

**License Condition 19, Revision 1
Pre-Mobilization Notification
October Uranium Mine Waste Pile Remediation
License No. SUA-1605
Docket No. 40-38417**

**Approving Agency:
U.S. Nuclear Regulatory Commission**

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SECTION 1.0 PRE-MOBILIZATION INFORMATION

This document serves as the Pre-Mobilization Notification (PMN) that is required by License Condition 19 (LC-19) of DISA Technologies, Inc.'s (DISA's) Radioactive Materials License, License No. SUA-1605, Docket No. 040-38417 (ADAMS Accession No. ML25226A191). This PMN provides the information required by LC-19 and the list of conditions included in the U.S. Nuclear Regulatory Commission's (NRC's) Environmental Assessment for Proposed Issuance of Multi-Site License to DISA Technologies for Abandoned Uranium Mine Waste (ADAMS Accession No. ML25265A212).

This PMN is for the treatment of the October Uranium Mine Waste Pile (October Pile) in Mesa County, Colorado, which is owned by AURA GRIT LLC (AURA GRIT) (Section 3.1.2). DISA is submitting this PMN at least 90 days prior to the expected beginning of treatment, as required by LC-19. This PMN is organized in the same manner as the information requirements presented in LC-19

1.1 SITE INFORMATION

The October Pile is located on the claim called October No. 55, which is currently owned by AURA GRIT which purchase it from Nuvemco, LLC (Nuvemco) in November 2025. Section 3.1.2 provides more detailed information. The origin of the uranium mine waste is unknown. Nuvemco staked October No. 55 claim in 2008, which already contained the pile. Therefore, the October Pile was disposed outside of a previous claim or permit boundary, and DISA does not have any information regarding its provenance.

Directions to the site are as follows (Google Earth 2026):

From Gateway, Colorado:

1. From Gateway, take CO-141 S
2. Turn right onto 4.4 Road near the Gateway Canyon resort
3. Continue straight onto Z2 4/10 Road
4. Turn left onto dirt road that leads to October Pile site.

1.2 SUMMARY OF OPERATIONS

DISA's treatment of the October Pile will encompass the following activities:

1. Road Repairs – DISA will install gravel and grade/gravel roads to allow for truck transport. Figure 1-1 shows the locations of road work that would be required.
2. Walkover Gamma Scans – DISA will perform walkover gamma scans in the area of HPSA treatment as a baseline to ensure that DISA's operations did not contaminate soil during treatment. Figure 1-2 shows the general work flow for the project.
3. Rock Crushing – A rock crusher will be brought to the site to pre-crush rock prior to mobilizing the HPSA equipment. However, if sufficient room exists

onsite, the rock crusher may be mobilized with the HPSA equipment and added upstream of the feed.

4. Site Setup – DISA will perform minor grading of the HPSA treatment area to allow for the safe placement of the HPSA equipment. Secondary containment will be constructed to ensure that any spilled water is contained within the HPSA work area and restricted area. DISA will also establish the restricted area, contamination survey areas treatment area, radiation safety controls, restricted area controls, equipment laydown areas, and air monitoring stations. Disa will also install a 500-gallon diesel tank within a secondary containment for generator fuel.
5. HPSA Treatment – DISA will mobilize its C-10 HPSA unit along with all upstream and downstream equipment. The C-10 unit is a 10 ton per hour unit, which is the smallest throughput unit that DISA operates. All the ancillary equipment will be mobilized as well to the site and placed within the restricted area.
6. Fines Concentrates and Clean Coarse Material. DISA will store the fines concentrates in roll off containers or other containers suitable for transport within the restricted area. Fines concentrates containers will be transported offsite at a rate of approximately 1 per day. The clean coarse material will be used to reclaim all disturbed areas pursuant to our BLM Plan of Operations (which will be submitted to the NRC staff under separate cover).
7. After the HPSA treatment is completed, equipment will be decontaminated, released for unrestricted use by contamination surveys, and transported offsite. Secondary containment materials will be released for unrestricted use and disposed in a sanitary or construction debris landfill. DISA may choose to reuse secondary containment materials for other sites. Walkover gamma scans will be performed to confirm that DISA’s treatment activities did not contaminate soils.
8. Disturbed areas will be seeded and irrigated with treated water from the HPSA unit assuming it meets treatment standards or water that is transported onsite.

DISA will transport all fines concentrates to Energy Fuels White Mesa Mill in Blanding, Utah, or to a licensed source material storage facility. DISA will provide a written notification of the final destination prior to mobilizing the crusher to the site.

Figure 1-1: Road Work Map

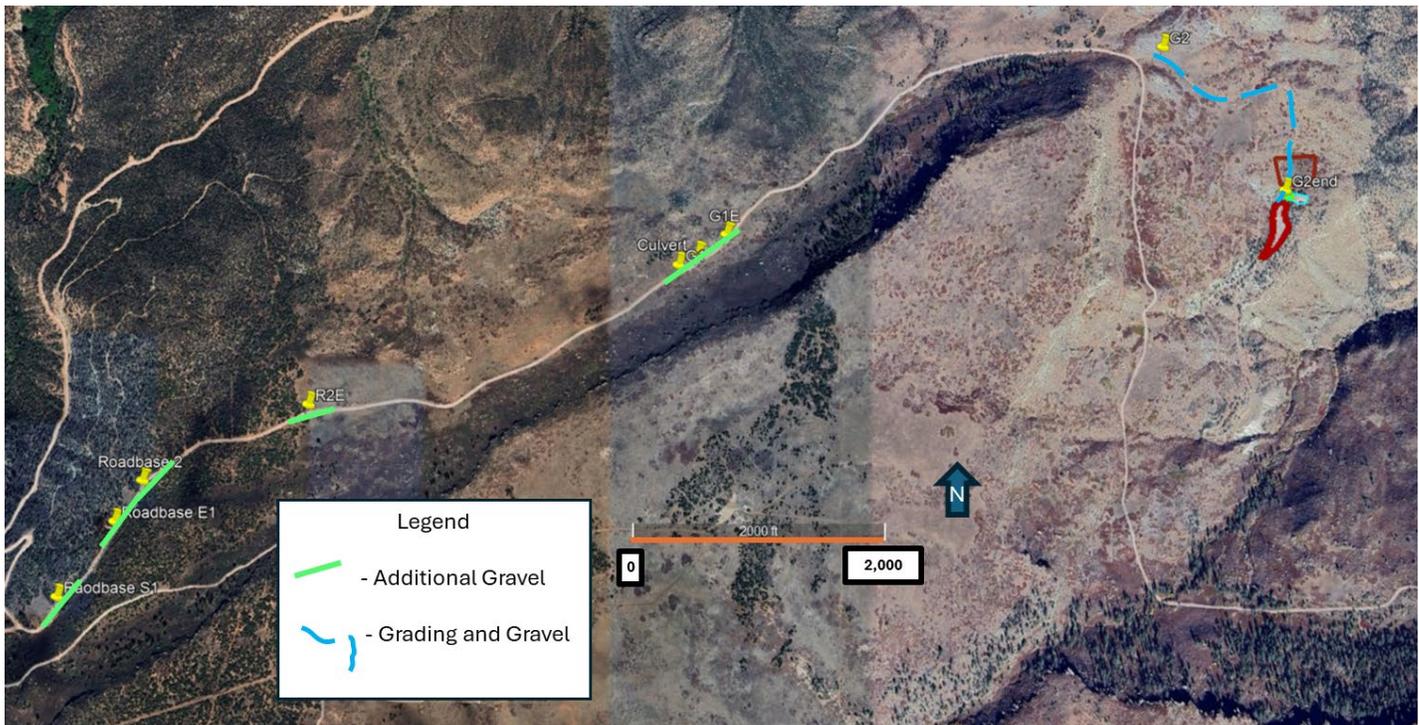
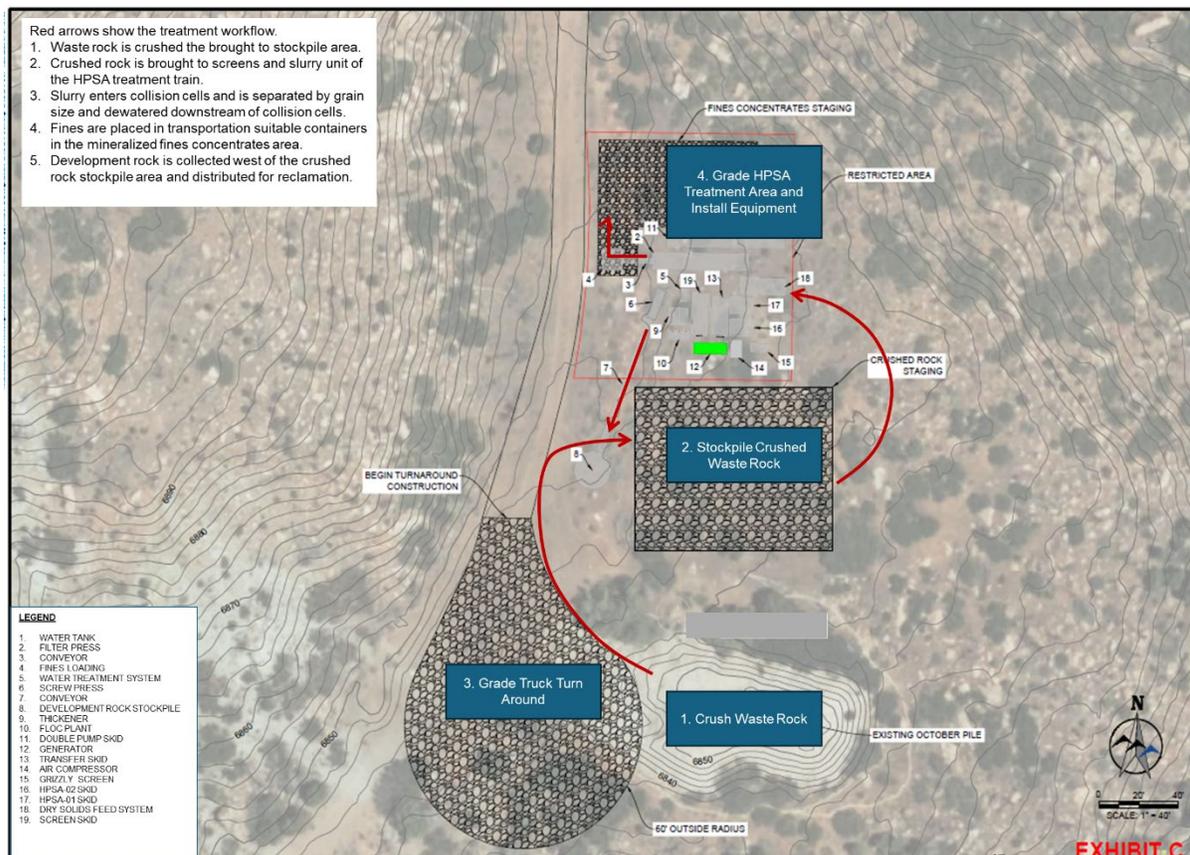


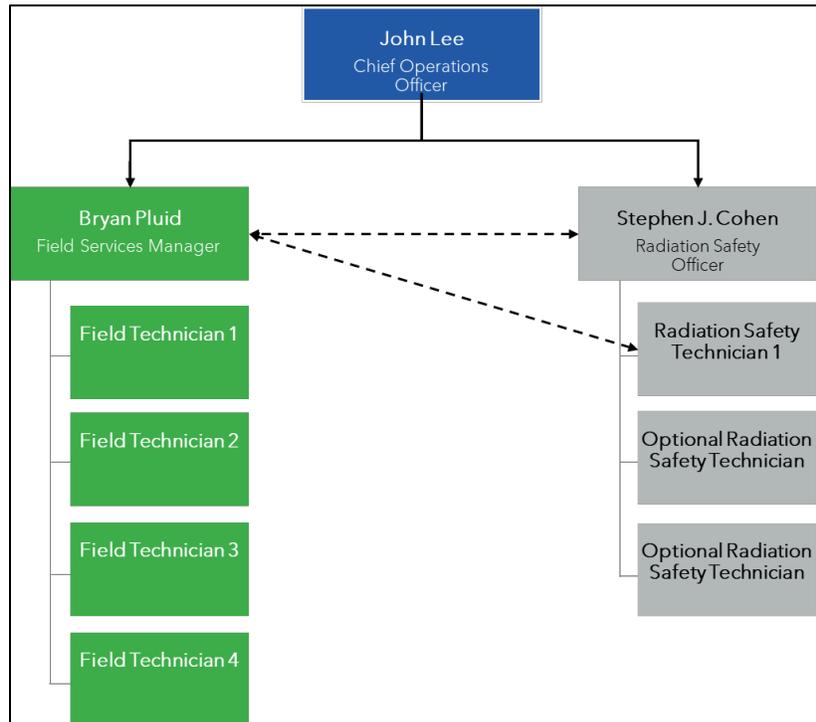
Figure 1-2: Proposed Work Flow



1.3 ORGANIZATION

Figure 1-3 presents an organization chart for this project.

Figure 1-3: October Pile Organization Chart



1.4 ESTIMATED QUANTITY OF GRAVEL AND RESULTING TRUCK SHIPMENTS PER 10 MILES OF ROAD (LC 19.1)

Based on a site visit in December 2025, DISA expects that small amounts of road base and grading will be required to ensure access for trucks and during dry and wet weather. Figure 1-1 shows the locations where road base and grading would be required. Based on our observations, DISA will be required to place road base on approximately 1 mile of road, including approximately 0.4 mile of road that would be graded and graveled. The total quantity of gravel required would be approximately 2,100 cubic yards of gravel/road base.

1.5 SCHEDULE OF TOUCHPOINTS (LC 19.2)

Table 1-1 contains a schedule of contact points. Because of operational issues beyond the scope of the HPSA treatment licensed activity, DISA cannot provide a precise start date for this project. Therefore, the start date provided in Table 1-1 should be considered approximate and subject to change.

Table 1-1: Schedule of Touchpoints (Subject to Change)

Event	Date
Mobilization (when the crusher is mobilized to the site)	April 20, 2026
Commencement of remediation	May 4, 2026
25% Completion	May 20, 2026
50% Completion	June 8, 2026
Within One Week of Completion	June 29, 202
Expected Demobilization	July 6, 2026

SECTION 2.0 DOSE ASSESSMENT SCENARIO

2.1 DOSE ASSESSMENT SCENARIO (LC 19.3)

Pursuant to the Application Supplement (DISA, 2025), information presented herein provides the dose assessment scenario that will be used for calculating doses for compliance with the 10 CFR 20.1402 unrestricted release criterion. Also include the analysis used to select the scenario. DISA determined which dose modeling scenario to use by analyzing each site based on the following criteria:

2.1.1 Natural setting

The October Pile is located in a mountainous region in Mesa County, Colorado

2.1.2 Geology

Geology of the October Pile is described in the Juanita Arch Quadrangle, Colorado (Shoemaker, E.M., 1955). Figure 2-1 shows a geologic map of the October Pile vicinity. The primary geologic unit underlying the October Pile is the Jurassic Age (late: 163.5 to 145 million years ago) Morrison Formation (Jms), which is described as follows:

Variegated shale and mudstone; white, gray, rusty-red, and buff sandstone; rusty-red conglomerate; local thin limestone beds. At the top the Brushy Basin shale member, Jmb, consisting largely of bentonitic shale but including some sand-stone and conglomerate lenses, and at the base the Salt Wash sandstone member, Jms, with more numerous and thicker sandstone beds.

The Morrison formation is of special interest economically because of the uranium- and vanadium-bearing deposits that it contains. The formation comprises two members in this area; the lower is the Salt Wash sandstone member, and the upper is the Brushy Basin shale member. In the Juanita Arch quadrangle, the Morrison formation ranges in thickness from 700 to 800 feet. The Salt Wash sandstone member and the Brushy Basin shale member in general are of approximately equal thickness. In some areas, however, their thicknesses vary independently, whereas in other areas a thinning in one member is accompanied by a thickening in the other.

2.1.3 Soil Cover and Local Soil Units

No soil cover is located on the pile. Soil units located at or near the October Pile include the following:

- Depth to restrictive feature: 20 to 40 inches to lithic bedrock
- Drainage class: well drained
- Depth to water table: more than 80 inches
- Typical Profile:
 - 0 to 10 inches: cobbly fine sandy loam
 - 10 to 22 inches: very cobbly fine sandy loam
 - 22 to 29 inches: very cobbly fine sandy loam
 - 29 to 33 inches: unweathered bedrock

2.1.3.2 Bodot-Sili-Rock Outcrop complex, 5 to 25 percent slopes, very bouldery

- Elevation: 5,500 to 8,100 feet
- Mean annual precipitation: 10 to 13 inches
- Mean annual air temperature: 46 to 50 degrees (F)
- Frost-free period: 100 to 135 days
- Map Unit Composition:
 - Bodot and similar soils: 45 percent
 - Sili and similar soils: 25 percent
 - Rock outcrop: 20 percent
 - Parent material: colluvium derived from sandstone and shale over residuum weathered from clayey shale
 - Surface area covered with cobbles, stones, or boulders: 1.5 percent
 - Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
 - Drainage class: well drained
 - Depth to water table: more than 80 inches
 - Typical Profile:
 - 0 to 5 inches: clay loam
 - 5 to 32 inches: clay
 - 32 to 36 inches: weathered bedrock

2.1.3.3 Tragmon-Detra complex, 3 to 12 percent slopes

- Elevation: 7,400 to 7,650 feet
- Mean annual precipitation: 16 to 18 inches
- Mean annual temperature: 42 to 44 degrees (F)
- Frost-free period: 75 to 100 days
- Map Unit Composition:
 - Tragmon and similar soils: 50 percent
 - Detra and similar soils: 35 percent
 - Parent material: eolian deposits over alluvium derived from sandstone and shale
 - Depth to restrictive feature: more than 80 inches
 - Drainage class: well drained

- Typical Profile:
 - 0 to 3 inches: loam
 - 3 to 13 inches: loam
 - 13 to 31 inches: clay loam
 - 31 to 45 inches: clay loam
 - 45 to 55 inches: clay loam
 - 55 to 60 inches: clay loam

2.1.3.4 Maudlin-Beje complex, 3 to 12 percent slopes

- Elevation: 7,000 to 8,000 feet
- Mean annual precipitation: 15 to 17 inches
- Mean annual temperature: 43 to 45 degrees (F)
- Frost-free period: 75 to 100 days
- Map Unit Composition:
 - Maudlin and similar soils: 50 percent
 - Beje and similar soils: 35 percent
 - Parent material: eolian deposits over residuum weathered from sandstone
 - Depth to restrictive feature: 20 to 40 inches to lithic bedrock
 - Drainage class: well drained
 - Depth to water table: more than 80 inches
 - Typical Profile:
 - 0 to 8 inches: fine sandy loam
 - 8 to 24 inches: sandy clay loam
 - 24 to 28 inches: unweathered bedrock

2.1.4 Topography

Elevation of the site is approximately 6,300 ft above sea level. It is located on the nose of a ridge that overlooks Cave Canyon. See Figure 3-2 for a topographic map.

2.1.5 Land Use of the Treatment Site

Information from this section is from the Mesa County GIS Viewer (BLM (<https://emap.mesacounty.us/viewer>)). Figure 2-2 shows the location of the October Pile. Figure 2-3 shows the current Mesa County zoning map (Adjacent Zoning, Land Use, and Ownership <https://emap.mesacounty.us/viewer>). The current Mesa County Zoning designation is Agricultural, Forestry, Transitional District (AFT). The AFT District is primarily intended to accommodate agricultural operations and very low-density single-family residential development.

Figure 2-4 is the future land use map. Future land use for the October Pile site is undesignated, which indicates that Mesa County does not have any future land use plans for the October Pile location. The nearest future land use designation is R/A35

located approximately 5,000 feet southwest of the October Pile site. This area is located on a ridge that slopes to the southwest in the opposite direction of the October Pile site.

Figure 2-5 shows the land ownership of the October Pile is the BLM (www.blm.gov). Figure 2-6 shows the BLM land use map (Source: experience.arcgis.com/experience, Department of the Interior, Bureau of Land Management Colorado Interactive Web Map). According to BLM data the October pile and the area around it are available for mineral leasing. Therefore, this area will remain undeveloped and available for recreation or future mineral development.

Currently no mineral extraction is occurring at the October Pile location. Gateway Canyon resort operates ATV tours along the county and mining roads on the area of the October Pile. Therefore, the October Pile land use can be considered recreational.

2.1.6 Land Use of Treatment Site – Grazing

Based on a review of BLMs GIS server, the October Pile is located within the 3 Cotton Pasture in the Hubbard Allotment. Figures 2-7 and 2-8 show the Hubbard Allotment and the 3 Cotton Pasture, respectively. The 3 Cotton Pasture (Pasture Number 0641903) occupies 17,610.40 acres. Table 2-2 shows information regarding the current pastures that are active. According to Table 2-2, most of the pastures are on at least 90% Federal land, although the 3 Cotton Pasture is not specifically listed. Figure 2-8 shows the 3 Cotton Pasture and the Master Title Plat, which clearly shows that October Pile and the entire claim are on Federal land.

2.2 RELEASE CRITERIA

2.2.1 Dose Scenario

Based on the information presented above, DISA has determined that the dose scenario for treating the October Pile is primarily RECREATIONAL. However, DISA addressed the grazing component of the site, in the next section. Therefore, the dose screening criteria are the RECREATIONAL criteria presented in Table 2-1 below.

Table 2-1: Dose Screening Criteria

Scenario	Ra-226 (pCi/g)	U-238 (mg/kg)	Natural Uranium (mg/kg)	Th-230 (pCi/g)
Resident Farmer	1.7	556	1,151	12
Resident Gardener	4.1	866	1,792	30
Rural Resident	5.3	970	2,008	42
Rancher	12	2,360	5,445	86
Recreationalist (no ingestion of meat)	63	8,000	16,562	295

Note: 1. Orange fill indicates the screening criteria for this project.
 2. Mass concentration of natural uranium and thorium-230 (based on 0.0206 Ci/g) must be less than 500 mg/kg.

Table 2-2: Grazing Permit Information

Allotment Number	Allotment Name	Pasture Name	Auth. No	Livestock Number	Livestock Kind	Period Begin	Period End	Public Land %	Type Use	AUMS
CO06419	Hubbard	Cottonwood J.B.	0500790	95	Cattle	04/01	05/15	90	Active	126
CO06419	Hubbard	South Beaver Mesa	0500790	100	Cattle	04/01	04/30	100	Active	99
CO06419	Hubbard	Hubbard Pasture	0500790	300	Cattle	05/01	10/01	8	Active	122
CO06419	Hubbard	Cottonwood J.B.	0500790	109	Cattle	11 /01	12/01	90	Active	100
CO06419	Hubbard	South Beaver Mesa	0500790	100	Cattle	11 /01	11/30	100	Active	99

Figure 2-2 Site Location



Figure 2-3: Zoning Map

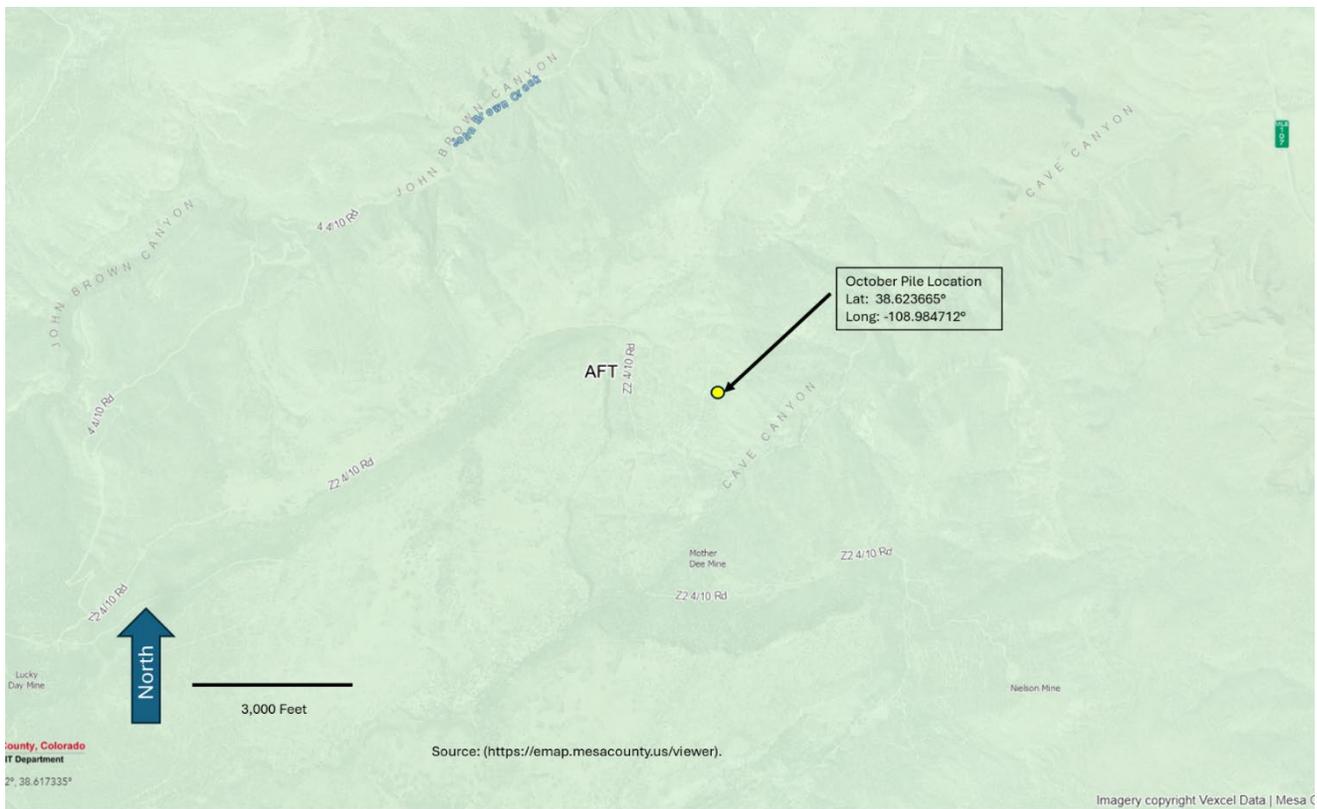


Figure 2-4: Future Land Use

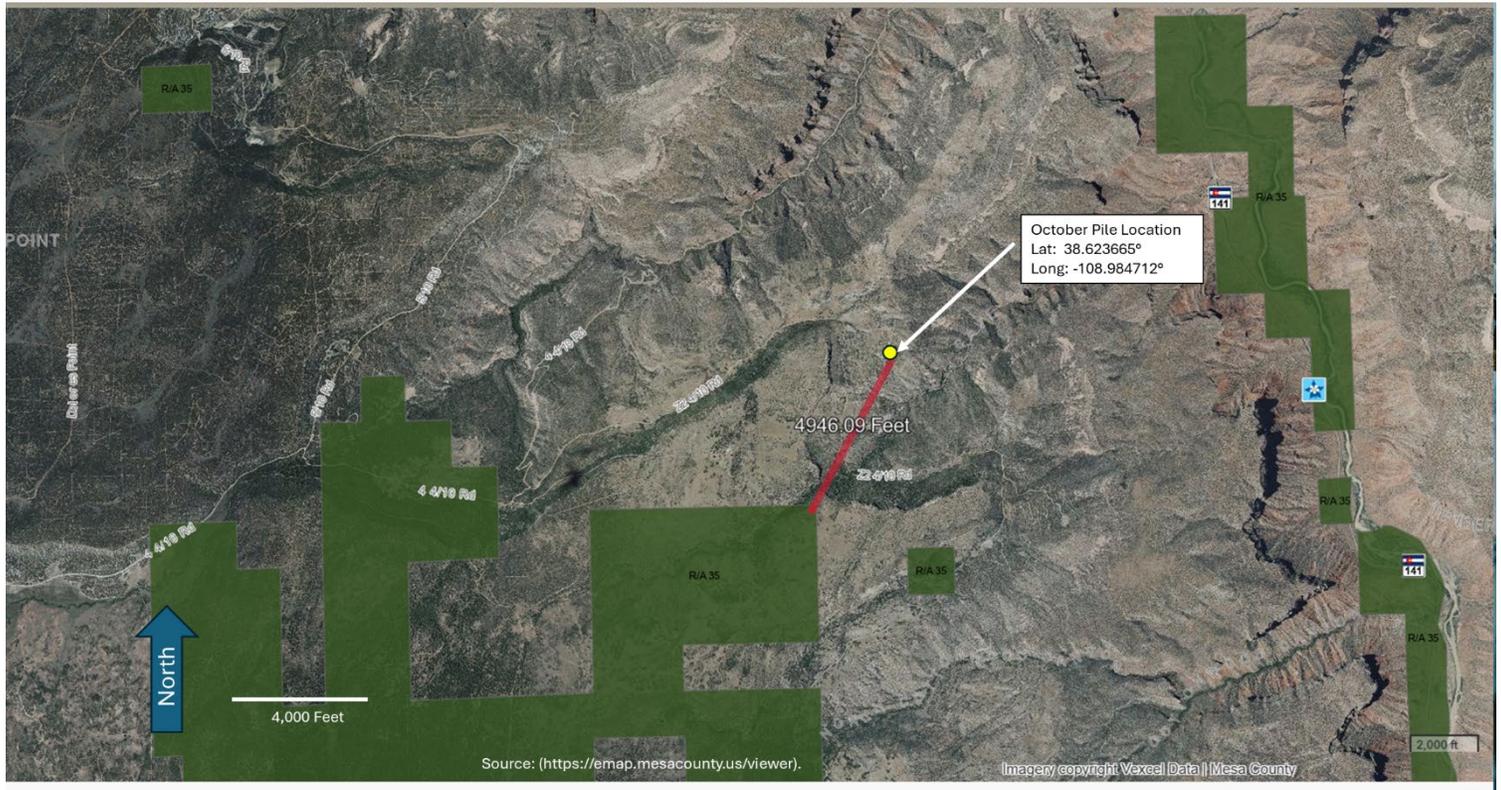


Figure 2-5: Land Ownership Map

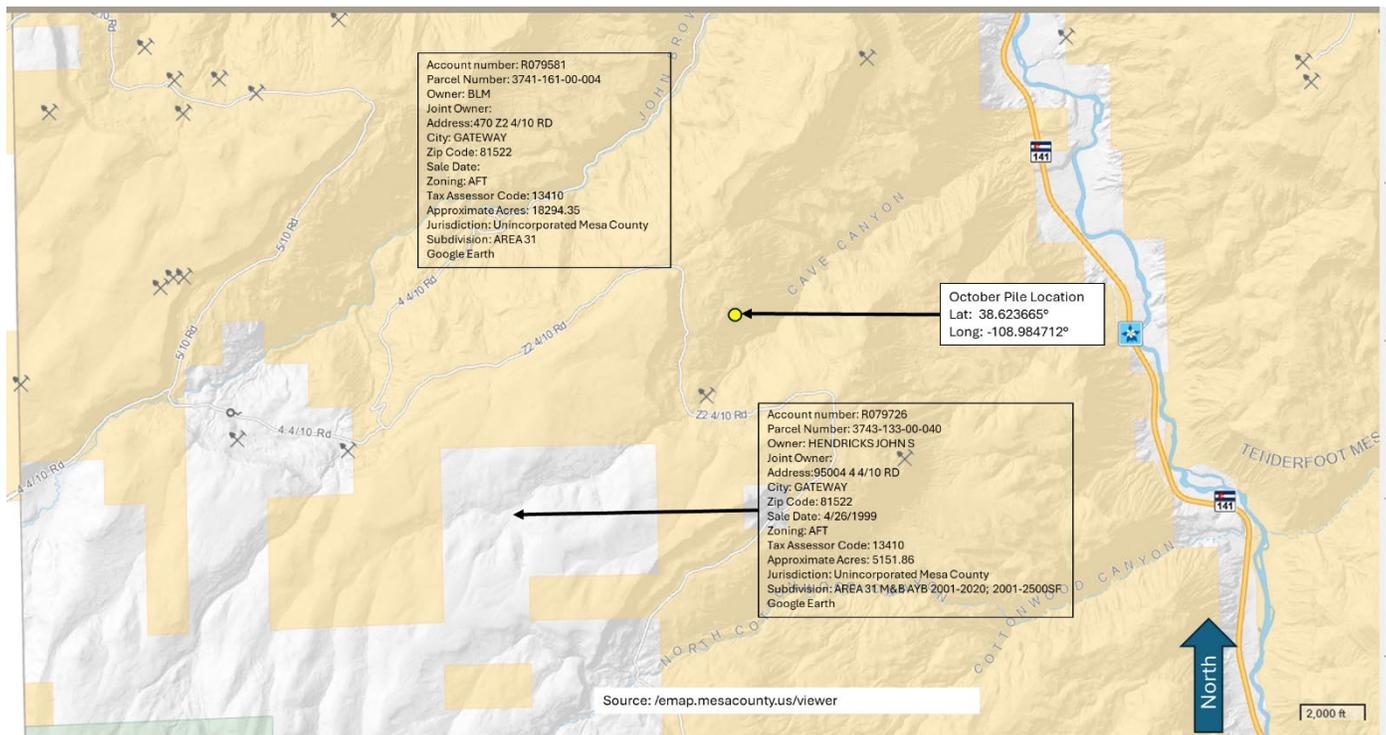


Figure 2-6: BLM Land Use

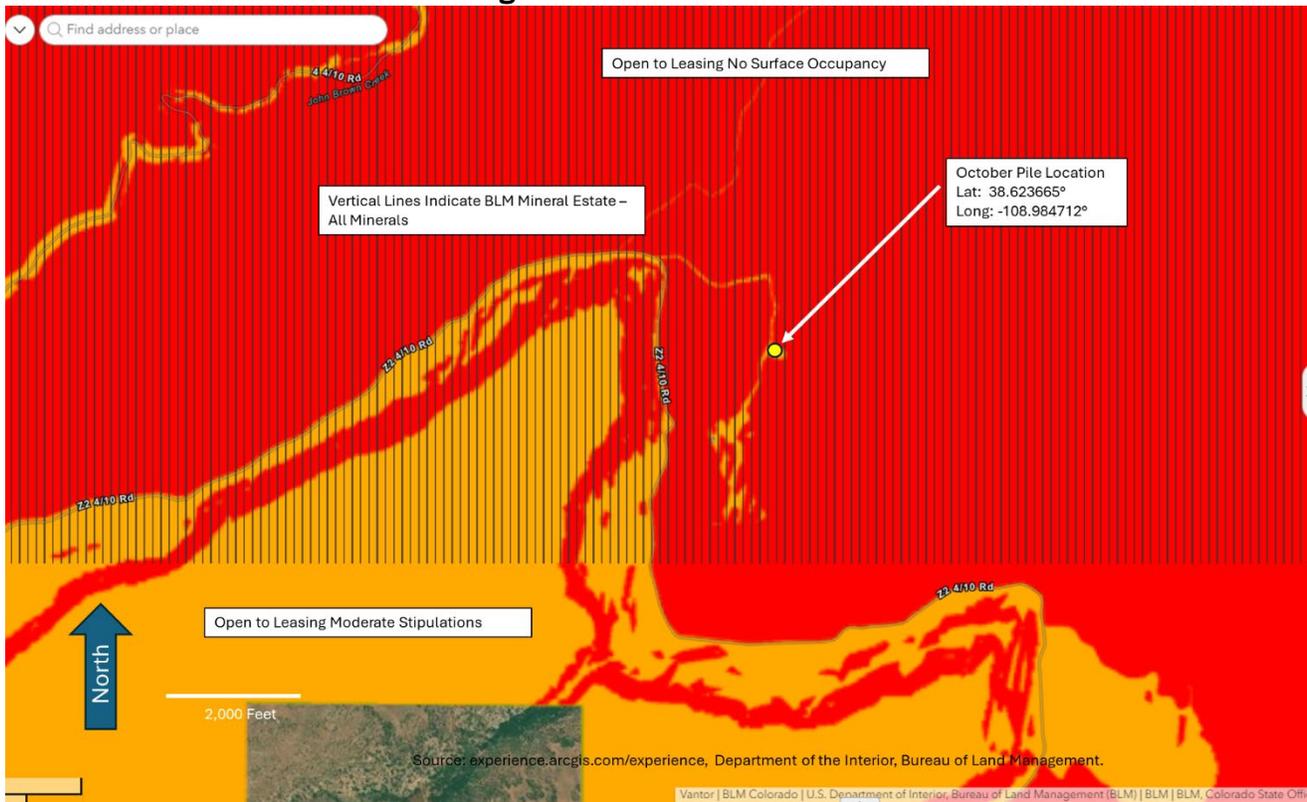


Figure 2-7: Grazing Land Use Map - Allotment

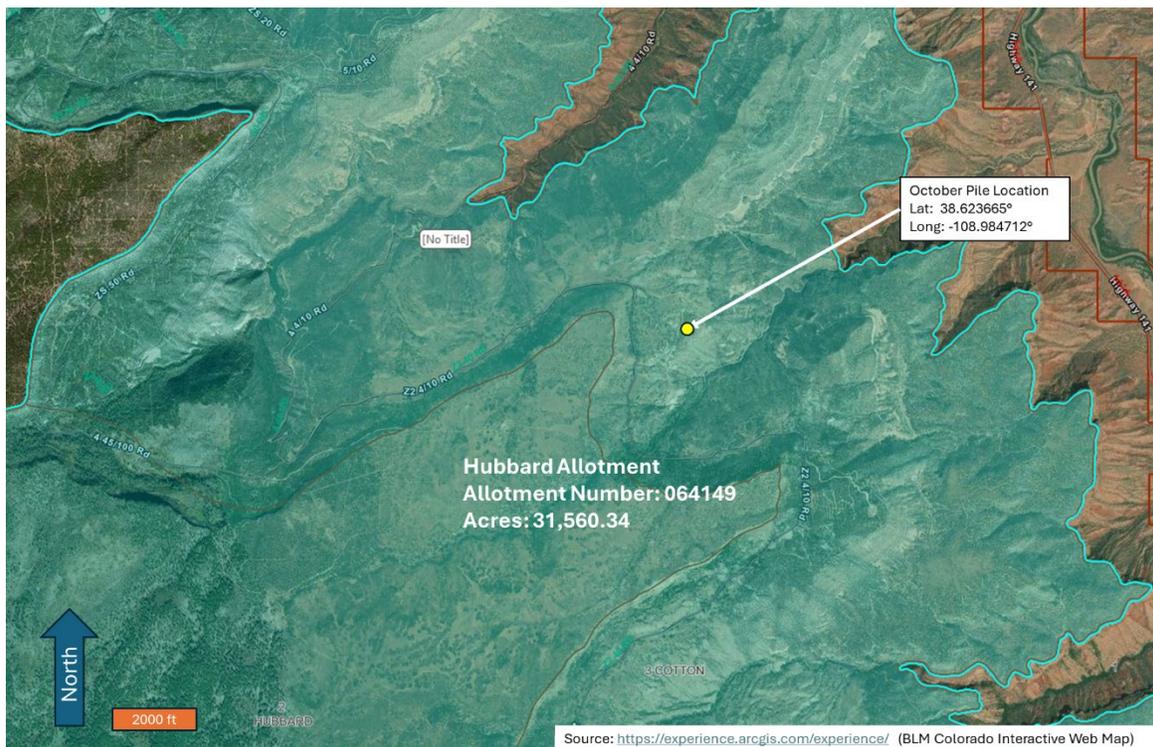
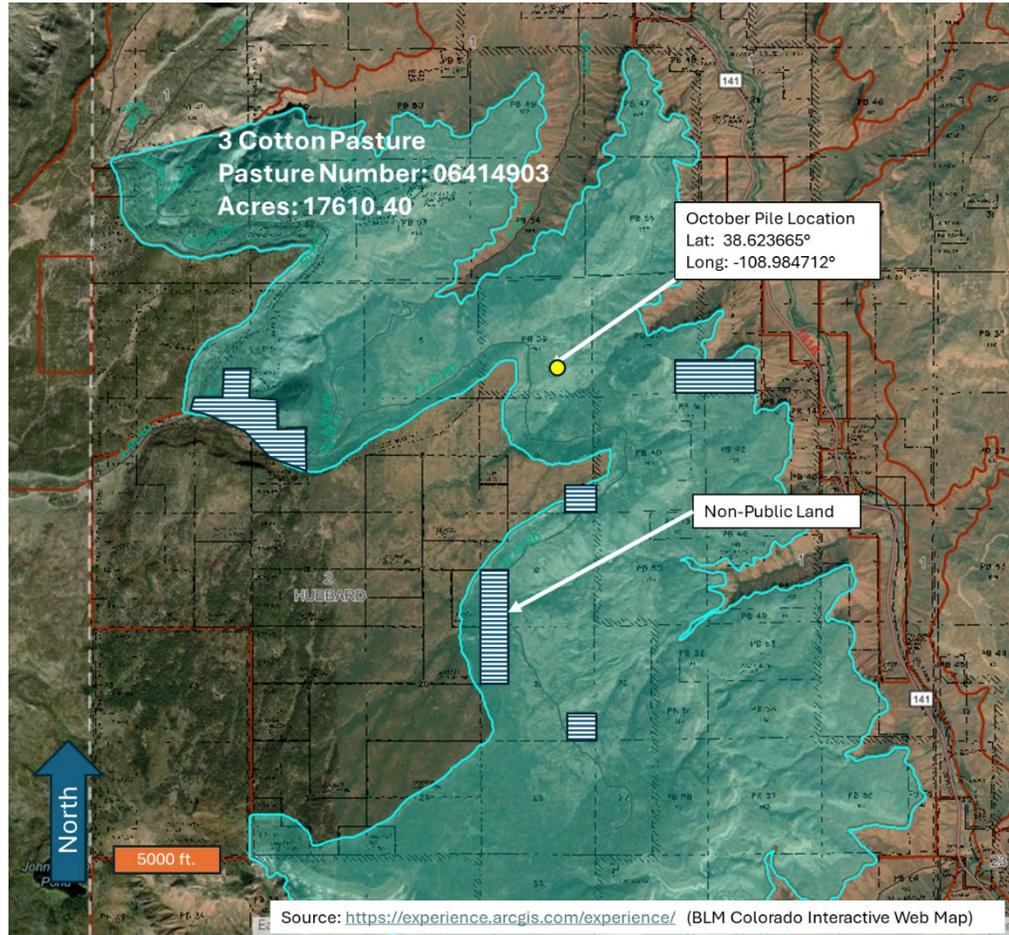


Figure 2-8: Grazing Land Use Map – Pasture and Ownership



2.2.2 Grazing Component

The October Pile is situated in the 3 Cotton Pasture, which does not currently appear in the BLM database of permitted pastures. To determine the impact of grazing on the screening concentrations shown in Table 2-1, DISA created a site-specific model used to recalculate the screening concentrations. Assumptions in the model were as follows:

1. The RECREATIONAL scenario was maintained because this is a legitimate land use considering the ATV tours and other activities originating from the Gateway Canyon resort.
2. A grazing component was added, but it was not ranching because grazing in this area is open range. Cattle are set loose in the pasture and are then collected after the grazing period.
3. Recreationalists will not eat the meat from the cattle.
4. The October Pile site represents a maximum of 1.92 acres out of the entire 17,610 acres of pasture (0.01%)

5. Four pastures from Table 2-2 potentially represent the 3 Cotton Pasture. The Hubbard Pasture clearly does not represent the 3 Cotton Pasture because it only occurs on 8% Federal land.
6. Other modeling assumptions are as follows:
 - a. Inhalation rate: 14,000 m³/y used (recreationalist scenario) where rancher scenario uses 11,400 m³/y.
 - b. Mass loading factor for inhalation: 0.001 g/m³ used (recreationalist scenario) which is 10 times higher than the default value used for the rancher scenario, 0.0001 g/m³.
 - c. Exposure duration: 30 years used (recreationalist scenario) where rancher scenario assumes 25 years of site exposure.
 - d. Outdoor time fraction: Recreationalist scenario exposure fraction accounts for 2 weeks outdoor (14 days) was held steady. There is no expectation for a human rancher to be meaningfully exposed during grazing periods.
 - e. Livestock water pathway: Value = 0.001 (0.01%). This pathway is not accounted for in the recreationalist scenario but is turned on for this site-specific model due to cattle grazing. Fraction is equivalent to fraction of site area to grazing pasture area.
 - f. Meat consumption pathway Value = 0.001 (0.01%). This pathway is not accounted for in the recreationalist scenario but is turned on for this site-specific model due to cattle grazing. Fraction is equivalent to fraction of site area to grazing pasture area.
 - g. Thickness of the clean coarse material is 2 ft, matching actual site reclamation conditions.

Screening criteria from this modeling analysis are as follows:

1. Radium-226: 64.7 pCi/g
2. Uranium-238: 2,837 mg/kg
3. Thorium-230: 475 pCi/g

These results are actually higher than the generic screening criteria presented in Table 2-1. Therefore, DISA confirms that the RECREATIONAL screening criteria will be used at this site. Appendix A contains the modeling files for this analysis.

2.3 NUMBER OF SAMPLES OF CLEAN COARSE MATERIAL (LC 19.4)

DISA intends to base its compliance with the 10 CFR 20 Subpart E release criterion on sampling of the clean coarse material. Based on information DISA supplied to the NRC, DISA will collect at least 5 samples of clean coarse material as it is being generated because the total mass of the entire pile is approximately 6,446 tons (Section 3.3). This is based on DISA's licensing commitments wherein DISA will collect a minimum of 5 samples of clean coarse material from any waste pile that is less than 40,000 tons in mass (Section 3.2.1, DISA, 2025).

SECTION 3.0 LOCATION AND DESCRIPTION OF SITE

3.1 SPECIFIC LOCATION OF THE SITE AND ORIGIN OF THE WASTE (LC 19.6)

3.1.1 Site Location

The location of the October Pile is as follows:

- County - Mesa
- Township – 50N
- Range – 19W
- Section – 39 (04)
- Subdivision (unsurveyed) – SE¼
- Surface Ownership – US Bureau of Land Management (BLM)
- Mineral Ownership – BLM
- Site Holder: AURA GRIT LLC
- Coordinates: Latitude: 38.623665°
Longitude: -108.984712°

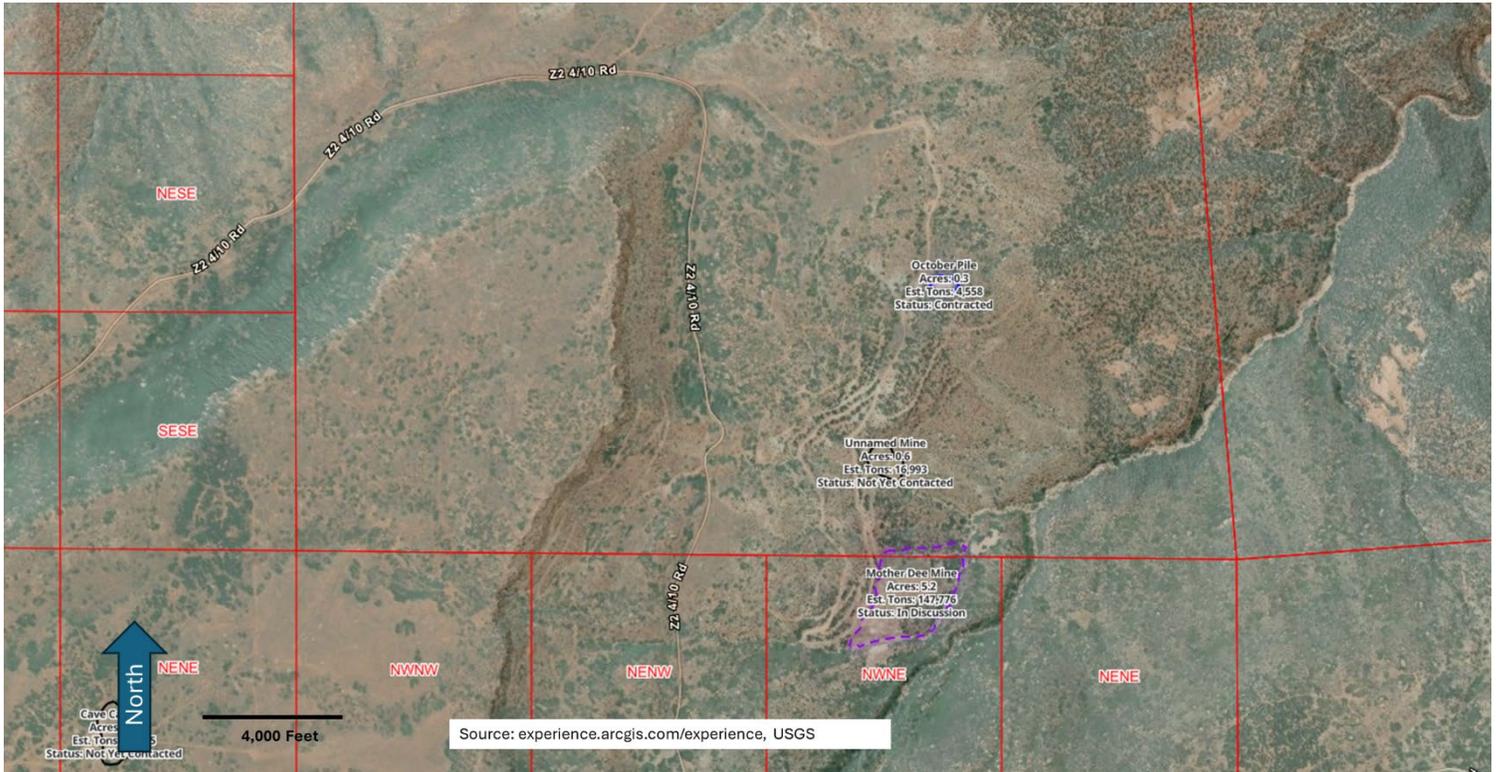
3.1.2 Waste Origin

AURA GRIT holds possession of the October Pile, and holds the claim (October 55) on which the pile is situated. AURA GRIT purchased the October Pile from Nuvemco, LLC effective October 31, 2025. DISA and AURA GRIT executed an agreement for DISA to perform HPSA treatment at the October Pile. DISA is submitting this agreement to the NRC staff under separate cover and under a 10 CFR 2.390 request to withhold information from the public because of the sensitive nature of this agreement.

The origin of the uranium mine waste is unknown. Documents provided in Appendix B show that Nuvemco staked October No. 55 in 2008, which already contained the pile. Therefore, the October Pile was disposed outside of a previous claim or permit boundary and DISA does not have any information regarding its provenance. The Mother Dee Mine (October No. 54) and an unnamed mine (possibly October No. 55 claim) are located south of the pile. Again, DISA does not have any information confirming the source of the October Pile.

As DISA has stated during the licensing process, mine waste piles are not often found on the actual claims of the mines from where they originate. A common mining practice that was allowed by BLM was to place mine waste outside the permitted claim or permit boundary under certain circumstances. Most of the uranium waste piles that we encounter are from unknown origins.

Figure 3-1: Mines Located Near October Pile



3.2 DESCRIPTION OF THE SITE (LC 19.7)

3.2.1 General Description

The October Pile is located on BLM land in Mesa County, Colorado. The October Pile is located on the northeast trending nose of a high mesa separating John Brown Canyon and Cave Canyon. The pile rests on a bench at an elevation of about 6,800 feet adjacent to an existing mine road. Steep swales to the north and south of the October Pile drain southeasterly to the ephemeral drainage in the bottom of Cave Canyon approximately 600 feet below the pile. Uranium mine waste originated from an underground mine located near the October Pile. Figure 3-2 is a topographic map of the site and surrounding area.

3.2.2 Disturbance Areas

Figure 3-3 shows the operational areas for the October Pile. The basic areas of the project will be the waste pile, restricted area, truck turnaround area, and the crushed rock staging area. Fines concentrates containers will be stored in the restricted area prior to transportation offsite. No temporary roads will be constructed; however, the mining road that leads to the October Pile will be graded. Table 3-1 contains estimates of the disturbed areas.

Figure 3-2: October Pile Topography

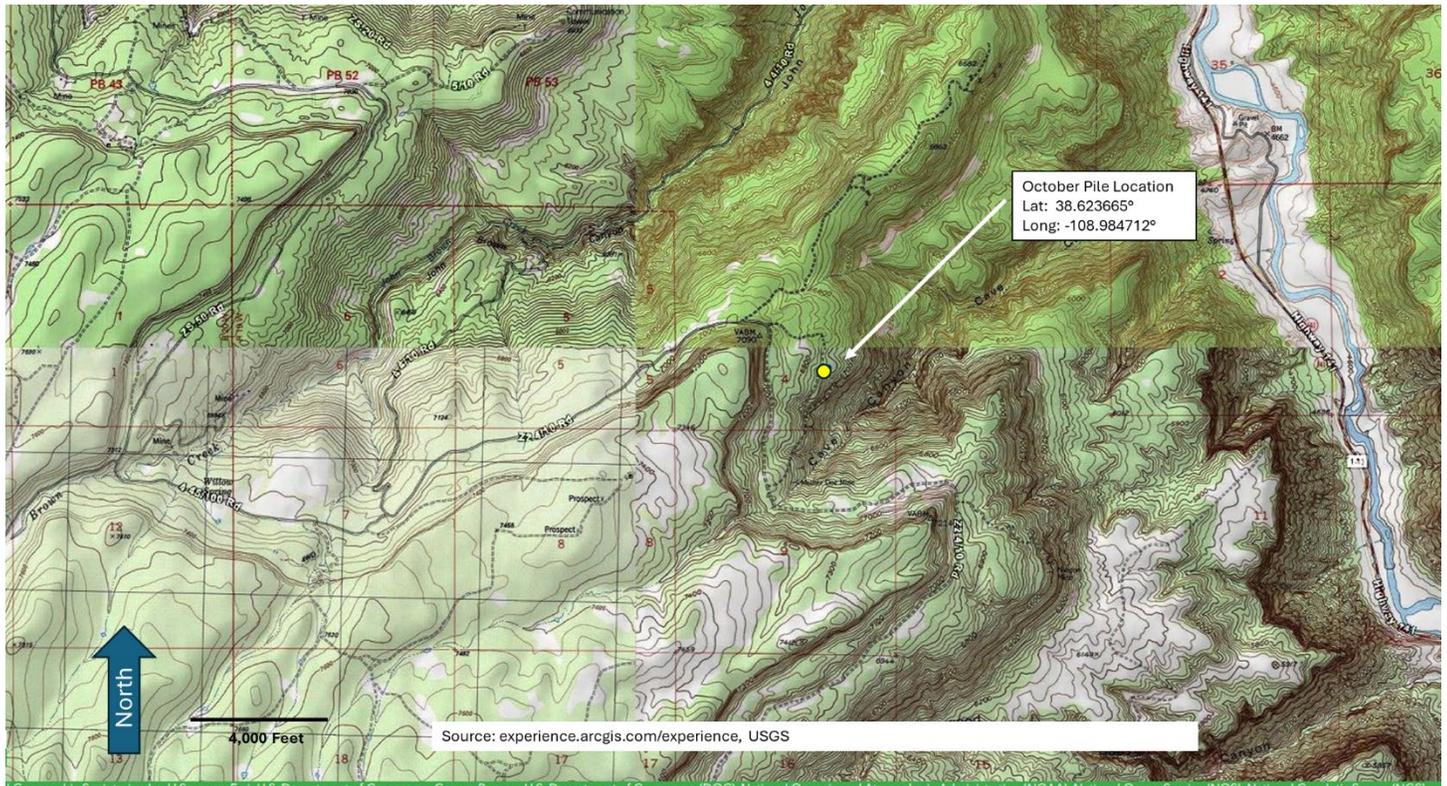


Figure 3-3 shows what DISA considers to be the Licensed Area, which contains all the activities necessary for completing this project. These activities include excavating and crushing the October Pile, stockpiling the crushed rock, treating the crushed rock, staging the fines concentrates, and distributing and reclaiming the clean coarse material.

Figure 3-3: Site Layout

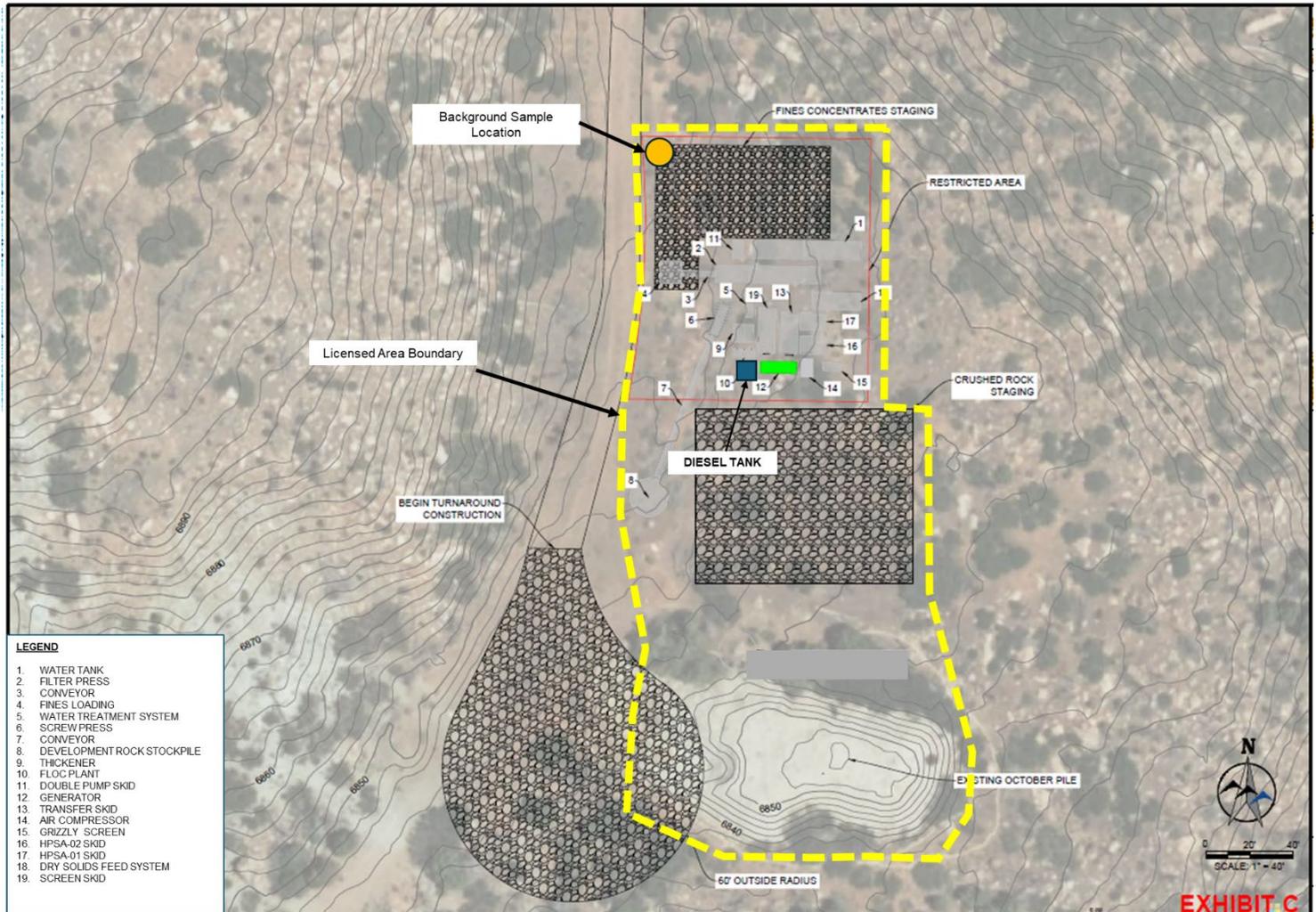


Table 3-1: Anticipated Land Disturbances

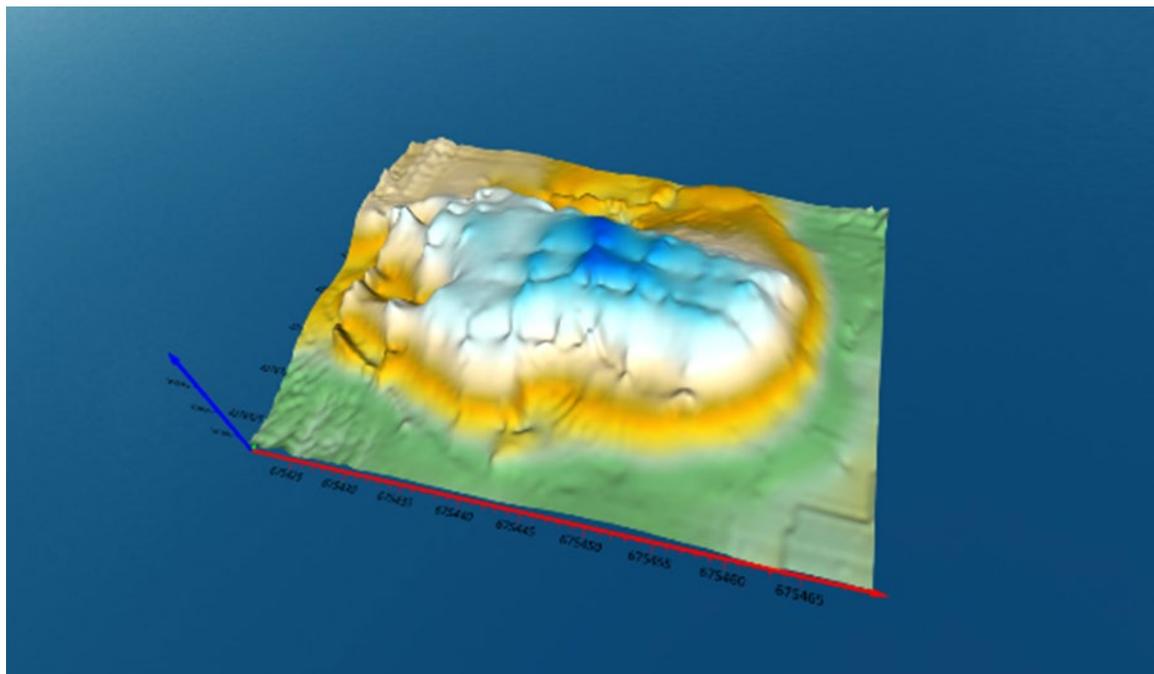
Site Feature	Disturbance (sq ft)	Disturbance (acres)
Current Pile Impacts	15,246	0.35
Access Road Improvements	33,983	0.78
Install Truck Turn Around	13,551	0.30
Crushed Rock Staging	9,442	0.20
Grade Restricted Area for Equipment	12,585	0.29
Total	69890	1.92

3.2.3 Volume of Waste Rock

DISA estimated the volume of the uranium mine waste using elevation data input into a geostatistics model called Surfer by Golden Software. Elevation data was obtained during the walkover GPS-gamma surveys conducted by DISA using a RadScout® system by Environmental Restoration Group, Inc. This system consists of a Ludlum Model 3000/44-10 sodium iodide probe synchronized with a global positioning system (GPS) receiver that are both connected to a Mesa Juniper data logger.

Output from the logger includes geographic coordinates, gamma counts, and elevation of each point logged during the survey. DISA calculated the volume of the waste rock by kriging the elevation data points and data points off of the pile. In this manner, Surfer can calculate the volume in between both models providing an estimate of the volume. Figure 3-14 shows a 3-D image of the model.

Figure 3-4: 3-D Model of October Pile



Because the original data was collected in UTM metric geographic coordinates, the volume of the pile was calculated in cubic meters, then converted to cubic yards. DISA calculated multiple volumes which differed by approximately 6%. Using the highest volume, DISA estimates the October Pile volume to be 2,535 cubic meters or 3,316 cubic yards. Assuming a density of 144 lbs. per cubic foot, the total weight of the October Pile is approximately 6,446 tons. During the crushing and grinding operation, the entire waste pile will be relocated to the crushed rock staging area, as shown in Figure 3-3.

3.2.4 Boundaries

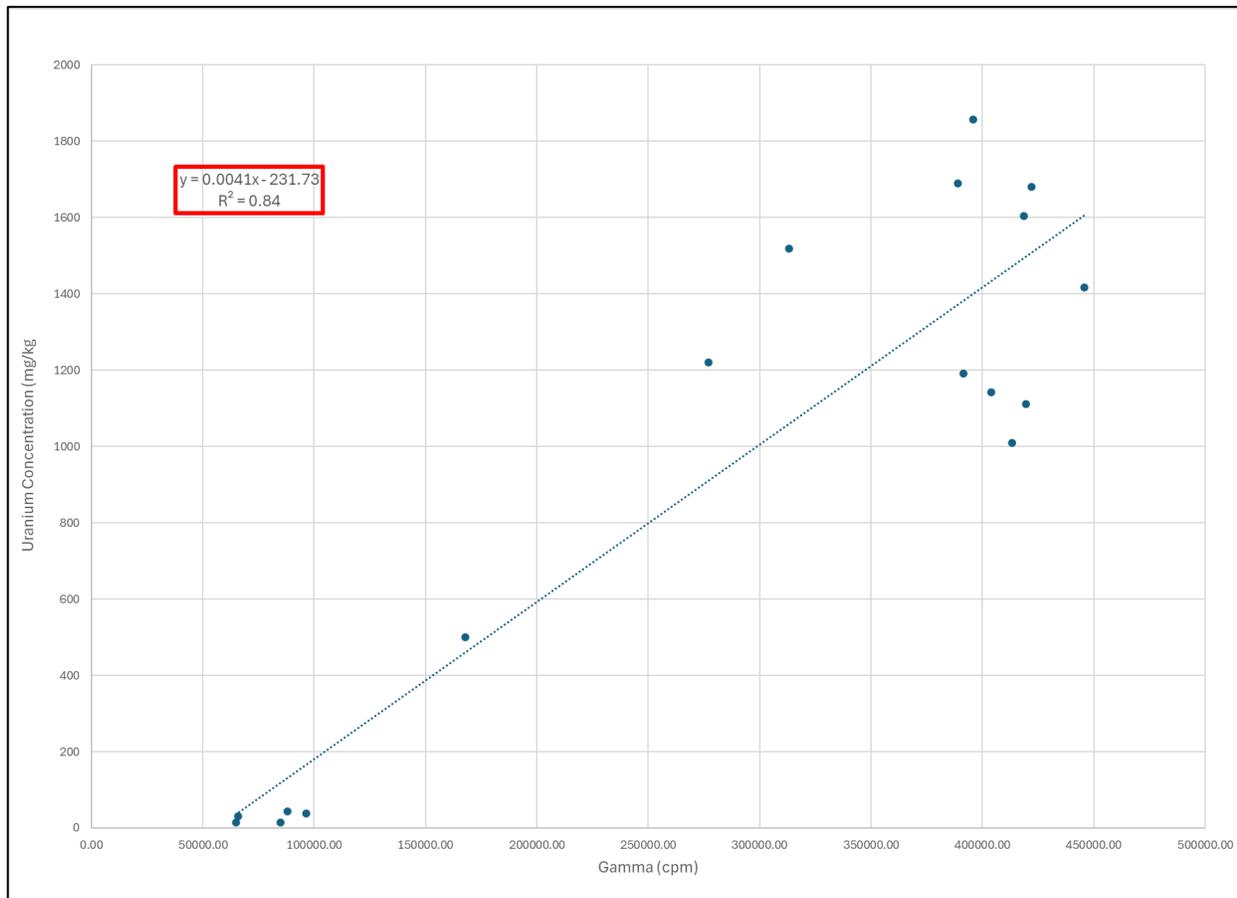
The surficial boundaries of this treatment project are found in Figure 3-3. DISA will not excavate deeper than 1 foot into the native soil below the October Pile.

SECTION 4.0 PRELIMINARY DATA

4.1 MASS OF URANIUM AND THORIUM IN WASTE (LC 19.8)

To estimate the mass of source material that may be generated by the HPSA process, DISA collected 20 samples using its sample plot procedure. After the analytical data was received for uranium, DISA created a regression analysis that would be used to convert the gamma data to uranium. Normally, this analysis would be performed with radium-226 data. However, because of significant delays with the laboratory, DISA used uranium data collected from its laboratory scale X-Ray Fluorescence analyzer. Results of this analysis are shown in Figure 4-1

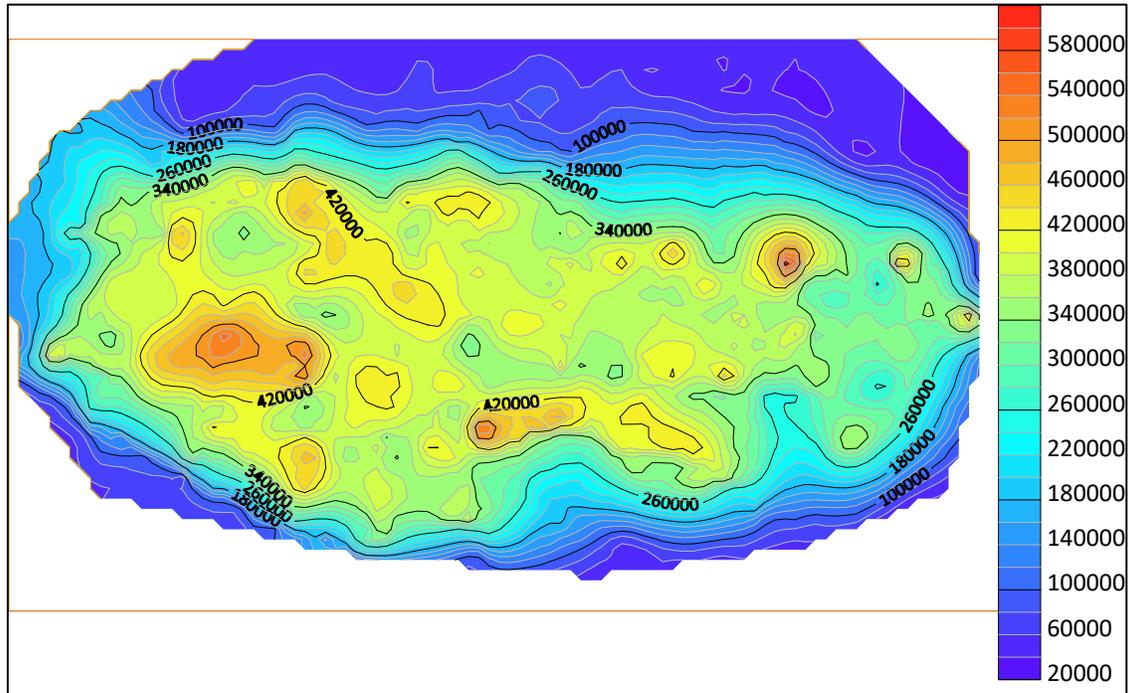
Figure 4-1: Uranium-Gamma Regression Analysis



DISA acknowledges that the R^2 is lower than desired. However, uranium-gamma regressions typically result in lower R^2 values and delays in receiving laboratory results, this result is considered suitable for the pilot program.

After calculating this regression, DISA kriged the walkover gamma survey data and calculated the necessary statistics to estimate the total mass of uranium that would be expected in uranium mine waste. Figure 4-2 shows the kriged gamma results.

Figure 4-2: Kriged Gamma Results



Pertinent statistics generated from kriging are as follows:

1. Mean Gamma Counts: 281,259 cpm
2. Standard Deviation: 142,071 cpm
3. Standard Error: 3,679 cpm

DISA estimated the concentration of uranium using the regression equation from the surface sample/gamma analysis (Figure 4-2). The results are as follows:

$$y = 0.0041x - 231.73$$

$$y = 0.0041(281,259) - 231.73 = 921 \frac{mg}{kg} \text{ natural uranium}$$

Therefore, DISA estimates the average concentration of uranium in the October Pile is 921 mg/kg. Based on previous conversations with Nuvemco, this result falls in the middle of the expected range of concentrations. Considering the estimated mass of uranium mine waste in tons (6,446 tons), DISA estimates the total amount of uranium present in the October Pile to be 11,874 lbs. of uranium. DISA expects to recover 89% of the uranium in fines concentrates based on past testing. Therefore, DISA expects to generate 10,568 lbs. of uranium in the fines concentrates. Regarding thorium-230,

based on secular equilibrium, the activity concentration of thorium-230 in the waste rock is approximately 636 pCi/g. Using a specific activity of 2.06E+10 pCi/g, the concentration of thorium-230 in the waste is 0.031 mg/kg. Therefore, the total mass of thorium-230 in the waste is 0.4 lbs.

Section 3.2.3 discusses the mass and volume of waste rock to be treated which are 6,446 tons and 3,316 cubic yards. DISA will utilize one, 10-ton per hour (tph) HPSA unit and ancillary equipment to treat the waste rock (Figure 3-3).

Radiological background was developed by locating a 5m x 5m sample plot in an unimpacted area of near the site upgradient and upwind to the extent possible (Figure 3-3). Gamma scans were performed over the entire sample plot, and a 9-point composite sample was collected. Based on the analysis of the background soil composite, background uranium and vanadium concentrations are 8 and 35 mg/kg, respectively. Background radium-226 and thorium-230 are 2.4 pCi/g and 5.9 pCi/g, respectively (Table 4-1). Average background gamma count was 17,110 cpm.

4.2 JUSTIFICATION FOR PROPOSED FUTURE LAND USE (LC 19.9)

This information is found in Sections 2.1.5 and 2.1.6. The future land use will be recreational, mining, and grazing. First, BLM owns the land exclusively. Second, BLM has identified the site and the area around as open to leasing. Third, BLM leases the October Pile area for grazing. Therefore, the site and surrounding area will not be subject to development that would indicate any other future land use than recreation, mining, and grazing.

4.3 CHARACTERISTICS OF THE CLEAN COARSE MATERIAL

DISA collected 5 samples of clean coarse material, as it was generated during laboratory HPSA testing, for toxicity and leachability testing. Results of this testing are presented in Table 4-1. A review of Table 4-1 indicates that the clean coarse material will not pose any toxicity risk to human health and the environment. Furthermore, the radionuclide concentrations will meet the screening criteria for the RECREATIONAL scenario and the source material exemption limit in 10 CFR 40.13.

Table 4-1: Analytical Results

Parameter	Units	HPSA-1	HPSA-2	HPSA-3	HPSA-4	HPSA-5	Background
Natural Uranium	mg/kg	85	100	98	99	109	8
Radium-226	pCi/g	39.5	40.3	37.5	35.1	35.9	2.4
Thorium-230	pCi/g	37	41.3	35.9	36.6	40.7	5.9
Gamma	cpm	--	--	--	--	--	17,110
Toxic Characteristic Leaching Procedure							
Arsenic	mg/L	<0.2	<0.2	<0.2	<0.2	<0.2	NA
Barium	mg/L	0.5	0.7	0.7	0.5	0.6	
Cadmium	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
Chromium	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
Lead	mg/L	<0.2	<0.2	<0.2	<0.2	<0.2	
Mercury	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	
Selenium	mg/L	<0.2	<0.2	<0.2	<0.2	<0.2	
Silver	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
Synthetic Precipitation Leaching Procedure							
Natural Uranium	mg/kg	0.1	0.1	0.2	0.1	0.1	NA
Radium-226	pCi/L	23.7	24.2	22.6	25.6	20.9	
Thorium-230	pCi/L	35.0	30.7	33.0	36.6	30.8	

4.4 ANTICIPATED MASS OF SOURCE MATERIAL EXPECTED TO POSSESS (LC 19.10)

As previously stated, the mass concentrations of uranium and thorium-230 are 921 mg/kg and 0.031 mg/kg. Considering the estimated mass of uranium mine waste in tons (6,446 tons), DISA estimates that it will possess 10,568 lbs. of uranium and 0.4 lbs of thorium-230 in the fines concentrates.

4.5 ANTICIPATED DATES OF MOBILIZATION AND STARTUP (LC 19.11)

See Section 1.2

SECTION 5.0 METHODS AND OTHER PROJECT INFORMATION

5.1 METHOD FOR DETERMINING COMPLIANCE WITH RELEASE CRITERIA (LC 19.12)

5.1.1 Numerical Criteria

DISA will analyze the clean coarse material for total radionuclides (natural uranium, radium-226, and thorium-230), TCLP for the RCRA metals, and SPLP for the aforementioned radionuclides. If the UCLs of the analytical results meet the RECREATIONAL screening criteria, the 500 mg/kg exemption limit, and the limits presented below, then the project will be considered in compliance and eligible for unrestricted release.

- 10 CFR 20, Appendix B, Table 2 Effluent Concentrations
 - Ra-226 = 60 pCi/L
 - Th-230 = 100 pCi/L
 - Natural uranium = 0.43 mg/L based on 300 pCi/L limit
- TCLP Metals Limits
 - Arsenic = 5 mg/L
 - Barium = 100 mg/L
 - Cadmium = 1 mg/L
 - Chromium = 5 mg/L
 - Lead = 5 mg/L
 - Mercury = 0.2 mg/L
 - Selenium = 1 mg/L
 - Silver = 5 mg/L

Table 2-1 presents the screening criteria for this project which are 63 pCi/g radium-226, 8,000 mg/kg uranium-238, 16,562 mg/kg natural uranium, and 295 pCi/g thorium-230. Based on the background concentrations presented in Table 4-1, the final screening criteria are 65.4 pCi/g radium-226, 16,570 mg/kg natural uranium, and 300.9 pCi/g thorium-230.

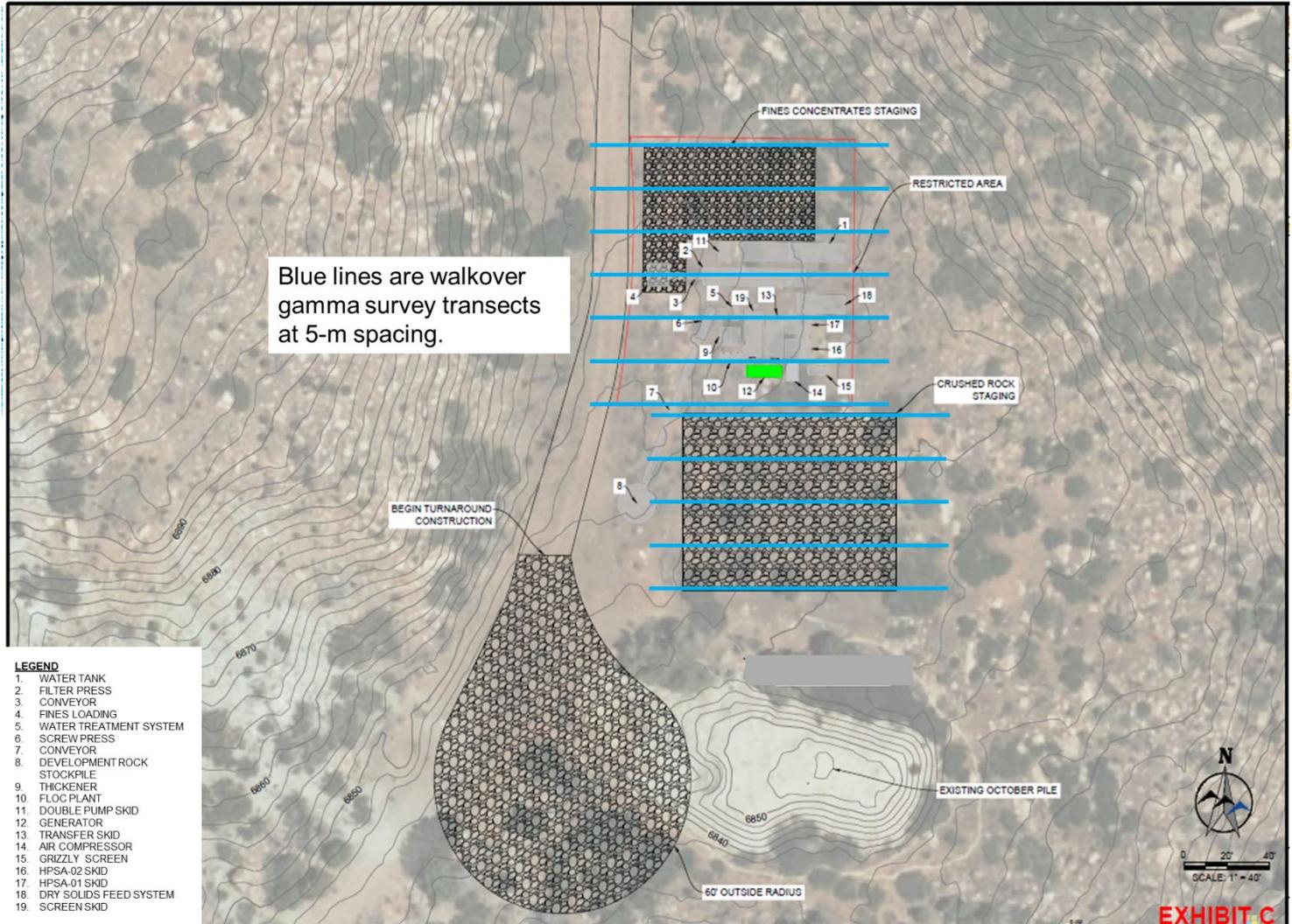
DISA will collect samples of the clean coarse material, as it is generated from the HPSA treatment process and transport the samples to a commercial laboratory, for analysis. Only commercial laboratory results will be used to determine compliance with the numerical criteria.

5.1.2 Gamma Surveys

DISA will perform walkover gamma surveys on 5-m transects at the crushed rock storage area and the restricted area prior to any crushing or equipment mobilization work. After the HPSA treatment is completed and before reclamation, DISA will perform the same walkover gamma surveys to determine whether contamination from the waste rock treatment process contaminated the ground surface. If the average

post-treatment gamma results are within 20% of the pre-treatment gamma results, then DISA will conclude that it did not contaminate the ground surface. Figure 5-1 shows the layout of the 5-m transects at the site.

Figure 5-1: Walkover Gamma Survey Transects



5.2 ARCHAEOLOGICAL AND ECOLOGICAL RESOURCES

The current DRMS permit and BLM POPs identified a historic resource near the October Pile. Mitigation will be implemented to protect this resource. Cannon Heritage performed some additional desk research to determine if the area north of the resource has been surveyed, and what additional mitigation might be needed for the resource. Information provided by Cannon Heritage is summarized below. This area of the resource and, as well as the area north of the resource have been subjected to two different archaeology surveys and is cleared (figure removed due to sensitive

information). Therefore, all cultural resources of concern for this project are documented in the October Pile site form (form number redacted).

Protection of the resource is the issue as it is near the October Pile. The BLM decision record approval (CO-130-2008-06-EA) states that a plan for stabilization measures is required to prevent degradation to the site. Recommended treatments for the preservation of the feature are found within the decision record. However, these will be renegotiated as the nature of the project has changed. Regardless of the particular preservation methods, BLM will be regulating the manner in which the resource is protected.

SECTION 6.0 FINANCIAL ASSURANCE

6.1 UPDATED DECOMMISSIONING COST ESTIMATE (LC 19.13 AND 19.14)

At the time that AURA GRIT applied to transfer the DRMS permit and POPs from Nuvemco, AURA GRIT paid the current surety amount of \$21,571 to DRMS (Section 4.3). However, DRMS is in the process of calculating a decommissioning cost estimate for the surety due to the permit transfer request. AURA GRIT will pay the increased surety amount when DRMS notifies AURA GRIT of its final decision. Proof of the surety payment will be submitted under separate cover and under a 10 CFR 2.390 request to withhold the information from public disclosure

6.2 FINANCIAL ASSURANCE (LC 19.14)

As stated above, AURA GRIT has applied to DRMS and BLM to have the permit and POPs, respectively, transferred from Nuvemco to AURA GRIT. AURA GRIT has contracted DISA to perform the HPSA treatment of the October Pile. DISA is submitting this service agreement to the NRC staff under separate cover and under a 10 CFR 2.390 request for withholding due to the sensitive nature of this contract.

As part of its review and approval process, DRMS will be reviewing the current surety amount, which is \$21,571 and was paid to DRMS. AURA GRIT will receive correspondence regarding any required adjustment to this and will pay the difference. DRMS and BLM have an agreement regarding surety whereby, DRMS manages the surety for BLM. Considering that multiple agencies have reviewed and will agree to any surety adjustments, DISA requests that the NRC rely on the DRMS surety amount instead of requiring additional surety of its own. As previously stated, proof of the surety payment will be sent under separate cover.

6.3 POST-TREATMENT STABILIZATION METHODS (19.16)

Based on conversations with BLM and DISA will use the clean coarse material to reclaim the October Pile site. DISA will fill areas excavated for grading and for crushing and stockpiling the October uranium mine waste. Figure 6-1 shows the proposed October treatment site reclamation. Final grades will be similar to the existing grades (approximately 6%). Topsoil that is reclaimed from below the existing waste rock pile, crushed waste rock stockpile, and the restricted area, will be incorporated into the top layer of the reclaimed area and seeded with the seed mix identified in Table 6-1. Such a seed mix would include the some or all of the following species as provided in the DRMS permit (Table 6-1).

Figure 6-1: Reclamation Plan

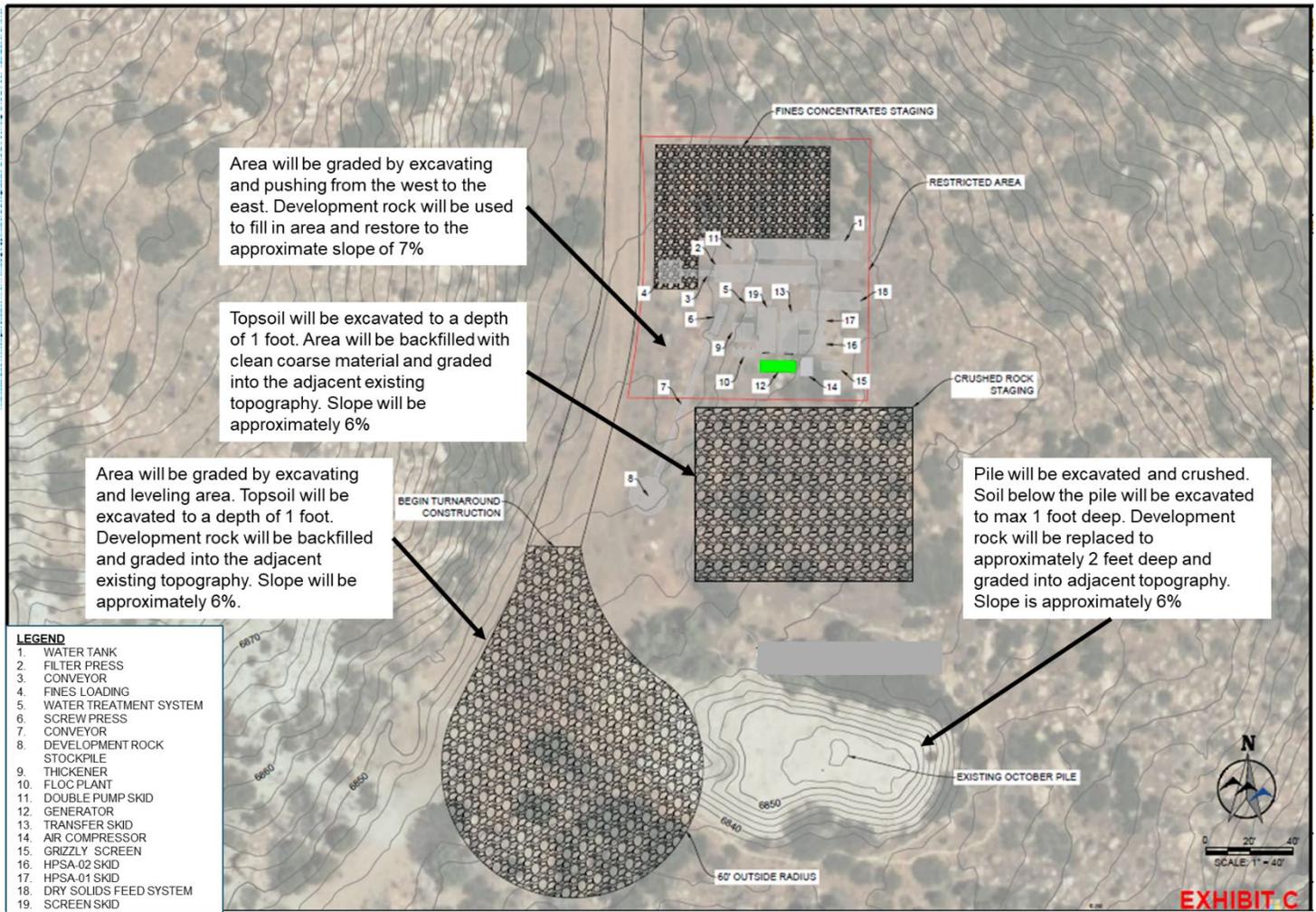


Table 6-1: Seed Mix

Species	Application Rate (lbs./acre)
Arriba Western wheat grass	2.7
Primar Slender wheat grass	2.0
Luna Pubescent wheat grass	3.0
Nordan Crested wheat grass	1.5
Paloma Indian rice grass	2.1
Needle and Thread grass	2.4
Hachita Blue Grama	0.4
Lewis Flax	0.8
Cedar Palmer Penstemon	0.2
Lutana Cicer Milk Vetch	0.3
Rincon or Native Four Wing Salt Brush	3.0
TOTAL APPLICATION RATE	18.4

DISA will irrigate the clean coarse material with water that has been treated to meet the license effluent standards. DISA may excavate a thin layer of topsoil located beneath the current pile (if any) and use that soil in clean coarse material reclamation.

SECTION 7.0 ENVIRONMENTAL REPORT APPENDIX A.1 (LC 19.5)

7.1 A.1-1 OPERATING TIER

The October Pile is an Operating Tier 1 site based on its total mass of 6,446 tons.

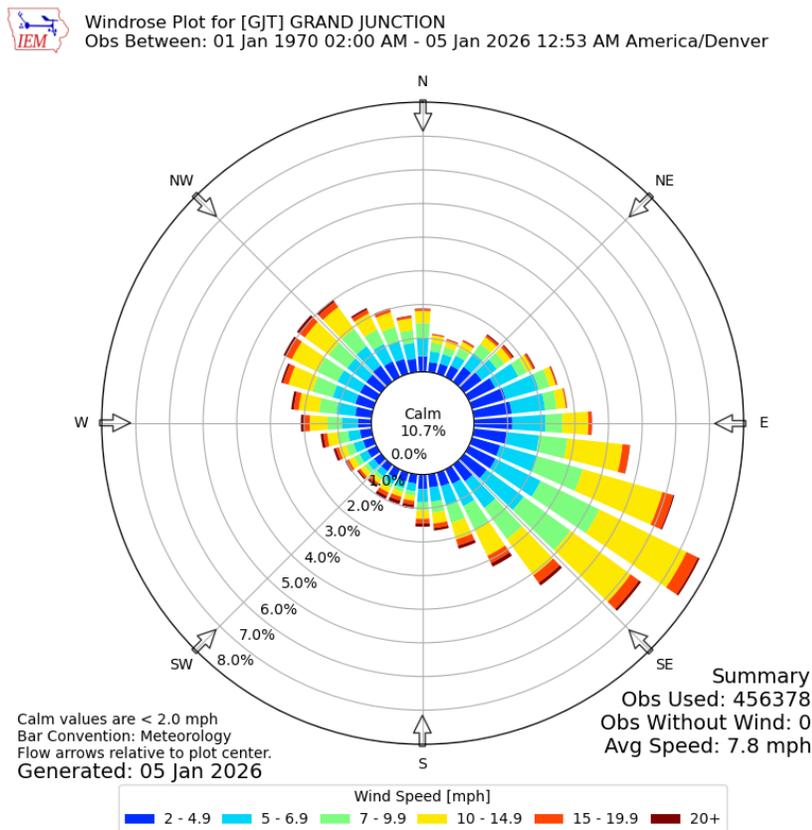
7.2 A.1-2 CLUSTER STATUS

The October Pile will not be part of any treatment cluster.

7.3 A.1-3 SENSITIVE RECEPTORS

The nearest wind rose to the October Pile is Grand Junction airport, shown below.

Figure 7-1: Grand Junction Wind Rose



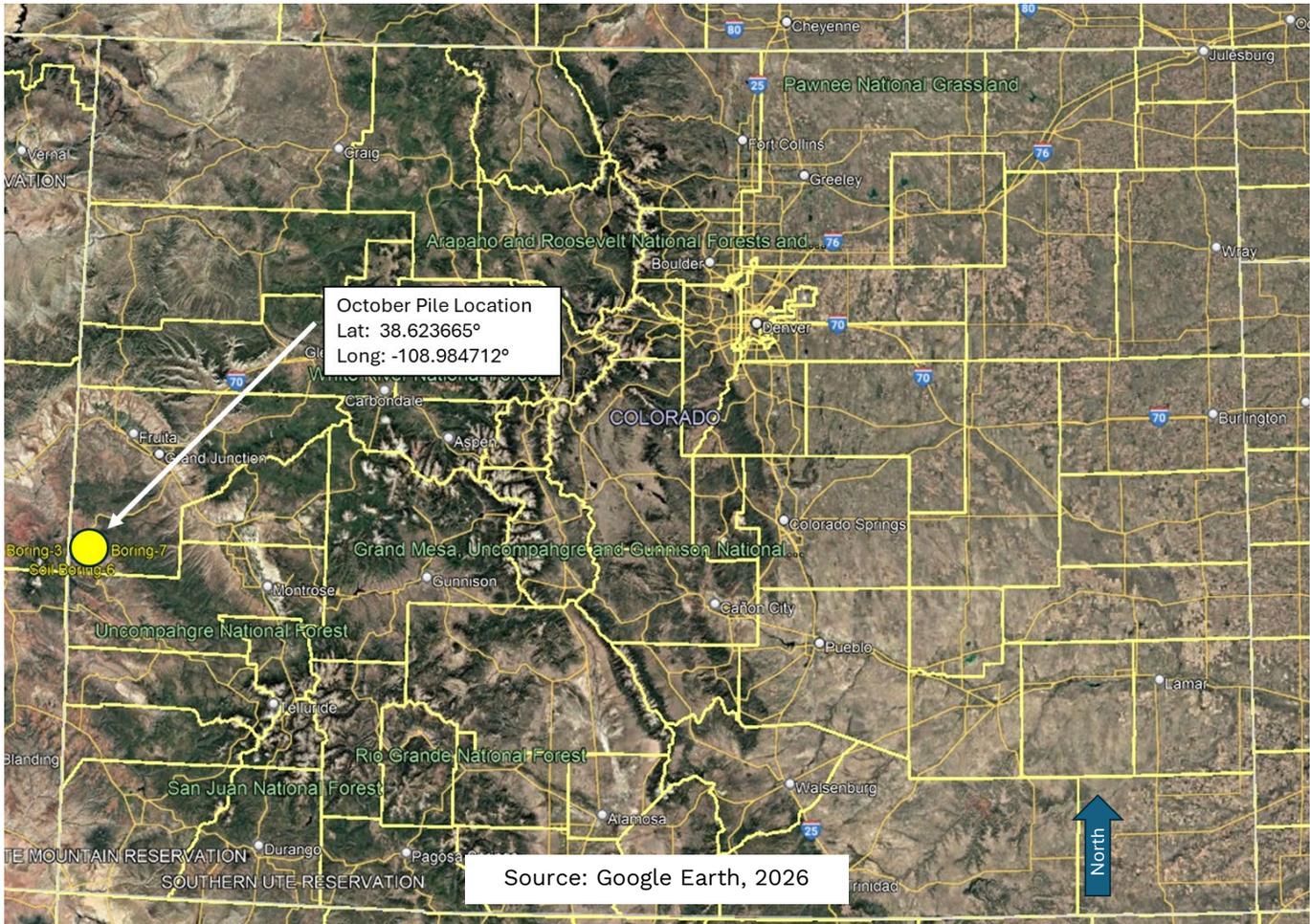
Source: mesonet.agron.iastate.edu/sites/windrose.phtml?station=GJT&network=CO_ASOS

DISA has not identified any sensitive receptors at the site.

7.4 A.1-4 OVERVIEW MAP

Figure 7-2 is the requested overview map.

Figure 7-2: Overview Map



7.5 A.1-5 SITE ACREAGE:

Total project disturbance is 1.92 acres. The uranium mine waste pile is approximately 0.35 acres.

7.6 A.1-6 SCALED TOPOGRAPHIC MAP

See Figures 3-2 and 3-3.

7.7 A.1-7 AERIAL PHOTOGRAPHY

See Figure 3-3.

7.8 A.1-8 GROUND PHOTOGRAPHS



7.9 A.1-9 LAND USE MAP

Sections 2.1.5 and 2.1.6 discuss land use. Current BLM land use shows that the area around the October Pile is designated for mineral leases and grazing. Private land owned approximately 1 mile to the south shows a future land use of R/A35 which is 35+ acre development.

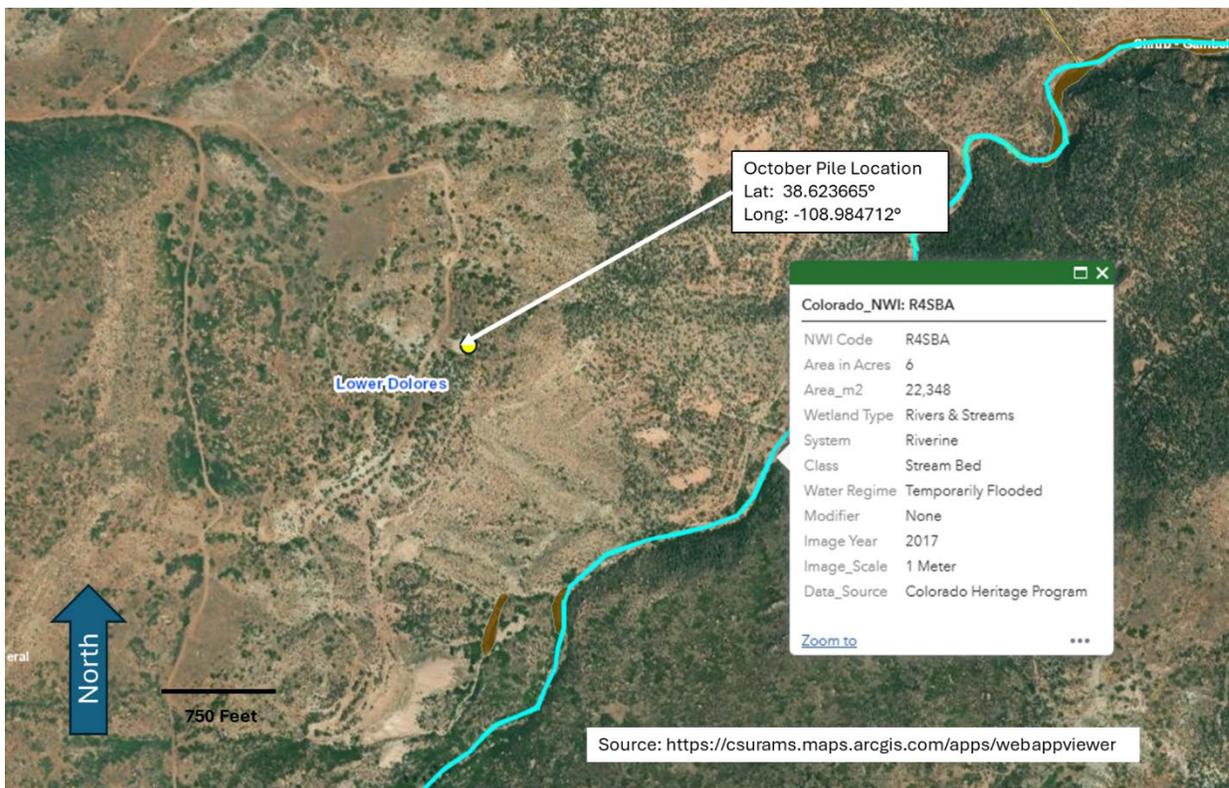
7.10 A.1-10 ZONING

Section 2.1.5 discusses zoning.

7.11 A.1-11 WETLANDS

No wetlands occur on or near the October Pile. Figure 7-3 shows wetlands information from the USFWS National Wetlands Inventory (NWI) program and external partners, including Colorado Natural Heritage Program (CNHP). The nearest feature is an ephemeral tributary to the Dolores River located 1,500 feet to the southeast. As shown in Figure 7-3, it is only temporarily flooded.

Figure 7-3: Wetland Map



7.12 A.1-12 WATER TABLE AND SOILS

Soils information is presented in Section 2.1.3. Water table information is not available, and no appreciable water table is expected to exist at this site. Furthermore, DISA at most will excavate to a maximum of 1 foot into soil. Therefore, no impacts to any potential water table are expected.

7.13 A.1-13 ROAD IMPROVEMENTS

Road improvements are discussed in Section 1.4.

7.14 A.1-14 WATER INTAKE WELLS/WITHDRAWALS

Nearest water wells are located in Gateway, Colorado, which is approximately 3.7 miles north of the October Pile. Table 7-1 contains the active commercial well permits that are closest to the site. DISA will not install any water wells for this project.

Table 7-1: List of Wells

Permit Number	Contact Name	County	Latitude	Longitude	Aquifer(s)
18526-F	Pace, Richard D	MESA	38.680177	-108.979153	all unnamed aquifers
175904	Clements, Michael	MESA	38.682016	-108.976197	all unnamed aquifers
235978	Johnson Donald Lee	MESA	38.683375	-108.970929	all unnamed aquifers
59765-F	Hendricks, John	MESA	38.676427	-108.976313	all unnamed aquifers
60321-F	Hendricks, John	MESA	38.680171	-108.972165	all unnamed aquifers
67849-F	Hendricks, John	MESA	38.680307	-108.98271	all unnamed aquifers
77177-F	Colorado Sky Properties LLC	MESA	38.682139	-108.972561	all unnamed aquifers
77333-F	Wayside, Chapel	MESA	38.684889	-108.969301	all unnamed aquifers
235978--A	Stephen, Jeremy R.	MESA	38.683375	-108.970929	all unnamed aquifers
82882-F	Massey, Andrew T.	MESA	38.685516	-108.967818	all unnamed aquifers
231728-	Colorado Dept Of Transportation	MESA	38.682313	-108.975409	all unnamed aquifers
57997-F	Hendricks John/John Bratton	MESA	38.690941	-108.982817	all unnamed aquifers
60311-F	Hendricks, John	MESA	38.678135	-108.973512	all unnamed aquifers
60296-F	Hendricks, John	MESA	38.679398	-108.982717	all unnamed aquifers

Source: dwr.state.co.us/Tools/WellPermits

DISA is in discussions with multiple well owners to contract for treatment water. DISA will provide the precise source of water prior to mobilizing the crusher to the site.

A search of the Colorado Department of Water Resources (DWR) database (2025) two permitted wells and two springs within a two-mile radius of the October Pile. Well 24933-F (October Mine Well) is located in the NW¼, NW¼, Section 9, T50N, R19W approximately ¾ mile southwest of the October Pile. The well completed to a depth of

400 feet. Well 50938-H (NW¼, SE¼, Section 10, T50N, R19W) is located approximately 1.3 miles southeast of the October Pile. The well was drilled to a depth of 280 feet and no water was encountered. The springs within two miles of the October Pile are the Pepper Spring and the Cave Spring. The Pepper Spring is located approximately 0.8 mile west of the October Pile (SE¼, SW¼, Section 35, T50N, R19W). The water right for the Pepper Spring is for 0.002 cfs and the water is used for stock and wildlife. The Cave Spring is located approximately 1.8 miles to the northeast and downstream of the October Pile (NE¼, NW¼, Section 2, T50N, R19W). The spring is located approximately 0.3 miles south of Cave Canyon and 0.4 miles west of the Dolores River. The water right is for 0.0003 cfs, and the water is used for stock and wildlife.

SECTION 8.0 ENVIRONMENTAL REPORT APPENDIX A.2 (LC 19.5)

8.1 A.2-1 PERMITS AND APPROVALS

As previously stated, the October Pile is currently owned by AURA GRIT, which was purchased from Nuvemco, LLC. Due to the requirements of mining law, AURA GRIT must submit applications to amend the Colorado Division of Reclamation, Mining, and Safety (DRMS) mine permit (Permit No. M 2008-050) and modify the BLM POPs (No. CO-130-2008-060-EA) to gain approval to treat the October Pile. DISA will submit the POPs under separate cover to the NRC when it is submitted.

DISA notes that DRMS and BLM will be conducting environmental reviews, as appropriate for the actions, and will approving any final reclamation performed by DISA. Furthermore, DISA has submitted a bond for the current amount required by DRMS, which is discussed below.

DISA, through AURA GRIT, will need a special use permit from Mesa County, Colorado, for use of county roads for this project. DISA may also need to utilize the Colorado Department of Public Health and Environment General Discharge Permit

8.2 A.2-2 WATER SOURCES

1. Commercial well in Gateway, Andrew T. Massey, Permit: 82882-F
2. Gateway Canyon Resort – multiple wells
3. Larson Ranch – Dolores River Water

8.3 A.2-3 SOIL EXCAVATION

As previously stated, DISA expects to excavate a maximum of 1 foot below the pile. According to the Soil Survey of Mesa County Area, Colorado, soil units that occur at and in the vicinity of the October Pile are not known to have water tables that occur less than 6 feet deep (USDA, 1978). Note that the soil units are different than those that are presented on the GIS information found at <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>. The more recent soil units are described in Section 2.1.3.

8.4 A.2-4 AIR EMISSIONS

The October Pile fits into the Tier 1 category, and will emit approximately 20 percent of the Tier 1 emissions due to the small size of the October Pile and the use of a 10 tph unit instead of the assumed 50 tph unit. After a review of 40 CFR 1036, 1037, and 1039 it is clear that greenhouse gas emissions standards do not exist; however, they are to be reported under certain circumstances. DISA used EPA's Greenhouse Gas Calculator to estimate the GHG emissions from this project.

(<https://www.epa.gov/climateleadership/simplified-ghg-emissions-calculator>)

Based on truck and generator emissions the total greenhouse gas emissions will be 128 metric tons (141 US tons) based on the following assumptions.

1. Generator will use 200 gallons/day for 55 days. Total 11,000 gallons of diesel.
2. Trucks will drive 6,105 miles and use 1,000 gallons of diesel, and equipment will use 500 gallons of diesel.

SECTION 9.0 CHECKLIST (LC 19.5)

The following checklist addresses information required by LC 19 of License No. SUA-1605. This checklist was produced during the NRC staff's development of the document entitled, "Environmental Assessment for Proposed Issuance of Multi-Site License to DISA Technologies for Abandoned Uranium Mine Waste Remediation" (NRC, 2025).

Table 9-1: Environmental Assessment Checklist

Statement Number	Resource Areas Potentially Impacted	Applicability Statement	True Statement for Site? (Yes, Deviation, or No)
1	Land Use, Socioeconomics, Public and Occupational Health, Ecology	The site and adjacent (abutting) land is currently not used for any purpose other than agriculture, grazing, recreation, or forestry.	Yes
2	Land Use, Water Resources, Geology and Soils	For any area or element of the site (e.g., mineral rights, water rights, or easements) that is privately owned, use of HPSA has the approval of all affected property interest owners. Further, HPSA would not conflict with applicable land use planning at Federal, State, Tribal, or local level.	NA
3	Transportation, Socioeconomics, Visual, Noise	HPSA trucks and heavy equipment would not use neighborhood roads or roads in and around community features such as schools, parks, and commercial shopping areas.	Yes
4	Geology and Soils, Transportation, Land Use, Ecology	HPSA operation would only use existing site roads, with no new road construction required; trails, tracks, or paths created solely for use by hikers, off-road vehicles, or farm equipment are not considered existing roads.	Yes
5	Geology and Soils, Water Resources, Ecology, Historic and Cultural Resources	Ground-disturbing activities would be limited to graveling pre-existing roads, establishing fencing, and processing soils directly under the waste rock piles.	No. Grading is required for the Restricted Area, and we will be clearing an area for the crushed waste rock stockpile, which will be crushed prior to mobilizing the HPSA equipment. These impacts will be addressed by BLM through the Plan of

Statement Number	Resource Areas Potentially Impacted	Applicability Statement	True Statement for Site? (Yes, Deviation, or No)
			Operations and the Colorado DRMS through the mining permit.
6	Geology and Soils, Water Resources	Any ground disturbance to process native soils underneath the waste rock pile would not impact previously undisturbed bedrock.	Yes
7	Water Resources, Transportation, Geology and Soils, Ecology	Water used during HPSA system operation would be brought to the site by DISA and would not be taken from the local surface water or groundwater. Additionally, DISA would not dig any new water wells for monitoring or discharge.	Yes
8	Water Resources, Geology and Soils	The appropriate permits or licenses from the municipality or any other Federal, State, Tribal, or local authority would be obtained for the off- site source of water.	NA. DISA would not need any permits. The source of the water is a commercial water source in Gateway.
9	Water Resources	When required, a site-specific stormwater management plan, approved by applicable regulatory agencies, or a generic stormwater management plan approved by applicable regulatory agencies would be implemented. Best management practices would be used as needed in accordance with any stormwater management plan for each site.	NA. DISA will use best management practices to minimize the sediment that runs off the site. Project impacts are not sufficient to warrant a stormwater permit from the CDPHE because the new impacts are less than 1 acre. Of the 1.92 acres of disturbance, 0.78 are existing disturbance from the mine road and those impacts are not onsite. Furthermore, the truck turnaround is primarily disturbed and is and off the

Statement Number	Resource Areas Potentially Impacted	Applicability Statement	True Statement for Site? (Yes, Deviation, or No)
			site. DISA estimates site disturbance to be 0.84 ac.
10	Water Resources, Geology and Soils, Public and Occupational Health	Process water would not be discharged at the site during operation. DISA might, at the cessation of operation, discharge up to twice the total system volume on the site, provided the water is demonstrated to meet any applicable Federal, State, and local regulations for disposal prior to discharge.	Yes
11	Water Resources, Geology and Soils, Ecology	The water discharged onto the site at the end of operations would be discharged to avoid or minimize erosion and protect surface soils and vegetation, and in accordance with applicable Federal, State, or Tribal requirements.	Yes
12	Water Resources, Ecology	DISA would obtain a National Pollutant Discharge Elimination System permit from the EPA or State, if required. Additionally, and if required, DISA would obtain Clean Water Act (CWA) Section 401 Water Quality Certification from the State certifying authority, a CWA Section 404 approval from USACE, and any needed State-issued permits for non-jurisdictional waters.	NA. No NPDES or state discharge permits are required because the disturbed area due to the remediation project is less than 1 acre at the October Pile site.
13	Water Resources, Geology and Soils	For any site where DISA treats native soils beneath the waste pile, DISA would not excavate down to the water table, resulting in the need to dewater, nor would DISA impact an aquifer's confining layer	Yes

Statement Number	Resource Areas Potentially Impacted	Applicability Statement	True Statement for Site? (Yes, Deviation, or No)
		such that a new pathway for water recharge of that aquifer is created.	
14	Water Resources, Geology and Soils, Public and Occupational Health	No coarse material would contain metal contaminants above the Resource Conservation and Recovery Act (RCRA) thresholds, or the coarse material is separated such that any material containing metal contaminants above the RCRA thresholds would not be disposed of onsite.	Yes
15	Ecology, Geology and Soils	Ground disturbance would avoid climax or old-growth vegetation or other vegetation typical of undisturbed natural lands in the surrounding landscape.	Yes
16	Ecology, Water Resources, Geology and Soils	Ground disturbance would not disturb any wetlands or perennial streams and no more than 300 feet of ephemeral or intermittent streams.	Yes
17	Ecology and Section 7 consultation	For sites with Federally listed threatened and endangered species or critical habitats in the action area, additional field surveys do not appear to be necessary based on DISA's informal consultations with the applicable Ecological Services Field Office of the FWS.	Cedar Creek Associates has completed a site-specific ecological review that is attached to this PMN. See Appendix C.
18	Air and Atmospheric, Public and Occupational Health	Emissions of criteria pollutants during construction, operation, and demobilization would not exceed <i>de minimis</i> levels established by the EPA under the General Conformity Rule	Yes

Statement Number	Resource Areas Potentially Impacted	Applicability Statement	True Statement for Site? (Yes, Deviation, or No)
		(Title 40 of the <i>Code of Federal Regulations</i> (40 CFR) part 93).	
19	Air and Atmospheric	Greenhouse gases emitted by equipment and vehicles during construction, operation, and demobilization would be less than the quantity of CO ₂ equivalents determined to be significant by the State or the EPA, whichever applies in the State of proposed HPSA operations.	Yes. See results of GHG calculations using EPA's calculator.
20	Noise	Noise levels from trucks and earthmoving equipment at the nearest sensitive receptor will be less than 50 dBA.	Yes. We are using generators that are designed for low noise output. DISA's noise measurements indicate that noise levels next to the generators are approximately 85 dB. Noise levels approximately 10 feet away are 70 dB. Therefore, DISA's operations will be protective of sensitive receptors.
21	Historic and Cultural	In accordance with the results of consultation under Section 106, DISA implements avoidance, minimization, and/or mitigation measures that are necessary to address potential effects on historic and cultural resources.	Yes. An amendment to the DRMS permit contains information on a historic resource located adjacent to the property. This resource will be appropriately protected. The DRMS permit amendment that contains information regarding this resource is being submitted under separate cover and a withholding request under 10 CFR 2.390. DISA has contracted with

Statement Number	Resource Areas Potentially Impacted	Applicability Statement	True Statement for Site? (Yes, Deviation, or No)
			an archaeologist to perform the necessary mitigation.
22	Socioeconomics	Clustered HPSA operations at two or more tier 5 sites could be accommodated by a nearby community (within a 1.5-hour drive) that can easily accommodate 30 or more employees for several years. Very small nearby communities would not experience noticeable negative socioeconomic impacts from HPSA operations.	NA. This is not a clustered operation, and the October Pile is not a Tier 5 site.
23	Socioeconomics	No local residents would be displaced by any HPSA operation.	Yes
24	Socioeconomics, Transportation	The increase in local traffic as a result of HPSA operations would not require changes to traffic patterns.	Yes. DISA is expecting 1 truck per day of fine concentrates to leave the site.
25	Public and Occupational Health	DISA would establish a restricted area around any operational machinery or radiological storage areas of at least 50 feet to prevent public access to the site and minimize dose to the public.	Yes
26	Public and Occupational Health	HPSA units are deployed to a site that fits the description provided in NUREG-1556, Volume 18, appendix I, table I-2 for occupancy factors of 1/20 or 1/40 (e.g., outdoor areas with seating, recreational areas, storage areas, or outdoor areas with only transient pedestrian or vehicular traffic).	Yes

Statement Number	Resource Areas Potentially Impacted	Applicability Statement	True Statement for Site? (Yes, Deviation, or No)
27	Waste Management, Public and Occupational Health	DISA would not generate greater-than-class-C LLRW during mobilization, operation, or demobilization at the site.	Yes
28	Waste Management, Transportation, Public and Occupational Health	The routine quantities of non-radioactive, non-hazardous and hazardous waste would be small and would not noticeably affect the capacities of receiving facilities. The fines concentrate would not be subject to RCRA hazardous waste regulations.	Yes
29	Waste Management, Transportation, Public and Occupational Health	DISA would not send coarse material to an LLRW facility.	Yes

APPENDIX A – RESRAD MODELING FILES

Recreational Baseline Scenario From HPSA License RAIs

	Parameter	Unit	Value	Source	
Soil Concentrations	U-238 Soil Concentration	pCi/g	5	Assumed	
	U-234 Soil Concentration	pCi/g	5	Assumed	
	Th-230 Soil Concentration	pCi/g	5	Assumed	
	Ra-226 Soil Concentration	pCi/g	5	Assumed	
Contaminated Zone	Area of contaminated zone	m ²	10,000	RESRAD Default, Maximum area	
	Thickness of contaminated zone	m	0.61	Assumed - 2 ft thickness	
	Length parallel to aquifer flow	m	100	RESRAD Default	
	Cover depth	m	0	Assumed - no cover	
	Density of contaminated zone	g/cm ³	1.5	RESRAD Default	
	Contaminated zone erosion rate	m/y	0.001	RESRAD Default	
	Contaminated zone total porosity	-	0.4	RESRAD Default	
Cover /Hydrology	Contaminated zone field capacity	-	0.2	RESRAD Default	
	Contaminated zone hydraulic conductivity	m/y	10	RESRAD Default	
	Contaminated zone b parameter	-	5.3	RESRAD Default	
	Evapotranspiration coefficient	-	0.5	RESRAD Default	
	Windspeed	m/s	2	RESRAD Default	
	Precipitation	m/y	1	RESRAD Default	
	Irrigation	m/y	0.2	RESRAD Default	
	Irrigation mode	-	Overhead	RESRAD Default	
	Runoff coefficient	m/y	0.2	RESRAD Default	
	Watershed area for nearby stream or bondy	m ²	1,000,000	RESRAD Default	
	Accuracy for water/soil computations	-	0.001	RESRAD Default	
	Saturated Zone	Density of saturated zone	g/cm ³	1.4312	NUREG-5512, Table 6.87 (DandD Value)
		Saturated Zone total porosity	-	0.4	RESRAD Default
Saturated Zone effective porosity		-	0.2	RESRAD Default	
Saturated zone field capacity		-	0.2	RESRAD Default	
Saturated zone hydraulic conductivity		m/y	100	RESRAD Default	
Saturated zone hydraulic gradient		-	0.02	RESRAD Default	
Saturated zone b parameter		-	5.3	RESRAD Default	
Thickness		m	4	RESRAD Default	
Unsaturated Zone	Density	g/cm ³	1.4312	NUREG-5512, Table 6.87 (DandD Value)	
	Total porosity	-	0.4	RESRAD Default	
	Effective porosity	-	0.2	RESRAD Default	
	Field capacity	-	0.2	RESRAD Default	
	Hydraulic conductivity	m/y	10	RESRAD Default	
	b Parameter	-	5.3	RESRAD Default	
Occupancy	Inhalation rate	m ³ /y	14,000	RESRAD Manual Table 2.3 "Recreational" Scenario	
	Mass loading for inhalation	g/m ³	0.001	10 times greater than RESRAD Default	
	Exposure duration	y	30	RESRAD Manual Table 2.3 "Recreational" Scenario	
	Indoor dust filtration factor	-	0.4	RESRAD Default	
	External gamma shielding factor	-	0.552	NUREG-5512, Table 6.87 (DandD Value)	
	Indoor time fraction	-	0	RESRAD Manual Table 2.3 "Recreational" Scenario	

Pathways
 External Gamma
 Inhalation
 Soil Ingestion

```

RESRAD-ONSITE, Version 7
Summary : RESRAD Default
File    : C:\RESRAD_FAMI

    Contaminated Zone I
    -----
    Area: 10000.00 m
    Thickness: 0.61 m
    Cover Depth: 0.00 m

    Total Mixtu
    -----
    t (years): 0.000E+00
    TDOSE(t): 2.021E+00
    M(t): 8.084E-02

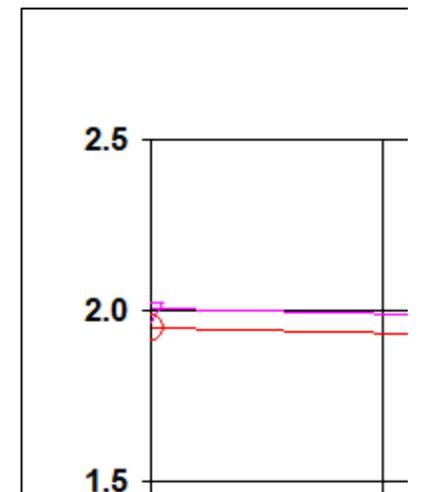
Maximum TDOSE(t): 2.021
    
```

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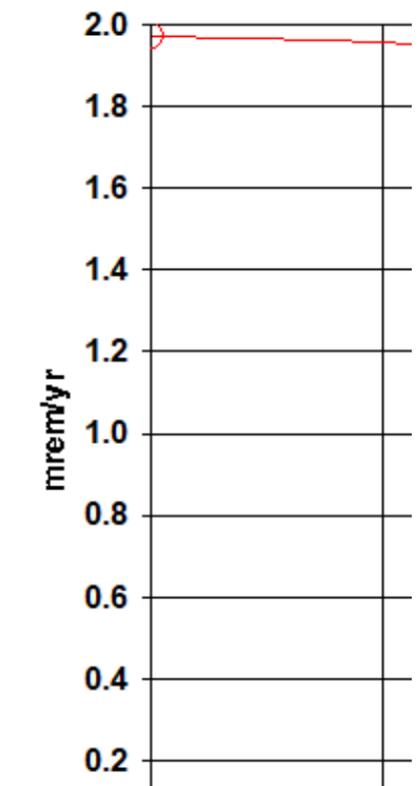
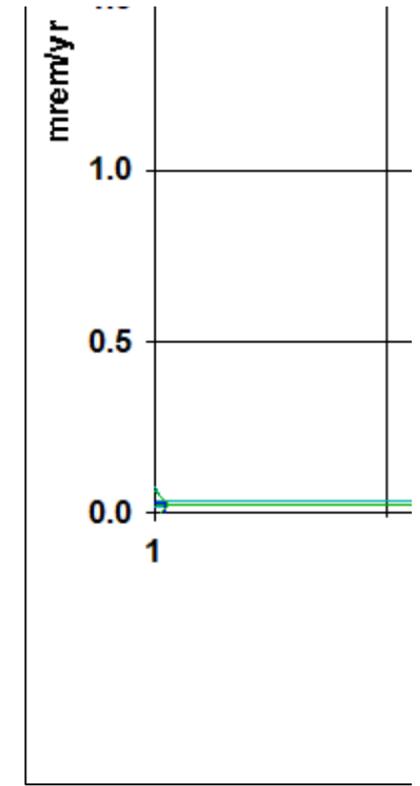
RESRAD-ONSITE, Version 7
Summary : RESRAD Default
File    : C:\RESRAD_FAMI

    1

    Ground
    -----
Radio-
Nuclide  mrem/yr  fract.
-----
Ra-226   1.955E+00  0.9673
Th-230   6.368E-04  0.0003
U-234    6.865E-05  0.0000
U-238    3.042E-02  0.0151
-----
Total    1.986E+00  0.9827
    
```



	Outdoor time fraction	-	0.04	Assumed - 2 weeks (14 days) per year onsite
	Fruit, vegetable, and grain consumption	kg/y	111.8	NUREG-5512, Table 6.87 (DandD Value)
	Leafy vegetable consumption	kg/y	21.4	NUREG-5512, Table 6.87 (DandD Value)
	Milk consumption	L/y	233	NUREG-5512, Table 6.87 (DandD Value)
	Meat and poultry consumption	kg/y	65.1	NUREG-5512, Table 6.87 (DandD Value)
Ingestion:Dietary	Soil ingestion	g/y	18.3	NUREG-5512, Table 6.87 (DandD Value) - 0.05 g/d
	Contaminated fraction - Livestock water	-	0	Assumed
	Contaminated fraction - Irrigation water	-	0	Assumed
	Contaminated fraction - Plant food	-	0	RESRAD Manual Table 2.3 "Recreational" Scenario
	Contaminated fraction - Meat	-	0	RESRAD Manual Table 2.3 "Recreational" Scenario
	Contaminated fraction - Milk	-	0	RESRAD Manual Table 2.3 "Recreational" Scenario
Ingestion:Non-dietary	Various - All assumed to be RESRAD Default values	-	-	RESRAD Default





External
Inhalation

Dimensions	Initial Soil Concentrations, pCi/g	
square meters	Ra-226	5.000E+00
meters	Th-230	5.000E+00
meters	U-234	5.000E+00
	U-238	5.000E+00

Total Dose TDOSE(t), mrem/yr
 Basic Radiation Dose Limit = 2.500E+01 mrem/yr
 Time Sum M(t) = Fraction of Basic Dose Limit Received at Time (t)

0	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
1	2.007E+00	1.978E+00	1.881E+00	1.624E+00	9.726E-01	2.882E-01	0.000E+00
2	8.027E-02	7.913E-02	7.522E-02	6.497E-02	3.890E-02	1.153E-02	0.000E+00

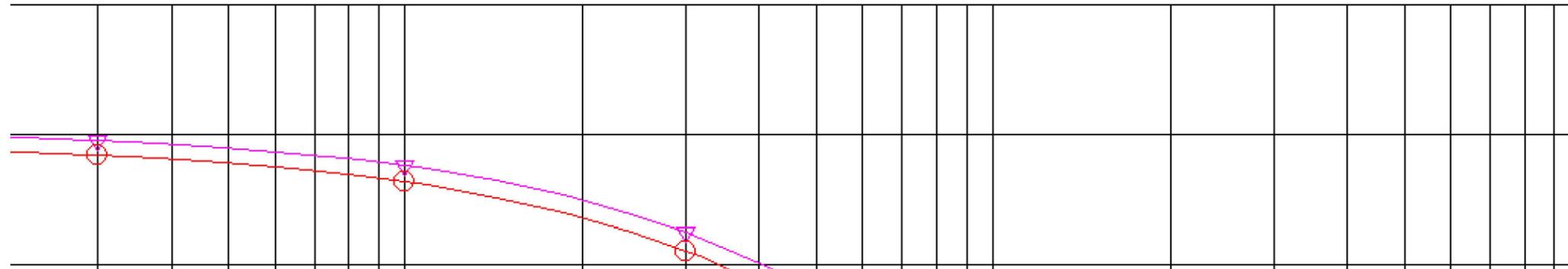
1E+00 mrem/yr at t = 0.000E+00 years

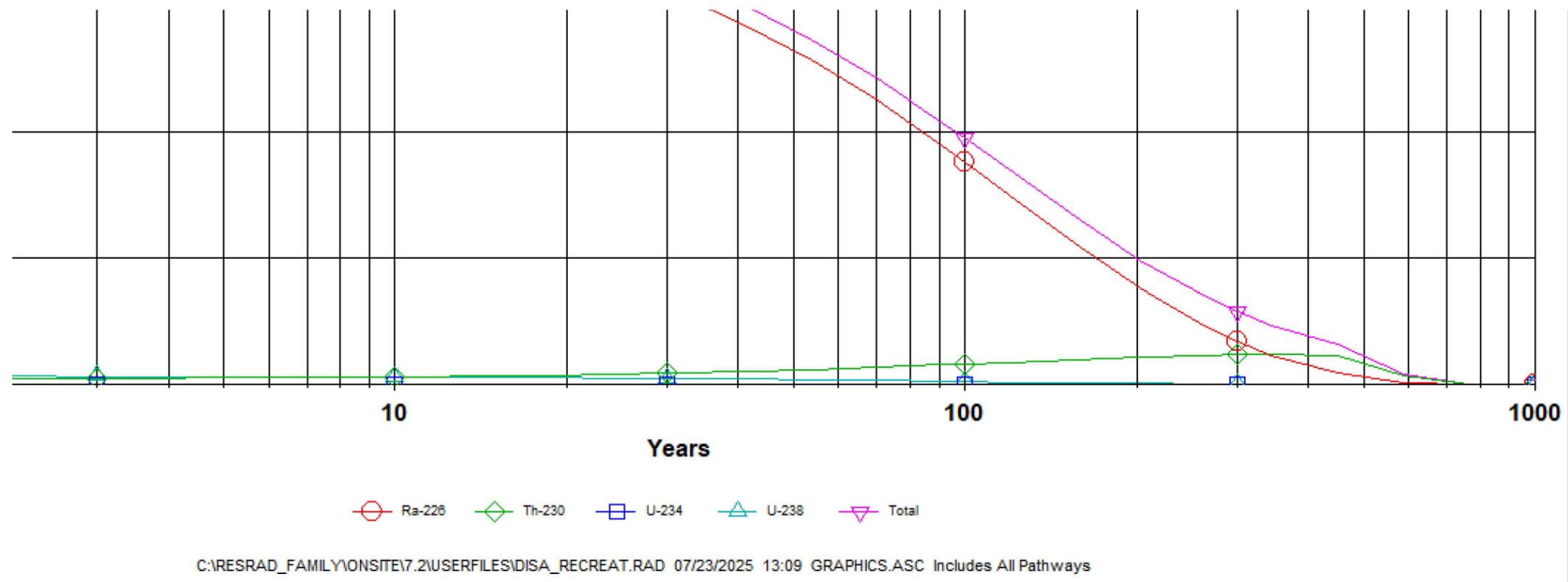
Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
 As mrem/yr and Fraction of Total Dose At t = 0.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

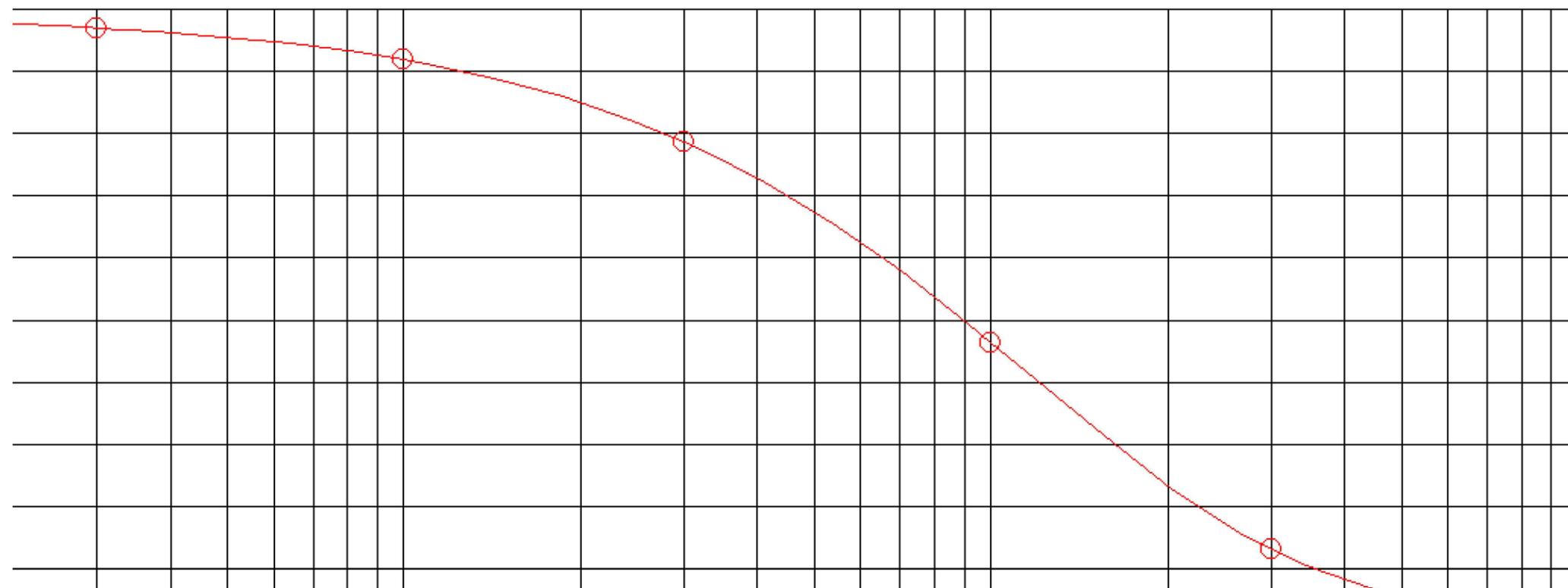
	Inhalation		Radon		Plant		Meat		Milk		Soil	
	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
3	1.834E-03	0.0009	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.691E-03	0.0033
3	1.824E-02	0.0090	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.428E-03	0.0017
0	1.762E-03	0.0009	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.825E-04	0.0004
1	1.516E-03	0.0007	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.688E-04	0.0004
=												
7	2.335E-02	0.0116	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.167E-02	0.0058

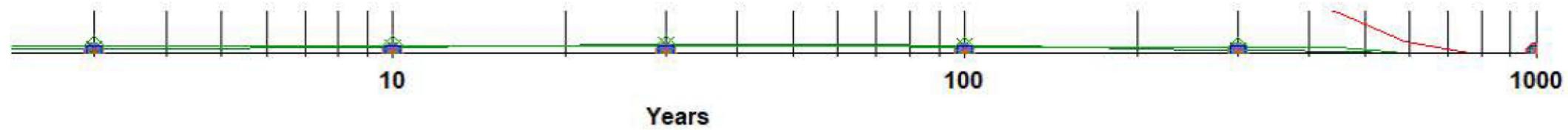
DOSE: All Nuclides Summed, All Pathways Summed





DOSE: All Nuclides Summed, Component Pathways





- | | | | | | |
|-----------------------------|----------------------------|------------------|---------------------------|---------------------------|--------------------------|
| □ Radon (Water Independent) | ▽ Meat (Water Independent) | ✕ Soil Ingest | ● Fish | ■ Plant (Water Dependent) | ▼ Milk (Water Dependent) |
| △ Plant (Water Independent) | ✱ Milk (Water Independent) | ⊕ Drinking Water | ◆ Radon (Water Dependent) | ▲ Meat (Water Dependent) | |

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October Pile Site Specific Model Results

Radionuclide	At Concentration, pCi/g	Equates to Dose, mrem/y	Year Max Dose Rate occurs, y
Ra-226	5	1.9	0
	64.7	25	
U-238	100	0.88	0
	2837	25	
Th-230	100	5.3	352
	475	25	

Conservative values between rancher and recreational scenario models used

- *Uses 2 ft thickness
- *Uses mass loading factor 0.001 (10x greater than default)
- *Uses outdoor occupancy recreational scenario as there is no expectation of rancher human receptor. Grazing, yes. Ranching, no.
- *No indoor occupancy considered (recreational has no indoor component)
- *Uses recreational breathing rate of 14,000 (Rancher is 11,400)
- *Uses recreational exposure duration of 30 years (Rancher is 25)
- *Includes Livestock water = 0.001 and Meat = 0.001 pathway fractions to account for consumption of grazing animals, fractions calculated from site area size relative to the grazing/pasture size.
- *Assumes the individual exposed is both a recreationalist AND a receptor consuming grazing animals.

```
RESRAD-ONSITE, Version 7.2      T½ Limit = 180 days      01/26/2026 09:14 Page 8
Summary : RESRAD Default Parameters Recreational Scenario RBD
File      : C:\USERS\BRYANERDMANN\ENVIRONMENTAL RESTORATION GROUP\PROJECT DATA - GENERAL\DISA\OCTOBER PILE\DISA_OCT_RBD_RA226.RAD

Contaminated Zone Dimensions          Initial Soil Concentrations, pCi/g
-----
Area: 3500.00 square meters           Ra-226 5.000E+00
Thickness: 0.61 meters
Cover Depth: 0.00 meters

Total Dose TDOSE(t), mrem/yr
Basic Radiation Dose Limit = 2.500E+01 mrem/yr
Total Mixture Sum M(t) = Fraction of Basic Dose Limit Received at Time (t)
-----
t (years): 0.000E+00 1.000E+00 3.000E+00 1.000E+01 3.000E+01 1.000E+02 3.000E+02 1.000E+03
TDOSE(t): 1.932E+00 1.918E+00 1.890E+00 1.793E+00 1.537E+00 8.736E-01 1.689E-01 1.139E-08
M(t): 7.727E-02 7.670E-02 7.558E-02 7.174E-02 6.149E-02 3.494E-02 6.757E-03 4.557E-10

Maximum TDOSE(t): 1.932E+00 mrem/yr at t = 0.000E+00 years
```

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RESRAD-ONSITE, Version 7.2      T½ Limit = 180 days      01/26/2026 09:15 Page 9
Summary : RESRAD Default Parameters Recreational Scenario RBD
File      : C:\USERS\BRYANERDMANN\ENVIRONMENTAL RESTORATION GROUP\PROJECT DATA - GENERAL\DISA\OCTOBER PILE\DISA_OCT_RBD_U238.RAD

Contaminated Zone Dimensions          Initial Soil Concentrations, pCi/g
-----
Area: 3500.00 square meters           U-238 1.000E+02
Thickness: 0.61 meters
Cover Depth: 0.00 meters

Total Dose TDOSE(t), mrem/yr
Basic Radiation Dose Limit = 2.500E+01 mrem/yr
Total Mixture Sum M(t) = Fraction of Basic Dose Limit Received at Time (t)
-----
t (years): 0.000E+00 1.000E+00 3.000E+00 1.000E+01 3.000E+01 1.000E+02 3.000E+02 1.000E+03
TDOSE(t): 8.813E-01 8.718E-01 8.530E-01 7.904E-01 6.358E-01 2.967E-01 3.393E-02 5.065E-09
M(t): 3.525E-02 3.487E-02 3.412E-02 3.162E-02 2.543E-02 1.187E-02 1.357E-03 2.026E-10

Maximum TDOSE(t): 8.813E-01 mrem/yr at t = 0.000E+00 years
```

Summary : RESRAD Default Parameters Recreational Scenario RBD

File : C:\USERS\BRYANERDMANN\ENVIRONMENTAL RESTORATION GROUP\PROJECT DATA - GENERAL\DISA\OCTOBER FILE\DISA_OCT_RBD_TH230.RAD

Contaminated Zone Dimensions		Initial Soil Concentrations, pCi/g	
Area:	3500.00 square meters	Th-230	1.000E+02
Thickness:	0.61 meters		
Cover Depth:	0.00 meters		

Total Dose TDOSE(t), mrem/yr
 Basic Radiation Dose Limit = 2.500E+01 mrem/yr
 Total Mixture Sum M(t) = Fraction of Basic Dose Limit Received at Time (t)

t (years):	0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
TDOSE(t):	3.356E+00	3.372E+00	3.405E+00	3.516E+00	3.803E+00	4.510E+00	5.232E+00	2.575E-08
M(t):	1.342E-01	1.349E-01	1.362E-01	1.406E-01	1.521E-01	1.804E-01	2.093E-01	1.030E-09

Maximum TDOSE(t): 5.259E+00 mrem/yr at t = 351.9 ± 0.7 years

October Pile Site Specific Parameter Values, highlighted fields indicate primary affected parameters for site-specific model

	Parameter	Unit	Value	Source	
Soil Concentrations	U-238 Soil Concentration	pCi/g	5	Assumed	
	U-234 Soil Concentration	pCi/g	5	Assumed	
	Th-230 Soil Concentration	pCi/g	5	Assumed	
	Ra-226 Soil Concentration	pCi/g	5	Assumed	
Contaminated Zone	Area of contaminated zone	m ²	3,500	Site specific, conservative approximation of affected area	
	Thickness of contaminated zone	m	0.61	Assumed - 2 ft thickness	
Cover /Hydrology	Length parallel to aquifer flow	m	100	RESRAD Default	
	Cover depth	m	0	Assumed - no cover	
	Density of contaminated zone	g/cm ³	1.5	RESRAD Default	
	Contaminated zone erosion rate	m/y	0.001	RESRAD Default	
	Contaminated zone total porosity	-	0.4	RESRAD Default	
	Contaminated zone field capacity	-	0.2	RESRAD Default	
	Contaminated zone hydraulic conductivity	m/y	10	RESRAD Default	
	Contaminated zone b parameter	-	5.3	RESRAD Default	
	Evapotranspiration coefficient	-	0.5	RESRAD Default	
	Windspeed	m/s	2	RESRAD Default	
	Precipitation	m/y	1	RESRAD Default	
	Irrigation	m/y	0.2	RESRAD Default	
	Irrigation mode	-	Overhead	RESRAD Default	
	Runoff coefficient	m/y	0.2	RESRAD Default	
	Watershed area for nearby stream or bondy	m ²	1,000,000	RESRAD Default	
	Accuracy for water/soil computations	-	0.001	RESRAD Default	
	Saturated Zone	Density of saturated zone	g/cm ³	1.4312	NUREG-5512, Table 6.87 (DandD Value)
		Saturated Zone total porosity	-	0.4	RESRAD Default
		Saturated Zone effective porosity	-	0.2	RESRAD Default
		Saturated zone field capacity	-	0.2	RESRAD Default
Saturated zone hydraulic conductivity		m/y	100	RESRAD Default	
Saturated zone hydraulic gradient		-	0.02	RESRAD Default	
Saturated zone b parameter		-	5.3	RESRAD Default	
Unsaturated Zone	Thickness	m	4	RESRAD Default	
	Density	g/cm ³	1.4312	NUREG-5512, Table 6.87 (DandD Value)	
	Total porosity	-	0.4	RESRAD Default	
	Effective porosity	-	0.2	RESRAD Default	
	Field capacity	-	0.2	RESRAD Default	
	Hydraulic conductivity	m/y	10	RESRAD Default	
	b Parameter	-	5.3	RESRAD Default	
Occupancy	Inhalation rate	m ³ /y	14,000	RESRAD Manual Table 2.3 "Recreational" Scenario (Rancher is 11,400)	
	Mass loading for inhalation	g/m ³	0.001	10 times greater than RESRAD Default (Rancher is 0.0001)	
	Exposure duration	y	30	RESRAD Manual Table 2.3 "Recreational" Scenario (Rancher is 25)	
	Indoor dust filtration factor	-	0.4	RESRAD Default	
	External gamma shielding factor	-	0.552	NUREG-5512, Table 6.87 (DandD Value)	

	Indoor time fraction	-	0	RESRAD Manual Table 2.3 "Recreational" Scenario, Rancher scenario (3 week max) captured in outdoor exposure time
	Outdoor time fraction	-	0.04	Assumed - 2 weeks (14 days) per year onsite (Recreational) - No significant human rancher exposure occupancy onsite. Grazing scenario
	Fruit, vegetable, and grain consumption	kg/y	111.8	NUREG-5512, Table 6.87 (DandD Value)
	Leafy vegetable consumption	kg/y	21.4	NUREG-5512, Table 6.87 (DandD Value)
	Milk consumption	L/y	233	NUREG-5512, Table 6.87 (DandD Value)
	Meat and poultry consumption	kg/y	65.1	NUREG-5512, Table 6.87 (DandD Value)
Ingestion:Dietary	Soil ingestion	g/y	18.3	NUREG-5512, Table 6.87 (DandD Value) - 0.05 g/d
	Contaminated fraction - Livestock water	-	0.0001	Conservative fraction - based on ratio of site area to grazing pasture area
	Contaminated fraction - Irrigation water	-	0	Assumed
	Contaminated fraction - Plant food	-	0	Assumed
	Contaminated fraction - Meat	-	0.0001	Conservative fraction - based on ratio of site area to grazing pasture area
	Contaminated fraction - Milk	-	0	Assumed
Ingestion:Non-dietary	Various - All assumed to be RESRAD Default values	-	-	RESRAD Default

Pathways Considered

External Gamma

Inhalation

Meat Ingestion

Soil Ingestion

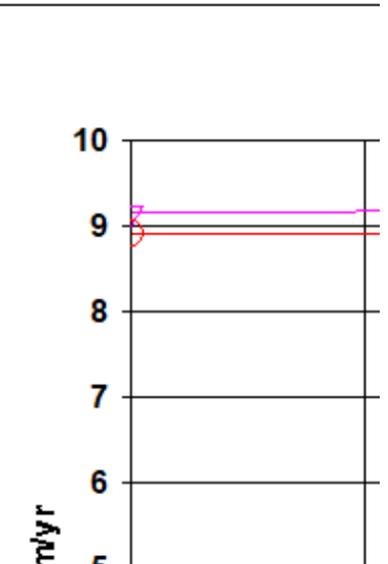
(meat/livestock water pathway).

Rancher Baseline Scenario From HPSA License RAIs

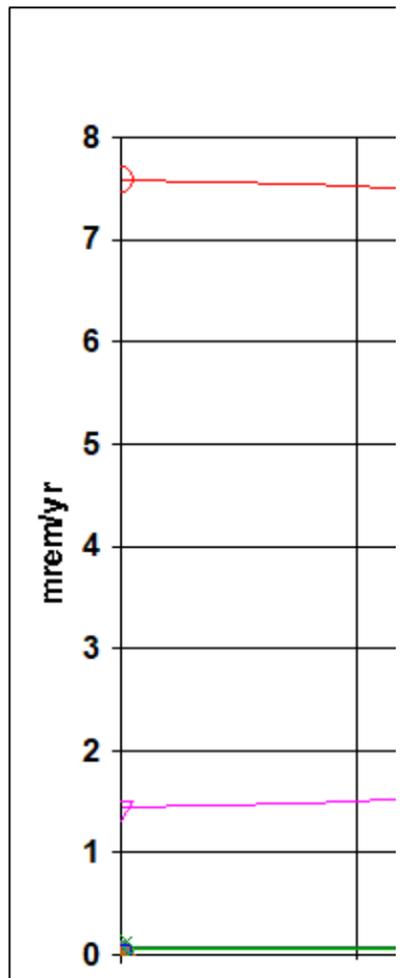
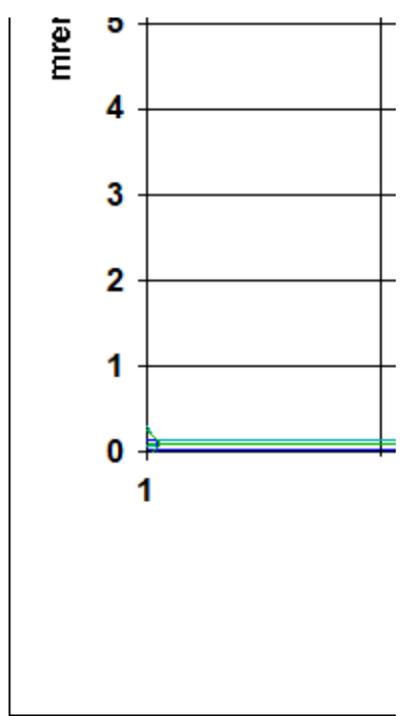
	Parameter	Unit	Value	Source
Soil Concentrations	U-238 Soil Concentration	pCi/g	5	Assumed
	U-234 Soil Concentration	pCi/g	5	Assumed
	Th-230 Soil Concentration	pCi/g	5	Assumed
	Ra-226 Soil Concentration	pCi/g	5	Assumed
Contaminated Zone	Area of contaminated zone	m ²	10,000	RESRAD Default, Maximum area
	Thickness of contaminated zone	m	0.61	Assumed - 2 ft thickness
	Length parallel to aquifer flow	m	100	RESRAD Default
	Cover depth	m	0	Assumed - no cover
Cover /Hydrology	Density of contaminated zone	g/cm ³	1.5	RESRAD Default
	Contaminated zone erosion rate	m/y	0.001	RESRAD Default
	Contaminated zone total porosity	-	0.4	RESRAD Default
	Contaminated zone field capacity	-	0.2	RESRAD Default
	Contaminated zone hydraulic conductivity	m/y	10	RESRAD Default
	Contaminated zone b parameter	-	5.3	RESRAD Default
	Evapotranspiration coefficient	-	0.5	RESRAD Default
	Windspeed	m/s	2	RESRAD Default
	Precipitation	m/y	1	RESRAD Default
	Irrigation	m/y	0.2	RESRAD Default
	Irrigation mode	-	Overhead	RESRAD Default
	Runoff coefficient	m/y	0.2	RESRAD Default
	Watershed area for nearby stream or bondy	m2	1,000,000	RESRAD Default
	Accuracy for water/soil computations	-	0.001	RESRAD Default
Saturated Zone	Density of saturated zone	g/cm ³	1.4312	NUREG-5512, Table 6.87 (DandD Value)
	Saturated Zone total porosity	-	0.4	RESRAD Default
	Saturated Zone effective porosity	-	0.2	RESRAD Default
	Saturated zone field capacity	-	0.2	RESRAD Default
	Saturated zone hydraulic conductivity	m/y	100	RESRAD Default
	Saturated zone hydraulic gradient	-	0.02	RESRAD Default
Unsaturated Zone	Saturated zone b parameter	-	5.3	RESRAD Default
	Thickness	m	4	RESRAD Default
	Density	g/cm ³	1.4312	NUREG-5512, Table 6.87 (DandD Value)
	Total porosity	-	0.4	RESRAD Default
	Effective porosity	-	0.2	RESRAD Default
	Field capacity	-	0.2	RESRAD Default
Occupancy	Hydraulic conductivity	m/y	10	RESRAD Default
	b Parameter	-	5.3	RESRAD Default
	Inhalation rate	m ³ /y	11,400	RESRAD Manual Table 2.3 "Industrial" Scenario
	Mass loading for inhalation	g/m ³	0.0001	RESRAD Default
	Exposure duration	y	25	RESRAD Manual Table 2.3 "Industrial" Scenario
	Indoor dust filtration factor	-	0.4	RESRAD Default
	External gamma shielding factor	-	0.552	NUREG-5512, Table 6.87 (DandD Value)
	Indoor time fraction	-	0.17	RESRAD Manual Table 2.3 "Industrial" Scenario

Pathways
 External Gamma
 Inhalation
 Meat Ingestion
 Soil Ingestion

RESRAD-ONSITE, Version 7		
Summary : RESRAD Default		
File : C:\RESRAD_FAMI		
Contaminated Zone D		
Area:	10000.00 s	
Thickness:	0.61 m	
Cover Depth:	0.00 m	
Total Mixtu		
t (years):	0.000E+00	
TD0SE(t):	9.147E+00	
M(t):	3.659E-01	
Maximum TD0SE(t): 9.176		
T		
Ground		
Radio-		
Nuclide	mrem/yr	fract.
Nuclide		
Ra-226	7.261E+00	0.7913
Th-230	1.603E-02	0.0017
U-234	2.525E-04	0.0000
U-238	1.117E-01	0.0122
Total	7.389E+00	0.8053



	Outdoor time fraction	-	0.06	RESRAD Manual Table 2.3 "Industrial" Scenario
	Fruit, vegetable, and grain consumption	kg/y	111.8	NUREG-5512, Table 6.87 (DandD Value)
	Leafy vegetable consumption	kg/y	21.4	NUREG-5512, Table 6.87 (DandD Value)
	Milk consumption	L/y	233	NUREG-5512, Table 6.87 (DandD Value)
	Meat and poultry consumption	kg/y	65.1	NUREG-5512, Table 6.87 (DandD Value)
Ingestion:Dietary	Soil ingestion	g/y	18.3	NUREG-5512, Table 6.87 (DandD Value) - 0.05 g/d
	Contaminated fraction - Livestock water	-	1	RESRAD Default
	Contaminated fraction - Irrigation water	-	0	Assumed
	Contaminated fraction - Plant food	-	0	Assumed
	Contaminated fraction - Meat	-	1	Assumed
	Contaminated fraction - Milk	-	0	Assumed
Ingestion:Non-dietary	Various - All assumed to be RESRAD Default values	-	-	RESRAD Default



1

- External
- Inhalation

Dimensions	Initial Soil Concentrations, pCi/g	
square meters	Ra-226	5.000E+00
square meters	Th-230	5.000E+00
square meters	U-234	5.000E+00
square meters	U-238	5.000E+00

Total Dose TDOSE(t), mrem/yr
 Basic Radiation Dose Limit = 2.500E+01 mrem/yr
 Time Sum M(t) = Fraction of Basic Dose Limit Received at Time (t)

1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
9.161E+00	9.174E+00	9.135E+00	8.552E+00	5.436E+00	1.486E+00	1.321E-01
3.665E-01	3.670E-01	3.654E-01	3.421E-01	2.174E-01	5.944E-02	5.284E-03

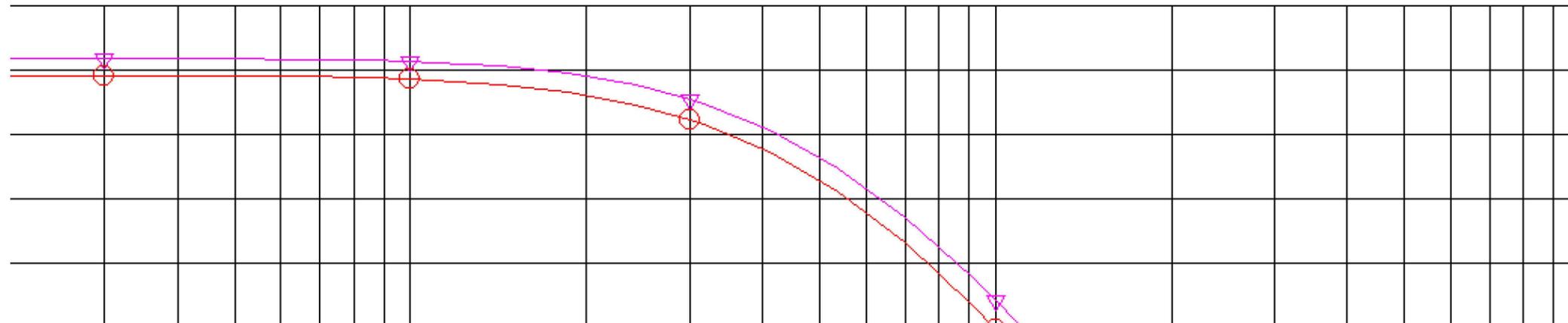
2.500E+00 mrem/yr at t = 4.242 ± 0.008 years

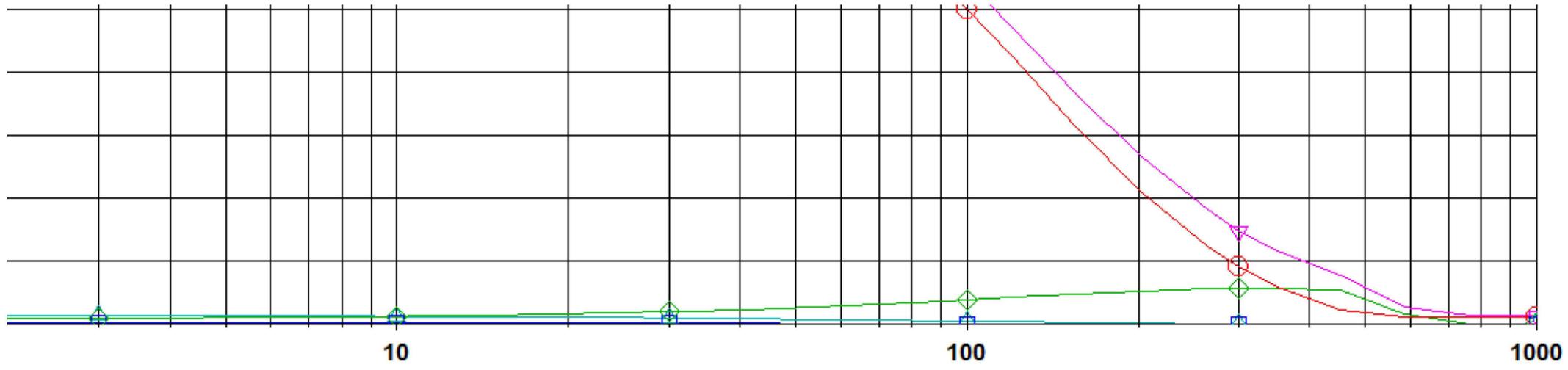
Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
 As mrem/yr and Fraction of Total Dose At t = 4.242E+00 years

Water Independent Pathways (Inhalation excludes radon)

Inhalation		Radon		Plant		Meat		Milk		Soil	
mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
5.203E-03	0.0006	0.000E+00	0.0000	0.000E+00	0.0000	1.588E+00	0.1730	0.000E+00	0.0000	6.269E-02	0.0068
4.754E-02	0.0052	0.000E+00	0.0000	0.000E+00	0.0000	1.953E-02	0.0021	0.000E+00	0.0000	1.980E-02	0.0022
4.386E-03	0.0005	0.000E+00	0.0000	0.000E+00	0.0000	1.390E-02	0.0015	0.000E+00	0.0000	4.297E-03	0.0005
3.771E-03	0.0004	0.000E+00	0.0000	0.000E+00	0.0000	1.366E-02	0.0015	0.000E+00	0.0000	4.221E-03	0.0005
6.090E-02	0.0066	0.000E+00	0.0000	0.000E+00	0.0000	1.635E+00	0.1782	0.000E+00	0.0000	9.101E-02	0.0099

DOSE: All Nuclides Summed, All Pathways Summed

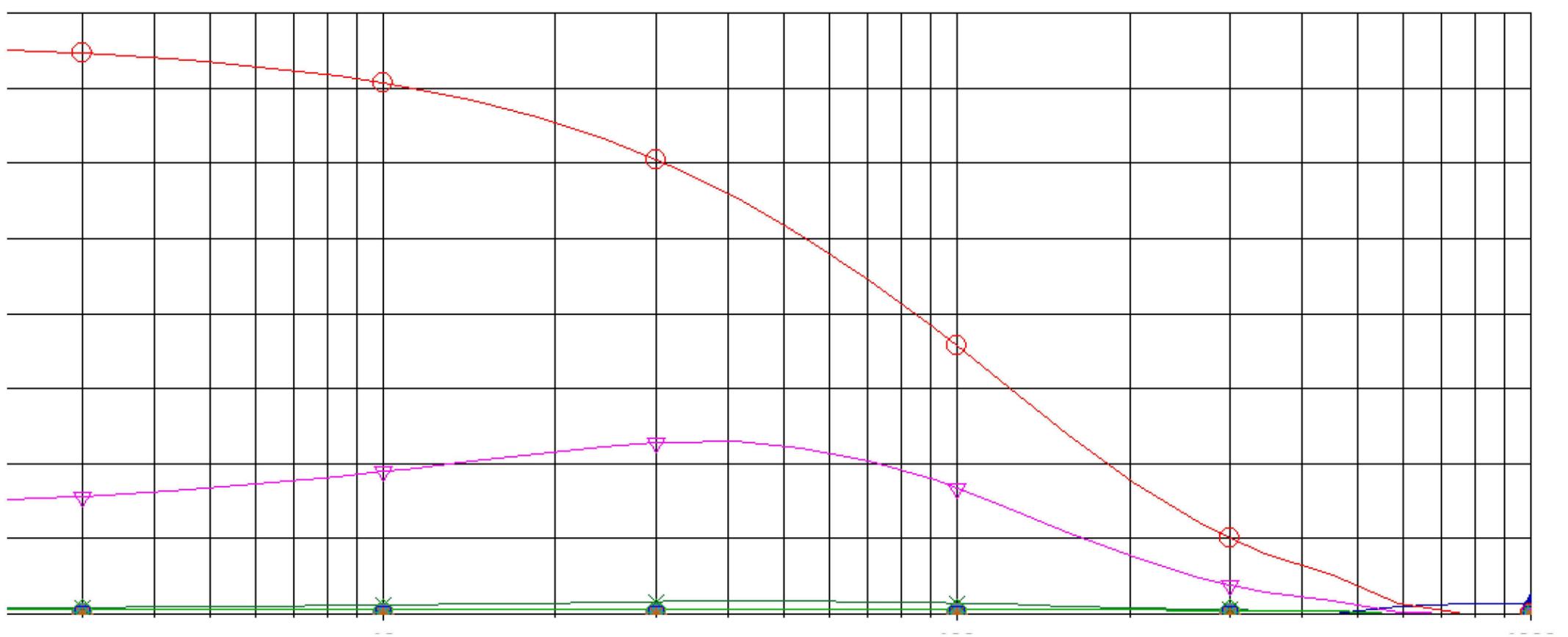




○ Ra-226
 ◇ Th-230
 □ U-234
 △ U-238
 ▽ Total

C:\RESRAD_FAMILY\ONSITE\7.2\USERFILES\DISA_RANCHER.RAD 07/23/2025 13:02 GRAPHICS.ASC Includes All Pathways

DOSE: All Nuclides Summed, Component Pathways



10

100

1000

Years

- Radon (Water Independent)
- Meat (Water Independent)
- Soil Ingest
- Fish
- Plant (Water Dependent)
- Milk (Water Dependent)
- Plant (Water Independent)
- Milk (Water Independent)
- Drinking Water
- Radon (Water Dependent)
- Meat (Water Dependent)

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APPENDIX B – OCTOBER CLAIM INFORMATION

Mining Claim Right of Entry License

Effective Date: 31 October 2025

Parties:

Licensor: Ventura Uranium, LLC doing business as NUVEMCO, LLC, a Colorado limited liability company whose address is c/o Paul Szilagyi, 650 Linden Ave. Boulder, CO 80304-1011 ("Seller"); and

Licensee: AURA GRIT, LLC whose address is 6571 E 2nd St. Suite 2, Casper, WY 82609 ("Buyer")

Mining Claim: Mesa County, Colorado, known as the October No. 55, assigned BLM Serial No. CO102523513 (Legacy Serial No. CMC274786), the Certificate of Location Lode Claim is recorded in the Mesa County Clerk and Records office at Reception #2436400, Book 4652 Page 279 (the "Claim").

Recitals

Seller holds the Claim and intends to sell it to Buyer under a separate Purchase Agreement. Buyer requires access to the Claim in coordination with those activities related to permit transfer and application for amendment to the Permits. Seller grants this License for entry, entered into pursuant to, and hereby made subject to, that Purchase Agreement for the October No. 55 Claim, effective 31 Oct 2025 by and between the Buyer and Seller.

1. Grant of License

Seller grants Buyer a non-exclusive, license and legal right of entry to the Claim. This creates an immediate, enforceable right of access under applicable law. No ownership, mining rights, or other interests are transferred. Buyer may not extract minerals or conduct commercial operations without Seller's written consent and full compliance with laws.

2. Permit Transfer Activities

Buyer is authorized to conduct only the following activities on the Claim ("Due Diligence Activities"): (a) Physical inspections and land surveys; (b) Minimally invasive geological sampling and testing; (c) Environmental, hydrological, and geotechnical assessments; and (d) Preparation and coordination of applications for transfer of any permits, plans of operations, or regulatory approvals associated with the Claim. All Due Diligence Activities shall be conducted in compliance with the applicable regulations of the Bureau of Land Management (BLM) and all federal, state, and local laws.

3. Term

This License starts on the Effective Date and ends on the earliest of: (a) Sale closing; or ((b) Termination under Section 7.

IN WITNESS WHEREOF, parties execute this License.

Grantor:
NUVEMCO, LLC

By: 
Paul Szilagyi, Its Manager

Grantee:
AURA GRIT LLC

By: 
Greyson Buckingham, Managing Member

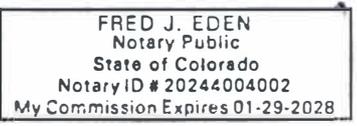
STATE OF COLORADO)
) ss.
COUNTY OF MESA)

The foregoing instrument was acknowledged before me this 5th day of November 2025, by Paul Szilagyi as Manger of Ventura Uranium, LLC doing business as NUVEMCO, LLC, a Colorado Limited liability Company.

Witness my hand and official seal.

My commission expires: 29 January 2028

{SEAL}




Notary Public

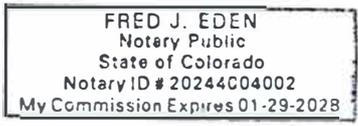
STATE OF COLORADO)
) ss.
COUNTY OF MESA)

The foregoing instrument was acknowledged before me this 5th day of November 2025, by Greyson Buckingham as Managing Member of AURA GRIT LLC a Wyoming limited liability company.

Witness my hand and official seal.

My commission expires: 29 January 2028

{SEAL}




Notary Public

2 PAGE DOCUMENT

**RECORDING REQUESTED BY
AND RETURN TO:
Nuvemco, LLC
650 Linden Avenue
Boulder, Colorado 80304**

**CERTIFICATE OF LOCATION
LODE CLAIM**

KNOW ALL MEN BY THESE PRESENTS, NUVEMCO, LLC, a Colorado Corporation, whose current mailing address is 650 Linden Avenue, Boulder, Colorado 80304, by its Agent, the undersigned, hereby locates the Oct 55 Lode Mining Claim on the 24th day of April, 2008, situated in the Unknown Mining District, Mesa County, State of Colorado, and by this Certificate, and by right of discovery and location, claim 1500.00 feet, linear and horizontal measurement, along the vein thereof, said vein running 25.00 feet in a N 0°30' W direction from the point of discovery and 1475.00 feet in a S 0°30' E direction from the point discovery, together with 300 feet on either side of the middle of said vein at the surface. The discovery monument on which the Notice of Location is posted is located at said point of discovery.

The general course of the lode or vein is N 0°30' W and S 0°30' E.

The Claim is located in the SE¼ of Section 4 Township 50 North, Range 19 West, New Mexico Principal Meridian, Mesa County, State of Colorado, and is more particularly described by metes and bounds as follows:

Beginning at Corner No. 1, which is the Northeast corner of this mining claim, thence S0°30'E a distance of 750.00 to the East side center, thence S0°30'E a distance of 750.00 feet to Corner No. 2, which is the Southeast corner of this mining claim; thence S89°30'W a distance of 600.00 feet to Corner No. 3, which is the Southwest corner of this mining claim; thence N0°30'W a distance of 750.00 feet to the West side center; thence N0°30'W a distance of 750.00 feet to Corner No. 4, which is the Northwest corner of this mining claim; thence N89°30'E a distance of 600.00 feet Corner No. 1, the point of beginning.

Claim boundaries are monumented by steel posts of requisite size set one foot in the ground at each corner of the claim. Each corner contains markings sufficient to appropriately designate it as a corner of said claim.

Beginning at Corner No. 1, which is the Northeast Corner of this claim, thence a distance of 1912.76 feet in a South direction and 3766.34 feet in a West direction to the following natural object or permanent monument, to wit: the Northeast Corner of Section 8, Township 50 North, Range 19 West, New Mexico Principal Meridian, Mesa County, State of Colorado.

A map depicting the claim as provided in Article 34-43-106, as revised through 1995 Session Laws, is attached to this Certificate as Exhibit "A".

Located by:

**Nuvemco, LLC
650 Linden Avenue
Boulder, Colorado 80304**



It's Agent

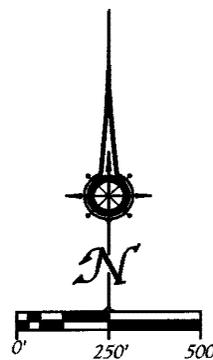
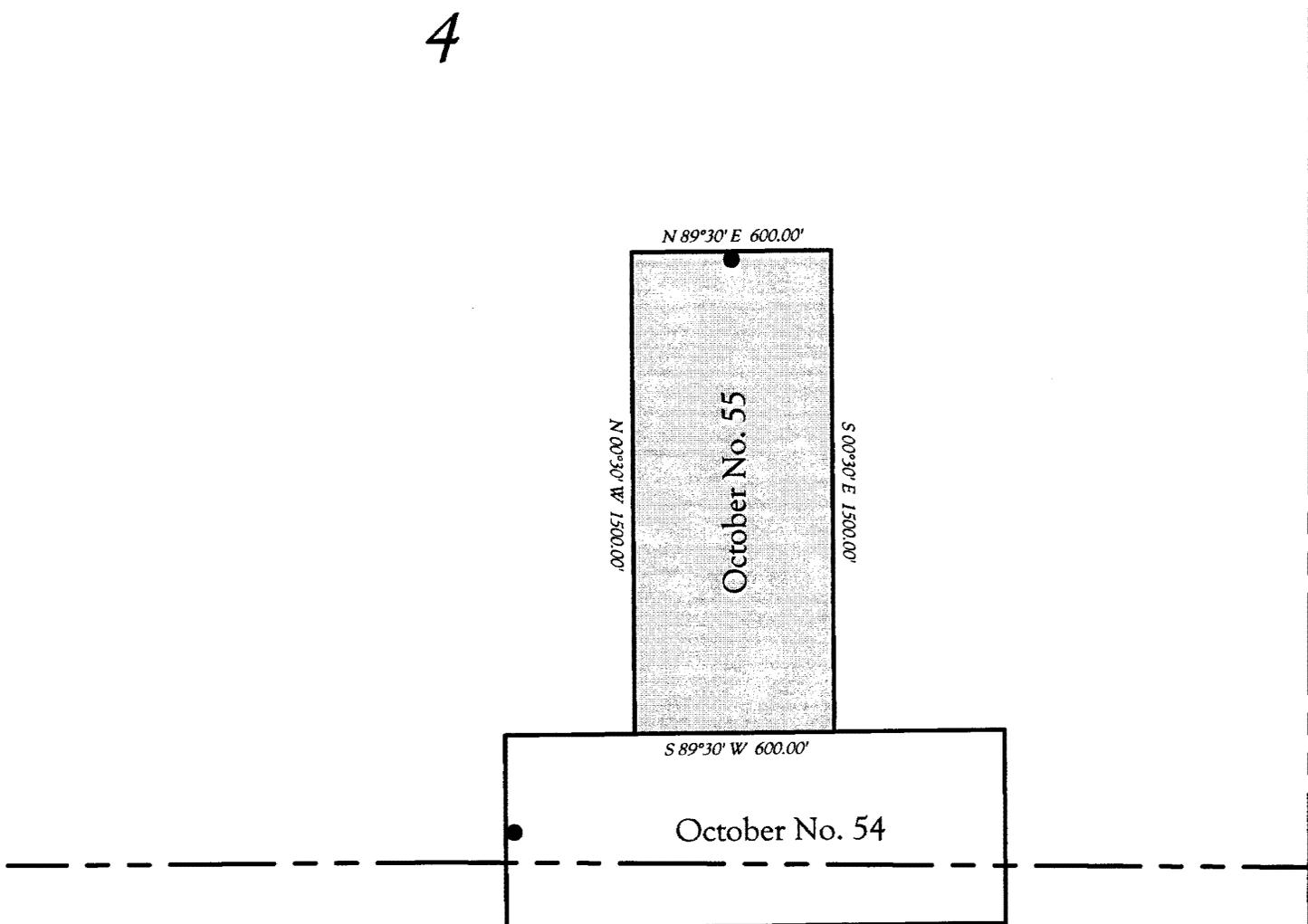
EXHIBIT "A"
A MAP OF THE October 55 LODE CLAIM

Located in the SE $\frac{1}{4}$ of Section 4,
T. 50 N., R. 19 W., New Mexico Principal Meridian.

The general course of the lode or vein is N. 0°30' W. and S. 0°30' E.

TIE: Beginning at Corner No. 1, the Northeast corner of this claim, thence a distance of 1,912.76 feet South and 3,766.34 feet West to the Northeast corner of Section 8, T. 50 N., R. 19 W., New Mexico Principal Meridian

4



Locator:
Nuvenco, LLC
650 Linden Avenue
Boulder, Colorado 80304

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APPENDIX C – ECOLOGICAL REPORT



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

To: Stephen Cohen, DISA Technologies Inc.

From: Hunter Koperweis, Cedar Creek Associates Inc.

Date: November 25, 2025

Subject: **October Pile Survey**

Introduction

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

Desktop Information

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

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

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

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

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

Site Visit

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

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

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

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

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

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

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

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

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

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

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

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

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

Project Site Photos



This photo shows the October Pile.



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



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



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



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



This photo shows an overview of the Project Site.



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



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

**CONTENTS REMOVED DUE TO SENSITIVE
INFORMATION**



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

Report Attachments

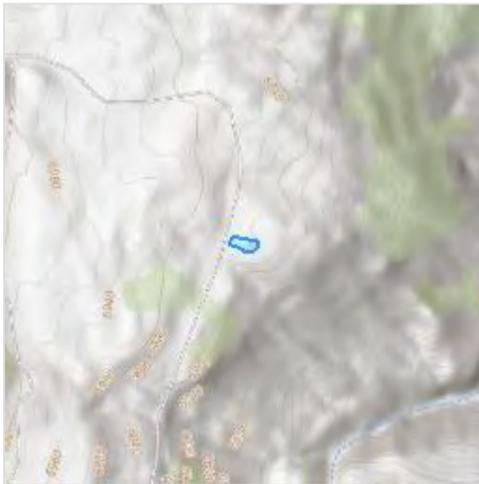
IPaC resource list

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

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

Location

Mesa County, Colorado



Local office

Western Colorado Ecological Services Field Office

☎ (970) 628-7180

📠 (970) 245-6933

445 West Gunnison Avenue, Suite 240

Grand Junction, CO 81501-5711

Endangered species

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

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

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

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

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

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

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

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

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

Mammals

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

Birds

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

Fishes

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

Colorado Pikeminnow *Ptychocheilus lucius* Endangered

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

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

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

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

Humpback Chub *Gila cypha* Threatened

Wherever found

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

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

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

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

Razorback Sucker *Xyrauchen texanus* Endangered

Wherever found

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

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

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

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

Insects

NAME

STATUS

Monarch Butterfly *Danaus plexippus*

Proposed Threatened

Wherever found

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

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

Silverspot *Speyeria nokomis nokomis*

Threatened

Wherever found

No critical habitat has been designated for this species.

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

Suckley's Cuckoo Bumble Bee *Bombus suckleyi*

Proposed Endangered

No critical habitat has been designated for this species.

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

Critical habitats

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

There are no critical habitats at this location.

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

Bald & Golden Eagles

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

Additional information can be found using the following links:

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

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

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

Measures for Proactively Minimizing Eagle Impacts

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

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

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

Ensure Your Eagle List is Accurate and Complete

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

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

Review the FAQs

The FAQs below provide important additional information and resources.

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

Probability of Presence Summary

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

Probability of Presence (■)

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

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

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

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

Breeding Season (■)

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

Survey Effort (|)

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

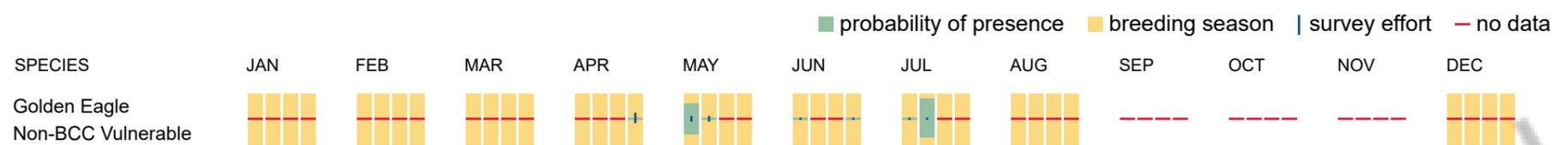
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

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

Survey Timeframe

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



Bald & Golden Eagles FAQs

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

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

Proper interpretation and use of your eagle report

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

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

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

Interpreting the Probability of Presence Graphs

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

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

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

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

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

Breeding Season (■)

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

Survey Effort (|)

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

No Data (—)

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

Survey Timeframe

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

Migratory birds

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

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

Additional information can be found using the following links:

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

Measures for Proactively Minimizing Migratory Bird Impacts

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

Ensure Your Migratory Bird List is Accurate and Complete

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

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

Review the FAQs

The FAQs below provide important additional information and resources.

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

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

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

Probability of Presence Summary

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

Probability of Presence (■)

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

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

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

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

Breeding Season (■)

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

Survey Effort (|)

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

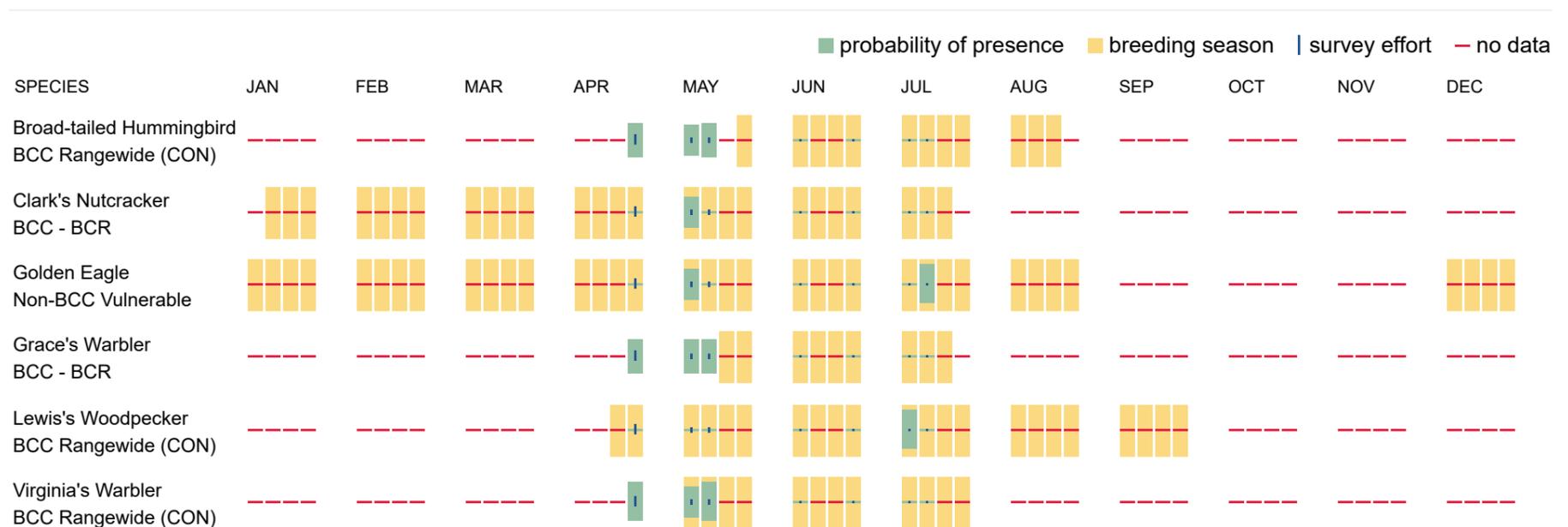
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

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

Survey Timeframe

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



Migratory Bird FAQs

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

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

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

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

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

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

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

Why are subspecies showing up on my list?

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

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

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

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

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

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

What are the levels of concern for migratory birds?

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

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

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

Details about birds that are potentially affected by offshore projects

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

Proper interpretation and use of your migratory bird report

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

Interpreting the Probability of Presence Graphs

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

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

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

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

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

Breeding Season ()

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

Survey Effort ()

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

No Data ()

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

Survey Timeframe

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

Facilities

National Wildlife Refuge lands

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

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

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

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

This location did not intersect any wetlands mapped by NWI.

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

Data limitations

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

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

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

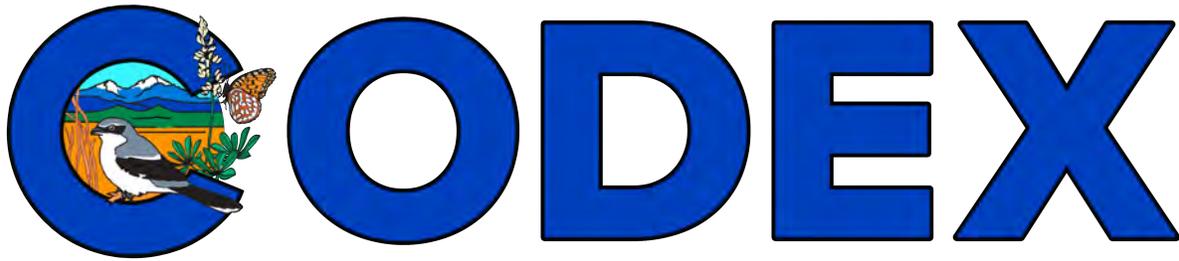
Data exclusions

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

Data precautions

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

NOT FOR CONSULTATION



Colorado's Conservation Data Explorer

Project Review Report

Project Description

Understanding Species existence

Project Information

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

Project Title: October Pile

User Project Number(s):

System Generated ID: CODEX-6740

Project Type: Mining

Project Size: 0.23 (acres)

Latitude/Longitude: 38.623623 / -108.984646

County(s): MESA

Watershed(s) HUC 8: Lower Dolores

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

Contact Information

Organization: Cedar Creek Associates

Contact Name: Huter Koperweis

Contact Phone: 7326688902

Contact Email: hkoperweis@cedarcreek.app

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

Submitted On Behalf Of:

Prepared By:

Project Report:

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

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

Disclaimer:

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

Location Accuracy Disclaimer:

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

Contact for CODEX Support:

Colorado Natural Heritage Program (CNHP)

CNHP

Colorado State University

1475 Campus Delivery

Fort Collins, CO 80523-1475

Tel: (970) 491-7331

Email: CNHP_codex_support@mail.colostate.edu

CNHP Website: cnhp.colostate.edu

Colorado Parks and Wildlife

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

CPW Website : cpw.state.co.us

Northeast Region

Denver Office

6060 Broadway

Denver, CO 80216

Tel: (303) 291-7227

Northwest Region

Grand Junction Office

711 Independent Avenue

Grand Junction, CO 81505

Tel: (970) 255-6100

Southeast Region

Colorado Springs Office

4255 Sinton Road

Colorado Springs, CO 80907

Tel: (719) 227-5200

Southwest Region

Durango Office

151 East 16th Street

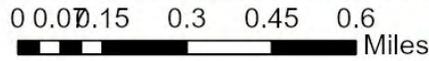
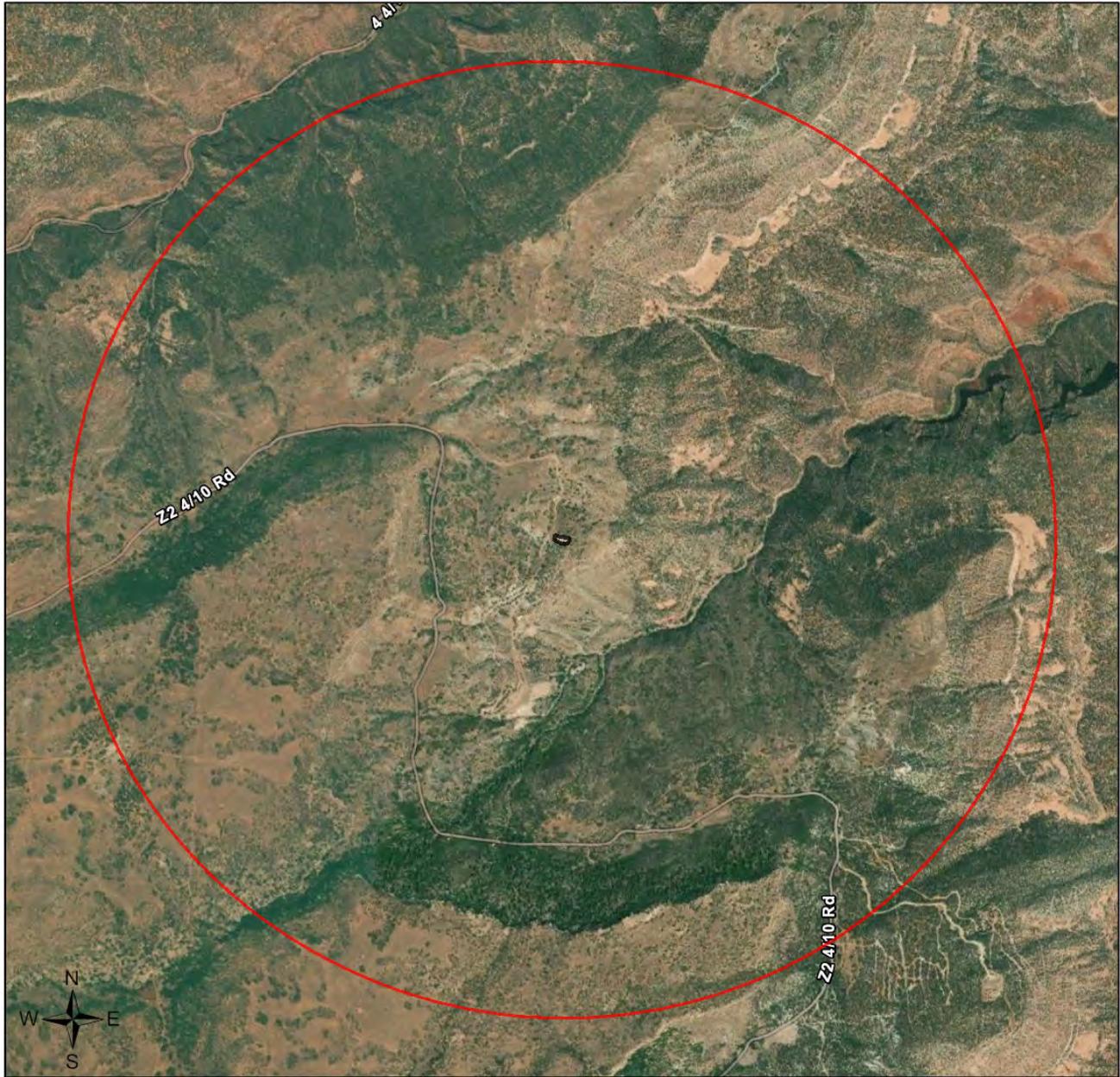
Durango, CO 81301

Tel: (970) 247-0855

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

October Pile

Aerial Image with Locator Map



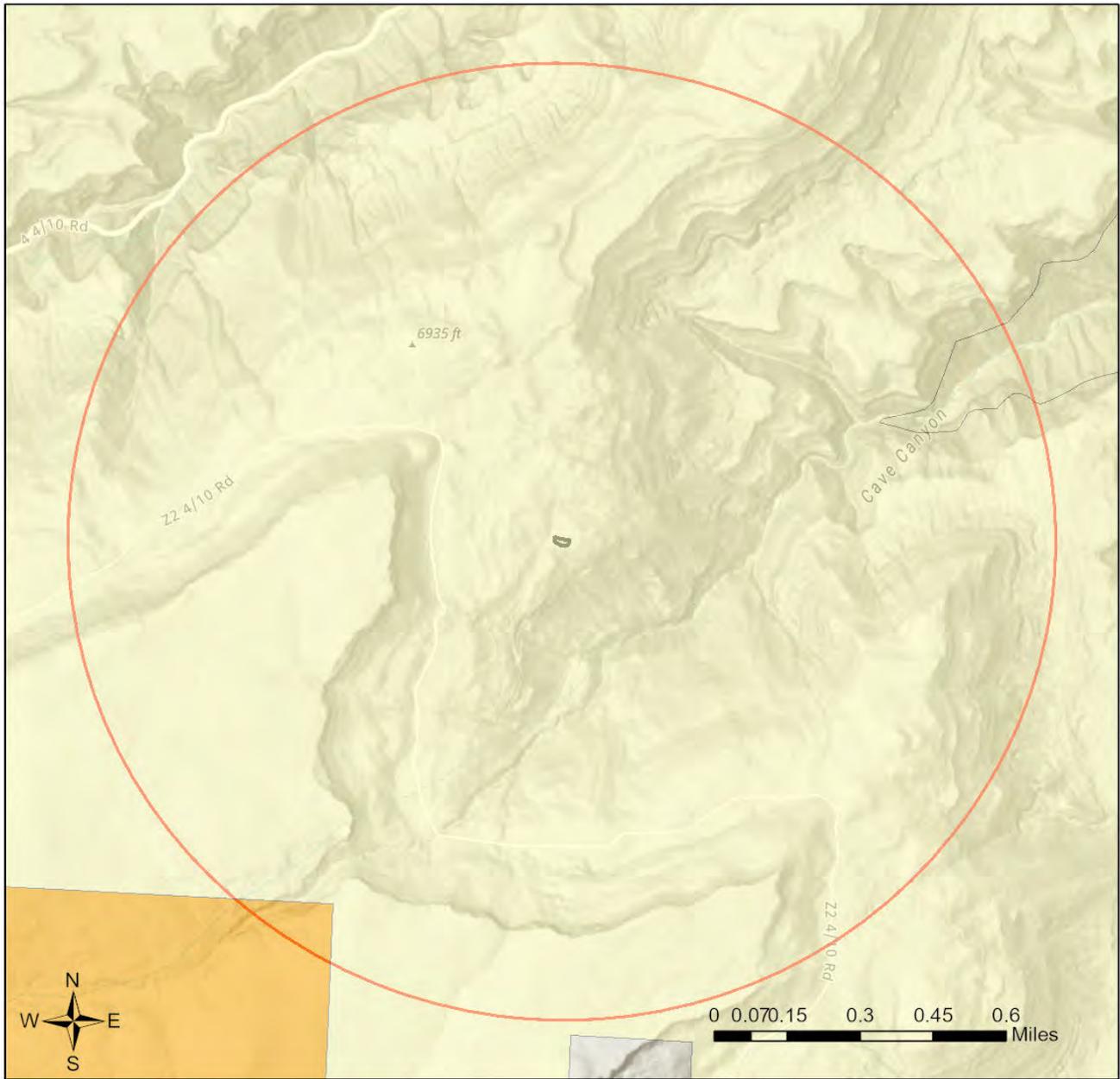
-  Buffered Search Area
-  Project Boundary



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

October Pile

Topographic Map with Land Management Status



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

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

Regulatory Species

Table 1. Documented Occurrences Within 1 Miles Of Project Area

No results were found for this project area.

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

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

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

No results were found for this project area.

Other Species of Concern

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

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

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

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

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

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

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

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

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

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

Special Areas and Land Status

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

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

Table 7. Managed Areas within Project Area

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

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

Water and Wetlands

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

No results were found for this project area.

Project Report Appendix

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

About CNHP Data

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

CODEX Report Definitions

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

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

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

Managed Areas Name – Name of the managed area.

Manager – The general land Manager.

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

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

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

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

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

Proposed – Proposed critical habitat

Final – Final critical habitat

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

Critical Habitat Publication Date - Federal Register publication date.

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

Data Type –

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

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

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

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

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

Owner – The general land owner.

Public Access – Level of public access to the feature.

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

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

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

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

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

Special Areas Name – The name of the special area.

biological diversity.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Wetland Total Acres

- Total acres of the wetland type in the project

Last Observation – The most recent field observation.

area.

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

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