U.S. Department of the Interior
Bureau of Land Management

Murdock Mountain Phosphate Project

Environmental Assessment

DOI-BLM-NV-E030-2024-0010-EA

NEVAGRO, LLC
MURDOCK MOUNTAIN PHOSPHATE EXPLORATION PROJECT
ELKO COUNTY, NEVADA

Environmental Assessment

#DOI-BLM-NV-E030-2024-0010-EA

September 2024

Bureau of Land Management
Wells Field Office
Elko District
3900 Idaho Street
Elko, Nevada 89801

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ENVIRONMENTAL ASSESSMENT

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LIST OF ACRONYMS AND ABBREVIATIONS

2015 GRSG ARMPA	Nevada and Northeastern California Greater Sage-Grouse Approved Resource Management Plan Amendment
4WD	four-wheel drive
AO	Authorized Officer
BG	block group
BLM	Bureau of Land Management
BMP	best management practice
BMRR	Bureau of Mining Regulation and Reclamation
CESA	cumulative effects study area
CFR	Code of Federal Regulations
CX	Categorical Exclusion
EA	Environmental Assessment
EJ	Environmental Justice
EPA	Environmental Protection Agency
EPM	Environmental Protection Measure
FLPMA	Federal Land Policy and Management Act of 1976
GHMA	General Habitat Management Area
gpd	gallons per day
GRSG	Greater sage-grouse
ID	Interdisciplinary
MD	management decision
MDM	Mount Diablo Meridian
MGT	meaningfully greater threshold
mph	miles per hour
MSHA	Mine Safety and Health Administration
NAC	Nevada Administrative Code
NDEP	Nevada Division of Environmental Protection
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act of 1969
NEVAGRO	NEVAGRO, LLC
NRHP	National Register of Historic Places
NRS	Nevada Revised Statutes
OHMA	Other Habitat Management Area
PILT	Payments in Lieu of Taxes
Plan	Exploration Plan NVN-090747/Nevada Reclamation Permit Application
PLS	pure live seed
Project	Murdock Mountain Phosphate Exploration Project
RC	reverse circulation
RDF	Required Design Feature
RFFA	reasonably foreseeable future action
RMP	Resource Management Plan
ROW	right-of-way
SETT	Sagebrush Ecosystem Technical Team
WestLand	WestLand Engineering & Environmental Services

WFO	Wells Field Office

1 INTRODUCTION

1.1 Introduction

NEVAGRO, LLC (NEVAGRO), a wholly-owned subsidiary of Nevada Phosphate, Inc., proposes to conduct phased leasable mineral exploration activities at the Murdock Mountain Phosphate Exploration Project (Project). This Environmental Assessment (EA) has been prepared to disclose and analyze the environmental effects of the Project. This EA will assist the Bureau of Land Management (BLM) Wells Field Office (WFO) in Project planning and ensuring compliance with the National Environmental Policy Act of 1969 (NEPA), and in making a determination as to whether any significant effects could result from the analyzed actions. Following the requirements of NEPA (40 Code of Federal Regulations [CFR] 1500), this EA describes the potential impacts of the Proposed Action and No Action Alternative for the proposed Project. If the BLM determines that the Proposed Action is not expected to have significant effects, a Finding of No Significant Impact would be issued, and a Decision Record would be prepared. If significant effects are anticipated, the BLM would prepare an Environmental Impact Statement.

1.2 Location of Project

The Project is located approximately 11 miles southwest of Montello, Nevada, and approximately 50 miles northwest of Elko, in Elko County, on approximately 1,575 acres of public lands managed by the BLM WFO in all or parts of Section 2, Township 38 North (T38N), Range 67 East (R67E), Sections 26 and 36, T39N, R67E, and Sections 20 and 30, T39N, R68E, Mount Diablo Meridian (MDM) (Project Area). The Project can be accessed from Montello by traveling northwest on Hoppie Canyon Road for approximately one mile, then turning left onto an unnamed dirt road. Travel approximately 5.6 miles on the unnamed dirt road, then turn left onto an unnamed dirt road and continue for approximately 0.1 mile to the Project Area. Figure 1.2.1 (Appendix A) shows the Project location, access, and land status.

1.3 Background

Exploration Plan #NVNV106197277/Nevada Reclamation Permit Application (Plan) was submitted to the BLM and the Nevada Division of Environmental Protection (NDEP) Bureau of Mining Regulation and Reclamation (BMRR) in September 2021 (revised November 2022 and March 2023), in accordance with 43 CFR 3505, and Nevada reclamation regulations at Nevada Administrative Code (NAC) 519A. NEVAGRO proposes to conduct approximately 2.3 acres of surface disturbance in Year 1 under this Plan, and the remaining 6.6 acres of surface disturbance in Year 2.

1.4 Purpose of and Need for Action

The purpose of the Proposed Action is to provide NEVAGRO the opportunity to explore and delineate leasable mineral (phosphate) deposits in its lease boundary on public lands, as provided under the Mineral Leasing Act of 1920, as amended. The need for the action is established by the BLM's responsibility under Section 302 of the Federal Land Policy and Management Act of 1976 (FLPMA) and the BLM Leasable Mineral Regulations at 43 CFR 3500, to respond to an

exploration plan to allow an operator to explore and assess leasable mineral resources on public lands, and to take any action to prevent unnecessary or undue degradation of the public lands.

1.5 Decision to be Made

The decision the BLM would make, based on the NEPA, includes the following options: 1) approve the Plan with no modifications; 2) approve the Plan with additional mitigation measures that are needed to prevent unnecessary or undue degradation of public lands and reduce or eliminate the effects of the proposed action or alternatives; or 3) deny the approval of the Plan as currently written and not authorize the Project if it is found that the Proposed Action does not comply with the 3505 regulations and the FLPMA mandate to prevent unnecessary or undue degradation.

1.6 Land Use Plan Conformance

1.6.1 Wells Resource Management Plan

The Project conforms to the Approved Wells Resource Management Plan (RMP) and Record of Decision, signed in July 1985. The program objective for Minerals and Energy states: "The public lands will be managed in a manner which recognizes the Nation's needs for domestic sources of minerals" (BLM 1985).

1.6.2 Nevada and Northeastern California Approved Resource Management Plan Amendment

In September 2015, the BLM issued the Nevada and Northeastern California Greater Sage-Grouse Approved Resource Management Plan Amendment (2015 GRSG ARMPA) and Record of Decision (BLM 2015). On May 16, 2022, the BLM Nevada State Office completed Plan Maintenance Action #5 for the 2015 GRSG ARMPA through Categorical Exclusion (CX) (DOI-BLM-NV-0000-2022-0006-CX) to update the GRSG habitat management area maps and habitat objectives for GRSG in Table 2-2 in the 2015 GRSG ARMPA. According to the updated habitat management area maps, there is approximately 835 acres mapped as General Habitat Management Area (GHMA) and approximately 449 acres mapped as Other Habitat Management Area (OHMA) within the Project Area (Figure 1.6.2).

GRSG ARMPA management decisions (MDs) that apply to areas mapped as GHMA and OHMA, and applicable to the Project, are presented below (BLM 2015). NEVAGRO would comply with MDs SSS 1, 3A through E, 4, 7, 8, 9a, 10, 11, and 13, and MR 24, 25, and 27.

*SSS 3D: Seasonal restrictions will be applied during the period specified below to manage **discretionary** surface-disturbing activities and uses on public lands to prevent disturbances to GRSG during seasonal life cycle periods, as follows:*

1. *In breeding habitat within 4 miles of active and pending GRSG leks from March 1 through June 30*
    a. *Lek—March 1 to May 15*
    b. *Lek hourly restrictions—6 p.m. to 9 a.m.*
    c. *Nesting—April 1 to June 30*

2. *Brood-rearing habitat from May 15 to September 15*
    a. *Early—May 15 to June 15*
    b. *Late—June 15 to September 15*

3. *Winter habitat from November 1 to February 28*

The seasonal dates may be modified due to documented local variations (e.g., higher/lower elevations) or annual climatic fluctuations (e.g., early/late spring, long/heavy winter), in coordination with [Nevada Department of Wildlife] NDOW and California Department of Fish and Wildlife, in order to better protect GRSG and its habitat.

SSS 4: In OHMAs, authorized/permitted activities are implemented adhering to RDFs [Required Design Features] described in Appendix C, consistent with applicable law. At the site-specific scale, if an RDF is not implemented, at least one of the following must be demonstrated in the NEPA analysis associated with the project/activity:

- *A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g., due to the site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF by varied or rendered inapplicable.*
- *An alternate RDF is determined to provide equal or better protection for GRSG or its habitat.*
- *A specific RDF will provide no additional protection to GRSG or its habitat.*

1.7 Internal Scoping and Issues Identification

An Interdisciplinary (ID) Team of BLM resource specialists met on July 6, 2023, and defined a list of potentially affected resources to be analyzed in the EA. Through subsequent communication, a list of preliminary issues identified for detailed analysis was developed (Table 1.7-1). The BLM ID Team also developed a list of resources and issues that were eliminated from detailed analysis (Appendix B).

Table 1.7-1: Issues Identified for Detailed Analysis

Resource	Issue	Issue Number
Environmental Justice (EJ)	How would the Project disproportionately and adversely impact one or more identified study area EJ populations?	1
Socioeconomics	How would the Project actions directly or indirectly impact study area socioeconomic market and non-market conditions?	2
Special Status Species (Greater Sage-grouse (GRSG) [*Centrocercus urophasianus*])	How would disturbance from Project implementation affect grouse spring (lekking and lek habitat, nesting and early brood rearing), summer (late brood rearing), and winter habitat use?	3

1.8 Public Involvement

The 30-day public comment period was held from July 5, 2024, to August 4, 2024. A total of 14 public comment letters were received. Comments and responses are included as Appendix C of this EA. EA comments primarily focused on impacts to GRSG and water resources. Minor text changes to the EA have resulted from some of the comments. Final edits and review of the document also resulted in minor editorial corrections.

2 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

The Proposed Action consists of conducting phased leasable mineral exploration activities on public land within a 1,575-acre Project Area. Exploration activities in Year 1 would consist of reverse circulation (RC) and/or diamond core drilling from constructed drill sites including sumps, construction of access roads, and utilization of existing roads (Appendix A, Figure 2.1.1). The proposed disturbance in Year 2 would be dependent upon the drilling results from Year 1, but may consist of the same types of activities as Year 1, as well as the potential construction of trenches and access roads to the trenches. To help minimize impacts to specific wildlife species, Project activities are generally proposed to occur between May 1 and October 31, depending upon annual weather conditions. Table 2.1-1 outlines the total acreage of proposed surface disturbance, by type of disturbance, for the Project.

Table 2.1-1: Acreage of Proposed Phased Project Surface Disturbance

Surface Disturbing Activity	Year 1 Disturbance	Year 2 Disturbance	Total Acres
Constructed Drill Sites (including sumps)[1]	0.7	0.7	1.4
Laydown Area	0.1	-	0.1
Constructed Access Roads	1.2	5.6	6.8
Existing Roads to be Widened[2]	0.3	-	0.3
Trenches	-	0.3	0.3
Total	**2.3**	**6.6**	**8.9**

[1]Constructed drill sites may also be used as temporary staging areas.
[2]The disturbance total is the difference between the approximate width of eight feet and the widened portion to 14 feet, including safety berms.

2.1.1 Drill Sites and Drilling Procedures

NEVAGRO is proposing to drill up to 13 drill sites in Year 1. Depending upon the drilling results from Year 1, NEVAGRO would drill up to an additional 13 drill sites in Year 2. The standard drill sites constructed at the Project would measure approximately 60 feet long by 40 feet wide. Drilling materials and miscellaneous equipment would be stored at a laydown area in the Project Area and would be the same size as the proposed drill sites (Figure 2.1.1). Drill site disturbance dimensions were determined to accommodate up to two holes being drilled per site, and include the excavation of one sump to support drilling operations. A sump would be excavated within the footprint of each drill site to contain cuttings and manage drilling fluids and each would typically measure approximately six feet long by four feet wide by eight feet deep. Each sump would be constructed with a sloped end for egress and/or adequately fenced to preclude access. Earthwork would be performed with a backhoe, D6 dozer, or equivalent equipment. Drill sites would be primarily constructed of native on-site materials. If gravel is required, it would be obtained from an off-site weed-free source on private land and used as required for improvement and/or stabilization.

Exploration drill holes would be drilled to an average depth of 200 feet. NEVAGRO would conduct exploration drilling with up to two drill rigs. Drill holes would be vertical or angled and drilled with a RC and/or diamond core drill rig. Drill holes would be abandoned per NAC 534.4369 and 534.4371. If groundwater is encountered, the hole would be plugged pursuant to NAC 534.420. All drill holes would be plugged prior to the drill rig leaving the site. The depth to groundwater is unknown.

NEVAGRO would follow standard drilling procedures and require a geologist to be on site throughout drilling activities. The duties of the geologist would include supervising the drill rig, logging each hole according to the geologic features encountered, determining the maximum depth of each hole, and advising the drill operator, as needed. The geologist would travel to and from the drill site in a separate four-wheel drive (4WD) pickup truck.

Standard drill rig crews would consist of a drill operator and one or two helpers. The helpers normally remove and box the recovered core samples and the cuttings from RC rigs, mix drilling fluids in the portable mud tank, operate the water truck, assist with drilling operations, and conduct maintenance as necessary. The crew would be transported to and from the drill site in up to three 4WD vehicles per drill rig.

2.1.2 Existing and Proposed Constructed Roads

In order to minimize disturbance from constructed roads, NEVAGRO would utilize existing roads as much as possible. In Year 1, up to 2,000 feet of existing roads may be widened by an additional four feet to ensure a consistent running width of 12 feet, with an additional two feet for any safety berms as required by the Mine Safety and Health Administration (MSHA), for a total disturbance width of 14 feet. Exploration roads that require earth-moving would be located and constructed using standard construction practices for temporary exploration roads to minimize surface disturbance, erosion, and visual contrast, and to facilitate reclamation. NEVAGRO proposes to construct approximately 21,067 linear feet of new exploration roads for the Project, with approximately 3,556 linear feet being constructed in Year 1, and up to approximately 17,511 linear feet in Year 2. The standard running width for the proposed constructed roads would be approximately ten to 12 feet, with additional disturbance for any safety berms as required by the MSHA, for a total disturbance width of 14 feet. The downslope side of the cut and fill would be at the angle of repose. Except for the established access routes to the Project Area, new roads would be constructed with grades no greater than 12 percent. Roads would be constructed of native on-site materials with gravel used as necessary for improvement and/or stabilization.

Balanced cut and fill construction would be used to the extent practicable to minimize the exposed cut slopes and the volume of fill material. Since the depth of cut would be kept to a minimum, growth media removed during construction would be stockpiled as the fill slope to be used during reclamation. Road construction within drainages would be avoided whenever possible. When drainages must be crossed by a road, Best Management Practices (BMPs) established by the NDEP and Nevada Division of Conservation Districts through the State Environmental Commission (1994) would be followed to minimize the surface disturbance and erosion potential. Culverts would be installed, if necessary, as outlined in the BLM Roads Design Handbook H-9113-1. Road construction would be completed with a D6 dozer or equivalent equipment. Routine road

maintenance for existing roads could be required and would consist of smoothing ruts, filling holes with fill material, grading, and re-establishing waterbars when necessary.

2.1.3 Trenching

No trenches are proposed for Year 1. NEVAGRO proposes to construct a total of up to 23 trenches in Year 2, approximately 100 feet long by five feet wide and eight feet deep (4,000 cubic feet). The trenches would be constructed using a trackhoe. It is possible that some trench locations would need to be adjusted during the exploration program as site conditions and subsurface geology necessitate. The adjustments would likely be minor and only require moving the trenches short distances. Minor adjustments would likely not affect the alignment and total length of trenches that would be constructed during the exploration program. In accordance with 43 CFR 3592.1(d)(1), NEVAGRO would submit, in writing, any proposed changes with justification for the changes, to the BLM WFO for review and approval.

2.1.4 Hazardous or Petroleum Materials

Hazardous or petroleum materials utilized at the Project Area would include diesel fuel, gasoline, oil, and lubricating grease. Approximately 500 gallons of diesel fuel would be stored in fuel delivery systems on vehicles and drill rigs. Approximately 100 gallons of gasoline would be stored in fuel delivery systems for light vehicles. Approximately 100 pounds of lubricating grease would be stored on the drill rigs or transported by drill trucks. All containers of hazardous or petroleum substances would be labeled and handled in accordance with the Nevada Department of Transportation and Occupational Safety and Health Administration. Hazardous or petroleum materials, including used/waste petroleum products, would be removed from areas of exploration activities on a daily basis, as appropriate. If a reportable quantity of hazardous or petroleum materials, such as diesel fuel, is spilled, measures would be taken to control the spill, and the BLM, and/or NDEP's Emergency Response Hotline would be notified, as required. If any petroleum material, hazardous material, or chemicals are spilled during operations, they would be cleaned up in a timely manner. After clean-up, the oil, toxic fluids, or chemicals and any contaminated material would be removed from the site and disposed of at an approved disposal facility in accordance with all applicable federal, state, and local regulations. Up to two portable chemical toilets placed near the active drill sites would be used during Project activities in the Project Area and would be regularly serviced by an outside contractor.

2.1.5 Equipment and Personnel

Up to 18 personnel could be on site at any given time during Project activities, including one NEVAGRO geologist, two to three contract drill operators per drill rig and a drill supervisor, two to three technicians, two to three contract equipment operators, and a safety coordinator. Exploration drilling equipment could include track- or truck-mounted RC drill rigs and/or core rigs (up to two drill rigs may be on site at any time), up to five 4WD pickup trucks, one D6 dozer, one backhoe or excavator, one 1,000-gallon water truck, two pipe trucks, two booster trucks, two auxiliary air compressors, two portable light plants, and two additional service trucks for drill support.

A water truck at the Project Area would be used in the event of a fire. All portable equipment, including drill rigs, support vehicles, and drilling supplies, would be removed from the Project Area during extended periods of non-operation, or more than a 60-day period.

All heavy equipment (e.g., drills, water trucks, dozers, and excavators) would be washed and inspected to aid in weed control before entering BLM-managed public lands. Inspection and cleaning would concentrate on the undercarriage, with special emphasis on axles, frame, cross-members, motor mounts, underneath steps, running boards, and front bumper/brush guard assemblies.

All activities would be conducted in conformance with applicable federal and state health and safety requirements. All Project-related refuse would be disposed of daily consistent with applicable regulations. No refuse would be disposed on site. NEVAGRO proposes to utilize an up to five-cubic-yard covered dumpster secured with tie-down straps for waste management on site during Project activities. The covered dumpster would be stored at the laydown area. The dumpster would be emptied as needed by an outside contractor and would be taken to an approved off-site landfill.

All Project-related traffic would observe prudent speed limits of approximately 25 miles per hour (mph) or less to enhance public safety, protect wildlife, livestock, and minimize dust emissions. Maintenance of these roads would only be conducted as necessary.

2.1.6 Power and Support Services

The Project would use generators to power portable light plants. Line power would not be required for the Project.

2.1.7 Water Management Plan

Daily water requirements would depend on the type of drill and the number of drills active at any time. An RC drill rig requires approximately 3,000 gallons per 12-hour shift, while a core drill rig uses approximately 5,000 gallons of water per 12-hour shift. RC rigs usually operate one shift per day, while core rigs may operate up to two shifts per day; therefore, based on a maximum of two drill rigs, the daily drill water requirement could be as much as 20,000 gallons per day (gpd). In addition, depending on conditions, water may be required to control dust on the roads. This could be as much as 5,000 gpd depending on the location of the drills. Therefore, daily requirements could total as much as 25,000 gpd. NEVAGRO would obtain water from a municipal source (Wells or West Wendover, Nevada). Water would be trucked to the Project Area and stored in an approximately 2,000-gallon water tank or bladder at the laydown area.

Drill fluids would be managed with the use of one sump at each drill site. BMPs for sediment control would be utilized during construction, operation, and reclamation to minimize sedimentation from disturbed areas. Sediment control structures may include, but not be limited to, fabric or certified weed-free straw bale filter fences, siltation or filter berms, mud pits, and downgradient drainage channels to prevent unnecessary or undue degradation to the environment. Sediment traps, constructed as necessary, within the drill pad disturbance, would be used to contain drill cuttings. Proposed construction and drilling activities would avoid springs and seeps if

present. To facilitate drainage and prevent erosion, bladed roads (i.e., constructed roads) would have waterbars constructed, as needed, at BLM-recommended spacing, as defined in the BLM Primitive Roads Design Handbook H-9115-1.

2.2 Reclamation Plan

Reclamation would be completed to the standards described in NAC 519A. Reclamation would meet the reclamation objectives outlined in the U.S. Department of Interior Solid Minerals Reclamation Handbook #H-3042-1 (BLM 1992), revegetation success standards per the "Nevada Guidelines for Successful Revegetation for the Nevada Division of Environmental Protection, the Bureau of Land Management and the U.S.D.A Forest Service" (NDEP BMRR 1998), revised September 2016.

Reclamation would be designed to achieve post-exploration land uses consistent with the BLM's land use management plans for the area, which are outlined in the Wells Resource Management Plan (BLM 1985). Reclamation is intended to return disturbed land to a level of productivity comparable to pre-exploration levels. Post-exploration land uses include wildlife habitat, livestock grazing, hunting, and dispersed recreation. The post-exploration land use is not expected to differ from pre-exploration land use.

All reclamation work, except for revegetation monitoring, would be completed no later than two years after the completion of the activities under this Project. NEVAGRO would consider conducting concurrent reclamation of disturbed areas; however, to optimize earthwork and contractor fees, all disturbance may remain until the end of the Project.

2.2.1 Handling of Growth Media

The depth of cut for newly constructed exploration roads would be minimal. During construction activities at the Project, soils capable of serving as growth media would be salvaged and stored in the form of berms and push piles, then distributed over surface disturbance areas during reclamation. Distribution of the salvaged growth media during the earthwork portion of reclamation would support effective recontouring and seedbed preparation prior to seeding. Soil amendments are not considered necessary in those areas where sufficient growth media are available.

2.2.2 Drill Hole Plugging

Drill holes would be plugged in accordance with NAC 534.4369 and NAC 534.4371, and guidance from the BLM. If groundwater is encountered, drill holes would be plugged pursuant to NAC 534.420. All drill holes would be plugged prior to the drill rig leaving the site. No drill holes would be left open at the end of the Project.

If the casings are set in a drill hole, either the drill holes would be completed as wells and plugged pursuant to NAC 534.420 or the casings would be completely removed from the drill holes and then be plugged pursuant to NAC 534.4369 and NAC 534.4371. The upper portion of the drill hole may be permanently cased if the annulus is completely sealed from the casing shoe to surface pursuant to NAC 534.380. If casing is left in the drill hole, then it would be perforated pursuant to

NAC 534.420(5)(b) and (5)(c). If NEVAGRO intends to leave any hole(s) open, a waiver must first be obtained from the Nevada Division of Water Resources.

2.2.3 Regrading and Reshaping

Regrading would occur between May and October and would be done within two years of Project completion. Regrading and reshaping of all constructed drill sites, including sumps, constructed roads, the widened portion of existing roads, and trenches would be completed to approximate the surrounding topography. Fill material would be pulled onto the roadbeds to fill the road cuts and restore the slope to natural contours. Roads, drill sites, and trenches would be regraded and reshaped with an excavator.

Should any dry drainage be disturbed, they would be re-shaped to approach the pre-construction contours. The resulting channels would be of the same capacity as up and downstream reaches and would be made to prevent erosion and ultimately revegetated. Following completion of earthwork, all disturbed areas would be broadcast seeded.

The post-exploration and post-reclamation topography would be essentially the same as the pre-exploration topography.

Additional reclamation activities include the removal of all equipment, supplies, and materials brought onto public land at the end of the Project life.

2.2.4 Revegetation

The timing of revegetation activities is critically important to the overall success of the program. Seeding activities would be timed to take advantage of optimal climatic periods and would be coordinated with other reclamation activities within two years of Project completion. Seedbed preparation would generally be completed in the fall, either concurrently with or immediately prior to seeding. Seeds would be sown in late fall to take advantage of winter and spring precipitation and optimum spring germination. Early spring seeding may be utilized for areas not seeded in the fall. In either case, seeding would not be completed when the ground is frozen, or snow covered. Site conditions and/or yearly climatic variations could require that this schedule be modified to achieve revegetation success.

All reclaimed areas would be broadcast seeded with a cyclone-type bucket spreader or a mechanical blower. Broadcast seed would be covered by harrowing, raking, or other site-specific appropriate methods, as necessary, to provide seed cover and enhance germination. Reclaimed surfaces would be left in a textured or rough condition (i.e., small humps, pits, etc.) to enhance moisture retention and revegetation success while minimizing erosion potential.

The preliminary seed mix, provided by the BLM and shown in Table 2.2-1, is based on known soil and vegetative conditions and was selected to establish a plant community that would support the post-exploration land use. The mix is designed to provide species that can exist in the environment of northeastern Nevada, are proven species for revegetation, or are native species found in the plant communities prior to disturbance. Broadcast seeding would be at a rate of approximately 10.25 pounds of pure live seed (PLS) per acre. Changes or adjustments to the reclamation plant

list or application rate would be completed in consultation with and approval by the BLM. The seed mixture would be certified PLS and weed free. Straw bales used for erosion control would also be certified as weed free.

Table 2.2-1: Preliminary Seed Mix

Species		Application Rate (pounds PLS per acre)
Common Name	**Scientific Name**	
Crested wheatgrass	*Agropyron cristatum*	3
Sandberg bluegrass	*Poa secunda*	1
Squirreltail	*Elymus elymoides*	2
Siberian wheatgrass	*Agropyron fragile*	1
Gooseberry globemallow	*Sphaeralcea grossularifolia*	2
Sulphur buckwheat	*Eriogonum umbellatum*	1
Blue flax	*Linum lewisii*	0.25
Total		**10.25**

Annual monitoring could occur between April and the end of September to determine revegetation success. In general, monitoring would be conducted within three years following regrading and reseeding for a period of up to three years or until revegetation success has been achieved.

2.2.5 Removal or Stabilization of Buildings, Structures, and Support Facilities

No buildings or temporary structures would be built or brought on site. All equipment and supplies would be removed following completion of the Project. Materials, including scrap, trash, and unusable equipment, would be removed on a daily or weekly basis and disposed of in accordance with federal and state regulations and laws.

2.3 Applicant-Committed Environmental Protection Measures

NEVAGRO would commit to the following Environmental Protection Measures (EPMs) to prevent unnecessary or undue degradation during construction, operation, and reclamation of the Project. The measures are derived from the general requirements established in the BLM's Regulations at 43 CFR 3505.45(c)(2) and BMRR mining reclamation regulations, as well as other environmental protection regulations and guidelines.

Air Quality

- Emissions of fugitive dust from disturbed surfaces would be minimized by using prudent vehicle speeds and the application of water from a water truck.

Cultural and Paleontological Resources

- Pursuant to 43 CFR 10.5(a)(1) and 43 CFR 10.5(a)(3), NEVAGRO would notify the BLM authorized officer (AO) and any Tribal organization with potential cultural affiliation immediately in person or by telephone and in writing within 24 hours upon the discovery of human remains or cultural items. Further pursuant to 43 CFR 10.5(b), NEVAGRO

would immediately stop all activities in the vicinity of the discovery and not commence again until a notice to proceed is issued by the BLM AO.

- NEVAGRO would avoid all National Register of Historic Places (NRHP)-eligible sites and unevaluated sites by a buffer zone of 100 feet. If deemed necessary by the BLM, NEVAGRO would place a qualified archaeologist on site during surface disturbing activities near known cultural resources to monitor Project implementation and ensure NRHP-eligible sites and unevaluated sites are avoided.

- NEVAGRO would inform all field personnel of the Archaeological Resources Protection Act of 1979 and the Native American Graves Protection and Repatriation Act (Public Law 101-601) responsibilities and their associated penalties.

- Any cultural resources discovered by NEVAGRO, or any person working on their behalf, during the course of activities on federal land would be immediately reported to the BLM AO by telephone and in writing within 72 hours. The permit holder would suspend all operations within 100 meters of such discovery and protect it until an evaluation of the discovery can be made by the BLM AO. This evaluation would determine the significance of the discovery and what mitigation measures are necessary to allow activities to proceed. NEVAGRO would be responsible for the cost of evaluation and mitigation. Operations would resume only upon written authorization to proceed from the BLM AO.

- NEVAGRO would not knowingly disturb, alter, injure, or destroy any scientifically important paleontological deposits. In the event that previously undiscovered paleontological resources are discovered by NEVAGRO in the performance of any surface disturbing activities, the item(s) or condition(s) would be left intact and immediately brought to the attention of the AO of the BLM. If significant paleontological resources are found, avoidance, recordation, and/or data recovery would be required as determined by the BLM, and at the expense of NEVAGRO.

Fire Management

- All applicable state and federal fire laws and regulations would be complied with and all reasonable measures would be taken to prevent and suppress fires in the Project Area.

- The following precautionary measures would be taken to prevent and report wildland fires:

    - All vehicles would carry fire extinguishers and a minimum of ten gallons of water;

    - Adequate fire-fighting equipment (i.e., shovel, Pulaski, extinguishers), and a minimum ten gallons of water would be kept at each drill site;

    - Vehicle catalytic converters would be inspected often and cleaned of brush and grass debris;

    - Welding operations would be conducted in an area free from or mostly free from vegetation. A minimum of ten gallons of water, a shovel and spark arrester

would be on hand to extinguish any fires created from the sparks. Extra personnel would be at the welding site to watch for fires created by welding sparks. Welding aprons would be used when conditions warrant (i.e., during red flag warnings); and

- Wildland fires would immediately be reported to the Elko Interagency Dispatch Center at (775) 748-4000. Information reported would include the location (latitude and longitude if possible), fuels involved, time started, who or what is near the fire, and the direction of fire spread.

Hazardous or Solid Wastes

- Pursuant to 43 CFR 8365.1-1(b)(3), no sewage, petroleum products, or refuse would be dumped from any trailer or vehicle.

- Hazardous or solid wastes would primarily consist of petroleum products, including greases, oils, etc., used in the maintenance of equipment and would therefore be stored on drill support vehicles or on the drill rig itself. Therefore, the petroleum products would leave the site when the support vehicles and/or drill rig leaves the site.

- All regulated wastes, including hazardous and miscellaneous wastes, would be removed from the Project Area and disposed of in a state, federal, or local designated area on a daily basis, or as appropriate.

- No solid waste would be permitted in sumps.

- Please see Appendix C of the Plan. All spills, regardless of quantity, would be addressed and the material would be removed for proper disposal.

- If a spill of a petroleum constituent is considered to meet the reportable quantity per the NDEP's guidelines (releases to the soil or other surfaces of land in a quantity greater than 25 gallons or 200 pounds; releases discovered in at least three cubic yards of soil during subsurface excavation; releases discovered in or on groundwater; or a confirmed release from an underground storage tank), or a reportable quantity for hazardous waste is released based on the Federal Environmental Protection Agency (EPA) guidelines established under 40 CFR Part 302, the NDEP and BLM would be notified within 24 hours, and the appropriate remedial actions and confirmation sampling would be conducted under direction of the NDEP.

Migratory Birds, Bats, and Greater Sage-grouse

- In order to avoid potential impacts to breeding migratory birds, a nest survey would be conducted by a BLM-approved biologist prior to any surface disturbance associated with exploration activities during the avian breeding season (March 1 through July 31 for raptors, other migratory birds, and burrowing owls). Pre-disturbance surveys for migratory birds are only valid for 14 days. If the disturbance for the specific location does not occur within 14 days of the survey, another survey would be needed. If active nests are located, or if other evidence of nesting (i.e., mated pairs, territorial defense, carrying nest material,

transporting food), a protective buffer (the size depending on the habitat requirements of the species) would be delineated after consultation with the BLM resource specialist, and the buffer area avoided to prevent destruction or disturbance to nests or birds until they are no longer actively breeding or rearing young.

- If surface disturbing activities occur between March 1 and May 31 in any given year, protocol-level pinyon jay clearance surveys, developed by the Partners in Flight Pinyon Jay Working Group, would be conducted. If active nests are observed during the surveys, the BLM would be consulted and an appropriate no-disturbance buffer would be applied.

- To minimize impacts to bats, lighting used during nighttime drilling activities would be the lowest illumination allowed for human safety and shielded and directed downward. Use of light-emitting diodes with a warmer lighting spectrum (i.e., warm light, orange light) would minimize the potential of attracting insects and collisions with bats.

Greater Sage-grouse

- As stipulated by Nevada State Regulation NAC 232.400 - 232.480, the proposed Project was analyzed using the Conservation Credit System's Habitat Quantification Tool (using data delineated by Coates et al. 2016, the same as the maps approved with Plan Maintenance Action #5 for the 2015 GRSG ARMPA through a CX (DOI-BLM-NV-0000-2022-0006-CX), based on the provided proposed Project Area. The direct impacts from the Project resulted in one 30-year term debit and zero permanent debits. Prior to receiving a Notice to Proceed (or equivalent), the Project proponent must offset the credit obligation in its entirety, complete an authorized Phased Purchase Agreement, or develop a mitigation plan in coordination with the Sagebrush Ecosystem Technical Team (SETT). If a mitigation plan is developed, it must be approved by the Sagebrush Ecosystem Council. If the entire credit obligation is not mitigated up front, at least one-third of the total required compensatory mitigation must be offset prior to receiving a Notice to Proceed. Any balance of a credit obligation (including a five percent phasing factor applied to a balance) would be required to be offset within three years.

  RDFs from Appendix C of the 2015 GRSG ARMPA that would be applied to the Project are listed below. All other general RDFs, including any rationale for not applying certain RDFs to the Project, are listed below the applicable RDFs.

  RDF Gen 1: Locate new roads outside of GRSG habitat to the extent practical.

  RDF Gen 2: Avoid constructing roads within riparian areas and ephemeral drainages. Construct lowwater crossings at right angles to ephemeral drainages and stream crossings.

  RDF GEN 3: Limit construction of new roads where roads are already in existence and could be used or upgraded to meet the needs of the project or operation. Design roads to an appropriate standard, no higher than necessary, to accommodate intended purpose and level of use.

  RDF GEN 4: Coordinate road construction and use with ROW holders to minimize disturbance to the extent possible.

RDF GEN 5: During project construction and operation, establish and post speed limits in GRSG habitat to reduce vehicle/wildlife collisions or design roads to be driven at slower speeds.

RDF GEN 6: Newly constructed project roads that access valid existing rights would not be managed as public access roads. Proponents will restrict access by employing traffic control devices such as signage, gates, and fencing.

RDF GEN 7: Require dust abatement practices when authorizing use on roads.

RDF GEN 9: Upon project completion, reclaim roads developed for project access on public lands unless, based on site specific analysis, the route provides specific benefits for public access and does not contribute to resource conflicts.

RDF GEN 11: Equip temporary and permanent aboveground facilities with structures or devices that discourage nesting and perching of raptors, corvids, and other predators.

RDF GEN 12: Control the spread and effects of nonnative, invasive plant species (e.g., by washing vehicles and equipment, minimize unnecessary surface disturbance). All projects would be required to have a noxious weed management in place prior to construction and operations.

RDF GEN 13: Implement project site-cleaning practices to preclude the accumulation of debris, solid waste, putrescible wastes, and other potential anthropogenic subsidies for predators of GRSG.

RDF GEN 17: Restore disturbed areas at final reclamation to the pre-disturbance landforms and desired plant community.

RDF GEN 18: When authorizing ground-disturbing activities, require the use of vegetation and soil reclamation standards suitable for the site type prior to construction.

RDF GEN 19: Instruct all construction employees to avoid harassment and disturbance of wildlife, especially during the GRSG breeding (e.g., courtship and nesting) season. In addition, pets shall not be permitted on site during construction.

RDF GEN 20: To reduce predator perching in GRSG habitat, limit the construction of vertical facilities and fences to the minimum number and amount needed and install anti-perch devices where applicable.

RDF GEN 21: Outfit all reservoirs, pits, tanks, troughs or similar features with appropriate type and number of wildlife escape ramps.

RDF GEN 22: Load and unload all equipment on existing roads to minimize disturbance to vegetation and soil.

Non-applicable General RDFs

Listed below are the general RDFs not applicable to the Project, with the rationale after each RDF explaining why each RDF is not being applied. All other non-general RDFs are not applicable since this Project is not among any of the specific RDF categories. There are no specific RDFs for hard rock leasable minerals projects.

RDF Gen 10: Design or site permanent structures that create movement (e.g., pump jack/windmill) to minimize impacts on GRSG habitat.

- There are no permanent structures proposed to be built or used for this Project.

RDF Gen 14: Locate project related temporary housing sites outside of GRSG habitat.

- There are no temporary housing sites being proposed as part of this Project.

RDF Gen 15: When interim reclamation is required, irrigate site to establish seedlings more quickly if the site requires it.

- Interim reclamation is not required or necessary for this Project.

RDF Gen 16: Utilize mulching techniques to expedite reclamation and to protect soils if the site requires it.

- Mulching is not required or necessary for this Project.

Noxious Weeds

- NEVAGRO would implement the Noxious Weed Monitoring and Control Plan (EM Strategies, a WestLand Resources, Inc. Company 2022) prepared for the Project during construction and continuing through operations and reclamation. Management strategies include prevention (i.e., awareness and education and protective management practices), treatment (i.e., mechanical treatment, chemical treatment, and biological treatment), and monitoring.

Public Safety and Survey Monuments

- Public safety would be maintained throughout the life of the Project. All equipment and other facilities would be maintained in a safe and orderly manner.

- Signs would be posted along existing roads to inform the public of Project activities. Example language to be used on signs could include “Construction Zone,” or “Caution: Work in Progress,” or similar. NEVAGRO would coordinate with the BLM on the specific signs to be used.

- Drill sites, sumps, and excavations would be reclaimed concurrently after the completion of sampling and logging and upon determination that the disturbance is no longer needed for exploration activities. Sumps would be backfilled once the previously stated criteria are met and there is no standing water present in the excavation. Sumps would be closed no later than the end of seasonal activities.

- Any survey monuments, witness corners, or reference monuments would be protected to the extent economically and technically feasible.

- Final reclamation of constructed roads, trenches, sumps, and drill sites would consist of fully recontouring disturbances to their original grade, and reseeding in the late fall and/or early spring season immediately following completion of exploration activities.

- In the event that any existing roads are degraded as a result of NEVAGRO activities, NEVAGRO would return them to their original condition.

Vegetation

- Reseeding would be consistent with BLM recommendations for seed mix species, application rate, and seeding methods.

Water Quality

- All drill holes would be plugged in accordance with Nevada Revised Statutes (NRS) 534, NAC 534.4369 and NAC 534.4371 except for drill holes collared with a RC drill rig and completed with a core rig, which would be plugged prior to the core rig moving from the drill site. If any drill hole produces artesian flow, the drill hole would be contained pursuant to NRS 534.060 and NAC 534.378 and would be sealed by the method described in NAC 534.4371. If the casings are set in a drill hole, either the drill hole must be completed as a well and plugged pursuant to NAC 534.420, or the casings would be completely removed from the drill hole and then plugged in accordance with NAC 534.4369 and NAC 534.4371.

- Stormwater BMPs (see Section 2.1.7) would be used at construction sites to minimize stormwater erosion.

- Drill cuttings would be contained on site and fluids managed utilizing appropriate control measures. Sediment traps would be used as necessary and filled at the end of the drill program.

- NEVAGRO would follow the Spill Contingency Plan included in Appendix C of the Plan.

- Only nontoxic fluids would be used in the drilling process.

Wildlife

- All trenches and sumps that pose a hazard or nuisance to the public, wildlife, or livestock would be adequately fenced to preclude access or constructed with a sloped end for egress.

2.4 No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM; however, the area would remain available for other multiple use activities as approved by the BLM and NDEP. The area would remain available for future mineral exploration and mining activities or for other

purposes, as approved by the BLM. The objective of the No Action Alternative is to describe the impacts that would result if the Project were not implemented. The No Action Alternative forms the baseline for which the impacts of all other alternatives can be measured.

2.5 Alternatives Considered but Eliminated from Detailed Analysis

2.5.1 Cross Country/Overland Travel Only Alternative

This alternative would utilize only overland or cross-country travel and would not allow for construction of new roads and upgrading of historic road disturbance. Utilization of exclusively cross-country travel for the Project would in effect, remove portions of the Project Area from exploration due mainly to topographic constraints. This alternative would also not meet the Purpose and Need identified for the Project.

2.5.2 Use Only Existing Roads Alternative

Under this alternative, all exploration activities would use only existing roads and no new roads would be constructed. Utilization of only pre-existing roads within the Project Area would remove portions of the area from access and needed exploration, thus denying the claimant the opportunity to fully evaluate and characterize the mineral potential. This alternative would also not meet the Purpose and Need identified for the Project.

3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Introduction

The purpose of this section of the EA is to describe the existing environment of the Project Area, as well as environmental consequences from implementation of the Proposed Action or any of the listed alternatives of affected resources including the No Action Alternative, as well as potential cumulative impacts. EPMs are incorporated as necessary in the relevant resource section.

This chapter describes the existing conditions relevant to the issues presented in Table 1.7-1 and discloses the potential direct and indirect impacts of the Proposed Action and No Action alternatives on those issues. Those other resources present but would not be affected are not evaluated further in this EA, based on the rationale provided in Appendix B.

3.1.1 Cumulative Effects

For the purpose of this EA, the cumulative impacts are the sum of all past, present, and reasonably foreseeable future actions (RFFAs) resulting primarily from minerals actions, wildland fires, and public uses. The purpose of the cumulative analysis in the EA is to evaluate the Proposed Action's and No Action Alternative's incremental contributions to the cumulative environment within the Cumulative Effects Study Area (CESA) identified for the specific resource.

The extent of each CESA varies by each resource, based on the geographic or biological limits of that resource. As a result, the list of projects considered under the cumulative analysis may vary according to the resource being considered. In addition, the length of time for cumulative effects analysis varies according to the duration of impacts from the Proposed Action on the particular resource.

The BLM has determined that cumulative effects would only be analyzed for issue question 3 (Table 3.1-1 and Appendix A, Figure 3.1.1). Based on the guidance in Section 6.8.3.1 in BLM's NEPA Handbook H-1790-1, if a proposed action and alternatives would have no direct or indirect effects on a resource, a cumulative effects analysis is not required. The analyses presented for issue questions 1 and 2 for EJ and socioeconomics do not identify Project-specific direct or indirect effects; therefore, a cumulative analysis is not included for those two issues in this EA.

Table 3.1-1: Cumulative Effects Study Area by Issue Question

Issue Question Number	CESA Boundary Description	Acreage
1	N/A	-
2	N/A	-
3	NDOW East Valley Population Management Unit (GRSG CESA)	1,618,993

The acreages of past and present actions and RFFAs in the CESA are listed in Table 3.1-2, as tallied from the BLM's Mineral & Land Records System (authorized and expired = past and present actions; pending = RFFAs).

Table 3.1-2: Past, Present, and RFFAs in the CESA

CESA	Activity Type								
	ROW – Roads, Highways, and Railroads	ROW – Power Transmission Lines	ROW – Telephone, Fiberoptic, and Communication Sites	ROW – Water and Irrigation	Plans of Operation	Notices	Mineral Material Sites	Wildland Fires	Urban Development
Past and Present Actions (acres)									
Greater Sage-grouse	11,562	559	1,354	456	4,935	27	2,776	79,671	1,500
RFFAs (acres)									
Greater Sage-grouse	1	0	1	0	3	7	0	--	--

Source: BLM 2024a, 2024b
ROW = right-of-way

3.2 Environmental Justice

3.2.1 Issue 1: How would the Project disproportionately and adversely impact one or more identified study area EJ populations?

3.2.1.1 Affected Environment

For this Project, the EJ study area has been identified as census block groups (BGs) in Elko County, Nevada, and Tooele and Box Elder counties, Utah (Appendix A, Figure 3.2.1), as those BGs are anticipated to be the BGs that could potentially be affected by the Project. The population in the study area totals 9,896. The reference area for the low income and minority populations is non-metro Nevada. The reference area for indigenous communities is the state of Nevada. Table 3.2-1 identifies the total population in each identified BG and the percentage of the population of minority, low income, and indigenous populations.

Table 3.2-1: Environmental Justice Populations in the Study Area

Geography	Population *	Low Income *	Minority *	Indigenous #
BG 320079515003 (NV; includes Project Area and Montello)	1,643	23 percent	28 percent	0 percent
BG 320079517003 (NV; includes Jackpot)	1,130	**42 percent**	**70 percent**	0 percent
BG 320079502002 (NV; includes Wells)	558	**32 percent**	**46 percent**	**13.0 percent**
BG 320079502001 (NV; surrounds Wells and includes Wells Colony)	1,359	**47 percent**	**37 percent**	**3.0 percent**
BG 320079515002 (NV; includes a part of West Wendover)	644	**34 percent**	**92 percent**	0 percent
BG 320079515001 (NV; includes a part of West Wendover)	663	16 percent	**44 percent**	0 percent
BG 320079515004 (NV; includes a part of West Wendover)	1,755	**53 percent**	**53 percent**	0 percent
BG 490039601003 (UT; surrounds northern portion of Great Salt Lake)	689	**37 percent**	3 percent	0 percent

Geography	Population *	Low Income *	Minority *	Indigenous #
BG 490451306002 (UT; southwest of Great Salt Lake; includes part of Skull Valley Reservation)	1,455	**37 percent**	**60 percent**	**6.0 percent**
BG Totals	9,896	37.6 percent	47.7 percent	2.0 percent
Non-metro Nevada (reference area for low income and minority populations)	286,329	28.3 percent	27.6 percent 30.4 percent (MGT)	--
State of Nevada (reference area for indigenous populations)		--	--	2.5 percent

Sources: * EPA EJScreen: http://www.epa.gov/ejscreen (accessed 4/19/2024)
MGT = meaningfully greater threshold
Note: bold indicates potentially affected EJ populations

Low-Income Communities

A low-income community of concern is present if the population experiencing poverty in one or more study area geographies are: 1) near, at, or above 200 percent of the federal poverty rate of the reference area; OR 2) if the population of the community experiencing poverty is at or above 50 percent. Low-income EJ communities of concern are identified in the study area and are clustered near rural communities dispersed from the Project location. It is estimated that 37.6 percent of the study area population is identified as low-income. This is greater than the reference area low-income population percentage. The screening identified that seven census BGs within the study area had low-income populations that met this criterion including:

- BG 320079517003 (NV; includes Jackpot)
- BG 320079502002 (NV; includes Wells)
- BG 320079502001 (NV; surrounds Wells and includes Wells Colony)
- BG 320079515002 (NV; includes a part of West Wendover)
- BG 320079515004 (NV; includes a part of West Wendover)
- BG 490039601003 (UT; surrounds northern portion of Great Salt Lake)
- BG 490451306002 (UT; southwest of Great Salt Lake; includes part of Skull Valley Reservation)

Minority Communities

A minority community of concern is present if the percentage of the population identified as belonging to a minority group in a study area is: 1) equal to or greater than 50 percent of the population; or 2) meets the "meaningfully greater" threshold (MGT). The MGT is calculated by comparing the minority group population percentage with 110 percent of the reference area minority population percentage. Minority EJ communities of concern are identified in the study area. It is estimated that 47.7 percent of the study area population is identified as belonging to a minority population group. This is greater than the reference area minority population percentage. This screening identified that seven census BGs within the study area had a minority identified population that met this criterion including:

- BG 320079517003 (NV; includes Jackpot)
- BG 320079502002 (NV; includes Wells)
- BG 320079502001 (NV; surrounds Wells and includes Wells Colony)

- BG 320079515002 (NV; includes a part of West Wendover)
- BG 320079515001 (NV; includes a part of West Wendover)
- BG 320079515004 (NV; includes a part of West Wendover)
- BG 490451306002 (UT; southwest of Great Salt Lake; includes part of Skull Valley Reservation)

The minority population percentage in the Project Area BG slightly exceeds the study area minority population percentage, but it does not exceed the MGT.

Indigenous Communities

Indigenous communities of concern are present if the percentage of the population identified as belonging to an indigenous community is equal to or greater than the reference population. Indigenous communities of concern are identified in the study area; the populations are clustered in the town of Wells, the area surrounding Wells associated with the Wells Colony, and the BG that includes part of the Skull Valley Reservation. It is estimated that two percent of the study area population is identified as belonging to an indigenous population group. This is greater than the reference area indigenous population percentage. The screening identified that three census BGs within the study area had an indigenous identified population that met this criterion including:

- BG 320079502002 (NV; includes Wells)
- BG 320079502001 (NV; surrounds Wells and includes Wells Colony)
- BG 490451306002 (UT; southwest of Great Salt Lake; includes part of Skull Valley Reservation)

Analysis Methodology

According to BLM guidance (Instruction Memorandum 2022-059), the BLM is committed to determining if its proposed and alternative actions would adversely and disproportionately impact minority, low-income, or Tribal populations. To determine if an action or alternative disproportionately and adversely impacts an EJ population, the BLM analyzes aggregate effects of all proposed actions and resources and cumulative effects of all proposed actions when compounded by an impact when added to other past, present, and RFFAs.

3.2.1.2 Environmental Consequences

Proposed Action

The EJ analysis performed for the Project identifies that there are EJ communities present in the study area. Low-income EJ communities are in all BGs except the BG that contains the Project Area. Minority EJ communities are clustered around the rural communities dispersed from the Project Area. Tribal EJ communities are present in three of the seven BGs. All three of the tribal identified BGs also identify as low-income and minority EJ communities. This Project would result in leasable mineral exploration drilling activities and surface disturbance primarily associated with road and drill pad construction. There would only be a maximum of 18 people working at the Project at any one time, but their presence in the area would be temporary and sporadic. Conversations concerning unforeseen impacts would continue with members of the

Confederated Tribes of the Goshutes Reservation, Ely Shoshone Tribe, Northwestern Band of the Shoshone Nation, Shoshone-Bannock Tribes of the Fort Hall Reservation, Shoshone-Paiute Tribes of the Duck Valley Reservation, and the Te-Moak Tribe of the Western Shoshone Indians of Nevada (and the four constituent bands) throughout the life of the Project, as necessary; however, adverse and disproportionate impacts to EJ populations are not anticipated. There are no cultural resources of concern or Traditional Cultural Properties in the Project Area.

No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM. There would be no impacts to EJ under the No Action Alternative.

3.3 Socioeconomics

3.3.1 Issue 2: How would the Project actions directly or indirectly impact study area socioeconomic market and non-market conditions?

3.3.1.1 Affected Environment

The socioeconomics study area (study area) for the Project includes Elko County, Nevada, and Tooele County, Utah (Appendix A, Figure 3.3.1). Elko County, the county where the Project is located, has the smallest percentage of federal land in the study area. Tooele County experienced the largest population percentage increase between 2010 and 2021, and also had the largest percentage of the total population in the study area. Between 2001 and 2021, the total number of jobs in the study area increased by approximately 38.5 percent, with Elko County experiencing a 16.7 percent job increase during that period. In 2021, Elko County had 0.2 percent more full time workers than Tooele County, and was the largest contributor to people in the study area living in poverty.

3.3.1.2 Environmental Consequences

Proposed Action

Land Ownership Analysis

Public land management decisions may have greater impacts in areas with a large federal land ownership percentage. In these landscapes, communities are more likely to be culturally and economically connected to public land resources. The study area has a considerable federal presence. Within the study area, Tooele County receives 92.7 percent of the Payments in Lieu of Taxes (PILT), and Elko County receives 83.3 percent of the PILT (Headwaters Economics 2023a). Federal land payments to state and local governments arising from activities on public lands in Elko County are greater than Tooele County, which results from a large reliance on mining as a community economic driver in Elko County. This does not correlate with the percentage of federal land in each county since Tooele County has the greatest percentage of federal land. Within the study area, Elko County relies more on federal land payments than Tooele County.

The proposed exploration Project is temporary in nature and there would be no change in federal land management. Should mineral resources be discovered and the Project expanded into a mine development project, additional socioeconomic analysis would be conducted.

Population Demographics Analysis

Between 2000 and 2021, the population of the study area increased by approximately 50.5 percent, from 86,752 people in 2000 to 130,555 people in 2021, while the population of the reference area increased by approximately 29.7 percent during that same period, from 227,482 people in 2000 to 294,987 people in 2021 (Headwaters Economics 2023a). Long-term, steady population growth is an indication of a healthy economic region and a community with a positive sense-of-place. The study area demonstrates this steady population growth. As mineral exploration projects are common throughout the study area, as well as the reference area, and are temporary, population demographics would most likely not be affected by Project activities. A small number of drillers, geologists, and support crew most often travel from other locations, and reside temporarily in hotels or short-term rental properties in the nearest community. Should mineral resources be discovered and the Project expanded into a mine development project, additional socioeconomic analysis would be conducted.

Jobs and Wages by Industry, Employment, and Poverty Analysis

The unemployment rate in the study area was 3.6 percent in 2000. It jumped to 8.2 percent in 2010 as a result of the Great Recession and fell back to three percent in 2021 (Headwater Economics 2023b). This indicates that it took approximately two decades for the employment levels to return to pre-Recession levels. As mineral exploration drilling projects are relatively common throughout the study area (as well as the reference area), are temporary and staffed by outside contractors traveling to the project site from other locations, jobs, wage, employment, income, and poverty demographics would most likely not be affected by Project activities. A small number of drillers, geologists, and support crew most often travel from other locations, and reside temporarily in hotels or short-term rental properties in the nearest community. Should mineral resources be discovered and the Project expanded into a mine development project, additional socioeconomic analysis would be conducted.

Community Services Data Analysis

A small number of drillers, geologists, and support crew most often travel from other locations, and reside temporarily in hotels or short-term rental properties in the nearest community. Normally, due to the short duration of the activities and the small number of people that would be on site, impacts on community services and facilities would be short-term and minor. Based on the Project's location, it is anticipated that the drill crews, geologist, and support crews may temporarily stay in either the towns of Wells or West Wendover, Nevada. There are currently five hotels and two recreational vehicle parks in Wells, and three casino resorts in West Wendover. It is unlikely that the short-term usage of these facilities would result in any exceedance of lodging capacities. The Elko County Sheriff's Department has a substation in Wells, and the City of West Wendover has its own police department; therefore, it is also unlikely that any service capacities would be impacted by the Project. Should mineral resources be discovered and the Project

expanded into a mine development project, additional socioeconomic analysis would be conducted.

Summary Analysis

Due to the short-term nature of the exploratory drilling activities at the Project, there is potential for the workforce to create a short-term, minor demand for additional public or private services. The transient nature of mineral exploration work would not impact public schools, the permanent housing market, or other services otherwise associated with permanent workers. There is potential for small, social and economic impacts that may result from the use of lodging and other accommodations in the study area, but those impacts are anticipated to be short-term and minor. Should the Project move beyond the exploration phase, further analysis would be warranted.

No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM. There would be no impacts to socioeconomics under the No Action Alternative.

3.4 Special Status Species

3.4.1 Issue 3: How would disturbance from Project implementation affect GRSG spring (lekking and lek habitat, nesting and early brood rearing), summer (late brood rearing), and winter habitat use?

3.4.1.1 Affected Environment

As discussed in Section 1.6.2, there are approximately 835 acres mapped as GHMA and approximately 449 acres mapped as OHMA within the Project Area (Figure 1.6.2). Within the mapped GHMA, spring, summer, and winter seasonal GRSG habitat fully encompass the Project Area, using the seasonal habitat mapped by the United States Geological Survey (Coates et al. 2016).

According to the NDOW, there are two leks within four miles of the Project Area: Immigrant Canyon and Murdock. The status of the Immigrant Canyon lek was identified as historic, and is approximately 1.1 miles away from the Project Area. NDOW identified the status of the Murdock lek as active, but in a subsequent data response from NDOW in December 2022, the status of the Murdock lek was changed to pending. The most recent survey, where GRSG activity was noted for the Murdock lek, was conducted in 2018. The Murdock lek is approximately 1.3 miles away from the Project Area. Lek route counts were conducted on April 18 and 30, and May 10, 2022, at both the Immigrant Canyon and Murdock lek sites. No GRSG were observed during any of the counts at either site (WestLand Engineering & Environmental Services [WestLand] 2023).

GRSG are considered sagebrush obligates and dependent on extensive sagebrush habitat for survival and reproduction (Connelly et al. 2000; Connelly et al. 2004; NDOW 2022). They inhabit foothills, plains, and mountain slopes where sagebrush (*Artemisia* spp.) is present and is often with a mixture of sagebrush, meadows, and aspen in proximity. Standing water is an essential

component of GRSG habitat. The need for water depends on the availability of preferred, succulent vegetation, and when the preferred forbs dry out (Autenrieth 1981; Klebenow 1985).

In late winter and early spring, GRSG males congregate and perform competitive courtship displays in open areas referred to as leks. Leks are usually located on relatively open sites surrounded by sagebrush or in areas where sagebrush density is low such as exposed ridges, knolls, or grassy swales. GRSG tend to build nests in the vicinity of a lek within seven to ten days after breeding. Most nests are within four miles of a lek, but some females may nest more than 12 miles away (Connelly et al. 2000). Nests are in thick cover in sagebrush habitats with grass and forb understory. Nest sites are often characterized by sagebrush communities with 15 to 38 percent canopy cover and a diverse understory of native grasses and forbs. Nesting habitat provides screening cover, nutritious herbaceous forage, and an insect prey base for pre-laying and nesting GRSG hens (Barnett and Crawford 1994; Connelly et al. 2004). Lekking usually begins in early March and sometimes continues through mid-May. Nesting occurs throughout April and May with hatching usually occurring as early as early May and continuing into early June (NDOW 2022).

Early brood-rearing typically occurs in upland sagebrush habitats relatively close to nest sites, but the movements of individual broods may vary (Connelly et al. 2000). Early brood-rearing habitat often consists of relatively open stands of sagebrush at approximately 14 percent canopy cover, and contains a diverse and abundant herbaceous understory of grasses and forbs (Wallestead et al. 1975; Connelly et al. 2000). These areas provide water, succulent forbs, and insects, which are important to young GRSG.

As GRSG habitat becomes drier, broods move to mesic landscapes where grasses and insects are still available, usually during June and July (Autenrieth 1981; Klebenow 1985; Neel 2001). Such mesic landscapes include meadows, riparian areas, irrigated farmland, and upland communities (Connelly et al. 2000). As vegetation continues to desiccate through late summer and fall, GRSG feed almost exclusively on sagebrush leaves and depend entirely on sagebrush throughout the winter for both food and cover (Schroeder et al. 1999).

In early fall, GRSG form flocks and move toward winter ranges from late August to December, depending on snowfall. GRSG feed almost entirely on several species of sagebrush (Wyoming big sagebrush [*Artemisia tridentata* ssp. *wyomingensis*], mountain big sagebrush [*Artemisia tridentata* ssp. *vaseyana*], low sagebrush [*Artemisia arbuscula*], black sagebrush [*Artemisia nova*], fringed sagebrush [*Artemisia frigida*], and silver sagebrush [*Artemisia cana*]) during the winter. The amount of snow usually determines winter use areas. Sagebrush needs to be exposed at least ten to 12 inches above snow level to provide both food and cover for wintering sage-grouse (Klebenow 1985; Neel 2001).

Many GRSG move between seasonal ranges in response to habitat distribution (Connelly et al. 2004). Their movement corridors are considered “traditional,” as individuals do not always select the closest habitats (Connelly et al. 2011).

3.4.1.2 Environmental Consequences

Proposed Action

NEVAGRO has indicated that work would most likely only occur in the Project Area between May 1 and October 31, subject to change based on snow conditions and accessibility issues. This would partially reduce or eliminate potential impacts to GRSG habitat during the first portion of the spring season (March 1 through June 15), and would eliminate all potential impacts during the winter season (November 1 through February 28). Based on the requirements in the 2015 GRSG ARMPA, timing and seasonal restrictions would be applied in the mapped GHMA in the Project Area, or approximately 54 percent of the Project Area. The Project includes up to 8.9 acres of proposed disturbance, which would impact approximately one percent of the mapped GHMA habitat (or spring [lekking and lek habitat, nesting and early brood rearing] and summer [late brood rearing] seasonal habitat) in the Project Area.

Based on the MDs in the 2015 GRSG ARMPA, and outlined in Section 1.6.2, seasonal and timing restrictions only apply to mapped habitat areas within four miles of active or pending leks; therefore, potential impacts are only discussed for the Murdock lek.

Direct and indirect impacts from drilling activities, and the associated construction of drill sites and sumps, roads, trenches, and one staging area on GRSG, are dependent upon the time of year/day and duration of activities. During the lekking season (March 1 to May 15), impacts to GRSG would primarily be avoided due to the proposed operational timeframe of May 1 to October 31. However, if weather conditions allow drilling to occur prior to May 1, NEVAGRO would either coordinate with the BLM and NDOW on possible locations within the Project Area to conduct drilling activities, or conduct operations between 9:00 AM and 6:00 PM. The identified access road to the Project Area is over 1.5 miles away from the Murdock lek; therefore, potential impacts to GRSG from travel along the access road by vehicles and equipment are anticipated to be minimal.

During the nesting and early brood rearing season (May 15 to June 15), Project disturbance is largely focused on nesting females and their recently hatched broods. Mobility of recently hatched GRSG broods is limited; young are precocial and are not able to fly strongly until about five weeks after hatching (Schroeder et al. 1999). As a result, movements of female GRSG are likely to be more restricted during this early brood rearing time period, as they would likely stay near their brood (Milligan et al. 2024). Female GRSG would likely avoid nesting near Project activities due to continuous human/vehicle presence and ground disturbing activities. Any females that nested in the area prior to commencement of Project activities may abandon the nest site due to disturbance from people and equipment. There are approximately 880 acres of the field-verified Great Basin Pinyon-Juniper Woodland vegetation community within the Project Area (Figure 3.4.1); therefore, nesting female GRSG would most likely avoid this area as the pinyon-juniper woodland vegetation community does not provide adequate sagebrush cover to protect the nests, and increases the likelihood of perching by GRSG predators. Nesting or early brood rearing activities may occur within the 340 acres of field-verified Great Basin Xeric Mixed Sagebrush Shrubland; however, this vegetation community is interspersed within the Great Basin Pinyon-Juniper Woodland vegetation community in areas of proposed exploration activities, which would minimize the potential for nesting or brood rearing activities to occur in those areas.

During the late brood rearing period (June 15 to September 15), GRSG, including hens with broods, would most likely avoid the Project Area due to continuous human/vehicle presence and noise from drilling activities, as well as the mixture of pinyon-juniper and sagebrush vegetation. There are approximately 59 acres of field-verified Inter-Mountain Basins Semi-Desert Grassland in the Project Area which could provide foraging habitat during the late brood rearing period; however, the field-verified area is located primarily within mapped OHMA or away from proposed exploration activities.

No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM. There would be no impacts to seasonal GRSG habitat under the No Action Alternative.

Cumulative Effects of the Alternatives

Within the GRSG CESA (approximately 1,618,993 acres), past and present disturbance has resulted from the following: mining, mineral exploration, and mineral material disposal activities (approximately 7,738 acres); utilities (i.e., power transmission, communication sites, telecommunications, and water and irrigation facilities) (approximately 2,369 acres); railroads, roads, and highways (approximately 11,562 acres); wildland fires (79,671 acres); livestock grazing; and dispersed recreation. There are approximately 12 acres of RFFAs in the GRSG CESA, which primarily include roads, power transmission, telecommunications, communication sites, and small minerals projects.

Cumulative effects to GRSG in the GRSG CESA from past, present, and RFFAs in combination with the Proposed Action include removal of vegetation, dispersal or displacement of populations, and fragmentation of certain habitats and populations. Displacement and habitat fragmentation may decrease survival rates of affected individuals to some degree and increases competition. Removal of vegetation understory may reduce recruitment and increase predation. Road and drill pad construction and use disturbs wildlife habitat by removing vegetation, compacting soils, displacing individuals, and increasing noise and human presence to an area. Human presence tends to disturb many species of wildlife throughout their habitats, and increased human presence and noise would likely result in dispersal, displacement, or avoidance of GRSG in the CESA.

Other activities such as livestock grazing and dispersed recreation, which are not quantified, also have potential consequences to GRSG. GRSG may be affected by livestock grazing due to competition for forage and habitat removal/conversion (Monroe et al. 2017). Past and present recreational uses in the area include hunting and off-highway vehicle use. Human disturbance during periods of the year when GRSG are otherwise stressed due to a lack of forage and/or harsh weather, can cause further stress and may increase mortality opportunities. The Proposed Action would result in additional noise and human influence in the CESA during the Project life of two years potentially resulting in additional avoidance and displacement of GRSG.

Of the 1,618,993 acres covered by the GRSG CESA, approximately 102,582 acres (6.3 percent) of disturbance is associated with past, present, and RFFAs. Combined with the 8.9 acres associated with the Proposed Action, the total disturbance within the CESA would be approximately 102,591 acres, or also approximately 6.3 percent of the CESA. The 8.9 acres of disturbance associated with the Proposed Action would be short-term and temporary, lasting only for two

years, as dictated by BLM regulations for leasable minerals projects. The Proposed Action's incremental contribution to the cumulative environment is approximately 0.009 percent. In addition to adherence to the timing and seasonal restrictions outlined in the 2015 GRSG ARMPA, the EPMs outlined in Section 2.3 would help minimize impacts to GRSG by NEVAGRO conducting reclamation, and coordinating with the SETT to offset impacts from lost habitat. In addition, the additional disturbance created by the Proposed Action would not increase the percentage of the GRSG CESA that is currently disturbed from other past, present, and RFFAs.

Under the No Action Alternative, cumulative impact acres to GRSG would be less than the Proposed Action since the mineral exploration activities would not occur. There would be no contribution to the cumulative loss of individuals, breeding success rates, and habitat, or cumulative impacts from noise and human presence on breeding activities or lek attendance. The No Action Alternative, in combination with past, present, and RFFAs, would not increase the percentage of the GRSG CESA disturbance.

4 CONSULTATION AND COORDINATION

This EA was prepared at the direction of the BLM WFO, by WestLand, under a contract with NEVAGRO. The following is a list of persons, groups, and agencies consulted, as well as a list of individuals responsible for the preparation of this EA.

4.1 Native American Consultation

On June 14, 2023, the BLM initiated government-to-government consultation by sending letters about the Project to the following tribes: Confederated Tribes of the Goshute Reservation; Ely Shoshone Tribe; Northwestern Band of the Shoshone Nation; Shoshone-Bannock Tribes of the Fort Hall Reservation; Shoshone-Paiute Tribes of the Duck Valley Reservation; the Elko Band Council of the Te-Moak Tribe of Western Shoshone; the Wells Band Council of the Te-Moak Tribe of Western Shoshone; the Battle Mountain Band Council of the Te-Moak Tribe of Western Shoshone; and the Southfork Band Council of the Te-Moak Tribe of Western Shoshone. The Project was additionally discussed at Tribal council meetings for the Wells Band and Confederated Tribes of the Goshute Reservation. No concerns have been brought forward by any of the Tribes to date regarding the Project; however, consultation is ongoing.

4.2 Persons, Groups, and Agencies Consulted

Federal Agencies

United States Fish and Wildlife Service

State Agencies

Nevada Division of Natural Heritage; NDOW; SETT

4.3 List of Preparers and Reviewers

BLM

Aili Gordon	Project Lead; Geology and Mineral Resources; Wastes, Hazardous/Solid; Water Quality
Kelly Michelsen	Planning and Environmental Coordinator
Samantha Phillips	Migratory Birds; Threatened/Endangered Species; Wetlands/Riparian Zones; Aquatic Species; Sensitive Species; Wildlife
Matthew Fockler	Environmental Justice; Socioeconomics
Frank Giles	Air Quality; Climate Change
Joe McConnell	Cultural Resources; Paleontological Resources
Jeff Moore	Vegetation; Rangeland Management; Soils; Wild Horses and Burros
Kyle Martin	Non-Native Invasive and Noxious Species
Mike Alberti	Recreation; Visual Resources; Wilderness; Lands with Wilderness Characteristics
Karen Uhri	Lands and Realty
Brady Owens	Native American Concerns

WestLand Engineering & Environmental Services

Catherine Lee	EA Manager, Main Document Author, NEPA Compliance
Tanner Chapman	GIS Data Management and Figure Production
Ellen Farley	Editorial Review
Kris Kuyper	Biological Resources
Danielle Felling	Cultural Resources

5 REFERENCES

Autenrieth, R.E. 1981. Sage grouse management in Idaho. Wildlife Bulletin Number 9. Idaho Department of Fish and Game. 239 pp.

Barnett, J.F. and J.A. Crawford. 1994. *Pre-Laying Nutrition of Sage-Grouse Hens in Oregon*. Journal of Range Management 47: 114-118.

Bureau of Land Management (BLM). 1985. *Wells Resource Management Plan Record of Decision*. Nevada State Office, Reno, Nevada. July 1985.

_____. 1992. *Solid Minerals Reclamation Handbook #H-3042-1*.

_____. 2015. *Nevada and Northeastern California Greater Sage-Grouse Approved Resource Management Plan Amendment*. https://eplanning.blm.gov/eplanning-ui/project/21152/570. Accessed February 22, 2024.

_____. 2024a. *Land & Mineral System Reports (LR2000)*. https://reports.blm.gov/reports/LR2000. Accessed January 15, 2024.

_____. 2024b. *Mineral & Land Records System Reports*. https://reports.blm.gov/reports/mlrs. Accessed January 15, 2024.

Coates, P. S., M. L. Casazza, B. E. Brussee, M. A. Ricca, K. B. Gustafson, E. Sanchez-Chopitea, K. Mauch, L. Neill, S. Gardner, S. Espinosa, and D. J. Delehanty. 2016. *Spatially Explicit Modeling of Annual and Seasonal Habitat for Greater Sage-Grouse (Centrocercus urophasianus) in Nevada and Northeastern California – An Updated Decision-Support Tool for Management*. US Geological Survey data release. http://dx.doi.org/10.5066/F7CC0XRV.

Connelly, J.W., M.A. Schroeder, A.R. Sands and C.E. Braun. 2000. *Guidelines to Manage Sage-Grouse Populations and Their Habitats*. Wildlife Society Bulletin 28(4): 967-985.

Connelly, J.W., S.T. Knick, M.A. Schroeder, and S.J. Stiver. 2004. *Conservation Assessment of Greater Sage-Grouse and Sagebrush Habitats*. Western Association of Fish and Wildlife Agencies. Unpublished report. Cheyenne, Wyoming. 610 pages.

Connelly, J.W., C.A. Hagen, and M.A. Schroeder. 2011. *Characteristics and Dynamics of Greater Sage-Grouse Populations*. Pages 53-68 *in*: S.T. Knick and J.W. Connelly (Editors). Greater Sage-Grouse Ecology and Conservation of a Landscape Species and its Habitats (Studies in Avian Biology) Volume 38. University of California Press, Berkeley, California. 664 pages.

EM Strategies, a WestLand Resources, Inc. Company. 2022. *Murdock Mountain Phosphate Exploration Project, Elko County, Nevada, Noxious Weed Monitoring and Control Plan*. November 2022.

Headwaters Economics. 2023a. Bureau of Land Management (BLM) Socioeconomic Profile (Elko County, NV; Tooele County, UT). June 1, 2023.

_____. 2023b. A Profile of Socioeconomic Trends (Elko County; NV; Tooele County, UT). June 1, 2023.

Klebenow, D.A. 1985. Habitat management for sage grouse in Nevada. World Pheasant Assoc. 10:36-46.

Milligan, M.C., P.S. Coates, S.T. O'Neil, B.E. Brussee, MP. Chenaillie, D. Friend, K. Steele, J.R. Small, T.S. Bowden, A.D. Kosic and K. Miller. 2024. Greater Sage-Grouse Habitat of Nevada and Northeastern California – Integrating Space Use, Habitat Selection, and Survival Indices to Guide Area for Habitat Management. U.S. Department of the Interior, U.S. Geological Survey. Ecosystems Mission Area – Species Management Research Program. Open-File Report 2024-1018.

Monroe, A.P., C.L. Aldridge, T.J. Assal, K.E. Veblen, D.A. Pyke, and M.L. Casazza. 2017. *Patterns in Greater Sage-grouse population dynamics correspond with public grazing records at broad scales*. Ecological Applications: Ecological Society of America. Vol. 27, Issue 4.

Neel, L. A., editor. 2001. Nevada Partners in Flight bird conservation plan. Carson City, Nevada, USA. Available at http://www.blm.gov/wildlife/plan/pl-nv-10.pdf.

Nevada Department of Wildlife (NDOW). (2022). *The 2022 - 2032 Wildlife Action Plan*. Barnes, J., Davis, L., Kleiber, J., Newmark, J., Mack. L., & Hessenius. A. (eds). Reno, NV 298 pages.

Nevada Division of Environmental Protection and the Nevada Division of Conservation Districts. 1994. *Handbook of Best Management Practices. Adopted by the State Environmental Commission*. December 7, 1994.

Nevada Division of Environmental Protection Bureau of Mining Regulation and Reclamation (NDEP BMRR). 1998. *Nevada Guidelines for Successful Revegetation for the Nevada Division of Environmental Protection, the Bureau of Land Management and the United States Forest Service*. Revised September 2016.

Schroeder, M.A., J.R. Young, and C.E. Braun. 1999. *Sage-grouse (Centrocercus urophasianus)*. 28 pages *in*: A. Poole and F. Gill (Editors). The Birds of North America, No. 425. The Birds of North America, Inc., Philadelphia, Pennsylvania.

Wallestead, R.O., J.G. Peterson, and R.L. Eng. 1975. *Food of Adult Sage-grouse in Central Montana*. Journal of Wildlife Management 39: 628-630.

WestLand Engineering & Environmental Services (WestLand). 2023. *NEVAGRO, LLC, Murdock Mountain Phosphate Exploration Project, Elko County, Nevada, 2022 Baseline Biological Survey Report*. January 2023; revised March 2023 and April 2023.

APPENDIX A

FIGURES

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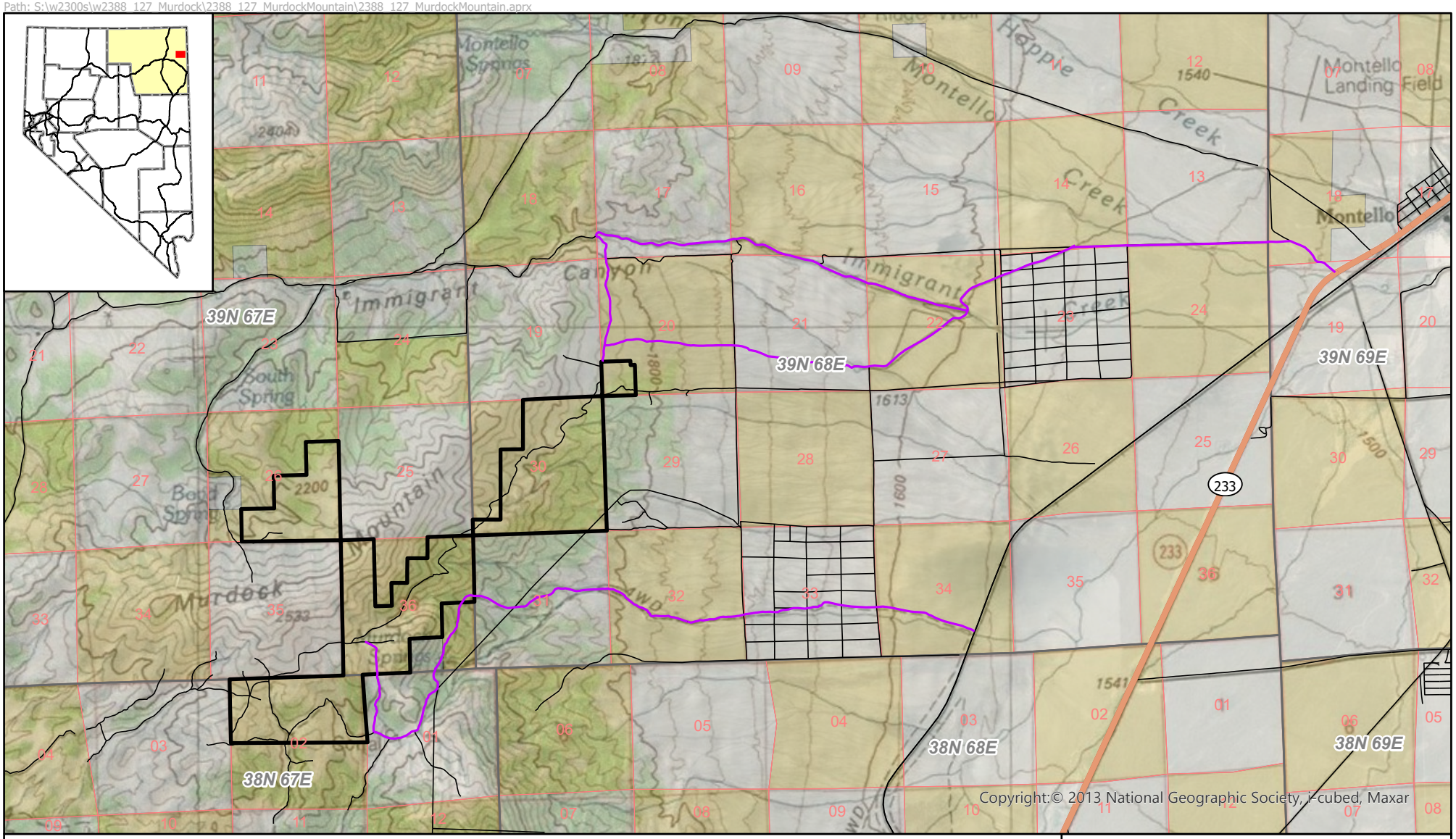

Explanation

- Project Area (1,575 acres)
- Project Access Road
- Existing Road
- State Highway

Land Status

- Bureau of Land Management
- Private

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Wells Field Office
3900 Idaho Street
Elko, NV 89801

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BUREAU OF LAND MANAGEMENT

MURDOCK MOUNTAIN PHOSPHATE EXPLORATION PROJECT

Project Location, Access, and Land Status

Figure 1.2.1

8/14/2024

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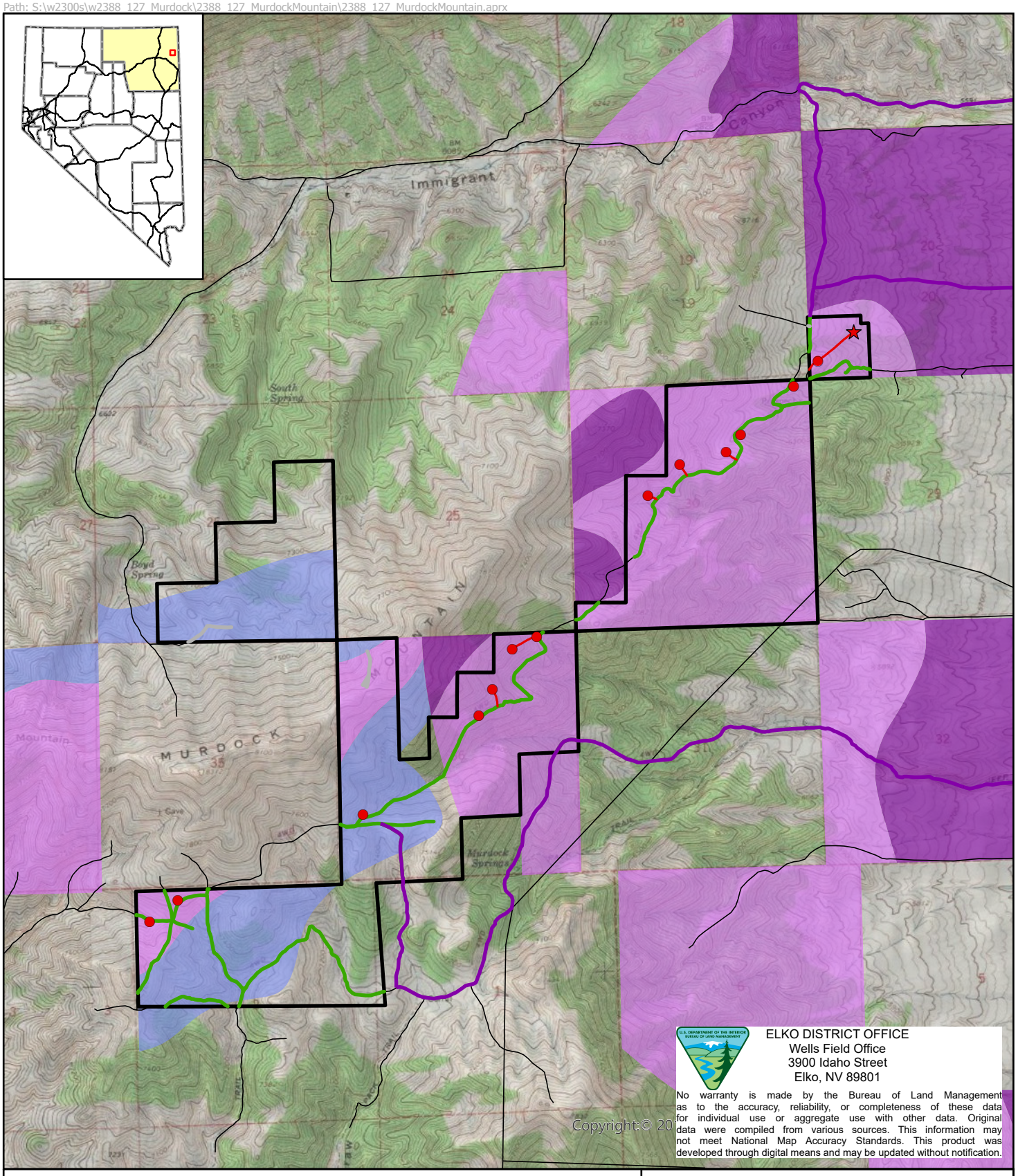

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Explanation

- Project Area (1,575 acres)
- Existing Road/Trail
- Project Access Road

BLM Greater Sage-grouse Habitat Areas

- Priority Habitat Management Areas (0 acres in Project Area)
- General Habitat Management Areas (845 acres)
- Other Habitat Management Areas (449 acres in Project Area)

Proposed Activities

- Drill Site (13)
- Laydown Area (1)
- Constructed Road (3,556 feet)

Existing Roads within the Project Area

- Post-1981
- Pre-1981

0 0.5 1 Miles

N

BUREAU OF LAND MANAGEMENT

MURDOCK MOUNTAIN PHOSPHATE EXPLORATION PROJECT

Greater Sage-grouse Habitat in the Vicinity of the Project Area 2015
ARMPA (DOI-BLM-NV-0000-2022-0006-CX)

Figure 1.6.2

8/13/2024

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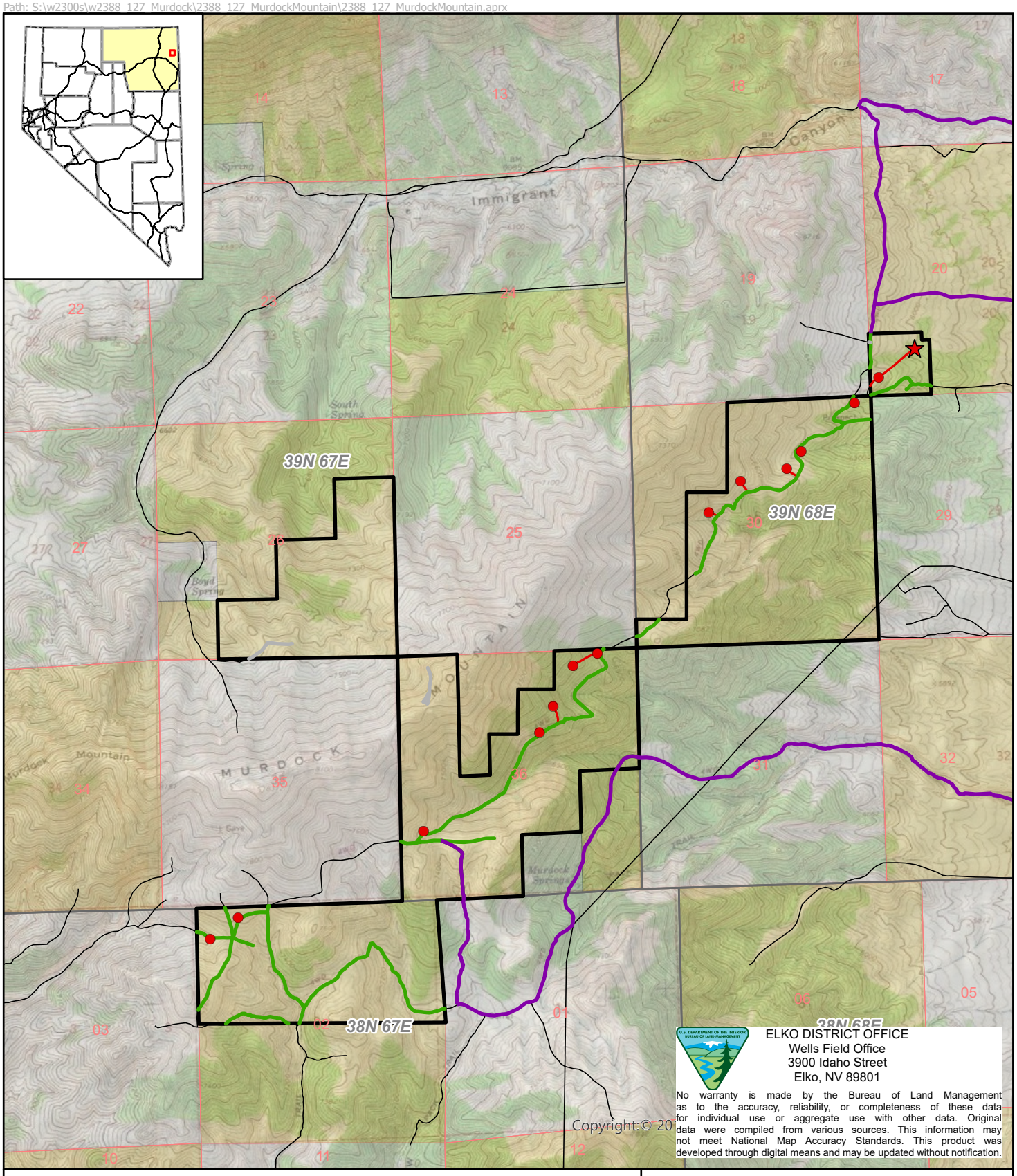

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Explanation

- Project Area (1,575 acres)
- Existing Road/Trail
- Project Access Road

Existing Roads within the Project Area

- Pre-1981*
- Post-1981

*Pre-1981 disturbance was identified using USGS Single Frame Aerial Imagery PEDC005020136 taken on September 15, 1979

Proposed Activities

- Drill Site (13)
- Laydown (1)
- Constructed Road (3,556 feet)

Land Status

- Bureau of Land Management
- Private
- Project Access Road
- Existing Road/Trail

0 0.25 0.5 Miles

N

BUREAU OF LAND MANAGEMENT

MURDOCK MOUNTAIN PHOSPHATE EXPLORATION PROJECT

Existing and Proposed
Year 1 Disturbance Activities

Figure 2.1.1
8/14/2024

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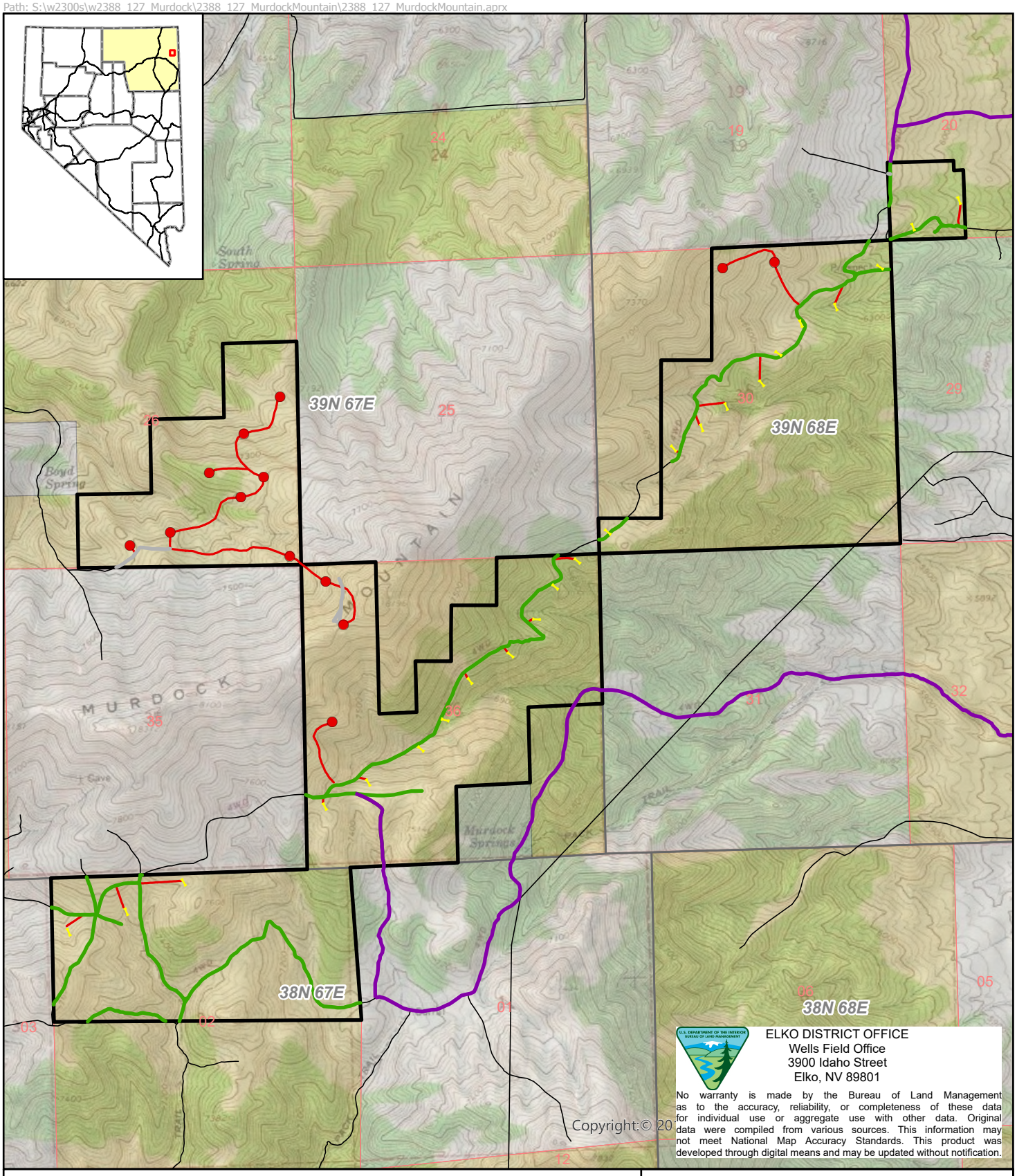

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Explanation

- Project Area (1,575 acres)
- Existing Road/Trail
- Project Access Road

Proposed Activities

- Drill Site (13)
- Trench (23)
- Constructed Road (17,748 feet)

Existing Roads within the Project Area

- Pre-1981*
- Post-1981

Land Status

- Bureau of Land Management
- Private

*Pre-1981 disturbance was identified using USGS Single Frame Aerial Imagery PEDC005020136 taken on September 15, 1979

0 0.25 0.5 Miles

N

BUREAU OF LAND MANAGEMENT

MURDOCK MOUNTAIN PHOSPHATE EXPLORATION PROJECT

Existing and Proposed
Year 2 Disturbance Activities

Figure 2.1.1a
8/16/2024

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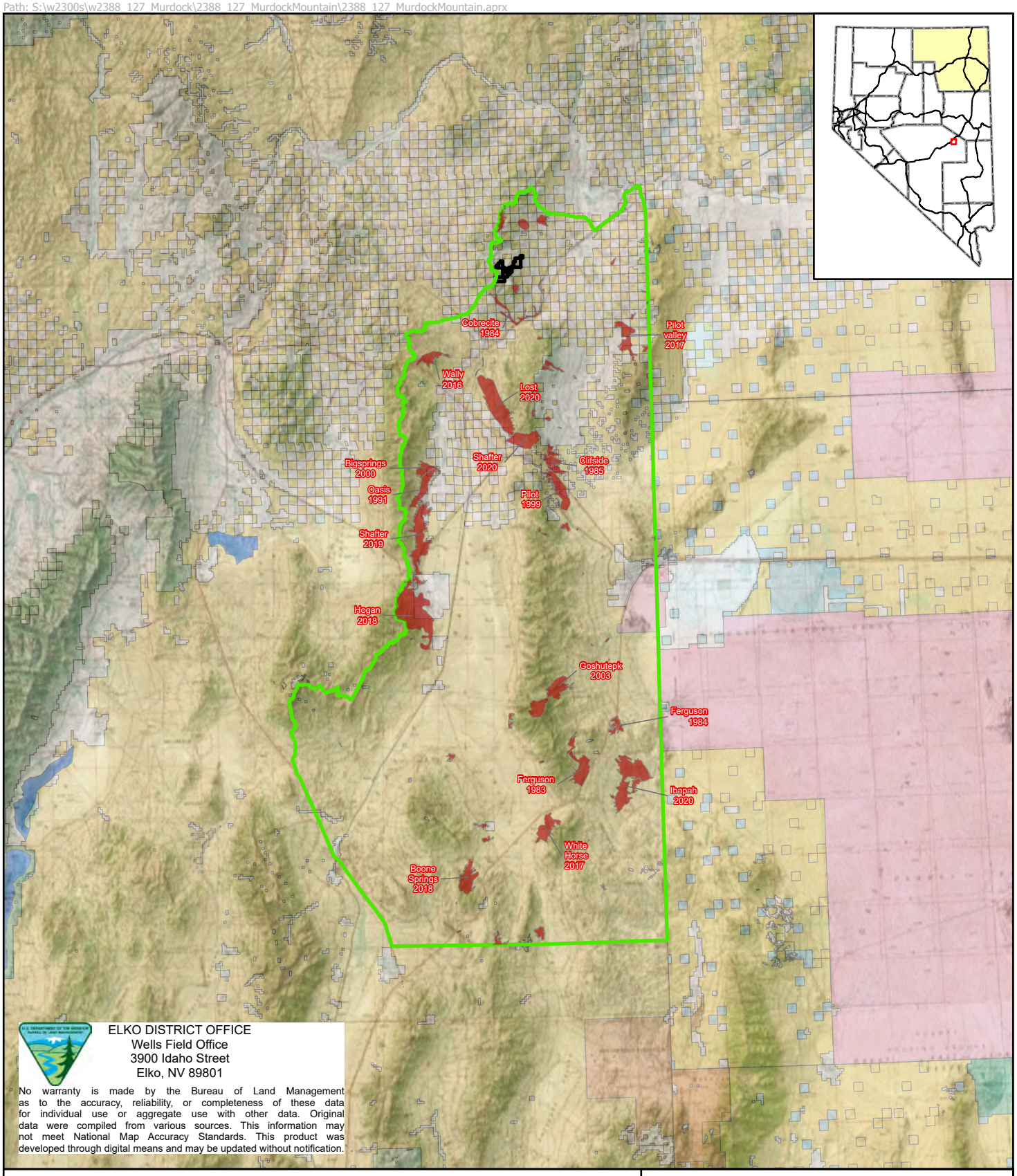

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Explanation

- Project Area (1,575 acres)
- Greater Sage-grouse CESA (1,618,993 acres)
- Fires (1981 - 2020)

Land Status

- Bureau of Indian Affairs
- Bureau of Land Management
- Department of Defense
- Fish and Wildlife Service
- Forest Service
- Private
- Water

0 5 10 Miles

N

BUREAU OF LAND MANAGEMENT

MURDOCK MOUNTAIN PHOSPHATE EXPLORATION PROJECT

Greater Sage-grouse Cumulative Effects Study Area and Fire History

Figure 3.1.1

4/26/2024

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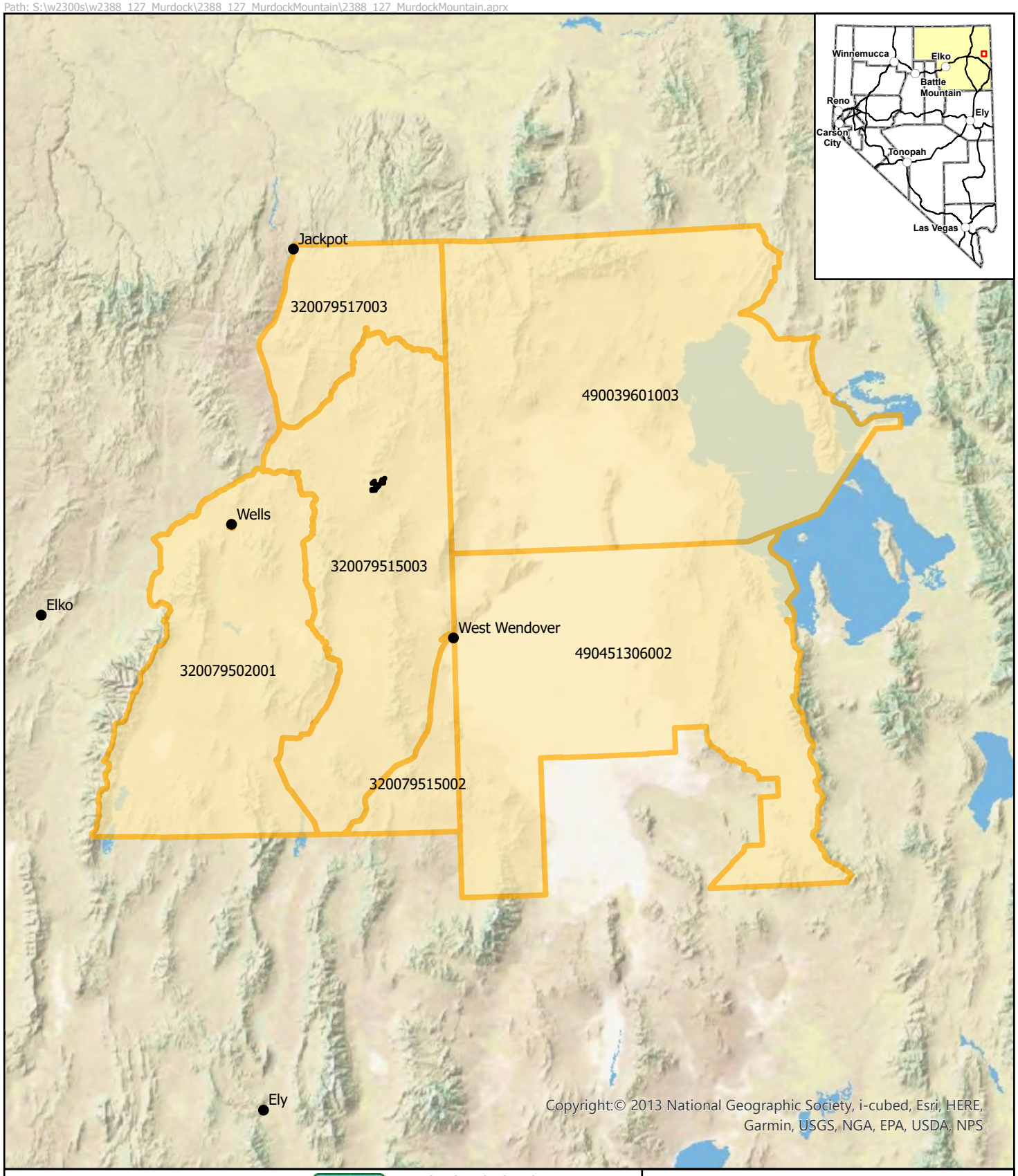

Explanation

- Project Area (1,575 acres)
- Study Area
- Towns

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0 15 30 Miles

N

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MURDOCK MOUNTAIN PHOSPHATE EXPLORATION PROJECT

Environmental Justice Study Area

Figure 3.2.1

11/22/2023

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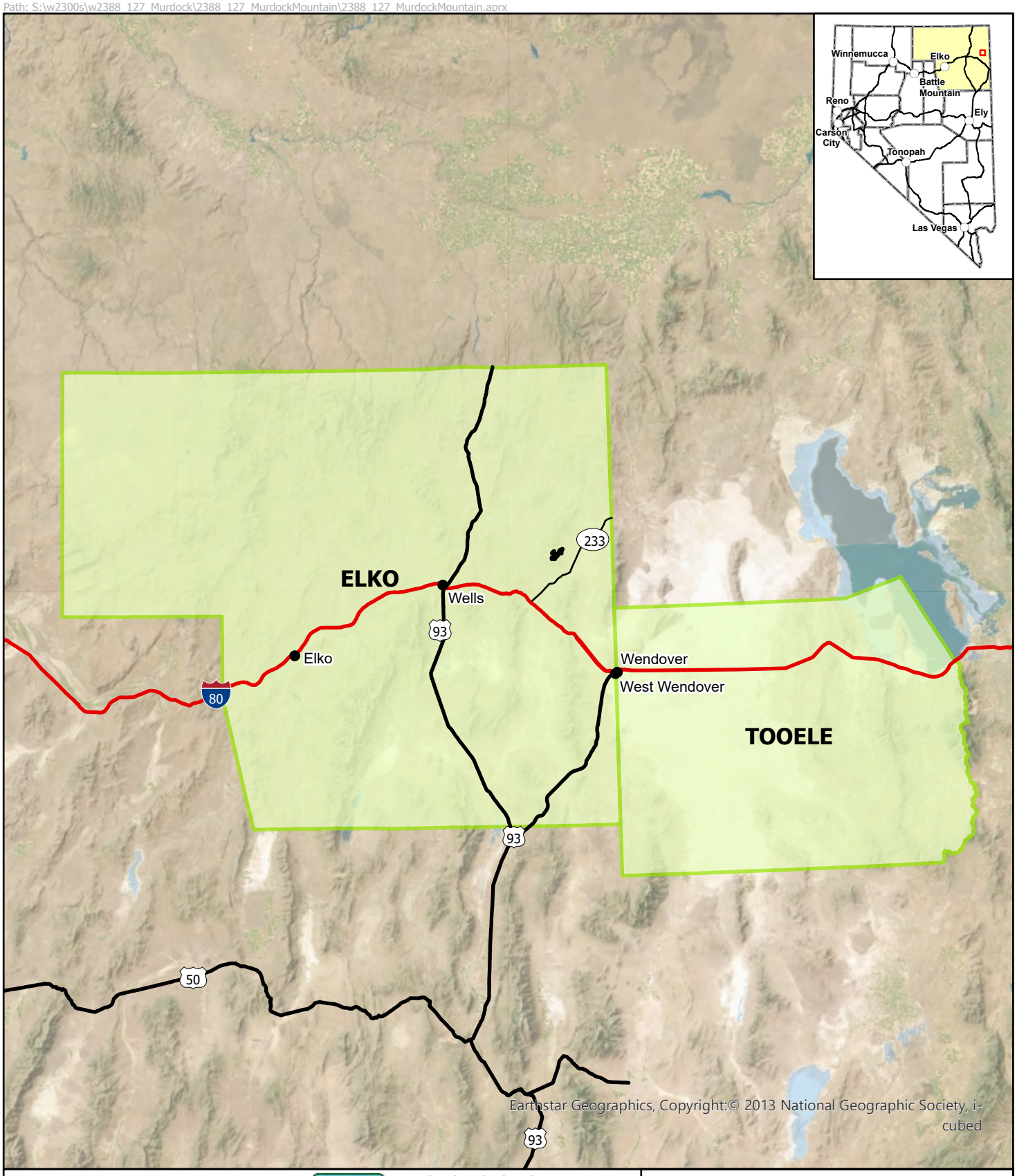

Explanation

- Project Area (1,575 acres)
- Socioeconomic Study Area
- Town
- Interstate
- US Highway
- State Route

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0 15 30 Miles N

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MURDOCK MOUNTAIN PHOSPHATE EXPLORATION PROJECT

Socioeconomic Study Area

Figure 3.3.1

11/22/2023

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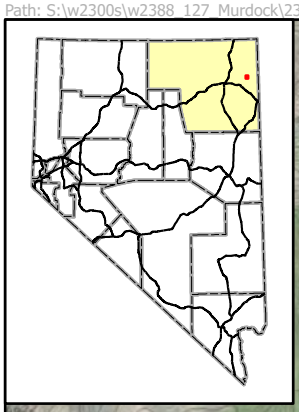

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Explanation

- Project Area (1,575 acres)
- Great Basin Pinyon-Juniper Woodland (880 acres)
- Great Basin Xeric Mixed Sagebrush Shrubland (340 acres)
- Inter-Mountain Basins Montane Sagebrush Steppe (179 acres)
- Inter-Mountain Basins Big Sagebrush Shrubland (111 acres)
- Inter-Mountain Basins Semi-Desert Grassland (59 acres)
- Inter-Mountain Basins Cliff and Canyon (5 acres)

0 0.5 1 Miles N

BUREAU OF LAND MANAGEMENT

MURDOCK MOUNTAIN PHOSPHATE EXPLORATION PROJECT

Field-Verified Vegetation Communities in the Project Area

Figure 3.4.1

4/26/2024

APPENDIX B

ISSUES NOT PRESENTED IN DETAIL

Appendix B: Issues Not Presented in Detail

According to the Bureau of Land Management's (BLM's) NEPA Handbook (H-1790-1) (BLM 2008), issues are only analyzed if:

- Analysis of the issues is necessary to make a reasoned choice between alternatives.
- The issue is significant (an issue associated with a significant direct, indirect, or cumulative impact, or where analysis is necessary to determine the significance of impacts.)

Several issues were identified during scoping that were not brought forward for detailed analysis and are identified in Table B-1 along with a rationale for why they were not brought forward.

Table B-1: Issues Identified Through Scoping but Not Analyzed in Detail

Issue	Rationale for Not Analyzing in Detail
How would the Proposed Action affect air quality in the local air basin?	The Project Area is in the Thousand Springs Valley-Montello-Crittenden Creek Area Air Basin No. 189D. The proposed Project is not within a nonattainment area or areas where total suspended particulates or other criteria pollutants exceed Nevada air quality standards. Project activities would result in negligible short-term adverse effects to air quality in the form of vehicle emissions and fugitive dust (Attachment 1 – Emissions Inventory). Estimated emissions from the Project are below the Federal Conformity De Minimis threshold, which would suggest that the Project would have a de minimis effect on compliance with state and federal air quality standards. As outlined in the applicant-committed environmental protection measure (EPM) in Section 2.3, fugitive dust emissions would be minimized by reduced speed limits on access roads and the application of water from a water truck. Adherence to the EPM, combined with compliance with applicable state and federal regulations should maintain potential impacts on air quality at a negligible level. Therefore, this element is not further analyzed in this EA.
How would the Proposed Action affect the course of climate change in Nevada?	Climate change is a far-reaching and long-term issue that would affect the Project Area, its resources, and management beyond the scope of this assessment and its two-year timeframe. Although many effects of climate change are considered known or likely to occur, specific impacts to the Project Area cannot be determined exactly at our current level of understanding. Much depends on the rate at which temperature would continue to rise and whether global emissions of greenhouse gases (GHGs) can be mitigated before serious ecological thresholds are reached. GHG emissions were estimated for the Proposed Action and were compared to annual Nevada emissions and United States (US) emissions. The Proposed Action is not expected to cause significant methane or nitrous oxide emissions. Annual GHG emissions from the Proposed Action are estimated at 749 metric tons (MT) (Appendix A), which is equivalent to the emissions from 167 passenger vehicles driven for one year (US Environmental Protection Agency [EPA] 2023a). This amount is well below the 25,000 MT threshold set for reporting from stationary sources by the EPA and is insubstantial compared to

Issue	Rationale for Not Analyzing in Detail
	state emissions (37.336 million metric tons [MMT]) (Nevada Division of Environmental Protection 2022), and national emissions (6,340.2 MMT) (EPA 2023b). Reductions in Proposed Action emissions, such as by following the applicant-committed EPM in Section 2.3 which states that fugitive dust emissions would be minimized by reduced speed limits on access roads and the application of water from a water truck, could have a negligible beneficial effect in terms of directly reducing the adverse impacts of human-forced climate change.
How would known cultural resources be impacted by the proposed Project disturbance?	A Class III cultural resource inventory was conducted in the Project Area in October 2022 and May 2023 (Felling et. al. 2023). Out of the 1,575-acre Project Area, approximately 633 acres were previously surveyed in 2012; therefore, the BLM confirmed this area did not need to be resurveyed. The October 2022 and May 2023 surveys occurred within the remaining 942 acres of the Project Area. For safety reasons due to extremely steep slopes, approximately 84 acres were excluded from the 2022 and 2023 surveys; approximately 858 acres were surveyed to Class III standards. A total of 13 new sites were identified during the surveys, and three previously recorded sites were revisited and redocumented outside the survey area but within the Project Area (Direct Area of Potential Effect [APE]). Of the 13 newly identified sites, 11 are prehistoric and two are historic in age. Of the 13 newly recorded sites, one was recommended as eligible for listing on the National Register of Historic Places (NRHP), and one was recommended as unevaluated for NRHP listing pending subsurface testing. The other 11 newly identified sites are recommended not eligible for listing in the NRHP under any evaluation criteria. The three previously recorded sites are recommended as not eligible for NRHP listing. A total of 14 isolated finds were also recorded during the inventory; however, isolated finds are categorically not eligible for inclusion on the NRHP. All proposed Project disturbance activities would avoid both the site eligible for listing on the NRHP and the unevaluated site. In addition, Section 2.3 of this Environmental Assessment (EA) identifies applicant-committed EPMs that minimize impacts to identified and unevaluated resources. Therefore, this issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would construction equipment and associated ground disturbance impact the spread of noxious weeds, invasive and non-native species?	There were no noxious weed species observed in the Project Area during the July 2022 field surveys (WestLand Engineering & Environmental Services [WestLand] 2023). The following invasive species monitored on the Elko District were identified during the July 2022 field surveys: bur buttercup (*Ceratocephala testiculata*); cheatgrass (*Bromus tectorum*); tansy mustard (*Descurainia sophia*); halogeton (*Halogeton glomeratus*); and prickly lettuce (*Lactuca seriola*). As outlined in the applicant-committed EPM in Section 2.3, NEVAGRO would implement a Noxious Weed Monitoring and Control Plan (Appendix D of the Exploration Plan), which includes weed management strategies for the prevention, treatment, and monitoring of noxious and other invasive weeds. Implementation of this plan would minimize impacts to noxious weeds, invasive, and non-native

Issue	Rationale for Not Analyzing in Detail
	species; therefore, this issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would water quality be impacted by proposed drilling and trenching activities?	Surface water features in the Project Area are limited to ephemeral drainages flowing in an east-west or west-east direction. The only potential impacts to surface water quality would be from spills and sedimentation or erosion from surface disturbing activities. Applicant-committed EPMs outlined in Section 2.3 for hazardous material spills, stormwater, and drill hole abandonment would minimize any potential impacts to surface water quality to a negligible level. The Project is not expected to impact groundwater quality because the drill holes would be abandoned in accordance with Nevada Revised Statutes 534, Nevada Administrative Code (NAC) 534.4369, and NAC 534.4371. In addition, only water or nontoxic fluids would be used during drilling. This issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would disturbance from Project implementation affect mule deer migration corridor movement?	NEVAGRO has estimated a drilling window of approximately May 1 to October 31, dependent on snow conditions and abilities to access the Project Area. Therefore, Project activities should not conflict with mule deer migration, as the migration season has been identified by the Nevada Department of Wildlife (NDOW) as November 1 through April 30. This issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would disturbance from Project implementation affect elk habitat use?	The majority of the proposed Project disturbance would occur within elk crucial summer range. The elk habitat usage dates in the area have been identified by NDOW as April 15 to June 30. NEVAGRO has estimated a drilling window of approximately May 1 to October 31, which would avoid the first two weeks of elk habitat use. Based on the BLM's 2015 Greater Sage-Grouse Approved Resource Management Plan Amendment (GRSG ARMPA), timing and seasonal restrictions avoid activities during the lekking season between March 1 and May 15 (or, if activities cannot be avoided, to avoid them between the hours of 6 p.m. to 9 a.m.), and nesting and early brood-rearing seasons from April 1 to June 30. If these seasonal and timing restrictions are adhered to, then no impacts would occur to elk habitat use. However, according to Management Decision (MD) SSS 3D in the GRSG ARMPA for discretionary projects, these seasonal and timing restrictions may be modified due to documented local variations or annual climatic fluctuations in coordination with the BLM and Nevada Department of Wildlife. If Project activities are allowed to occur within the seasonal and timing restrictions, then elk use of crucial summer range may be disturbed, or their behavior may be modified until activities cease. However, proposed Project activities would occur within approximately 0.08 percent of the crucial summer range within the Project Area and vicinity, and approximately 0.0006 percent of the crucial summer range in the state of Nevada. Elk are a highly mobile species and would avoid the areas impacted by Project activities by moving into the surrounding crucial summer habitat; therefore, this issue has been eliminated from detailed analysis and is not analyzed further in this EA.

Issue	Rationale for Not Analyzing in Detail
How would disturbance from Project implementation affect other special status species and their habitat use (i.e., pinyon jay, raptors, bats, etc.)?	Special status wildlife species surveys were conducted in the Project Area in July 2022. Besides special status bat species, the only other special status species detected in the Project Area were the following avian species: Brewer's sparrow (*Spizella breweri*); loggerhead shrike (*Lanius ludovicianus*); and pinyon jay (*Gymnorhinus cyanocepalus*). NEVAGRO has estimated a drilling window of approximately May 1 to October 31, dependent on snow conditions and abilities to access the Project Area. As avian breeding season has been identified for the BLM Elko District as March 1 through July 31, potential impacts to special status avian species may be minimized by the proposed operational periods between March 1 and approximately May 1. To minimize potential impacts between May 1 and July 31, the EPM outlined in EA Section 2.3 requires migratory bird clearance surveys be conducted prior to any surface disturbing activities between March 1 and July 31. If surface disturbance is proposed during the pinyon jay nesting season of March 1 to May 31, specific protocol-level pinyon jay surveys would be conducted, and BLM would be coordinated with as necessary. Aerial golden eagle (*Aquila chrysaetos*) and raptor surveys were conducted on May 15, 2022, during the mid-to-late brood rearing period for eagles, within two miles of the Project Area. No golden eagle nests or large or small raptor nests were observed during the aerial surveys. Any new nests that may form in the future would be recorded during the migratory bird clearance surveys. Acoustic surveys for bats were conducted over three survey sessions during July, September, and October 2022. Eleven BLM sensitive bat species were recorded. There are no hibernacula, large rock outcrops, or cliffs in the Project Area that would serve as roosting habitat; however, there is foraging habitat available in the Project Area. To minimize impacts to bats, and as outlined in EA Section 2.3, NEVAGRO would coordinate with the contracted drill crew during overnight operations to provide lighting sources using LED lights with a warmer lighting spectrum (i.e., warm light, orange light), which are cooler than incandescent or compact fluorescent bulbs, and pointed towards the ground instead of up or out in order to avoid collisions with equipment, wing damage from collisions with hot bulbs, and to minimize attracting insects. With implementation of the applicant-committed EPMs in EA Section 2.3 outlining migratory bird clearance surveys and lighting sources, the proposed operational period of approximately May 1 to October 31, and the short-term, two-year Project life, potential impacts to raptors, pinyon jay and other migratory birds, bats, and other special status species would be minimal. This issue has been eliminated from detailed analysis and is not analyzed further in this EA.

Issue	Rationale for Not Analyzing in Detail
How would disturbance from Project implementation affect aquatic species, including aquatic special status species and their habitat use (i.e., springs, riparian, streams and fish, snails, mussels, etc.)?	Surface water features within the Project Area consist of ephemeral drainages trending east to west and west to east. There are no documented springs or riparian habitat in the Project Area. Since there is no suitable habitat in the Project Area for special status aquatic species, those species would not be impacted by the proposed Project. Additionally, applicant-committed EPMs addressing erosion and sedimentation are outlined in Section 2.3 of the EA. This issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would disturbance from Project activities affect stream and spring habitat and riparian areas?	Surface water features within the Project Area consist of ephemeral drainages trending east to west and west to east. There are no documented springs or riparian habitat in the Project Area. Additionally, applicant-committed EPMs addressing erosion and sedimentation are outlined in Section 2.3 of the EA. This issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would proposed exploration activities impact fuels and fire management in the area?	Project activities would not have a high likelihood of causing a fire. Applicant-committed EPMs outlined in Section 2.3 of the EA describing fire management activities would assist in reducing the likelihood and potential spread of any fire. In addition, there are no BLM fuels reduction projects proposed in the Project Area. This issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would proposed disturbance activities impact designated firewood cutting areas or their access?	There are no designated firewood cutting areas in the Project Area; the closest area is approximately 3.5 miles northeast of the Project Area (Hoppie Canyon). Access to this area would not be blocked by Project activities. This issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would the proposed disturbance impact Whitebark Pine (*Pinus albicaulis*), a Threatened species, and the Limber Pine (*Pinus flexilis*), a potential candidate species for protection under the Endangered Species Act (ESA)?	Prior to botanical surveys conducted in 2022, an official species list was requested from the United States Fish and Wildlife Service (USFWS). This list was received on March 28, 2022, prior to the listing of the whitebark pine as a Threatened species under the ESA on December 15, 2022. Another species list was requested from the USFWS on November 3, 2023. Neither list included whitebark pine as having potential to be affected by anthropogenic activities in the Project Area and vicinity. No critical habitat was reported on either the December 2022 or November 2023 species lists. Additionally, botanical field surveys conducted in July 2022 did not identify the presence of either the whitebark pine or limber pine in the Project Area. This issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would the proposed drilling activities impact geology and mineral resources?	The Project involves exploration for mineral resources, and would not involve the removal of large volumes of earth that could potentially lead to structural instability as with mining or large bulk sampling projects. Only a small amount of material would be removed from drill holes and would not affect potential mineral resources in the ground. Compared to the overall ore deposition in the region, the amount of minerals extracted because of these exploration activities would be negligible. This issue has been eliminated from detailed analysis and is not analyzed further in this EA.

Issue	Rationale for Not Analyzing in Detail
How would the proposed drilling activities impact livestock grazing management?	The Project Area is in the Gamble Individual grazing allotment. Out of the total acreage of this allotment (approximately 364,398 mapped acres), only approximately 0.002 percent of the entire allotment would be disturbed by the proposed Project disturbance (8.9 acres). The proposed activities would not result in impacts to animal unit months in the Gamble Individual grazing allotment; therefore, this issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would the proposed disturbance impact paleontological resources?	The Project Area is in both a Potential Fossil Yield Classification (PFYC) 3 and an area with unknown potential. PFYC 3 has moderate potential for common invertebrates, but the potential for significant paleontological resources is low. There are no known paleontological resources that have been identified or collected in the vicinity of the Project Area. The applicant-committed EPM in Section 2.3 states that all Project disturbance activities would stop in the event of a discovery of a previously undiscovered paleontological resource and immediately brought to the attention of the BLM Authorized Officer. This issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would dispersed recreation be impacted by the proposed exploration activities?	Dispersed recreation activities in the vicinity of the Project Area would not be impacted by Project activities. Project activities are temporary and sporadic, and no access roads would be closed. This issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would the construction of drill pads and roads impact soil movement and erosion and what measures would be taken to minimize impacts?	Clearing vegetation from the proposed drill sites and roads as well as grading activities would result in the movement of soils. To minimize impacts to erosion and sedimentation, best management practices (BMPs) would be utilized during construction, operation, and reclamation to minimize sedimentation from disturbed areas. Sediment control structures may include, but not be limited to, fabric or certified weed-free straw bale filter fences, siltation or filter berms, mud pits, and downgradient drainage channels to prevent unnecessary or undue degradation to the environment. Sediment traps, constructed as necessary, within the drill pad disturbance, would be used to contain drill cuttings. To facilitate drainage and prevent erosion, bladed roads (i.e., constructed roads) would have waterbars constructed, as needed, at BLM-recommended spacing, as defined in the BLM Primitive Roads Design Handbook H-9115-1. Additionally, applicant-committed EPMs in Section 2.3 addressing water quality and reclamation, including revegetation, would also minimize impacts to erosion and sedimentation. This issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would Visual Resource Management (VRM) classes be affected by Project activities?	The *1985 Approved Wells Resource Management Plan and Record of Decision* preceded the 1986 BLM VRM policy that guides the assignment of VRM class objectives through the land use planning process. Therefore, interim VRM classes were established for the Project Area using the Visual Resource Inventory classes previously established for the area. The interim VRM classes established are Class III in the southern and eastern portion of the Project Area, and Class IV in the northwestern portion of the Project Area that lies on the north side of Murdock

Issue	Rationale for Not Analyzing in Detail
	Mountain. VRM Class III provides for management activities that partially retain the existing character of the landscape and provide for moderate changes to the characteristic landscape that may attract attention but should not dominate the view of the casual observer. Any changes should repeat the basic elements found in the predominant natural features of the characteristic landscape. VRM Class IV provides for management activities which require major modifications of the existing character of the landscape that may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements. Applicant-committed EPMs in Section 2.3 include measures for recontouring and revegetation of disturbed surfaces, which would minimize impacts to the interim VRM classes. This issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would proposed Project activities minimize impacts from hazardous and solid wastes?	Materials and equipment necessary for spill clean-up would be kept in the laydown area. Drill rigs would have plastic sheeting underneath the equipment for catching leaks and spills. Light vehicles would carry spill kits. All Project-related refuse would be disposed of consistent with applicable regulations. All Project-related refuse would be disposed of daily consistent with applicable regulations. No refuse would be disposed on site. Up to two portable chemical toilets would be placed near the active drill sites and would be regularly serviced by an outside contractor. In addition, NEVAGRO has committed to the use of applicant-committed EPMs outlined in Section 2.3 describing hazardous material spills reporting and removal of wastes from the Project Area, including BMPs as described in the Spill Contingency Plan prepared for the Project (WestLand 2022). As a result of these measures and practices, this issue has been eliminated from detailed analysis and is not analyzed further in this EA.
Would the proposed undertaking impact or restrict access to resources of concern to Native American Tribes?	On June 14, 2023, the BLM initiated government-to-government consultation by sending letters about the Project to the following tribes: Confederated Tribes of the Goshute Reservation; Ely Shoshone Tribe; Northwestern Band of the Shoshone Nation; Shoshone-Bannock Tribes of the Fort Hall Reservation; Shoshone-Paiute Tribes of the Duck Valley Reservation; the Elko Band Council of the Te-Moak Tribe of Western Shoshone; the Wells Band Council of the Te-Moak Tribe of Western Shoshone; the Battle Mountain Band Council of the Te-Moak Tribe of Western Shoshone; and the Southfork Band Council of the Te-Moak Tribe of Western Shoshone. The Project was additionally discussed at Tribal council meetings for the Wells Band and Confederated Tribes of the Goshute Reservation. No concerns have been brought forward by any of the Tribes to date for the Project; however, consultation is ongoing.
How would the proposed Project disturbance impact Areas of Critical Environmental Concern (ACECs)?	There are no ACECs in the proposed Project Area or vicinity. This issue has been eliminated from detailed analysis and is not analyzed further in this EA.

Issue	Rationale for Not Analyzing in Detail
How would the proposed Project disturbance impact farmlands (prime or unique)?	There are no farmlands (prime or unique) in the proposed Project Area. This issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would the proposed Project disturbance impact floodplains?	There are no floodplains mapped by the Federal Emergency Management Agency in the Project Area. There are several ephemeral drainages in the Project Area; however, due to the topography, the presence of floodplains is unlikely. This issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would the proposed Project activities impact threatened, endangered, or candidate plant or animal species?	There are no known threatened, endangered, or candidate plant or animal species in the proposed Project Area. This issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would the proposed Project activities impact Wild and Scenic Rivers?	There are no Wild and Scenic Rivers in Elko County; therefore, this issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would the proposed Project activities impact Wilderness areas or Wilderness Study Areas (WSAs)?	The closest wilderness area (Goshute Canyon Wilderness Area) is located approximately 80 miles southwest of the Project Area and the closest WSA (Bluebell) is located approximately 26 miles to the south of the Project Area. Due to the distance of these areas from the Project Area, there would be no impacts to the Goshute Canyon Wilderness Area or the Bluebell WSA. This issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would exploration activities affect lands with wilderness characteristics?	The Project Area is located within the checkerboard area which limits the ability to have 5,000 acres of contiguous land. Based on the guidelines outlined in BLM Manual 6310 – Conducting Wilderness Characteristics Inventory on BLM Lands, areas with non-contiguous public land less than 5,000 acres in size, the Project Area does not contain lands with wilderness characteristics. This issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would the proposed Project activities impact cave and karst resources?	There are no cave and karst resources in the Project Area; therefore, this issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would the proposed disturbance impact existing land use authorizations within the Project Area?	There are no existing land use authorizations in the Project Area; therefore, this issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would the proposed Project activities impact National Historic Trails (NHT)?	There are no NHTs in the Project Area; therefore, this issue has been eliminated from detailed analysis and is not analyzed further in this EA.
How would the proposed Project disturbance impact wild horses and burros?	The closest herd management area is approximately 27 miles to the south of the Project Area. This issue has been eliminated from detailed analysis and is not analyzed further in this EA.

References

Felling, Danielle C., M.A., RPA, Jackson C. Mueller, M.A., RPA, and Dallin F. Webb, M.A. RPA. 2023. *A Class III Cultural Resources Inventory of 942 Acres for the Murdock Mountain Phosphate Exploration Project, Elko County, Nevada*. BLM Report CRR 1-3477. September 2023.

Nevada Division of Environmental Protection. 2022. *Nevada Statewide Greenhouse Gas Emissions Inventory and Projections, 1990 – 2042*. https://ndep.nv.gov/uploads/air-pollutants-docs/ghg_report_2022.pdf. Accessed October 2023.

United States (US) Environmental Protection Agency (EPA). 2023a. Greenhouse Gas Equivalencies Calculator. https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator. Accessed October 18, 2023.

_____. 2023b. *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2021*. https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2021. Accessed October 2023.

WestLand Engineering & Environmental Services (WestLand). 2022. *NEVAGRO, LLC, Murdock Mountain Phosphate Exploration Project, Elko County, Nevada, Spill Contingency Plan.* May 2022 (Revised November 2022).

_____. 2023. *NEVAGRO, LLC, Murdock Mountain Phosphate Exploration Project, Elko County, Nevada, 2022 Baseline Biological Survey Report*. January 2023 (Revised March 2023 and April 2023).

ATTACHMENT 1

AIR QUALITY EMISSIONS INVENTORY

NEVAGRO, LLC
Murdock Mountain Phosphate Exploration Project
Elko County, Nevada

Project Emissions Summary												
	PM_{10}		$PM_{2.5}$		SO_2		NOx		CO		VOC	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Fugitives	214.84	9.36	22.63	1.37	0.02	0.003	5.35	0.75	21.13	4.50	1.82	0.29
Total	**214.84**	**9.36**	**22.63**	**1.37**	**0.02**	**0.003**	**5.35**	**0.75**	**21.13**	**4.50**	**1.82**	**0.29**

Hazardous Air Pollutants (HAPs)

Pollutants	Emissions ton/yr
Benzene	0.0021
Toluene	0.00093
Xylenes	0.00065
Formaldehyde	0.00270
Actealdehyde	0.001752
Acrolein	0.000211
Naphthalene	0.00019
Total	**0.0086**

Green House Gases (GHGs)

Pollutants	Emissions	
	lb/yr	ton/yr
CO_2	1,650,744	825
Total Annual GHG	1,650,744	825
Total CO_2 equivalent (metric tons)		**749**

APPENDIX C

BLM RESPONSES TO PUBLIC COMMENTS

APPENDIX C – MURDOCK MOUNTAIN PHOSPHATE EXPLORATION PROJECT EA – BLM RESPONSES TO PUBLIC COMMENTS

CMNT #	Commenter	Chapter	Page/ Section/Topic	Public Comment	Response
1	EPA		Greater Sage-grouse	According to the Draft EA, the project area includes approximately 835 acres of General Habitat Management Areas and 449 acres of Other Habitat Management Areas for greater sage-grouse. The Draft EA does not discuss the Priority Habitat Management Areas (PHMA) that are needed to access the project site, as illustrated on Figure 1.6.2 (PDF p. 40). Therefore, in the Final EA we recommend disclosing that PHMA areas outside the project area are needed for access to the site and describing potential impacts to greater sage-grouse along these access roads.	As there are no improvements proposed to the existing roads outside the Project Area, the BLM would not be authorizing any uses on those roads associated with the Project. The existing roads are used by hunters and other recreationists to access desired locations and are considered casual use. Since there are no improvements to the access roads proposed with the Project, vehicle and equipment access would be considered casual use of the existing roads. Although the existing roads do cross public lands mapped as Priority Habitat Management Area, the lek located closest to the access roads has been designated as Historic by the Nevada Department of Wildlife. Per the 2015 ARMPA, leks with a historic status are not subject to protections via seasonal, timing, or distance restrictions.
2	EPA		Greater Sage-grouse	In addition, we appreciate the greater sage-grouse Required Design Features (RDFs) from the 2015 Approved Resource Management Plan Amendment (ARMPA) were listed in the Draft EA; however, we are concerned that none of the Locatable Minerals RDFs were included. It is particularly important to include RDF LOC-1, which includes installation of noise shields to comply with noise restrictions when drilling during the breeding, nesting, brood-rearing, and/or wintering season and application of greater sage-grouse seasonal timing restrictions when noise restrictions cannot be met (2015 Approved RMPA p. C-5).	The Project is exploring for phosphate. Phosphate was identified in the Minerals Leasing Act of 1920 as a leasable mineral; therefore, the locatable minerals RDFs are not directly applicable to the Project. According to BLM regulations, leasable minerals activities are discretionary actions which are required to adhere to the management directions for timing and seasonal restrictions outlined in the 2015 ARMPA. Based on those restrictions for activities within mapped General Habitat Management Areas, the operator for this Project would only be allowed to conduct surface disturbing activities between September 16 and October 31. This would minimize or eliminate any impacts from noise during the Greater Sage-grouse breeding, nesting, brood-rearing, and winter seasons. If noise impacts arise from Project activities, NEVAGRO would coordinate with the BLM on the application of appropriate noise reducing measures.
3	EPA		Greater Sage-grouse	We are also concerned that the Draft EA states that any rationale for not applying certain RDFs to the Project would be part of the Project's Administrative Record. The EPA highlights that the 2015 ARMPA requires that RDFs be demonstrated in the NEPA analysis and not the Administrative Record (2015 ARMPA P. C-1); therefore, we recommend including the rationale for dismissal of General and Locatable Minerals RDFs in the Final EA.	As discussed in the response to comment 2, phosphate projects are considered leasable minerals; therefore, the locatable minerals RDFs have not been included. The non-applicable general RDFs and rationale for dismissal have been included in the ACEPM Section 2.3 in the Greater Sage-grouse subsection.
4	EPA		Greater Sage-grouse	To ensure that the Air Quality and greater sage-grouse Applicant Committed Environmental Protection Measures (ACEPM) discussing speed limits are adhered to, we recommend working with the Nevada Division of Wildlife to determine the appropriate speed limit for protection of greater sage-grouse and posting these speed limits, including signage along the PHMA access roads.	The last paragraph of EA Section 2.1.5 states the following: "All Project-related traffic would observe prudent speed limits of approximately 25 miles per hour (mph) or less to enhance public safety, protect wildlife, livestock, and minimize dust emissions." Per RDF Gen 5, the proponent would post speed limits in GRSG habitat within the Project Area. NEVAGRO would not be authorized to conduct any activities outside the Project Area, including posting speed limit signs. An authorization and any stipulations would only be applicable to those areas within the Project Area. Please refer to the response to comment 1 regarding the usage of the access roads.
5	EPA		Reclamation	We also recommend that the ACEPMs clarify that only native seed would be used for reclamation activities.	Non-native species tend to establish on disturbed sites more readily as compared to native species cultivars and compete better against invasive annual species establishment, both of which lead to better soil protection, quicker site stabilization, and faster return of wildlife habitat and forage for wildlife species. A heavy reliance on native seed in seed mixes has produced mixed and unsuccessful results. There is no requirement under the 43 CFR 3500 regulations to only use native seed in reclamation efforts, so the BLM has proposed a seed mix based on site conditions with the best chance of site stabilization, revegetation success, and habitat establishment.
6	Nevada Division of Forestry		Nevada regulations	Regarding any development within the boundaries of the State of Nevada, the Nevada Division of Forestry expects compliance with Nevada Regulatory Statutes 527 and 528.	Comment noted. The proponent would adhere to Nevada Revised Statutes 527 and 528, as necessary.
7	Nevada Division of Water Resources		Water Resources	Compliance with Nevada water law is required. All waters of the State belong to the public and may be appropriated for beneficial use pursuant to the provisions of NRS Chapters 533 and 534 and not otherwise. Water shall not be used from any source unless the use of that water is authorized through a permit issued by the State Engineer. For underground sources, certain uses of water may be authorized through the issuance of a waiver pursuant to NRS Chapter 534 and NAC Chapter 534. Any surface or underground water developments constructed and utilized for a beneficial use must be done so in compliance with the referenced chapters of the NRS. Any water from a water purveyor may require a change application if the place of use is outside of their service area.	NEVAGRO would obtain water from a municipal source currently permitted with the Nevada Division of Water Resources, the location of which is yet to be determined. Any water obtained by NEVAGRO would be within the permitted allocation for the municipal source and would not result in additional groundwater impacts.

CMNT #	Commenter	Chapter	Page/ Section/Topic	Public Comment	Response
				The basin in which the project is located is a designated basin pursuant to NRS 534.030. The State Engineer is authorized to make rules, regulations, and orders when groundwater is being depleted in the designated area. Order 853 was issued establishing rules for the Thousand Springs Valley-Montello-Crittenden CR Area Hydrographic Basin 189D.	
8	Nevada Division of Water Resources		Water for Construction Projects	Any water used on the described lands for the project for any manner of use shall be provided by an established utility or under permit or temporary change application or waiver issued by the State Engineer's Office with a manner of use acceptable for suggested project's water needs.	See response to comment 7.
9	Nevada Division of Water Resources		Water Rights Ownership	Any ownership transfer of water rights shall be sufficiently documented through a chain of title and a report of conveyance submitted to the State Engineer's Office as provided by NRS 533.384. The State Engineer is authorized and is responsible for maintaining water right files and accompanying documents as per NRS Chapters 111, 240, 375, 532, 533 and 534.	Comment noted. There is not an ownership transfer of water rights being proposed with this Project.
10	Nevada Division of Water Resources		Wells	All wells must be noticed, drilled, constructed, and plugged in accordance with NRS Chapter 534 and NAC Chapter 534, and the work must be completed by a licensed well driller as provided by NRS Chapter 534. Pursuant to NRS Chapter 534 and NAC Chapter 534A, a water right or waiver is required prior to drilling a well in a designated basin. A waiver to drill a well must comply with the provisions of NRS Chapter 534 and NAC Chapter 534 and the terms of the waiver approval. The use of water issued under a waiver must comply with the provisions of NRS Chapter 534 and NAC Chapter 534 and the terms of the waiver approval. (oil, gas, geothermal, or mineral exploration other than dissolved mineral exploration). Monitoring wells require a waiver from the State Engineer's Office pursuant to NRS Chapter 534 and NAC Chapter 534 and must comply with the provisions of NAC Chapter 534. All replacement wells shall comply with NRS Chapter 534 and NAC Chapter 534. The replaced well must be plugged and abandoned as required in NAC Chapter 534. Any unauthorized or unpermitted drill holes/wells (water wells, monitor wells or geotechnical soil borings) that may be located on existing, acquired or transferred lands, are ultimately the responsibility of the owner of the property and must be plugged and abandoned as required in NAC Chapter 534. Abandoned wells need to be reported to the State Engineer's Office and must be plugged in accordance with NAC Chapter 534. If artesian conditions are encountered in any well or borehole it shall be controlled as required by NRS Chapter 534 and NAC Chapter 534 and plugged in accordance with NAC Chapter 534.	There are no wells proposed for this Project. As outlined in Section 2.2.2 Drill Hole Plugging in the EA, all drill holes would be plugged in accordance with NAC 534.4369 and NAC 534.4371. If groundwater is encountered, the drill holes would be plugged pursuant to NAC 534.420.
11	Nevada Division of Water Resources		Mining	If the mining process encounters a water source, whether that source is spring water or groundwater, any and all necessary permits to account for the water loss shall be applied for and issued by the State Engineer for the duration of the project and after the life of the mine. This includes but is not limited to evaporative losses related to pit lakes.	This is an exploration project; no mining activities are proposed.
12	Susan Perkins		General comments	I am opposed to the Phosphate Mine Project and there are other people in the area who has also expressed opposition to this. Vote no. Will this go to a vote? Can it be put on the County Commissioner's agenda and opposed? Please cancel this project for the sake of environmental concerns, it is unnecessary.	Comment noted. The Project is under the BLM's jurisdiction and discretion of whether to approve the Project.

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13	Anonymous		General comments	I'm concerned with the proximity of this project to Montello Springs as well as the project using Montello's water. We have been restricted by Elko County more and more on our water usage since the late 2000s. They cite our dwindling spring as the reason for the restrictions. Right now, we are allowed 7,000 gallons per residence at base price, and everything after that is charged. The project using 5x that amount is baffling. On top of the restrictions, the county, to my knowledge at least, has made no progress with the water right dispute for the town's back up water. The south line has been in a legal battle because someone is claiming it's theirs. So, water from our only source being used is ridiculous. Though the town would, I hope, be getting paid for this usage, this seems counterproductive. The proposed usage of the Hoppie Canyon road does not seem like a good idea. The entrance for that road off of sr233 is in a rather dangerous spot because of the curve going to the tracks. SR233 has been increasingly garnering more traffic over the last few years, and having semis, equipment, etc, entering and exiting at that point doesn't seem safe. Going through town wouldn't fix the issue either as all of it would be passing right by homes and the school. Lastly, from what I have read, this will be exported for sale in Canada. With the water usage and the exporting I don't see much of a difference between this and foreign countries using places like Arizona to grow crops exclusively for export to those countries, despite Arizona not being water abundant. I am well aware that global trading is an important aspect of daily life. However, this seems less like trading and more like exploration.	Text has been changed in EA Section 2.1.7 to state that water would be obtained from a municipal source, either Wells or West Wendover, Nevada. The proponent is no longer proposing to obtain water from a local rancher or the town of Montello. Upon review of the Project documentation, the Project access has been revised off State Route 233, to turn left on Mulholland Road to West Mulholland Road. There would be no vehicles or equipment going through town. As this is an exploration project, no minerals would be sold to outside entities. Drilling samples would be collected to analyze the quality of the phosphate resource.
14	Anonymous		General comments	I strongly disagree with the fast tracking of this project without an environmental impact study. What about our delicate sage grouse population? Where is the water for this project coming from?	This Project has not been fast tracked. The Project process, including field surveys to collect baseline data for biological and cultural resources, has been ongoing since September 2021. The Environmental Assessment fully analyzes impacts to Greater Sage-grouse (GRSG) and their habitat, and did not identify any other issues which would result in significant impacts, warranting a larger Environmental Impact Statement. See response to comment 13 regarding the proposed water source.
15	Anonymous		General comments	I would like to see an environmental impact study completed on this plan. I live in Pilot Valley. I believe in responsible mining for the benefit for all. And the means the miners get what they are after and no one down stream in the community is hurt.	See response to comment 14.
16	Anonymous		General comments	I would like to see an environmental impact study completed on this plan. I live in Pilot Valley. I believe in responsible mining for the benefit for all. And the means the miners get what they are after and no one down stream in the community is hurt.	See response to comment 14.
17	Anonymous		General comments	As a Montello citizen and underground gold miner, I am concerned with the water consumption from exploration drills affecting the Montello Spring and possible increase in water bills and long term affects to the town and outlying areas. Exploration drils can consume between 3,000 and 5,000 gallons per 12 hour shift, which is almost the monthly minimum of 7,000 gallons per month before being charged per gallon for homes. We are told that the minimum is to help conserve water, being that the spring doesn't have the same capacity it once had. If one drill can consume as much as a single home does monthly in one or two shifts, how is that going to affect Montello Springs capacity and output in the long run?	See response to comment 13 regarding the proposed water source.
18	Anonymous		General comments	Please protect sage grouse and their habitat as much as possible. Please also require adequate compensatory mitigation for any long term habitat loss or degradation.	See response to comment 2. In addition, as outlined in the Applicant-Committed Environmental Protection Measures in EA Section 2.3, compensatory mitigation was used to minimize impacts to GRSG habitat.
19	Anonymous		Section 2.1.7	In Section 2.1.7 Water Management plan of how many gallons would supposedly be used per day. Montello and Pilot Valley have been water restricted by the County because according to the County we are running out of water. So why is our water being used. Why have we not been informed about what is going on in our own back yards.	See response to comment 13 regarding the proposed water source.
20	Anonymous		General comments	I strongly disagree with the fast tracking of this project without an environmental impact study. Our sage grouse is a very delicate species. What guarantees for the water needed for this project? No one has approached the town of Montello.	See response to comment 14.
21	Anonymous		General comments	I believe more study needs to be done to see what impact it will have on this area and the water here.	See response to comment 13 regarding the proposed water source.

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22	Anonymous		General comments	As a Montello citizen and underground gold miner, I am concerned with the water consumption from exploration drills affecting the Montello Spring and possible increase in water bills and long term affects to the town and outlying areas. Exploration drils can consume between 3,000 and 5,000 gallons per 12 hour shift, which is almost the monthly minimum of 7,000 gallons per month before being charged per gallon for homes. We are told that the minimum is to help conserve water, being that the spring doesn't have the same capacity it once had. If one drill can consume as much as a single home does monthly in one or two shifts, how is that going to affect Montello Springs capacity and output in the long run?	See response to comment 13 regarding the proposed water source.