GEMFIELD RESOURCES LLC.
GOLDFIELD DISTRICT-WIDE EXPLORATION PROJECT

ENVIRONMENTAL ASSESSMENT

DOI-BLM-NV-B020-2025-0018-EA

April 2025

Bureau of Land Management
Tonopah Field Office
Battle Mountain District
1553 South Main Street
Tonopah, Nevada 89049

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LIST OF ACRONYMS AND ABBREVIATIONS

ACEPM	Applicant-Committed Environmental Protection Measure
AML	Abandoned Mine Land
AMSL	Above Mean Sea Level
BLM	Bureau of Land Management
bgs	below ground surface
BMP	best management practice
BMRR	Bureau of Mining Regulation and Reclamation
CFR	Code of Federal Regulations
CH_4	Methane
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	CO_2-equivalent
dBA	A-weighted Decibels
DOI	Department of the Interior
EA	Environmental Assessment
F-gases	Fluorine Gases
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FLPMA	Federal Land Policy and Management Act of 1976
Gemfield Mine	Existing Authorized Gemfield Mine Plan of Operations
GHG	Greenhouse Gas
GRL	Gemfield Resources, LLC
HAP	Hazardous Air Pollutant
hp	Horse Power
GWP	Global Warming Potential
LWC	Lands with Wilderness Characteristics
N_2O	Nitrous Oxide
NAC	Nevada Administrative Code
NDEP	Nevada Division of Environmental Protection
NDNH	Nevada Division of Natural Heritage
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act of 1969
Notice	Notice of Intent
NO_x	Nitrogen Oxide
NRCS	Natural Resources Conservation Service
P.L.	Public Law
Plan	Plan of Operations
$PM_{2.5}$	Particulate Matter 2.5 Micrometers in Aerodynamic Diameter or Less in Diameter
PM_{10}	Particulate Matter 10 Micrometers in Aerodynamic Diameter or Less in Diameter
Project	Goldfield District-Wide Exploration Project
PFYC	Potential Fossil Yield Classification
RFESA	Reasonably Foreseeable Effects Study Area

RFFA	Reasonably Foreseeable Future Action
RMP	Resource Management Plan
ROW	Right-of-Way
RV	Recreational Vehicle
SO_2	Sulfur Dioxide
TFO	Tonopah Field Office
U.S.C.	United States Code
US 95	United States Highway 95
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UUD	Unnecessary or Undue Degradation
VOC	Volatile Organic Compound
VRM	Visual Resource Management

1.0 INTRODUCTION

The Tonopah Field Office (TFO) of the United States Department of the Interior (DOI) Bureau of Land Management (BLM) Battle Mountain District received an exploration Plan of Operations (Plan) for the Goldfield District-Wide Exploration Project (Project) from Gemfield Resources LLC. (GRL) on May 6, 2024 (NVNV105864095). The Plan boundary would encompass approximately 15,293 acres of BLM-administered public lands and private land and includes phased exploration. The BLM deemed the Plan complete on November 25, 2024. The Plan is in compliance with BLM Surface Management Regulations 43 Code of Federal Regulations (CFR) 3809, as amended (BLM 2012), and Nevada reclamation regulations at Nevada Administrative Code (NAC) 519A.

GRL proposes to conduct mining exploration activities on public lands administered by the BLM and private lands at the edge of the unincorporated town of Goldfield, Nevada in Emeralda County and Nye County, approximately 30 miles south of Tonopah, Nevada (**Figure 1-1**). The Plan boundary is located within all or portions of Mount Diablo Meridian, Nevada, T. 2 S., R. 43 E., secs. 7, 8, 16 thru 22, and 27 thru 35. T. 2 S., R. 42 E., secs. 13 thru 15, 19, 22 thru 28, and 34 thru 36. T. 3 S., R. 42 E., secs. 1, 2, 11, and 12. T. 3 S., R. 43 E., secs. 1 thru 12 and 17 (**Figure 1-1**). The Project would be approximately 30 miles south of Tonopah, Nevada on United States Highway 95 (US 95). The Project is located in the Goldfield Hills on the east and west sides of US 95 (**Figure 1-1**).

The Plan boundary would surround the existing authorized Gemfield Mine Plan of Operations (Gemfield Mine) and encompass approximately 15,293 acres, of which, approximately 5,269 acres are BLM-administered public-lands, and 10,025 acres are private lands. The Plan proposes to conduct phased exploration activities over a 10-year period with up to 400 acres of surface disturbance. Exploration activities would include geophysical surveys, improving or building access roads, exploration drilling and trenching, and reclamation. The four Notices of Intent (Notices) on public land and two exploration plans on private land are also included in the Plan.

1.1 Purpose and Need for Action

The BLM's purpose for the federal action is to respond to the Plan and provide GRL the opportunity to explore, locate, and delineate locatable gold deposits on their unpatented mining claims on public lands as authorized under the General Mining Law of 1872, as amended.

The need for the federal 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 Surface Management Regulations at 43 CFR 3809, to respond to a plan of operations and to take any action necessary to prevent unnecessary or undue degradation (UUD) of the public lands.

1.2 Decision to be Made

The decision the BLM would make includes the options of 1) approve the Plan with no modifications; 2) approve the Plan with mitigation measures that are needed to prevent UUD of public lands and reduce or eliminate the effects of the Proposed Action or alternatives; or 3) deny

approval of the Plan as written and not authorize the Project if it is found that the Proposed Action does not comply with the 43 CFR 3809 and the FLPMA mandate to prevent UUD.

1.3 Land Use Plan Conformance and Other Permits and Approvals

The BLM is responsible for the preparation of this Environmental Assessment (EA,) which was prepared in conformance with the National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321 et seq and applicable laws and regulations passed subsequently, including the DOI requirements, and the policy guidance provided in the BLM NEPA Handbook H-1790-1 (BLM 2008). Under CFR 3809.415, the operator of a plan of operations must prevent UUD to the public lands.

Executive Order 14154, Unleashing American Energy (January 20, 2025), and a Presidential Memorandum, Ending Illegal Discrimination and Restoring Merit-Based Opportunity (January 21, 2025), require the Department to strictly adhere to the NEPA, 42 United States Code (U.S.C.) §§ 4321 et seq. Further, such Order and Memorandum repeal Executive Orders 12898 (February 11, 1994) and 14096 (April 21, 2023). Because Executive Orders 12898 and 14096 have been repealed, complying with such Orders is a legal impossibility. The BLM verifies that it has complied with the requirements of NEPA, including the Department's regulations and procedures implementing NEPA at 43 CFR Part 46 and Part 516 of the Departmental Manual, consistent with the President's January 2025 Order and Memorandum.

The Proposed Action conforms with the BLM's Tonopah Resource Management Plan (RMP) Record of Decision dated October 1997 (BLM 1997), and the Nevada and Northeastern California Greater Sage-Grouse Approved Resource Management Plan Amendment (as there is no Greater Sage-Grouse or Bi-state Sage-Grouse) (*Centrocercus urophasianus*) habitat within the Plan boundary (BLM 2015).

The Tonopah RMP guides the management of the public land resources for portions of south-central Nevada in Nye and Esmeralda counties, encompassing 6.1 million acres of public land (BLM 1997). Significant resources and program emphases in the RMP include wildlife habitat, special status species, riparian areas, forestry and vegetative products, livestock grazing, wild horses and burros, lands, and rights-of-way (ROWs), cultural resources, recreation, utility corridors, and locatable and leasable minerals (BLM 1997). The RMP designates 6,028,948 acres (99 percent of the Tonopah Planning Area) as open to the operation of existing mining laws (BLM 1997). The RMP states the "BLM provides for mineral entry, exploration, location, and operations pursuant to the mining laws in a manner that: 1) will not unduly hinder the mineral activities, and 2) assures that these activities are conducted in a manner which will prevent undue or unnecessary degradation of the public land" (BLM 1997).

In addition to this EA, implementation of the Proposed Action would require authorizations from other federal, state, and local agencies with jurisdiction over certain aspects of the Project. GRL is responsible for amending existing permits, applying for, and acquiring additional permits and approvals determined necessary.

The Proposed Action would be consistent with federal laws and regulations; state and local government laws and regulations; and other plans, programs, and policies, to the extent practicable within federal law, regulation, and policy. The BLM has prepared this EA in accordance with the

following statutes and implementing regulations, policies, and procedures that govern the BLM's actions including: NEPA (42 U.S.C. 4321 et seq); DOI NEPA Regulations (43 CFR part 46); BLM NEPA Handbook H-1790-1 (BLM 2008); FLPMA (43 U.S.C. 1701 et seq); Mining and Mineral Policy Act of 1970 (30 U.S.C. 21a); Locatable Minerals Surface Management Regulations (43 CFR 3809); Use and Occupancy under the Mining Laws (43 CFR 3715); and BLM Reclamation Standards as referenced in the BLM Manual Handbook H-3042-1.

The Project also adheres to the 2013 Final Esmeralda County Public Lands Policy Plan (Esmeralda County 2022), the Esmeralda County Master Plan (Esmeralda County 2011), and the Nye County Comprehensive Master Plan (Nye County 2011) that each provides guidance on how Esmeralda and Nye counties work collaboratively with federal planning agencies, including the BLM, on public land use issues.

1.4 Scoping and Issues

The Proposed Action was internally scoped by the BLM interdisciplinary team and a baseline data needs assessment form was created. During the internal scoping meeting and follow up coordination, the BLM invited tribes, and other agency resource specialists identified the elements associated with supplemental authorities and other resources and uses to be addressed in this document as outlined in Chapter 3. Issues and potential effects from the Proposed Action were identified for the following resources: air quality, cultural resources, minerals, noise affects to human receptors, lands and realty, Native American traditional values, paleontological resources, social and economic values, soils, vegetation resources (including noxious weeds, cacti, rangeland, and woodlands), water resources, wildlife (including migratory birds and raptors), and special status species.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

The Proposed Action is a site-specific action that proposes phased exploration within the Plan boundary of 15,293 acres with up to 400 acres of incremental disturbance on both private and public land over 10 years (**Figure 1-2**) (GRL 2024). The 400 acres of exploration disturbance would include trenching, drill site construction and exploration drilling, construction of new temporary roads, improvement of existing roads, overland travel, and reclamation (**Table 2-1**). Geotechnical survey techniques, with no surface disturbance, would also occur throughout the Plan boundary. Within the Plan boundary there is a mix of public and private land and some exploration activity may overlap both land statuses, however, the BLM would only authorize exploration activities occurring on public land.

Table 2-1 Surface Disturbance

Description	Public Land Disturbance (acres)	Private Land Disturbance (acres)	Total Disturbance (acres)
Phase 1 – Previous Authorized Disturbance			
McMahon Ridge Notice[1]	4.84		
Slaughterhouse Canyon MW Notice[1]	0.08		
North Gemfield MW Notice[1]	0.22		
Adams Notice[1]	4.72		
Goldfield Main Interim EPO[2]		19.8	
Daisy Interim Permit[3]		19.8	
Total Previously Authorized Disturbance for Phase 1	**9.86**	**39.6**	**49.46**
Phase 1 – Proposed Disturbance			
Proposed Roads	3.68	3.59	7.27
Proposed Drill Pads (109 pads)	5.15	5.40	10.55
Proposed Overland Travel Access to Drill Pads (not mapped[4])	1.00		1.00
Proposed New Road Construction (not mapped[4])	6.98		6.98
Proposed Drill Pads with Sumps (not mapped[4])	26.75		26.75
Proposed Trenches (not mapped[4])	0.80		0.80
Total Proposed Disturbance for Phase 1			**53.35**
Phase 1 Total			**102.81**
Future Phases			**297.19**
Total Disturbance			**400.00**

Source: GRL 2024

[1.] Authorized Notices on public land.

[2.] Authorized by the Nevada Division of Environmental Protection (NDEP) Bureau of Regulation and Reclamation (BMRR) on private land.

[3.] Pending approval with NDEP-BMRR on private land.

[4.] Additional disturbance for Phase 1 would be identified based on data collected and could occur on both public land and private land within the Plan boundary. The acreage would not exceed the total, but the private public split is unknown at this time.

2.1.1 Phases

The Proposed Action includes phased exploration disturbance for up to 400 acres, with Phase 1 disturbance of 102.81 acres outlined in **Table 2-1** and on **Figure 2-1**. Based on exploration data results from Phase 1, GRL would provide work plans to the BLM for additional exploration phases within the Plan boundary. The remaining 297.19 acres of disturbance would be identified under subsequent phases over approximately 10 years; however, the timing of these activities may change due to economic conditions.

Work plans would be submitted prior to construction, defining the location, alignment, and extent of exploration activities for each successive phase of exploration, or prior to changes to previously authorized activities. Work plans would include access road alignment, drill site location, the number and type of drill rigs expected, construction schedule, drilling schedule, reclamation schedule, any changes to previously authorized work plans, and any updates to the reclamation cost estimate and bonding as determined necessary.

On receipt of a work plan, the proposed activities would be reviewed for concurrence with the approved Plan and reclamation cost estimate. Each phase of exploration would be within the scope and analysis of this EA and GRL would not commence surface-disturbing activities in new locations included in the work plans until reclamation cost estimates and financial guarantee are approved by the BLM.

2.1.1.1 Phase 1

The proposed disturbance for Phase 1 would be approximately 102.81 acres of combined new disturbance and authorized disturbance (**Table 2-1**) (**Figure 2-1**). Approximately 17.82 acres of proposed disturbance for new roads, drill pads, and trenches has been identified. Phase 1 also includes current authorized disturbance of 49.46 acres. The remaining 35.53 acres of disturbance for Phase 1 would be identified in workplans based on data collected.

Phase 1 disturbance would include four BLM-authorized exploration Notices that GRL currently holds within the Plan boundary: McMahon Ridge Notice (NVN-096505); Adams Notice (NVNV106350441); Slaughterhouse Canyon MW Notice (NVN-091331); and North Gemfield MW Notice (NVN-091330) (**Figure 2-2**). Slaughterhouse Canyon MW and North Gemfield MW authorize GRL to maintain existing monitoring wells on BLM-administered land (**Figure 2-2**). The Goldfield Main Interim Exploration Plan and the Daisy Interim Exploration Plan also occur within the Plan boundary and are located entirely on private land. The Goldfield Main Interim Exploration Plan is approved by NDEP-BMRR. The Daisy Interim Exploration Plan is pending approval by the NDEP-BMRR (**Figure 2-2**). These Notices and Plans totaling 49.46 acres would be incorporated into the Project.

2.1.2 Surface Exploration

These activities may be proposed in additional work plans for subsequent phases of work.

2.1.2.1 Geophysical

Geophysical analysis techniques would vary and specific methods would be determined based on targeting required but no disturbance would be anticipated.

2.1.2.2 Trenches

Trenching would involve surface excavation of material to a depth ranging from two feet to 15 feet allowing for examination of the trench face for geological and geotechnical characteristics. The trenching operation would typically generate 4 acres of disturbance for 30 trenches 18 feet in length with a six-foot bottom width and an adjacent berm of excavated material. Either a backhoe or track excavator would be used for trenching. One acre of disturbance for trenches (**Table 2-1**) would be approximately 2,722 linear feet of trenches.

2.1.2.3 Drilling

Drill pads would be constructed to maintain sufficient space for safe operation of equipment. The drill pads would be constructed with an adjacent sump to contain drill water and cuttings. In some areas, a common sump would be used to manage drill water from several drill sites. The sumps are designed to prevent discharge of pollutants; however, certain sumps may be designed for controlled discharge of clear water in compliance with state regulations. Drill pads and the associated sump dimensions would typically be 30 feet by 70 feet for pads and 20 feet by 20 feet for sumps. Sumps would be approximately 10 to 15 feet deep.

Exploration drilling would be conducted by reverse circulation drill, core drill, and/or track-mounted drill. Each drill would be supported by at least two rubber-tired vehicles. GRL anticipates that the maximum number of drill rigs on site at any one time could be five drills. Drill hole depths would range between 300 and 1,000 feet below ground surface (bgs) with an average depth of about 600 feet bgs.

Sumps would be allowed to dry and then backfilled after completion of drilling for safety reasons and to ensure protection of the environment. If mud tanks are to be cleaned at the site, the contents would be contained in the sump and covered with backfilled soil materials. During active exploration panel fencing, wire fencing, snow fencing, electric fencing, and other types of barriers would be installed around each sump to prevent access by larger wildlife, horses, and livestock. One end of each sump would be sloped to provide a wildlife egress.

Certified weed-free straw bales, wattles, and other diversion controls called for in the exploration Stormwater Pollution Prevention Plan (GRL 2024) would be utilized to prevent erosion. Drainage structures may consist of, but not be limited to waterbars, borrow ditches, contour furrows, and detention ponds sized to handle maximum seasonal water flows.

2.1.2.4 Roads

Exploration roads or two-track trails would provide overland access for tire-mounted or track drill rigs with the support vehicles. Where existing roads cannot be used, the preferred access to a drill site would be overland access to minimize disturbance. When existing road disturbance can be used, the roads would be graded as needed to provide safe access as well as ensuring erosion control measures are maintained.

Exploration road construction would use D-6 through D-8 class bulldozers or a track-mounted excavator. Material would be side-cast for reclamation purposes. The reclamation seed mix would be applied to the material stockpiles if the road would not be concurrently reclaimed and is at risk of erosional damage. Overland travel, without blading, would be used where practical and safe.

Efforts to minimize surface disturbance would be implemented when overland travel occurs. Prior to final reclamation, newly constructed roads would be water-barred to minimize erosional damage in accordance with state regulations and 43 CFR Subpart 3809. Existing roads and disturbance would be preferentially used whenever possible to minimize new disturbance. Reclamation would be conducted on existing disturbance that is re-disturbed as part of the exploration program.

2.1.3 Power and Communications

If needed, supplemental power would be provided by portable generators on the drill rigs. On-site communications would be provided through hand-held radios and cellular service through the Gemfield Mine communications system.

2.1.4 Stormwater

Ditches and berms would be constructed above drill pads, as necessary, to divert up-gradient stormwater runoff around the site. Stormwater from the disturbance areas would be managed according to the best management practices (BMPs).

2.1.5 Fuel and Reagent Storage Use

Hydrocarbons would be stored on the equipment and fueling of equipment would be done with mobile fuel/lube trucks. Diesel, oil, and lubricants would be transported to the site in portable containers (e.g., five gallon metal safety cans, and back of truck tanks that vary in size) but would not be stored on site. A Spill Contingency Plan covers the procedures to be implemented in the event of a release, including clean up, disposal, and reporting (GRL 2024).

2.1.6 Petroleum-Contaminated Soils

Petroleum-contaminated soils generated as a result of a release would be placed in a closed bin and transported off-site for disposal in accordance with the applicable federal, state, and local regulations.

2.1.7 Water Management

Water needed for drilling and fugitive dust suppression would be used from the Gemfield Mine water supply wells and transported by water trucks.

2.1.8 Growth Media Stockpile

Growth media salvaged from the drill sites and exploration roads would be stockpiled along the edge of the drill site or road to be replaced immediately after regrading of the disturbed areas.

2.1.9 Work Force

The exploration drilling program would be conducted as either a single 12-hour shift per day or two 12-hour shifts per day. Typical crew rotation would be on a 10 day on, 4 day off or 20 day on 8 day off rotation. GRL estimates that the exploration drilling program would include approximately 20 people on site at any time (1 contract driller per rig with up to 3 helpers, up to 5 rigs, 1 supervisor, and occasional GRL staff members).

All personnel would drive to the site daily from Tonopah and/or Goldfield, Nevada. Light vehicles would be limited to one per drill rig per shift and one vehicle for each supervisor during the day shift. Additional support staff would be on-site as needed (equipment mechanics, geophysical staff, geologists, etc.) and require additional light vehicles as needed.

2.1.10 Schedule

GRL would begin the surface-disturbing activities in the exploration program upon authorization by the BLM and NDEP. It is anticipated that the exploration activities would be completed within 10 years following approval. Concurrent reclamation would be completed on GRL disturbance following data acquisition followed by three years of reclamation monitoring.

2.1.11 Monitoring

GRL would submit annual reclamation reports to the BLM and the NDEP on or before April 15 of each year documenting surface disturbance locations, surface disturbance types, summary of drill hole status (active or plugged and abandoned), planned and/or completed reclamation and any requests for release of reclaimed acreage. In the event the exploration activities for subsequent exploration phases change the reclamation cost estimate, an updated cost estimate would be included with the annual work plan.

2.1.12 Equipment

Up to 20 personnel are anticipated for the Project, assuming mobilization from Reno, Nevada. All portable equipment, including drill rigs, support vehicles, and drilling supplies, would be removed from the Plan boundary during extended periods of non-operation. Types of equipment and anticipated horse power (hp) are provided in **Table 2-2**. Specific models and make of equipment utilized would be determined based on the selected contractors.

Table 2-2 Equipment List

Project Equipment List (Number of Item)		
Core Drill rig/s 215hp (3)	Diesel heaters (3)	Pickup trucks 500hp (3 onsite and up to 22 for commute)
Dump Truck Rod carrier 565hp (3)	Dry box truck 341hp (1)	Light plant 15hp (3)
Backhoe Loader Cat 430 (3)	Forklift Skytrak 134hp (1)	Water pumps
Water truck 300hp (3)	Pressure washer (up to 3)[1]	Dozers (D6/D8) 215hp (1)
Motorgrader 238hp (1)	Track excavator (2)	Mechanics truck 565hp (1)

Sources: GRL 2024; UES 2024

[1] Used to clean vehicles to comply with weed prevention (Section 2.1.13.12).

2.1.13 Applicant-Committed Environmental Protection Measures

GRL would implement the following applicant-committed environmental protection measures (ACEPMs) to reduce potential impacts from the Proposed Action.

2.1.13.1 Air Quality

GRL, in compliance with the NDEP Air Quality BMPs, would protect air quality by undertaking road maintenance activities to reduce fugitive dust emissions. Roads would be watered using fresh

water to reduce fugitive dust emissions, based upon weather and road conditions. Water would be obtained from the Gemfield Mine site and transported to site with water trucks. Application of water using water trucks would be done, as needed, in areas of close-spaced drilling and related activity. GRL would use wet drilling methods to reduce the potential for fugitive dust emissions.

GRL would comply with posted speed limits, and reduce vehicle speeds in exploration surface disturbance areas to minimize the potential for fugitive dust emissions, to protect wildlife and livestock, and to maintain operational safety.

2.1.13.2 Water Quality

Drill holes would be plugged and abandoned in accordance with NAC 534.4369 through 534.4371. Exploration drill holes would be plugged and abandoned immediately after obtaining necessary data from the drill hole. A drill hole may be left open for a period of time following the initial drilling if it is anticipated that the hole may be re-entered to drill deeper or to use down-hole geophysical techniques. Exploration drill holes that are not immediately abandoned shall be secured against entry. This may include locking caps, welded caps, or other similar methods to secure the well from public access. In the annual summary report to the BLM and NDEP-BMRR, GRL would identify any drill holes that were left open and the reason for this action.

Nevada Stormwater BMPs would be used as guidance for surface disturbance 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.

Only NSF/ANSI Standard 60 Certified fluids would be used in the drilling process including polymer drill muds.

2.1.13.3 Spill Contingency Plan

Materials and equipment necessary for spill cleanup would be kept at each drill rig. Equipment and materials would include, but not be limited to, shovels, gloves, safety glasses, sorbent materials, and plastic/metal trash containers specifically for this purpose.

Well-maintained equipment would be used. When practicable, equipment maintenance would be performed off-site. In the event of oil, fuel, lubricating grease or other equipment leaks, cleanup would be conducted as soon as possible. If the leak is on compacted soil, an oil-absorbing product, such as Absorb®, may be applied. Once the cleanup product has absorbed the released material, the product would be removed and placed in a petroleum-contaminated container located at the exploration site, and the material disposed of according to state and federal regulations. Contaminated soil would be removed, managed, and disposed of at an off-site facility in compliance with state and federal regulations. In the event of a major spill, the following actions would be taken in addition to federal, state, and local health and safety regulations:

- Contain the spread or migration of the spill using the on-hand supply of erosion control structures and/or by creating dirt berms, as feasible and necessary.

- Clean up the spilled material to the extent possible and place it in a petroleum-contaminated container and then dispose of as noted above.

- Regulated wastes would be removed from the Plan area and disposed of in a state, federal, or local designated area.

- If a release of a petroleum constituent is considered to meet the reportable quantity per the NDEP-BMRR guidelines or a reportable quantity for a hazardous substance is released based on the United States Environmental Protection Agency (USEPA) guidelines established under Title III List of Lists (40 CFR Part 302), the NDEP-BMRR and BLM would be notified within 24 hours and the appropriate remedial actions and confirmation sampling would be conducted under direction of the NDEP-BMRR and BLM.

2.1.13.4 Soils and Erosion Prevention and Control

GRL would conduct exploration operations to minimize soil erosion. Erosion and runoff control measures, such as water bars, ditching, and other water control structures, would be implemented in areas of surface disturbance. After the exploration program is completed in an area, the surface disturbance would be graded, recontoured, and available topsoil/growth medium would be replaced. The area would be seeded with a BLM-approved seed mixture in order to establish a ground cover and minimize erosion. Revegetation activities would commence at the earliest feasible time following reclamation activities.

2.1.13.5 Surface Water Resources

Natural drainage patterns would not be altered. Drill site construction within drainages would be avoided. When drainages must be crossed with a road, BMP guidance would be used to minimize the surface disturbance and erosion potential. Smaller drainage patterns that could be affected by trench or pad construction would be restored, and regrading would conform to the adjacent topography upon completion of the exploration program. Exploration activities would be conducted using BMP guidance such that sediments, cuttings, drilling fluids, or any other material or substance would be fully contained in sumps and not enter drainages.

Sumps would be excavated and managed to prevent overtopping and saturating the safety berms. GRL would monitor sumps regularly for seeps or other evidence of erosion and would direct drill crews to mitigate the or cease activity and notify supervisors if seepage is observed. GRL would ensure that sump evacuation proceeds for as long as drilling or other water-producing activities continue. If evacuation is not possible, GRL would cease drilling as soon as water levels approach the sump capacity. No trash would be placed in the sumps.

Disturbance to perennial stream reaches, seeps, springs, wetlands, and riparian communities, would be avoided. No new roads and drill pads would be constructed within 100-feet of a natural seep, or spring.

2.1.13.6 Solid and Hazardous Wastes

The proposed exploration Project would not generate or dispose of any hazardous waste. Petroleum products would be used on site. Petroleum products are excluded as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act section 101(14). Diesel, oil, and lubricants would be transported to the site in portable containers

(e.g., tanks in the pickup trucks for diesel fuel) but would not be stored on site. If regulated materials (petroleum products) are spilled, measures would be taken under GRL spill response guidelines to control the extent of the release, and the appropriate agencies would be notified in accordance with the applicable federal and state regulations. Cleaning equipment with a pressure washer would be done in the laydown yard or on the drill pads over plastic and the plastic would be disposed of in the dumpster, or if hazardous materials are present on the plastic it would be disposed of in compliance with the spill plan requirements.

Solid waste would be collected at each drill pad into a stable, covered trash can and transported periodically off-site for disposal at an approved solid waste facility. It is not anticipated that additional temporary solid waste storage would be required for the Project.

2.1.13.7 Wildlife and Sensitive Species

In order to avoid potential impacts to breeding migratory birds and raptors, surveys would be conducted by a BLM-approved biologist when proposed exploration activities involve ground disturbance during the nesting season, defined by the BLM as March 1 through July 31. These surveys would be conducted a maximum of 14 days before ground disturbance begins. If ground disturbance does not occur within 14 days of the survey, new surveys would be conducted. If active nests are located, or if other evidence of nesting is observed (e.g., mating pairs, territorial defense, carrying nesting material, transporting food), GRL's contracted biologist would recommend an avoidance buffer around the nest and establish a timeline for revisiting the area based on the BLM 2019 Southern Nevada Nesting Bird Management Plan. For those migratory birds and raptors that are not included in the 2019 Southern Nevada Nesting Bird Management Plan, GRL or the GRL contracted biologist would notify and consult with the BLM to determine an avoidance buffer and timeline for revisiting those areas. GRL would not conduct drilling or surface disturbing activities within the buffer zone until the biologist determines that the birds are no longer nesting.

GRL would comply with posted speed limits and reduce vehicle speeds in exploration surface disturbance areas to minimize the potential for fugitive dust emissions, to protect wildlife and livestock, and to maintain operational safely.

Existing topography would be utilized when possible and/or noise abatement methods would be used to comply with noise restrictions to reduce impacts to wildlife.

GRL employees and contractors would be instructed to avoid harassment and disturbance of wildlife, especially during the breeding season. Harassment would include, but is not limited to, feeding, chasing, approaching, luring, calling or other actions that could result in habituating wildlife to approach human activity.

Trenches, sumps, and other small excavations 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 easy egress. Drill holes would be plugged and abandoned in accordance with applicable regulations at NAC 534.4369 through 534.4371. Exploration drill holes that are not immediately abandoned shall be secured against entry. This may include locking caps, welded caps, or other similar methods to secure the well from public access

2.1.13.8 Other Special Status Species

In the event that other special status plant or wildlife species are encountered during exploration activities, GRL would avoid disturbance of these species.

2.1.13.9 Cultural and Paleontological Resources

As part of the baseline data collection to support the NEPA analysis for the proposed Project, GRL has conducted Class III cultural surveys within the Phase 1 exploration areas to identify potentially eligible cultural sites to be avoided. GRL has committed to no impacts to cultural resources and would coordinate with the BLM to ensure a minimum buffer of 50 meters for all eligible sites. GRL would utilize archeological monitors for disturbance within the buffers of an eligible site. GRL has committed to no impacts to cultural resources and would coordinate with the BLM and utilize permitted cultural monitors and surveys to locate proposed disturbances that are within a known cultural resource boundary.

GRL would not remove, disturb, alter, injure, or destroy historical or archaeological site, structure, building, object, or artifact that meets criteria for listing on the National Register of Historic Places or has not been evaluated for National Register eligibility. GRL would be responsible for training and ensuring that employees, contractors, or any others associated with the proposed exploration Project do not damage, destroy, or vandalize archaeological, historical sites, or vertebrate fossil deposit. Should damage to cultural resources within or near the proposed exploration Project occur during the period of construction, operation, or rehabilitation due to the unauthorized, negligent, or inadvertent actions of GRL or other exploration Project personnel, GRL would be responsible for costs of rehabilitation or mitigation. Individuals involved in illegal activities could be subject to penalties under the Archaeological Resources Protection Act (16 U.S.C. 470ii), the Native American Graves and Repatriation Act (16 U.S.C. 1170), and other applicable statues.

If human remains/burials or previously unidentified cultural (archaeological or historical) resources are discovered while conducting activities under the approved Plan, GRL would immediately cease activities within 100 meters of the discovery, ensure that the discovery is appropriately protected, and immediately notify the BLM Authorized Officer by telephone, followed with written confirmation. Work would not resume, and the discovery would be protected until notified in writing by the BLM Authorized Officer that compliance with the provisions for mitigating unforeseen impacts as required by 36 CFR § 228.4(e) and additional consultation per 36 CFR § 800.13.b.3 have been satisfied. Procedures for unanticipated discoveries or effects would follow the procedures outlined in Part 1.VI.B of the protocol.

If GRL discovers a vertebrate fossil deposit during surface disturbing activities, GRL would immediately cease further activities that may affect the deposit and notify the BLM so that the BLM may evaluate the discovery and establish an exclusion zone. GRL would not undertake further surface disturbance within the exclusion zone. Since there is higher potential occurrence of fossils in the Potential Fossil Yield Classification (PFYC) 4 area, a qualified paleontologist would monitor surface disturbance operations including drilling, excavation and construction as determined necessary by the BLM. If fossils are observed where disturbance would occur in the PYFC 4, GRL would immediately cease further activities and notify the BLM so that the BLM may evaluate the discovery and establish a buffer zone. GRL would not undertake further surface disturbance within the buffer zone.

2.1.13.10 Survey Monuments

Survey monuments, witness corners, and/or reference monuments would be protected to the extent economically and technically feasible. Should moving such a feature be required, GRL would ensure that a Certified Federal Surveyor oversees and executes the relocation in a manner consistent with applicable laws. The BLM would be notified in writing prior to the moving of any such survey monument.

2.1.13.11 Fire Prevention and Control

GRL would comply with applicable federal and state fire laws and regulations and would take reasonable measures to prevent and suppress fires in the area of operations. GRL and contractors are required to carry fire extinguishers, hand tools, and/or backpack-type water pumps in their vehicles to suppress small fires.

2.1.13.12 Invasive Non-Native Species

A Noxious Weed Management Plan has been developed for the project (GRL 2017). Management of invasive non-native species would be conducted according to the standards of this plan. GRL would be responsible for controlling noxious and invasive weeds in newly disturbed areas until the reclamation activities have been determined to be successful and released by the BLM Authorized Officer.

Road berms, growth media stockpiles, and other sites that would have exposed soil for more than one growing season would be seeded with an interim seed mix. The establishment of desirable vegetation on these sites would reduce the potential for noxious weeds and other non-native, invasive species to establish. Aggressive species could be used rather than native species that often do not establish well on disturbed sites.

Equipment operators involved in road maintenance activities would be trained in weed identification so that areas infested with weeds are not bladed. The weed infestations would be treated manually and removed before any road maintenance activity is conducted.

Vehicles would be confined to existing roadways and not permitted to conduct cross-country travel, unless involved in approved

Whenever feasible, earthwork and reclamation seeding would occur within the same year to allow the seeded species to establish prior to non-native, invasive species and noxious weeds dominating the reclaimed surfaces. Using a seed mix that has been successful in previous reclamation efforts and is well suited for site conditions would also reduce the potential for noxious weed establishment by providing a dense perennial plant cover.

Vehicles used in areas of known noxious weed infestations would be cleaned (especially the undercarriage) before leaving the Project area to prevent to the spread of noxious weeds. Equipment mobilizing to the Project area would be cleaned prior to entry to prevent new noxious weed species from being transported to the Project area.

Seed and mulch used in reclamation and straw bales used for sediment control would be certified weed-free.

Locations that have been treated for noxious weeds would be seeded with either an interim seed mix or a reclamation seed mix during the Fall after treatment. Seeding with a grass-only mixture may be conducted in the event that follow-up treatment is necessary as many of the herbicides are selective to broad-leaved plants.

Only chemicals approved for use on public land would be used for invasive, non-native weed treatment. GRL would conduct weed eradication programs annually in areas of their activities. Areas of known noxious weeds, invasive, and non-native species would be avoided during periods when weeds could be spread by vehicles (i.e., periods of potential seed dispersal).

Re-establishment of vegetation in disturbed areas would be conducted as soon as practical to reduce the potential for wind and water erosion, minimize impacts to soils and vegetation, and help prevent the spread of noxious weeds, invasive and non-native species.

Reclaimed areas would be seeded with a BLM-approved seed mix, using approved application rates for the seeding method utilized. Implementation of the Noxious Weed Management Plan would help control and thus prevent weed species from spreading (GRL 2017).

2.1.13.13 Vegetation Resources

Reseeding would be consistent with BLM approved seed mix constituents, application rate, and seeding methods.

GRL would avoid Joshua trees (*Yucca brevifolia*) unless allowed by permit to remove them. If permitted to remove Joshua trees, GRL would minimize where possible removal of the trees during activities associated with drill pad and road construction.

2.1.13.14 Public Safety and Access

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

Drill sites, sumps, and trenches would be reclaimed as soon as practicable after completion of sampling and data logging.

Sumps and trenches would be sloped on one end to facilitate egress, bermed and if water is present fenced.

Final reclamation of overland travel routes, sumps, trenches, and drill sites would consist of, if required, recontouring disturbances to their approximate original contour and reseeding in the fall season immediately following completion of exploration activities. In the event that existing roads were to be re-disturbed as a result of GRL activities, GRL would reclaim them in the same manner as new disturbance.

Roads would be designed to the minimum standards needed to accommodate intended safe use and to maintain surface resource protection. Where feasible, exploration roads would be constructed along existing contours. Exploration road construction would be conducted in such a manner as to minimize cuts and fills, including limiting road construction on steep slopes, where possible.

Prior to implementation of Phase 1, GRL would provide a 60-day written notification to all public land ROW holders that overlap the Plan boundary regarding the Project and provide a point of contact. During each phase of the Project, GRL would notify those specific ROW holders at least 60 days prior to that phase to coordinate any anticipated impacts to the ROW, such as limited access, disturbance, reclamation, etc. Additional coordination with ROW holders would continue as needed, and any concerns would be provided to the BLM.

2.1.13.15 Wildland Fire Protection

Applicable state and federal fire laws and regulations would be complied with and reasonable measures would be taken to prevent and suppress fires in the Plan area.

GRL would comply with applicable state and federal fire laws and regulations and reasonable measures (i.e., vehicle hand tools, extinguisher, etc.) would be taken to prevent and suppress fires in the Plan area.

Project vehicles would carry fire extinguishers and a minimum of 10 gallons of water during the months of May through September.

Adequate fire-fighting equipment, i.e., shovel, Pulaski, extinguisher(s), and a minimum 10 gallons of water would be kept at the drill site(s).

Vehicle catalytic converters would be inspected often and cleaned of brush and grass debris. Wildland fires would immediately be reported to the BLM Interagency Dispatch Center at 775-623-3444. 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.

2.1.13.16 Livestock and Range Allotments

GRL would protect fences, gates, stock ponds, and other range improvements within the Project. Gates would be closed and/or locked as appropriate.

2.1.13.17 Wild Horses/Burros

New hire and annual refresher training for all employees and contractors would include wild horse/burro protection training that specifically addresses the commitment of GRL to implement the protection program. GRL would use the training materials developed with the BLM for the Gemfield Mine.

Site-specific training would include the protection measures specifically developed for Exploration that would also include reporting procedures to BLM for wild horse/burro mortalities, should they occur.

The BLM TFO Wild Horse Specialist (775-482-7800) would be contacted if any wild horses/burros are observed to be lame or sick, or if foals appear to be orphaned, or if any vehicle/wild horse collisions occur.

Wild horse/burro movement through the Plan area, when observed by GRL and other site personnel, would be recorded by the exploration staff and reported to the Environmental Manager for use in the refinement of management protection measures during operations.

2.1.14 Reclamation Plan

GRL would conduct a concurrent reclamation program to seed areas that have been recontoured following completion of exploration activities. The final surface of backfilled sites and recontoured roads would be left in rough condition to hold seed and to optimize germination.

Roads, drill pads, and safety berms would be regraded approximately to the original contour before disturbance. Where the road would be located on fill, the side slopes would be rounded and regraded to 2.5H:1V. Finished slopes would be relatively similar to the surrounding topography. Compacted road surfaces would then be ripped, covered with growth media from the safety berms, and revegetated. Ditches that would no longer be required would be regraded and unneeded culverts removed.

Depending upon the topography of the area to be reclaimed, areas would be seeded by hand broadcasting, mechanical broadcasting and harrowing, or hydroseeding and mulching with the approved BLM seed mixes and seeding rates. Changes to the seed mix or application rate may be made upon approval by the BLM. The individual species and application rates would be selected to promote optimum seed germination and plant growth. Seeding would typically occur between the months of October and December to take advantage of the winter/spring moisture.

Table 2-3 Reclamation Seed Mix

Common Name	Scientific Name	Pure Live Seed (pounds pure live seed per acre)
Indian ricegrass	*Oryzopsis hymenoides*	6.00
Fourwing saltbush	*Atriplex canescens*	6.00
Bottlebrush squirreltail	*Sitanion hystrix*	4.00
Shadscale saltbush	*Atriplex confertifolia*	4.00
Small burnet	*Sanguisorba minor*	2.00
Blue flax	*Linum lewisii*	2.00
	Total	**24.00**

Source: GRL 2024

Growth media salvaged from the disturbed areas would be stripped, stockpiled, and replaced during reclamation. Where available (i.e., not in areas covered with rock), growth media would be saved and stored in the side cast berm material for reclamation purposes.

Drill holes would be plugged and abandoned in accordance with applicable regulations at NAC 534.4369 through 534.4371. Exploration drill holes would be plugged and abandoned immediately after obtaining all necessary data from the drill hole. A drill hole may be left open for a period of time following the initial drilling if it is anticipated that the hole may be re-entered to drill deeper or to use down-hole geophysical techniques. A maximum of five drill holes may remain open at one time within the Project.

Concurrent reclamation would take place as soon as practicable following exploration data results and would be ongoing throughout the life of the Project. Final reclamation would be initiated once the exploration program has been completed, with all reclamation activities concluding within one year of cessation of exploration activities.

When drilling activities are completed, drill steel, drilling products, portable light plants/generators, or other drilling equipment would be removed from the site. Temporary facilities, such as portable toilets, would be removed from the upon the conclusion of final reclamation activities.

2.1.14.1 Surface Facilities or Roads Not Subject to Reclamation

Existing roads on public lands suitable for public access or that continue to provide public access consistent with pre-exploration conditions would not be reclaimed at the completion of the Project. Existing site disturbance that has not been disturbed, improved, or altered by GRL would also not be reclaimed.

2.1.14.2 Post Reclamation Monitoring and Maintenance

Following the end of exploration activities, site inspections, and other necessary monitoring for the period of reclamation responsibility would be conducted. While the intention would be to have Project related surface disturbance reclaimed and released by the end of the Project (10 years), monitoring of revegetation success would be conducted annually until the revegetation standards have been met and the area released, as determined by the BLM and NDEP-BMRR. Monitoring revegetation success would account for seasonal growth patterns, nearby reference area vegetation patterns, precipitation, and weather conditions. Noxious and invasive weed monitoring would be undertaken in conjunction with revegetation monitoring.

2.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be approved by the BLM; however, the area would remain available for other multiple use activities as approved by the BLM. GRL would continue exploration on public land with the four authorized Notices: McMahon Ridge Notice (NVN-096505); Adams (NVNV106350441); Slaughterhouse Canyon MW (NVN-091331); and North Gemfield MW (NVN-091330) (**Figure 2-2**). GRL would also continue exploration on private lands under the Goldfield Main Interim Exploration Plan and the Daisy Interim Exploration Plan (**Figure 2-2**). The area would remain available for future mineral exploration and mining activities or for other purposes, as approved by the BLM and/or NDEP.

2.3 Alternatives Considered but Eliminated from Detailed Analysis

To be considered for detailed analysis in this EA, potential alternatives had to meet the criteria of *a reasonable range of alternatives to the proposed agency action, including an analysis of any negative environmental impacts of not implementing the proposed agency action in the case of a no action alternative, that are technically and economically feasible, and meet the purpose and need of the proposal* (42 USC 4332(C)(iii)).

The proposed Project is located on claims held by GRL and is therefore limited to the claims they hold and areas where the potential resources has been identified. In addition, access is well established due to previous exploration and mining activities within the Plan boundary. Due to these factors, limited opportunities for alternatives are present. Based on the criteria for reasonable alternatives, no other alternatives to the Proposed Action and No Action Alternative have been identified or proposed.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL EFFECTS

This chapter presents the existing environment (i.e., the physical, biological, social, and economic values, and resources), the issues analyzed, the effects to the analyzed resources, and Project design features. "*Reasonably foreseeable future actions* include those federal and non-federal activities not yet undertaken, but sufficiently likely to occur, that a Responsible Official of ordinary prudence would take such activities into account in reaching a decision…Reasonably foreseeable future actions do not include those actions that are highly speculative or indefinite" (43 CFR 46.30). A project may have some degree of effect upon a resource or concern, but that effect does not always approach a threshold of significance after consideration of short and long-term effects, beneficial and adverse effects, effects on public health and safety, and effects that would violate federal, state, tribal, or local law protecting the environment. Such effects are described as "negligible" in the rationale for dismissal from analysis. The temporal scope for effects includes definitions for the intensity, duration, and context. These definitions are defined in **Table 3-1**.

Table 3-1 Effect Definitions

Element	Term	Status for EA Analysis
Intensity	Negligible	Effects would be so small it would not be measurable or perceptible. Resources would not be significantly altered and there would be no effect on the value or distribution of the resource.
	Minor	Effects would be detectable, measurable, or perceptible, but would occur within the area of analysis and would not affect the overall value or distribution of the resource. Effects would be minimized with implementation of ACEPMs, BMPs, and reclamation.
	Moderate	Effects would be readily apparent, measurable, large, and of consequence in the area of analysis. Effects may occur to the overall value or distribution of the resource. Mitigation beyond the ACEPMs and BMPs may be necessary; the effectiveness of these measures would be known.
	Major	Effects would occur and would substantially change the value or distribution of the resource. Mitigation beyond ACEPMs and BMPs may be necessary; these measures would be anticipated to be effective but would also need to be monitored.
Duration	Temporary	Effects would occur for up to six months or less.
	Short-term	Effects would occur for up to one year.
	Long-term	Effects would occur for the life of the Proposed Action.
	Permanent	Effects would last after successful reclamation.
Context	Localized	Effects would occur within the area of analysis.
	Regional	Effects would occur within and/or beyond the area of analysis.

In this NEPA analysis, potentially affected resources have been reviewed to determine if they may be significantly impacted by the Proposed Action. The BLM is required to consider specific elements of the human environment (supplemental authorities) that are subject to requirements specified in statute, regulation, or by Executive Order. In addition to resources covered by supplemental authorities that require consideration in NEPA documents, the BLM considers other important resources and uses that may be impacted from the Proposed Action and alternatives. **Table 3-2** lists the resources covered by supplemental authorities and **Table 3-3** lists those resources that are considered additional affected resources.

Each resource was reviewed to determine the potential effects from the Project (i.e., not present, present and not affected, or present and may be affected). Resources identified as Present May be

Affected are discussed in the effects analysis. The analysis of effects is disclosed under each affected resource and focuses on potential impacts remaining after the implementation of the ACEPMs described in Section 2.1.13. **Table 3-2** and **Table 3-3** provide sections where details and rationale for determinations of "present, not affected" are discussed.

Table 3-2 Supplemental Authorities

Element	Not Present	Present/Not Affected	Present/May be Affected	Status for EA Analysis
Air Quality			X	Section 3.2.1
Areas of Critical Environmental Concern, National Monument, Wild and Scenic Rivers	X			There are no Special Designation Management Areas Present in or near the Plan boundary.
Cultural Resources and Heritage Special Designations			X	Section 3.2.2
Farmlands (Unique or Prime)	X			Not Present in the Plan boundary. None located in the Battle Mountain District by definition.
Floodplains		X		Present, Not Affected – See Section 3.1.1
Forests and Rangelands			X	Discussed under Vegetation Resources.
Human Health and Safety	X			Not Present, this authority applies to pesticides.
Migratory Birds			X	Discussed under Wildlife Resources.
Native American Concerns			X	Section 3.2.4
Non-native Invasive and Noxious Species			X	Discussed under Vegetation Resources.
Threatened or Endangered Species	X			Not Present. See Section 3.1.5.
Wastes, Hazardous Material/Solid Waste		X		Present, Not Affected – See Section 3.1.7.
Water Quality and Quantity			X	Section 3.2.11
Wetland and Riparian Zones		X		Present, Not Affected – See Section 3.1.8
Wilderness and Wilderness Study Areas, Lands with Wilderness Characteristics (LWC)		X		No Wilderness or Wilderness Study Areas are present in or near the Plan boundary. LWC: Present, Not Affected – See Section 3.1.3.

Table 3-3 Additional Affected Resources

Resource	Not Present	Present/Not Affected	Present/May be Affected	Status for EA Analysis
Geology and Minerals			X	Section 3.2.3
Land Use and Realty			X	Section 3.2.6
Noise – Human Receptors			X	Section 3.2.5
Paleontological Resources			X	Section 3.2.7
Grazing Management		X		Present, Not Affected – See Section 3.1.2
Recreation		X		Present, Not Affected – See Section 3.1.4
Socioeconomic Values			X	Section 3.2.8
Soil Resources			X	Section 3.2.9
Special Status Species			X	Discussed under Vegetation Resources and Wildlife Resources Sections.
Vegetation Resources			X	Section 3.2.10
Visual Resources		X		Present, Not Affected – See Section 3.1.6
Wild Horses and Burros		X		Present, Not Affected – See Section 3.1.9

Resource	Not Present	Present/Not Affected	Present/May be Affected	Status for EA Analysis
Wildlife Resources			X	Section 3.2.12

The Plan boundary is within Goldfield Mining District near Goldfield, Nevada. In 1903, the Goldfield Townsite and Mining District were established and production expanded rapidly, peaking in 1910. By 1919, the last of the major mines were closed. Limited production occurred from 1920s to the 1950s including reprocessing tailings and underground mining. Production resumed during the 1980s and 1990s with heap leaching of mine dumps and tailings as well as open pit mining. Remnant disturbances include the open pits, waste rock dumps, a heap leach pad, tailings, and various access roads. Within the Plan boundary there are approximately 332 acres of previous disturbance not attributed to current exploration disturbance (GRL 2024). The Project elevations range from above 5,500 feet to 6,500 feet.

3.1 Resources Not Carried Through for Detailed Analysis

The following resources were determined to be Present, Not Affected by the Proposed Action after data review. A brief discussion of each resource and rationale for dismissal is provided below. These resources are not discussed or analyzed further in this EA.

3.1.1 Floodplains

Floodplains are low-lying areas along rivers or stream channels that can be subject to periodic or infrequent inundation of water. Executive Order 11988 for Floodplain Management directs agencies to avoid, to the extent, possible long and short-term adverse impacts associated with occupancy and modification of floodplains (42 Federal Register 26951, 3 CFR, 1977). According to Federal Emergency Management Agency (FEMA) Flood Map Service Center data, a 500-year floodplain (Zone X) occurs along the eastern portion of the Plan boundary. This area is defined by FEMA as an area of minimal flood risk. Temporary crossings by vehicles or equipment may occur, however these activities would not modify or impede the natural processes of the floodplain. Any flooding risk is likely small and confined to ephemeral stream channels and washes. As such, floodplains would not be effected by the temporary disturbance proposed.

3.1.2 Grazing Management

The Project is in the Montezuma Allotment. No livestock water sources are in the Plan boundary and livestock would not be effected by the temporary disturbance.

3.1.3 Land with Wilderness Characteristics

There are five LWC units within or near the Plan boundary. There are no designated wilderness areas, or wilderness study areas within the Plan boundary, and the nearest are over 30 miles away (BLM 2019). These four LWC units do not have wilderness characteristics: NV-050-3458, NV-050-335, NV-050-03R-14, and NV-050-334A. One LWC unit, NV-050-003, has wilderness characteristics. The Tonopah RMP does not address lands with wilderness characteristics. They would be addressed in future RMP amendments. In the interim, the BLM manages lands with wilderness characteristics for multiple use.

3.1.4 Recreation

The Project would not prevent dispersed recreational activities such as hunting, off-road vehicle riding, bike riding, photography, rock collecting, and similar activities throughout the public land within the Plan boundary during exploration operations. although trenches, sumps, and other small excavations that pose a hazard or nuisance to the public may be fenced to prevent access. One organized race, the Best in the Desert Race, does go through the Plan boundary on existing roads (**Figure 2-1**). The Proposed Action would not prevent recreational activities on existing roads.

3.1.5 Threatened and Endangered Species

The United States Fish and Wildlife Service (USFWS) Official Species List identifies two potential species that may be affected by the Project: monarch butterfly (*Danaus plexippus*), a candidate insect species and yellow-billed cuckoo (*Coccyzus americanus*), a threatened bird (USFWS 2024). Neither of these species are documented in the area of analysis. Final critical habitat has been defined for yellow billed cuckoo; it does not occur in the area of analysis. As such they will not be considered further.

Critical habitat for the monarch butterfly has not been defined by the USFWS; however, milkweed (*Asclepias* sp.) is often used as an indication of potential habitat. Monarch butterflies rely on milkweed for larval development. One population of Eastwood's milkweed (*Asclepias eastwoodiana*) was identified during baseline studies in the northeast portion of the Project area. Milkweeds are typically a successful colonizer following disturbance and are found to benefit from a reset of their phenology (Haan et al. 2019). Should milkweed be temporarily disturbed, it would likely re-establish readily. If present monarch butterflies would relocate to adjacent areas during incremental disturbance. Given limited habitat and lack of documented occurrence, the Proposed Action is not anticipated to encounter monarch individuals or cause long term change to potential habitat. The Proposed Action would not contribute to a decline of this species. As such it will not be considered further.

3.1.6 Visual Resources

The Project is in Visual Resource Management (VRM) Classes III and IV in a landscape that has been modified by current and previous mining activity (BLM 1997, 2019). The Proposed Action is consistent with the level of change allowed in these VRM classes and would not result in modifications to the characteristic landscape and there would be no alteration of the visual value of the landscape.

3.1.7 Waste, Hazardous or Solid

The Proposed Action includes ACEPMs to prevent impacts from hazardous and solid waste. These procedures address the use of waste, hazardous or solid. These procedures would promote the safety and awareness of personnel, eliminate, or reduce the potential of releases, and ensure that mitigation, storage, and disposal procedure are adequate for environmental protection and regulatory compliance.

3.1.8 Wetland and Riparian Zones

According to the National Wetland Inventory, potential wetlands within the area of analysis are riverine, limited to intermittent stream beds. One intermittent stream, Big Wash, flows north through the eastern portion of the Plan area (**Figure 3-1**). Natural Resources Conservation Service (NRCS) data indicates that hydric soils do not occur within the area associated with the Big Wash. Mapped seeps and springs that may support wetland habitat do not occur in the area of analysis. As such, while isolated wetlands may be present with the Big Wash channel itself, they are likely small, seasonal occurrences, and not likely to be affected by the proposed disturbance.

Riparian zones in the area of analysis are anticipated to be limited to the Big Wash intermittent stream channel itself. The dominant cover types within the area of analysis are shrub steppe and salt desert scrub, not typical of riparian habitat. There is a marked absence of vegetation, particularly riparian species such as willow (*Salix* sp.) within or adjacent to the streams in the area, according to baseline surveys (JBR 2013) and aerial imagery (Nexus 2024a). As such riparian zones are absent or limited to an individual shrub or tree. These areas are not likely to be affected by the proposed disturbance.

3.1.9 Wild Horses and Burros

The Project is in the Montezuma Peak and Goldfield Herd Management Areas. No wild horse or burro water sources are in the Plan boundary. Wild horses and burros would not be affected by the temporary disturbance.

3.2 Resources Carried Through for Detailed Analysis

3.2.1 Air Quality

The area of analysis for air quality is the area within the Plan boundary.

3.2.1.1 Affected Environment

The USEPA has established national ambient air quality standards for criteria pollutants, which include carbon monoxide (CO), nitrogen dioxide, ozone, particulate matter (PM_{10} and $PM_{2.5}$), sulfur dioxide (SO_2), and lead. The air quality in the Plan boundary is typical of adjacent areas of Esmerelda and Nye counties, of the regional air quality of the Great Basin, where air quality is generally good and within attainment status. Attainment status means that concentrations for criteria pollutants are below the applicable state and federal ambient air quality standards. The area of analysis is not within a non-attainment area or areas where total suspended particulates or other criteria pollutants exceed Nevada air quality standards (USEPA 2024a).

Climate is the composite of generally prevailing weather conditions of a particular region throughout the year averaged over a standard period of 30 years. Activities such as fossil fuel combustion, deforestation, and other changes in land use are resulting in the accumulation of greenhouse gases (GHGs), such as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), water vapor, and industrial gases (e.g., Fluorine gases, or F-gases), in the atmosphere. Global GHG emissions are estimated using a CO_2-equivalent (CO_{2e})100-year Global Warming Potential (GWP) index, or GWP100, which combines CO_2, CH_4, N_2O, and F-gases for establishing a single

comparable metric. Worldwide, the GWP100 index estimates that total emissions currently exceed 49 gigatons per year, with CO_2 remaining the major GHG component (IPCC 2014).

The primary sources of GHG emissions worldwide are agriculture, transportation, electricity generation, industry, commercial, and residential. In 2014, the United States was contributing approximately 15 percent of global CO_2 emissions from fossil fuel combustion and some industrial processes. In 2017, the total emissions of GHGs in the United States were 6,457 million metric tons of CO_2e (USEPA 2019).

Potential changes to the area resulting from the effects of GHGs were forecasted by the Central Basin and Range Rapid Eco-Regional Assessment (Comer et al. 2013). Temperature increases are predicted with the highest certainty, and the direct impacts of warmer temperatures include the contraction or expansion of vegetation communities. There are no strong trends toward either wetter or drier conditions within the region, except for a potentially slight increase in precipitation from summer rain.

The Goldfield Mining District contains remnants of historic mining activities including waste rock dumps, mineshafts, headframes, and foundations of mine facilities (BLM 2019). Within the Plan boundary there are approximately 332 acres of previous disturbance not attributed to current exploration disturbance (GRL 2024) that may produce dust and other particulate matter.

3.2.1.2 Environmental Consequences

Proposed Action

Travel on access roads and Project-related activities could have potential effects on air quality and GHGs. Direct temporary impacts to air quality would occur from fugitive dust and vehicle emissions under the Proposed Action. Fugitive dust, in the form of PM_{10} and $PM_{2.5}$ could be caused by use of existing access roads, clearing, earth moving, drilling, and wind erosion from disturbed soils. The Proposed Action is not anticipated to constitute stationary source operations that would be subject to stationary source air quality permitting. GRL would obtain all necessary permits from the NDEP Bureau of Air Pollution Control.

The Proposed Action would result in emissions of GHGs. Vehicle emissions, in the form of CO, nitrogen oxides (NO_x), SO_2, volatile organic compounds (VOCs), and hazardous air pollutants (HAPs), would occur any time internal combustion engines are operating. Sources of exhaust include heavy equipment (excavators, bulldozers, and road graders), water trucks, light pickup trucks, off-highway vehicles, portable generators, and up to five drill rigs.

An emissions inventory evaluation was conducted to assess Project-related emission potential associated with exploration activities. The Potential to Emit was evaluated by developing a thorough accounting of emissions for each phase associated with the Proposed Action (UES 2024). The Potential to Emit includes site mobilization, construction and road maintenance, drilling, and site demobilization for direct emissions, as well as the total offsite indirect emissions (**Table 3-4**).

Table 3-4 Project Potential Emissions

Project Activities	Calculated Emissions (tons per year)								
	TSP	PM_{10}	$PM_{2.5}$	CO	NO	SO_2	VOC	HAP	CO_2e
Site Mobilization	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Construction and Road Maintenance	0.01	0.01	0.01	2.74	0.13	0.44	0.06	0.00	89.6
Reverse Circulation Drilling	0.06	0.06	0.06	11.7	1.17	3.46	0.65	0.02	702.9
Core Drilling	0.04	0.04	0.04	9.76	0.87	2.42	0.55	0.01	490.7
Site Demobilization	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Total Direct Emissions	0.11	0.11	0.11	24.19	2.16	6.33	1.27	0.03	1,283.2
Total Indirect Emissions	0.011	0.01	0.01	1.22	0.09	2.03	0.02	0.00	168.4
Total Emissions	**0.121**	**0.12**	**0.12**	**25.41**	**2.25**	**8.36**	**1.29**	**0.03**	**1,451.6**
EPA Significant Emission Rate	**Not Applicable**	**15**	**10**	**100**	**40**	**40**	**40**	**25**	**25,000**

Sources: UES 2024; USEPA 2025

The emissions generated by the Project were compared to the USEPA's significant emission rate (40 CFR 52.21) to determine potential effects on air quality. Implementation of several BMPs and ACEPMs are anticipated to prevent, limit, and control fugitive dust, resulting from the temporary surface area disturbance at the Project location. These include the use of water trucks, limiting disturbance areas, and vehicle speed limits, as well as any additional BMPs implemented for the site-specific conditions of the Project. Although some localized impacts to air quality would occur, adherence to the Plan, and compliance with applicable state and federal regulations would reduce or prevent impacts to air quality. Effects to air quality would be negligible, short-term, and localized.

Total GHGs resulting from the Proposed Action are estimated at 1,451.6 tons per year. For 2021, Nevada's gross GHG emissions totaled 45.381 $MMTCO_2e$ (NDEP 2023). The emissions resulting from the Proposed Action represent a contribution of 0.003 percent of total GHG emissions in Nevada and 0.000018 percent nationwide. This is equivalent to 307 gasoline powered passenger vehicles being driven for one year (USEPA 2024b), or less than one vehicle per day per year. Effects to GHGs would be negligible, short-term, and localized.

No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM. GRL would continue authorized exploration disturbance of 49.46 acres on public land and private land and the area would remain available for other multiple use activities as approved by the BLM. Impacts to air quality and GHGs would be the same or similar than the Proposed Action and are anticipated to be negligible, short-term, and localized.

3.2.2 Cultural Resources

The area of analysis for Cultural Resources is the Plan boundary.

3.2.2.1 Affected Environment

Archaeology is the study of the human past through the excavation and analysis of artifacts and other physical remains. Within the Plan boundary is extensive mining both present and historic as well as prehistoric sites. The Goldfield Mining District contains remnants of historic mining

activities including waste rock dumps, mineshafts, headframes, and foundations of mine facilities (BLM 2019). Within the Plan boundary there are approximately 332 acres of previous disturbance not attributed to current exploration disturbance (GRL 2024) that may have affected cultural resources. A Class III survey was competed on areas associated with the Phase 1 drilling program to identify the potential sites (Kautz 2024).

3.2.2.2 Environmental Consequences

Proposed Action

Phased activities are proposed on approximately 400 acres within the Plan boundary. All areas associated with identified disturbance in Phase I have been included in the cultural survey (Kautz 2024) and roads and drill pads have been placed to achieve avoidance of eligible or unevaluated cultural resources. As additional phases of drilling proceed, additional cultural surveys would be completed in coordination with the BLM. As part of the Proposed Action, GRL has committed to an ACEPM that identified potentially eligible cultural sites be avoided during all exploration activities therefore no impacts to cultural resources are anticipated

No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM. GRL would continue authorized exploration disturbance of 49.46 acres on public land and private land and the area would remain available for other multiple use activities as approved by the BLM. Under GRL's Notice they would continue to avoid cultural resources therefore no impacts to cultural resources are anticipated.

3.2.3 Geology and Minerals

The area of analysis for geology and minerals is the Plan boundary.

3.2.3.1 Affected Environment

A portion of the Plan boundary is located within the Goldfield Mining District in the western Basin and Range province in the central and western portions of the Goldfield Hills. General geology of the Goldfield Hills is underlain primarily by hydrothermally altered and unaltered volcanic rocks and sedimentary rocks that are between about 31 and 20 million years old. The most abundant rocks include resistant silicified and argillized rocks. Mixtures of alunite and kaolinite dominate the Goldfield Hills (Rockwell 2000).

3.2.3.2 Environmental Consequences

Proposed Action

The Proposed Action would include up to 400 acres of incremental surface disturbance on both private and public land that could occur anywhere within the Plan boundary. The Project would not involve the removal of large quantities of earth that may potentially lead to structural instability. 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 Esmeralda and Nye counties and Nevada, the amount of minerals extracted as a result of the proposed exploration activities would have a negligible, short-term, localized effect.

No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM. GRL would continue authorized exploration disturbance of 49.46 acres on public land and private land and the area would remain available for other multiple use activities as approved by the BLM. Effects to geology and minerals under the No Action Alternative would be similar to the Proposed Action and expected to be negligible, short-term, and localized.

3.2.4 Native American Concerns

The area of analysis for Native American Concerns is the Plan boundary.

3.2.4.1 Affected Environment

The Plan boundary is located within the traditional territory of the Western Shoshone, and may contain spiritual, traditional, and cultural resources, and sites to engage in social practices that aid in maintaining and strengthening the social, cultural, and spiritual integrity of the Tribes. Recognized Tribes with known interests near the Project include several tribes.

Social activities of Native Americans continue to define places of cultural importance across lands currently administered by the BLM. Some Western Shoshone maintain cultural, spiritual, and traditional activities, visit their sacred sites, hunt game, and gather available medicinal and edible plants. Through oral history (the practice of handing down knowledge from the elders to the younger generations), some Western Shoshone continue to maintain a world view similar to that of their ancestors.

In accordance with the National Historic Preservation Act (Public Law [P.L.] 89-665), the NEPA, the FLPMA (P.L. 94-579), the American Indian Religious Freedom Act of 1978 (P.L. 95-341), the Native American Graves Protection and Repatriation Act (P.L. 101 601) and Executive Order 13007, the BLM must provide affected Tribes an opportunity to comment and consult on the proposed Project. The BLM must attempt to limit, reduce, or possibly eliminate any negative impacts to Native American traditional/cultural/spiritual sites, activities, and resources.

3.2.4.2 Environmental Consequences

Proposed Action

The BLM TFO initiated government-to-government consultation with an invitation to the Las Vegas Tribe of Paiute Indians, the Fort Independence Indian Community of Paiute Indians, the Walker-River Paiute Tribe, the Shoshone-Paiute Tribes of the Duck Valley Reservation, the Timbisha Shoshone Tribe, the Yomba Shoshone Tribe, and the Duckwater Shoshone Tribe, to attend a meeting regarding the Project held on November 6, 2024. No cultural, traditional, spiritual sites or activities of importance to Tribes have been identified in the area of analysis. However, Tribal consultation is ongoing, and as part of the consultation process, this EA would be provided to the tribes for review and comment.

Various Tribes and Bands of the Western Shoshone have stated federal projects and land actions might have widespread effects to their culture and religion as they consider the landscape as sacred and as a provider. Various locations throughout the TFO administrative area host certain traditional, spiritual, and cultural activities today, as in the past. Traditional Cultural Properties,

designated by the Tribes, are not known to exist in or within the vicinity of the Plan boundary. The TFO continues to solicit input from local tribal entities. The TFO is continuing to coordinate with the Tribes to identify any other sites or artifacts, or cultural, traditional, and spiritual use resources and activities that might experience an impact.

At this time, no impacts related to Native American Religious and Cultural Concerns have been identified by the Tribes and are not anticipated from the Project. However, Tribal consultation would continue throughout the life of the Project.

No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM. GRL would continue authorized exploration disturbance of 49.46 acres on public land and private land and the area would remain available for other multiple use activities as approved by the BLM. At this time, no impacts related to Native American Religious and Cultural Concerns have been identified by the Tribes for authorized activity in the area of analysis.

3.2.5 Noise – Human Receptors

3.2.5.1 Affected Environment

The primary human noise receptor in the three-mile buffer is the town of Goldfield, which the Plan boundary overlaps. The town of Goldfield includes the Goldfield Elementary School, a public library, and emergency medical services (Esmeralda County 2024) all of which are outside of the Plan boundary. Goldfield has a population of 212 (USCB 2022) with some residences located within the Plan boundary on private land (Nexus 2023a). The primary source of ambient noise in the vicinity is traffic on US 95, with natural sounds and daily commerce adding to the noise levels taken at four locations near the Plan boundary (BLM 2019). Recorded ambient noise levels represented only moderate variation among four monitoring sites. The average ambient noise levels ranged from 44 A-weighted Decibels (dBA) to 51 dBA which is comparable to a quiet suburb, a conversation at home, or large electrical transformers 100 feet away (Purdue 2000). The authorized Gemfield Mine could produce 30 dBA to 50 dBA, similar to, existing traffic noise and be below the USEPA recommended 55 dBA threshold for outdoor noise (BLM 2019).

Proposed Action

The noise levels from drilling during exploration would be approximately 85 dBA at the source (FHWA 2006) and these levels would decrease with distance due to sound attenuation to 45 dBA at 1,000 feet from the source, depending on topography. Prolonged exposure at levels above 85 dBA could cause hearing loss and workers would be required to comply with Mine Safety and Health Administration requirements. For nearby residences and people in government buildings, when they are outside they could experience temporary annoyance by the noise levels being above 55 dBA depending on the proximity to the current drilling. The noise levels would be similar to those experienced from the existing highway and authorized activities. The noise sources would be dispersed throughout the Plan boundary and dispersed over time. ACEPMs would be implemented including using existing topography and/or noise abatement methods would be used to comply with noise restrictions. Noise effects to humans from the Proposed Action would be negligible, short-term, and localized.

No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM. GRL would continue authorized exploration disturbance of 49.46 acres on public land and private land and the area would remain available for other multiple use activities as approved by the BLM. The authorized construction of the nearby mine noise levels would be similar to exploration drilling (BLM 2019). There would continue to be ambient noise from highway traffic and other activities in the area. Noise effects to humans under the No Action Alternative would be negligible, short-term, and localized.

3.2.6 Land Use and Realty

The area of analysis for Land Uses and Realty is the Plan boundary.

3.2.6.1 Affected Environment

The Plan boundary is located on 5,269 acres of public land administered by the BLM and 10,025 acres of private land. The Project would occur on lode claims owned, leased, or controlled by GRL. The primary land uses within and near the area of analysis include mineral exploration and development; utilities, infrastructure, and public purpose; dispersed recreation; and wildlife habitat. The Goldfield Mining District contains remnants of historic mining activities including waste rock dumps, mineshafts, headframes, and foundations of mine facilities (BLM 2019). Within the Plan boundary there are approximately 332 acres of previous disturbance not attributed to current exploration disturbance (GRL 2024). The nearest residential community is the town of Goldfield, Nevada, located directly adjacent to the Proposed Action. Existing BLM land use authorizations or ROWs within the area of analysis are summarized in **Table 3-5**.

Table 3-5 Administrative Land Use Authorizations in the Area of Analysis

Holder	ROW/Activity	Serial Number	Location
Nevada Department of Transportation	Federal Aid Highway (Sec. 17)	NVNV106185744	T2S R42E Section 14
Nevada Department of Transportation	Federal Aid Highway (Sec. 17)	NVNV106177114	T2S R42E Section 14
Nevada Department of Transportation	Federal Aid Highway (Sec. 317)	NVNV106254812	T3S R42E Section 2, 11, 14
Esmeralda County Road Department	Free Use Permit – Government Subdivision -All	NVNV105862930	T2S R42E Section 28
Esmeralda County Road Department	Free Use Permit – Government Subdivision -All	NVNV105838907	T2S R42E Section 28
Esmeralda County	Recreation and Public Purpose Class	NVNV105968592	T2S R42E Section 26, 35
Nevada Department of Transportation	Forest Service Federal Aid Highway (Sec. 317)	NVNV105956749	T3S R42E Section 11, 14
Nevada Hospital Association	Power Transmission Line	NVNV106134676	T2S R42E Section 15, 22, 27, 34; T3S R42E Section 11, 14
Sierra Pacific Power Company	Power Transmission FLPMA	NVNV105866773	T2S R42E Section 14, 22, 27, 34
Sierra Pacific Power Company	Power Transmission FLPMA	NVNV106284034	T2S R42E Section 23
Sierra Pacific Power Company	Power Transmission FLPMA	NVNV106284035	T2S R42E Section 23
Sierra Pacific Power Company	Power Transmission FLPMA	NVNV105995011	T2S R42E Section 15, 22, 23, 30;

Holder	ROW/Activity	Serial Number	Location
Esmeralda County	Roads	NVNV105962341	T2S R42E Section 34
Esmeralda County	Roads	NVNV106258795	T2S R42E Section 27, 34
Esmeralda County Road Department	Roads	NVNV105877513	T2S R42E Section 19, 27, 28, 30
Nevada Department of Transportation	Roads	NVNV106283034	T2S R42E Section 22, 23, 27, 34, 35
Esmeralda County Road Department	Roads	NVNV106284041	T2S R42E Section 14, 23
Esmeralda County Road Department	Roads	NVNV106284500	T2S R42E Section 14, 15;
Bureau of Land Management	Federal Facility	NVNV106082316	T2S R42E Section 34; T3S R42E Section 2
AT&T Nevada	Telephone and Telegraph, FLPMA	NVNV106181076	T2S R42E Section 22, 27, 34; T3S R42E Section 11, 14
Vero Fiber Networks	Telephone and Telegraph, FLPMA	NVNV105856545	TS R42E Section 14, 35,
Esmeralda County	Water Facility	NVNV105896775	T2S R42E Section 14, 22, 27, 28, 30, 34; T3S R42E Section 11
Esmeralda County	Water Facility	NVNV106078767	T2S R42E Section 35
Gemfield Resources LLC	Surface Management - Notice	NVNV106234623	T2S R42E Section 22
Gemfield Resources LLC	Surface Management - Notice	NVNV106234625	T2S R42E Section 34
Gemfield Resources LLC	Surface Management - Notice	NVNV106050241	T2S R42E Section 19
Gemfield Resources LLC	Surface Management - Notice	NVNV106350441	T2S R42E Section 24, 25
ATAC Resources LTD	Surface Management - Notice	NVNV105853322	T3S R43E Section 3, 10, 11, 12
Gemfield Resources LLC	Surface Management Plan Mining	NVNV105904921	T2S R42E Section 35
Gemfield Resources LLC	Surface Management Plan Mining	NVNV106201951	T2S R42E Section 35

Sources: BLM 2024a, 2024b.

There are 558 patented lode claims and 535 unpatented lode claims that overlap the area of analysis (GRL 2024).

3.2.6.2 Environmental Consequences

Proposed Action

The Proposed Action is consistent with BLM plans and policies that designate land use within the area of analysis as open for mineral exploration and development (BLM 1997). The Proposed Action does not require any changes of existing land uses or designations, changes of ownership, or ROWs. While trenches, sumps, and other small excavations that pose a hazard or nuisance to the public, wildlife, or livestock would be fenced, no roads would be blocked during active drilling. In areas where activities may take place near existing authorizations, GRL would coordinate with the ROW holder. Temporary Project activities would not affect access on existing roads and multiple roads exist within the Plan boundary allowing for alternate routes through the area. The effects from Project-related activities to realty and land uses would be negligible, short-term, and localized.

No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM. GRL would continue authorized exploration disturbance of 49.46 acres on public land and private land and the area would remain available for other multiple use activities as approved by the BLM. Effects to land use and realty under the No Action Alternative would be negligible, short-term, and localized.

3.2.7 Paleontological Resources

The area of analysis for Paleontological Resources is the Plan boundary.

3.2.7.1 Affected Environment

The area of analysis is in the Great Basin region of the Basin and Range geomorphic province of Nevada (Stewart 1980). The Basin and Range topography is a result of regional extension resulting in normal faulting, block rotation, volcanism, and crustal thinning (Lee et al. 2001). The area of analysis lies within the Goldfield Hills. Within the Plan boundary there are approximately 332 acres of previous disturbance not attributed to current exploration disturbance (GRL 2024).

Approximately 10,500 acres of the area of analysis are rated PFYC Class 1 (Very Low), 224 acres are rated PYFC Class 2 (Low), 59 acres are rated PYFC Class 4 (High), and 4,510 acres are rated PYFC Class U (Unknown) (**Figure 3-2**).

3.2.7.2 Environmental Consequences

Proposed Action

The Proposed Action would result in incremental disturbance of geologic units with varying paleontological potentials. Under the Proposed Action, up to 400 acres of incremental surface disturbance could occur on both private and public land anywhere within the Plan boundary. Approximately 70 percent (10,724 acres) of the Plan boundary would be underlain by geologic units with low to very low (PFYC 1 and 2) paleontological potential and less than one percent (59 acres) of the Proposed Action would be underlain by geologic units with high (PFYC 4) paleontological potential. Approximately 30 percent (4,510 acres) of the Proposed Action would be underlain by geologic units of unknown (PFYC U) paleontological potential. It is unlikely that activities associated with mining exploration would encounter paleontological resources in units with very low or low paleontological potential; therefore, effects to paleontological resources are unlikely in these geologic units. There is a higher potential for activities associated with exploration to affect paleontological resources in the geologic units with high potential, however, this is less than one percent of the Plan boundary. The ACEPMs, including ceasing activities upon discovering vertebrate fossil deposits and the BLM establishing exclusion zones, would reduce the effects and may result in new scientific knowledge of the paleontological resources if fossils are encountered and recorded. Effects to paleontological resources would be negligible, permanent if encountered, and localized.

No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM. GRL would continue authorized exploration disturbance of 49.46 acres on public land and private land and the area would remain available for other multiple use activities as approved by the BLM. Effects to

paleontological resources under the No Action Alternative would be similar to the Proposed Action, but on a smaller scale and be negligible, long-term, and localized.

3.2.8 Social Economic Values

The area of analysis for Social and Economic Values is Esmeralda and Nye counties. The state of Nevada was used as a reference community for analysis.

3.2.8.1 Affected Environment

In 2021, the total population within the area of analysis was 51,083 people, with 50,096 people in Nye County and 987 people in Esmeralda County. The area population increased by 6,313 people from 2010 to 2021 (14.1 percent). This is compared to the state of Nevada over the same period with 16.2 percent increase of population change (Nexus 2023b). Both counties had a decrease in population due to natural change (births and deaths) and an increase due to migration. Esmeralda County and northern Nye County are a largely rural areas that have trailed the statewide growth rate by a substantial margin for two decades. Most of the growth in Nye County is in the southern portion of the county and reflects a more urban feel due to its proximity to Las Vegas, Nevada.

In Esmeralda County and northern Nye County, the primary economic driver is mining. Within the area of analysis Esmeralda County unemployment averaged 3.7 percent in 2022, with Nye County unemployment at 5.7 percent during this same time. Nye County has a more diverse economy with employment in trade, transportation, and utilities, and professional and business services employing a higher percentage of the population than Esmeralda County. This is likely due to the urbanized character of the southern part of Nye County compared to the more rural area around Tonopah. Average wages and salaries from mining are the highest for any industry in Nevada. Although mining wages and salaries typically are higher than the state average, per capita personal incomes in the area of analysis indicate mining wages are not always distributed to substantially raise county-wide income levels. Both counties have a higher percent of individuals below the poverty level than the state as a whole.

Temporary workers typically choose a residence location based on a combination of job proximity, housing availability, and access to public and private services. Tonopah has 11 hotels and a recreational vehicle (RV) park. There are three hotels and two RV parks in Goldfield. There are 12 dining options in Tonopah, three in Goldfield, and one in Silver Peak. Tonopah also has three grocery stores and several gas stations (Nexus 2023b). Both counties have adequate utilities and public services, including Class II landfills, to support the current population. Workers typically choose a residence location based on a combination of job proximity, housing availability, and access to public and private services. Much of the workforce at Esmeralda County mines reside in the Tonopah vicinity primarily because it is the most accessible community with a modest selection of services and housing. Some workers may choose to live in other communities within Esmeralda County, depending on housing availability.

Local government finance in Nevada is a complex admixture of locally derived and state-shared revenues. Local revenues primarily are derived from ad valorem property taxes on real and personal property (e.g., business equipment, agricultural equipment, etc.), and the net proceeds of mines in the jurisdiction. Esmeralda County has limited revenue sources whereas Nye County as a whole operates a much larger budget due to a larger population near the Las Vegas area. Government services include volunteer fire departments in both counties that are also the primary

providers of emergency medical and ambulance transport services. Air ambulance services are available to the area when needed (Esmeralda County 2024; Nye County 2024).

In general, the two counties are largely rural, with economies based primarily on mining and agriculture, and some tourism. Residents in these counties often value independence and enjoy being outdoors. Public lands in the area of analysis are used for economic income and recreation activities. These activities are important aspects to living within the area of analysis and valued by residents (Nexus 2023b).

3.2.8.2 Environmental Consequences

Proposed Action

The Proposed Action would employ a temporary workforce of up to 60 individuals for up to 10 years. These workers would be anticipated to stay primarily in Tonopah with some staying in Goldfield. The Proposed Action may contribute to the local economy through the purchase of goods and services in both towns depending on availability. The industries that would primarily benefit from potential increased spending within the communities include construction, retail trade, services, and accommodations.

Project personnel are anticipated to temporarily reside in the area and they would be contract workers in the area for a work shift then returning to their permanent residence. This is not anticipated to create a noticeable increase in demand for additional public or private services (e.g., emergency response, fire protection, health care and social services, water, and solid waste) and would not affect the permanent housing market, or other services associated with permanent workers. However, the expectation of an additional 10 years of employment may entice families that have not already relocated to the area of analysis to do so and purchase permanent housing. This would likely put additional pressure on the Goldfield and Tonopah housing markets. The Proposed Action may support local businesses and may generate additional sales and use tax receipts from the purchase of equipment, supplies and construction materials. Also, the Proposed Action would purchase water from a water hauling contractor for operational use and dust suppression and would not affect municipal water within the area of analysis. Solid wastes would continue to be disposed of in a state, federal, or local designated landfills. The personnel required for the Project would not create a noticeable increase in demand of available public or private services, including lodging. Effects to the social and economic values that would result from the Proposed Action are anticipated to be negligible, short-term, and localized. However, with other ongoing or proposed projects in the analysis area, it is reasonable to assume that social and economic values would be impacted.

No Action Alternative

Under the No Action Alternative, the development of the Proposed Action would not be authorized and associated effects to social and economics values would not occur including an increased demand for temporary housing and an increased opportunity for sales of goods and services. Under the No Action Alternative, the Project would not be approved by the BLM. GRL would continue authorized exploration disturbance of 49.46 acres on public land and private land and the area would remain available for other multiple use activities as approved by the BLM. Effects would be similar to those anticipated under the Proposed Action with social and economic values anticipated to be negligible, short-term, and localized.

3.2.9 Soil Resources

The area of analysis for Soil Resources is the Plan boundary.

3.2.9.1 Affected Environment

The Goldfield Mining District contains remnants of historic mining activities including waste rock dumps, mineshafts, headframes, and foundations of mine facilities (BLM 2019). Within the Plan boundary there are approximately 332 acres of previous disturbance soils not attributed to current exploration disturbance (GRL 2024). The area of analysis is located predominately in loamy slope soils with slopes ranging from one to ten percent (**Table 3-6**). These soils tend to be well drained to excessively drained with a very high runoff rate and with medium potential for soil compaction. None of the soils in the area of analysis are classified as prime farmland (NRCS 2024).

Table 3-6 Ecological Sites in the Area of Analysis

Ecological Site ID	Soil Type	Acres within Plan Boundary	Percent of Plan Boundary
R029XY008NV	Shallow calcareous loam	70	<1
R029XY010NV	Loamy slope	7,740	51
R029XY016NV	Loamy upland	1,053	7
R029XY017NV	Loamy	1,520	10
R029XY021NV	Loamy hill	1,896	12
R029XY022NV	Loamy slope	2,582	17
R029XY031NV	Shallow droughty loam	6	<1
R029XY036NV	Cobbly loam	399	3
R029XY046NV	Sandy loam	15	<1
Not Applicable	Slickens (a thin layer of fine silt deposited by flood waters)	13	<1
	Total	**15,293**	**100**

Source: Nexus 2024a

Soils in the area of analysis that are rated as a source of reclamation material are rated as poor (15,287 acres, 99 percent) to fair (six acres, <1 percent) sources (NRCS 2024). Soils rated as fair mean that vegetation can be established and maintained, and the soil can be stabilized through modification of one or more properties. Soils with poor ratings mean that revegetation and stabilization would be difficult and costly. No soils in the area of analysis were rated as a good source of reclamation material.

3.2.9.2 Environmental Consequences

Proposed Action

The Proposed Action would include up to 400 acres of incremental surface disturbance on both private and public land that could occur in any of the soil types within the area of analysis. Following reclamation of drill sites, sumps, trenches, overland travel, and road construction, the post-exploration topography would be similar to pre-Project conditions including the slope and aspect of soil associations within the area of analysis. Potential effects to soils would be reduced by the ACEPMs to limit soil erosion and reduce sediment runoff from disturbed areas during operations and reclamation. Because the soils are rated poor for reclamation, revegetation after reclamation may not succeed and some areas may have to have to be reseeded and use erosion controls such as certified weed-free straw bales, wattles, and other erosion controls to prevent

erosion pending revegetation. Effects to soil erosion from the implementation of the Proposed Action would be negligible, short-term, and localized.

No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM. GRL would continue authorized exploration disturbance of 49.46 acres soils on public land and private land and the area would remain available for other multiple use activities as approved by the BLM. Effects to soils under the No Action Alternative would be negligible, short-term, and localized.

3.2.10 Vegetation Resources

The area of analysis for Vegetation Resources including special status plant species is the Plan boundary. The area of analysis for noxious and invasive weeds is the Plan boundary and the primary travel route to the Plan boundary.

3.2.10.1 Affected Environment

The largest vegetation community, shadscale saltbush, Nevada ephedra (*Ephedra nevadensis*), and winterfat (*Krascheninnikovia lanata*) shrubland with an Indian ricegrass (*Achnatherum hymenoides*), needle and thread (*Hesperostipa comata*), and James' galleta (*Pleuraphis jamesii*) understory, occurs throughout a majority of the area of analysis (**Figure 3-3**). This vegetation community occurs from approximately 5,370 feet to 6,620 feet above mean sea level (AMSL). The second largest vegetation community, spiny menodora (*Menodora spinescens*) shrubland with Indian ricegrass and James' galleta understory, occurs in a large patch in the northern portion of the area of analysis (**Figure 3-3**) from approximately 5,420 feet to 5,685 feet AMSL.

The spiny hopsage (*Grayia spinosa*) shrubland with Indian ricegrass and James' galleta understory; black sagebrush (*Artemisia nova*), Nevada ephedra, and winterfat shrubland with an Indian ricegrass, needle and thread, and James' galleta understory; and fourwing saltbush shrubland with Indian ricegrass and James' galleta understory vegetation communities occur in small patches in the northern; east-central; and northern and southeastern portions of the area of analysis, respectively (**Figure 3-3**). The spiny hopsage shrubland occurs from 5,400 to 5,410 feet AMSL; the black sagebrush, Nevada ephedra, and winterfat shrubland occurs from 5,540 feet to 6,090 feet AMSL; and the fourwing saltbush occurs from 5,470 feet to 6,155 feet AMSL. These five vegetation communities were field verified or determined based on their corresponding ecological site description (**Table 3-7**) (Nexus 2024a). Within the Plan boundary there is also approximately 332 acres of previous disturbance from past mining not attributed to current exploration disturbance (GRL 2024).

Table 3-7 Vegetation Communities

Ecological Site ID	Field-Verified Vegetation Community	Acres	Percent of Plan Boundary
R029XY008NV	Black sagebrush, Nevada ephedra, and winterfat shrubland with an Indian ricegrass, needle and thread, and James' galleta understory	70	<1
R029XY010NV	Shadscale saltbush, Nevada ephedra, and winterfat shrubland with an Indian ricegrass and James' galleta understory	14,790	97
R029XY017NV			
R029XY021NV			
R029XY022NV			

Ecological Site ID	Field-Verified Vegetation Community	Acres	Percent of Plan Boundary
R029XY016NV	Spiny hopsage shrubland with Indian ricegrass and James' galleta understory	6	<1
R029XY031NV			
R029XY036NV	Spiny menodora shrubland with Indian ricegrass and James' galleta understory	399	3
R029XY046NV	Fourwing saltbush shrubland with Indian ricegrass and James' galleta understory	15	<1
Not Applicable	Slickens (a thin layer of fine silt deposited by flood waters)	13	<1
	Total	**15,293**	**100**

Source: Nexus 2024a

During the 2023 biological baseline surveys, one population of saltcedar (*Tamarix* spp.), a Nevada Category C noxious weed, was documented on private land. The population was estimated at 50 individuals. In addition, several non-native invasive plant species were identified throughout the Plan boundary, including cheatgrass (*Bromus tectorum*), Russian thistle (*Salsola tragus*), and saltlover (*Halogeton glomeratus*) (Nexus 2024a).

Based on the 2023 BLM Special Status Species List, agency consultation, documented occurrence, available habitat, and baseline surveys fives special status species were identified. Agency consultation identified one special status plant species, Pahute Mesa beardtongue, which has the potential to occur within the Plan boundary (Nexus 2024a); however, none was documented as present. Four special status species were documented within the area of analysis, including Joshua tree, Eastwood's milkweed, sagebrush cholla (*Grusonia pulchella*), and Mojave fishhook cactus (*Sclerocactus polyancistrus*) (Nexus 2024a). More specifically, one individual of sagebrush cholla and 50 individuals of Eastwood's milkweed were documented in the northeast portion of the area of analysis and a population of approximately 88,250 living Joshua trees was estimated to occur throughout the area of analysis (Nexus 2024a). The Mojave fishhook cactus was noted as present during surveys although specific locations were not documented due to it being recently added to the 2023 BLM special status species list (Nexus 2024a; BLM 2023). Additionally, two state-protected cacti species, silver cholla (*Cylindropuntia echinocarpa*) and fishhook cactus (*Echinomastus* sp.), were observed during the 2022 baseline surveys (Nexus 2023c).

3.2.10.2 Environmental Consequences

Proposed Action

The Proposed Action would include up to 400 acres of incremental surface disturbance on both private and public land over a 10-year period. Surface disturbance would occur from the construction of exploration roads, overland travel routes, and construction of sumps, trenches, and drill pads. Effects could occur within any vegetation community within the Plan boundary and would include the removal of vegetation. Effects would be reduced by concurrent reclamation and the ACEPMs. Effects from the Proposed Action to vegetative communities would be minor, long-term, and localized.

Surface disturbance from the Proposed Action could allow invasive weeds to spread to new areas within and outside the Plan boundary. Saltcedar is not expected to spread from the Proposed Action, since it needs a water source to establish. Travel on the primary travel route to the Plan boundary, exploration roads, and overland travel routes could contribute to the spread of new noxious weeds from other areas. The ACEPMs and the Noxious Weed Management Plan (GRL

2017) would reduce the spread and establishment of invasive, non-native, and noxious weeds. Additionally, all seed mixes and natural erosion products used for reclamation would be BLM-approved and weed free. Effects from the Proposed Action on the spread and establishment of invasive, non-native, and noxious weed species would be minor, long-term, and localized.

Effects to special status plant species would include the incremental disturbance of up to 400 acres of vegetation communities on both private and public land that may provide potential habitat for Pahute Mesa beardtongue, Joshua tree, Eastwood's milkweed, sagebrush cholla, Mojave fishhook cactus, and silver cholla. Potential habitat would be reclaimed. Special status species that are present in the Plan boundary could be crushed or removed during surface-disturbing activities, however, the ACEPM to avoid the disturbance of special status plant species would reduce the potential of this happening. Based on the acres of disturbance and the state requirements, effects to special status plants would be limited to individuals and not affect populations. Effects to most special status plant species, except Joshua trees, and their habitat would be minor, long-term, and localized.

Joshua trees occur throughout The Plan area, within approximately 2.6 percent of the Plan area proposed for disturbance, potential direct impacts to individual Josha tree would take place. Joshua trees would be avoided by exploration activities wherever possible. Joshua trees populations require populations of sufficient abundance to be maintained over time with stable or increasing population growth (USFWS 2023). The potential reduction of individual Joshua trees population within the Plan boundary would be negligible based on the estimated 88,250 living Joshua trees present. If exploration activities cannot avoid Joshua trees, GRL would be required to have a state permit to remove them. If permitted to remove Joshua trees, GRL would minimize removal of the trees where possible during activities associated with drill pad and road construction and comply with Nevada Revised Statute 527.260-.300. Effects to Joshua trees would be dependent on if they could be avoided, or need to be removed, but with avoidance planned where possible effects to Joshua trees are anticipated to be minor, long-term, and localized.

No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM. GRL would continue authorized exploration disturbance of 49.46 acres of vegetation on public land and private land and the area would remain available for other multiple use activities as approved by the BLM. Effects to vegetation resources under the No Action Alternative would be negligible, short-term, and localized.

3.2.11 Water Resources, Quality and Quantity

The area of analysis for Water Resources is the Plan boundary.

3.2.11.1 Affected Environment

The area of analysis lies within the Central Hydrographic Region (Basin 10) and includes portions of the Alkali Spring Valley - 142, Lida Valley – 144, and Stonewall Flat – 145 basins. Four subwatersheds occur (sixth level Hydrologic Unit Code). Of these, Mud Lake is a closed subwatershed; Alkali Hot Spring Frontal drains toward Alkali Lake; the Upper Big Wash subwatershed drains north; and an unnamed subwatershed drains south toward Stonewall Flat.

There are no perennial drainages in the area of analysis. Numerous ephemeral channels and one intermittent stream occur. Big Wash is considered intermittent and drains north, eventually terminating in Alkali Lake. One mapped spring, Cole Spring, occurs in the southeast corner of the area of analysis (**Figure 3-1**). The depth to groundwater is estimated to range between 400 to 800 feet bgs (GRL 2024).

Within the area of analysis, there are a total of ten active public water rights that are derived from groundwater sources, including water rights held by the town of Goldfield (Nexus 2024b). All of these area within the Alkali Spring Valley Basin. This basin is considered a designated basin by the Nevada Division of Water Resources as permitted groundwater rights are approaching or exceeding the estimated average annual recharge (NDWR 2024). The Alkali Spring Valley Hydrographic Area has an estimated perennial yield of 3,000-acre feet per year.

GRL currently holds numerous groundwater rights in the Alkaline Spring Valley Hydrographic Area to support mining and milling. Water needed for drilling and fugitive dust suppression would be used from the Gemfield Mine water supply wells and transported by water trucks.

3.2.11.2 Environmental Consequences

Proposed Action

Potential impacts to surface water would be limited to those that occur during construction of temporary access roads and drill pads, and the use of the existing road system. Construction in drainages would be avoided and incremental disturbance would be temporary until reclamation is complete. Smaller drainage patterns that could be affected by trench or pad construction would be reclaimed and regraded to conform to the adjacent topography upon completion of use of the area. Some channel crossing with equipment or vehicles would occur along existing roads. When drainages must be crossed for access, surface disturbance and erosion potential would be limited through the use of BMPs and the identified ACEPMs.

For areas of temporary surface disturbance, pulses of sediment may be created during the next precipitation event when water interacts with the new disturbance for the first time. As such, some level of sediment may be mobilized during construction, particularly during storm events and spring runoff. Should sediment enter a drainage channel, it is likely to dissipate quickly given the size of the surface water features and topography.

Potential impacts to surface water quality include the potential for hazardous spills. Standards for equipment storage and fueling, limiting the quantities of hazardous materials within the Plan boundary, and handling of hazardous substances, coupled with the Spill Contingency Plan would limit the potential for adverse effects to surface water quality from spills.

Borehole drilling and abandonment would be conducted in a manner that prevents adverse changes in groundwater quality. Sumps would be used as a repository for all excess water, rock chip cuttings and drilling fluids. Sumps would be allowed to dry prior to backfilling with the native soil. All drilling fluid additives and borehole abandonment materials would meet National Sanitation Foundation Standards 60 and/or 61 for direct or indirect use in domestic water supply wells or municipal drinking water treatment systems. All boreholes would be plugged according to specifications outlined in NAC 534.4369 through NAC 534.4371 to prevent potential impacts to groundwater from drilling.

The Proposed Action would use water for drilling and fugitive dust suppression from the Gemfield Mine water supply wells and transported by water trucks. This use is consistent with the existing water rights for these sources and it is not anticipated to contribute to a decrease in water availability or otherwise impact water rights within the analysis area.

Given the proposed ACEPMs and the scope of the Proposed Action, potential effects to water resources are not expected to increase the potential for degradation to surface water or groundwater or alter existing water availability. Potential impacts to water resources are anticipated to be negligible, short term and localized.

No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM. GRL would continue authorized exploration disturbance of 49.46 acres on public land and private land and the area would remain available for other multiple use activities as approved by the BLM. Effects to water resources under the No Action Alternative would be similar to the Proposed Action but on a smaller scale and would be negligible, short-term, and localized.

3.2.12 Wildlife, including Migratory Birds and Special Status Species

The area of analysis for general Wildlife including migratory birds and special status species, except golden eagle (*Aquila chrysaetos*), is the Plan boundary. The area of analysis for golden eagle is the Plan boundary plus a four-mile buffer.

3.2.12.1 Affected Environment

General Wildlife including Migratory Birds

According to the Southwest Regional Gap Analysis Project, a total of 17 cover types occur in the area of analysis. Of these, the Great Basin Pinyon-Juniper Woodland (37 percent), and Great Basin Xeric Mixed Sagebrush Shrubland (36 percent) communities dominate within the Plan boundary (Nexus 2024a). Combined, sagebrush and salt desert scrub cover types account for 98 percent of the area of analysis. The Goldfield Mining District also contains remnants of historic mining activities including waste rock dumps, mineshafts, headframes, and foundations of mine facilities (BLM 2019). Within the Plan boundary there are approximately 332 acres of previous habitat disturbance not attributed to current exploration disturbance (GRL 2024). No perennial streams occur in the area of analysis.

Baseline surveys for wildlife including migratory birds were conducted in 2022 and 2023 (Nexus 2024a). Big game species known to occur include mule deer (*Odocoileus hemionus*) and pronghorn antelope (*Antilocapra americana*) (NDOW 2023). A list of general wildlife species encountered, either directly, in small mammal traps, or via scat or tracks, during baseline surveys is included as **Table 3-8**.

Table 3-8 General Wildlife Species in the Area of Analysis

Common Name	Scientific Name	Observation Type
Mammals		
Antelope Squirrel	*Ammospermophilus sp.*	Live capture trap
Black-tailed jackrabbit	*Lepus californicus*	Direct & Scat and Tracks

Common Name	Scientific Name	Observation Type
Canyon Mouse	*Peromyscus crinitus*	Live capture trap
Coyote	*Canis latrans*	Scat and Tracks
Deer mouse	*Peromyscus sp.*	Live capture trap
Desert cottontail	*Sylvilagus audubonii*	Direct & Scat and Tracks
Long-tailed pocket mouse	*Chaetodipus formosus*	Live capture trap
Merriam's Kangaroo Rat	*Dipodomys merriami*	Live capture trap
Mountain lion	*Puma concolor*	Scat and Tracks
Southern Grasshopper Mouse	*Onychomys torridus*	Live capture trap
Wild burro	*Equus asinus*	Direct & Scat and Tracks
Wild horse	*Equus ferus*	Direct & Scat and Tracks
Reptiles		
Desert horned lizard	*Phrynosoma platyrhinos*	Direct
Northern long-nosed leopard lizard	*Gambelia wislizenii*	Direct
Western whiptail	*Cnemidophorus tigris*	Direct

Sources: Nexus 2023c, 2024a.

Eagles and raptors surveys were conducted in March and May of 2023 (Nexus 2024a), and additional surveys were completed in 2024 (Nexus 2024c). Three stick nests of unknown origin, and one golden eagle nest were observed within the Plan boundary. Migratory bird surveys were conducted in June 2023 (Nexus 2023c). A total of 14 avian species were documented, including three BLM special status species (**Table 3-9)**. Special status species, including eagles, are considered further in below.

Table 3-9 Avian Species in the Area of Analysis

Common Name	Species
Ash-throated flycatcher	*Myiarchus cinerascens*
Black-throated sparrow	*Amphispiza bilineata*
Brewers sparrow[1]	*Spizella brewer*
Common raven	*Corvus corax*
Golden eagle[2]	*Aquila chrysaetos*
Horned lark	*Eremophila alpestris*
House finch	*Haemorhous mexicanus*
Loggerhead shrike[1]	*Lanius ludovicianus*
Mourning dove	*Zenaida macroura*
Northern mockingbird	*Mimus polyglottos*
Red-tailed hawk	*Buteo jamaicensis*
Rock wren	*Salpinctes obsoletes*
Sagebrush sparrow[1]	*Artemisiospiza nevadensis*
Says phoebe	*Sayornis saya*
Unknown woodpecker	*Unknown*

Sources: Nexus 2023c, 2024a.
[1] BLM Special Status Species
[2] Observed nesting.

Acoustic bat surveys were conducted at two locations within the area of analysis based on the abandoned mine land (AML) evaluations and habitat with a high suitability to provide roost and

hibernacula (Nexus 2024a). Sixteen bat species were detected during acoustic surveys (Nexus 2024a). Only one of these is not considered a BLM special status species (**Table 3-10**). Special status species, including eagles, are considered further below.

Table 3-10 Bats Detected in the Area of Analysis

Common Name	Species
Big brown bat	*Eptesicus fuscus*
California myotis[1]	*Myotis californicus*
Canyon bat[1]	*Parastrellus hesperus*
Cave myotis[1]	*Myotis velifer*
Fringed myotis[1]	*Myotis thysanodes*
Hoary bat[1]	*Lasiurus cinereus*
Little brown myotis[1]	*Myotis lucifugus*
Long-eared myotis[1]	*Myotis evotis*
Long-legged myotis[1]	*Myotis Volans*
Mexican free-tailed bat[1]	*Tadarida brasiliensis*
Pallid bat[1]	*Antrozous pallidus*
Silver-haired bat[1]	*Lasionycteris noctivagans*
Townsend's big-eared bat[1]	*Corynorhinus townsendii*
Western red bat[1]	*Lasiurus blossevillii*
Western small-footed myotis[1]	*Myotis ciliolabrum*
Yuma myotis[1]	*Myotis yumanensis*

Source: Nexus 2024a
[1] BLM Special Status Species

Special Status Wildlife

Special status wildlife are those species for which state or federal agencies afford an additional level of protection by law, regulation, or policy. Included in this category are species designated as sensitive by the BLM. The State of Nevada has a protected animal list (NAC 503.030) that the BLM has incorporated, in part, into the BLM's sensitive species list.

Information regarding special status species and habitat within the study area was obtained from a review of existing published sources, site-specific surveys, and consultation with the USFWS, Nevada Division of Natural Heritage (NDNH), Nevada Department of Wildlife (NDOW) and the BLM for occurrence potential based on habitat requirements and/or known distribution.

The USFWS identifies golden eagles, pinyon jay (*Gymnorhinus cyanocephalus*), American avocet (*Recurvirostra americana*), and black-chinned sparrow (*Spizella atrogularis*) as likely present. The golden eagle warrants consideration under the Bald and Golden Eagle Protection Act and the Migratory Birds Treaty Act. Pinyon jay, American avocet and black-chinned sparrow are considered migratory birds and warrant consideration as such (USFWS 2024). The USFWS initiated a status review of the pinyon jay under the Endangered Species Act in April 2023.

The NDNH response indicated that they have no documented special status species in the Project area (NDNH 2022). There are 21 species of raptors that have distribution ranges that include the Project area or vicinity and there are 90 known raptor nests in the vicinity of the Project (NDOW 2023). The desert kangaroo rat (*Dipodomys deserti*), a BLM sensitive species has been observed

in the Project area (NDOW 2023). Occurrence potential for BLM Nevada Sensitive Species was evaluated for each species based on habitat requirements and/or known distribution (BLM 2023).

Migratory Birds and Eagles

Special status migratory birds and eagles with the potential to occur in the area of analysis were determined based on occurrence records, agency consultation and data, and available habitat. The USFWS Official Species List indicates that American avocet, pinyon jay, and black-chinned sparrow are likely present. American avocet depend on lowland marshes, mudflats and ponds which are rare to non-existent in the area of analysis. Pinyon jay rely on coniferous woodlands such as pinyon-juniper and pine that produce nuts and pine seeds. This habitat does not exist in the area of analysis. The black-chinned sparrow requires extensive, dense shrublands in rugged country such as chapparal. This habitat does not exist in the area of analysis. These three species will not be considered further.

The Brewer's sparrow is a passerine bird and, much like the sage thrasher, is common throughout Nevada in sagebrush shrublands and desert scrub habitats (NatureServe 2024a). Except for singing males during the breeding season, this species is very conspicuous and typically spends most of the time in understory vegetation. The breeding season is April 15 to July 15. This species has been directly observed within the area of analysis and suitable nesting and foraging habitat is present (Nexus 2024a).

The golden eagle is a year-long resident and is considered to be a common breeder throughout Nevada. Nesting golden eagles prefer cliffs that overlook sagebrush flats, pinyon-juniper forests, salt desert shrub, or other habitat capable of supporting a suitable prey base (Floyd et al. 2007). They begin nesting in in March with young fledging by July. Wintering golden eagles tend to congregate in broad valleys interspersed with agricultural croplands or sagebrush and desert shrub communities (NDOW 2023).

Within the golden eagle area of analysis, numerous historically active golden eagle nests have been documented (Nexus 2024a, 2024c; NDOW 2023). No active nests were observed during 2022 and 2023 baseline studies. In 2024, one golden eagle was observed on a nest in the area of analysis (Nexus 2024c).

The loggerhead shrike is a passerine bird common throughout Nevada. This species is found in open grasslands along valley floors and foothills of the Great Basin. In Nevada, it is commonly found in scrub habitat types such as sagebrush and greasewood. Loggerhead shrikes prefer shrubs or small trees for nesting (NatureServe 2024b). The breeding season for this species is April 15 through July 15. This species has been directly observed within the area of analysis and suitable nesting and foraging habitat is present (Nexus 2024a).

Sagebrush sparrow are found in shrubby, open flats and sagebrush plains, breeding throughout Nevada. Males return to same nesting territory each year. This species prefers to nest in the interior of contiguous low sagebrush. Incubation to fledge lasts approximately four weeks. Sagebrush sparrows forage mostly on the ground for seeds and insects, often in small flocks. Within the area of analysis approximately 7,956 acres of suitable habitat occur. This species has been directly observed within the area of analysis and suitable nesting and foraging habitat is present (Nexus 2024a).

Mammals

The desert kangaroo rat lives in the desert flatlands, creosote scattered flats, and sandy soils in desert washes. These rodents are mostly nocturnal and live their lives in underground burrows. They burrow into the loose soil to escape the harsh heat and dangerous desert environment. This species was not observed during baseline surveys in 2022 or 2023 (Nexus 2024a); however, habitat is present and has been reported in the area of analysis previously (NDOW 2023).

Data from the Nevada Division of Minerals indicates that 947 AML features occur in the area of analysis that could provide habitat for bats, as well as naturally occurring roosting habitat (rock outcrops and cliffs) and water sources. These species roost singly or groups or colonies. Based on documented occurrence, and suitable roosting, and foraging habitat, 14 BLM sensitive bat species are considered present in the area of analysis (**Table 3-10**). Many of these bats are year-round residents in Nevada and occur in a variety of habitat from desert scrub to high elevation forests.

3.2.12.2 Environmental Consequences

Proposed Action

The Proposed Action would include up to 400 acres of incremental surface disturbance on both private and public land over a 10-year period and could occur anywhere in the area of analysis. Effects from the Proposed Action to general wildlife, including migratory birds, would be the same as those for special status wildlife. Disturbance from the construction of exploration roads, overland travel routes, sumps, trenches, and drill pads may occur. Effects could occur within any habitat and include the removal of vegetation. Proposed operations would be 24 hours per day and include night operations. Direct effects to wildlife resulting from the Proposed Action include increased human presence, risk of vehicle collision, dust, noise, and light. However, the Proposed Action surrounds an authorized mine and also overlaps the edge of the town of Goldfield, so human presence, vehicles, dust, noise and light are already concentrated in this area.

Proposed vegetation removal and potential habitat disturbance is limited in scale to individual drill pads and 14-foot-wide corridors for roads, and not contiguous. Abundant habitat outside of the proposed disturbance footprint provides available alternatives within and adjacent to the analysis area for prolonged or temporary use. Wildlife may relocate locally away from noise, human activity, or ground disturbance, within the Project area or to areas immediately adjacent. These localized movements are not considered beyond the dispersal capacity of the species present and are not likely to create barriers for recruitment among these species.

Project-related traffic would increase the risk of incremental disturbance or interaction with wildlife along access roads. Heavy equipment would be mobilized to the Project at the beginning and would stay on site until operations cease each season. The location of equipment would vary depending on areas identified for drilling. It is anticipated that each drill hole would be completed in approximately 10 days. Once a drill hole is complete, the drill rig may remain on the same pad or move to another site. Daily traffic for crew transport would consist of four-wheel drive pickups and round trips to site. Trips would primarily occur during shift changes in the morning and evening hours. The number of drill rigs in operation (up to five in total) would determine traffic levels. Depending on the location of drill rigs, traffic may be concentrated in a specific location within the Project area or may be dispersed throughout. Impacts on wildlife related to traffic and increased human presence could result in avoidance of the work areas, relocation to adjacent

habitats, and mortality or injury of individuals due to collision. ACEPMs for vehicles and equipment include minimizing or consolidating vehicular traffic, prudent vehicle speeds, and watering to minimize fugitive dust.

Noise would be generated by vehicles, water trucks, and heavy equipment. Incremental temporary noise is anticipated to be localized to immediate work areas, with temporary effects along access routes as vehicles and equipment move through an area. Wildlife would likely avoid areas with increased noise, and move into adjacent habitat, returning once activities cease. ACEPMs and design features for noise include preconstruction nest surveys and avoidance of active nests, the temporary nature of each work site, and use of existing topography to reduce noise levels.

Work area lighting may include headlights on vehicles and equipment, a light plant at the laydown area, and the auxiliary lighting system on each drill rig. The length of time that light stations would be deployed would be determined by the drill plan and could range from 10 days to a few weeks. Artificial light can expose bats and nocturnal wildlife to predators if they are attracted to light, interrupt travel routes, and confuse natural circadian and circannual cycles. Potential impacts to bats and other wildlife would be reduced by implementing night sky lighting standards and the temporary nature of the proposed activities.

Impacts to wildlife would include a temporary loss of habitat due to Project-related incremental surface disturbance on both private and public land over 10 years. Proposed activities would result in a loss of habitat until these areas are reclaimed. For the desert kangaroo rat, surface disturbance could include the destruction of burrows during excavation. Proposed vegetation removal and potential habitat disturbance is limited in scale to individual drill pads and 14-foot-wide corridors for roads, and not contiguous. Abundant habitat outside of the proposed disturbance footprint provides available alternatives within and adjacent to the analysis area for prolonged or temporary use. Wildlife would likely relocate for short distances and return to using these areas once activities cease.

Surface disturbance may affect habitat quality by potentially leading to the establishment and spread of non-native, invasive plant species. Seeding, weed control, and Project-specific fire prevention are proposed concurrently with operations to reduce potential impacts to wildlife habitat. Weed control would limit the spread or introduction of new invasive or nonnative species to the Project area. Re-seeding and reclamation monitoring of revegetation success would be conducted annually until the revegetation standards have been met. Noxious weed monitoring would be undertaken in conjunction with revegetation monitoring.

Overall, the Proposed Action would cause increased incremental temporary human-related disturbance including increased presence, risk of collision, dust, noise, light, and short-term habitat loss. ACEPMs such as sumps ramped to prevent wildlife entrapment, and hazardous materials and wildlife attractants such as food are safely contained, would help reduce impacts to wildlife. Potential impacts to wildlife, including migratory birds, bats, big game and special status species resulting from the Proposed Action would be minor, long term until reclamation is complete, and localized to the area of analysis. This determination is based upon the scope of the Proposed Action, other human activities in the area of analysis, limited amount of surface disturbance to available habitat, existing wildlife occupancy, and ACEPMs.

No Action Alternative

Under the No Action Alternative, the Project would not be approved by the BLM. GRL would continue authorized exploration disturbance of 49.46 acres on public land and private land and the area would remain available for other multiple use activities as approved by the BLM. Effects to wildlife including migratory birds, eagles, big game, and special status species under the No Action Alternative would be negligible, short-term, and localized.

4.0 REASONABLY FORESEEABLE EFFECTS

4.1 Introduction

This section analyzes potential reasonably foreseeable impacts from past, present, and reasonably foreseeable future actions (RFFAs) combined with the action alternatives. RFFAs include those federal and non-federal activities not yet undertaken, but sufficiently likely to occur, that a Responsible Official of ordinary prudence would take such activities into account in reaching a decision. These federal and non-federal activities that must be taken into account in the analysis of cumulative impact include, but are not limited to, activities for which there are existing decisions, funding, or proposals identified by the bureau. RFFAs do not include those actions that are highly speculative or indefinite (42 U.S.C. 4332(C)(iii)).

Mineral exploration is proposed to occur over the next 10 years; therefore, the temporal extent of 10 years was used for the reasonably foreseeable effects analysis. These include past actions that have resulted in present impacts and present actions that have existing and on-going disturbance. Therefore, 10 years includes RFFAs that may extend past the completion of the Proposed Action. RFFAs were analyzed using the BLM's Legacy Rehost 2000 System records, the BLM's Mineral and Land Records System, and Google Earth.

Only resources with direct or indirect effects from the Proposed Action would be carried through to the reasonably foreseeable analysis. Both vegetation and wildlife resources had minor and localized direct and indirect effects; however, analysis was completed for the 2019 Gemfield Mine Final Environmental Impact Statement (FEIS) and has been incorporated by reference below. and no further analysis is warranted (BLM 2019). Reasonably foreseeable analysis was completed for socioeconomic values. No other resources were determined to have a measurable direct or indirect effect that could be analyzed for reasonably foreseeable effects. The reasonably foreseeable effects study area (RFESA) for socioeconomic values is the same as the area of analysis because it is the main area where Project's workforce would be drawn from and would be a primary source of goods and services for the Project, its contractors, and employees.

4.1.1 Social and Economic Values

The Social and Economic Values RFESA is the same as the area of analysis and includes Esmeralda and Nye counties (**Figure 4-1**).

Present mining development and exploration activities within the RFESA include Clayton Valley Lithium Carbonate Plant, Mineral Ridge Mine, Silver Peak Mine, Grefco Basalt Mine, Monte Cristo Mine, Eastside Exploration, Gemfield Mine, Three Hills Mine, Hasbrouck Mine, Crow Springs Mine, Goldfield Basin Mine, and other small mine notices. Sand and gravel operations and community pits occur throughout the RFESA as well. Past and present projects have resulted in the existing socioeconomic conditions of the RFESA, which include effects from an increased population, effects to housing, community facilities and services, local government finances, the social and cultural landscape, employment and income.

Geothermal development also occurs throughout the RFESA and includes Fish Lake Geothermal Development Project. Geothermal development has potentially similar effects to social and

economic values effects as discussed above for mining, including increased populations, effects to housing, community facilities and services, local government finances, social and cultural landscape, and employment and income. There are also various geothermal exploration activities occurring within the RFESA, including Silver Peak Project, Alum Project, and Chemetall Foote Project, which have lesser degrees of effects than geothermal development.

RFFAs within the RFESA would include proposed mining development and exploration operations include the Klondike Mine, Boss Mine, Monte Cristo Project, Rhyolite Ridge Mine, Tule Canyon II Mine, TLC Exploration, Tokop Exploration Project, Neolith CV Project, Clayton Ridge North Mine, Montezuma Exploration, Goldfield District Exploration, Clayton Ridge Exploration, American Battery Technology Company and the Clayton Valley Lithium Exploration Project. Pending authorizations exist for the Fish Lake Geothermal Development, as well as several proposed geothermal exploration projects throughout the RFESA, including the Emigrant Mount Exploration, and Lone Mountain Exploration. In addition, several solar energy facilities would occur within the RFESA, including the Esmeralda Seven Solar Project, CD Solar Project, Candelaria Solar Project, and Cathedral Solar Project. Wildland fires in this RFESA may occur in the future, as would restoration projects, agricultural operations, livestock grazing, and dispersed recreation. RFFAs are expected to have similar effects as past and present actions.

4.1.1.1 Reasonably Foreseeable Effects of Proposed Action

The Proposed Action would contribute to the reasonably foreseeable effects for the social and economic values in the RFESA. This would include providing employment, generating income for residents in the RFESA whether through direct employment or through indirect and induced employment income, increased tax revenues, potential overuse of water resources, and increasing demand for housing, and community facilities and services. The reasonably foreseeable effects on social and economic values from the past, present and RFFAs including the Proposed Action would be minor, long-term, and regional.

4.1.1.2 Reasonably Foreseeable Effects of No Action Alternative

Under the No Action Alternative, the Proposed Action would not be authorized and the associated effects to social and economic values would not occur. Overall, effects to social and economic values in the RFESA would be less but similar to the Proposed Action. BLM would continue to manage the land for multiple uses, and other projects could occur in the area. Reasonably foreseeable effects from the No Action Alternative would be minor, long-term, and regional.

4.1.2 Special Status Species Vegetation and Noxious Weeds

In 2019, the Gemfield Mine FEIS disclosed effects to vegetation, including sensitive species and noxious and invasive weeds, from past, present and RFFAs within the Alkali Spring Valley Watershed (**Figure 4-1**). This analysis included 121 acres of exploration activities, as well as 1,216 acres of other mining disturbance (**Figure 2-1**) (BLM 2019).

4.1.2.1 Reasonably Foreseeable Effects of Proposed Action

Based on the localized direct and indirect effects of the Proposed Action and that the reasonably foreseeable effects would be similar to exploration activities described in the FEIS (BLM 2019) no further analysis is warranted. Impacts in the FEIS were determined to be less than one percent of the total disturbance. Most impacts were determined to be temporary and would occur near

existing developments. The loss of mature shrubs would be minimal, but it would take up to 25 years for similar shrubs to re-establish. The reclamation plan would help control noxious weeds and invasive species. The FEIS identified a moderate long-term effect to Joshua trees due to removal; however, due to avoidance to the extent possible, the Project would not affect the number of these trees that the Gemfield Mine would. Overall, the FEIS determined reasonably foreseeable effects on vegetation would be long-term but negligible to minor (BLM 2019) and is anticipated to be the same with the addition of the Project.

4.1.2.2 Reasonably Foreseeable Effects of No Action Alternative

Based on the negligible, localized direct and indirect effects of the No Action Alternative no further analysis is warranted.

4.1.3 Wildlife

In 2019, the Gemfield Mine FEIS disclosed the effects to wildlife, including sensitive species, from past, present and RFFAs within the Alkali Spring Valley Watershed (**Figure 4-1**) (BLM 2019). This analysis included 121 acres of exploration activities, as well as 1,216 acres of other mining disturbance (**Figure 2-1**).

4.1.3.1 Reasonably Foreseeable Effects of Proposed Action

Based on the localized direct and indirect effects of the Proposed Action and that the reasonably foreseeable effects would be similar to exploration activities described in the FEIS (BLM 2019) no further analysis is warranted. Impacts to wildlife, including sensitive species, in the FEIS were identified as habitat loss, fragmentation, and animal displacement. Indirect effects from human presence and noise was determined to be temporary, ceasing after reclamation. While most impacts were determined to temporary, reclaimed areas would support wildlife, including special status species, though species composition and densities might change (BLM 2019).

4.1.3.2 Reasonably Foreseeable Effects of No Action Alternative

Based on the negligible, localized direct and indirect effects of the No Action Alternative no further analysis is warranted.

5.0 CONSULTATION AND COORDINATION

The following is a summary of persons, groups, and agencies consulted, as well as a list of individuals responsible for the preparation of this EA.

5.1 Government-to-Government Consultation with Native American Tribes

The BLM contacted the following tribal governments during the EA process: the Las Vegas Tribe of Paiute Indians, the Fort Independence Indian Community of Paiute Indians, the Walker-River Paiute Tribe, the Shoshone-Paiute Tribes of the Duck Valley Reservation, the Timbisha Shoshone Tribe, the Yomba Shoshone Tribe, and the Duckwater Shoshone Tribe. These seven tribes were invited to attend a meeting regarding the Project held on November 6, 2024. The Walker River Paiute Tribe attended.

To date, no comments have been received from the above coordination. Consultation is a government-to-government process, and tribal consultation efforts are ongoing.

5.2 Consultation with Agencies

These agencies coordinated with the BLM during the NEPA process: Nevada Department of Wildlife, United States Fish and Wildlife Service Ecological and Migratory Bird Divisions, Nevada State Historic Preservation Office, and the Nevada Department of Environmental Protection Bureau of Mining Regulation and Reclamation.

5.3 List of Preparers

Tables 5-1 and 5-2 list who prepared or contributed to the development of this EA.

Table 5-1 List of BLM Preparers

Name	Role/Responsibility
Perry Wickham	Tonopah Field Manager, Native American Coordination and Consultation
Daltrey Balmer	Assistant Field Manager
Jeff Kirkwood	Planning & Environmental Specialist
Mathew Wood	Technical Lead
Kristin Reid	Geology and Minerals
Randy Martin	Public Outreach
Tavia Marine (contractor)	Administrative Assistant
Eden Long	Wild Horses and Burros
Thomas Gibbons	Floodplains; Water Quality and Quantity (Surface and Ground); Wetland and Riparian Areas
Matthew Fockler	Social and Economic Values
Kenner Vorheis	Recreation; Lands with Wilderness Characteristics; Recreation; Visual Resources; Wilderness and Wilderness Study Areas; ACEC
William Clemons	Vegetation Resources; Special Status Species (Vegetation); Livestock Grazing, Human Health and Safety, Soil Resources; Farmlands (Prime or Unique); Noxious Weeds/Invasive Species
Frank Giles	Air Quality, Noise (Human Health and Safety)
Jonathan Hall	Mining Law Administration

Name	Role/Responsibility
Ashton Jenks	Cultural and Paleontological Resources
Michael Strother	Fish and Wildlife Resources; Migratory Birds; Noise; Special Status Species (Wildlife); Threatened or Endangered Species (Wildlife)
Katerina St Claire	Land Use and Realty
Jensen Reese	Human Health and Safety; Wastes, Hazardous or Solid
Robert Burdick	Forestry

Table 5-2 List of Consultant Preparers – Nexus Environmental Consultants, Inc.

Name	Role/Responsibility
Kristi Schaff	Project Manager
Mindy Seal	Assistant Project Manager
Chris Johnson	Geographic Information System
Dulcy Engelmeier	Technical Editor
Katie Stough	Resource Author
Michelle Tucker	Resource Author

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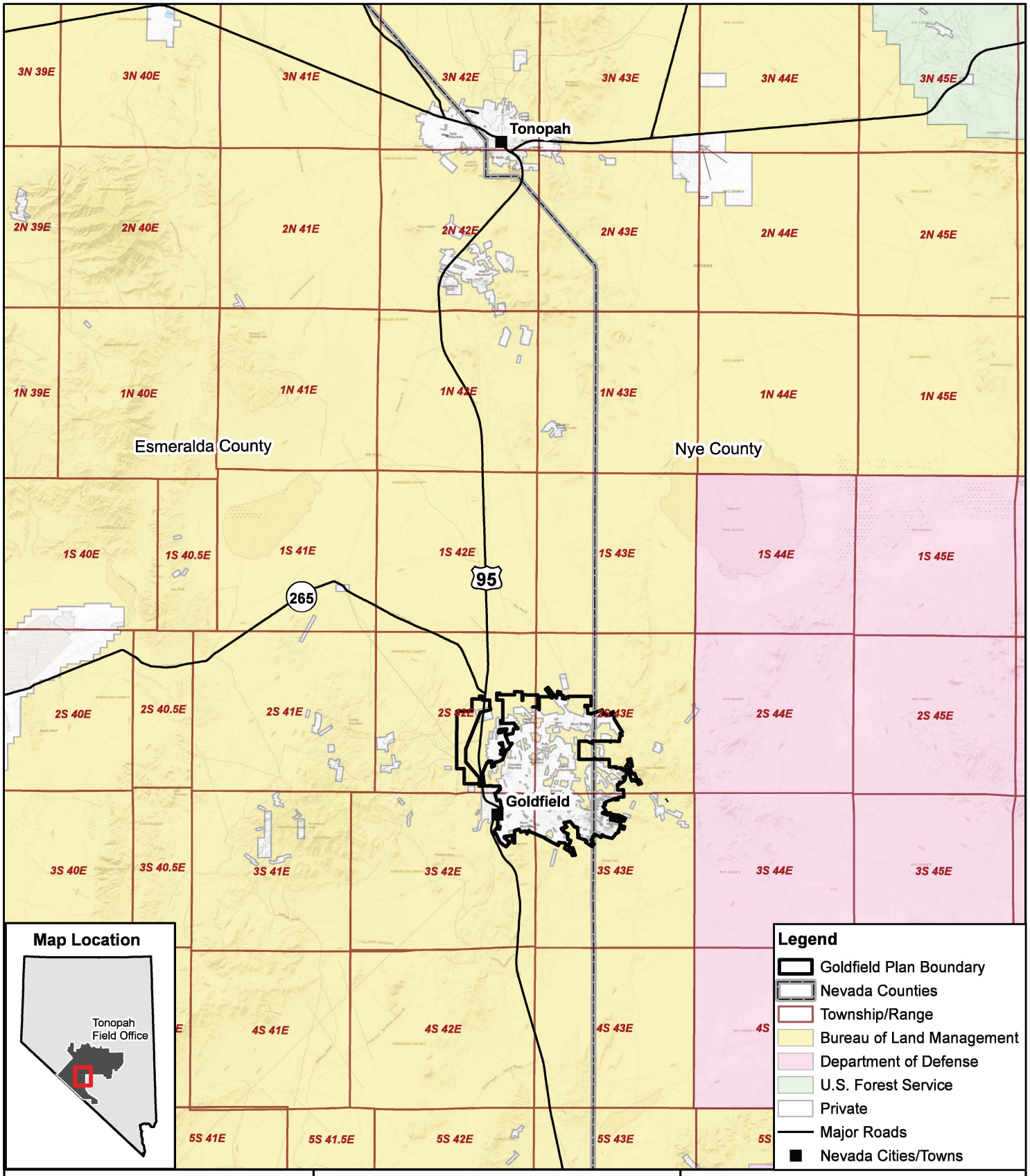
FIGURES



BLM
Battle Mountain District
Tonopah Field Office

GOLDFIELD DISTRICT-WIDE EXPLORATION PROJECT

0 2.5 5 Miles

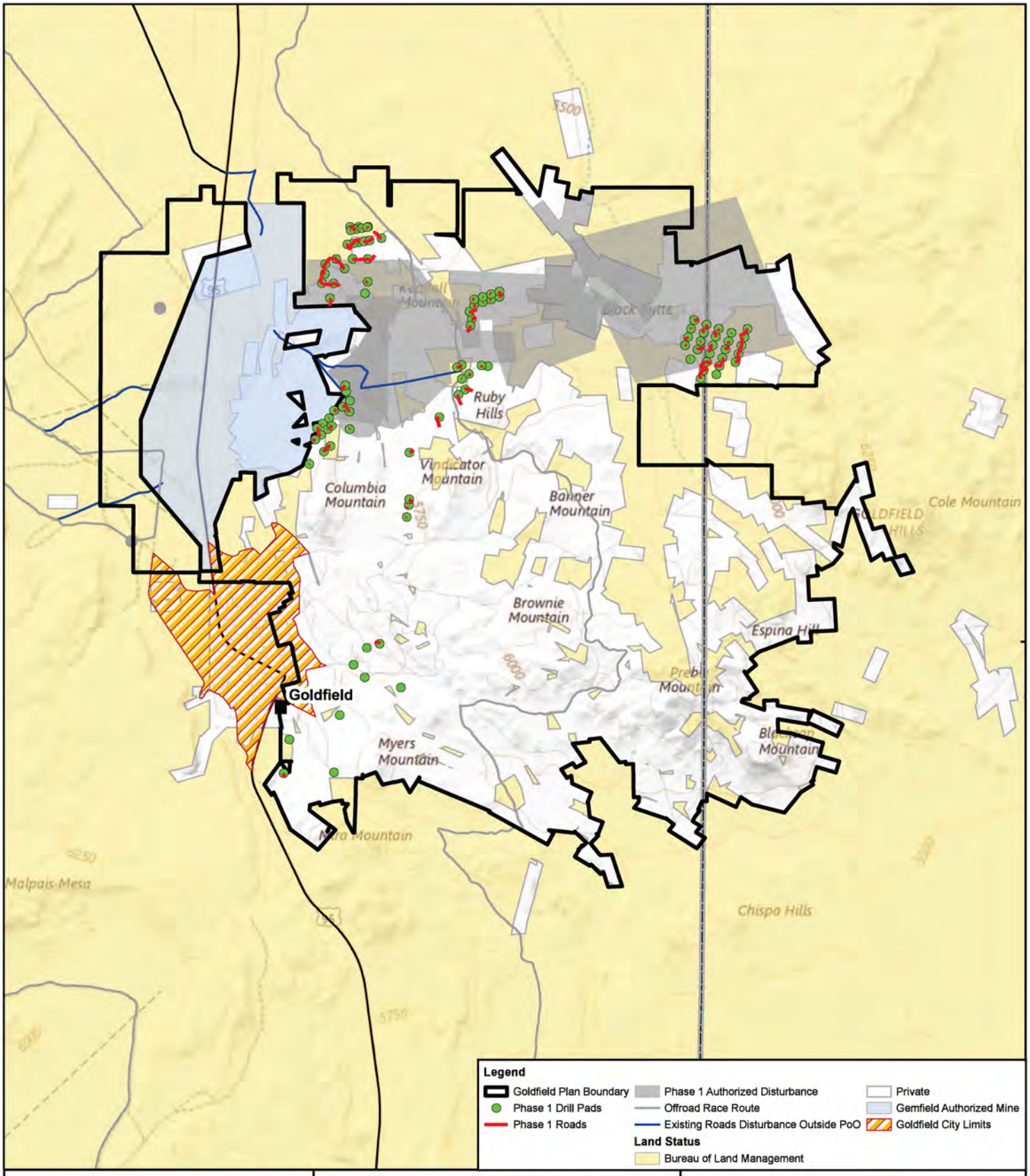
1:316,800

N

PROJECT LOCATION

FIGURE 1-1

3/19/2025



BLM
Battle Mountain District
Tonopah Field Office

GOLDFIELD DISTRICT-WIDE EXPLORATION PROJECT

0 2,500 5,000 Feet

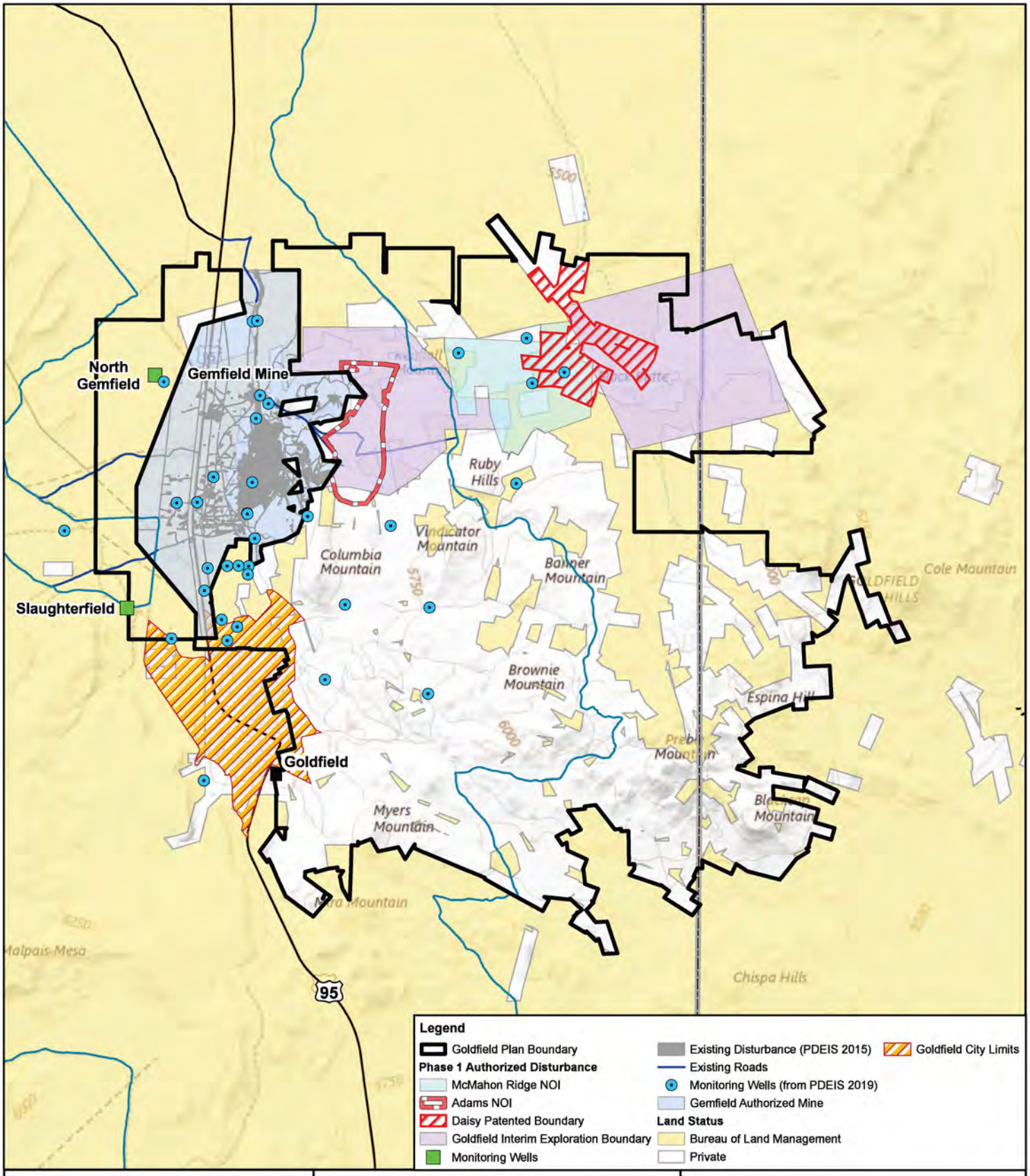
1:72,000

N

PROPOSED ACTION

FIGURE 2-1

3/19/2025



BLM
Battle Mountain District
Tonopah Field Office

GOLDFIELD DISTRICT-WIDE EXPLORATION PROJECT

0 2,500 5,000 Feet

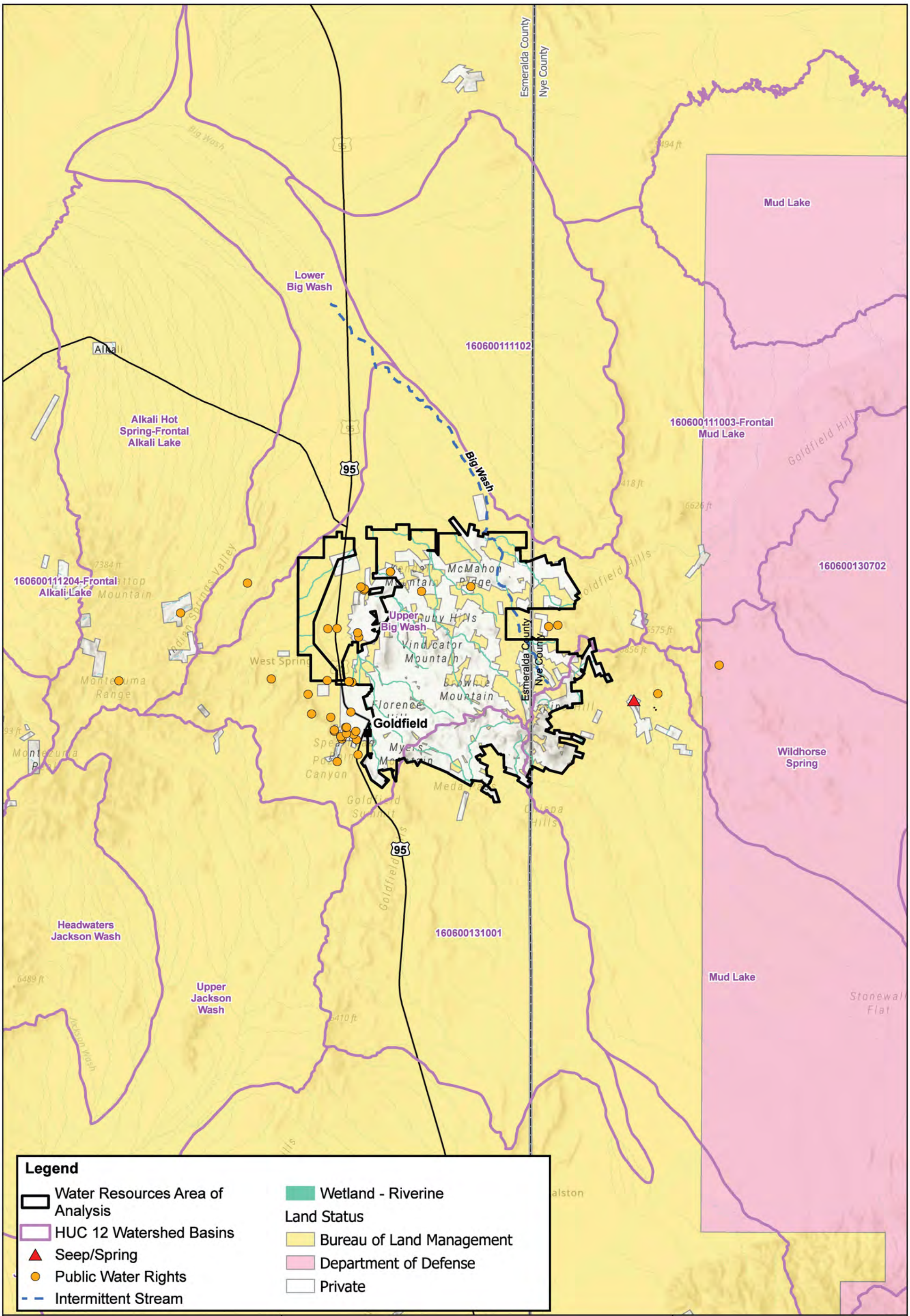
1:72,000

N

NO ACTION ALTERNATIVE

FIGURE 2-2

3/19/2025



BLM
Battle Mountain District
Tonopah Field Office

GOLDFIELD DISTRICT-WIDE EXPLORATION PROJECT

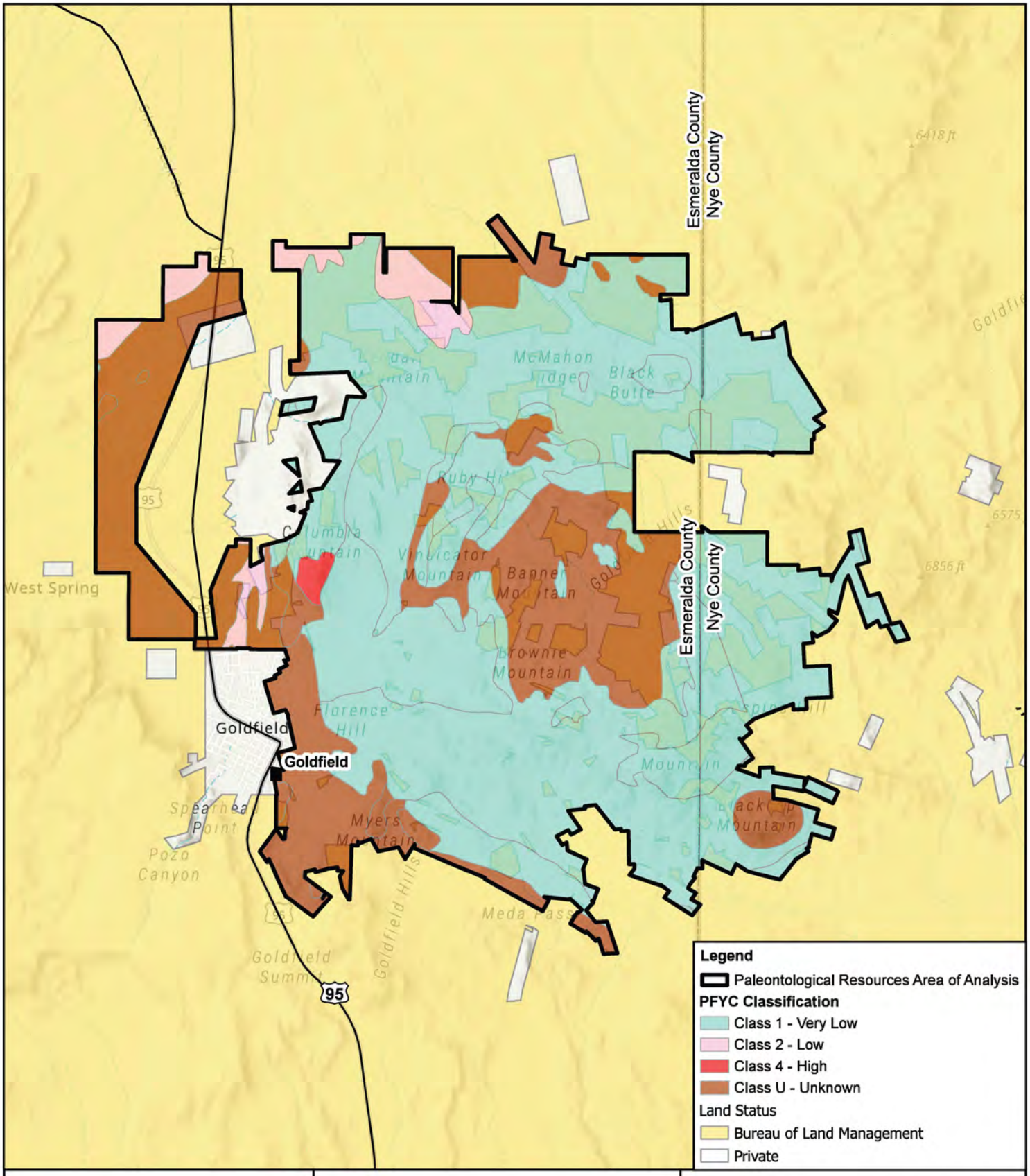
0 1 2 Miles

N

WATER RESOURCES

FIGURE 3-1

3/19/2025



BLM
Battle Mountain District
Tonopah Field Office

GOLDFIELD DISTRICT-WIDE EXPLORATION PROJECT

0 2,500 5,000 Feet

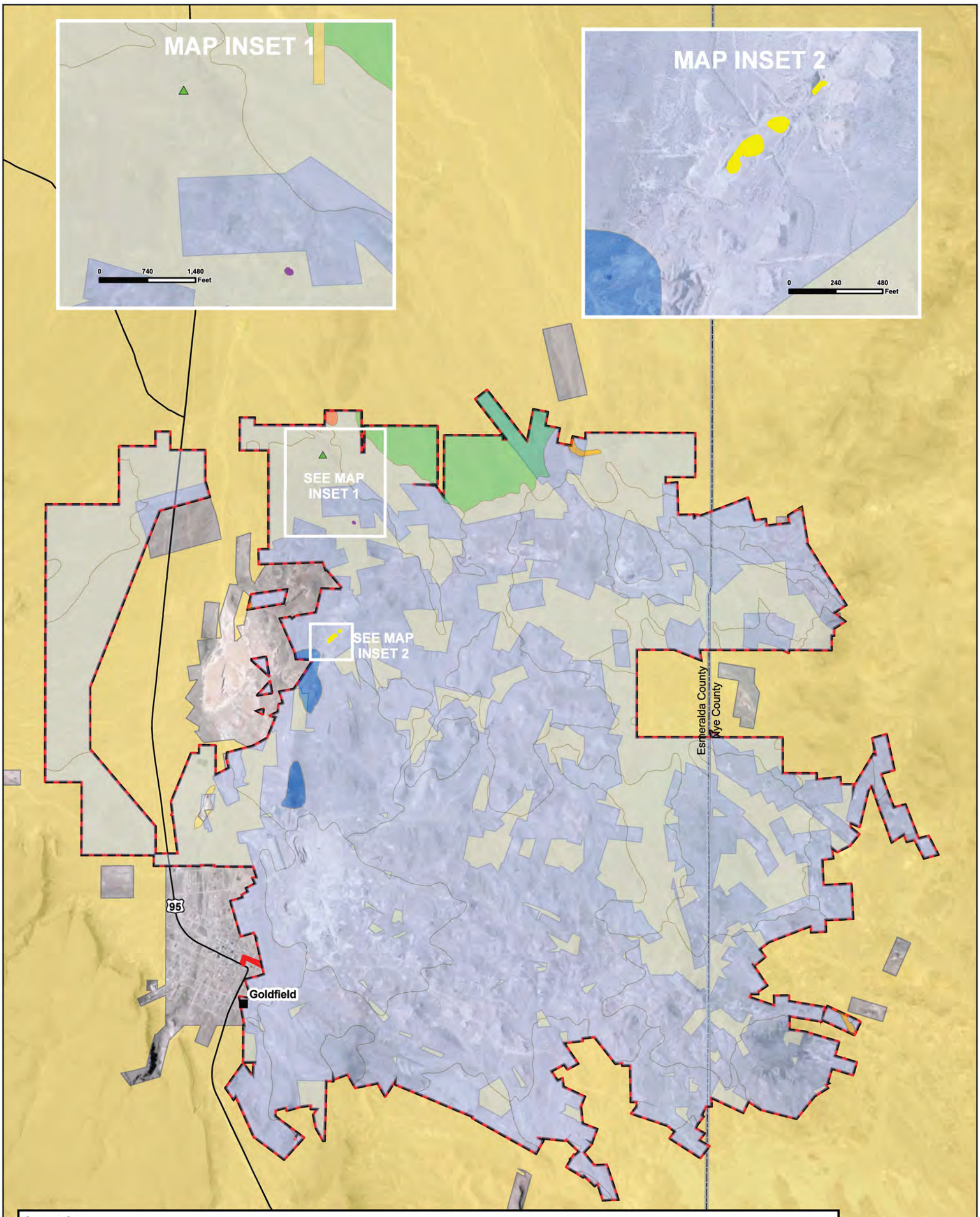
1:72,000

N

PALEONTOLOGICAL RESOURCES AREA OF ANALYSIS

FIGURE 3-2

3/19/2025



Legend

- Vegetation and Special Status Species Area of Analysis
- Noxious Weed Area of Analysis
- Sand Cholla
- Salt Cedar
- Milkweed

Vegetation

- Black sagebrush, Nevada ephedra, and winterfat shrubland with an Indian ricegrass, needle and thread, and galleta understory
- Fourwing saltbush shrubland with Indian ricegrass and galleta understory
- Shadscale, Nevada ephedra, and winterfat shrubland with an Indian ricegrass and galleta understory
- Spiny hopsage shrubland with Indian ricegrass and galleta understory
- Spiny menodora shrubland with Indian ricegrass and galleta understory

Land Status

- Bureau of Land Management
- Private

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GOLDFIELD DISTRICT-WIDE EXPLORATION PROJECT

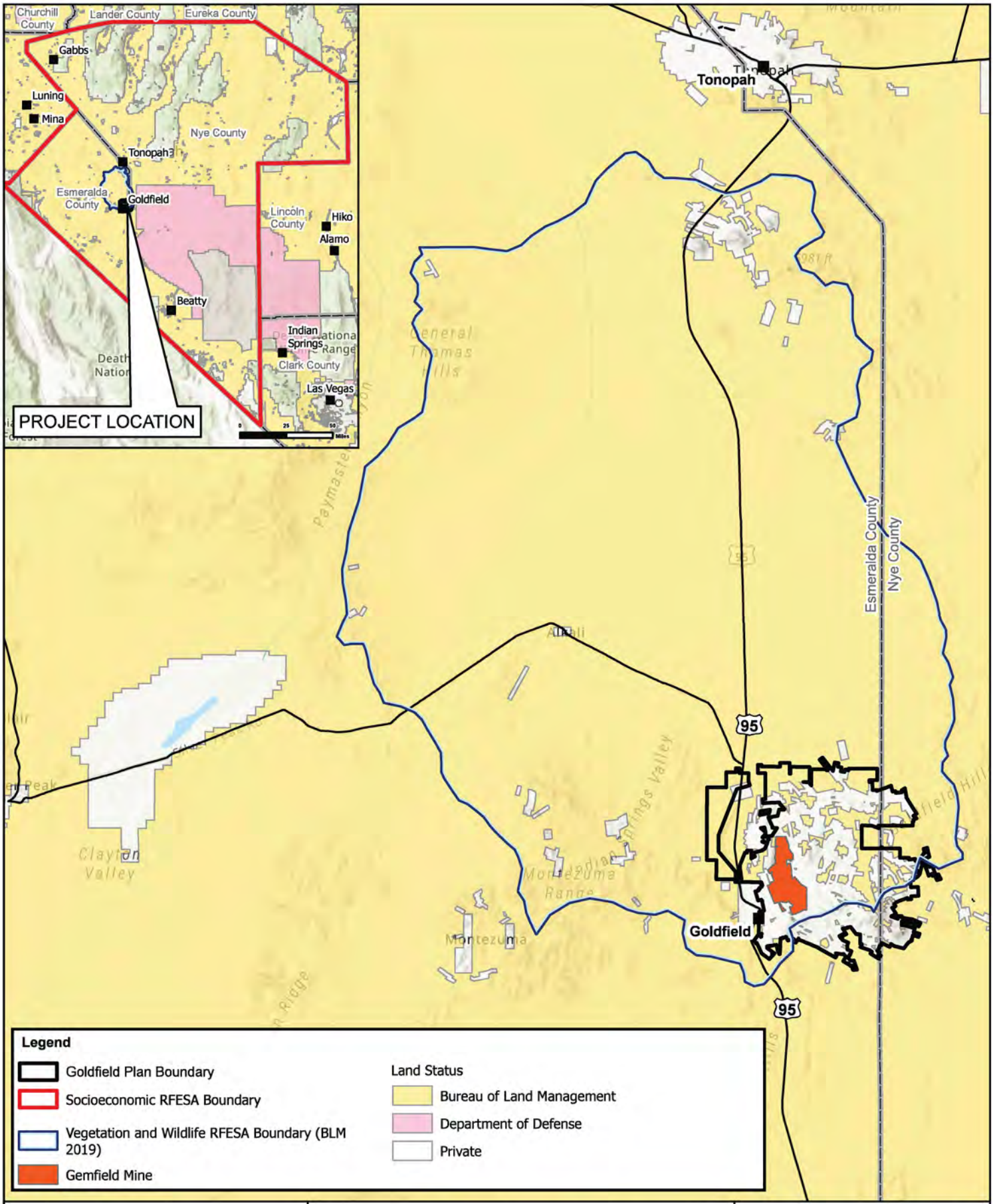
0 0.4 0.8 Miles

N

VEGETATION RESOURCES AREA OF ANALYSIS

FIGURE 3-3

3/19/2025



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GOLDFIELD DISTRICT-WIDE EXPLORATION PROJECT

REASONABLY FORESEEABLE EFFECTS STUDY AREAS

FIGURE 4-1

4/1/2025