be necessary to determine the appropriate species-specific measures.
- Schedule activities to avoid critical winter ranges for big game (mule deer and elk) when they are heavily used (December 1 through April 15), or utilize compensatory mitigation (e.g., habitat enhancement or replacement) to offset long-term displacement of big game from critical winter ranges. Compensatory mitigation projects may be developed in coordination with CPW.

Supporting Information:

Environmental Review – Department of Energy Leases Reclamation Project (Wildlife Survey by Real West Natural Resource Consulting), May 2024 (attached)

8. Migratory birds breeding or nesting and the Bald and Golden Eagle Protection Act

☒ **Yes** ☐ **No** Would the proposed action potentially impact any species protected by the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act?

Potential sources of adverse impacts (check all that apply):

- ☒ Sustained or elevated noise or human activity
- ☐ Unmanned aircraft systems
- ☒ Ground disturbance or off-road driving in areas that may contain nests of ground-dwelling species
- ☒ Altering buildings or structures that may contain nests of swallows or similar species
- ☐ Disturbing, trimming, or grubbing vegetation that may contain bird nests
- ☐ Other (please specify)

☐ **Yes** ☒ **No** Would the proposed action potentially impact any species protected by a conservation agreement?

If you answered "yes" to any of the above questions or checked any of the above boxes, please provide information as to how migratory birds or bald/golden eagles may be affected by the work, any mitigative measures to be taken to reduce or eliminate impacts (e.g., scheduling work outside of breeding or nesting seasons), any permits to be sought (e.g., for unavoidable take).

Comments:

The project will include heavy earthwork construction and demolition of structures.

The USFWS Information for Planning and Consultation online tool states – Habitat for Bald and Golden eagles is present within or near the work areas. Also, habitat for the migratory Pinyon Jay is present at the project location. A site visit will be completed to determine whether or not these species are currently in the area (Environmental Site Review Table 6-1).

Other birds protected by the Migratory Bird Treaty Act could be present. Mechanically cutting vegetation or using equipment that disturbs the soil surface could disturb migratory birds, nests, or eggs. If active nests are discovered in the project area, work would pause and the ULP Program Manager, or their delegate, will contact USFWS for appropriate mitigation measures before work may continue.

Per the Programmatic Environmental Impact Statement (PEIS), the following measures to minimize environmental impacts would be adhered to during site activities:

Compliance

- Conduct pre-construction raptor nest surveys to ensure compliance with the Migratory Bird Treaty Act; follow the recommended buffer zones and seasonal restrictions for Colorado's raptors. (Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors 2020)
- Avoid vegetation clearing, grading, and other construction activities during the bird breeding season.
- Use herbicides that have a low toxicity to wildlife and untargeted native plant species, as determined in consultation with the USFWS. Do not use herbicides near or in U.S. waters, including ponds, lakes, streams (intermittent or perennial), and wetlands, unless the herbicide is labeled for such uses. If herbicides are used in or near U.S. waters, the applicator shall ensure that the applications meet the requirements of the EPA's "Pesticide General Permit for Discharges from the Application of Pesticides." Determine setback distances in coordination with Federal and state resource management agencies. Before beginning any herbicide treatments, ensure that a qualified biologist has conducted surveys of bird nests and of sensitive species to identify the special measures or BMPs that are necessary to avoid and minimize impacts on migratory birds and sensitive species. The herbicides to be used would be approved by BLM through submission of "Pesticide Use Proposal" forms. The state-, county-, and BLM-listed plant species scheduled for eradication that are found in the project area would be eradicated and reported to BLM through submission of "Pesticide Application Records."

Mitigation

- Schedule activities to avoid, minimize, or mitigate impacts on wildlife. For example, avoid crucial winter ranges, especially during the periods when they are used. If there are plans to conduct activities during bird breeding seasons, a nesting bird

survey should be conducted first. If active nests are detected, the nest area should be flagged, and no activity should take place near the nest (at a distance determined in coordination with the USFWS) until nesting is completed (i.e., until nestlings have fledged, or the nest has failed) or until appropriate agencies agree that construction can proceed with the incorporation of agreed-upon monitoring measures. Coordinate the timing of activities with BLM, USFWS, and CPW. Prior to authorization of ground disturbing activities, a habitat suitability analysis would be done and for habitats found suitable, a protocol survey would be done. If nesting birds are found, seasonal and year-round buffers would be established with USFWS coordination.

Supporting Information:

Environmental Review – Department of Energy Leases Reclamation Project (Wildlife Survey by Real West Natural Resource Consulting), May 2024 (attached)

9. Historical, archeological or cultural resources

☒ **Yes** ☐ **No** Would the proposed action require any ground disturbing activity?

☒ **Yes** ☐ **No** Would the proposed action result in any physical modification of existing facilities?

☐ **Yes** ☒ **No** Would the proposed action result in any adverse effects on historical property, cultural resources, archeological sites, or properties of religious or cultural significance?

If you answered "yes" to any of the above questions or checked any of the above boxes, please provide information regarding the resources present, potential for impacts, and any mitigative actions that could be applied to reduce adverse effects.

Please note: Per the ULP PEIS Programmatic Agreement (PA), LM, in coordination with BLM, is responsible for determining if the proposed action is a surface disturbing activity that would require a Class III cultural resources inventory. LM and BLM will handle all Section 106 consultation under the National Historic Preservation Act (NHPA) and will lead all correspondence with the Colorado State Historic Preservation Office (SHPO).

Comments:

The project will reclaim disturbed mine sites through excavation and removal of existing structures. The land is pre-disturbed since the 1960's, when the mine was developed. No disturbance to undisturbed land is anticipated. The headframe and associated structures are of historical importance and are to remain on site as previously described

A Class III cultural resources survey was conducted prior to reclamation activities. The survey resulted in the recording of Joe Dandy Mine, which has been recommended as eligible for listing in the National Register of Historic Places. The recording archaeologists recommended that in order for the site to remain eligible, features 1 (the head frame) and 2 (the hoist house [include the compressor room/house]) should be avoided during reclamation activities.

A cultural survey which is an addendum to the previously completed cultural survey was conducted for the access route to the ventilation fan and wood cribbing in the southern part of the site. This access was not covered in the original survey. The survey was conducted by Alpine Archaeological Consultants. All features surveyed (i.e., the vent, access road, and wood cribbing) were determined not to be eligible.

The Programmatic Agreement has expired as of 2024. LM initiated Section 106 consultation with the Colorado SHPO in a letter dated March 24, 2025 (attached). CO SHPO concurred that proposed reclamation work at JD-5 would have no adverse effect in a response letter signed April 3, 2025 (attached). LM has fulfilled its obligations under Section 106 of the NHPA.

Per the Programmatic Environmental Impact Statement (PEIS), the following measures to minimize environmental impacts would be adhered to during site activities:

Compliance

- Assure that all activities comply with Section 106 of the NHPA.
- Assure that all individuals performing cultural resources management tasks and services meet the Secretary of the Interior Standards for Archaeology and Historic Preservation.
- Identify through searches of records, field surveys, and consultation with tribes, as necessary, all cultural resources in the area of potential effects and evaluate them for eligibility for inclusion on the NRHP.

Mitigation

- Prior to any surface-disturbing activity, the lessee shall perform cultural and historic surveys of the proposed area of disturbance and provide results of such surveys to LM and BLM. If cultural or historic resources are found to exist, the lessee shall consult with LM, BLM, and the State Historic Preservation Officer to determine the appropriate measures to take. If required, the lessee shall prepare a mitigation plan to address the protection of the cultural or historic resources.
- Immediately notify the BLM authorized officer of any paleontological resources discovered as a result of mining activities so that appropriate measures to mitigate adverse effects to significant paleontological resources can be determined and implemented. Operations may continue if activities can avoid further impacts on the fossil discovery or can be continued elsewhere.

Supporting Information:

A Class III Cultural Resource Inventory of the Gold Eagle Uranium Lease Areas in Montrose and San Miguel Counties, Colorado (Alpine Archaeological Consultants, Inc.) – October 2024 (attached), and Limited-Results Cultural Resource Survey addendum – March 2025 (attached)

10. Tribal Resources

☐ **Yes** ☒ **No** Does the proposed action have the potential to disrupt access to or the use of resources that are important to Tribal/Native Americans?

☐ **Yes** ☒ **No** Does the proposed action take place in or near an area where important Tribal/Native American resources are known to exist?

If you answered "yes" to any of the above questions or checked any of the above boxes, please provide information regarding the resources present, potential for impacts, and specifics regarding the Native American tribes that could potentially be impacted. Native American tribes may have historical affiliation with areas surrounding the lease tracts and therefore, interest in how the proposed action could affect tribal resources.

Please note: Per the ULP PEIS PA, LM, will consult with applicable Tribes to determine if (1) there are properties of religious and cultural significance that were not previously identified or considered in surveys or related NHPA Section 106 reviews, as appropriate and (2) if present, determine if these properties would be potentially impacted by the proposed undertaking. LM will be responsible for all communication and coordination with the Colorado SHPO and relevant Tribes.

Comments:

During previous LM Section 106 consultations with Tribes with historic affiliation and interest in the area have not expressed that important tribal resources exist in the area. LM consulted with the Apache Tribe of Oklahoma, Fort Belknap Indian Community, and the Navajo Nation during the Section 106 process in a letter dated March 24, 2025 (attached). No response was received from any of the tribes after the 30-day review period. LM has fulfilled its obligations under Section 106 of the NHPA.

The Programmatic Agreement has expired as of 2024.

Supporting Information:

11. Geology and Soils

☒ **Yes** ☐ **No** Would the proposed action result in any displacement, compaction, or over-covering of soil?

☒ **Yes** ☐ **No** Would the proposed action result in permanent change in topography or ground surface relief features?

☐ **Yes** ☒ **No** Would the proposed action increase water or wind erosion of soil during construction or operation?

☒ **Yes** ☐ **No** Would the proposed action require any ground disturbing activity?

If "yes", please describe how much total acreage would be disturbed from all components of the proposed action (e.g., 1 acre or more, 5 acres or more, etc.).

☒ **Yes** ☐ **No** Are erosion control measures planned?

☒ **Yes** ☐ **No** Would the proposed action result in the installation or deployment of equipment outdoors, including in the area of disturbance?

☒ **Yes** ☐ **No** Would the proposed action result in any physical modification of existing facilities or construction of new facilities or infrastructure?

☒ **Yes** ☐ **No** Have any drilling, mining, or reclamation related permits been obtained or are otherwise required as a result of the proposed action?

If "yes", provide DOE with copies of permits

☒ **Yes** ☐ **No** Have any land disturbance, grading, or other construction permits been obtained or are otherwise required as a result of the proposed action?

If "yes", provide DOE with copies of permits.

If you checked "Yes" for any of these questions, provide details in the comments section below regarding, associated activities and mitigative controls, and provide documentation of reports (e.g. geotechnical reports), plans (e.g. erosion and sediment control plans), permits, if applicable.

Comments:

The land is pre-disturbed ground, disturbed since the 1960's when the mine was developed. This project is to reclaim disturbances due to past mining practices. The project will include regrading of approximately 0.6 acres of disturbed ground left due to past mining practices, resulting in improvement in permanent topography. This will be completed through the use of earth moving equipment.

Erosion control measures include regrading and revegetation of the disturbed areas. The sites will be revegetated upon completion of reclamation work to achieve stable reclamation surfaces. Heavy equipment will be utilized for the grading and the demolition of structures. The reclamation activities proposed on this site are permitted with the Colorado Division of Reclamation, Mining, and Safety (DRMS).

Per the Programmatic Environmental Impact Statement (PEIS), the following measures to minimize environmental impacts would be adhered to during site activities:

Compliance Measures

- Retain sediment-laden waters from disturbed areas with the lease tract through the use of barriers and sedimentation devices (e.g., berms, straw bales, sandbags, jute netting, or silt fences) as necessary.
- Maintain, repair, or replace barriers and sedimentation devices as necessary to ensure optimum control.
- As sedimentation ponds are cleaned, test sediments and precipitates for proper disposal.
- Identify surface water runoff patterns at the mine site and develop mitigation that prevents soil deposition and erosion throughout and downhill from the site; potential adverse impacts could be minimized by incorporating erosion-control techniques such as water bars, weed-free hay bales and silt fences, vegetation, erosion-control fabric, temporary detention basins, and land contours in the construction design.
- If weeds develop on reclaimed surface, assure that herbicides used meet the specifications and standards of BLM and county weed control staff.
- Use DOE-developed seed mixture.
- Monitor seeded areas for some period following seeding to ensure vegetation is reestablished.

Mitigation

- Recontour soil borrow areas and cut and fill slopes, berms, water-bars, and other disturbed areas to approximate naturally occurring slopes.
- Mine waste-rock will be graded to create a gently sloping (more stable) surface.
- Place topsoil over the top of disturbed areas and seed (e.g., by broadcast or drill seeder).
- Reestablish the original grade and drainage pattern of all disturbed areas before final reclamation to the extent practicable.
- Use existing roads and disturbed areas (and transport ROWs) to the extent possible (before constructing new roads or disturbing new areas.
- Obtain borrow materials from authorized or permitted sites.

BMP

- Use wattles or other appropriate materials to reduce potential for sediment transport off the site.
- Identify local factors that cause slope instability (e.g., slope angles, precipitation) and avoid areas with unstable slopes.
- Conduct routine inspections to assess effectiveness and maintenance requirements for erosion and sediment control systems.
- Inspect and clean tires of all vehicles to ensure they are free of dirt before they enter paved public roadways to the extent practical.
- Seed soil stockpiles to minimize erosion and growth of weeds.
- Perform scarification methods with a motor grader or agricultural equipment, such as a chisel plow, as necessary, to abandoned roads and areas no longer needed to alleviate soil compaction.
- Minimize the duration of ground-disturbing activities, especially during periods of heavy rainfall.
- Employ measures to limit exposure to wind and water during the activity.
- Limit access to disturbed areas and staging areas to authorized vehicles traveling only on designated (dust-stabilized) roads.
- Test for agronomic nutrient profile to determine whether amendments are needed to establish vegetation before final reclamation.

Supporting Information:

12. Socioeconomics, Environmental Justice, and Children's Health

☐ **Yes** ☒ **No** Would the proposed action have any adverse effects on the local community, employment, population, or fiscal activities?

☐ **Yes** ☒ **No** Would the proposed action have disproportionate effects to low-income or minority populations in accordance with Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*?

☐ **Yes** ☒ **No** Would the proposed action result in disproportionate environmental health risks and safety risks to children in accordance with Executive Order 13045, *Protection of Children from Environmental Health and Safety Risks*?

If you checked "Yes" for any of these questions, provide details in the comments section below regarding, the specified additional information.

Comments:

Supporting Information:

13. Transportation

☐ **Yes** ☒ **No** Would the proposed action require transportation of U.S. Department of Transportation hazardous materials (e.g., explosives, gases, flammable materials, poisonous materials, radioactive materials, corrosive materials, other) along a roadway, over rail, etc.?

☐ **Yes** ☒ **No** Would the proposed action require substantial use of existing roads, change in traffic patterns, or require the construction of new roads or access?

☐ **Yes** ☒ **No** Would any temporary or permanent haul roads or access roads be constructed?

If" yes", please provide a map showing the location of the road, the types of vehicles that would use the road, and the anticipated frequency of use.

☐ **Yes** ☒ **No** Would the proposed action require any haul permits or other transportation-related permits (e.g. county-issued Special Use Permit)?

If so, provide DOE with copies of permits.

If you checked "Yes" for any of these questions, provide details in the comments section below regarding (1) the roadway(s) that would be impacted, (2) identification of materials that would be transported (3) construction parameters of any new roadways including length/width, (4) any required permits.

Comments:
Existing access roads would be utilized to haul coversoil from the JD-7 site (see map).

Supporting Information:

14. Land Use, Recreation, and Visual Resources

☐ **Yes** ☒ **No** Would the proposed action be located near any residences or Specially Designated Areas and Lands with Wilderness Characteristics on Public Lands as described in the Volume I of the ULP PEIS (see Sections 3.7 and 3.12)?

☐ **Yes** ☒ **No** Would the proposed action impact existing or result in new utility lines or rights-of-way?

☐ **Yes** ☒ **No** Would the proposed action result in any change in land use designation?

☐ **Yes** ☒ **No** Would the proposed action be located near any Special Visual Resource Area as defined in Volume I of the ULP PEIS (see Section 3.12)?

☐ **Yes** ☒ **No** Would the proposed action introduce changes to the viewshed or the lightscape of the night sky?

If you checked "Yes" for any of these questions, provide details in the comments section below regarding the specified additional information.

Comments:
The proposed action will reclaim disturbances due to past mining practices.

Supporting Information:

SECTION V. SUMMARY OF ANTICIPATED ENVIRONMENTAL REQUIREMENTS (TO BE COMPLETED BY THE LESSEE)

Using the table below, please provide a summary of all anticipated regulatory requirements identified in this checklist (including permits, surveys, management plans, consultation/coordination requirements, etc.).

Anticipated Environmental Requirements (Focused on Section IV)

Checklist Section	Regulatory Requirement	Applicable Regulatory Agency	Time Frame
Section I. Project Summary	DOE-BLM MOU	Review of proposed action	Complete – *concurrence received 10/10/2024*
Section I. Project Summary	DOE-DRMS MOU	Review of proposed action	Complete - *concurrence received 10/18/2024*
Section IV.9 Historical, archeological or cultural resources and 10 Tribal Resources	NHPA Section 106 Consultation	Consultation with SHPO and Tribes	30 days ends 04/24/2025 *SHPO concurrence 04/03/2025*

SECTION VI. LESSEE CERTIFICATION

By signing below, the Lessee certifies that the information provided in this checklist is accurate and complete as of the date shown below and understands that false statements or misrepresentations may result in civil and/or criminal penalties under 18 U.S.C 1001.

Lessee: **Corey Dias** (*Name*) —  **May 14, 2025** (*Signature and date*)

SECTION VII. LEGACY MANAGEMENT SUPPORT (LMS)/LM APPROVAL.

This form is not complete until all necessary signatures are applied. Signatures may be electronic or handwritten.

LMS ULP Lead: TREYTON NUSBAUM-DAVIS (Affiliate) (*Name*) — Digitally signed by TREYTON NUSBAUM-DAVIS (Affiliate) Date: 2025.05.15 13:17:03 -06'00' (*Signature and date*)

LM ULP Manager: CANDICE LONG (*Name*) — Digitally signed by CANDICE LONG Date: 2025.05.15 15:01:55 -06'00' (*Signature and date*)

LMS Environmental Compliance: JASON RITTER (Affiliate) (*Name*) — Digitally signed by JASON RITTER (Affiliate) Date: 2025.05.15 11:27:11 -05'00' (*Signature and date*)

LMS NEPA Coordinator: REBECCA STERN (Affiliate) (*Name*) — Digitally signed by REBECCA STERN (Affiliate) Date: 2025.05.15 12:47:44 -06'00' (*Signature and date*)

SECTION VIII. LM NEPA DETERMINATION (TO BE COMPLETED BY LM)

I hereby certify that I have reviewed the information provided in this checklist, have determined that all questions have been appropriately answered, and judge the responses to be consistent with the efforts proposed. Based on the information in the checklist, I conclude the following (check the appropriate box):

■ **Yes** ☐ **No** The proposed action falls under one or more of the categorical exclusions (CXs) listed in Appendix A or B of Subpart D of the DOE NEPA Implementing Procedures (10 CFR 1021) and would not (1) violate applicable Environmental Safety & Health requirements (2) require siting of waste transportation, storage, and disposal or recovery facilities, (3) disturb hazardous substances (excluding naturally occurring petroleum and natural gas), thus producing uncontrolled or unpermitted releases, and (4) adversely affect environmentally sensitive resources.

Additionally, the proposed action (1) would not present any extraordinary circumstances, such that the action might have a significant impact upon the human environment, (2) is not connected to other actions with potentially significant impacts, and (3) is not related to other actions with cumulatively significant impacts.

☐ **Yes** ☐ **No** The proposed action is related to a Mining Plan and subsequently, an Environmental Assessment (EA) (at a minimum) must be prepared in accordance with the 2014 Final ULP PEIS and associated Record of Decision.

☐ **Yes** ☐ **No** The proposed action does not qualify for CX as identified in Subpart D of DOE's NEPA Implementing Procedures; therefore, the proposed action may require further documentation in the form of an EA or EIS

LM NEPA Compliance Officer: JENNIFER O'BRIEN (*Name*) — Digitally signed by JENNIFER O'BRIEN Date: 2025.05.15 15:25:09 -06'00' (*Signature and date*)

The *Final ULP Programmatic Environmental Impact Statement* (DOE/EIS-0472, March 2014) states that DOE would evaluate lessee actions and determine if they can be categorically excluded by regulation. The LM NEPA Compliance Officer has determined that the proposed actions at JD-5 as described in Section III of this checklist are similar in nature, scale, and/or scope of activities previously evaluated in the following program documents:

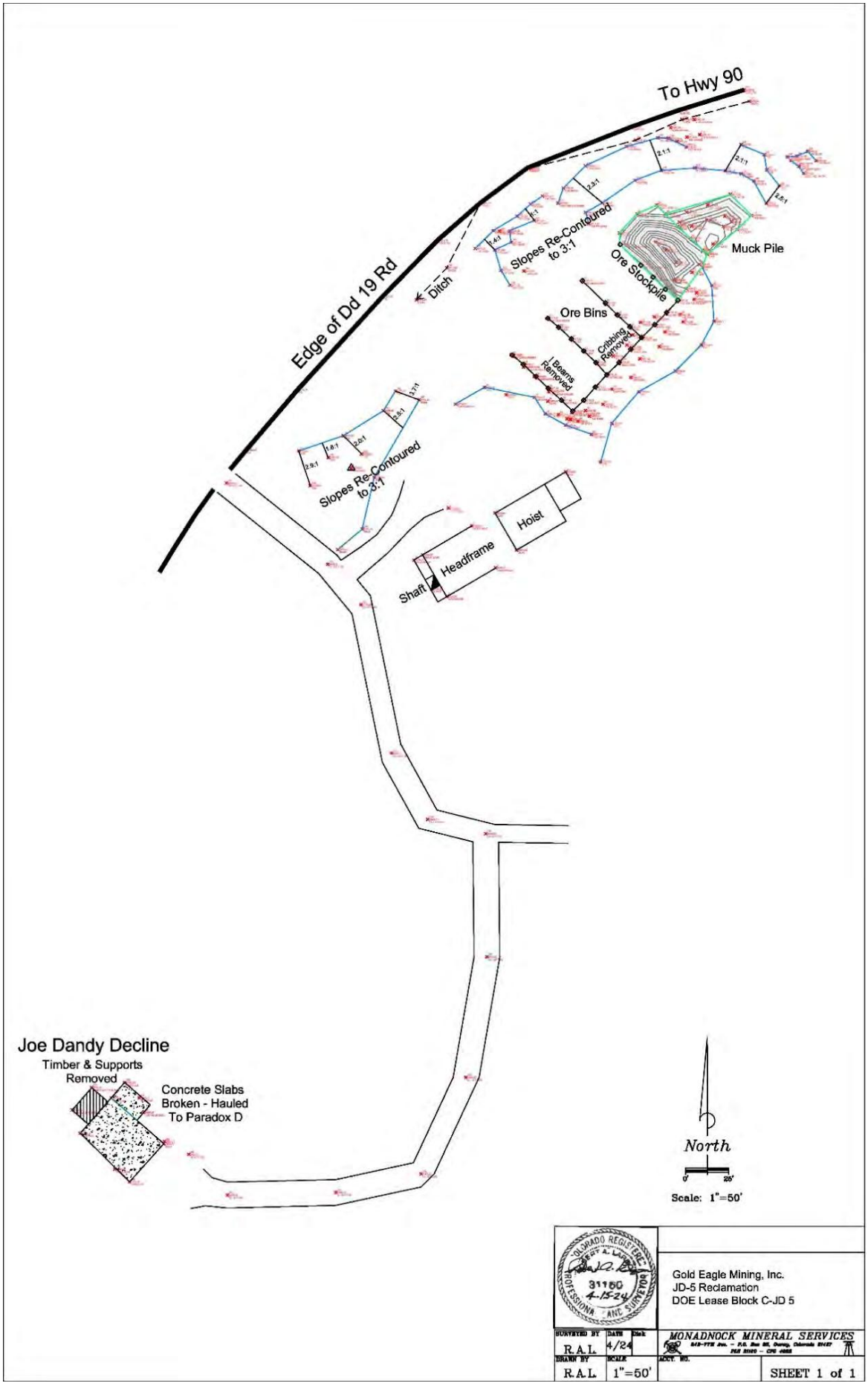
NEPA CXE LM 04-24, Reclamation, Routine, and Nonroutine Activities on Uranium Leasing Program Lease Tracts in Southwestern Colorado, signed 07/02/2024

Appendix JD-5 Environmental Checklist

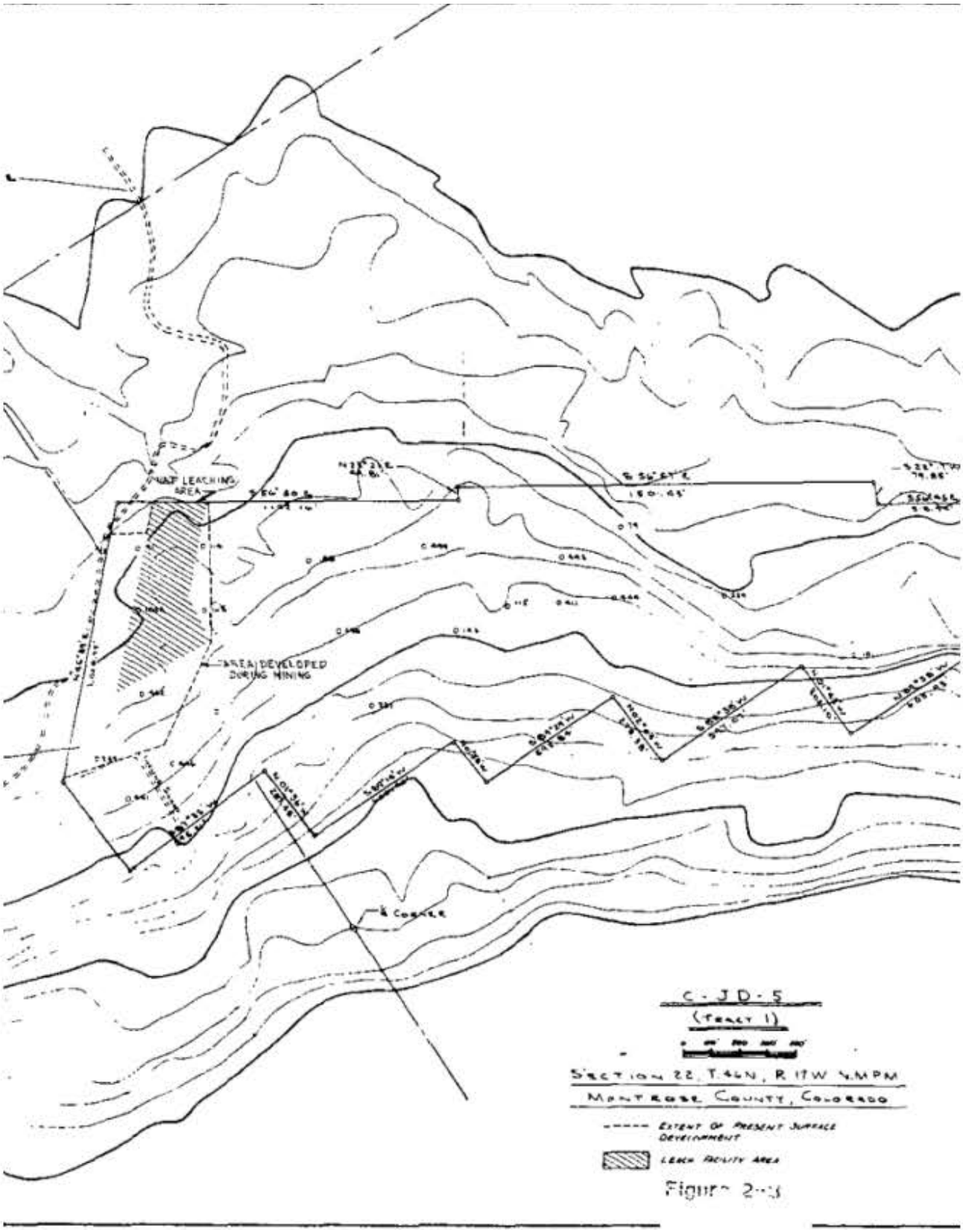
JD-5 Headframe and Adjoining Buildings
(To Remain as Culturally Significant Historical Structure)

JD-5 Ore Bin Area

Joe Dandy Slab & Structure



JD-5 Updated Reclamation Plan



JD-5 Permit Map

Gold Eagle Mining, Inc.

845EMainStreet[N] Montrose, 0 970-249-0401' Fax 970-29-3292

November 29, 2023

Vince Beresford

Bureau of Land Management Uncompahgre

Field Office

2465 South Townsend Avenue

Montrose, CO 81401

Subject: Concerning Structure for Cultural

Resources Mr. Beresford:

I am contacting you regarding listing structures on Cultural Resources designation for structures on the JD -5 mine at 30319 DD 19 Road, Naturita, CO. Attached is a Technical Revision, dated July 31, 2013. On page 3, 2nd paragraph, it refers to a "BLM recommendation that the BLM has recommended in 1994 that some mining features are of historical significance. Accordingly, the steel headframe and man-skip should be retained on site at Final Reclamation as a matter of historical significance."

This may very well the largest headframe and hoist assembly in the continental United States. Acknowledging that it currently is 3 years below the 50-year qualification, but does fit under the uniqueness waiver, I would contend that the hoist house and hoist assembly should be considered. This property is part of the Uranium Leasing Program and the lease itself is beyond the 50-year window.

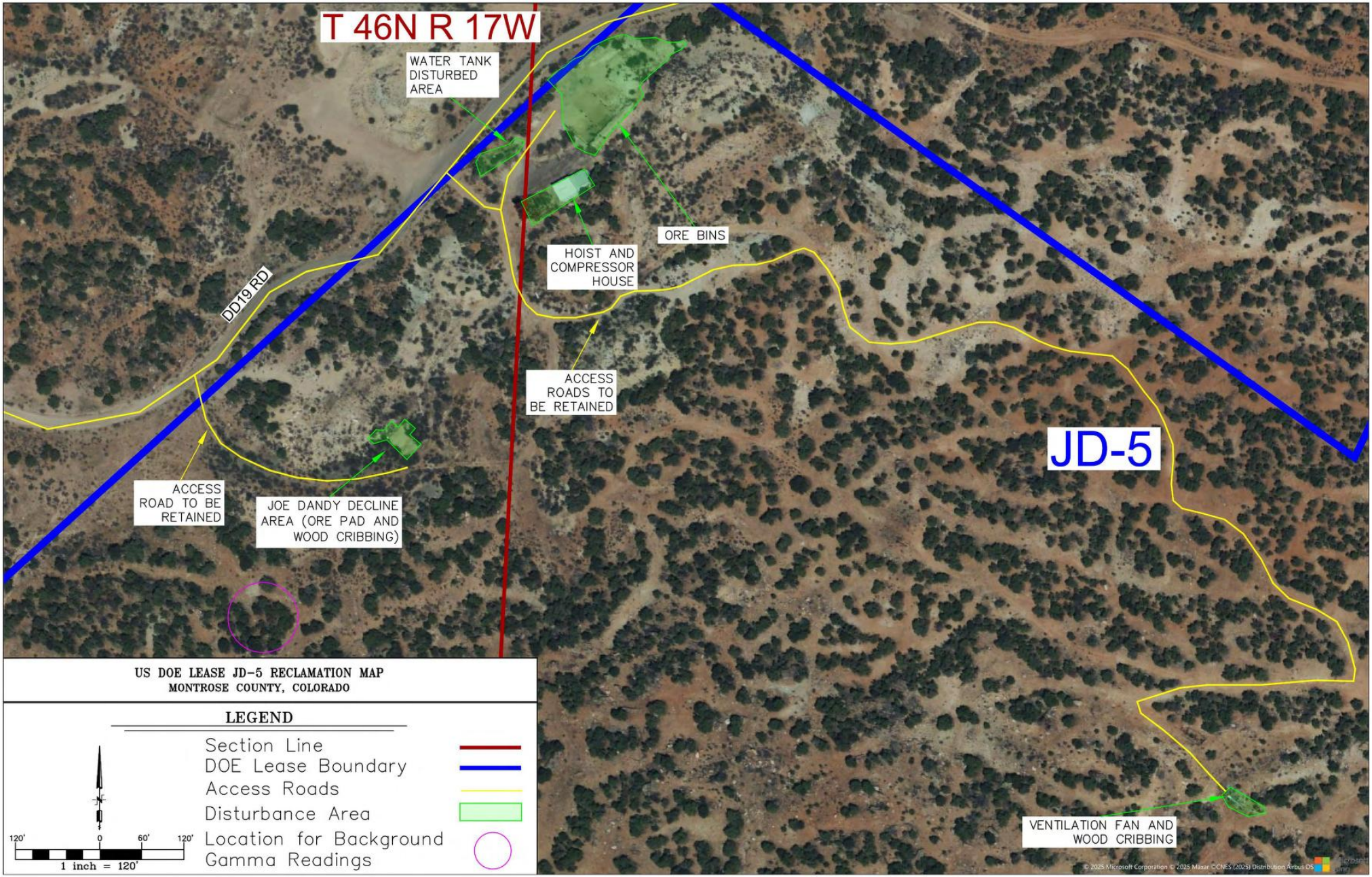
Thank you for your consideration.

Respectfully,

Don Coram

Gold Eagle Mining, Inc.

Sent by US Mail and electronically.

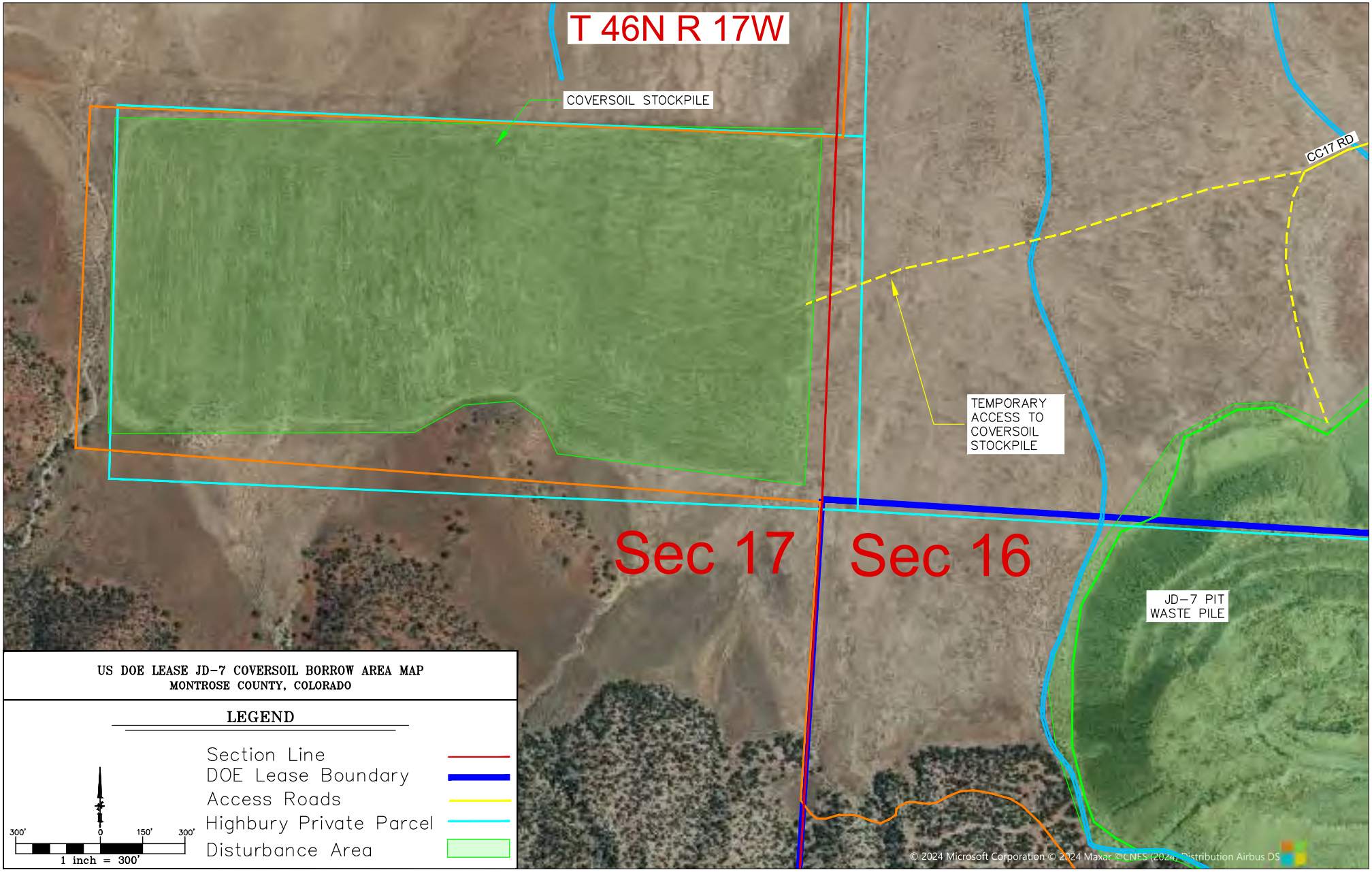


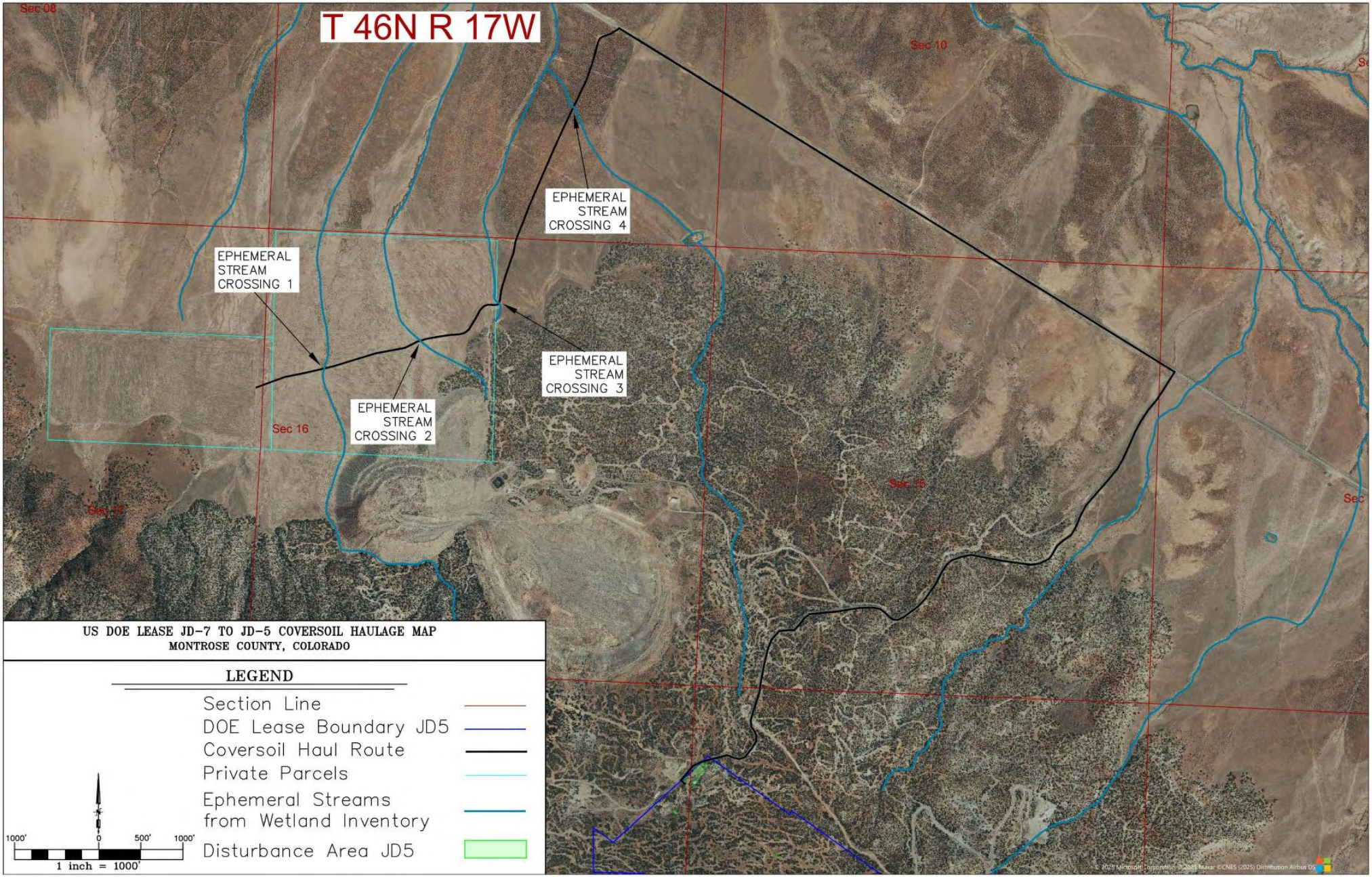
US DOE LEASE JD-5 RECLAMATION MAP
MONTROSE COUNTY, COLORADO

LEGEND

- Section Line
- DOE Lease Boundary
- Access Roads
- Disturbance Area
- Location for Background Gamma Readings

120' 0 60' 120'
1 inch = 120'


T 46N R 17W
COVERSOIL STOCKPILE
CC17 RD
TEMPORARY ACCESS TO COVERSOIL STOCKPILE
Sec 17
Sec 16
JD-7 PIT WASTE PILE
US DOE LEASE JD-7 COVERSOIL BORROW AREA MAP
MONTROSE COUNTY, COLORADO
LEGEND
Section Line
DOE Lease Boundary
Access Roads
Highbury Private Parcel
Disturbance Area
300' 0 150' 300'
1 inch = 300'
© 2024 Microsoft Corporation © 2024 Maxar ©CNES (2024) Distribution Airbus DS


T 46N R 17W
Sec 08
Sec 10
Sec 16
Sec 15
EPHEMERAL STREAM CROSSING 1
EPHEMERAL STREAM CROSSING 2
EPHEMERAL STREAM CROSSING 3
EPHEMERAL STREAM CROSSING 4
US DOE LEASE JD-7 TO JD-5 COVERSOIL HAULAGE MAP
MONTROSE COUNTY, COLORADO
LEGEND
Section Line
DOE Lease Boundary JD5
Coversoil Haul Route
Private Parcels
Ephemeral Streams from Wetland Inventory
Disturbance Area JD5
1000' 0 500' 1000'
1 inch = 1000'

Ephemeral Stream Crossing 1 Along Road Image 1

Ephemeral Stream Crossing 1 Along Road Image 2

Ephemeral Stream Crossing 2 Along Road Image 1

Ephemeral Stream Crossing 2 Along Road Image 2

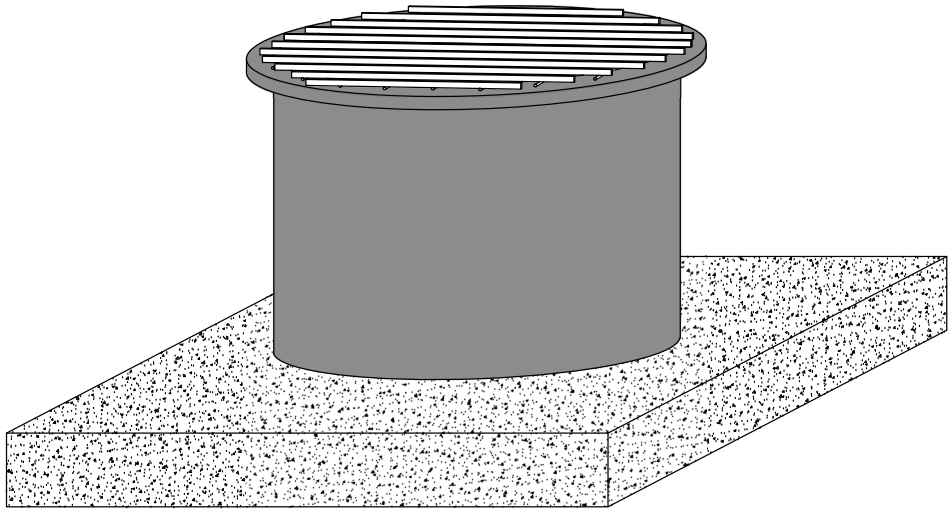
Ephemeral Stream Crossing 3 Along Road Image 1

Ephemeral Stream Crossing 3 Along Road Image 2

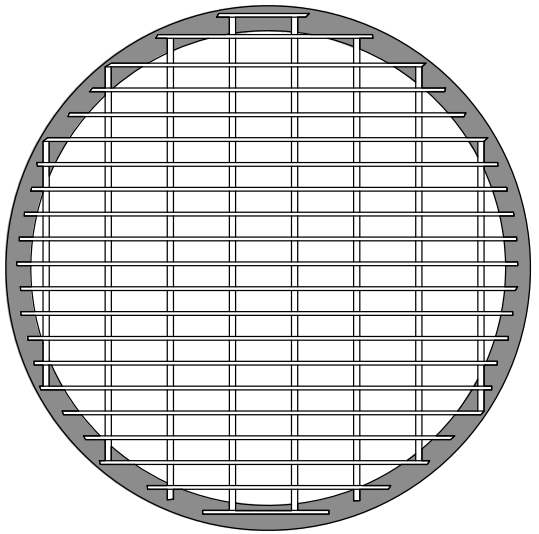
Ephemeral Stream Crossing 4 Along Road Image 1

Ephemeral Stream Crossing 4 Along Road Image 2

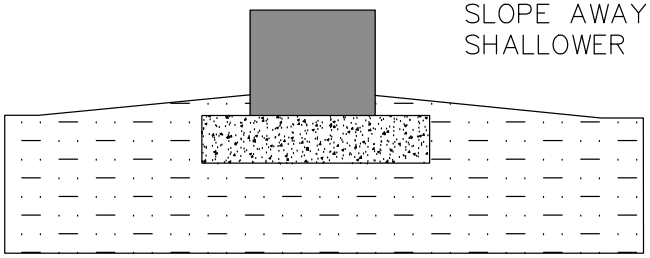
REMOVE FAN HOUSING, LEAVING COLLAR AND CONCRETE PAD IN PLACE TO WELD GRATE TO



GRATING ($1\frac{1}{4}$"x$\frac{3}{16}$" BEARING BARS @ $1\frac{3}{16}$" O.C., $\frac{1}{4}$" ROUND CROSS RODS @ 4" O.C., TYPE WXA (19–4–52); TACK WELD EVERY OTHER BEARING BAR TO VENT COLLAR; CROSS ROD SIDE INSIDE



SURROUNDING BACKFILL WILL SLOPE AWAY AT 4:1 OR SHALLOWER



CAUTION: This project requires construction work around and over hazardous and unprotected mine shafts, stope, adits, and other openings which may be open to the surface or hidden from view by trash, debris, or thin and unstable layers of surficial materials or rock. The contractor shall be responsible for thoroughly investigating the site conditions and scheduling his equipment, equipment operations, personnel, and safety procedures to prevent accidents and injuries.

BRS BRS INCORPORATED BRS
1130 Major Avenue, Riverton, WY 82501

VENT GRATING DETAIL

DRAWN BY: MDL	SCALE: N/A	FIGURE
DATE: 02/11/2025	REVISION:	**DETAIL 1**
CHECKED BY: CW	DRAWING: ANFIELD/DOE LEASES/2024 REPORTING/CAD	

Table 1. Measures Identified to Minimize Potential Impacts from Reclamation at ULP Lease Tract JD-5

MEASURES TO MINIMIZE ENVIRONMENTAL IMPACTS

Table 1 presents compliance measures needed to fulfill regulatory requirements associated with the reclamation of lease tract C-JD-5 as proposed in the May 1, 2024 ULP Lessee Environmental Checklist. Mitigation measures and BMPs are also listed in Table 1 to provide additional measures that would further reduce the potential impacts. These measures would be considered during the design or planning of the reclamation project. Additional requirements for mitigative measures can be found in Table 2 *Lease-Tract-Specific Mitigation Action Plan to Minimize Potential Impacts from Reclamation at ULP Lease Tract C-JD-5* .

TABLE 1 Measures Identified to Minimize Potential Impacts from Reclamation of Lease Tract C-JD-5

Measure Description	Compliance Measure	Mitigation Measure*	BMP
Reduce dust emissions; reduce air emissions			
• Apply water or chemical suppressants on unpaved haul roads, disturbed surfaces, and temporary stockpiles.	X		
• Assure all heavy equipment meets emission standards as required.	X		
• Avoid construction traffic and reduce speeds on unpaved surfaces.	X		
• Limit idle time of vehicles and motorized equipment.			X
• Fuel all diesel engines used with ultra-low sulfur diesel (sulfur content of ≤15 parts per million [ppm]).			X
Identify and protect paleontological resources			
• Immediately notify the BLM authorized officer of any paleontological resources discovered as a result of mining activities so that appropriate measures to mitigate adverse effects to significant paleontological resources can be determined and implemented. Operations may continue if activities can avoid further impacts on the fossil discovery or can be continued elsewhere.		X	
Reduce noise-related impacts			
• Maintain noise level below Colorado maximum permissible limit of 55 dBA during the day (7 a.m.–7 p.m.) and of 50 dBA at night (7 p.m.–7 a.m.), and below EPA guideline level of 55 dBA day-night average sound level (L_{dn}) at receptor location.	X		
• Maintain equipment in good working order in accordance with manufacturer's specifications.			X
• Limit noisy activities to the least noise-sensitive times of the day (daytime between 7 a.m. and 7 p.m.) and weekdays and limit idle time for vehicles and motorized equipment.			X
• Employ noise-reduction devices (e.g., mufflers) as appropriate.			X
• Limit operational noise to 49 dBA or less within 2 mi (3 km) from an occupied/active Gunnison sage-grouse lek.			X
Protect soils from erosion; protect local surface waterbodies from contamination and sedimentation; and protect local			
• Obtain borrow materials from authorized or permitted sites.		X	
• Identify local factors that cause slope instability (e.g., slope angles, precipitation) and avoid areas with unstable slopes.			X
• Conduct routine inspections to assess effectiveness and maintenance requirements for erosion and sediment control systems.			X

Measure Description	Compliance Measure	Mitigation Measure*	BMP
• Inspect and clean tires of all vehicles to ensure they are free of dirt before they enter paved public roadways to the extent practicable.			X
• Seed soil stockpiles to minimize erosion and growth of weeds.			X
• Apply methods such as chisel plowing or subsoiling (tilling), as necessary, to abandoned roads and areas no longer needed to alleviate soil compaction.			X
• Retain sediment-laden waters from disturbed areas with the lease tract through the use of barriers and sedimentation devices (e.g., berms, straw bales, sandbags, jute netting, or silt fences) as necessary.	X		
• Maintain, repair, or replace barriers and sedimentation devices as necessary to ensure optimum control.	X		
• As sedimentation ponds are cleaned, test sediments and precipitates for proper disposal.	X		
• Identify surface water runoff patterns at the mine site and develop mitigation that prevents soil deposition and erosion throughout and downhill from the site; potential adverse impacts could be minimized by incorporating erosion-control techniques such as water bars, weed-free hay bales and silt fences, vegetation, erosion-control fabric, temporary detention basins, and land contours in the construction design.	X		
• Assure that herbicides used meet the specifications and standards of BLM and county weed control staff.	X		
Minimize the extent of ground disturbance and the duration of ground-disturbing activities			
• Minimize the duration of ground-disturbing activities, especially during periods of heavy rainfall.			X
• If ground-disturbing activities require an extended schedule, employ measures to limit exposure to wind and water during the activity			X
• Limit access to disturbed areas and staging areas to authorized vehicles traveling only on designated (dust- stabilized) roads.			X
• Use existing roads and disturbed areas (and transportation ROWs) to the extent possible (before constructing new roads or disturbing new areas).		X	
Restore original grade and reclaim soil and vegetation			
• Reestablish the original grade and drainage pattern of all disturbed areas before final reclamation to the extent practicable.		X	
• Place topsoil over the top of disturbed areas and seed (e.g., by broadcast or drill seeder).		X	
• Grade mine waste-rock or tailings piles to create a gently sloping (more stable) surface.		X	
• Recontour soil borrow areas and cut and fill slopes, berms, waterbars, and other disturbed areas to approximate naturally occurring slopes.		X	
• Test for agronomic nutrient profile to determine whether amendments are needed to establish vegetation before final reclamation.			X
• Use DOE-developed seed mixture.	X		
• Monitor seeded areas for some period following seeding to ensure vegetation is reestablished.	X		
Protect wildlife and wildlife habitats (and grazing animals, if present) from ground disturbance and general site			
• Schedule activities to avoid critical winter ranges for big game (mule deer and elk) when they are heavily used (December 1 through April 15), or utilize compensatory mitigation (e.g., habitat enhancement or replacement) to offset long-term displacement of big game from critical winter ranges. Compensatory mitigation projects may be developed in coordination with CPW.		X	

Measure Description	Compliance Measure	Mitigation Measure*	BMP
• Conduct pre-disturbance surveys for threatened, endangered, and sensitive species within all areas that would be disturbed by mining activities. These surveys would be used to determine the presence of sensitive species on the lease tracts and develop the appropriate measures to avoid, minimize, or mitigate impacts on these species. If sensitive species are located in the area that might be developed, coordination with the USFWS and CPW would be necessary to determine the appropriate species-specific measures.		X	
• Schedule activities to avoid, minimize, or mitigate impacts on wildlife. For example, avoid crucial winter ranges, especially during the periods when they are used. If there are plans to conduct activities during bird breeding seasons, a nesting bird survey should be conducted first. If active nests are detected, the nest area should be flagged, and no activity should take place near the nest (at a distance determined in coordination with the USFWS) until nesting is completed (i.e., until nestlings have fledged or the nest has failed) or until appropriate agencies agree that construction can proceed with the incorporation of agreed-upon monitoring measures. Coordinate the timing of activities with BLM, USFWS, and CPW. Prior to authorization of ground disturbing activities a habitat suitability analysis would be done and for habitats found suitable, a protocol survey would be done. If nesting birds are found, seasonal and year-round buffers would be established with USFWS coordination.		X	
• Use wattles or other appropriate materials to reduce potential for sediment transport off the site.			X
• Avoid unnecessary disturbance or feeding of wildlife. The collection, harassment, or disturbance of wildlife and their habitats should be reduced through employee and contractor education about applicable state and Federal laws.			X
• Relocate wildlife found in harm's way away from the area of the activity when safe to do so.			X
• If any Federally listed threatened and endangered species are found during any phase of the project, consult with the USFWS as required by Section 7 of the ESA and determine an appropriate course of action to avoid or mitigate impacts.	X		
• Conduct pre-construction raptor nest surveys to ensure compliance with the Migratory Bird Treaty Act; follow the recommended buffer zones and seasonal restrictions for Colorado's raptors.	X		
• Avoid vegetation clearing, grading, and other construction activities during the bird breeding season; if activities are planned during the breeding season, a survey of nesting birds should be conducted first. If active nests are detected, the nest area should be flagged, and no activity should take place near the nest (at a distance determined in coordination with the USFWS) until nesting is completed (i.e., until nestlings have fledged or the nest has failed) or until appropriate agencies agree that construction can proceed with the incorporation of agreed-upon monitoring measures. Coordinate the timing of initial development activities with the BLM, USFWS, and CPW.	X		

Measure Description	Compliance Measure	Mitigation Measure*	BMP
• Use herbicides that have a low toxicity to wildlife and untargeted native plant species, as determined in consultation with the USFWS. Do not use herbicides near or in U.S. waters, including ponds, lakes, streams (intermittent or perennial), and wetlands, unless the herbicide is labeled for such uses. If herbicides are used in or near U.S. waters, the applicator shall ensure that the applications meet the requirements of the EPA's "Pesticide General Permit for Discharges from the Application of Pesticides." Determine setback distances in coordination with Federal and state resource management agencies. Before beginning any herbicide treatments, ensure that a qualified biologist has conducted surveys of bird nests and of sensitive species to identify the special measures or BMPs that are necessary to avoid and minimize impacts on migratory birds and sensitive species. The herbicides to be used would be approved by BLM through submission of "Pesticide Use Proposal" forms. The state-, county-, and BLM-listed plant species scheduled for eradication that are found in the project area would be eradicated and reported to BLM through submission of "Pesticide Application Records."	X		
Minimize the establishment and spread of invasive (vegetative) species			
• Monitor the area regularly and eradicate invasive species immediately.	X		
• Use DOE-developed seed mixture and weed-free mulch.	X		
• Clean vehicles [and equipment] to avoid introducing invasive weeds.			X
Identify and protect cultural and historic resources			
• Assure that all activities comply with Section 106 of the NHPA.	X		
• Assure that all individuals performing cultural resources management tasks and services meet the Secretary of the Interior Standards for Archaeology and Historic Preservation.	X		
• Identify through searches of records, field surveys, and consultation with tribes, as necessary, all cultural resources in the area of potential effects and evaluate them for eligibility for inclusion on the NRHP.	X		
• Prior to any surface-disturbing activity, the lessee shall perform cultural and historic surveys of the proposed area of disturbance and provide the results of such surveys to LM and BLM. If cultural or historic resources are found to exist, the lessee shall consult with LM, BLM, and the State Historic Preservation Officer to determine the appropriate measures to take. If required, the lessee shall prepare a mitigation plan to address the protection of the cultural or historic resources.		X	
Protect human health from radiological exposures			
• Assure an adequate thickness for the surface soil material covering waste-rock piles before seeding. The thickness should be adequate to prevent the underlying waste rocks from exposure to the ground surface over time. Through modeling and/or monitoring, evaluate measured uranium and decay product concentrations in waste rocks to determine whether the thickness is sufficient to mitigate potential radiation exposures.		X	

** Refer to Table 2 Lease-Tract-Specific Mitigation Action Plan to Minimize Potential Impacts from Reclamation at ULP Lease Tract C-JD-5*

Reference:

TABLE 4.6-1 Measures Identified to Minimize Potential Impacts from Uranium Mining at the ULP Lease Tracts from the Final Uranium Leasing Program Programmatic Environmental Impact Statement (DOE/EIS-0472) - March 2014

Table 2. Mitigative Action Plan to Minimize Potential Impacts from Reclamation at ULP Lease Tract JD-5

MITIGATION ACTION PLAN TO MINIMIZE ENVIRONMENTAL IMPACTS

Table 2 presents lease-tract-specific mitigation measures that are required by the Department of Energy (DOE) as identified in the Uranium Leasing Program (ULP) Mitigation Action Plan and in Appendix C of the current lease agreement or that could be added to the lease when modified. DOE may also identify additional mitigation measures. These mitigative measures are needed to fulfill requirements associated with the reclamation of lease tract C-JD-5 as proposed in the May 1, 2024 ULP Lessee Environmental Checklist.

TABLE 2 Lease-Tract-Specific Mitigation Action Plan to Minimize Potential Impacts from Reclamation at ULP Lease Tract C-JD-5

Strategy for Implementing Mitigative Measure (References are to Appendix C, "Specific Requirements and Stipulations" of the lease agreement)	**Activity Phase**	**Party Responsible for Implementation**	**Party Responsible for Approval or Enforcement**	**Monitoring Frequency**	**Date Completed**
Identify and protect cultural, historic, and paleontological resources					
Prior to any surface-disturbing activity, the lessee shall perform cultural and historic surveys of the proposed area of disturbance and provide the results of such surveys to LM and BLM. If cultural or historic resources are found to exist, the lessee shall consult with LM, BLM, and the State Historic Preservation Officer to determine the appropriate measures to take. If required, the lessee shall prepare a mitigation plan to address the protection of the cultural or historic resources [Appendix C, (g)].	Plan development and operations	Lessee	LM, BLM, State Historic Preservation Officer	Before reclamation	October 2024
If antiquities or other objects of historic or scientific interest, including but not limited to historic or prehistoric features or ruins, artifacts, vertebrate fossils, or other paleontological resources, are discovered by the lessee during the performance of operations under this lease, the lessee shall cease operations in the vicinity, notify LM and BLM of such discovery, and immediately take appropriate steps to protect and save such objects of historic or scientific interest [Appendix C, (n)].	Operations	Lessee	LM and BLM	During reclamation	
Protect soil from erosion					
To minimize new disturbance to soils, borrow materials shall be obtained from sources approved by LM and BLM [Appendix C, (l)].	Reclamation	Lessee	LM and BLM	Before and after reclamation	
Minimize the extent and amount of ground disturbance					
The lessee shall use existing roads and disturbed areas (and transportation rights-of-way) to the extent possible before constructing new roads or disturbing new areas [Appendix C, (i)].	Operations	Lessee	LM	During reclamation	
Restore the original grade and reclaim soil and vegetation					
Disturbed areas shall be returned to the original grade and drainage pattern, as practicable, prior to final reclamation [Appendix C, (k) and (l)].	Reclamation	Lessee	LM and BLM	After reclamation	
Stockpiled topsoil shall be placed over disturbed areas and seeded with an approved seed mix [Appendix C, (l)].	Reclamation	Lessee	LM	During and after reclamation	
The lessee shall grade mine waste-rock or tailings piles to create a gently sloping (more stable) surface [Appendix C, (l)].	Reclamation	Lessee	LM and BLM	During and after reclamation	
Soil-borrow areas, cut-and-fill slopes, berms, water bars, and other disturbed areas shall be recontoured to approximate naturally occurring slopes [Appendix C, (l)].	Reclamation	Lessee	LM and BLM	During and after reclamation	
Protect wildlife and wildlife habitats					
Activities shall either be scheduled to avoid critical winter ranges for big game (e.g., mule deer and elk) or agreed-upon mitigation (e.g., habitat enhancement or replacement) shall be identified to offset long-term displacement of big game from critical winter ranges. Compensatory mitigation may be developed in coordination with Colorado Parks and Wildlife (CPW) or with another applicable state or federal land manager [Appendix C, (f)].	Operations	Lessee	LM, BLM,USFWS, CPW	Before reclamation	
Conduct pre-disturbance surveys for threatened, endangered, and sensitive species within all areas that might be disturbed by mining activities. These surveys will be used to determine the presence of sensitive species on the lease tracts and to develop the appropriate measures to avoid, minimize, or mitigate impacts on these species. If sensitive species are located in the area that might be developed, coordination with USFWS and CPW to determine the appropriate species-specific measures will be necessary [Appendix C, (f)].	Plan development	Lessee	LM, BLM, USFWS, CPW	Before reclamation	May 2024

Strategy for Implementing Mitigative Measure (References are to Appendix C, "Specific Requirements and Stipulations" of the lease agreement)	**Activity Phase**	**Party Responsible for Implementation**	**Party Responsible for Approval or Enforcement**	**Monitoring Frequency**	**Date Completed**
If there are plans to conduct activities during bird breeding or nesting season, a nesting bird survey shall be conducted first. If active nests are detected, the nest area shall be flagged, and no activity shall take place near the nest (at a distance determined in coordination with BLM, CPW, and USFWS) until all birds have fledged or it is determined that the eggs will not hatch, or until applicable agencies agree that construction can proceed with the incorporation of agreed-upon monitoring measures. The timing of activities shall be coordinated with BLM, USFWS, and CPW [Appendix C, (f) and (g)].	Plan development and operations	Lessee	LM, BLM, USFWS, CPW	Before reclamation	
Protect human health by minimizing radiological exposure					
The lessee shall ensure that an adequate thickness of surface-soil material covers waste- rock piles before commencing seeding. The thickness of the surface-soil materials shall be adequate to prevent the exposure of underlying waste rocks over time. Modeling, monitoring, or both shall be used to evaluate measured uranium and decay product concentrations in waste rocks to determine whether the surface-soil thickness is sufficient to mitigate potential radiation exposures to human receptors [Appendix C, (l)].	Reclamation	Lessee	LM	During and after reclamation	

Reference:

Table 1 - Identified Mitigative Measures from the Uranium Leasing Program Mitigation Action Plan for the Final Uranium Leasing Program Programmatic Environmental Impact Statement DOE/EIS-0472 (LMS/ULP/Y00368) - November 2014

Abbreviations:

BLM = U.S. Bureau of Land Management
CPW = Colorado Parks and Wildlife
LM = Legacy Management (U.S. Department of Energy)
USFWS = U.S. Fish and Wildlife Service

NHPA Section 106 Consultation

Department of Energy
Washington, DC 20585

March 24, 2025

Via email: hc_oahp@state.co.us

Ms. Dawn DiPrince
State Historic Preservation Officer
1200 Broadway
Denver, CO 80203

Subject: National Historic Preservation Act Section 106 Consultation Regarding Reclamation Work at Lease Tract C-JD-5 in Montrose County, Colorado

Dear Ms. DiPrince:

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) leases Uranium Leasing Program (ULP) lease tract C-JD-5 to Highbury Resources, Inc. (Highbury) in Montrose County, Colorado. Highbury, along with the previous lessee, Gold Eagle Mining Inc., propose to undertake reclamation activities on U.S. Bureau of Land Management (BLM) surface located within the lease tract in 2025. In anticipation of these activities, LM is reaching out to your office for National Historic Preservation Act (NHPA) Section 106 consultation.

The area of potential effect (Title 36 *Code of Federal Regulations* Part 800.16(d) [36 CFR 800.16(d)]) encompasses Joe Dandy Mine on the C-JD-5 lease tract (see figure). This work has been reviewed in accordance with NHPA Section 106 as defined by the operating regulations in 36 CFR 800. The work is an undertaking as defined in 36 CFR 800.16(y).

The reclamation activities conducted by Highbury would include disturbing a total area of 0.56 acres. Activities will include taking mineralized material from one ore bin (364 cubic yards), grading and burying it with an appropriate thickness of soil, and then amending and seeding the cover soil. Wood, debris (including wood cribbing), concrete, steel beams, and buried railroad tracks will be removed from the site and taken to Broad Canyon Landfill for disposal. I-beams and the steel tank for potable water will be removed and taken to Recla Metals for recycling. Areas will be cut-fill regraded to 3:1 ratio (H: V) or gentler slopes matching the surrounding topography and onsite material, and the area immediately behind where the wood cribbing lies will be sloped off to match the surrounding hillside and seeded. The historic head frame and hoist house (which includes the attached compressor house) would remain (explained below). All disturbed areas will be scarified and seeded with DOE- and BLM-approved seed mix. Equipment to be used includes a tracked excavator, a tracked dozer, a chisel plow, and an over-the-road truck for transportation.

In anticipation of the reclamation activities, a cultural resources survey was conducted at the C-JD-5 lease tract by Alpine Archaeological Consultants (Alpine) in the fall of 2024 (*A Class III Cultural Resources Inventory of the Gold Eagle Uranium Lease Areas in Montrose and San Miguel Counties, Colorado, October 2024)* (this report was sent to your office on March 10,

2025; an addendum to the initial report will be sent with this letter). The Joe Dandy Mine (5MN4483) was recorded as part of this effort. Alpine assessed Joe Dandy Mine for the National Register of Historic Places (NRHP) and recommended that the mine fits the criteria for eligibility to the NRHP. However, Alpine suggested that only the head frame and hoist house need to remain, as they alone contribute to the site's eligibility. LM agrees with Alpine's determination.

In accordance with 36 CFR 800.5(b), LM has determined the proposed undertaking of reclamation work would have no adverse effect upon historic properties, as defined in 36 CFR 800.16(i), as reclamation work will avoid the head frame and hoist house, which are the only contributing features of the Joe Dandy Mine (5MN4483).

As is typical for LM, the proposed work would be conducted under an aggressive Stop Work program in the event of an unanticipated discovery of cultural material. Activities would stop in the vicinity of the discovery until LM completes consultation with your office and other necessary parties, in accordance with 36 CFR 800.13. If human remains are discovered, local law enforcement would also be notified. If the scope of the proposed work changes substantially, additional consultation with your office may be required.

If you have questions or require additional information regarding the proposed reclamation work, please contact me at (970) 248-6214 or by email at Ian.Shafer@lm.doe.gov.

Please address email correspondence to: LMAdminSupport@lm.doe.gov.
Please address written correspondence to:

U.S. Department of Energy
Office of Legacy Management
2597 Legacy Way
Grand Junction, CO 81503

Sincerely,

IAN SHAFER
Digitally signed by IAN SHAFER
Date: 2025.03.24 08:28:03 -06'00'

Ian Shafer
Uranium Leasing Program Manager

Enclosures

cc w/enclosures via email:
Matthew Tselee, Apache Tribe of Oklahoma
Michael Blackwolf, Fort Belknap Indian Community
Richard Begay, Navajo Nation
Padraic Benson, DOE-LM
Joyce Chavez, DOE-LM
Jennifer O'Brien, DOE-LM
David Von Behren, DOE-LM
Misty Arellano, TIVC
Joel Doebele, RSI
Jason Ritter, RSI
Jim Denier, RSI
Jessica Dougherty, RSI
Scott Osborn, RSI
FOLD/20/1232

History Colorado

March 31, 2025

Ian Shafer
Uranium Leasing Program Manager
Office of Legacy Management
Department of Energy
2597 Legacy Way
Grand Junction, CO 81503
Email: LMAdminSupport@lm.doe.gov

RE: National Historic Preservation Act Section 106 Consultation Regarding Reclamation Work at Lease Tract C-JD-5 in Montrose County, Colorado (HC# 85893)

Dear Mr. Shafer,

Thank you for your correspondence dated March 24, 2025 requesting review of the above referenced undertaking under Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations 36 CFR 800. Our office has reviewed the submitted materials, and we offer the following comment.

Assessment of Adverse Effects
We concur with your finding of **no adverse effect**, 36 CFR 800.5(b), to historic properties.

Should unidentified historic properties or unanticipated effects to historic properties be discovered in the course of the undertaking, work must be interrupted in order to complete consultation with our office and other consulting parties pursuant to 36 CFR 800.13. Also, should the consulted-upon scope of the work change please contact our office for continued consultation under Section 106 of the NHPA.

We request being involved in the consultation process with the local government, which as stipulated in 36 CFR 800.3 is required to be notified of the undertaking, and with other consulting parties. Additional information provided by the local government or other consulting parties might cause our office to re-evaluate our eligibility and potential effect findings. Please note that our compliance letter does not end the 30-day review period provided to other consulting parties.

Thank you for the opportunity to comment. If you have any questions, please contact Mark Tobias, Intergovernmental Services Manager, at (303) 866-4674, or mark.tobias@state.co.us.

Sincerely,

Dr. Holly Kathryn Norton

Digitally signed by Dr. Holly Kathryn Norton
Date: 2025.04.03 16:14:47 -06'00'

(for) Dawn DiPrince
State Historic Preservation Officer

A Class III Cultural Resource Inventory of the Gold Eagle Uranium Lease Areas in Montrose and San Miguel Counties, Colorado **(Alpine Archaeological Consultants, Inc.) – October 2024**

CONTAINS PRIVILEGED INFORMATION – DO NOT DISTRIBUTE

OAHP: MC.E.R150
BLM-TRFO No.: TR24024
BLM-UFO No.: 24UN-15

A Class III Cultural Resource Inventory of the Gold Eagle Uranium Lease Areas in Montrose and San Miguel Counties, Colorado

By

Jordan Kluver and Samual Fresher

Under the direction of

Sara A. Millward
and
Michael J. Prouty
Principal Investigators

Alpine Archaeological Consultants, Inc.
P.O. Box 2075
Montrose, Colorado 81402-2075

Prepared for

United States Department of Energy
11035 Dover St. #600
Westminster, Colorado 80021

On behalf of
BRS Engineering, Inc.
130 Major Ave.
Riverton, Wyoming 82501

Under the Provisions of

State of Colorado Permit 84022 (expires February 28, 2025)
Colorado BLM Permit COCO106307320 Mod (expires December 21, 2024)

October 2024

History Colorado-Office of Archaeology and Historic Preservation

COLORADO CULTURAL RESOURCE SURVEY

Cultural Resource Survey Management Information Form

I. PROJECT SIZE

Federal acres of potential effect/project:	16.3	Acres surveyed:	16.3
State acres of potential effect/project:	0	Acres surveyed:	0
Private acres of potential effect/project:	2	Acres surveyed:	2
TOTAL:	18.3	TOTAL:	18.3

II. PROJECT LOCATION

County(ies): **Montrose and San Miguel**
Horse Range

USGS Quad Map(s): **Mesa and Naturita NW**

Principal Meridian(s): **New Mexico**

46N, 17W, S22, SW, NW, NW
46N, 17W, S22, NW, SW, NW
46N, 17W, S21, SE, NE, NE
46N, 17W, S21, NE, SE, NE
44N, 18W, S30, NE, SE, SE
44N, 18W, S30, NW, SE, SE
44N, 18W, S30, SE, SE, SE
44N, 18W, S30, SE, NE, SE

III. SITES

Smithsonian Number	Resource Type				Eligibility					Effect			Management Recommendations						
	Prehistoric	Historic	Paleontological	Unknown	Eligible	Not Eligible	Need Data	Contributes to a District	Supporting Segment	N/A (not a hist. prop.)	No Adverse Effect	Adverse Effect	No Further Work	Preserve/ Avoid	Monitor	Test	Excavate	Archival Research	Other
5MN4483		X			X							X		X					
5SM9117		X				X					X		X						

IV. ISOLATED FINDS

Smithsonian Number	Resource Type			
	Prehistoric	Historic	Paleontological	Unknown

MANAGEMENT SUMMARY

BRS, Inc. (BRS) is conducting remediation work with respect to two mines, JD-5 and SR-13, leased by Gold Eagle on land managed by the Bureau of Land Management (BLM) Uncompahgre Field Office (UFO) in San Miguel and Montrose counties, Colorado. Because the project is federally funded and crosses federal lands, various cultural resource laws apply. Federal mandates for the examination of the inventory area include Section 106 (54 U.S.C. § 306108) of the National Historic Preservation Act. This law requires that all significant cultural resources be identified prior to planned development and is intended to ensure that historical and prehistoric cultural resources important to our national heritage are not inadvertently harmed or destroyed by federally initiated or authorized actions. To meet the historic preservation requirements and to determine the effects of the proposed undertaking on cultural resources within the project's area of potential effects (APE), BRS retained Alpine Archaeological Consultants, Inc. (Alpine) to conduct a Class III intensive pedestrian cultural resource inventory of the 18.3-acre APE. Alpine also completed a file search and literature review of the APE in advance of fieldwork. Alpine inventoried a total of 8.5 acres of BLM-managed land, 7.8 acres of Department of Energy (DOE)-managed land within the BLM-Tres Rios Field Office, and 2 acres of private land for the project; work was conducted under Alpine's BLM Cultural Resource Use Permit COCO106307320 and State of Colorado Permit 84022. The DOE is the lead agency for the project.

The inventory resulted in the recordation of one newly recorded historical mine (5SM9177) and one previously recorded historical mine (5MN4483) (Table 8). Site 5SM9177 is recommended as not eligible for inclusion in the National Register of Historic Places and no further work is recommended. Site 5MN4483 is officially eligible and Alpine recommends that the reclamation activities avoid Features 1 and 2, as they contribute to the site's eligibility. No artifacts were collected during the project.

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INTRODUCTION

BRS, Inc. (BRS) is conducting remediation work with respect to two mines leased by Gold Eagle in San Miguel and Montrose counties, Colorado. Because the project is federally funded and crosses federal lands, various cultural resource laws apply. Federal mandates for the examination of the inventory area include Section 106 (54 U.S.C. § 306108) of the National Historic Preservation Act. This law requires that all significant cultural resources be identified prior to planned development and is intended to ensure that historical and prehistoric cultural resources important to our national heritage are not inadvertently harmed or destroyed by federally initiated or authorized actions. To meet the historic preservation requirements and to determine the effects of the proposed undertaking on cultural resources within the project's area of potential effects (APE), BRS retained Alpine Archaeological Consultants, Inc. (Alpine) to conduct a Class III intensive pedestrian cultural resource inventory of the 18.3-acre APE. Alpine also completed a file search and literature review of the APE in advance of fieldwork. Alpine inventoried a total of 8.5 acres of land managed by the Bureau of Land Management (BLM) Uncompahgre Field Office (UFO), 7.8 acres of the Department of Energy's (DOE) Uranium Reserve within the BLM-Tres Rios Field Office, and 2 acres of private land for the project; work was conducted under Alpine's BLM Cultural Resource Use Permit COCO106307320 and State of Colorado Permit 84022. The DOE is the lead agency for the project.

The cultural resource inventories of the inventory areas were conducted by Alpine Archaeologists Jordan Kluver, Samuel Fresher, Pete Davis, and Charlie Seevers from June 6 to June 24, 2024. Sara
A. Millward and Michael J. Prouty served as the Principal Investigators for the project. Jesse Clark completed the Geographic Information Systems work. Dakota Flemming prepared the Colorado Cultural Resource Survey Forms. Jaclyn Mullen was the Project Administrator, and Susan Chandler completed the technical edit of the report. Field notes and photographic materials are on file at Alpine's office in Montrose, Colorado. No artifacts were collected during the project.

PROJECT DESCRIPTION

The project will consist of environmental remediation work at two mines leased by Gold Eagle on BLM-UFO, DOE, and private land. Impacts of the proposed remediation project include removal and/or cover and contour of contaminated sediment, transportation of heavy equipment, and/or the removal of buildings or other features. Choice in remediation methods will depend on the particularities of the mine and its location, and will take into consideration each site's significance for inclusion in the National Register of Historic Places (NRHP).

PROJECT LOCATION AND ENVIRONMENTAL SETTING

The two inventory areas are located in the West End region of Colorado in Montrose and San Miguel Counties, within the Dolores River basin (Figure 1–Figure 5). The inventory areas are within the Colorado Plateau physiographic province (Fenneman 1931) and within the Semiarid Benchlands and Canyonlands ecoregion (Chapman et al. 2006). The benchland and canyonlands ecoregion comprises areas of alternating high and low topographic relief, with common bedrock exposures. Sediments often include deep eolian sands, and common vegetation includes sagebrush, saltbush, pinyon pine, and juniper, with scattered areas of Gambel oak in higher elevations. Geologically, both inventory areas are situated among sedimentary rocks of Jurassic age, including Morrison, Summerville, and Entrada formations (Tweto 1979).

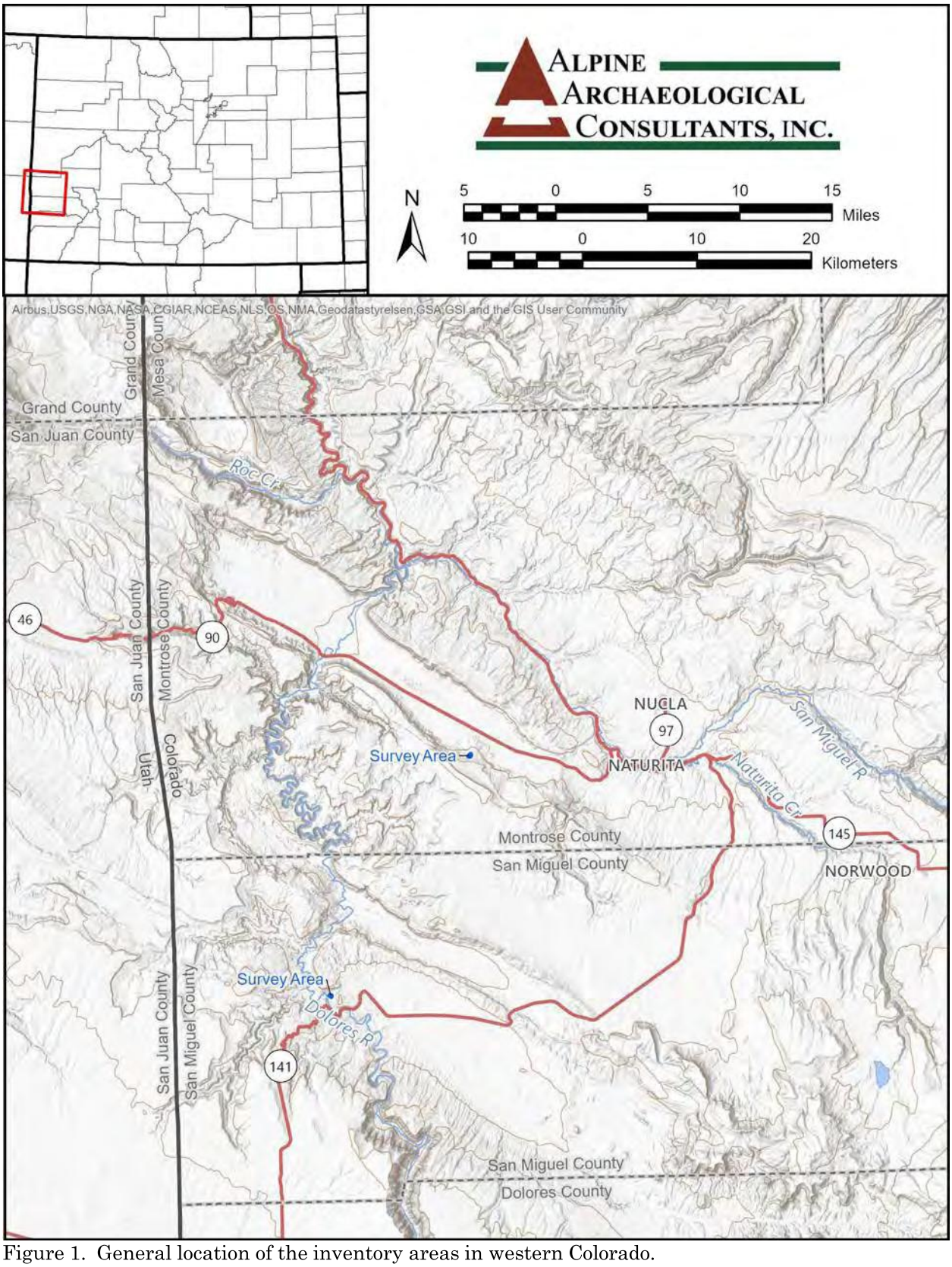

Figure 1. General location of the inventory areas in western Colorado.

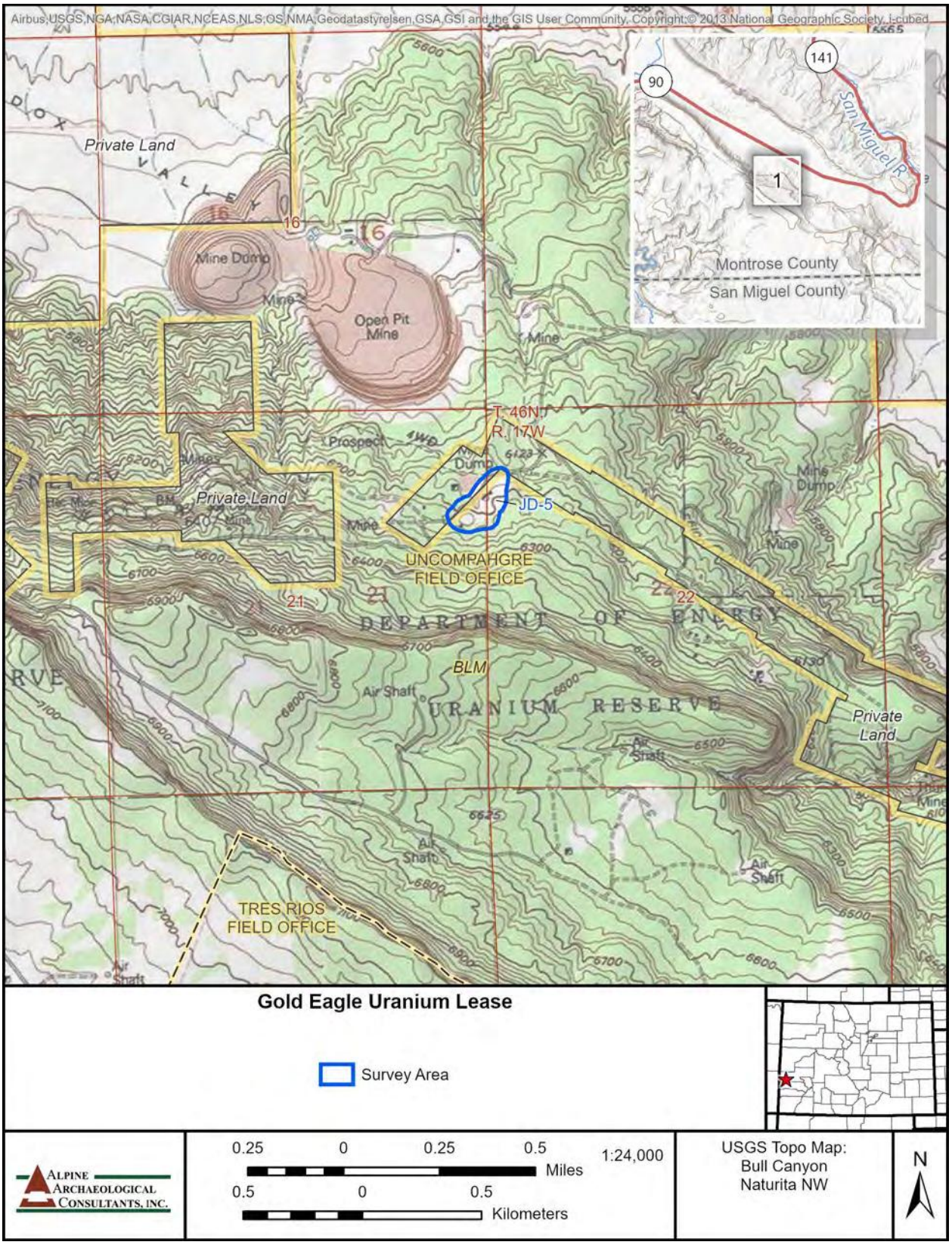

Figure 2. Inventory area map (1 of 2).

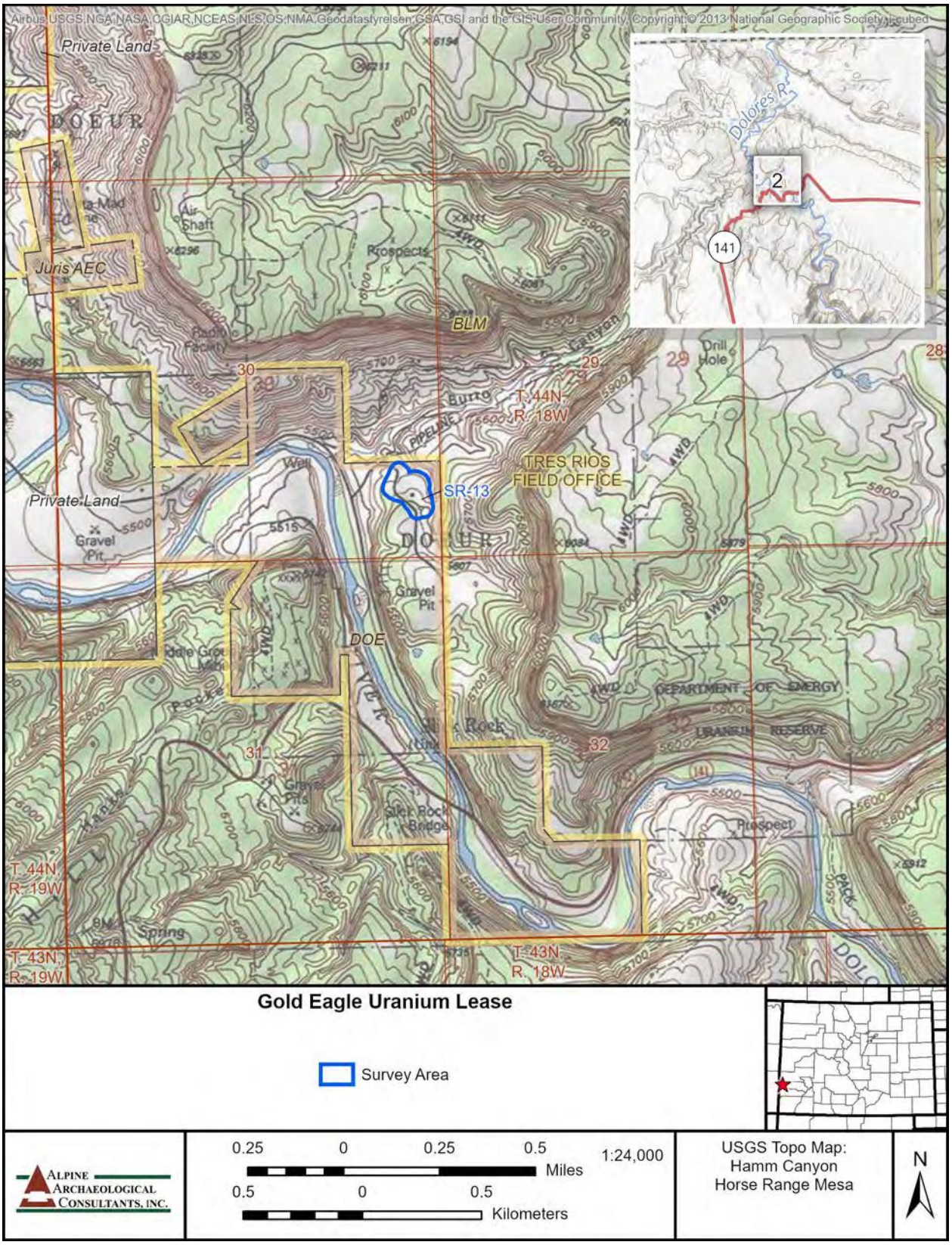

Figure 3. Inventory area map (2 of 2).

Figure 4. Overview of the SR-13 inventory area, facing north-northwest.

Figure 5. Overview of the JD-5 inventory area, facing northeast.

CULTURE HISTORY

The culture history of west-central and southwestern Colorado has been described in great detail in various contexts, including the prehistoric context for the Southern Colorado River Basin (Lipe et al. 1999), the Northern Colorado River Basin (Reed and Metcalf 1999), the historic context for Colorado (Church et al. 2007), and in regional histories. The inventory areas include culture areas represented by the general trends discussed in both the Northern and Southern Colorado River Basin contexts. The following narrative provides a brief historical overview of the inventory area.

Prehistoric and Protohistoric Context

Reed and Metcalf (1999) have divided the aboriginal occupation of the region into four eras. The first of these is the Paleoindian era, dating between approximately 11,500 and 7400 BC. The Paleoindian-era lifeway represents an adaptation to terminal Pleistocene environments. Paleoindian material culture is characterized by finely crafted lanceolate projectile points, spurred scrapers, and other diagnostic tools. Paleoindian peoples had a highly mobile lifeway, focused upon big-game hunting, especially early in the era. Four cultural traditions are recognized in the Paleoindian era: the Clovis (11,500–10,500 BC), the Goshen (11,000–10,700 BC), the Folsom (10,800–9500 BC), and the Foothill-Mountain (9500–6400 BC) traditions. The Foothill-Mountain tradition is thought to represent a more Archaic-like adaptation, characterized by less annual mobility, more extensive exploitation of local environments, and more regional variation. Paleoindian components are infrequent in the vicinity of the inventory area, though there are occurrences of documented surface artifacts.

The Paleoindian era is followed by the Archaic era, dated between approximately 7400 and 250 BC. The Archaic era lifeway represents an adaptation to an essentially modern environment, mainly via more efficiently focusing on a diverse subsistence base. It is characterized by the hunting of smaller game and increased dependence upon floral resources. Archaic-era remains are relatively well represented in the region. The Archaic era in western Colorado has been divided into four periods, reflecting increasing population growth and concomitant intensification of subsistence strategies. These include the Pioneer (7400–5400 BC), Settled (5400–3100 BC), Transitional (3100–1200 BC), and Terminal (1200–250 BC) periods (Reed and Metcalf 1999).

Sometime between 250 BC and AD 400, a Formative-stage lifeway emerged on the northern Colorado Plateau and in the San Juan Mountains. The Formative stage is characterized by considerable reliance on horticulture and the adoption of a sedentary or semisedentary lifestyle. In west-central Colorado, the Formative stage is represented by the Fremont culture northwest of the inventory area. Some Formative-era sites in west-central Colorado share some, but not all, attributes of the Fremont and Puebloan influences from the southwest. The Formative era in San Miguel County is represented by the Gateway and Aspen traditions placed between AD 900 and 1100 (Reed and Metcalf 1999). By contrast, in southwestern Colorado, the Formative stage is represented by the Anasazi culture. It is commonly divided into five periods: the Basketmaker II period 1000 BC and AD 500; the Basketmaker III period (AD 500–750); the Pueblo I period (AD 750 to 900); the Pueblo II period (AD 900–1150), and the Pueblo III period (AD 1150–1300) (Lipe et al. 1999). These cultures represented people practicing agriculture and construction of substantial habitation structures, with both the reliance on agriculture and complexity of agricultural hamlets increasing over time. Anasazi populations withdrew from southwestern Colorado and northwestern New Mexico around AD 1300.

Following approximately AD 1350, horticultural lifeways were abandoned by the Gateway and possibly the Fremont traditions. This era, termed the Protohistoric, is defined by Reed and Metcalf (1999) as being a range of time beginning with regional abandonment of horticulture-based subsistence and culminating in the final expulsion of Native Americans to reservations in the late-nineteenth century. At roughly the same time, Numic-speaking groups immigrated to the Colorado Plateau region from the southern or southwestern Great Basin (Madsen and Rhode 1994). Linguistic evidence

suggests that these people may have been the ancestors of the Ute. Historic records indicate that the Ute were the primary inhabitants of the inventory area during the Protohistoric era (Reed 1988).

Historic Context

Early Euroamerican Exploration and Settlement

Prior to AD 1810, the sole Europeans to enter west-central Colorado were Spanish explorers, beginning with Juan de Rivera in 1761–1765, and followed by two other expeditions in 1775 and 1776. Exploitation of the Southern Rocky Mountain's natural resources by Euroamericans began in the 1820s with the arrival of fur trappers. Euroamerican use of western Colorado was slight until the discovery of gold in Colorado in 1859. A veritable gold rush followed the discovery, bringing thousands of Euroamericans to western Colorado. Colorado was organized as a territory in 1861. Beginning in the 1860s, limited placer mining in the San Juan Mountains at small camps like Bakers Park near Silverton confirmed the presence of gold in the area but also accentuated the difficulty of extracting it (Curtis 1996).

The influx of Euroamericans into the area inhabited by Ute brought conflict. The Treaty of 1868 between the Utes and the federal government was an attempt to alleviate these conflicts and open up land to settlers, by forming a large reservation on the western slope of Colorado away from the primary mining areas (Ubbelohde et al. 1972). As mining continued to boom, however, many miners entered the reservation. In 1873, the Brunot Treaty allowed Euroamericans to exploit some 4 million acres of the reservation. As a result, mining camps quickly sprang up throughout western Colorado. Not surprisingly, the Brunot Treaty served to increase hostilities between the Ute and Euroamericans, finally resulting in the forced removal of the Ute to small reservations in southernmost Colorado and eastern Utah in 1881.

Improvements in transportation and technological advances in the reduction of precious ores resulted in the growth and expansion of mining in the region during the 1880s and early 1890s. Although the earliest mining focused on materials such as gold, silver, and copper, the extraction of other minerals from southwestern Colorado have had a profound impact on the history, economy, and development of the region. These include roscoelite and carnotite—which contain elements such as uranium, vanadium, radium, and coal.

In addition to mining, cattle and sheep grazing have been practiced since the 1880s and remain important components of the regional economy. As mining began to wane in the last half of the twentieth century, industries such as tourism have become increasingly important.

Historical Radioactive Ore Mining

The following information on the history of carnotite mining is largely derived from Horn's (2016) expansion of Twitty's (2008) work on historic radium, uranium, and vanadium mining in western Colorado, Reed and Horn's (2016) nomination form for the Huff Cabin, which is in proximity to the current inventory area, and Twitty's multiple property documentation form on historic radium, uranium, and vanadium mining (Twitty 2021). Uranium ore was first discovered in western Colorado around 1880, when brothers Andrew J. and Shadrick Talbert encountered a bright yellow material embedded in a sandstone formation while prospecting for gold and silver in the area of Roc Creek, a tributary of the Dolores River between Paradox Valley and Sinbad Valley in western Montrose County, Colorado. Not knowing what sort of material was present but suspecting that they had happened upon potentially valuable ore, the Talberts staked a claim and sent samples of the material to an assayer in Leadville, Colorado. The assayer was unable to identify the primary constituents of the material, but reported that the ore, which contained gold, was valued at $5 per ton (Chenoweth 1993; Moore and Kithilf 1913:18; Twitty 2008). This type of ore—previously unidentified, and containing uranium, vanadium, and radium—was ultimately termed carnotite ore, named after French chemist Marie- Adolphe Carnot (Reed and Horn 2016:8-22; Twitty 2021:E-1). Radium became highly important for

medical research in the late 1890s and early 1900s, and carnotite ore recovered by Charles Poulot from the Talbert's claim was identified as among the highest quality of known ore deposits at that time (Chenoweth 1993; Moore and Kithilf 1913; Reed and Horn 2016:8-22; Robison 2015:125; Schweigert 2001; Twitty 2008). The demand for radium and its resulting high price stimulated a mining boom in the Colorado Plateau region focused on carnotite ore.

Raw ores were initially shipped to Europe for processing, but the high price of transportation soon resulted in attempts to refine carnotite locally. Because of the extremely small amounts of radium in the ores, no attempt was made to extract it. Rather, the uranium/radium ores in the carnotite were only concentrated to a point where they could be shipped to refineries—initially in France, but later in Pittsburgh, Pennsylvania—and still bring a profit (Chenoweth 1993; Reed and Horn 2016). Poulot, along with F. Voilleque, erected some of the first full-scale mills in North America in 1900, first building a mill near the mouth of La Sal Creek and then, following this early mill's success and refinement of processing techniques, a larger full-scale mill at Camp Snyder (Twitty 2021:E-18). The demand for carnotite, and the success of milling high-grade ore, spurred a boom in prospecting and small-scale mining between 1902 and 1905. In particular, the area around Slick Rock along the Dolores River in western San Miguel County, Colorado, produced sufficient quantities of radioactive ore during the period to demonstrate the profit potential of the carnotite industry resulted in the formation of towns such as Uravan. Most mines from this period were relatively small and involved canyon rim deposits that did not require extensive mine workings for extraction (Chenoweth 1993; Reed and Horn 2016; Twitty 2021).

Although vanadium was recognized early as a constituent element of carnotite, it was initially of little concern. Vanadium can also be recovered within roscoelite, which is often found in San Miguel County, containing both vanadium and small amounts of uranium (Twitty 2021:E-9). Vanadium ore only became important starting in the 1910s, used as an ingredient to harden steel alloys. As with the earlier radium boom, Montrose and San Miguel counties were among the world's most important sources of the element (Twitty 2021:E-1). The use of vanadium in steel production factored heavily in production of armaments in World War I and World War II. However, the period of significance for early radium and vanadium production in the U.S. is set between 1906 and 1922. This is, in part, based on the Vanadium Corporation of America's acquisition of vanadium mines in Peru starting in 1919. The greater availability of cheaper ore from Peru lead to a collapse in price of the ore and the subsequent shuttering of many western Colorado operations (Twitty 2021:E-42). Production only resumed in the late 1930s, although the industry in western Colorado never reattained its previous heights (Twitty 2021:E-48).

The period during World War II saw an increased focus on the acquisition and processing of uranium, especially following the Manhattan Project's identification that Mesa, Montrose, and San Miguel counties (and some closely adjacent locations in Utah) were the only known sources of significant quantities of uranium in the United States (Twitty 2021:E-1). The ore's importance continued through the Cold War. Twitty notes that, by 1964, the Colorado Plateau had produced almost all of the radium, 70 percent of the uranium, and 98 percent of the vanadium ever procured in the U.S. (Twitty 2021:E-2). The uranium industry shifted focus between the 1960s and 1980, with demand driven by the nuclear power industry. The market collapsed in 1980 and most mines in the region closed (Twitty 2021:E-2).

Cater (1954:19) notes that carnotite, along with its contained vanadium, radium, and uranium, impregnates sandstone and mudstone, creating irregular layer deposits that roughly follow sandstone beds. The highest grade concentrates occur in rolls—sharply bounded elongated concretionary structures, and often in sandstone beds exceeding 40 feet (ft.) thick (Cater 1954:21; Reed and Horn 2016). Sandstone exposed in large expanses of the region and a 40-square-mile area with high quantities of carnotite surrounding the town of Uravan was termed the Uravan Mineral Belt in 1943 by the U.S. Geological Survey (Twitty 2021:E-2). This irregularly shaped area extends from near

Gateway Colorado, south across Paradox, Gypsum, and Disappointment valleys, and south past Egnar, Colorado into the northern reaches of Dolores County (Twitty 2021:Figure E-2). Based upon the importance of radium, vanadium, and uranium to both regional and national interests, Twitty (2021) has developed six periods of significance for which associated sites can be assessed (Table 1).

The DOE's Office of Legacy Management (DOE–LM) Uranium Leasing Program administers 31 lease tracts within the Uravan Mineral Belt in southwestern Colorado. These lease tracts are the legacy of the U.S. Atomic Energy Commission's (AEC) withdrawing lands from the public domains to lease to private industry for uranium and vanadium ore mining. These leases were first made available during the Mineral Leasing Program from 1949–1962. At the conclusion of the program, the AEC had all lessees backfill the mine portals and leave. These unreclaimed mines became the DOE's legacy mine sites (https://www.energy.gov/lm/uranium-leasing-program). Reclamation of these sites began in 1994, when the DOE started locating and identifying features associated with abandoned legacy mines and then started to reclaim them. There have been four other lease periods starting in 1974 with the firth leasing period opening in 2020. However, all lessees during these subsequent leasing periods are required to perform their own reclamation once mining operations cease (https://www.energy.gov/lm/uranium-leasing-program).

Table 1. Summary of Uranium Mining Industry Periods of Significance†.

Period of Significance	Theme
1898–1905	Initial uranium mining and milling; radium the sought-after element.
1906–1922	Initial vanadium mining and milling and initial vanadium boom. Vanadium used in steel alloys. Radium is still the sought-after radioactive element.
1935–1940	Vanadium mining revival.
1941–1945	Vanadium used as a weapons-grade steel alloy during World War II. Uranium produced for the Manhattan Project.
1946–1963	Vanadium for both weapons and consumer goods. Uranium production related to Cold War nuclear programs.
1974–1980	Vanadium's production shifts to consumer use. Uranium becomes important for burgeoning nuclear power.

† After Twitty (2021: Table F1)

LITERATURE REVIEW AND EXPECTED RESULTS

Alpine completed a literature review and file search prior to fieldwork in order to identify previously conducted inventories and previously recorded sites near the inventory area. A file search was completed through the Colorado Office of Archaeology and Historic Preservation (OAHP) on April 30, 2024 by Alpine. Alpine also reviewed historical General Land Office (GLO) plats and historical topographic maps to assess the possibility of historical features, structures, or linear resources within or near the inventory area. The file-search area includes the inventory area and a surrounding 1.0-mi. buffer.

Ninety-five surveys have been previously conducted within the file-search area. Only one of these, MN.LM.R147, a survey for a power company right-of-way, intersects a inventory area. Other projects include surveys in advance of reservoir and pond projects, road maintenance, seismic lines, mine expansion and closure, and livestock projects. Most of these surveys were completed between 1980 and 2005. The intersecting project was not excluded from Alpine's inventory, as it was completed in 1980 and no longer represents modern survey methodology.

Sixty-seven previously documented sites and isolated finds (IFs) have been documented within the file-search area. These include 26 historical resources, 35 prehistoric sites, and 6 multicomponent resources. Prehistoric sites include open lithic sites, open camps, sheltered architectural sites, sheltered camps, and sheltered lithic sites. Most of the prehistoric sites are either open camps or open lithic sites. Historical sites include a variety of mine and prospect site types, as well as campsites and transportation infrastructure. Thirteen of the sites have been evaluated as eligible for inclusion in the

NRHP, and 47 resources have been evaluated as not eligible. Finally, five sites have been evaluated needs data, and two sites had no NRHP assessment. One site–5MN4483 (Joe Dandy Mine)–intersects the inventory area. Site 5MN4483 is a historical mine that is officially eligible for the NRHP; it is further documented in the Results section, below.

General Land Office (GLO) plat maps were examined to help identify potential historical built-environment features that might be encountered during the inventory areas (Table 2). These plats date between 1884 and 1942. No features intersect the inventory areas. Mostly trails, roads, and mining- related features are depicted in the search area.

Table 2. Summary of GLO Features within 1 mi. of the Gold Eagle Inventory area.

Legal Location†			GLO Year	Depicted Historical Features
Township	Range	Sections		
44 N	18 W	19, 20, and 28–33	1884	Unnamed trail within Sections 28 and 33. Most of the search area is blank. No features intersect the inventory area.
44 N	18 W	19, 20, and 28–33	1924	American Metal Cos. Plant, house, barn, steel bridge, and roads within the file search area of SR-13. No features intersect inventory area.
44 N	18 W	30	1941	Veta Mad and Georgetown lodes within the file search area of SR-13.
44 N	18 W	32	1941	Hawkeye Lode within the file search area of SR-13.
44 N	18 W	30 and 31	1942	Herbert, Little, Yolande, Vanadium, and Ocumpaugh lodes within the file search area of SR-13.
44 N	18 W	30 and 31	1942	Ellison Lode within the file search area of SR-13.
44 N	18 W	30	1942	Dan Lode within the file search area of SR-13.
46 N	17 W	14–17, 20–23, 27, and 28	1884	"Paradox Wagon Road" in Sections 14 and 15, and "Trail" in Sections 14, 15, and 23. No features intersect inventory area JD-5.
46 N	17 W	22 and 23	1922	Thunderbolt Lode within the file search area of JD-5.
46 N	17 W	21	1922	Jo Dandy Lode within the file search area of JD-5.
46 N	17 W	22	1923	Canary Bird No. 2, Great Eastern, Great Western, and Paradox A, B, C, and D lodes within the file search area of JD-5.
46 N	17 W	16	1923	Yellow Bird Nos. 1 and 3 within the file search area of JD-5.
46 N	17 W	21	1923	Hummer, Broker, and Oversight loads within the file search area of JD-5.
46 N	17 W	21 and 22	1923	Blackburn and Black Tom lodes within the file search area of JD-5.

†New Mexico Prime Meridian (N.M. P.M.)

Historical United States Geological Survey (USGS) topographic maps were also examined to identify historical features within the inventory area (Table 3). These maps ranged from 1916 to the 1965 and depict a variety of roads and mining features near the project. Later editions (i.e., the 1976 and 1982 eds. of the 1948 map) may depict some features of the JD-5 mine.

Overall, the literature review data suggests that, within the file-search area, there is a relatively high density of sites and potential for both historical and prehistoric resources to be encountered. The small sizes of the current inventory areas are expected to severely limit the quantity and diversity of resources encountered, however.

Table 3. Summary of USGS Historical Topographic Map Features within 1 mi. of the Gold Eagle Inventory area.

Map Name	Scale	Year(s)	Historical Feature
Bull Canyon	1:24,000	1948, 1949, 1960	Monogram Mesa Truck Trail (intersects JD-5 inventory area), aerial tram, and two-track road.
Horse Range Mesa	1:24,000	1948, 1950, 1960	"Slick Rock;" water tower; 15 unlabeled buildings; seven roads; "Middle Group Mines;" 13 prospects; three mine tunnels/cave entrances (SR-13 inventory area; several roads intersect)
Moab	1:250,000	1956, 1959, 1960, 1962, 1964, 1965	One unlabeled mine (does not intersect JD-5 Inventory area). Slick Rock; one unlabeled mine; three mines labeled "Uranium and Vanadium;" Road labeled "80;" three unnamed roads (SR-13 inventory area; none intersect).
Naturita NW	1:24,000	1948 (1976, 1982 eds), 1949	Monogram Truck Route (intersects), one unnamed road; Thunderbolt Mine (JD-5 inventory area). Recent editions have several mining features in the JD-5 area, but these are likely later additions.
Paradox Valley	1:125,000	1916, 1922	Ocumpaugh Camp; Stevens; three unnamed roads; four unnamed buildings (SR-13 inventory area; none intersect). Joe Dandy Camp; three unnamed roads; two unnamed structures (JD-5 inventory area; none intersect).
Slick Rock	1:62,500	1960	Elven unlabeled buildings; "Slick Rock;" "Water" (probably water tower); seven unlabeled roads; road labeled "80;" "Middle Group Mines;" Gravel Pits; Slick Rock Bridge; Veta Mad Mine; Oil Well; 11 prospects; three mine openings/caves (SR-13 inventory area; none intersect).

STATEMENT OF OBJECTIVES

The primary objective of the cultural resource survey was to identify and assess cultural resources in the inventory areas and to evaluate their significance under applicable federal cultural resource laws. This process is intended to aid in the preservation of significant cultural resources, either by providing boundaries that can be avoided or by facilitating a thorough understanding of a site's components in advance of the creation of adequate mitigation strategies. This objective was accomplished, first, by conducting a site file search and literature review and, second, by conducting an intensive pedestrian survey of the inventory area. Recommendations regarding the significance of the cultural resources found during the project are made using the criteria for determining eligibility for inclusion in the NRHP. The historic preservation laws mandating the cultural resource study specifically identify eligibility for inclusion in the NRHP as the key factor in determining preservation needs.

The criteria for assessing site significance, as published in the U.S. Government Code of Federal Regulations (36 CFR 60) read as follows:

National Register Criteria for Evaluation

The quality of significance in American history, architecture, archaeology, engineering and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and

A) that are associated with events that have made a significant contribution to the broad patterns of our history; or
B) that are associated with the lives of persons significant in our past; or

C) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D) that have yielded, or may be likely to yield, information important in prehistory or history.

Prehistoric sites can meet any of the four criteria for eligibility to the National Register and their association with important events, individuals, and thematic construction in prehistory is equally important in determining their significance. However, prehistoric cultural resources are frequently evaluated under NRHP Criterion D, which pertains to the potential for the resource to yield scientifically important information. The measure of importance of the scientific data is based on research questions that are widely recognized as appropriate by the scientific community. Regional contexts documents often serve as the foundation for evaluating scientific significance.

Historical sites can potentially meet any of the four criteria for eligibility to the National Register. The focus of historical site significance is generally on architectural significance or association with individuals or events of historical importance, though the value of archaeological data is no less important. Under Criterion D, the condition of structures is less important than the presence of artifacts and cultural features that can yield important information that can be used to address research questions. Regional historical contexts identify the attributes of sites that justify inclusion in the NRHP for historical archaeology. Given the identification of several possible uranium mining sites for the project, it should be noted that NRHP Criterion G also applies:

G) The resource must have achieved significance within the last fifty years and be of exceptional importance.

Criterion G has been applied to some sites associated with the 1974–1980 period of significance for the uranium and vanadium industry (Twitty 2021). This late period relates to the extraction of uranium ore for use in the nuclear power industry (Table 1).

Once evaluated for eligibility, a site must also display enough integrity (i.e., aspects of location, setting, design, materials, workmanship, feeling, and association) to properly convey its significance (Little et al. 2000; National Park Service 2002). The importance of each aspect of integrity depends on the nature of the site and the relevant criterion of NRHP eligibility and any single site need not retain all aspects of integrity to be significant. For example, if a site is recommended eligible under Criterion A or B, then integrity of location, setting, design, materials, and association are important. A site recommended eligible under Criterion C should retain sufficient integrity of design, materials, and workmanship while a site recommended eligible under Criterion D is likely to retain integrity of location, design, materials, and association, though workmanship may not be necessary. Other aspects of integrity (i.e., setting and feeling) may increase a recorder's ability to recognize or interpret a site and are important for sites that might be eligible under any criteria.

Identification and evaluation of significant cultural resources in the inventory areas permit formulation of management recommendations, which generally include site avoidance or data recovery. Management recommendations are typically based on careful assessment of project-specific impacts to sites, although site impacts may not be well understood for some undertakings (e.g., land exchanges) and in those cases only very general recommendations are possible. Sites and isolated finds (IFs) that are determined to be not eligible for inclusion in the NRHP by state and federal agencies require no further management consideration.

FIELD METHODS

The inventory areas were surveyed by two archaeologists. An area comprising a minimum radius of 100 ft. (30 m) was surveyed around each adit to confirm that there were no other associated artifacts or cultural features. When artifacts or cultural features were encountered, the archaeologists intensively inspected the surrounding area to determine whether a site or an IF was represented. Sites for the project were defined as a locus of human activity that suggests repeated and patterned use that is at least 50 years old; sites under 50 years old were recorded if they were thought to be potentially related to the uranium industry, and thus potentially eligible under Criterion G. IFs were defined as any number of artifacts that represent a single activity that does not match the definition of a site.

Alpine's approach to defining mining-related sites was based on the feature types and artifacts present and is summarized in Table 4. In general, single mining features with no or limited quantities of associated artifacts were documented as IFs. Prospecting pits were defined as excavated pits that were round, oval, or square. Pits may vary in size but terminate before extending very far into bedrock—less than 10 ft. deep. Prospecting trenches were defined as long, linear prospecting features, often assumed to have been used to test the landform to identify which portion of it might warrant additional prospecting. Trenches are deep, relative to width, with no indication remaining as to excavation method. Groups of prospecting features, or any number of formal mining features, were documented as sites, regardless of the presence or absence of artifacts.

Table 4. Classification of Historical Uranium Mining Site Types and Correlation to Mining Property Types.

Property Type†	Property Subtype	Project Site Type	Summary Description
Prospect	Isolated prospecting features	Prospect pit	Single, isolated prospecting pit. No or few associated artifacts; recorded as an IF.
		Drill-hole patterns	Drilled bores holes used to search for ore prior to larger prospecting.
		Prospecting adit	Single, isolated prospecting adit. No or few associated artifacts; recorded as an IF.
		Prospecting shaft	Single, isolated prospecting shaft. No or few associated artifacts; recorded as an IF.
	Prospect complex		Prospecting complexes contained at least one formal mining feature such as an adit or a mine shaft, but lacked architectural features or indications that ore was stored or processed on site.
Mine	Tunnel mine		At least one tunnel or adit with indication of a tunnel house or other surface plants, and either a substantial waste-rock pile (exceeding 125 ft. across) or evidence that ore was stored on site. Can be defined as either a tunnel or inclined tunnel mine. Usually has a 3-x-6 ft. or larger entrance at least.
	Rim mine		At least one shaft excavated into cliff or ledge. These can be relatively shallow, as ore pockets can be exposed or only shallowly buried. Can include stopes, waste-rock dumps, ore storage, and portable compressors. Rarely had buildings
	Shaft mine		At least one shaft with indication of a shaft house or other surface plants and either a substantial waste-rock pile or evidence that ore was stored on site. Can be defined as either an inclined shaft or vertical shaft mine.
	Open-cut mine		Extensive surface excavations in cases where substantial ore was exposed or shallowly buried. Often associated with transport, ore storage, and shops, as well as associated pocket mining.

†Summarized from Twitty (2021).

More formal mining features generally include adits and shafts. These sites are generally classified as prospecting complexes or mining sites, depending on the presence of mine shafts, adits, or structural features. Surface plants were defined based on evidence of a hoist or hoist platform, shaft house, or other such infrastructure associated with larger mining operations. Encountered shafts, adits, and prospecting sites related to precious and base metal mining fall into Twitty's (2021) uranium property types and were evaluated using the corresponding NRHP guidance. Any mining sites related to the extraction of radioactive ore, such as uranium, radium, or vanadium, were evaluated under Twitty's multiple property listing for such resources within the Uravan Mineral Belt (Twitty 2021). Guidance on documenting historical features within the Colorado Cultural Resource Survey Manual was also used (Office of Archaeology and Historic Preservation 2007). Early uranium prospecting utilized similar methods as hard rock prospecting (see Fell and Twitty 2008), although sample drilling became more popular than traditional prospecting methods after the 1950s (Twitty 2021). Some carnotite rim mines have significant overlap in the remnant material culture as hard rock prospect adit complexes. This overlap is influenced by the carnotite ore and could often be easily accessed in sandstone cliff bands—as it was either visibly exposed or only shallowly embedded—and by the removal of equipment at its abandonment and use of roads to transport ore from the adits. As such, evaluation of whether an adit portal represents a prospecting adit or a shallow rim mine will be made based on site location, an evaluation of its potential to be associated with carnotite and uranium extraction, and quantity of waste rock and other cultural materials that suggest a greater level of effort than prospecting occurred. Several periods of significance have been defined relating to the mining of carnotite and other ore for its radium, vanadium, and uranium content. Uranium-related mining sites will be assessed for their potential to relate to one of the five periods of significance for the industry between 1898 and 1980 (Table 1).

Multiple roads were used to access the various mines and were identified on historical topographic maps and aerial imagery. Based on recent guidance from the OAHP on linear resources (Horn and Norton 2021), these roads—representing small-scale infrastructure and not part of a larger, significant, transportation network—were not recorded, given their low data potential.

Once identified, site data were fully recorded on the appropriate Colorado OAHP Cultural Resource Survey forms. As part of the documentation process, sites were evaluated for eligibility for the NRHP in terms of the specific criteria presented in the preceding section. IFs are generally regarded as not eligible for the NRHP because they represent limited activity. Site maps were prepared for all sites with the aid of a Trimble Global Positioning System (GPS) unit capable of submeter accuracy. Site locations were plotted on a 7.5-minute U.S. Geological Survey quadrangle map using data acquired by the same GPS units. The GPS maps illustrate site boundaries and cultural and topographic features. Digital photographs were taken of all sites and site elements. No artifacts were collected during the project. Field notes, photographs, and all related documents are on file at Alpine's office in Montrose, Colorado.

RESULTS

The inventory of the SR-13 and JD-5 inventory areas resulted in the identification of two sites, one of which (5MN4483, also known as Joe Dandy Mine) was previously recorded. Project results maps are available in Appendix A, and cultural resource forms are in Appendix B.

Site 5MN4483 – Joe Dandy Mine/JD-5

Site Description

Site 5MN4483 – known as Joe Dandy Mine – is a previously recorded historical mine and adit on lands managed by the BLM-UFO and on private land (Figure 6 and Figure 7). The site encompasses 7.9 acres on the side of a northwest-facing, gently sloping hill along Monogram Mesa. Vegetation is representative of a pinyon-juniper woodland community, with grasses, forbs, sagebrush, prickly pear

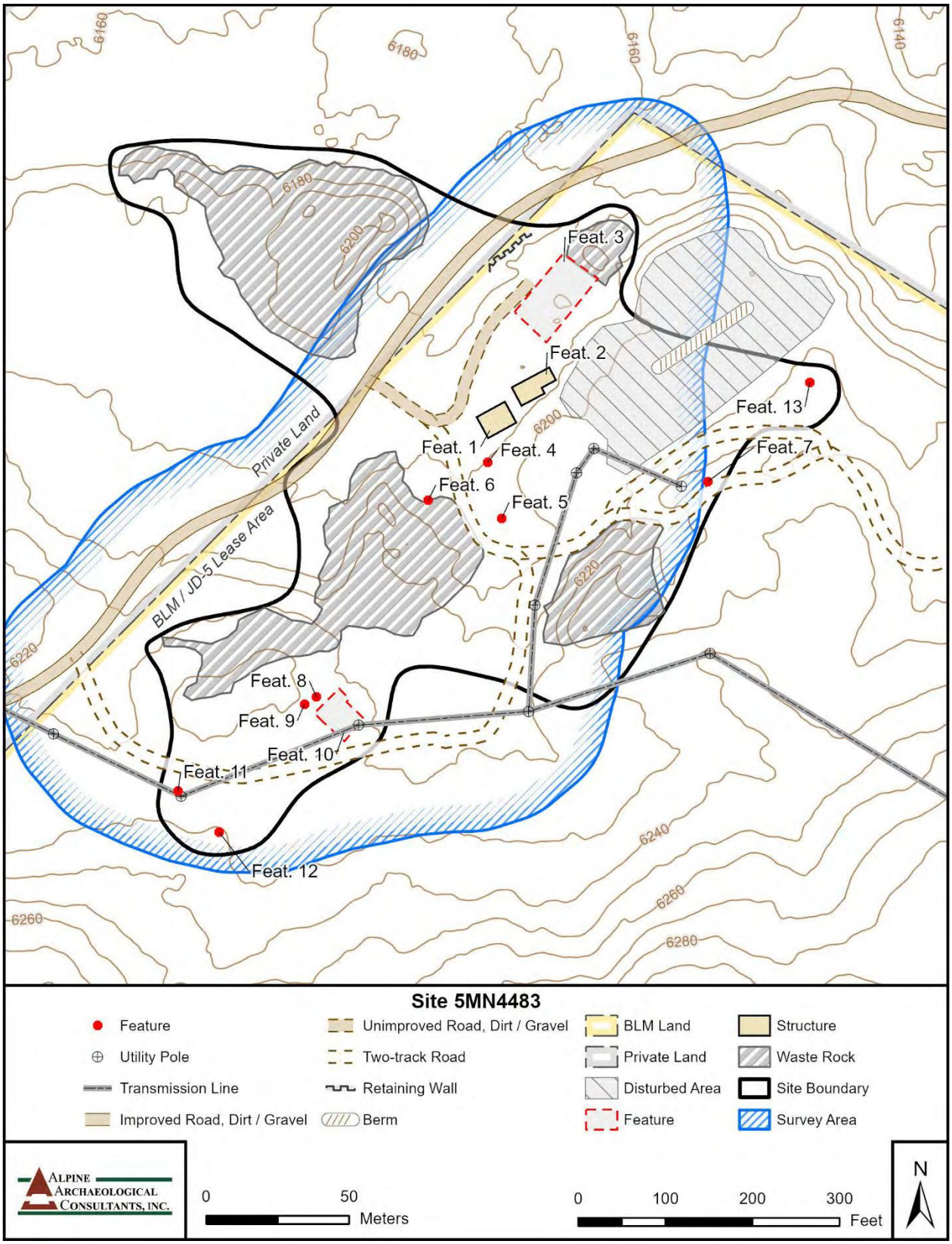

Figure 6. Planview map of site 5MN4483.

Figure 7. Overview of site 5MN4483 showing the headframe in the middle ground, facing west-southwest.

cactus, juniper, and pinyon. Sediments are residual sandy loam with subangular pebble- to boulder-sized sandstone inclusions. Large tailings piles cover much of the site's area. The site has experienced moderate disturbance, with visible impacts from prior reclamation activities, such as the removal of most of the buildings.

The site was initially recorded in 1994 by the BLM during the Uravan Mineral Belt Mine Site Inventory (MC.LM.R100). At the time of that recording, the site consisted of a headframe, storage buildings, two loadout sites, a ventilation shaft, two smaller work buildings, a tramway gondola, an outhouse, diesel tanks, and a hoist house. The 1994 BLM site form noted that the site dates to the 1970s and the headframe and hoist house were in excellent condition, whereas other features had started to show signs of deterioration. The form also suggests that there might be mine debris buried under the waste rock from prior reclamation activities.

Alpine revisited the site for the current project, inspected the locations of the previously documented features, and recorded a new feature (Table 5). Alpine observed that several features have been removed or altered by reclamation activities after the initial recording, namely wooden structures, the ventilation shaft, and the adit/decline. All other previously recorded features that are still present remain in similar condition as the 1994 recording. The site also contains an artifact assemblage consisting of 150–200 modern artifacts, including cans and miscellaneous metal fragments. Artifacts appear restricted to the site surface. The artifact assemblage is likely too young and the landscape too disturbed by mining to contain significant undisturbed buried deposits. Additionally, any buried debris from prior reclamation activities would be in a secondary context that would not contribute to the site interpretation.

Table 5. Summary of Historical Features at Site 5MN4483.

Map Ref.	Feature Type	Material	Dimensions	Description
Feat. 1	Headframe	Metal, concrete	37 ft. E-W, 28 ft. N-S, approximately 70 ft. tall	A steel constructed tower centered on a 15-ft.-diameter, concrete-lined, steel-grated vertical shaft (Figure 8). There are two 2.5-ft.-diameter, 50-ft.-tall ventilation pipes on the south side of the tower. A 22-ft.-long, 3-to-5-ft.-tall "T" wall made of wood, concrete, and steel is along the south side and its additional wall is 19 ft. long. The elevator and pulley are also present. The headframe appears to be in a similar condition as the initial recording.
Feat. 2	Hoist house	Metal, wood	47 ft. N-S, 24 ft. E-W, 24 ft. tall	A building with steel I-beams and milled lumber frames, corrugated metal paneling on the roof and sides, built on a concrete foundation (Figure 9). The building has two rooms. In the south room is a large pulley engine, which powered the elevator. According to the level dial, there are three levels to the underground portion of the mine. The north room has compressor-type equipment. On the south side is a large window opening and two doors, on the west side is a doorway and a larger 11-ft.-x-10-ft. opening. The hoist house appears to be in a similar condition as the initial recording.
Feat. 3	Loadout site	Wood and steel	90 ft. N-S, 48 ft. E-W, 6 ft. tall	Steel I-beams and wooden beams line the north, east, and south sides along tailing piles (Figure 10). Two rows in the interior of the area have vertical I-beams and few wood beams remaining. Portions of the east wall have collapsed, which was not noted in the pervious recording. A metal tank that was located in the northeast corner of the feature has been since been removed.
Feat. 4	Shed (removed)	–	12.5 ft. N-S, 7 ft. E-W	The shed has been removed since the last recording, the foundation is still present.
Feat. 5	Tramway gondola (removed)	–	–	The tramway gondola has been removed since last recording.
Feat. 6	Outhouse (collapsed)	Wood, wire nails	Roof portion is 6 ft. x 6 ft.	The outhouse has collapsed since the last recording. The slant roof now covers the earthen opening (approximately same size as roof), and milled lumber is scatter in the vicinity.
Feat. 7	Air vent	Steel, concrete	10 ft. x 10.5 ft. (concrete pad); 3.5 ft. (diameter) (steel lined opening)	10.-ft.-x-10.5-ft. concrete pad with a steel lined 3.5-ft.-diameter opening with a 5.5 ft. squared steel grate welded over the opening (Figure 11). The "Torpedo pod" was removed since last recording.
Feat. 8	Second loadout site	Steel, wood	6.75 ft. tall and 8 ft. wide, 11 ft. long steel portion, wood wall is 5.75 ft. tall and 18 ft. long	Located next to Features 9 and 10, the northwest wooden wall is made of 18 ft. long poles (Figure 12). The metal portion is steel I-beams. Milled lumber and modern refuse are scattered in the vicinity. The feature appears to be in a similar condition as the initial recording.

Map Ref.	Feature Type	Material	Dimensions	Description
Feat. 9	Tank	Metal	13.5 ft. (length) x 5 ft. (diameter)	Metal tank 13.5 ft. long, 5 ft. diameter with a milled lumber frame around it (Figure 13). Metal tag weld on the top "BUILT BY/ AMERICAN STEEL/AND IRON WORKS, INC./ .../DENVER, COLO. ...." The tank appears to be in a similar condition as the initial recording.
Feat. 10	Concrete foundation	Concrete	40 ft. E-W, 33 N-S	The large concrete pad is 40 ft. by 33 ft. and the smaller pad is 12 ft. by 24 ft. (Figure 14). In the northeast corner is a 11.5 ft. by 7 ft. short wall that likely had a small building. Utility pipes on the east side are cut at the base of the concrete pad. The foundation appears to be in a similar condition as the initial recording.
Feat. 11	Sheds (removed)	–	–	The sheds have been removed; no foundation remains.
Feat. 12	Adit/decline	–	63 ft. N-S, 40 ft. E-W, 5 to 6 ft. tall	Collapsed/filled in with coarse boulders and tailings after the original recording. The previous recording notes the adit/decline was caved in, yet not blocked off from access.
Feat. 13	Viewing Platform	Wood, wire nails	8 ft. 9 in. x 12 ft.	Alpine observed and documented this additional feature (Figure 15). Based on the diagonal portion with "steps" (6 ft. long with a 4-ft.-wide frame), it may be a mining mill.

Figure 8. Overview of Feature 1 at site 5MN4483, facing south-southwest.

Figure 9. Overview of Feature 2 at site 5MN4483, facing southwest.

Figure 10. Overview of Feature 3 at site 5MN4483, facing south.

Figure 11. Overview of Feature 7 at site 5MN4483, facing west.

Figure 12. Overview of Feature 8 at site 5MN4483, facing north.

Figure 13. Overview of Feature 9 at site 5MN4483, facing west.

Figure 14. Overview of Feature 10 at site 5MN4483, facing east.

Figure 15. Overview of Feature 13 at site 5MN4483, facing east-northeast.

Historical Background

Online records indicate Gate & Fox Co. Inc. originally owned and operated the JD-5 mine around 1975 (westernmininghistory.com, accessed August 1, 2024). According to the 1994 site form, the Blake Mining Company of Nucla, Colorado took control of the mine after that time. No information about these companies was available online. Currently, Gold Eagle has possession of the mine. According to the 1995 Final Environmental Assessment for the Uranium Lease Management Program, no mining features predate 1974 (energy.gov, accessed August 1, 2024). The lease was granted in 1974, mining plans were submitted in 1976, its shaft reached ore deposits in 1977, and the mine shut down in 1980 because of the lack of economical ore reserves (U.S. Department of Energy 2014). The mine resumed from 1989 to 1990 as economics improved for a short period. Historically, the JD-5 mine produced 100,308 tons of ore, yielding 233 tons of uranium and 906 tons of vanadium (U.S. Department of Energy 2014).

National Register Recommendation

The site was initially recommended NRHP eligible under Criterion A as a significant example of late period carnotite mining industry and determined eligible in 1995. Alpine agrees with this determination and also recommends it as eligible under Criteria C and G. The site's condition is largely unchanged, and the site continues to constitute a significant example of late period carnotite mining. The site cannot be associated with a significant person (Criterion B). Feature 1 is well preserved and represents a good example of a uranium mining architectural form. The site is, therefore, also recommended as significant under Criterion C. The site likely does not contain buried historical deposits. If cultural material was buried during prior reclamation efforts, it would be in a secondary context and not provide additional interruptive value. Thus, further work will likely not yield additional data that will provide further information about the region's history (Criterion D). Lastly, it is clear that the site does comprise a resource of exceptional importance that could be eligible under Criterion G due to the large production of ore during a short period of time during the Cold War.

The site's integrity of location has been impacted by the removal of some of its original features during reclamation activities. The site retains integrity of design, as the layout of its features continue to evidence the site's plan. The site's surroundings are intact and remain undeveloped; thus, the site's integrity of setting and feeling have been retained. Most of the site's features remain intact; thus, integrity of workmanship and materials is preserved. Lastly, the site can still be clearly associated with events in history including Colorado's late-uranium boom, thus, integrity of association has been retained.

Project Impacts

Impacts of the proposed remediation project include removal and/or cover and contour of contaminated sediment, transportation of heavy equipment, and/or the removal of buildings or other features.

Management Recommendations

Site 5MN4483 is recommended as eligible for inclusion in the NRHP. Threats to the site include damage to artifacts and/or features during the movement of sediment, transportation of heavy equipment, or as a direct result of the removal of buildings or other features.

Alpine recommends that ground-disturbing impacts to the head frame and hoist house be avoided, as the features contribute to the site's eligibility. If avoidance is not feasible, Alpine recommends that the site be mitigated prior to any potential impacts.

Site 5SM9117 – New Ellison Mine

Site Description

Site 5SM9117 is the newly recorded historical New Ellison Mine. The site encompasses 10.6 acres on DOE and BLM-TRFO land on the top of a north-facing, slightly sloping terrace overlooking the Dolores River Valley (Figure 16). Vegetation is representative of a semidesert shrubland community (Figure 17). Sediments are residual sandy loam, with some gravel inclusions. Large waste rock piles are prominent aspects of the site and have obscured or destroyed portions of the natural landform. The site is in good and stable condition.

The site consists of a mine portal and associated infrastructure known as SR-13 within the inventory area. The site is a well-developed mine with a clear layout and 13 features. Prominent features within 5SM9117 include a mine portal, loading ramp, prospecting trenches, burn pits, and multiple structures or former structures (Table 6). Waste rock piles have formed a terraced platform on the east and north portions of the site. Historical uses include mining, prospecting, dumping, and possibly camping.

In addition to its many features, the site contains an artifact assemblage of approximately 3,000–5,000 artifacts of a domestic and/or industrial nature (Table 7). The artifact assemblage consists mostly of amber and clear glass bottle or jar fragments, though green and milk glass is also represented, along with hole-in-top and Sanitary cans. Milled lumber, stove parts, bedsprings, and a toy truck were documented in one portion of the site, indicating either dumping of domestic trash or camping (or some combination of the two). Diagnostic artifacts span a somewhat wide temporal range, but generally date to the mid-twentieth century. For example, artifacts documented include multiple examples of stippled glass (post-1940), Owens-Illinois "I in Oval" (Ⓘ) maker's marks (post-1954) (Lockhart and Hoenig 2015), a 1962 Colorado license plate, and pull tab cans (1965–1975) (Southern Oregon Digital Archives 2024).

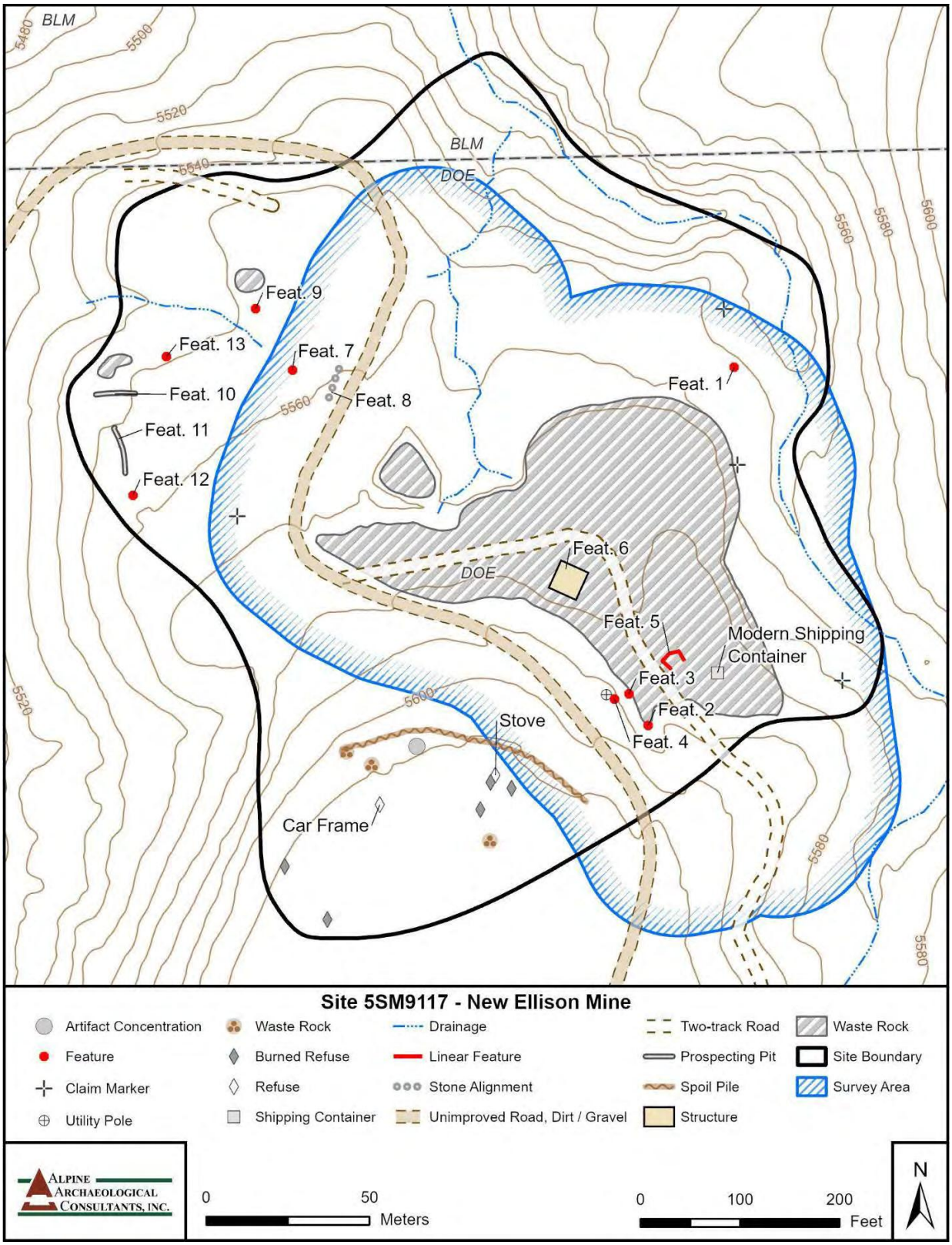

Figure 16. Planview map of site 5SM9117.

Figure 17. Overview of site 5SM9117 with Feature 6 in the midground, facing northeast.

Table 6. Summary of Historical Features at Site 5SM9117.

Map Ref.	Feature Type	Dimensions	Description
Feat. 1	Unknown mining structure	30 ft. x 20 ft.	Consists of 14 pieces of milled lumber, including boards of varying dimensions and one wall remnant (Figure 18). Rubber and sheet metal are nailed to some of the boards. A "HIFIRE" brick was noted within the feature; the presence of this specialized brick for high heat indicates that combustion/heating activities took place in association with this feature.
Feat. 2	Mine portal	15 ft.(H) x 25 ft. (W)	Mine portal with steel gate on corrugated metal Quonset-style tunnel (Figure 19). Heavy equipment D9 parked inside.
Feat. 3	Electrical conduit	5 ft. exposed, 2 in. conduit	Conduit and wires emerging from subsurface (Figure 20).
Feat. 4	Indeterminate wooden structure	3 ft. x 3 ft. x 4 ft.	Cribbed wood structure of 4-ft.-x-4-ft. timbers, likely had platform on top to hold generator (Figure 21).
Feat. 5	Loading ramp	27 ft. x 18 ft.	Earthen and timber frame loading ramp/dock, 3 ft. tall.
Feat. 6	Quonset hut	30 ft. x 30 ft. x 15 ft.	Steel, corrugated building, workshop, warehouse (Figure 22).
Feat. 7	Rock alignment	10 ft. x 5 ft.	Square-shaped arrangement of large, rough, unshaped stones, serving as a possible platform or foundation for equipment (Figure 23). There is also a coffee can, scrap metal bar, and hole-in-top can inside the feature.
Feat. 8	Rock alignment	–	Loose alignment of large unshaped rocks that parallels the road. It is likely a feature destroyed by road blading.
Feat. 9	Burn pit	3 ft. x 3 ft.	Fire pit with charcoal. Artifacts associated with this feature include milk glass cup fragments, Sanitary cans, and bottle fragments (Figure 24).
Feat. 10	Depression	5 ft. (depth)	Prospect trench, running north/south.
Feat. 11	Depression	5 ft. (depth)	Prospect trench, running east/west.
Feat. 12	Burn pit	6 ft. x 4 ft.	Probable refuse burn pit containing dozens of glass fragments and can fragments, decorative glass bottles, and a car fender part.
Feat. 13	Burn pit	–	Refuse burn pit with glass fragments, can fragments, pull tabs (10), and brick fragments.

Figure 18. Overview of Feature 1 at site 5SM9117, facing south.

Figure 19. Overview of Feature 2 at site 5SM9117, facing south-southeast.

Figure 20. Overview of Feature 3 at site 5SM9117, facing west.

Figure 21. Overview of Feature 4 at site 5SM9117, facing northwest.

Figure 22. Overview of Feature 6 at site 5SM9117, facing west-northwest.

Figure 23. Overview of Feature 7 at site 5SM9117, facing east.

Figure 24. Overview of Feature 9 at site 5SM9117, facing northeast.

Table 7. Observed Historical Artifacts at Site 5SM9117.

Artifact Type	Qty.	Subtype / Color	Description	Date
Bottle or Jar	1	Clear glass	ABM-manufactured 1 pint bottle nearly complete with stippled pattern across entire body. "Not to Be Refilled" on body. Maker's mark - "1-WAY BEVERAGES/ GK 1598/ Duraglas/7/ Ⓓ / 59/ 3".	1959
Bottle or Jar	1	Clear glass	ABM-manufactured small cylinder medicine/chemical bottle. "A-S/ 12 Ⓓ 7/ 7"	1957 (likely)*
Bottle or Jar	1	Olive green glass	ABM-manufactured Base fragment, "Beverages/ GK 1598/1PT. / DURAGLAS/ 9 Ⓓ 5/11"	1955 (likely)*
Bottle or Jar	200†	Amber glass	Fragments	1860–present
Bottle or Jar	1000-3000†	Clear glass	Fragments	1880–present
Bottle or Jar	50†	Cobalt glass	Fragments	1890–present
Bottle	200–300†	Green glass	–	1860–present
Earthenware	50†	White/green	–	–
Porcelain	1	–	"HEAT PROOF/ F in a shield/ U.S.A." mug	–
Sanitary cans	200†	–	Rotary opened	Post-1925
Sanitary cans	100†	–	Church key opened	Post-1935 (Horn 2005)
Sanitary cans	50†	–	Rectangular without tops	Post-1904 (Horn 2005)
Aerosol spray cans	5†	–	Crushed	–
Steel beverage	150†	–	Church key opened	1935 (Horn 2005)

Aluminum end beverage can	50†	–	–	1962–1984
Oil cans	100†	–	Church key opened	Post-1935 (Horn 2005)
Metal pails	20†	–	–	–
Metal scrap	150†	–	Automotive/industrial	–
Tall rectangular canister	25†	–	Crushed	–
Tall rectangular canister	1	–	Top embossed with, "ATLAS/PERMA-GUARD/ANTI-FREEZE". The Atlas Supply Company first trademarked "PERMA-GUARD" antifreeze in 1939 and canceled in 2004 (United States Patent and Trademark Office 2024)	Post-1939
Milled lumber fragments	30-50†	–	With wire nails. One wall section measuring 7 ft. x 10 ft.	–
Kitchen stove	1	–	Measures 2.5 ft. (long) x 1.5 ft (tall) x 1.5 ft.(wide). "SERVICE" brand	–
Cylinder stove	1	–	2.5 ft. (long) x 1.5 ft (diameter)	–
Car frame	1	–	–	–
Bedsprings	2	–	–	–
Toy truck	1	–	Fragment	–
Hole-in-top cans	25†	–	Complete	1900–early 1990s (Horn 2005)
Coffee can	1	Steel	—	–
Bottle or jar	5†	Milk glass	—	1890–present
Bricks	Several		Including one "HIFIRE" brick	—
Car part	1		—	—
Bottle	1		"Duraglas" glass with "Ⓞ" maker's mark	Post-1954*
Bottle	1	Glass	Clorox brand	1920s–1960s (The Clorox Company 2024)
Bottle	1		Hazel-Atlas maker's mark (Toulouse 1971).	1920 – 1962
Can pull tabs	5†	Aluminum	—	1965–1975 (Southern Oregon Digital Archives 2024)
Drum	1	Steel	15-gallon	—
Oil filter	1	—	—	—
Stippled glass	5†	—	—	Post-1940*
Bottle	1		Owens-Illinois maker's mark "Ⓞ"	Post-1954*
License plate	1	Metal	Colorado license plate	1962
Brick	1	Brick	"HIFIRE"	—
Bottle	1	Colorless glass	Embossed automatic or semiautomatic machined bottle finish "ROMA WINES"	—
Bottle	1	Amber glass	Embossed "WHITEHALL" with an Owens-Illinois "Ⓞ" maker's mark.	Post-1954*

† = estimated quantity

* = Lockhart and Hoenig 2015

Historical Background

The 1916 and 1917 Paradox Valley 1:125,000 topographic maps depict the "Ocumpangh Camp" placename where the New Ellison Mine is located. There is limited information about the Ocumpanph Camp, New Ellison Mine, or its previous owners. According to publicly available correspondence, the New Ellison Mine was initially excavated as a new decline to connect to the original Ellison Mine—located south outside of the current inventory area—for ventilation and as a secondary escapeway (Letter to the Colorado Division of Reclamation, Mining & Safety from The Information Network for Responsible Mining, dated April 16, 2013). The development started in 1979 and the two mines were connected in 1982 before operations ceased shortly afterwards. No ore was produced in either of the Ellison mines (Letter to the Colorado Division of Reclamation, Mining & Safety from The Information Network for Responsible Mining, dated April 16, 2013). The mine is not depicted on any USGS map, but is clearly visible on a 1983 aerial photograph (Nationwide Environmental Title Research 2024). The original Ellison Mine was recorded in 1994 by the BLM during the Uravan Mineral Belt Mine Site Inventory (MC.LM.R100).

National Register Recommendation

Site 5SM9117 is recommended as not eligible for inclusion in the NRHP. The site cannot be associated with a significant event or person (Criteria A and B). Although the Slick Rock area is significant for its role in early carnotite mining—specifically for radium in the early 20th century—site 5SM9117 lacks apparent diagnostic artifacts or features that can definitively date it to this significant era in Colorado's mining history (Twitty (2008). Moreover, although mine tailings from Colorado's carnotite mining industry played a significant role in the initial development of atomic weapons, these tailings were mined and processed in the 1940s and earlier (Twitty (2008), whereas site 5SM9117's artifact assemblage indicates a later period of use. For these reasons, 5SM9117 is not significant for its association with events in history. The site contains no traits, artifacts, or features that could qualify it as significant under Criterion C. The site's artifact assemblage consists of artifacts that are commonplace and expected for the area, and the site's features are mostly either destroyed or modern; thus, the site lacks potential to yield information that would contribute to our understanding of the region's history (Criterion D). Lastly, it is clear that the site does not comprise a resource of exceptional importance that could be eligible under Criterion G.

The site retains integrity of location as it remains in its original location. The site's features are largely unmoved and continue to evidence a conscious layout; thus, integrity of design largely remains. To the extent that waste rock piles have covered portions of the site, however, integrity of design has diminished. The site's surroundings are intact and remain undeveloped; thus, the site's integrity of setting has been retained. The site's integrity of feeling is somewhat intact owing to the undeveloped nature of the surroundings; however, destruction of probable historic features (such as Features 8 and 9) and the introduction of modern-appearing features (such as Feature 6) have undermined the site's integrity of feeling. Integrity of workmanship and materials have both been diminished by the destruction of probable historic features, but integrity of materials is still somewhat retained in the large artifact assemblage and in the remaining features. Lastly, the site cannot be clearly associated with events or persons in history; thus, its integrity of association has been lost.

Project Impacts

Impacts of the proposed remediation project include removal and/or cover and contour of contaminated sediment, transportation of heavy equipment, and/or the removal of buildings or other features.

Management Recommendations

Site 5SM9117 is recommended as not eligible for inclusion in the NRHP, therefore, no further archaeological work is recommended.

SUMMARY

BRS is conducting remediation work with respect to two mines leased by Gold Eagle on land managed by the BLM-UFO, the DOE, and private land in San Miguel and Montrose counties, Colorado. To meet the historic preservation requirements and to determine the effects of the proposed undertaking on cultural resources within the APE, BRS retained Alpine to conduct a Class III intensive pedestrian cultural resource inventory of the 18.3-acre APE. Alpine also completed a file search and literature review of the APE in advance of fieldwork. Alpine inventoried a total of 8.5 acres of BLM-managed land, 7.8 acres of Department of Energy-managed land, and 2 acres of private land for the project; work was conducted under Alpine's BLM Cultural Resource Use Permit COCO106307320 and State of Colorado Permit 84022.

The inventory resulted in the recordation of one newly recorded historical mine (5SM9117) and one previously recorded historical mine (5MN4483) (Table 8). Site 5SM9117 is recommended as not eligible for inclusion in the NRHP and no further work is recommended. Site 5MN4483 is officially eligible and Alpine recommends that the reclamation activities avoid Features 1 and 2, as they contribute to the site's eligibility.

The objectives of the project were to evaluate and document historical mines at the inventory areas. Given the small size of the inventory areas, it is unsurprising that little was found in addition to the identified mines. The purpose of the inventory was to identify cultural resources within the inventory areas, evaluate their NRHP eligibility, and to make recommendations in regard to site eligibility and stewardship in advance of the planned closure. These objectives have been achieved.

Table 8. Summary of Sites Identified During the Gold Eagle Uranium Leases Project.

Site Number	Site Type	Landowner	NRHP Recommendation	Management Recommendations
5MN4483	Historical Joe Dandy Mine/JD-5	BLM-UFO	Eligible	Avoid contributing features
5SM9117	Historical New Ellison Mine/SR-13	DOE	Not Eligible	No further work

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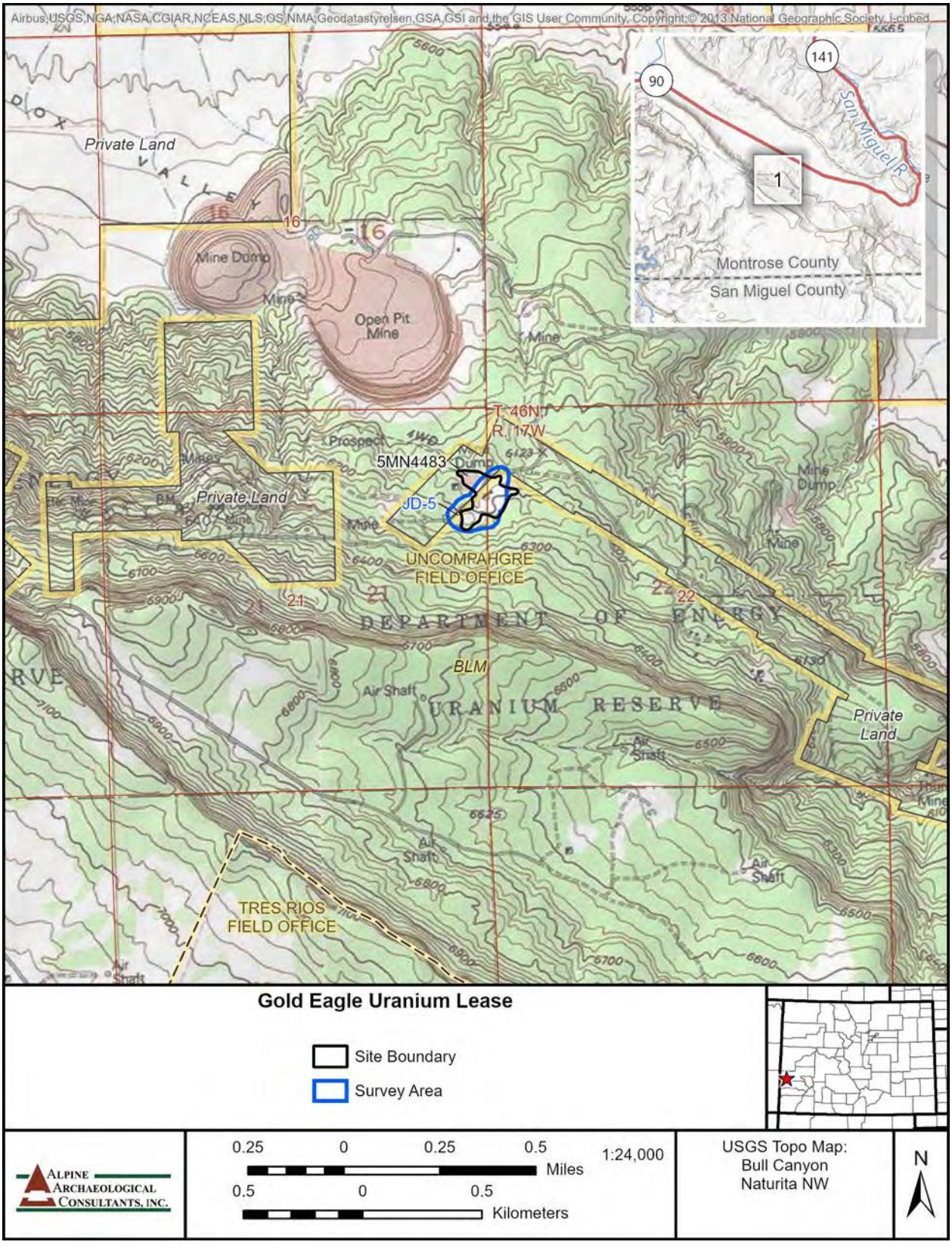
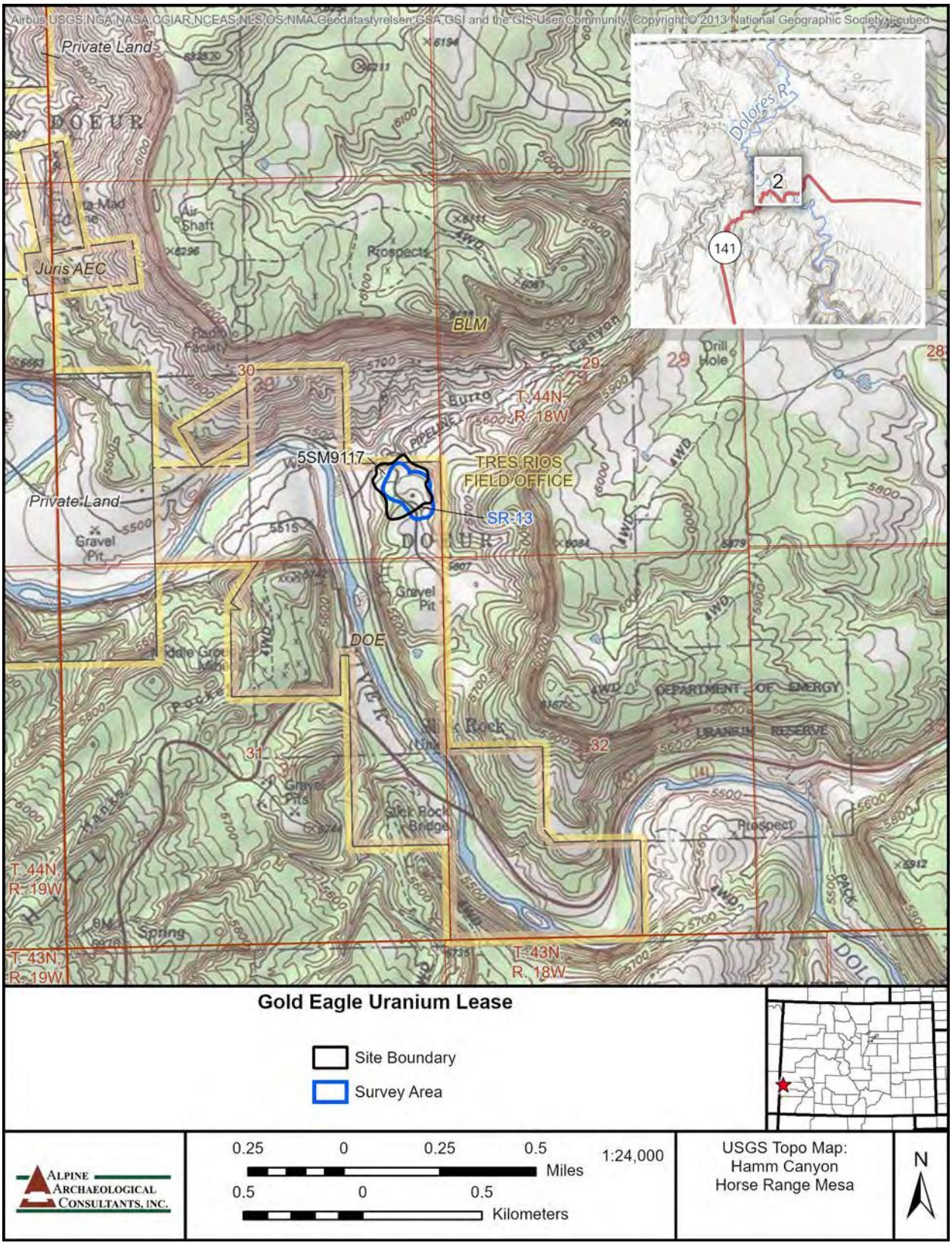
Appendix A

Project Results Maps
(Limited Distribution)


Airbus,USGS,NGA,NASA,CGIAR,NCEAS,NLS,OS,NMA,Geodatastyrelsen,GSA,GSI and the GIS User Community, Copyright:© 2013 National Geographic Society, i-cubed
Private Land
VALLEY
Mine Dump
Open Pit Mine
Mine
T. 46N.
R. 17W
5MN4483
JD-5
Prospect
4WD
Private Land
UNCOMPAHGRE FIELD OFFICE
DEPARTMENT OF ENERGY
URANIUM RESERVE
BLM
Air Shaft
Private Land
TRES RIOS FIELD OFFICE
16
21
22
90
141
1
San Miguel R.
Montrose County
San Miguel County
Gold Eagle Uranium Lease
Site Boundary
Survey Area
ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.
0.25 0 0.25 0.5 Miles
0.5 0 0.5 Kilometers
1:24,000
USGS Topo Map:
Bull Canyon
Naturita NW
N


Airbus, USGS, NGA, NASA, CGIAR, NCEAS, NLS, OS, NMA, Geodatastyrelsen, GSA, GSI and the GIS User Community, Copyright © 2013 National Geographic Society, i-cubed
Private Land
DOE UR
Juris AEC
Air Shaft
Prospects
BLM
Radio Facility
30
29
Drill Hole
T. 44N.
R. 18W.
5SM9117
TRES RIOS FIELD OFFICE
SR-13
Private Land
Gravel Pit
DOE
DEPARTMENT OF ENERGY
URANIUM RESERVE
31
32
Gravel Pits
Slick Rock Bridge
Prospect
T. 44N.
R. 19W.
Spring
T. 43N.
R. 19W.
T. 43N.
R. 18W.
Dolores R.
2
141
Gold Eagle Uranium Lease
Site Boundary
Survey Area
Alpine Archaeological Consultants, Inc.
0.25 0 0.25 0.5 Miles
0.5 0 0.5 Kilometers
1:24,000
USGS Topo Map:
Hamm Canyon
Horse Range Mesa
N

Appendix B

Colorado Cultural Resource Survey Forms
(Limited Distribution)

Management Data Form

A Management Data Form should be completed for each cultural resource recorded during an archaeological survey. Isolated finds and revisits are the exception and they do not require a Management Data Form. Please attach the appropriate component forms and use continuation pages if necessary. Fields can be expanded or compressed as necessary.

1. Resource Number 5MN4483

2. Temporary Resource Number NA

3. Attachments (check as many as apply)

- ☐ Prehistoric Archaeological Component
- ☑ Historic Archaeological Component
- ☑ Historic Architectural Component Form
- ☐ Linear Component
- ☑ Sketch/Instrument Map (required)
- ☑ U.S.G.S. Map Photocopy (required)
- ☑ Photograph(s) (required)
- ☑ Other, specify: Hist. Feat. Table

4. Official determination (OAHP use onl

- ☐ Determined Eligible NR\SR
- ☐ Determined Not Eligible NR\S
- ☐ Nominated
- ☐ Need Data NR\S
- ☐ Contributing to NR Dist.\SR Dist
- ☐ Not Contributing to NR Dist.\SR Dist
- ☐ Supports overall linear eligibility NR\S
- ☐ Does not support overall linear eligibility NR\SR

I. IDENTIFICATION

5. Resource name Joe Dandy Mine/JD-5

6. Project Name/Number Gold Eagle Uranium Lease Areas in Montrose and San Miguel Counties, Colorado (MC.E.R150, TR24024, 24UN-15)

7. Government Involvement ☐ Local ☐ State ☑ Federal

Agency: United States Department of Energy

8. Site Categories: (check as many as apply

Prehistoric: ☐ archaeological site ☐ paleontological site ☐ In existing National Register District

National Register District name:

Historic: ☐ archaeology site ☑ building(s) ☑ structure(s) ☐ object(s) ☐ In existing National Register District

National Register District name:

9. Owner (s) Name and Address

Bureau of Land Management - Uncompahgre Field Office and private property

10. Boundary Description and Justification

Based on the distribution of archaeological feature(s)/artifacts.

11. Site/Property Dimension Length: 249 m Width: 250 m Area: 31,769 m² Acres (m²/4047): 7.85

Area was calculated as: ☐ Length x Width (rectangle/square ☐ Length x Width x 0.785 (ellipse ☑ GIS

II. LOCATION

12. Legal Location

PM	NM	Township	46N	Range	17W	Section	22	NW	¼	NW	¼
PM	NM	Township	46N	Range	17W	Section	21	NE	¼	NE	¼
PM		Township		Range		Section			¼		¼
PM		Township		Range		Section			¼		¼

If section is irregular, explain alignment method:

13. USGS Quad: Naturita NW

14. County: Montrose

Management Data Form

Resource Number: 5MN4483 **Temporary Resource Number:** NA

15. UTM Coordinates: Datum used ☐ NAD 27 ☑ NAD 83 ☐ WGS 84 Other:

A. Zone	12;	697736 mE	4233846 mN
B. Zone	12;	697755 mE	4233596 mN
C. Zone	12;	697507 mE	4233577 mN
D. Zone	12;	697488 mE	4233827 mN

16. UTM Source: ☑ Corrected GPS/rectified survey (<5m error) ☐ Uncorrected GPS ☐ Map template

Other (explain):

17. Site elevation (feet): 6,180 asl

18. Address: Lot: Block: Addition:

19. Location/Access:

From Naturita, drive west on CO-141 for approximately 2.2 miles. Turn left onto Highway 90 and drive for 8.5 miles to Monogram Truck Route. Turn left and follow the road for 1.5 miles to the site.

III. NATURAL ENVIRONMENT/SITE CONDITION

20. General Description (should include both on site as well as geographical setting with aspect, landforms, vegetation, soils, depositional environment, water, and ground visibility):

Site 5MN4483 is on the side of a NW-facing hill with a slope of 0–5 degrees. Vegetation is representative of a pinyon-juniper woodland community, with grasses, forbs, sagebrush, prickly pear cactus, juniper, and pinyon. Ground visibility at the time of recording was 95–100%.

21. Soil depth (cm) and description:

Sediments are residual sandy loam with subangular pebble- to boulder-sized sandstone inclusions

Management Data Form

Resource Number: 5MN4483 **Temporary Resource Number:** NA

22. Condition:

a. Architectural/Structural
- ☐ Excellent
- ☐ Good
- ☑ Fair
- ☐ Deteriorated
- ☐ Ruins

b. Archaeological/Paleontological
- ☐ Undisturbed
- ☐ Light disturbance
- ☐ Moderate disturbance
- ☐ Heavy disturbance
- ☐ Total disturbance

23. Describe Condition:

The site has experienced moderate disturbance, with visible impacts from prior reclamation activities, such as the removal of most of the buildings.

24. Vandalism: ☐ Yes ☑ No

Describe:

IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT

25. Context or Theme: Guide to Assessing Historic Radium, Uranium, and Vanadium Mining Resources in Montrose and San Miguel Counties

26. Applicable National Register Criteria:
- ☑ A. Associated with events that have made a significant contribution to the broad pattern of our history
- ☐ B. Associated with the lives of persons significant to our past
- ☑ C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
- ☐ D. Has yielded, or may be likely to yield, information important in history or prehistory
- ☐ Does not meet any of the National Register criteria
- ☑ Qualifies under exceptions A through G. List exception(s): G: Cold War

27. Applicable State Register Criteria:
- ☑ A. Property is associated with events that have made a significant contribution to history
- ☐ B. Property is connected with persons significant in history
- ☑ C. Property has distinctive characteristics of a type, period, method of construction or artisan
- ☐ D. Property is of geographic importance
- ☐ E. Property contains the possibility of important discoveries related to prehistory or history
- ☐ Does not meet any of the State Register criteria

28. Area(s) of significance:

Carnotite mining industry

29. Period(s) of significance:

1974-1980

30. Level of Significance: ☐ National ☑ State ☑ Local

31. Statement of Significance:

The site was initially recommended NRHP eligible under Criterion A as a significant example of late period carnotite mining industry and determined eligible in 1995. Alpine agrees with this determination and also recommends it as eligible under Criteria C and G. The site's condition is largely unchanged, and the site continues to constitute a significant example of late period carnotite mining. The site cannot be associated with a significant person (Criterion B). Feature 1 is well preserved and represents a good example of a uranium mining architectural form. The site is, therefore, also recommended as significant under Criterion C. The site likely does not contain buried historical deposits. If cultural material was buried during prior reclamation efforts, it would be in a secondary context and not provide additional interruptive value. Thus, further work will likely not yield additional data that will provide further information about the region's history (Criterion D). Lastly, it is clear that the site does comprise a resource of exceptional importance that could be eligible under Criterion G due to the large production of ore during a short period of time during the Cold War.

32. Statement of historic integrity related to significance:

The site's integrity of location has been impacted by the removal of some of its original features during reclamation activities. The site retains integrity of design, as the layout of its features continue to evidence the site's plan. The site's surroundings are intact and remain undeveloped; thus, the site's integrity of setting and feeling have been retained. Most of the site's features remain intact; thus, integrity of workmanship and materials is preserved. Lastly, the site can still be clearly associated with events in history including Colorado's late-uranium boom, thus, integrity of association has been retained.

33. National Register Eligibility Field Assessment: ☑ Eligible ☐ Not Eligible ☐ Need Data
Linear Segment Evaluation (if applicable): ☐ Supporting ☐ Non Supporting
34. Status in an Existing National Register District: ☐ Contributing ☐ Non-Contributing
35. State Register Eligibility Field Assessment: ☑ Eligible ☐ Not Eligible ☐ Need Data
36. Status in an Existing State Register District: ☐ Contributing ☐ Non-Contributing

37. National Register District Potential: ☐ Yes ☑ No Describe:

NA

38. Cultural Landscape Potential: ☐ Yes ☑ No Describe:

NA

39. If Yes to either 37 or 38, is this site: ☐ Contributing ☐ Non-Contributing Explain:

NA

Management Data Form

Resource Number 5MN4483 **Temporary Resource Number** NA

V. MANAGEMENT AND ADMINISTRATIVE DATA

40. Threats to Resource: ☐ Water erosion ☑ Wind erosion ☐ Grazing ☑ Neglect ☐ Vandalism ☐ Recreation ☑ Construction Other (specify): Mining reclaimation

41. Existing Protection: ☑ None ☐ Marked ☐ Fenced ☐ Patrolled ☐ Access controlled

Other (specify):

Comments:

42. Local landmark designation: NA **43. Easement:** NA

44. Recorder's Management Recommendations:

Site 5MN4483 is recommended as eligible for inclusion in the NRHP. Threats to the site include damage to artifacts and/or features during the movement of sediment, transportation of heavy equipment, or as a direct result of the removal of buildings or other features. Alpine recommends that ground-disturbing impacts to the head frame and hoist house be avoided, as the features contribute to the site's eligibility. If avoidance is not feasible, Alpine recommends that the site be mitigated prior to any potential impacts.

VI. DOCUMENTATION

45. Previous actions accomplished at the site: ☐ Tested ☐ Partial excavation ☐ Complete excavation

Date(s): NA

a. Excavations: NA

b. Stabilization: NA Date(s): NA

c. HABS/HAER documentation [date(s) and numbers]: NA

d. Other: NA

46. Known collections/reports/interviews and other references (list):

Patrick and Kramer
1994 5MN4483 Site Form. Prepared by BLM.

47. Primary Location of Additional Data:

Field notes are located at Alpine

48. State or Federal Permit Number: COCO106307320, 84022

49. Collection: Artifact collection authorized: ☐ Yes ☑ No Were artifacts collected: ☐ Yes ☑ No

Artifact Repository:

Collection Method: ☐ Diagnostics ☐ Grab Sample ☐ Random Sample

Other (specify):

50. Photograph Numbers: GE-JMK-01: exp. 7-42

Files or negatives stored at: Digital images are stored at Alpine

51. Report Title: A Class III Cultural Resource Inventory of the Gold Eagle Uranium Lease Areas in Montrose and San Miguel Counties, Colorado (MC.E.R150, TR24024, 24UN-15)

52. Recorder(s): Jordan Kluver and Sam Fresher Date: 6/18/2024

53. Recorder Affiliation: Alpine Archaeological Consultants, Inc. Montrose, CO

Phone number/Email: (970) 249-6761 / sites@alpinearchaeology.com

NOTE: Please attach a site map, a photocopy of the USGS 1:24,000 map indicating resource location, and photographs.

COLORADO CULTURAL RESOURCE SURVEY

Management Data Form

Continuation Page

Resource Number: 5MN4483 Temporary Resource Number: NA

46. Known collections/reports/interviews and other references (list):

Twitty, Eric

2008 Guide to Assessing Historic Radium, Uranium, and Vanadium Mining Resources in Montrose and San Miguel Counties. Prepared by Mountain States Historical, Boulder, Colorado. Prepared for Western Colorado Interpretive Association, Delta, Colorado.

COLORADO CULTURAL RESOURCE SURVEY

Historic Archaeology Component Form

OAHP1402
Rev.11/10

1. Resource Number: 5MN4483 **2. Temporary Resource Number:** NA

3. Site Name: Joe Dandy Mine/JD-5

4. Does this form pertain to the site in general? ☑ **Yes** ☐ **No**
If no, please supply a feature/structure number or name:

5. Site, Component or Feature Type: Mine/adit

6. Narrative History (based on archival research, expand as necessary):

Online records indicate Gate & Fox Co. Inc. originally owned and operated the JD-5 mine around 1975 (westernmininghistory.com, accessed August 1, 2024). According to the 1994 site form, the Blake Mining Company of Nucla, Colorado took control of the mine after that time. See continuation page.

7. Is this site located in a NRHP historic landscape? ☐ **Yes** ☑ **No; If yes, please describe:**

8. Component or Feature Description (expand as necessary):

The site was initially recorded in 1994 by the BLM during the Uravan Mineral Belt Mine Site Inventory (MC.LM.R100). At the time of that recording, the site consisted of a headframe, storage buildings, two loadout sites, a ventilation shaft, two smaller work buildings, a tramway gondola, an outhouse, diesel tanks, and a hoist house. The 1994 BLM site form noted that the site dates to the 1970s and the headframe and hoist house were in excellent condition, whereas other features had started to show signs of deterioration. The form also suggests that there might be mine debris buried under the waste rock from prior reclamation activities. See continuation page.

9. Historic Component Date(s) : 1974-1990
Justification and Sources Consulted: Historical research

10. Component Function(s): Uranium mining
Original Use: Uranium mining
Present Use: Abandoned

11. Ethnic affiliation of occupants: Euroamerican
Justification and Source Consulted: Historical research

12. Historic Boundary Description: Unknown
Justification and Sources Consulted: Historical research

13. NRHP Area of Significance: Carnotite mining industry
Justification and Sources Consulted: Historical research

14. NRHP Period of Significance: 1974-1980
Justification and Sources Consulted: Historical research

15. Site, Component, or Feature Theme (use the Historic Archaeology Lexicon):
Mining

16. Does this component or feature support the NRHP eligibility of the entire resource?
☑ Yes ☐ No ☐ Undetermined ☐ N/A
Justification:

17. Recorder(s): Jordan Kluver and Sam Fresher **18. Date:** 6/18/2024

Historic Archaeology Component Form

Resource Number: 5MN4483 **Temporary Resource Number:** NA

19. Presence and Quantity of Artifacts (add types as necessary)

a. Vessel Glass	Quantity
Amber (1860s-present)	
Amethyst (pre-1920)	
Aqua (pre-1920)	
Cobalt	
Colorless (ca. 1920s-present)	
Light green (1860s-present)	
Milk glass (1890s-present)	
Olive green (early 1860s)	
Yellowish (1918-1950s)	

b. Ceramics	Quantity
Earthenware	
Porcelain	
Refined earthenware	
Stoneware	

c. Nails	Quantity
Hand-made cut (wrought)	
Machine-made cut	
Railroad Spike	
Wire	

d. Industrial Artifacts	Quantity
55-gallon drum	
Animal shoe	
Automobile/Truck part	
Bailing Wire	
Barbed wire	
Barrel Hoop	
Bracket	
Bucket	
Cable/Wire rope	
Cartridge: centerline	
Cartridge: rimfire	
Cartridge: pin fire	
Cartridge: shotgun shell	
Clinker	
Coal	
Electric light fixture	
Electrical wire	
Horse tack/harness	
Iron scrap: cut sheet metal	
Iron scrap: forge-cut	
Lag bolt	
Machine bolt	
Machine part	
Mine rail	
Nut: hex	
Nut: jamb	
Pipe	
Wagon parts	
Washer	
Misc Metal Fragments	present

e. Cans	Quantity
Beverage: all aluminum (post-1970)	
Beverage: aluminum ends (post-1953)	
Beverage: cone-top (1935-1960)	
Beverage: flat top, all steel (1935-1970s)	
Beverage: pull tab (1962-1983)	
Beverage: UPC code (post-1980)	
Hole-in-cap: double-locked side seam (1890-1915)	
Hole-in-cap: lapped side seam (ca. 1850s-1900)	
Round quart motor oil: all metal (1933-1970s)	
Round quart motor oil: paper-sided (late 1940s-late 1980s)	
Sanitary (post-1904)	11-50
Sanitary ends, lapped side seam (1904+; very rare)	
Sardine tin: lapped and soldered (pre-1910)	
Sardine tin: one piece bottom (early 1900s +)	
Tobacco tin: complex friction lid (post-1948)	
Tobacco tin: simple friction lid (1907-1948)	
Tobacco tin: upright pocket (late 1890s-1988)	
Tobacco tin: hinged lid (ca. 1910-present)	
Vent hole (hole-in-top) (1900-1980s)	
Vent hole with two solder dots (hole-in-top) (1890s-early 1900s)	

f. Structural Artifacts	Quantity
Adobe	
Brick: common	
Brick: fire	
Concrete: natural lime (pre-1915)	
Concrete: Portland (post-1910)	
Corrugated sheet iron (post-1890)	
Dimensional lumber	
Fieldstone	
Hinge	
Log: hewn	
Log: peeled	
Log: raw	
Sheet iron	
Stovepipe	
Tarpaper	
Timber bolt	
Timber Spike	
Window glass: aqua (pre-1920)	
Window glass: colorless	
Window glass: yellowish tint (1918-1950s)	

g. Domestic Artifacts	Quantity
Beads	
Bedframe/springs	
Buttons	
Clothing	
Cookware	
Doll parts	
Stove parts (cast iron/tin)	

20. Total assemblage size: Or estimate: ☐ 0-10 ☐ 11-100 ☑ 101-1000 ☐ 1001-10,000 ☐ >10,000

21. Artifact Density: ☐ High ☐ Medium ☑ Low Describe:
Sparsely scattered

22. Unique Artifact Descriptions. Particularly important attributes are listed following the artifact class and standardized terminology can be found in the Appendix to the instructions. Expand or contract tables as necessary. All of these items should be included in the counts of the Artifact table above.

a. Glass: type, function, color, bottle part, manufacturing method, vessel style/contents, embossing/marking, dimensions, worked or modified?

NA

b. Ceramics: type, function, surface treatment/glaze, color, shape, trademarks, decorations, dimensions.

NA

c. Nails: type, function, dimensions.

NA

d. Industrial: type, function, manufacturing method, marking, dimensions.

Misc metal fragments

e. Cans: material type, side-seam, opening, vessel style/contents, embossing/marking, dimensions.

Rotary sanitary cans

f. Structural: type, function, manufacturing method, marking, dimensions.

NA

g. Domestic: type, function, manufacturing method, marking, dimensions.

NA

h. Other/miscellaneous: type, function, manufacturing method, marking, dimensions.

NA

Historic Archaeology Component Form

Resource Number: 5MN4483 **Temporary Resource Number:** NA

23. Are standing structures present on the site? Yes ☑ No ☐

If yes, please complete Architectural Inventory Form(s)(1403)

24. Feature Descriptions Include a site map, to scale, with each feature listed below depicted on it. Please use the Historic Archaeology Lexicon for feature types. Insert rows and feature types into table as necessary. If desired, sort table by feature number.

Feature Type (add others as necessary)	Feature Number/Name	Dimensions	Description
Adit			
Aspen art			
Cabin			
Cairn			
Corral			
Ditch/canal			
Depression			
Dugout			
Foundation			
House			
Log Cabin			
Mine shaft			
Outbuilding			
Platform			
Privy			
Railroad grade/bed			
Road/Trail			
Shaft			
Trash scatter			
Waste Rock pile			
Adit	Feat.12	63-x-40-x-6 ft.	Collapsed and filled in with boulders
Air vent	Feat.7		Concrete pad with steel grate over opening
Concrete foundation	Feat.10	40-x-33 ft.	Large and small concrete foundations
Head frame	Feat.1	37-x-28-x-70 ft.	Tower, ventilation popes, elevator and pully
Hoist house	Feat.2	47-x-24-x-24 ft.	Multi-room building, large pully engine, cooling system
Loadout site	Feat.3	90-x-48-x-6 ft.	Steel and wooden beams along tailing piles
Outhouse (collapsed)	Feat.6	6-x-6 ft.	Scattered lumber of collapsed outhouse
Second loadout site	Feat.8		Wooden wall and steel beams
Tank	Feat.9	13.5-x-5 ft.	Metal tank with milled lumber frame
Viewing platform	Feat.13	8.9-x-12 ft.	Earthern platform with collapsed milled lumber

25. Potential for Additional Archaeological Information

Is there potential for additional information? ☐ Yes ☑ No ☐ Unknown If yes or unknown, describe below.

Potential Within:	Describe
a. Subsurface deposits within a structural feature	NA
b. Subsurface deposits outside a structural feature	NA
c. Surface trash area	NA
d. Privy pits	NA
e. Other	NA

COLORADO CULTURAL RESOURCE SURVEY

Historic Archaeological Component Form

Continuation Page

Resource Number: 5MN4483 Temporary Resource Number: NA

6. Narrative History, Continued:

No information about these companies was available online. Currently, Gold Eagle has possession of the mine. According to the 1995 Final Environmental Assessment for the Uranium Lease Management Program, no mining features predate 1974 (energy.gov, accessed August 1, 2024). The lease was granted in 1974, mining plans were submitted in 1976, its shaft reached ore deposits in 1977, and the mine shut down in 1980 because of the lack of economical ore reserves (U.S. Department of Energy 2014). The mine resumed from 1989 to 1990 as economics improved for a short period. Historically, the JD-5 mine produced 100,308 tons of ore, yielding 233 tons of uranium and 906 tons of vanadium (U.S. Department of Energy 2014).

8. Component or Feature Description, Continued:

Alpine revisited the site for the current project, inspected the locations of the previously documented features, and recorded a new feature. Alpine observed that several features have been removed or altered by reclamation activities after the initial recording, namely wooden structures, the ventilation shaft, and the adit/decline. All other previously recorded features that are still present remain in similar condition as the 1994 recording. The site also contains an artifact assemblage consisting of 150–200 modern artifacts, including cans and miscellaneous metal fragments. Artifacts appear restricted to the site surface. The artifact assemblage is likely too young and the landscape too disturbed by mining to contain significant undisturbed buried deposits.

Summary of Historical Features at Site 5MN4483.

Map Ref.	Feature Type	Material	Dimensions	Description
Feat. 1	Headframe	Metal, concrete	37 ft. E-W, 28 ft. N-S, approximately 70 ft. tall	A steel constructed tower centered on a 15-ft.- diameter, concrete-lined, steel-grated vertical shaft. There are two 2.5-ft.-diameter, 50-ft.-tall ventilation pipes on the south side of the tower. A 22- ft.-long, 3-to-5-ft.-tall "T" wall made of wood, concrete, and steel is along the south side and its additional wall is 19 ft. long. The elevator and pulley are also present. The headframe appears to be in a similar condition as the initial recording.
Feat. 2	Hoist house	Metal, wood	47 ft. N-S, 24 ft. E-W, 24 ft. tall	A building with steel I-beams and milled lumber frames, corrugated metal paneling on the roof and sides, built on a concrete foundation. The building has two rooms. In the south room is a large pulley engine, which powered the elevator. According to the level dial, there are three levels to the underground portion of the mine. The north room has compressor-type equipment. On the south side is a large window opening and two doors, on the west side is a doorway and a larger 11-ft.-x-10-ft. opening. The hoist house appears to be in a similar condition as the initial recording.
Feat. 3	Loadout site	Wood and steel	90 ft. N-S, 48 ft. E-W, 6 ft. tall	Steel I-beams and wooden beams line the north, east, and south sides along tailing piles. Two rows in the interior of the area have vertical I-beams and few wood beams remaining. Portions of the east wall have collapsed, which was not noted in the pervious recording. A metal tank that was located in the northeast corner of the feature has been since been removed.
Feat. 4	Shed (removed)	–	12.5 ft. N-S, 7 ft. E-W	The shed has been removed since the last recording, the foundation is still present.
Feat. 5	Tramway gondola (removed)	–	–	The tramway gondola has been removed since last recording.
Feat. 6	Outhouse (collapsed)	Wood, wire nails	Roof portion is 6 ft. x 6 ft.	The outhouse has collapsed since the last recording. The slant roof now covers the earthen opening (approximately same size as roof), and milled lumber is scatter in the vicinity.
Feat. 7	Air vent	Steel, concrete	10 ft. x 10.5 ft. (concrete pad); 3.5 ft. (diameter) (steel lined opening)	10.-ft.-x-10.5-ft. concrete pad with a steel lined 3.5-ft.- diameter opening with a 5.5 ft. squared steel grate welded over the opening. The “Torpedo pod” was removed since last recording.
Feat. 8	Second loadout site	Steel, wood	6.75 ft. tall and 8 ft. wide, 11 ft. long steel portion, wood wall is 5.75 ft. tall and 18 ft. long	Located next to Features 9 and 10, the northwest wooden wall is made of 18 ft. long poles. The metal portion is steel I-beams. Milled lumber and modern refuse are scattered in the vicinity. The feature appears to be in a similar condition as the initial recording.

Map Ref.	Feature Type	Material	Dimensions	Description
Feat. 9	Tank	Metal	13.5 ft. (length) x 5 ft. (diameter)	Metal tank 13.5 ft. long, 5 ft. diameter with a milled lumber frame around it. Metal tag weld on the top "BUILT BY/ AMERICAN STEEL/AND IRON WORKS, INC./ .../DENVER, COLO. ...." The tank appears to be in a similar condition as the initial recording.
Feat. 10	Concrete foundation	Concrete	40 ft. E-W, 33 N-S	The large concrete pad is 40 ft. by 33 ft. and the smaller pad is 12 ft. by 24 ft. In the northeast corner is a 11.5 ft. by 7 ft. short wall that likely had a small building. Utility pipes on the east side are cut at the base of the concrete pad. The foundation appears to be in a similar condition as the initial recording.
Feat. 11	Sheds (removed)	–	–	The sheds have been removed; no foundation remains.
Feat. 12	Adit/decline	–	63 ft. N-S, 40 ft. E-W, 5 to 6 ft. tall	Collapsed/filled in with coarse boulders and tailings after the original recording. The previous recording notes the adit/decline was caved in, yet not blocked off from access.
Feat. 13	Viewing Platform	Wood, wire nails	8 ft. 9 in. x 12 ft.	Alpine observed and documented this additional feature. Based on the diagonal portion with "steps" (6 ft. long with a 4-ft.-wide frame), it may be a mining mill.

5MN4483. Site overview facing west-southwest. Photograph taken on 6/19/2024 by J. Kluver.

5MN4483. Site overview facing north-northeast. Photograph taken on 6/19/2024 by J. Kluver.

5MN4483. Feature 1 overview, head frame, facing south-southwest. Photograph taken on 6/19/2024 by J. Kluver.

5MN4483. Feature 2 overview, hoist house, facing southwest. Photograph taken on 6/19/2024 by J. Kluver.

5MN4483. Feature 3 overview, loadout site, facing south. Photograph taken on 6/19/2024 by J. Kluver.

5MN4483. Feature 6 overview, facing north. Photograph taken on 6/19/2024 by J. Kluver.

5MN4483. Feature 7 overview, facing west. Photograph taken on 6/19/2024 by J. Kluver.

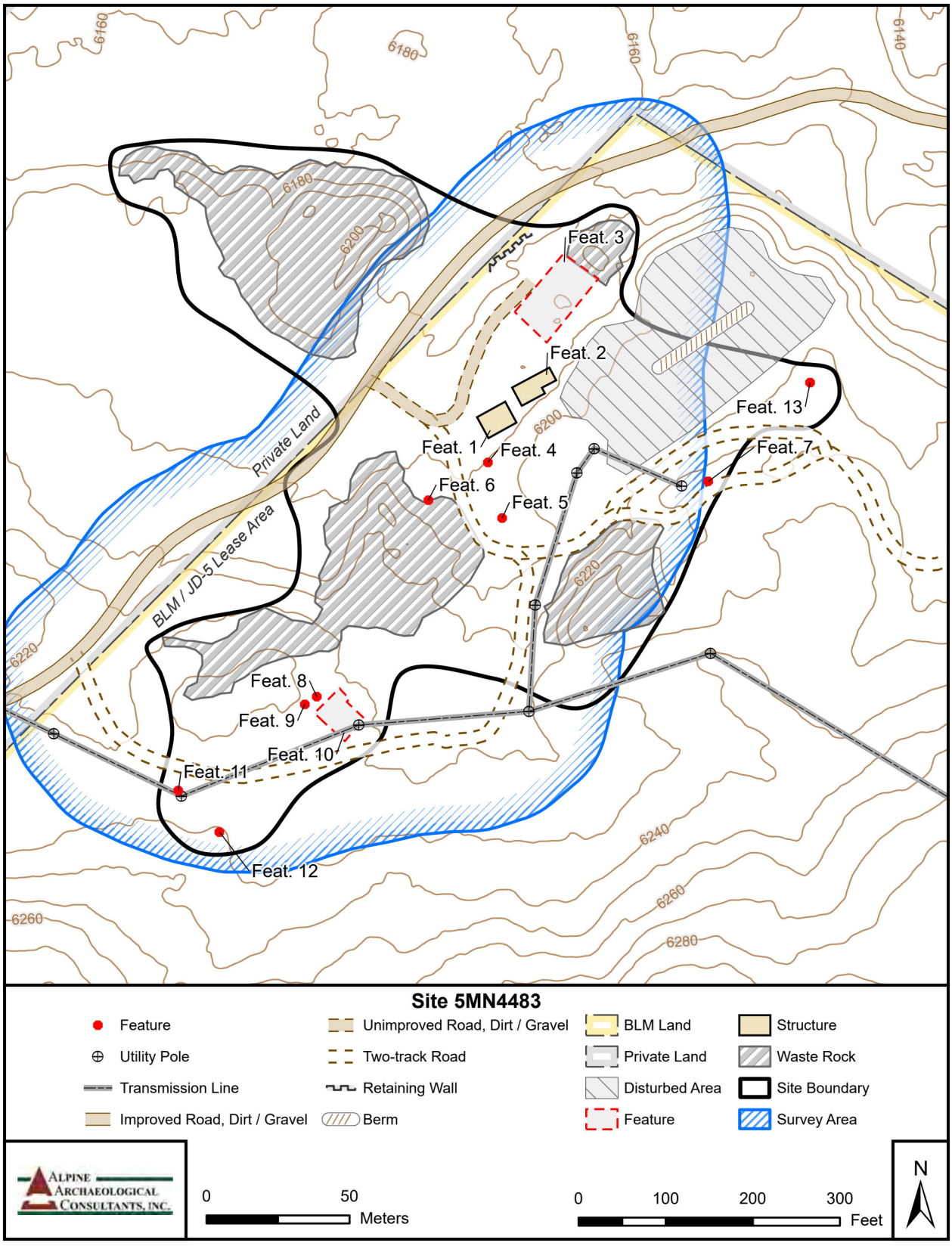
5MN4483. Feature 8 overview, facing north. Photograph taken on 6/19/2024 by J. Kluver.

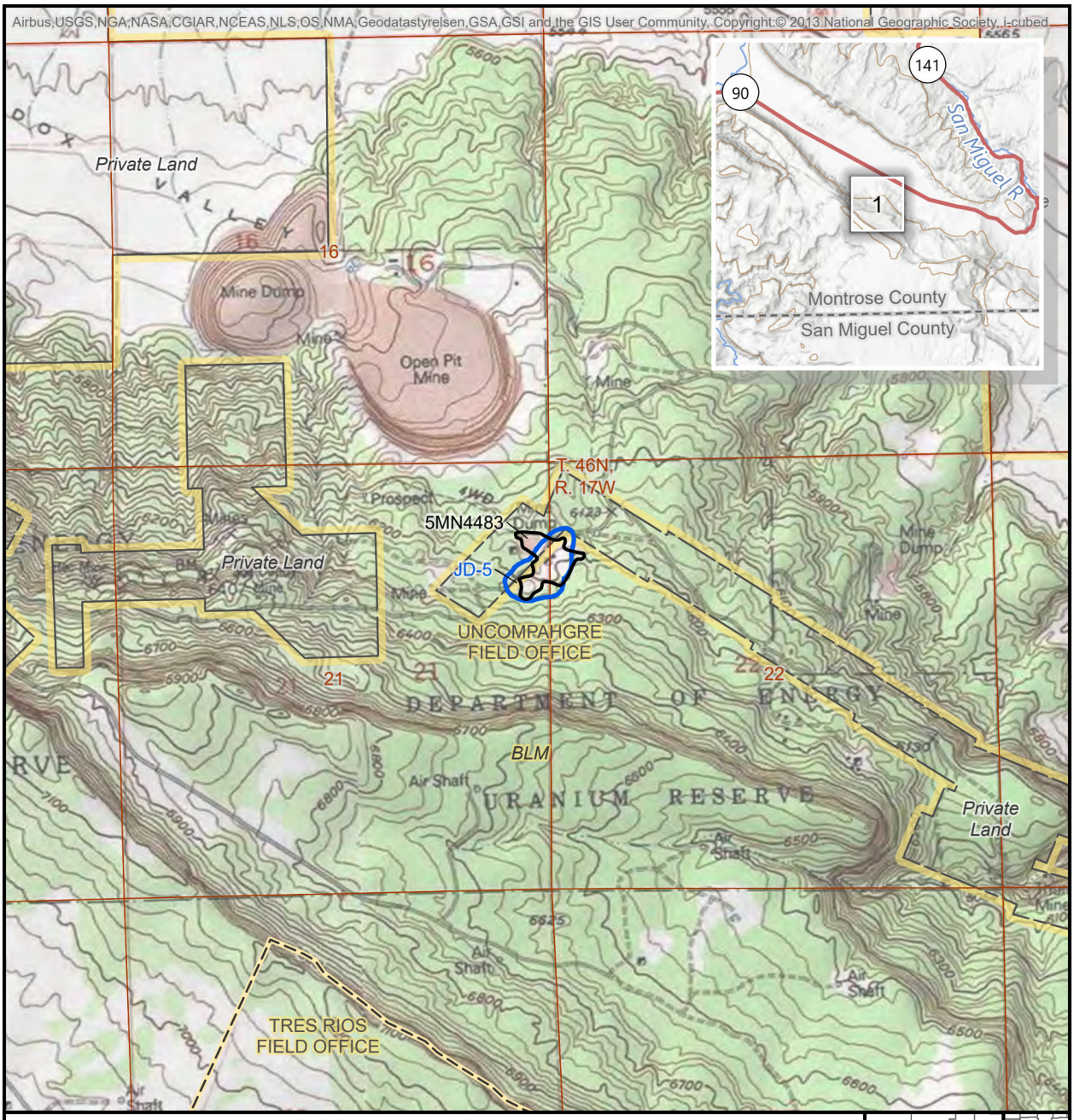
5MN4483. Feature 9 overview, facing west. Photograph taken on 6/19/2024 by J. Kluver.

5MN4483. Feature 10 overview, facing east. Photograph taken on 6/19/2024 by J. Kluver.

5MN4483. Feature 12 overview, facing south. Photograph taken on 6/19/2024 by J. Kluver.

5MN4483. Feature 13 overview, facing east-northeast. Photograph taken on 6/19/2024 by J. Kluver.


6160
6180
6160
6140
6180
6200
Feat. 3
Feat. 2
Feat. 13
Feat. 1
Feat. 4
Feat. 7
Feat. 6
Feat. 5
Private Land
BLM / JD-5 Lease Area
6200
6220
6220
Feat. 8
Feat. 9
Feat. 10
Feat. 11
Feat. 12
6240
6260
6260
6280
Site 5MN4483
Feature
Utility Pole
Transmission Line
Improved Road, Dirt / Gravel
Unimproved Road, Dirt / Gravel
Two-track Road
Retaining Wall
Berm
BLM Land
Private Land
Disturbed Area
Feature
Structure
Waste Rock
Site Boundary
Survey Area
Alpine Archaeological Consultants, Inc.
0
50
Meters
0
100
200
300
Feet
N



Gold Eagle Uranium Lease

Site Boundary

Survey Area

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

0.25 0 0.25 0.5 Miles

0.5 0 0.5 Kilometers

1:24,000

USGS Topo Map:
Bull Canyon
Naturita NW

N

Resource Number: 5MN4483
Temporary Resource Number: NA

OAHP1403
Rev. 9/98

COLORADO CULTURAL RESOURCE SURVEY

Architectural Inventory Form

Official eligibility determination
(OAHP use only)
Date _____Initials _____
_____ Determined Eligible- NR
_____ Determined Not Eligible- NR
_____ Determined Eligible- SR
_____ Determined Not Eligible- SR
_____ Need Data
_____ Contributes to eligible NR District
_____ Noncontributing to eligible NR District

I. IDENTIFICATION

1. Resource number: 5MN4483
2. Temporary resource number: NA
3. County: Montrose
4. City:
5. Historic building name: Unknown
6. Current building name: Feature 2
7. Building address:
8. Owner name and address: Bureau of Land Management - Uncompahgre Field Office and private

II. GEOGRAPHIC INFORMATION

9. P.M. NM Township 46N Range 17W
   _____ ¼ of _____ ¼ of NW ¼ of NW ¼ of section 22
10. UTM reference
    Zone 12; 697601mE 4233717mN
11. USGS quad name: Naturita NW
    Year:____ Map scale: 7.5'___ 15'___ Attach photo copy of appropriate map section.
12. Lot(s): _____ Block:_____
    Addition: _____Year of Addition: _____
13. Boundary Description and Justification: Full extent of building.

III. Architectural Description

14. Building plan (footprint, shape): RECTANGULAR PLAN
15. Dimensions in feet: Length 47 x Width 24
16. Number of stories: Single Story
17. Primary external wall material(s): SYNTHETICS
18. Roof configuration: GABLED ROOF
19. Primary external roof material: METAL ROOF
20. Special features: NONE

Resource Number: 5MN4483
Temporary Resource Number: NA

21. General architectural description: A building with steel I-beams and milled lumber frames, corrugated metal paneling on the roof and sides, built on a concrete foundation. The building has two rooms. In the south room is a large pulley engine, which powered the elevator. According to the level dial, there are three levels to the underground portion of the mine. The north room has compressor-type equipment. On the south side is a large window opening and two doors, on the west side is a doorway and a larger 11-ft.-x-10-ft. opening.
22. Architectural style/building type: NO STYLE
23. Landscaping or special setting features: NONE
24. Associated buildings, features, or objects: The site was initially recorded in 1994 by the BLM during the Uravan Mineral Belt Mine Site Inventory (MC.LM.R100). At the time of that recording, the site consisted of a headframe, storage buildings, two loadout sites, a ventilation shaft, two smaller work buildings, a tramway gondola, an outhouse, diesel tanks, and a hoist house. The 1994 BLM site form noted that the site dates to the 1970s and the headframe and hoist house were in excellent condition, whereas other features had started to show signs of deterioration. Alpine revisited the site for the current project, inspected the locations of the previously documented features, and recorded a new feature. Alpine observed that several features have been removed or altered by reclamation activities after the initial recording, namely wooden structures, the ventilation shaft, and the adit/decline. All other previously recorded features that are still present remain in similar condition as the 1994 recording. The site also contains an artifact assemblage consisting of 150–200 modern artifacts, including cans and miscellaneous metal fragments. Artifacts appear restricted to the site surface. The artifact assemblage is likely too young and the landscape too disturbed by mining to contain significant undisturbed buried deposits.

IV. ARCHITECTURAL HISTORY

25. Date of Construction: Estimate:1974-1977 Actual: _____
    Source of information: HISTORICAL RESEARCH
26. Architect: UNKNOWN
    Source of information: HISTORICAL RESEARCH
27. Builder/Contractor: UNKNOWN
    Source of information: HISTORICAL RESEARCH
28. Original owner: UNKNOWN
    Source of information: HISTORICAL RESEARCH
29. Construction history (include description and dates of major additions, alterations, or demolitions):

30. Original location __X__ Moved ____ Date of move(s):

V. HISTORICAL ASSOCIATIONS

Resource Number: 5MN4483
Temporary Resource Number: NA

31. Original use(s): HOIST HOUSE

32. Intermediate use(s): HOIST HOUSE

33. Current use(s): ABANDONED

34. Site type(s): Mine/adit

35. Historical background: Online records indicate Gate & Fox Co. Inc. originally owned and operated the JD-5 mine around 1975 (westernmininghistory.com, accessed August 1, 2024). According to the 1994 site form, the Blake Mining Company of Nucla, Colorado took control of the mine after that time. No information about these companies was available online. Currently, Gold Eagle has possession of the mine. According to the 1995 Final Environmental Assessment for the Uranium Lease Management Program, no mining features predate 1974 (energy.gov, accessed August 1, 2024). The lease was granted in 1974, mining plans were submitted in 1976, its shaft reached ore deposits in 1977, and the mine shut down in 1980 because of the lack of economical ore reserves (U.S. Department of Energy 2014). The mine resumed from 1989 to 1990 as economics improved for a short period. Historically, the JD-5 mine produced 100,308 tons of ore, yielding 233 tons of uranium and 906 tons of vanadium (U.S. Department of Energy 2014).

36. Sources of information: Historical research, westernmininghistory.com, energy.gov

VI. SIGNIFICANCE

37. Local landmark designation: Yes ____ No ____ Date of designation: _____
    Designating authority:

38. Applicable National Register Criteria:

    __X__ A. Associated with events that have made a significant contribution to the broad pattern of our history;

    ____ B. Associated with the lives of persons significant in our past;

    __X__ C. Embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or that possess high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; or

    ____ D. Has yielded, or may be likely to yield, information important in history or prehistory.

    __X__ Qualifies under Criteria Considerations A through G (see Manual)

    ____ Does not meet any of the above National Register criteria

39. Area(s) of significance: Industry

40. Period of significance: 1970s

41. Level of significance: National __X__ State ____ Local ____

42. Statement of significance: The site was initially recommended NRHP eligible under Criterion A as a significant example of late period carnotite mining industry and determined eligible in 1995. Alpine agrees with this determination and also recommends it as eligible under Criteria C and G. The site's condition is largely unchanged, and the site continues to constitute a significant example of late period carnotite mining.

Resource Number: 5MN4483
Temporary Resource Number: NA
The site cannot be associated with a significant person (Criterion B). Feature 1 is well preserved and represents a good example of a uranium mining architectural form. The site is, therefore, also recommended as significant under Criterion C. The site likely does not contain buried historical deposits. Thus, further work is likely not yield additional data that will provide further information about the region's history (Criterion D). Lastly, it is clear that the site does comprise a resource of exceptional importance that could be eligible under Criterion G due to the large production of ore during a short period of time during the Cold War.

43. Assessment of historic physical integrity related to significance: The site's integrity of location has been impacted by the removed of some of its original features during reclamation activities. The site retains integrity of design, as the layout of its features continue to evidence the site's plan. The site's surroundings are intact and remain undeveloped; thus, the site's integrity of setting and feeling have been retained. Most of the site's features remain intact; thus, integrity of workmanship and materials is preserved. Lastly, the site can still be clearly associated with events in history including Colorado's late-uranium boom, thus, integrity of association has been retained.

VII. NATIONAL REGISTER ELIGIBILITY ASSESSMENT

44. National Register eligibility field assessment:
    Eligible __X__ Not Eligible ____ Need Data __
45. Is there National Register district potential? Yes ___ No __X__
    Discuss:
    If there is National Register district potential, is this building: Contributing ___ Noncontributing __X__
46. If the building is in existing National Register district, is it: Contributing ___ Noncontributing X___

VIII. RECORDING INFORMATION

47. Photograph numbers: GE-JMK-01: Exp. 9-13 ___
    Negatives filed at: Digital images are stored at Alpine
48. Report title: A Class III Cultural Resource Inventory of the Gold Eagle Uranium Lease Areas in Montrose and San Miguel Counties, Colorado (MC.E.R150, TR24024, 24UN-15)
49. Date(s): 6/18/2024
50. Recorder(s): Jordan Kluver and Sam Fresher
51. Organization: Alpine Archaeological Consultants, Inc.
52. Address: 2130 E. Main St. Montrose, CO 81401
53. Phone number(s): (970) 249-6761

NOTE: Please include a sketch map, a photocopy of the USGS quad map indicating resource location, and photographs.

5MN4483. Feature 2 overview, hoist house, facing southwest. Photograph taken on 6/19/2024 by J. Kluver.

5MN4483. Overview of Feature 2. Photo direction is southeast. Photograph taken on 6/19/2024 by J. Kluver.

5MN4483. Overview of Feature 2. Photo direction is west-northwest. Photograph taken on 6/19/2024 by J. Kluver.

5MN4483. Interior of the north room. Photograph direction is southeast. Photograph taken on 6/19/2024 by J. Kluver.

5MN4483. Interior of the south room. Photograph direction is south. Photograph taken on 6/19/2024 by J. Kluver.

Limited-Results Cultural Resource Survey addendum – March 2025

History Colorado- Office of Archaeology and Historic Preservation

COLORADO CULTURAL RESOURCE SURVEY

OAHP 1420
Revised 9/98

LIMITED-RESULTS CULTURAL RESOURCE SURVEY FORM

This form (#1420) is for small scale limited results projects - block surveys less than 160 acres with linear surveys under four miles. Additionally, there should be no sites and a maximum of four Isolated Finds. This form must be typed.

I. IDENTIFICATION

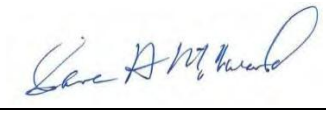
1. Report Title (include County): A Class III Cultural Resources Inventory of the Gold Eagle Uranium Lease Areas in Montrose and San Miguel Counties, Colorado (Addendum).

2. Date of Field Work: February 28, 2025

3. Form completed by: Jordan Kluver Date: March 3, 2025

4. Survey Organization/Agency: Alpine Archaeological Consultants, Inc.

Principal Investigator: Sara A. Millward

Principal Investigator's Signature: 

Other Crew: Charlie Seevers

Address: 2130 E Main St, Montrose, CO 81401/ PO Box 2075 Montrose, CO 81402-2075

5. Lead Agency / Land Owner: United States Department of Energy / Bureau of Land Management

Contact: Jessica Dougherty, Cultural Resources/NEPA Specialist

Address: 11035 Dover St. #600, Westminster, Colorado 80021

6. Client: BRS Engineering, Inc.

7. Permit Type and Number: BLM Permit COCO106307320 Mod, State of Colorado Permit 84022

8. Report / Contract Number: OAHP No.: MN.FC.R2 BLM-UFO No.: 24UN-15

9. Comments: This is an addendum of the initial project (Kluver and Fresher 2024; OAHP: MC.E.R150; BLM-TRFO No.: TR24024; BLM-UFO No.: 24UN-15).

II. DESCRIPTION OF UNDERTAKING / PROJECT

10. Type of Undertaking: BRS Engineering, Inc. is conducting remediation work with respect to the JD-5 mine leased by Gold Eagle on private land and land managed by the Bureau of Land Management Uncompahgre Field Office (BLM-UFO) in Montrose County, Colorado. Because the project is federally funded and crosses federal lands, the Department of Energy is requiring a Class III survey to identify any cultural properties that might be disturbed during remediation activities.

11. Size of Undertaking (acres): 12 acres Size of Project (if different) N/A

12. Nature of the Anticipated Disturbance: Impacts of the proposed remediation project include removal and/or cover and contour of contaminated sediment, transportation of heavy equipment, and/or the removal of buildings or other features.

13. Comments: NA

III. PROJECT LOCATION

Please attach a photocopy of USGS Quad. clearly showing the project location. The Quad. should be clearly labeled with the Prime Meridian, Township, Range, Section(s), Quad. map name, size, and date. Please do not reduce or enlarge the photocopy.

14. Description: The project is located north of Monogram Mesa within Paradox Valley.

15. Legal Location: Quad. Map: NW Naturita Date(s): 1994

Principal Meridian: 6th__ NM X Ute__

NOTE: Only generalized subdivision ("quarter quarters") within each section is needed

Township: 46N Range: 17W Sec.: 22 1/4s SW NW; NW NW

If section(s) is irregular, explain alignment method: N/A

16. Total number of acres surveyed: The 2025 fieldwork consisted of 11.2 acres of land managed by the BLM-UFO and 0.8 acres of privately owned land were surveyed for the project (Figure 1).

17. Comments: N/A

IV. ENVIRONMENT

18. General Topographic Setting: The survey area is on a northern facing hill along Monogram Mesa within Paradox Valley. The landscape has been disturbed by uranium mining development.

Current Land Use: The uranium mining in area is currently inactive.

19. Flora: Vegetation in the survey area is representative of a pinyon-juniper woodland community, with grasses, forbs, sagebrush, prickly pear cactus, juniper, and pinyon pine.

20. Soils/Geology: Sediments are light brown residual sandy clay loam. Geologically, the entire survey area is situated among sedimentary rocks of Jurassic age, including Morrison, Summerville, and Entrada Formations (Tweto 1979).

21. Ground Visibility: Ground visibility was 80−100 percent within the project area.

22. Comments: N/A

V. LITERATURE REVIEW

23. Location of File Search: Colorado Office of Archaeology and Historic Preservation data request.

Date: April 30, 2024

24. Previous Survey Activity - In the project area: MN.LM.R147, a survey for a power company right-of-way in 1980, is the only survey that intersects the inventory area.

In the general region: As an addendum, the literature review is based on the original report (Kluver and Fresher 2024). Ninety-five surveys have been previously conducted within the file-search area. Projects include surveys in advance of reservoir and pond projects, road maintenance, seismic lines, mine expansion and closure, and livestock projects.

25. Known Cultural Resources - In the project area: Site 5MN4483 – JD-5/Joe Dandy Mine –was revisited and rerecorded during the initial project (Kluver and Fresher 2024) and is the only site intersecting the APE for this addendum.

In the general region (summarize): As an addendum, the results were taken from the initial report (Kluver and Fresher 2024). A total of sixty-seven previously documented sites and isolated finds are within the file-search area. These include 26 historical resources, 35 prehistoric sites, and 6 multicomponent resources. Prehistoric sites include open lithic sites, open camps, sheltered architectural sites, sheltered camps, and sheltered lithic sites. Most of the prehistoric sites are either open camps or open lithic sites. Historical sites include a variety of mine and prospect site types, as well as campsites and transportation infrastructure. Thirteen of the sites have been evaluated as eligible for inclusion in the NRHP, and 47 resources have been evaluated as not eligible. Finally, five sites have been evaluated needs data, and two sites had no NRHP assessment.

26. Expected Results: Overall, the literature review data suggests that, within the file-search area, there is a relatively high density of sites and potential for both historical and prehistoric resources to be encountered. The small size of the current inventory area is expected to severely limit the quantity and diversity of resources encountered.

VI. STATEMENT OF OBJECTIVES

27. The objective was to identify any cultural resources that could be impacted by the current project and, once found, evaluate their significance using the US Government Code of Federal Regulations in determining site eligibility for inclusion in the NRHP (36 C.F.R. 60).

VII. FIELD METHODS

28. Definitions: Site: Sites were defined as discrete areas with cultural features or culturally patterned distributions of artifacts in excess of 50 years of age where the majority of evidence suggests diagnostically interpretable use. Sites under 50 years old were recorded if they were thought to be potentially related to the uranium industry, and thus potentially eligible under Criterion G.

IF: Isolated finds were defined as a few artifacts older than 50 years that were insufficiently patterned to interpret beyond the simple premise that humans used the area. Also, single mining features – regardless of age – with no or limited quantities of associated artifacts were documented as IFs. For additional information, the reader is directed to the original report (Kluver and Fresher 2024).

29. Describe Survey Method: Two archaeologists walked 15-m-wide transects to cover the project area.

VIII. RESULTS

30. List IFs if applicable. Indicate IF locations on the map completed for Part III.

Smithsonian Number: 5MN13751 Description: The IF is a 24-ft.-long, 2½ diameter motorized air vent that is likely associated with the JD-5 mine, located on lands managed by the BLM-UFO (Figure 2 and Figure 3). The fan of the vent was manufactured by Spendrup Fan Company of Grand Junction, established in 1968 (https://www.spendrupfanco.com/about, accessed March 3, 2025). The fan is supported by a stacked 6-ft. long 12-10-in. timbers. The 6-½-ft-diamter shaft in which the vent descends below ground is centered within a 14-x-10 ft concrete pad and is cover with a metal grate. The vent is depicted in post-1983 aerial photographs (Nationwide Environmental Title Research 2025). Online records indicate Gate & Fox Co. Inc. originally owned and operated the JD-5 mine around 1975 (westernmininghistory.com, accessed March 3, 2025). Thus, the air vent was likely constructed between 1975 and 1983.

31. Using your professional knowledge of the region, why are there none or very limited cultural remains in the project area? Is there subsurface potential?

No prehistoric or historical artifacts were identified within the project area due to its small size and prior disturbance related to mining development and construction. Assessment of the disturbed sediments associated with the placement of the air vent and roads didn't identify any artifacts or sediments (e.g., charcoal) that might indicate the presence of buried cultural deposits. As such, the potential for intact, significant buried cultural deposits is likely low throughout the project area.

As mentioned in Section 25, Monogram Truck Route and other roads used to access the various mines in the area were identified on historical topographic maps and aerial imagery. Based on recent guidance from the OAHP on linear resources (Horn and Norton 2021), these roads—representing small-scale infrastructure and not part of a larger, significant, transportation network—were not recorded, given their low data potential.

Bibliography

Horn, Jonathon C., and Holly K. Norton
2021 *Walking the Line: Guidance for Identification, Evaluation, and Field Recordation of Historic Linear Sites in Colorado*. Prepared by Alpine Archaeological Consultants, Inc., Montrose, Colorado, and the Office of Archaeology and Historic Preservation, History Colorado, Denver, Colorado.

Kluver, Jordan, Samual Fresher
2024 *A Class III Cultural Resource Inventory of the Gold Eagle Uranium Lease Areas in Montrose and San Miguel Counties, Colorado.* Prepared by Alpine Archaeological Consultants, Inc., Montrose, Colorado. Prepared for United States Department of Energy on the behalf of BRS Engineering, Inc.

Nationwide Environmental Title Research, LLC
2025 Historic Aerials. Electronic document, https://historicaerials.com/, accessed 2025.

Tweto, Ogden
1979 *Geological Map of Colorado*. U.S. Geologic Survey, Department of the Interior, Washington D.C.

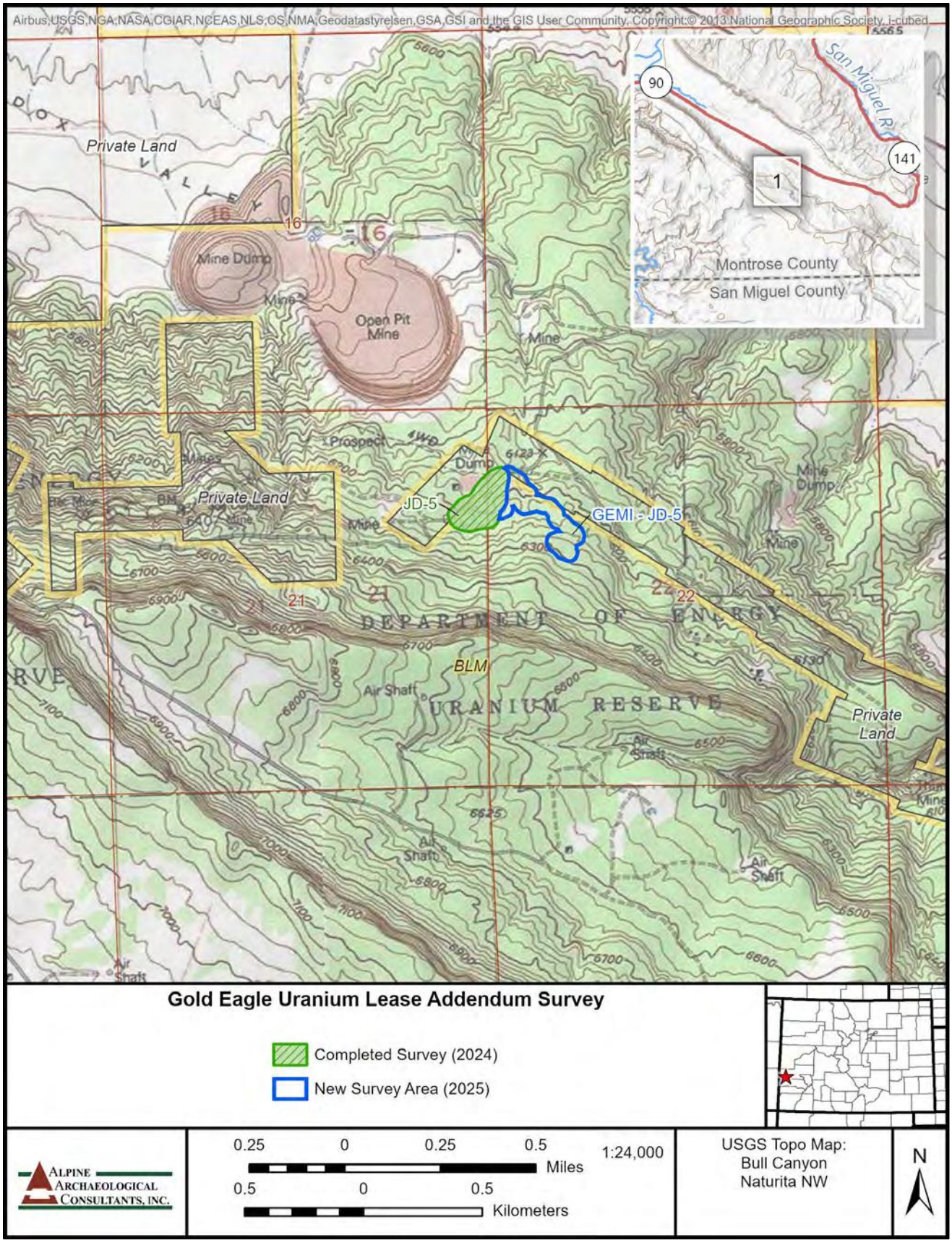


Figure 1. Project Area Map.

Figure 2. Overview of IF 5MN13751, a motorized air vent associated with the JD-5 mine, located on the north facing slope of Monogram Mesa, facing south-southeast.

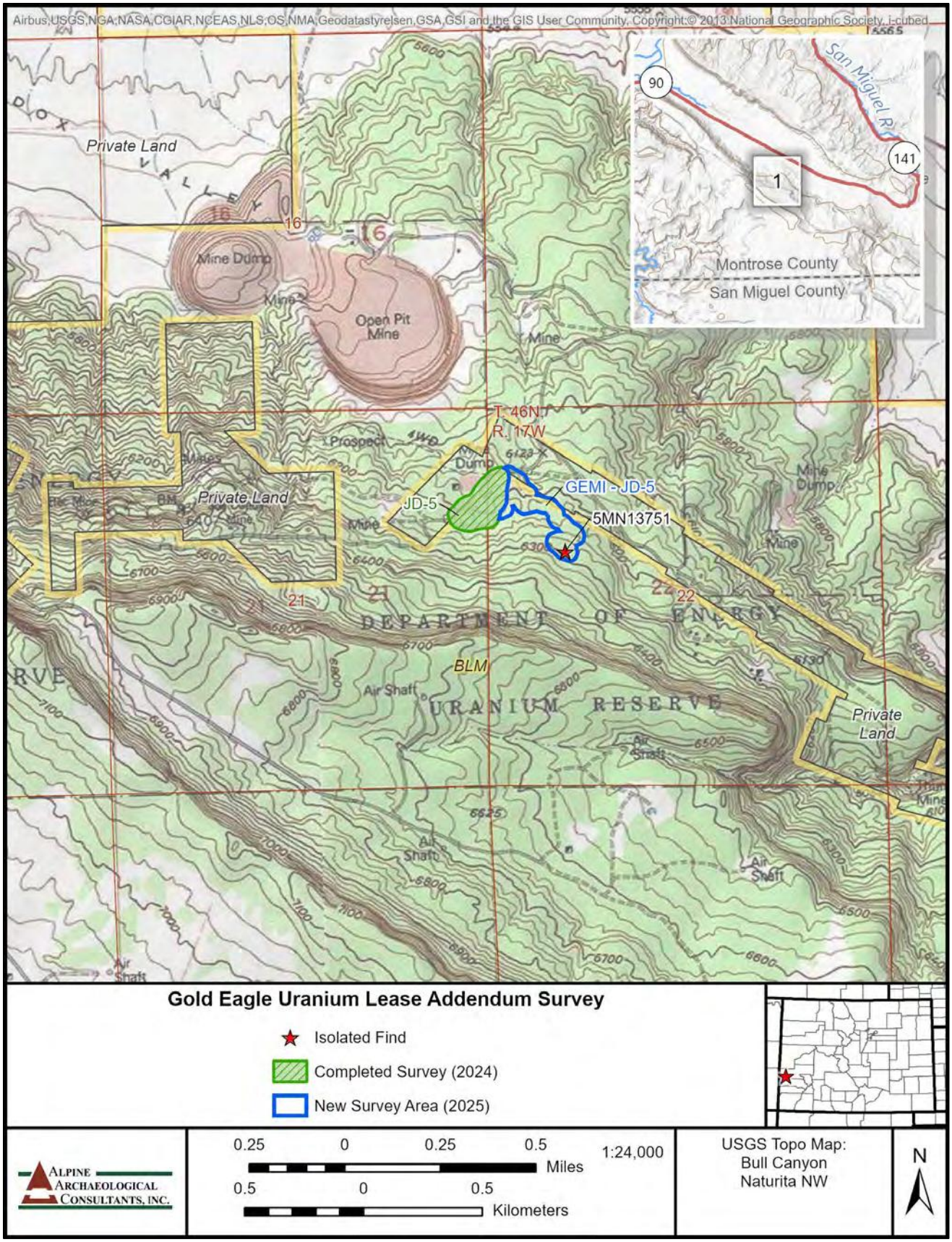


Figure 3. Project Results Map.

COLORADO CULTURAL RESOURCE SURVEY
Archaeological Isolated Find/Feature Record

OAHP1408
Rev. 11/10

This form is not to be used for phenomena that are eligible for the National Register or are part of the built environment. To be **only** used for phenomena that meet the requirements of the recorder's definition as provided below. A map in 1:24,000 scale with IF clearly plotted must be attached.

1. Site Number: 5MN13751 **2. Temporary Resource Number:** GEM-JMK-IF-01 **3. County:** Montrose

4. Recorder's Definition of Isolated Find:
Isolated finds (IFs) were defined as a few artifacts older than 50 years that were insufficiently patterned to interpret beyond the simple premise that humans used the area or as single mining features, regardless of age, with limited or no artifacts.

5. PM NM **Township** 46N **Range** 17W **Section** 22 SW ¼ NW ¼
If section is irregular, explain alignment method:

6. USGS Quad: Naturita NW **7. Elevation:** 6300 ft.

8. UTM Coordinates: Datum used ☐ NAD 27 ☑ NAD 83 ☐ WGS 84 Other:
Zone: 12 697941 mE 4233489 mN

9. UTM Source: ☑ Corrected GPS/rectified survey (<5m error) ☐ Uncorrected GPS ☐ Map template
Other (explain):

10. Landowner: Bureau of Land Management - Uncompahgre Field Office

11. Describe Artifact(s) and their distribution:

☑ No artifacts

12. Describe Feature (include dimensions): A 24-ft.-long, 2½ diameter motorized air vent.
The vent is associated with JD-5 mine. The fan is supported by a stacked 6-ft. long 12-x-10-in. timbers. The 6-½-ft-diamter shaft in which the vent descends below ground is centered within a 14-x-10 ft concrete pad and is covered with a metal grate.

☐ No features

13. Cultural Affiliation and Justification:
Historical Euroamerican - Historical research

14. Time Period and Justification:
1975-1983 - Historical research

15. Relevant environmental information (e.g., elevation, topography, soils, vegetation, nearby water source):
Vegetation in the survey area is representative of a pinyon-juniper woodland community, with grasses, and sage. Sediments are light brown sandy clay loam and subsounded/ subangular sandstone.

16. Is this isolate located in a cultural landscape? ☐Yes ☑No
If yes, describe:

17. Why is this isolated find not eligible for the National Register?
Although IFs can be used to address broad research questions, the artifacts are of limited scientific value because of the context in which they are found. IFs are generally not considered significant cultural resources.

18. Additional information (e.g., narrative, drawings, photographs, sketch map; attach extra pages if desired):
The fan of the vent was manufactured by Spendrup Fan Company of Grand Junction, established in 1968 (https://www.spendrupfanco.com/about, accessed March 3, 2025). See continuation page.

19. Artifacts Collected? ☐Yes ☑ No
If yes, provide repository information:

20. Report Title: **Project Number:** MN.FC.R2, 24UN-15
A Class III Cultural Resources Inventory of the Gold Eagle Uranium Lease Areas in Montrose and San Miguel Counties, Colorado (Addendum). (MN.FC.R2, 24UN-15)

21. Recorder and Affiliation: Jordan Kluver and Charlie Seevers - Alpine Archaeological Consultants, Inc., Alpine
Date: 2/28/2025

Archaeological Isolated Find/Feature Record:

Continuation page

Resource Number: 5MN13751 Temporary Resource Number: GEM-JMK-IF-01

18. Additional information:

The vent is depicted in post-1983 aerial photographs. Online records indicate Gate & Fox Co. Inc. originally owned and operated the JD-5 mine around 1975 (westernmininghistory.com, accessed March 3, 2025). Thus, the air vent was likely constructed between 1975 and 1983.

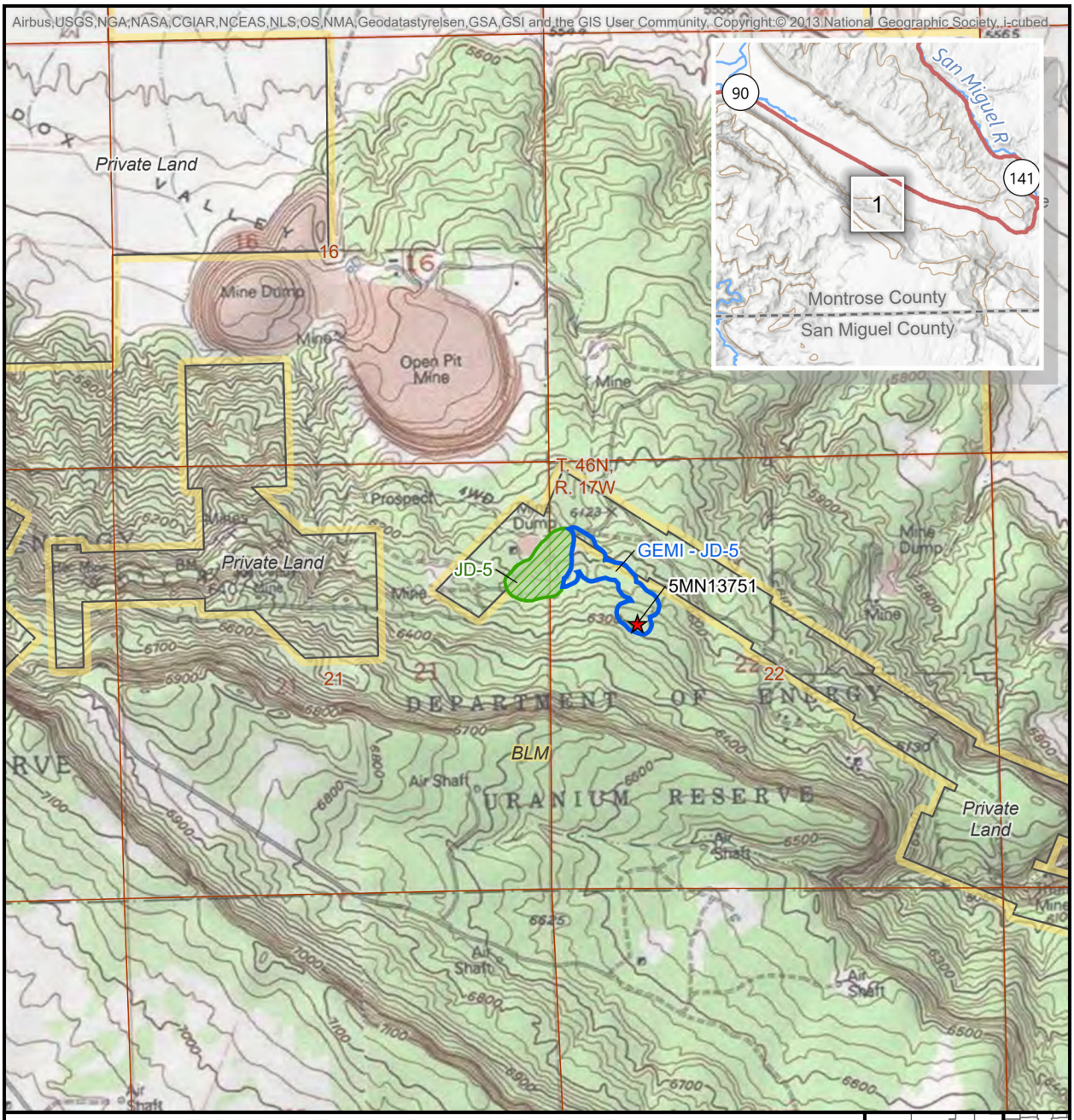
Nationwide Environmental Title Research, LLC
2025 Historic Aerials. Electronic document, https://historicaerials.com/, accessed 2025.

5MN13751. Overview of isolated find, facing east. Photograph taken on 2/28/2025 by J. Kluver.

5MN13751. Overview of isolated find, facing west. Photograph taken on 2/28/2025 by J. Kluver.

5MN13751. Detail of manufacture plate. Photograph taken on 2/28/2024 by J. Kluver.

5MN13751. Detail of manufacture sticker. Photograph taken on 2/28/2024 by J. Kluver.



Gold Eagle Uranium Lease Addendum Survey

- Isolated Find
- Completed Survey (2024)
- New Survey Area (2025)

Alpine Archaeological Consultants, Inc.

0.25 0 0.25 0.5 Miles

0.5 0 0.5 Kilometers

1:24,000

USGS Topo Map:
Bull Canyon
Naturita NW

N

***Environmental Review – Department of Energy Leases Reclamation Project* (wildlife survey by Real West Natural Resource Consulting) – May 2024**

Environmental Review

Department of Energy Leases Reclamation Project

Prepared for

BRS Engineering
1130 Major Ave.
Riverton, WY 82501

Gold Eagle Mining
845 E. Main St.
Montrose, CO 81401

Prepared by

Real West Natural Resource Consulting
Amber L. Travsky
1116 Albin St.
Laramie, WY 82072

May 2024

Table of Contents

1.0 INTRODUCTION

Gold Eagle Mining, Inc. controls a number of lease tracts managed by the U.S. Department of Energy (DOE). Reclamation is planned for the JD-5 lease overlooking the Paradox Valley in Montrose County in addition to SR-13 leases near the Dolores River at Slick Rock in San Miguel County.

Amber Travsky, a biologist with Real West Natural Resource Consulting (Real West), conducted a site survey and reconnaissance on May 2-3, 2024 to identify the fauna and flora within the various lease areas where disturbance has occurred. The purpose of this report is to document the potential for federally listed threatened and endangered (T&E) species to occur on the sites or in the vicinity as well as the possible presence of other Species of Concern.

2.0 SITE DESCRIPTIONS

The site surveys focused on the disturbance areas at each of the leases, rather than the entire lease acreage. The various disturbance areas cover approximately 38.01 acres and are listed in Table 2-1. Discussion of the lease sites will be grouped according to location with the JD-5 site alone and the SR-13 sites together. Aerial photographs of each of the two locations are in Figures 1 and 2.

2.1 SR-13 Site

The SR-13 Lease site is within Burrow Canyon, an ephemeral drainage that flows into the Dolores River approximately 0.02 miles west of the western edge of the lease site. It is in Township 44N, Range 18W, Sections 29 and 30 in San Miguel County, Colorado. The site has four areas of disturbance as shown in Figure 1: Ellison, Burrow West, Burrow Central, and Burrow East.

The elevation where the drainage bottom intersects with the Dolores River is 5,480 feet. Burrow Canyon rises steeply above the drainage to a summit elevation of 6,080 feet on the north side of the canyon. This 600-foot rise is over a distance of approximately 0.5 miles. Three of the disturbance areas are on this side of the canyon: Burrow West, Burrow Central, and Burrow East.

Table 2-1. Acreages of areas surveyed at the disturbance areas and facilities.

Site Name	Acreage
JD-5	0.8
SR-13 Ellison	3.1
SR-13 Burrow West	8.51
SR-13 Burrow Central	19.4
SR-13 Burrow East	6.2
Total Acreage	38.01

The southern side of the drainage rises less dramatically to a flat area at an elevation of 5,600 feet where the Ellison site is located. Elevation continues to rise to an elevation of 5,740 feet at the site of an abandoned gravel pit south of the Ellison area. The canyon then rises to a summit elevation of 6,000 feet.

2.2 JD-5 Lease Site

The JD-5 site covers 0.8 acres in an area of additional disturbance from mining activities. The site is in T46N, Range 18W, Sections 21 and 22. The site rises above Paradox Valley, along County Road DD19, also called the Monogram Truck Route. A view of the valley is in Figure 3. The site is 1.6 miles along the DD19 County Road that exits from State Highway 90. Elevation in the valley where the DD19 Road starts is 5,600 feet. Within 0.25 mile it begins to ascend via a winding gravel road toward the summit of Monogram Mesa. This gravel road runs alongside the JD-5 Site that is at an elevation of 6,200 feet.

3.0 HABITATS

Within the two project sites, there is pinyon-juniper habitat on both sites, though it is most extensive at the JD-5 site. The SR-13 site also has extensive rock outcrop and cliff habitat. This type of habitat is minimal in the vicinity of the JD-5 site.

3.1 Pinyon-Juniper Habitat

This habitat type, shown in Figure 4, is common on the perimeter of the JD-5 site and the south side of Burrow Canyon. The dominant species is Utah juniper (*Juniperus osteosperma*) and, less abundant, pinyon trees (*Pinus edula*). The juniper generally ranges from 3 to 7 feet in height, while the pinyon trees range from 3 to 10 feet tall. The understory is sparse in most areas, and includes Indian ricegrass (*Achnatherum hymenoides*), galleta (*Hilaria jamesii*), and Sandberg bluegrass (*Poa secunda*). Shrub species, also sparse, include big sagebrush (*Artemisia arbuscula*) and green rabbitbrush (*Chrysothamnus viscidiflorus*). Forbs include wild buckwheat (*Eriogonum* spp.), fleabane (*Erigeron* spp.), groundsel (*Pacera* spp.), tansymustard (*Descurainia* spp.), and twinpod (*Phlysaria* spp.).

3.2 Rock Outcrop and Cliff Habitat

This habitat, shown in Figure 5, is the dominant habitat on the north side of Burrow Canyon in the SR-13 Lease area. Due to the rocky surface, vegetation is minimal. Plant species present are the same as those in the pinyon-juniper habitat.

3.3 Disturbed Habitat

The dominant species within areas disturbed by previous mining activities is green rabbitbrush (*Chrysothamnus vicidiflorus*). In some areas the shrub is robust, while it is less vigorous, even scraggly-appearing, in other areas. Indian ricegrass is the dominant grass species, while there are also patches of cheatgrass (*Bromus tectorum*). Broom snakeweed (*Gutierrezia sarothrae*) is also prevalent in some areas.

4.0 METHODS

Information on federally listed threatened and endangered species expected and previously reported in the area was obtained from the U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPaC) website (USFWS 2024). Through this online site, an official list of threatened and endangered species that may occur on the project site and/or may be affected by the project was provided by the USFWS. Information on other species of concern and

expected habitats was obtained through the Colorado Conservation Data Explorer (CODEX) (CODEX 2024).

Amber Travsky, wildlife biologist and ecologist with Real West, surveyed the reclamation site features on May 2-3, 2024. The purpose of the survey was to provide a description of each of the sites, identify and record vegetation present, and to assess any areas of concerns on the site or in the vicinity concerning wildlife or vegetation. The survey included each of the features and, for raptors, a 1-mile buffer. The survey was conducted using a 4-wheel drive vehicle and on foot.

The portal on the Ellison site of SR-13 was walked to search for bats and bat sign. In addition, an Elekon stereo Batscanner was used to detect bat sonar.

5.0 RESULTS

5.1 Threatened and Endangered Species

Those threatened and endangered species identified by the USFWS as potentially occurring on the drilling sites and/or may be affected by the project are listed in Table 5-1. The list includes one mammal, three birds, four fish and two insects.

5.1.1 Gray Wolf

Wolves are habitat generalists and lived throughout the northern hemisphere (USFWS 2023). They only require ungulate prey and must live where human-caused mortality rates are not excessive. Currently the lease areas are outside gray wolf ranges. The species is not expected in the lease areas; therefore, the proposed reclamation activities will have no effect on this species.

5.1.2 Yellow-billed Cuckoo

This bird nests primarily in large stands of cottonwood-riparian habitat below 7,000 feet (NatureServe 2024). It is a riparian obligate species that prefers extensive areas of dense thickets and mature deciduous forests near water. It requires low, dense, shrubby vegetation for nest sites. In the west, these birds nest in tall cottonwood and willow riparian woodland. The lease areas lack

Table 5-1. Federally Listed Threatened, Endangered, and Candidate Wildlife Species Potentially Occurring on and Within the Vicinity of the Lease Areas. [1]

Common Name	Scientific name	Status[2]	Key Habitat Characteristics	Potential on site
Mammals				
Gray Wolf	*Canis lupus*	E	Woodlands, typically in areas of sparse human development.	Unlikely
Birds				
Yellow-billed Cuckoo	*Coccyzus americanus*	T	Deciduous woods.	Unlikely
Gunnison Sage-grouse	*Centrocercus minimus*	T	Sagebrush shrublands.	Possible in vicinity
Mexican Spotted Owl	*Strix occidentalis lucinda*	T	Woodlands with typically old-growth stands.	Unlikely
Fishes				
Colorado Pikeminnow	*Ptychocheilus lucius*	E	Backwaters of turbulent and turbid rivers.	Habitat lacking
Bonytail	*Gila elegans*	E	Backwaters with rocky or muddy bottoms and flowing pools.	Habitat lacking
Humpback Chub	*Gila cypha*	E	Fast waters of the Colorado River system.	Habitat lacking
Razorback Sucker	*Xyrauchen texanus*	E	Medium-sized and large rivers of the Colorado basin.	Habitat lacking
Insects				
Monarch butterfly	*Danaus plexippus*	C	Breeding areas are patches of milkweed.	Unlikely
Silverspot	*Speyeria nokomis nokomis*	PT	Moist habitats in mostly open meadows.	Unlikely

[1] List obtained on the U.S. Fish and Wildlife Service Information, Planning and Conservation System (IPaC).

[2] Federal Status Definitions:
E = Endangered. T = Threatened PT = Proposed Threatened C = Candidate

suitable habitat for this bird; therefore, there will be no effect on this species with the proposed reclamation activities.

5.1.3 Gunnison Sage-Grouse

Gunnison sage-grouse use a variety of habitats throughout the year, but the primary component necessary is sagebrush, especially big sagebrush. Sagebrush is used for hiding and thermal cover as well as for food in the winter (USFWS 2019). Nesting sites are typically in relatively tall and dense stands of sagebrush. Nest sites also have grass and forbs that provide additional hiding cover.

Neither lease area is in or near designated critical habitat for the Gunnison's sage-grouse, and suitable habitat is lacking (USFWS 2014). The proposed reclamation activities will have no effect on this species.

5.1.4 Mexican Spotted Owl

Spotted owls are residents of old-growth or mature forests that possess complex structural components (uneven aged stands, high canopy closure, multi-storied levels, high tree density) (NatureServe 2024). This type of habitat is lacking within the vicinity of all of the project features; therefore, the proposed reclamation activities will have no effect on the Mexican spotted owl.

5.1.5 Endangered Fish Species

Concerns with the bonytail, Colorado pikeminnow, humpback chub, and razorback sucker are due primarily to water depletions or decreased water quality in the upper Colorado River basin. If no depletions occur with the proposed action and best management practices are taken to minimize increased sedimentation in waterways, no adverse aquatic effects would be expected and there will be no effect to these species.

5.1.6 Monarch Butterfly

The monarch butterfly is a candidate species and is not yet listed or proposed for listing. While federal protections are not in place, the goal in highlighting it as a candidate species is to encourage conservation of the species when opportunities arise. Monarch caterpillars utilize milkweed (*Asclepias* spp.) as the host plant (NatureServe 2024). Milkweed is common in Colorado in a wide range of habitats (McKnight et. al 2019). During the site survey, no milkweed was observed; however, it is possible on the lease areas. If milkweed is found on the sites of proposed disturbance activities,

the extent of the plant's spread and density could be inspected to determine the potential of the site to provide habitat for the monarch butterfly. Another purpose of highlighting the monarch butterfly as a candidate species is to encourage enhancement of habitat for the species. If significant patches of milkweed are found in the project area, enhancement measures could be considered.

5.1.7 Silverspot Butterfly

The silverspot butterfly occurs in permanent spring-fed meadows, seeps, marshes and streamside meadows (USFWS 2023b). The only known larval host plant is the bog violet (*Viola nephrophylla/V. sororia* var. *affinis*). This plant is found in soggy soil in open meadows or under willows or other shrubs typically at the margins of the habitat. Suitable habitat for this species is not present on or in the immediate vicinity of any of the lease features; therefore, the proposed reclamation will have no effect on this species.

5.2 Raptors

The CODEX database provides a listing of regulatory species documented within the project area or the 1-mile buffer. It also provides potential Species of Concern, which includes some raptor species within the project area. The listing is based on range maps and modeling, but the records have low precision.

The only raptor reported on the database within the 1-mile buffer is for the SR-13 lease where a bald eagle (*Haliaeetus leucocephalus*) winter concentration area is documented. Other raptor species listed as potentially in both lease areas or 1-mile buffer are the golden eagle (*Aquila chrysaetos*), burrowing owl (*Athene cunicularia*), short-eared owl (*Asio flammeus*), northern harrier (*Circus hudsonius*), prairie falcon (*Falco mexicanus*) and, for the SR-13 site only, the peregrine falcon (*Falco peregrinus*).

The pinyon-juniper habitat provides nesting habitat for smaller avian species. The trees generally lack the size to support large nests for raptors. Nesting habitat for raptors is primarily rock outcrop and cliff habitat. Such habitat is extensive in the vicinity of the SR-13 sites within Burrow Canyon. No raptor nests were observed during the survey, and the only raptors observed were two turkey vultures (*Cathartes aura*) soaring above the canyon.

All of the sites lack extensive areas of obvious ground burrows, such as active or abandoned prairie dog colonies, where burrowing owls might nest. This species is not expected within 0.5-mile of any of lease features.

In compliance with the Bald and Golden Eagle Protection Act and the Migratory Bird Protection Act, if an active nest is found on a facility site or within the 1-mile buffer, surface disturbing and diSMuptive activities are prohibited within 0.5 mile of an active raptor nest for most species. This buffer is increased to 1.0 mile for active golden eagle and ferruginous hawk nests. The stipulation typically runs from Feb. 1 to July 31, or until the nest is determined to be inactive.

5.3 Big Game

Big game species potentially within all lease areas are mule deer (*Odocoileus hemionus*), elk (*Cervus canadensis*), and mountain sheep (*Ovis canadensis*). No big game was observed on the lease areas during the surveys. However, elk sign was present in the vicinity of the JD-5 Lease area.

5.4 Other Species of Concern

The CODEX database provides potential Species of Concern within the project area based on range maps and modeling; the report states these records have low precision. Those species provided in the report for the two lease areas combined is in Table 5-2. General suitable habitats are also included in the list. Those species potentially within 0.25 mile of any of the lease features based on habitats are indicated with an asterisk.

This list includes 16 bat species, with suitable habitat available for at least 8 species. The portal on the Ellison site of SR-13 was entered to search for bats and bat sign. In addition, a bat detection device was used. This device picks up the sonar emitted by bats. No bats, bat sound, or bat sign was found.

Table 5-2. Species of Concern reported on the Colorado Conservation Data Explorer as potentially in the vicinity of the lease areas.

Scientific Name	Common Name	Preferred Habitat[1]
Birds		
Artemisiospiza nevadensis	Sagebrush Sparrow	Open areas of rolling sagebrush shrubland*
Baeolophus ridgwayi	Juniper Titmouse	Mature Utah juniper woodlands*
Columba fasciata	Band-tailed Pigeon	Dry mountain forests
Contopus cooperi	Olive-sided Flycatcher	Boreal forest and western conifer forests
Gymnorhinus cyanocephalus	Pinyon Jay	Pinyon-juniper woodlands*
Melanerpes lewis	Lewis's Woodpecker	Open ponderosa pine with standing snags
Meleagris gallopavo	Wild Turkey	Mix of wooded and open areas*
Passerina amoena	Lazuli Bunting	Shrubby areas in forest clearings
Setophaga graciae	Grace's Warbler	Mature pine forests
Spizella breweri	Brewer's Sparrow	Basin-prairie shrub*
Vermivora virginiae	Virginia's Warbler	Dense brush on mountain slopes
Vireo vicinior	Gray Vireo	Pinyon-juniper, mesquite scrub, oak scrub*
Mammals - Bats		
Antrozous pallidus	Pallid Bat	Open, dry habitats with rocky areas for roosting*
Corynorhinus townsendii	Townsend's Big-eared Bat	Forests, basin-prairie shrub, caves and mines*
Eptesicus fuscus	Big Brown Bat	Common species; found from timberline meadows to lowland deserts*
Euderma maculatum	Spotted Bat	Cliffs over perennial water, basin-prairie shrub*
Lasionycteris noctivagans	Silver-haired Bat	Forested habitats
Lasiurus cinereus	Hoary Bat	Forested areas preferred
Myotis californicus	California Myotis	Riparian areas with willow and cottonwood trees
Myotis ciliolabrum	Western Small-footed Myotis	Rock cliffs, clay buttes and steep slopes
Myotis evotis	Long-eared Myotis	Conifer and deciduous forests, caves and mines*
Myotis lucifugus	Little Brown Myotis	Caves and mines in winter; trees, artificial structures in summer*
Myotis thysanodes	Fringed Myotis	Conifer forests, woodland-chaparral
Myotis volans	Long-legged Myotis	Coniferous forests
Myotis yumanensis	Yuma Myotis	Closely associated with rivers, streams, ponds
Nyctinomops macrotis	Big Free-tailed Bat	Rugged, rocky habitats in arid landscapes*
Parastrellus hesperus	Canyon Bat	Canyon areas with cliffs*
Tadarida brasiliensis	Brazilian Free-tailed Bat	Caves, abandoned mines, bridges, culverts*
Cynomys gunnisoni	Gunnison's Prairie Dog	Grass-shrub areas in low areas and mountain meadows
Myodes gapperi gauti	Southern Red-backed Vole	Cool, mossy and rocky boreal forests

Scientific Name	Common Name	Preferred Habitat[1]
Mammals – Other		
Neotamias rufus	Hopi Chipmunk	Pinyon-juniper forests*
Thomomys bottae	Botta's Pocket Gopher	Grasslands, chaparral, scrublands and woodlands
Amphibians		
Dryophytes arenicolor	Canyon treefrog	Riparian areas in rocky canyons
Reptiles		
Aspidoscelis tigris	Western Whiptail	Desert areas with moderate to limited amounts of vegetation such as sagebrush
Aspidoscelis velox	Plateau Striped Whiptail	Grasslands and scrub-shrub habitats
Crotalus oreganus	Western Rattlesnake	Rocky hillsides, talus slopes and outcrops*
Crotalus viridis	Western Rattlesnake	Mostly grasslands and prairies
Crotaphytus collaris	Collared Lizard	Sagebrush, desert-scrub, pinyon-juniper habitats*
Lampropeltis gentilis	Central Plains Milk Snake	Forested regions or areas of open woodland
Liochlorophis vernalis	Smooth Green Snake	Old fields, meadows, pastures, and fens
Masticophis taeniatus	Striped Whipsnake	Basalt outcrops with areas of high quality shrubland
Pantherophis emoryi	Great Plains Rat snake	Fields, hill prairies, brushy areas, woodlands but avoid heavily forested areas
Phrynosoma hernandesi	Hernandez's Short-horned Lizard	Arid landscapes, shortgrass prairie, and rough terrain
Pituophis catenifer sayi	Bullsnake	Sandy soils in fields, brushlands and grasslands*
Sceloporus consobrinus	Fence/prairie/plateau Lizard	Grasslands with sparse vegetation, yuccas, and sandy soils
Sceloporus graciosus	Sagebrush Lizard	Deserts, open coniferous forests, mixed forests, grasslands and shrublands*
Sceloporus tristichus	Southern Plateau Lizard	Rocky and wooded areas*
Thamnophis elegans	Western Terrestrial Garter Snake	Deserts, plains, mountains, meadows, and forests
Urosaurus ornatus	Tree Lizard	Riparian zones in mesquite, alder and cottonwoods, as well as pine and juniper*
Uta stansburiana	Side-blotched Lizard	Arid and semi-arid areas with scattered bushes or scrubby trees

[1]Those species potentially within 0.25 miles of any of the lease features proposed for reclamation based on habitats are indicated with an asterisk.

5.5 Site-specific Characteristics

Both sites were searched for unique habitats that could support and attract T&E species or other species of concern. Site photographs are in Figure 6 for JD-5 and Figure 7 for SR-13.

The north side of Burrow Canyon has minimal vegetation, but is steep rock outcrop and cliff habitat. Flat areas on that side of the canyon are mostly disturbed by previous mining activities. The south side supports pinyon-juniper habitat, similar to that found at JD-5, but also has areas of extensive disturbance due to gravel mining and other surface-disturbing activities.

Of particular interest is dense native shrubs in the perimeter of the disturbed areas where passerine birds might nest. This is found on the JD-5 site where the pinyon-juniper habitat surrounds the disturbance area. On the SR-13 site, there is tree and shrub habitat surrounding the Elliot site, but it is less dense than that at the JD-5 site. The Elliot site also has disturbance areas from other activities in the vicinity.

The SR-13 site has extensive rock outcrop and cliff habitat, providing suitable raptor nesting habitat. This is especially true of the three sites on the north side of Burrow Canyon. Much of that area is already disturbed and has minimal native vegetation in the vicinity.

The portal on the Elliot site of SR-13 was closely inspected for bats and bat sign. One fork of the portal was impassable due to water present in the portal, preventing further access. A bat detector was utilized during the search and no sounds were picked up. In addition, no guano or other bat sign was observed. There was no indication of current or recent bat use.

6.0 SUMMARY AND MITIGATION

Potential impacts and possible mitigation measures for wildlife on the project area are listed in Table 6-1.

No raptor nests were observed, but if an active nest is found within the 1-mile buffer, timing stipulations may be required. There was no indication of bat use of the portal at SR-13, but there is the potential for bats to utilize this habitat.

Table 6-1. Summary of Environmental Consequences and Mitigation Measures for the Proposed Reclamation Activities.

Resource/Impact	Mitigation
Gunnison Sage-grouse Suitable habitat is lacking.	• No mitigation needed.
Other Threatened and Endangered Species: No other threatened or endangered species are expected within the lease areas.	• No mitigation needed.
Raptors No raptors were observed flying, roosting, or nesting on the lease sites or within a 1-mile buffer of the proposed disturbance sites.	• No mitigation needed unless an active raptor nest is located within 1 mile or 0.5 mile of a site, in which case activities should occur only outside the nesting season (May 1 through July 30). The 1-mile buffer is for golden eagles and ferruginous hawks; all other species have a buffer area of 0.5 mile.
Big Game The lease sites are used by elk, mule deer and, possibly, mountain sheep.	• No mitigation needed.
Passerine Birds Pinyon-juniper and sagebrush species are expected; habitat is plentiful in area.	• No mitigation needed but minimizing removal of shrub habitat during the nesting season would decrease the potential loss of active nests.
Bats No bats, bat sonar sounds, or bat sign was found in the one portal on the SR-13 site.	• Discussion on mitigation measures concerning portal closure methods.
Other Mammals Typical species found in pinyon-juniper and sagebrush habitats are expected; habitat is plentiful in the area.	• No mitigation needed.
Amphibians and Reptiles Habitat is absent for amphibians, but reptiles that utilize rocky outcrops, pinyon-juniper and sagebrush habitats is present.	• No mitigation needed.
Fish No bodies of water are found within the lease areas.	• No mitigation needed.

7.0 LITERATURE CITED

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U.S. Fish and Wildlife Service. 2014. Designation of Critical Habitat for the Gunnison Sage-grouse. Environmental Conservation Online System: ecos.fws.gov/ecp/species/6040.

Figure 1. Aerial view of the features of the SR-13 Lease.

Figure 2. Aerial view of the JD-5 Lease.

Figure 3. View from the summit of the mesa where JD-5 is located and looking west into the Paradox Valley.

Figure 4. Pinyon-juniper habitat is the dominant type around the JD-5 site, and the Ellison site of the SR-13 lease.

Figure 5. Rock outcrops and cliff habitat are prevalent within Burrow Canyon, where SR-13 is located.

Figure 6. Photos of the JD-5 DOE Lease features (4 photos).

Figure 7. Features associated with the SR-13 Lease site.