United States Department of the Interior
Bureau of Land Management

Environmental Assessment
DOI-BLM-CA-D080-2022-0010-EA

July 2025

PLAN MODIFICATION TO THE ASH MEADOWS MINE
BLM CASE FILE NUMBER CACA 030224

Location: **Inyo County, California**
Applicant/Address: St. Cloud Mining Company
P.O. Box 196
Winston, NM 87943

Barstow Field Office
2601 Barstow Rd
Barstow, CA 92311
Phone: (760) 252-6000
Fax: (760) 252-6099

BLM

TABLE OF CONTENTS

TABLES – TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION

The Ash Meadows mine, operated by St. Cloud Mining, is a non-metallic, locatable mining operation that produces natural zeolites primarily for water filtration, odor control, and horticultural products. The original Plan of Operations was analyzed by an Environmental Assessment (EA) and approved by the BLM on July 21, 1981. The mine is a typical surface mining operation consisting of overburden stripping, dozer or excavator to remove the ore, loader feed to a custom-built grizzly, stockpiling sized ore which is hauled off site for further processing.

Pursuant to 43 Code of Federal Regulations (CFR) 3809.430, St. Cloud Mining submitted a modification to their current Plan of Operations (POO), CACA106005810 (legacy serial number CACA 030224). This modification proposes drilling forty-three exploratory drill holes (project) adjacent to and southeast of their current operation, see Appendix A: Plan of Operation (POO). The purpose of the proposed project is to update and verify historic data and expand upon known areas of mineralization. Drill sites for the project will be accessed by cross-country travel. The proposed activities will occur adjacent to the existing Ash Meadows mine within lands administered by the Bureau of Land Management (BLM), Barstow Field Office.

Activities would be conducted in accordance with BLM regulations published in 43 CFR part 3809. Operations will be conducted under a plan modification, pursuant to 43 CFR 3809.431(a) and measures would be taken to prevent unnecessary or undue degradation (UUD) on public lands during project operations. The project would comply with the performance standards in 43 CFR 3809.420 and other Local, State and Federal laws related to environmental protection. The project area occurs within the Amargosa North Area of Critical Environmental Concern (ACEC), as designated under the Desert Renewable Energy Conservation Plan, (DRECP) as amended, and thus requires a Plan of Operations modification (43 CFR 3809.11(c)(3)). Additionally, the Federal Land Management and Policy Act (FLPMA) prohibits anyone from causing UUD of the public lands.

The proposed exploratory project will consist of drill holes up to a depth of 200 feet to identify the location, quality, and quantity of a glassy tuff deposit and determine its suitability for further development. The project is limited to drilling activities; no mining or processing of minerals is proposed. Samples will be collected from each drill hole for geologic logging and analytical testing and then reclaimed. No drill pads or water wells will be constructed for this project. A total of 20,000 – 40,000 gallons of water consumed for project will be trucked in from an off-site vendor.

The site is located in south-eastern Inyo County in the Amargosa Desert, approximately 4.9 miles due east of Death Valley Junction, CA as shown in Appendix B: List of Figures: Figure 1, “Vicinity Map” and Figure 2, “Project Location.” The approved Ash Meadows Pit is located within sections 9 and 10 in Township 25 North, Range 6 East, San Bernardino Meridian, Inyo County California. The proposed exploratory drilling project will occur within portions of the

SW ¼ of Section 10 and portions of the NW ¼ of section 15, Township 25 North, Range 6 East on the Bole Spring 7.5-minute United States Geological Survey (USGS) Quadrangle map. The existing Ash Meadows Pit and proposed drilling modification are both located within Inyo County parcel 043-130-04. The project is accessed from State Line/Bell Vista Road, approximately 4 miles north of Death Valley Junction CA (see Appendix B: Figure 3 and 3a).

The proposed exploratory drilling project, shown in Appendix B: Figure 4 and listed below in Table 1, will occur on the following mining claims:

Table 1: Proposed exploratory drilling project to occur on following mining claims:

Serial Number	Legacy Serial No.	Claim Type	Claim Name
CA101347169	CAMC2123	LODE CLAIM	GA NO 17
CA101497130	CAMC2125	LODE CLAIM	GA NO 20
CA101609101	CAMC2126	LODE CLAIM	GA NO 21
CA101451656	CAMC2129	LODE CLAIM	GA NO 24
CA102521347	CAMC2130	LODE CLAIM	GA NO 25

1.1 PURPOSE AND NEED

The BLM's need for the action is established by FLPMA, 43 U.S.C. 1732(b), and the surface management regulations promulgated under the authority of FLPMA, at 43 CFR subpart 3809. The BLM's purpose is to provide St. Cloud Mining with the opportunity to explore its existing mining claims on BLM-managed lands, while ensuring compliance with applicable land use plans, protection of resources, and compliance with Federal and State laws related to environmental protection. An approved plan of operation's modification would satisfy St. Cloud Mining's purpose of developing geologic information to be used in the valuation and management of this mineral resource.

1.2 DECISION TO BE MADE

The Barstow Field Manager is the official responsible for the analysis of the environmental impacts of the proposed action. This EA will analyze whether the modified plan of operations and associated conditions of approval would or would not result in UUD of public lands as defined by the Surface Management Regulations (43 CFR 3809) using the specific performance standards described in 43 CFR 3809.420 as criteria. The Field Manager will use the results of the effects analyses in this EA and associated Findings Documents (Appendices A-N), to make an informed decision on whether to not approve (No Action Alternative) or approve with conditions (Preferred Action), the proposed modification to the Plan of Operation for the St. Cloud Mining claims.

1.3 LAND USE PLAN CONFORMANCE

The Proposed action is in conformance with the California Desert Conservation Area (CDCA) Plan (1980), as amended and Desert Renewable Energy Conservation Plan (DRECP), the Amargosa North Area of Critical Environmental Concern (ACEC) and National Conservation Lands (NCL). The project is not located within Wildlife Allocation (WA), Special Recreation Management Area (SRMA), General Public Lands (GPL), Development Focus Area (DFA), or

Variance Process Land (VPL) area. The Proposed Action is also in conformance with other applicable laws, regulations, and policies.

As the DRECP Record of Decision states on page 63, when reviewing a proposal to use public lands, "the BLM will determine, on a case-by-case, which Conservation and Management Actions (CMA's) apply to any given activity based on its location and the resources present there." For the St. Cloud Mining Plan of Operation modification, the determination of which CMA's apply is governed by the BLM's surface management regulations at 43 CFR Part 3809, specifically, those regulations at 43 CFR 3809.420(a)(3), state that operators must comply with land use plans only to the extent the land use planning provisions are consistent with the mining laws. The Proposed Action complies with the CMAs to the extent allowable under regulations at 43 CFR 3809, as detailed in Appendix C: Conservation and Management Actions (CMA's).

Date Approved/Amended: CDCA Plan (1980), as amended by the DRECP (September 2016).

1.4 RELATIONSHIPS TO STATUTES, REGULATIONS AND OTHER NEPA DOCUMENTS

On public lands open to mineral location, the BLM administers the surface of public land and federal subsurface mineral estate under the 1872 Mining Law (30 U.S.C. 22-42), as amended and FLPMA. Prior to approving a modification to a plan of operations BLM is required to comply with the National Environmental Policy Act (NEPA) through preparation of an environmental document, in this case an environmental assessment (EA), which analyzes the potential effects of the alternatives under consideration and describes the BLM's consultations completed pursuant to other laws including the National Historic Preservation Act (NHPA) and the Endangered Species Act (ESA).

This EA complies with all applicable laws and regulations. The following list summarizes the principal laws and regulations that pertain to this analysis.

- National Environmental Policy Act
- General Mining Law of 1872, as amended.
- Surface Resources Act of 1955, as amended.
- Federal Land Policy and Management Act of 1976 (FLMPA), as amended.
- 43 Code of Federal Regulations Subparts 3715 and 3809.
- National Historic Preservation Act of 1966 (NHPA), as amended.
- The Clean Air Act as amended (42 USC 7401 et seq.), as amended.
- Endangered Species Act of 1983 (ESA), as amended (16 U.S.C. § 1531 et seq.).
- Clean Water Act of 1977 (33 USC 1251 et seq.).
- American Indian Religious Freedom Act of 1978 (42 USC 1996).
- Archaeological Resource Protection Act of 1980.
- Executive Order 13112 - Invasive Species (1999).
- Migratory Bird Treaty Act of 1918, as amended (16 USC 703 et seq.).

This is not a comprehensive listing of all applicable laws and regulations that may pertain to the BLM's management responsibilities on unpatented federal mining claims.

1.5 SCOPING AND PUBLIC INVOLVEMENT

Per 43 CFR 3809.411(c), the modified Plan of Operation for the project was posted on April 4, 2024, concurrently with this draft EA document for a 30-day public comment review period on BLM's ePlanning website https://www.blm.gov/programs/planning-and-nepa/eplanning. The BLM has responded to all substantive comments received on this EA document and the associated Plan of Operation through this revised EA and Appendix D: Public Comment Matrix and Table of Concerns. See Chapter 4 for additional consultation and coordination details.

On April 11, 2024, the Barstow Field Office held a public meeting in Tecopa, California to discuss the project and field any questions they may have. Substantive questions that were received during this public meeting and BLM's responses can be found in Appendix E: Public Comment Responses.

1.6 ISSUES IDENTIFIED FOR ANALYSIS

In accordance with Appendix F: Table of Resources and Issues Considered, issues that are considered present with potential for relevant impact that need to be analyzed in detail in the EA include: threatened, endangered, or candidate species, invasive species/noxious weeds, and Special Land Designations (Area of Critical Environmental Concern and California Desert National Conservation Lands). The BLM identified these issues for detailed analysis to ensure that this EA provides a meaningful comparison between alternatives and determine the significance of project impacts, enabling informed decision-making.

Groundwater and cultural resources, while present in the proposed project area, were found to not be affected to a degree that detailed analysis is required; however, because the proposed exploratory project is located within the Amargosa North Area of Critical Environmental Concern, designated to protect these nationally significate values and public concern reflected in the comments received, these resources were analyzed in detail. Chapter 3 provides detailed analysis of these issues.

Other issues present but not affected to a degree that detailed analysis is required include air quality, greenhouse gas emissions, cultural resources, wastes (hazardous or solid), drinking water quality, visual resources, wild horse and burros, livestock grazing, rangeland health standards and guidelines, noise, geology/mineral resources and energy production, fuels/fire, environmental justice, and lands/access. See Appendix F for rationale and determination of the issues that are present but not affected to a degree that detailed analysis is required.

CHAPTER 2: PROPOSED ACTION AND ALTERNATIVES

This EA analyzes the effects of two alternatives. The No Action Alternative (Alternative A) which would not authorize the exploratory drilling as proposed and the Proposed Action, Alternative B, which is to authorize the exploratory drilling project with environmental protection measures. Under the Proposed Action, submitted on March 21, 2022, by St. Cloud

Mining, drilling is proposed within the lode mining claims listed in Table 1 which are located on BLM-administered lands, approximately 4.9 miles due east of Death Valley Junction, CA as shown in Appendix B: Figures 2 through 4. Analysis of the identified potential impacts to the Desert Tortoise, Groundwater, Invasive Species, Noxious Weeds, and Cultural Resources are addressed for both alternatives in Chapter 3 (see Appendix F for more details).

2.1 ALTERNATIVE–A - THE NO ACTION ALTERNATIVE

The objective of the No Action Alternative is to describe the environmental consequences that would result if the Proposed Action were not implemented. In the No Action alternative, St. Cloud Mining would not complete the exploratory drilling described in the 2022 modification. However, they would continue mining under their approved, unmodified plan of operation. The No Action Alternative forms the baseline from which the impacts of the Proposed Action can be measured. The No Action Alternative would not allow the claimant to conduct exploratory drilling and would not meet the purpose and need of the project. The Plan of Operation modification could be rejected if analysis showed the Plan of Operation would cause unnecessary or undue degradation to public land that could not be eliminated or mitigated.

2.2 ALTERNATIVE–B - PROPOSED ACTION:

In accordance with the BLM's 43 CRF 3809 mining regulations, this EA provides a detailed effects analysis for the issues identified for the proposed project and how the proposed action and required mitigation measures complies with federal land-use plans, conservation management actions, and other Federal, State and local regulations (i.e., would not cause unnecessary or undue degradation in accordance with regulations at 43 CFR 3809.5). See Appendix C: CMA's and Appendix G: Environmental Protection Measures.

2.2.1 DRILL SITES AND DRILLING

The proposed project is estimated to operate over a 1-2-month period, five days per week during daylight hours. Approximately 43 exploratory drill holes are proposed. Drill sites would be confined to the footprint of the cross-country access routes or drill lines, see Appendix B: Figures 4 and 5 for more detail. Drill holes will be located on 10 - foot centers (east - west), with drill lines spaced on 200 to 350 - foot centers (north - south), the latter being a function of the location of old drill holes drilled in the late 1970's and early 1980's and related geologic cross - sections. Holes will be completed to depth no greater than 200 feet below ground surface (bgs), and up to 6 ¾ inch in diameter. Samples would be collected incrementally for geologic logging and analytical testing. All water for the proposed project will be trucked from off-site locations to the site. Fuel used on the site would comply with CARB fuel quality requirements and stored in appropriate hazmat containers in accordance with all Local, State and Federal labeling and storage regulations. See Appendix H: Spill Prevention Control and Countermeasures Plan (SPCC), for procedures to be implemented in the event of a spill including clean up, disposal and reporting.

2.2.2 EQUIPMENT

Drilling would be achieved by Reverse Circulation (RC) using a Foremost track drill rig (or similar) with a wet cyclone sampler. Additional drilling support vehicles would include light duty trucks, a pipe trailer, and a water truck (see Table 2). All off-road equipment used on the project would be registered under CARB's DOORS program prior to operating on the site and checked for noxious weeds prior to equipment mobilization. Water would be trucked to the site for dust abatement, and drilling support. Estimated water consumption during normal operation would be approximately 1,000 gallons per shift. The project is estimated to operate over a 1 -2-month period and assuming five shifts per week, the project would consume a total of between approximately 20,000 – 40,000 gallons of water. Water will be provided through commercial agreement with either Longstreet Inn in Amargosa Valley or Wolfenstein Construction in Pahrump, NV. Groundwater pumping is not proposed for this project.

Electrical power to run air compressors and/or work lighting would be provided by a drill rig mounted generator permitted for use by the California Air Resource Board (CARB). If a non-exempt portable diesel-powered generator is necessary, it shall be registered under the Statewide Portable Equipment Registration Program Regulation (PERP) administered by CARB and will be operated/transported within the appropriate containment apparatus. See Appendix F: under wastes (hazardous or solid) for more information on fuels, grease and other hydrocarbons for handling/storage.

Table 2: Mechanized Equipment

Equipment Type[1]	Number
Reverse Circulation Foremost track drill rig	1
Compressor	1
Generator	1
Pipe trailer	1
Water truck	1
Light duty trucks	2

Notes: [1]-Equipment listed may be substituted by equivalent alternative, based upon availability.

2.2.3 SUMMARY OF PLANNED SURFACE DISTURBANCE

The modification to the Plan of Operation for the proposed exploratory project includes cross-country access, drilling operations, and reclamation. For the purposes of this project, disturbance is assumed to include all areas of the project site that will be directly touched or impacted by vehicles, mechanical means, or hand tools. Surface disturbance for the proposed project would not exceed one acre.

2.2.3.1 CROSS-COUNTRY TRAVEL

No new roads would be created during this activity, only cross-country travel would be allowed to access drill locations. Cross-country equipment travel would typically be used on flat areas and areas with shallow slopes. Cross-country travel would involve the crushing of existing vegetation. It would not require scraping or blading. Vehicular traffic for the drill rig, water

truck, and support vehicles would not exceed 15 miles per hour on BLM access roads. Vehicle speeds would be reduced to 5 miles per hour in areas of proposed disturbance to minimize the potential for fugitive dust emissions to maintain operational safety and protect wildlife present. All vehicles used during the proposed project would be properly maintained to ensure they are operating in a manner to minimize vehicle emissions and checked prior to mobilization for invasive weeds. The project would comply with applicable State of California and Inyo County Air District rules for fugitive dust emissions and greenhouse gas emissions.

2.2.3.2 DRILLING OPERATIONS

No more than 43 drill holes are planned for the proposed project, with a total calculated surface disturbance of less than one acre. Drill holes will be confined to the footprint of the cross-country access routes or drill lines. No pads will be constructed. Drill holes will be located on 100 – foot centers (east – west), with drill lines spaced on 200 to 350 – foot centers (north – south).

Drilling to be achieved by Reverse Circulation (RC) using Foremost track drill rig (or similar) with a wet cyclone sampler. All drill holes will be up to 200 feet bgs, and up to 6 ¾ inch in diameter. Water, 20,000 – 40,000 gallons from an off-site location, would be utilized as needed during drilling to control drill cuttings and dust. All water used for the proposed exploratory project would be trucked to the site.

For each drill hole, temporary surface disturbance calculations include: a jack to level the drill rig, a hand dug sump with trench to collect water from the cyclone sampler, a stockpile of material removed from trench and hand dug, impermeable lined-sump, a rubber tub to hold water used in the drilling process, and a working area around the drill hole in order to replace drill bits, grease parts, and collect samples for logging and analytical testing. See Appendix F: under wastes (hazardous or solid) for more information on fuels, grease and other hydrocarbons for handling/storage. The cyclone wet sampler is mounted to the rig and does not touch the ground surface. Proposed surface disturbance for the project would not exceed one acre. To maintain accuracy for the proposed project, the onsite drill team will keep a disturbance log to be updated at every drill hole. The proposed project would immediately cease operations if the temporary surface disturbance exceeded one acre, regardless of how many authorized drill holes remain.

2.2.3.3 CONCURRENT RECLAMATION

Worker education would be implemented to cover topics including, but not limited to, biological resource identification and protections, avoidance, reporting, and protection measures. The presence of a biological monitor will be required to identify sensitive areas to avoid and assure minimization measures are appropriately implemented.

An authorized biologist is required to be on-site during excavations and equipment movement to ensure avoidance and minimization measures are appropriately implemented.

Predator subsidy management standards would be implemented as part of the project design including, but not limited to, controlling food subsidies, water subsidies, and nesting sites.

The following standardized predator protocols would be implemented: all trash and food items shall be promptly contained within closed, raven-proof containers or placed out of sight in vehicles with closed windows.

Drill holes would be accessed by driving cross-country. Cross-country access by the drill rig, water truck and support vehicles may result in soil compaction, disturbance of desert pavement, and destruction of some vegetation. It is required that ingress and egress from drill locations be on the same cross-country route to minimize surface disturbance.

No portable sumps will be utilized during the duration of the project, only impermeable-lined hand dug sumps. After completing each drill hole, each sump and trench will be backfilled before moving to the next drill hole. Any excess cuttings would be spread to no more than 1" above original ground level. Desert tortoise fence will not be necessary because sumps will not be left open overnight.

After each drill hole is completed, the drill hole and associated surface disturbance (sump, trench, jack footprint, stockpile, rubber tub footprint, and working area around the drill hole) will be reclaimed prior to moving to the next proposed drill hole. If the groundwater table is encountered during the exploratory drilling activities, the proponent would follow Bulletin 74-81 California Department of Water Resources for proper abandonment of the drill hole(s), as shown in Appendix B: Figure 5a. The onsite drill team will keep a surface disturbance log to be updated at every drill hole. This concurrent reclamation does not preclude cumulative disturbance calculations. The project will immediately cease operations if total temporary surface disturbance exceeds one acre, regardless of how many permitted drill holes remain.

2.2.4 RECLAMATION PLAN

In accordance with 43 CFR 3809.401(b)(3), the Reclamation Plan for the proposed project is limited to drilling activities, no mining or processing of minerals is proposed.

The proposed action would result in less than one acre of disturbance. The Amargosa North ACEC encompasses approximately 124,280 acres and has a one percent ACEC disturbance cap. As of this document, disturbance within this ACEC is at approximately 2,113 acres, or 1.7 percent of the total area (Livingood, personal communication, 3/9/22), which exceeds the 1 percent cap (approximately 1,248 acres) allowed for this ACEC. The proposed action of less than one acre of surface disturbance would not change this percentage upon successful on-site restoration. Off-site mitigation for actions conducted under the mining law administration program (MLAP) is strictly voluntary on the operator's part. Compulsory off-site mitigation is not within BLM's discretion for MLAP projects and will not be required as a condition of approval of this modification.

Topsoil salvage will be required in accordance with 43 CFR 3809.401(b)(3). The revegetation design would consist of scarifying the cross-country alignments as necessary to reduce areas of compaction to establish a suitable root zone for planting. Seeding would take place in the first

fall after drilling is determined to be concluded, and when there is sufficient moisture and soil development to optimize survival and growth. If initial seeding is deemed unsuccessful, the BLM may require reseeding or alternative methods (i.e. vertical mulching).

Reclamation of each drill hole and adjacent surface disturbance (sump, trench, jack footprint, stockpile, rubber tub footprint, and working area around the drill hole) will occur prior to moving to the next proposed drill hole. Any drill holes that encounter groundwater will be closed in accordance with California Department of Water Resources (CDWR), Part III Destruction of Monitoring Wells, Section 23. In the event of head pressure producing flow, St. Cloud Mining will follow CDWR, Part III Destruction of Water Wells, Section 23.C. requirements.

Per the DRECP, revegetation would be considered successful when field verification documents that disturbed area(s) are dominated by the appropriated native plants and functional ecological processes (e.g., water flow, soil stability). If initial seeding is deemed unsuccessful, the BLM may require reseeding or alternative methods (i.e. vertical mulching).

2.2.4.1 REVEGETATION

Revegetation would establish a self-sustaining vegetation cover that would, over time, control erosion, prevent off-site sedimentation, and attenuate visual contrasts where disturbed surfaces are visible from off-site locations. Use of native grasses and shrubs would assist in blending surfaces into the surrounding landscape. Seeding would take place in the first fall after drilling is determined to be concluded, and when there is sufficient moisture and soil development to optimize survival and growth.

To the extent possible, revegetation of the disturbed areas would use seeds from key, native species common to the region and from surrounding native plant communities. The seed mix below will be implemented for reclamation, if any changes to the seed mix are made, the seed mix must be reviewed and approved by the BLM prior to application. See Table 3 for the proposed planned seed mix.

The Reclamation Plan provide for monitoring and success determination based on performance standards. The contingency measures below are provided if the success criteria are not met (e.g., corrective actions including reseeding, invasive species removal, and/or substitution of different native species that may have a higher success rate).

- Weed abatement would be undertaken as necessary within routes of cross-country travel. Abatement activities would focus on existing invasive species including, but not limited to: Halogeton, Russian thistle, red brome, cheat grass, and other species that are rated High or Moderate for negative ecological impact in the California Invasive Plant Database (Cal-IPC).
- Use of weed-free materials would be employed during reclamation, and post reclamation monitoring would include weed management as needed. Weed management would include mechanical methods; herbicides would be used only on the recommendation of a

California Licensed Qualified Applicator in conjunction with a qualified revegetation specialist and as approved by the BLM.

- Precautions would be taken to not introduce weeds to the site, including inspecting vehicle tires and undercarriage for accumulation of mud or lodged weeds, monitoring materials brought to the site to avoid introduction of weeds, and implementation of control measures in the event weeds are identified in the operations area.

In accordance with the DRECP, the BLM will monitor and evaluate revegetation efforts each year following the first fall once the exploration drilling is completed by field verification and revegetation is only considered successful when the disturbance area is no longer visible based on 10,000-foot aerial photography. If initial seeding is deemed unsuccessful the BLM may require reseeding or alternative methods (i.e., vertical mulching).

Table 3: Seed Mix

Species	Drilled (lbs./ac)	Broadcast (lbs./ac)
Fourwing Saltbush		8
Indian Ricegrass		4
Globemallow		1
Blackbrush		0.5
Desert Saltbush		4
Desert Marigold		1
Nevada Ephedra		3
Spiny Hopsage		0.5
Wyoming Bigsage		0.5
Bursage		3
Alternate Species		
Brittlebush		4
Creosote		4
Flat-top Buckwheat		0.5

Note: No plant protection measures such as fencing and caging would be used.

2.2.4.2 RECLAMATION OF DRILL SITES

In accordance with 43 CFR 3809.415(a) regulation, and 43 CFR 3809.420(a)(5) et al., compliance with performance standards to prevent unnecessary or undue degradation impacts of groundwater and surface disturbance; concurrent reclamation is required, including proper abandonment of each drill hole prior to the continuation of exploration drilling. Once a drill hole is completed for historic mineral verification purposes, that drill hole would be reclaimed in accordance with California Water Code (California Water Well Standards [DWR Bulletins 74-81 and 74-90]) and the adjacent disturbance caused by ancillary activities will be reclaimed as detailed above in 2.2.4 and 2.2.4.1 before moving to the next drill hole. See Chapter 3 for a detailed analysis of the proposed drill site mitigation measures and reclamation standards.

2.2.5 SCHEDULE OF OPERATIONS FROM START THROUGH CLOSURE

St. Cloud Mining would begin the drilling activities at the earliest possible time following BLM approval of this Plan of Operation modification for the proposed project. The work is anticipated

to occur over an approximate 1 to 2 months with concurrent drill hole site reclamation. Once the proposed project is complete, reclamation of any cross-country disturbance will commence, followed by reclamation monitoring. Seeding would take place in the first fall after drilling is determined to be concluded, and when there is sufficient moisture to optimize survival and growth. Reclamation monitoring and any remedial actions shall take place on an annual basis until the success criteria noted in section 2.2.4.1 are achieved.

2.2.6 OCCUPANCY

Operations, as planned, do not constitute occupancy as defined in 43 CFR 3715.0-5. An occupancy concurrence from BLM is not required.

2.2.7 FINANCIAL ASSURANCE

The operator must provide an acceptable reclamation cost estimate (RCE) that meets the requirements of 43 CFR 3809.552(a) and 3809.554(a). BLM will require the RCE after NEPA analysis is complete and will review the RCE for adequacy. The operator must provide the BLM an acceptable financial guarantee (bond) for reclamation prior to commencing operations.

CHAPTER 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

In accordance with the environmental assessment for this project, the resources and issues considered by BLM subject matter experts have been identified by the relevant impact and the degree of effect to those resources in relation to the proposed project.
Issues that are considered present with potential for relevant impact that need analysis in detail include: threatened, endangered or candidate species, invasive species/noxious weeds, public land located in an Area of Critical Environmental Concern/California Desert National Conservation Lands, groundwater and cultural resources.

Issues present, but not affected to a degree that detailed analysis is required include: air quality, greenhouse gas emissions, wastes (hazardous or solid), drinking water quality, visual resources, wild horse and burros, livestock grazing, rangeland health standards and guidelines, noise, geology/mineral resources and energy production, fuels/fire, and lands/access.

Executive Order 14154, Unleashing American Energy (Jan. 20, 2025), and a Presidential Memorandum, Ending Illegal Discrimination and Restoring Merit-Based Opportunity (Jan. 21, 2025), require the Department to strictly adhere to the National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321 et seq. Further, such Order and Memorandum repeal Executive Orders 12898 (Feb. 11, 1994) and 14096 (Apr. 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 C.F.R. Part 46 and Part 516 of the Departmental Manual, consistent with the President's January 2025 Order and Memorandum.

See Appendix F for the resources and issues considered by BLM subject matter experts for requirements specified in statute, regulation, or executive order. See Appendix G for additional environmental protection measures for the Ash Meadows Mine Exploratory Drilling Project.

Environmental Protection Measures

The BLM will analyze environmental protection measures for Alternative A – The No Action Alternative and Alternative B – The Proposed Action, to reduce potential resource impacts. The following effects analysis first identifies all potential environmental effects associated with the proposed modification as designed, then identifies these potential measures for each issue area. Prior to issuing the final approval, the BLM will determine which measures are most appropriate. The BLM will identify all required conditions and stipulations by reference in the Decision Record for the project. The Decision when issued, incorporates all stipulations, conditions in the EA, its Appendices, the POO, Letter of Authorization and approval of this project. SCM is required to acquire relevant permits from Federal, State and local and authorities. For a complete list of the environmental protection measures for the St. Cloud Mining exploratory project see Appendix G.

Reasonably Foreseeable Projects

The BLM identified and reviewed the cumulative effects analysis area for each issue and identified reasonably foreseeable future actions with potential to be cumulatively considerable. These are actions that have potential to modify the present condition of the resource under consideration and are likely to occur.

Reasonably foreseeable future projects were identified during the DRECP Amendment – IV.25 Cumulative Impacts Analysis (see table below). For the Kingston and Funeral Mountains, no new additional reasonably foreseeable projects that would adversely affect the protected status of the area were identified. Due to the exploratory nature of this proposed drilling project, future additional modifications to the proponent's current authorized mine operation are not known or reasonably foreseeable at this time. Therefore, any additional changes or proposed expansions that might stem from this proposed drilling project, are currently too indefinite for a thorough and detailed analysis under NEPA.

Table 4: From DRECP Proposed LUPA and Final EIS: Table IV.25-4: Other Large Projects Within the DRECP Boundary

Table IV.25-4
Other Large Projects Within the DRECP Boundary

Projects	Acres	Status
Kingston and Funeral Mountains		
Calnev Pipeline Expansion Project	Construction, operation, and maintenance of 233 miles of new 16-inch diameter pipeline from near Las Vegas, Nevada, to Baker, California, paralleling the existing system for most of the route. Project would result in 2,841 acres of ground disturbance.	Draft EIS March 2012
Desert Xpress Enterprises High Speed Rail	High-speed passenger train in San Bernardino County, California, and Clark County, Nevada. Project would result in 972 acres of permanent ground disturbance. Also located in Mojave and Silurian Valley and Pinto Lucerne Valley and Eastern Slopes.	EIS complete, ROW issued in 2011
Eldorado-Ivanpah Transmission Project	Transmission upgrade project between Eldorado and Ivanpah, projects would result in 420 acres of permanent ground disturbance. Project is principally within the I-15 highway corridor.	UC
I-15 Joint Port of Entry	State of California will construct and operate Joint Port of Entry on I-15 in the Ivanpah Valley that will include an Agricultural Inspection Facility and Commercial Vehicle Enforcement Facility. Port of Entry will be located on 133 acres.	UC
Amargosa Wild and Scenic River / Area of Critical Environmental Concern Planning	Bureau of Land Management is developing a Joint Management Plan for these two overlapping management units.	Currently in pre-NEPA scoping.
Mojave and Silurian Valley		
Rasor OHV Recreation Area – Planning	California State Parks is preparing a pre-plan analysis report specifying the actions needed to develop and sustain OHV recreation opportunities in the area.	Began September 2013
Owens River Valley		
Digital 395 Project	A new 583-mile fiber network that mainly follows the U.S. Route 395 highway between Nevada and California. Also located in West Mojave and Eastern Slopes ecoregion subarea.	Findings of No Significant Impact (FONSI) issued August 2012, under construction

*UC – Under Construction. The complete document can be found here: Desert Renewable Energy Conservation Plan Proposed Land Use Plan Amendment and Final Environmental Impact Statement

3.1 RESOURCE ISSUE: SPECIAL DESIGNATIONS

The site is located within both California Desert National Conservation Lands and within the Amargosa North Area of Critical Environmental Concern (ACEC), designated in 2016 through the DRECP Amendment to the CDCA Plan. The Amargosa North ACEC (Appendix B: Figure 6) was designated to protect groundwater and biological values, including habitat quality, populations of sensitive species, and landscape connectivity while providing for compatible public uses.

3.1.1 AFFECTED ENVIRONMENT

The Amargosa North ACEC possesses Nationally Significant Values which include:

- Ecological: The Amargosa River North unit is marked by permanent flowing water and wetlands in one of the driest desert areas on the continent, and includes a broad range of habitat types, serving as a magnet for a diversity of plant and wildlife species, including many special status species. Carson Slough is habitat for the federally endangered Amargosa niterwort (Nitrophila mohavensis) and the federally threatened Ash Meadows gumplant (Grindelia fraxino-pratensis). The area also provides habitat for several narrowly endemic species, some of which may not have been described yet by scientists. Public lands within this unit provide critical habitat connections between a number of designated BLM wilderness areas.

- Cultural: This unit includes some of the most intact viewsheds in the California Desert which protects the historical integrity of tribally significant landscapes, and cultural landscapes associated with the Old Spanish National Historic Trail.

- Scientific: A long-term population study of the Amargosa niterwort has been taking place in this unit along with extensive long-term hydrological studies.

- Relevance and Importance Criteria: Relevant biological resources including wildlife and plant assemblages. The area is critical for bighorn sheep and bighorn sheep connectivity, has a unique plant assemblage of mesquite bosque, and the area has regionally significant populations of several sensitive plants and important habitat wildlife, wildlife connectivity, and some rare insects. The area is important for desert tortoise and maintaining connection across tortoise populations.

- Groundwater under this region is thought to contribute to the Amargosa Wild and Scenic River (AWSR). The unit contains designated critical habitat for the Amargosa niterwort, gum plant, and encompasses many populations of BLM sensitive plants. Amargosa River Unit Relevant riparian, wildlife and cultural values. Permanent flowing water and associated wetlands in the Amargosa River Unit provide food, cover and nesting space to a great variety of birds. Many fish, mammals, insects and mollusks present in the natural area have very limited distribution, are endemic, or have low population number. This water has also attracted humans for the last several thousand years, and the canyon and surrounding areas offer opportunities for non-intensive recreation.

- Lands with Wilderness Characteristics: This unit contains 18,507 acres of lands that would be managed to protect wilderness character. The CMAs for lands managed to protect wilderness character would also apply in those areas. The proposed project area/area adjacent is not located within this special land destination and therefore would not have an effect on affect Lands with Wilderness Characteristics.

Overarching Goals: Protect groundwater and biological values, including habitat quality, populations of 241 sensitive species, and landscape connectivity while providing for compatible public uses. Amargosa River Unit Protect the area's sensitive and rare wildlife, riparian, and cultural resources, while still providing for non-intensive recreation. To provide specific administrative guidance for a variety of natural resources present along a small portion of the Amargosa River drainage. Where the CMAs in this Special Management Plan conflict with the CMAs included in the Land Use Plan Amendment (LUPA), the more restrictive CMA would be applied (i.e., management that best supports resource conservation and limits impacts to the values for which the conservation unit was designated), unless otherwise specified. If an activity is not specifically covered by the CMAs, it will be allowed if it is consistent with the Nationally Significant Values but prohibited if the uses conflict with those values. The BLM will continue to manage this area to protect the Nationally Significant Values mentioned above, consistent with this Special Unit Management Plan and the CMAs in the LUPA. Multiple use activities will be allowed, including mining activities in accordance with the Mining Law Administration Program and the General Mining Law of May 10, 1872, as amended (30 U.S.C. §§ 22-54 and §§ 611-615) which is the major Federal law governing locatable minerals. This law allows citizens of the United States the opportunity to explore for, discover, and purchase certain valuable mineral deposits on those Federal lands that are open for mining claim location and patent (open to mineral entry).

3.1.2 ENVIRONMENTAL IMPACTS - ALTERNATIVE A (NO ACTION)

Under the No Action Alternative, the BLM would deny the modification to the Plan of Operation as proposed. No new exploratory drilling would occur and therefore there would be no impact to ACECs or the California Desert National Conservation Lands.

3.1.2.1 SPECIAL DESIGNATIONS - MITIGATION MEASURES

Because selection of the No Action Alternative will have no effects, no mitigation is considered.

3.1.2.2 SPECIAL DESIGNATIONS - CUMULATIVE EFFECTS

Since no environmental impacts or effects are anticipated, no cumulative effects are anticipated under the No Action Alternative.

3.1.3 ENVIRONMENTAL IMPACTS - ALTERNATIVE B (PROPOSED ACTION)

The Mining Law Administration Program and the General Mining Law of May 10, 1872, as amended (30 U.S.C. §§ 22-54 and §§ 611-615) allows citizens of the United States the opportunity to explore for, discover, and purchase certain valuable mineral deposits on those Federal lands that are open for mining claim location (open to mineral entry). Under the Proposed Action Alternative, proposed exploratory drilling project would create less than one acre of surface disturbance within the Amargosa North ACEC which is open to mineral entry with stipulations following the project purpose and need, as stated above.

3.1.3.1 SPECIAL DESIGNATIONS - MITIGATION MEASURES

Ecological: The proposed project is located upgradient and between 2-3 miles east of Carson Slough. Due to this proximity difference the proposed project would not affect the habitat for the federally endangered Amargosa niterwort and federally threatened Ash Meadows gumplant (see section Appendix I: BLM Hydrologic Report O'Connor (2024) for more analysis).

Cultural: All surface disturbances would be less than one acre, temporary in nature and reclaimed, therefore, environmental impacts to viewsheds and cultural landscapes in and adjacent to the proposed project would only be temporarily affected by the project and are considered negligible if the mitigation measures called out in Chapters 2 and 3 are followed.

Scientific: The long-term population study of the Amargosa Niterwort is not within the proposed project area nor adjacent to it and therefore would not have an effect on the study procedures or conclusions (see Appendix J: Biological Evaluation and Appendix K: Rare Plant Survey).

Relevance and Importance Criteria: Wildlife connectivity for bighorn sheep, unique plant assemblage and rare insects while present in the Amargosa ACEC have not be identified within the proposed project area or areas adjacent to the site, therefore, they are not anticipated to be affected by any temporary dust, noise, or human activity from the proposed project (see Appendix J and Appendix K). The proposed project site is within desert tortoise habitat and is analyzed in detail in section 3.2 of this document. If the mitigation measures called out in section 3.2.3.1 are followed, the proposed project would not affect the desert tortoise.

Groundwater: Groundwater under this region is thought to contribute to the Amargosa Wild and Scenic River (AWSR). The proposed project site is located approximately 23 miles north of the start of the AWSR corridor. While the groundwater connectivity for the area is not well understood, there is the possibility the proposed project could affect the groundwater downstream if an artesian situation was encounter during drilling and left unmitigated. Section 3.3 contains a detailed analysis of the regional hydrology and a site-specific summary for the proposed project area and adjacent areas. With the mitigation measures called out in in this document, the proposed project is not anticipated to adversely affect groundwater (see Appendix I and Appendix L: BLM Regional Hydrologic Report (Burck, 2024)).

Lands with Wilderness Characteristics: The proposed project area/area adjacent is not located within this special land destination and therefore would not have an effect on Lands with Wilderness Characteristics.

3.1.3.2 SPECIAL DESIGNATIONS - CUMULATIVE EFFECTS

Since no environmental impacts or effects are anticipated if the mitigation measures are followed, no cumulative effects are anticipated under the cumulative effects.

3.2 RESOURCE ISSUE: DESERT TORTOISE

The desert tortoise (*Gopherus agasizzii*), is a federal and state listed threatened species and the only Endangered Species Act (ESA) listed species that potentially occurs in the project area. The desert tortoise is found in the Mojave Desert at elevations ranging from sea level to

approximately 7,200 feet above mean sea level (amsl). It inhabits areas with pliable soils where it can dig burrows for shelter. The desert tortoise eats a variety of desert annual and perennial herbaceous plants. The desert tortoise is commonly found in creosote bush series scrub, Joshua tree series scrub and in some cases in rocky environments on or near flat areas, bajadas, alluvial fans, and desert washes.

3.2.1 AFFECTED ENVIRONMENT

The proposed project would affect less than 1 acre of suitable desert tortoise habitat, all of which occur outside of designated critical habitat. As such, this project has been logged under the auspices of the Biological Opinion for Activities in the California Desert Conservation Area, dated September 1, 2017.

On December 30, 2022, a biological evaluation was completed by Willow Creek Environmental Consulting, LLC on behalf of St. Cloud Mining and the BLM, See Appendix J and Appendix K.

The DRECP Desert Tortoise – Species Distribution Model Map indicates that the project area lies within predicted suitable habitat; however, it is not in critical habitat for desert tortoise. DRECP's desert tortoise conservation areas map identifies the site as included in a least cost pathway linkage that connects tortoise conservation areas. In accordance with U.S. Fish and Wildlife Service protocol, a desert tortoise survey was conducted within the study area in November of 2022 by Willow Creek Environmental Consulting. Three shelter sites were recorded with potential for use by desert tortoises, burrowing owls, kit fox, and other wildlife species. These included one caliche shelter in association with a large ephemeral wash within the project site and two shelter sites that could also be classified as Class 3 desert tortoise burrows. However, no desert tortoise or other state designated special animals were observed during the survey. See Appendix J for more information.

3.2.2 ENVIRONMENTAL IMPACTS - ALTERNATIVE A (NO ACTION)

Under the No Action Alternative, the BLM would deny the modification of the Plan of Operation as proposed. The Ash Meadows claim would continue to be managed pursuant to its current approved plan of operations. No new exploratory drilling would occur and therefore there would be no new impacts to the desert tortoise.

3.2.2.1 DESERT TORTOISE - MITIGATION MEASURES

Because selection of the No Action Alternative will have no new effects, no new mitigation is considered.

3.2.2.2 DESERT TORTOISE - CUMULATIVE EFFECTS

Since no new effects are anticipated to desert tortoise, no new cumulative effects are anticipated under the No Action Alternative.

3.2.3 ENVIRONMENTAL IMPACTS - ALTERNATIVE B (PROPOSED ACTION)

The project lies within the DRECP's desert tortoise critical habitat map and is located within predicted suitable habitat. Desert tortoises in and around the vicinity of the project can be injured or killed through vehicle strikes. Noise may cause a tortoise to vacate an area for a quieter part of

its range. Indirectly, loss of habitat may reduce available habitat for the local population. A tortoise may void its bladder if mishandled, reducing its ability to survive. Relocating or movement of tortoises or tortoise burrows are not anticipated and is not authorized unless BLM consults with USF&WS and a taking under the ESA is authorized.
Desert tortoises are assumed to occur on lands adjacent to the project and along the access route but may wander into the work area (Appendix B: Figures 3 and 3a). Tortoises may be encountered along the access roads, during cross-country travel, or they may wander into the work area where they could be injured or killed by vehicles. Therefore, BLM has determined that this action may affect and is likely to adversely affect the desert tortoise. As such, this project has been logged under the USFWS Biological Opinion for Activities in the California Desert Conservation Area, dated September 1, 2017.

The operator is required to check under vehicles and equipment for tortoises before moving. If a tortoise is found underneath one, the operator must wait until it leaves on its own accord.

3.2.3.1 DESERT TORTOISE - MITIGATION MEASURES

Prior to any drilling activity, a pre-drilling clearance survey for desert tortoise will be conducted within 10 days of the drilling start date in accordance with the USFWS 2017 Small Project Survey guidance and all on-site staff will be required to receive Worker Environmental Awareness Program (WEAP) Training by a qualified biologist (Appendix G: MM-5 and MM-11). Additionally, the operator is required to check under vehicles and equipment for tortoise before moving (Appendix G: MM-12). If a tortoise is found underneath a vehicle or equipment, regardless of whether the machinery is running or not, the operator must wait until the desert tortoise leaves on its own accord. Lastly, the operator must have a biologist on-site during any equipment movement to ensure avoidance and confirm mitigation measures as identified in this document are appropriately implemented (Appendix G: MM-13)

The following are mitigation measures that if followed by St. Cloud Mining, during the life of the proposed project, will result in negligible effects on the desert tortoise.

a) The mine operator shall designate a field contact representative (FCR) who shall be responsible for overseeing compliance with protective stipulations for the desert tortoise and for coordination on compliance with the Bureau. The FCR shall have a copy of all stipulations while work is being conducted on the site. The FCR may be the mine operator, the mine manager, any other mine employee, or a contracted biologist. The FCR or other biological monitor must be present during all earth moving activities. The FCR and biological monitors shall have the authority to halt all mining activities that are in violation of the stipulations.

b) An employee education program must be received, reviewed, and approved by the Bureau at least 15 days prior to the presentation of the program. The program may consist of a class or video presented by a qualified biologist. Wallet-sized cards with important information for workers to carry are recommended. All mine employees shall participate in the desert tortoise education program prior to initiation of mining activities. The operator is responsible for ensuring that the education program is developed and presented prior to conducting activities.

New employees shall receive formal, approved training prior to working on-site. The program shall cover the following topics at a minimum:

i. distribution of the desert tortoise

ii. general behavior and ecology of the desert tortoise

iii. sensitivity to human activities

iv. legal protection

v. penalties for violations of State or Federal laws

vi. reporting requirements

vii. project protective mitigation measures.

c) Only biologists authorized by the Service and the Bureau shall handle desert tortoises. The Bureau or mine operator shall submit the name(s) of the proposed authorized biologist(s) to the Service for review and approval at least 15 days prior to the onset of activities. No mining activities shall begin until an authorized biologist is approved. Authorization for handling shall be granted under the auspices of the Biological Opinion for Activities in the California Desert Conservation Area, dated September 1, 2017.

d) The authorized biologist shall be required on-site during all drilling activities and reclamation. The biologist shall have authority from the operator to halt any action that might result in harm to a desert tortoise.

e) The area of disturbance shall be confined to the smallest practical area, considering topography, placement of facilities, location of burrows, public health and safety, and other limiting factors. Work area boundaries shall be delineated with flagging or other marking to minimize surface disturbance associated with vehicle straying. Special habitat features, such as burrows (including small mammal burrows), identified by the qualified biologist shall be avoided to the extent possible. To the extent possible, previously disturbed areas within the mining site shall be utilized for the stockpiling of excavated materials, storage of equipment, digging of slurry pits, location of office trailers, and parking of vehicles. The qualified biologist, in consultation with the project proponent, shall ensure compliance with this measure.

f) No access road shall be bladed for exploratory work. Cross-country access shall be the standard for temporary activities. A qualified biologist shall select and flag the access route and cross-country to avoid burrows and to minimize disturbance of vegetation. Except when absolutely required by the operation and as explicitly stated in the plan of operations, cross-country vehicle use by mine employees is prohibited during work and non-work hours.

g) To prevent desert tortoises from falling in, the drill holes shall be covered as much of the time as possible, and at all times when not attended.

h) Desert tortoises may be handled only by the authorized biologists approved by BLM and only when necessary. New latex gloves shall be used when handling each desert tortoise to avoid transfer of infectious diseases between animals. Aside from the initial site clearance, any desert

tortoise moved shall be placed in the shade of a shrub in the direction in which it was facing when found or at the entrance to a burrow if hibernating. In general, desert tortoises should be moved the minimum distance possible to ensure their safety.

i) The authorized biologist shall maintain a record of all desert tortoises handled. This information shall include for each desert tortoise:

i. the locations (narrative and maps) and dates of observations;

ii. general condition and health, including injuries and state of healing and whether animals voided their bladders;

iii. location moved from and location moved to; and

iv. diagnostic markings (i.e., identification numbers or marked lateral scutes).

j) No later than 90 days after completion of construction or termination of exploration activities, the FCR and authorized biologist shall prepare a report for the Bureau. The report shall document the effectiveness and practicality of the mitigation measures, the number of desert tortoises excavated from burrows, the number of desert tortoises moved from the site, the number of desert tortoises killed or injured, and the specific information for each desert tortoise as described in mitigation measure i. The report shall make recommendations for modifying the stipulations to enhance desert tortoise protection or to make it more workable for the operator. The report shall provide an estimate of the actual acreage disturbed by various aspects of the operation.

k) Upon locating a dead or injured desert tortoise, the operator is to notify the Bureau. The Bureau must then notify the appropriate US Fish and Wildlife field office (Palm Springs) by telephone within three days of the finding. Written notification must be made within fifteen days of the finding. The information provided must include the date and time of the finding or incident (if known), location of the carcass, a photograph, cause of death, if known, and other pertinent information. Any injured animals shall be transported to a qualified veterinarian by the Applicant for treatment. All treatment costs shall be paid by the Applicant. If an injured animal recovers, BLM shall contact the Service to coordinate final disposition of the animal.

l) Except on county-maintained roads, vehicle speeds shall not exceed 15 miles per hour through desert tortoise habitat.

m) All trash and food items shall be promptly contained within closed, raven-proof containers. These shall be regularly removed from the project site to reduce the attractiveness of the area to ravens and other desert tortoise predators. Structures that may function as raven nesting or perching sites are not authorized except as specifically stated in the plan of operation or notice.

n) All dogs shall be restrained either by enclosure in a kennel or by chaining to a point within the desert tortoise-proof enclosure.

3.2.3.2 DESERT TORTOISE – CUMULATIVE EFFECTS

Given the size of the project within the larger, mostly undisturbed Amargosa North ACEC and mitigation measures specified in this document, the proposed action as delineated in this study

would result in minimal impacts to this Federally listed threatened species. Cumulative impacts in the reasonably foreseeable future could potentially be a modification to expand the proponents current authorized mine operation which is adjacent to the proposed drill hole project and reduce desert tortoise habitat. Due to the exploratory nature of this proposed drilling project, future additional modifications to the proponent's current authorized mine operation are not known or reasonably foreseeable. Therefore, any additional changes or proposed expansions that might stem from this proposed drilling project, are currently too indefinite for a thorough and detailed analysis under NEPA. Per the DRECP, other projects in the Amargosa North ACEC account for a nominal reduction of desert tortoise habitat, see Table IV.25-4, p. 18. This project will temporarily reduce approximately 0.947 acres of desert tortoise habitat until BLM determines reclamation is complete based on DRECP standards and mitigations measures applied to this project.

3.3 RESOURCE ISSUE: GROUNDWATER

One of the relevant and important values identified in the Amargosa North ACEC is to protect groundwater as it is thought to contribute to the Amargosa Wild and Scenic River (AWSR). The overarching goal to protect groundwater would not be impacted by this project as all water needed for exploratory drilling would be sourced offsite and hauled via a water truck to the project site as well as proper abandonment of each drill hole prior to moving to the next drill hole, in accordance with Bulletin 74-81 California Department of Water Resources.

3.3.1 AFFECTED ENVIRONMENT

Based on USGS data and other studies of the area (see Appendices I, L, and M: Hydrologic Report (1980)), the groundwater is relatively shallow in and around the project site. It is likely that if the proposed drilling activities extend significantly beyond 100 ft, it is considered likely that groundwater will be encountered. If the groundwater table is encountered during the exploratory drilling activities, the proponent would follow Bulletin 74-81 California Department of Water Resources for proper abandonment of the drill hole(s), as shown in Appendix B: Figure 5a.

The drill sites are located within the 112 square mile Ash Meadows, and the 315 square miles (sq. miles) Rock Valley watersheds. Both sub-watersheds are within the 3408 sq. mile Upper Amargosa river basin, which contains the southerly draining upper Amargosa River. The drill site is located approximately 200 vertical feet above and three miles to the east from Carson Slough that drains some mixture of Ash Meadows Spring water and diffuse regional groundwater discharge (Halford & Jackson 2020). Approximately two borings appear to extend slightly into Rock Valley and Eagle Mountain watersheds. The project area is defined as the Alkali Flat Furnace Creek Ranch groundwater subbasin (AFFCR subbasin), one of four main subbasins defined by DV3 (Halford & Jackson 2020).

Most groundwater that enters the Amargosa Desert, and the drill site area, is assumed by DV3 to flow west (Halford & Jackson 2020). Certain hydrogeologic features, such as faults behaving as flow conduits and/or barriers have been observed and modeled, but the number is small in contrast to the expansive approximately 10 sq. mile area. Conceptual models of hydrogeologic

framework and flow have evolved over the decades. Recently conceptualized and competing models exist regarding primary flow into the project area from the general north (Pahute Mesa-Oasis Valley subbasin) (Jackson et al 2021), from the general east (Amargosa basin) (Halford & Jackson 2020, Merino et al 2022), through the project area (Halford & Jackson 2020), and out of the project area to the south (Zdon et al 2015, Partner 2020, Zdon & Mcnabb 2022).

The primary area of hydraulic connection between the project area and Amargosa Basin is understood as a two-to five-mile corridor of highly transmissive aquifer zone with upwelling groundwater near groundwater well AD-4 (USGS site# 362532116172700) ("AD-4 corridor", Halford & Jackson 2020), that is approximately seven miles to the north/northeast of the drill site. The other primary hydraulic connection identified for the project area is Furnace Creek in Death Valley, a much further away but major groundwater discharge area (GDA) of Holocene groundwater (Winograd et al 2005) and about half of the discharge there (40%) is understood to travel through the project area and be sourced from the Amargosa basin (Halford & Jackson 2020).

3.3.2 ENVIRONMENTAL IMPACTS - ALTERNATIVE A (NO ACTION)

The No Action Alternative is to deny the proposed Plan modification. The No Action Alternative would not meet the purpose and need of the Proposed Action. Selection of the No Action Alternative would result in no additional underground geologic data being gathered on the Ash Meadows claim. The Ash Meadows claim would continue to be managed pursuant to its current approved plan of operations.

3.3.2.1 GROUNDWATER - MITIGATION MEASURES

The No Action Alternative would have no effect upon the groundwater table and would create no additional ground disturbance and therefore no mitigation would be required from the project.

3.3.2.2 GROUNDWATER - CUMULATIVE EFFECTS

No cumulative effects are anticipated to the groundwater from No Action Alternative.

3.3.3 ENVIRONMENTAL IMPACTS - ALTERNATIVE B (PROPOSED ACTION)

Exploration of locatable minerals within the Amargosa North ACEC is approved on a case-by-case basis. All activities within the ACEC must be analyzed cumulatively, to assess whether proposed actions can be accommodated within the ACEC and meet its management goals to protect groundwater and biological values, including habitat quality, populations of 241 sensitive species, and landscape connectivity while providing for compatible public uses.
Based on Hydro-Search Inc. report, 1980 (Appendix M: Hydrologic Report (1980)), and three USGS well readings from 1985-2018 taken from five monitoring wells within the current operation and two monitoring wells directly adjacent to the proposed drill sites, groundwater has been measured approximately 100 feet bgs. It is foreseeable that St. Cloud Mine's proposed exploration project could encounter the water table. If this were to occur, the proponent would follow Bulletin 74-81 California Department of Water Resources for proper abandonment of the drill hole(s), See Appendix B: Figure 5a.

According to information available from the USGS National Water Information System (NWIS), there are nine existing wells at the project site. Existing well locations are shown in Appendix L: Figure 2. Details about the existing wells, including well depths and water levels, are provided below, in Table 5.

Table 5: Information about Existing Wells at the Mine (USGS NWIS)

Site Number Site Name	Latitude Longitude (NAD83)	Well Depth (feet)	Land Surface Elevation (feet above NGVD29)	Range of Water Elevations (feet above NGVD29)	Range of Water Levels (feet)	Vertical Gradient
230 025N006E09R01S USGS GA-08B	36°18'48.2" 116°19'44.5"	213	2,230	2,138.60 - 2,143.67	86.33 – 91.40	NA
361840116184003230025N006E10N01S USGS GA-08C	36°18'48.1" 116°19'42.9"	115	2,230	2,132.15 - 2,136.88	93.12 – 97.85	NA
361840116184004 230025N006E10N02S USGS GA-08D	36°18'48.2" 116°19'42.7"	217	2,230	2,131.44 – 2,136.29	93.71 – 98.56	NA
361840116184005 230 025N006E10N03S USGS GA-08E	36°18'48.2" 116°19'41.5"	191	2,230	2,126.50 – 2,132.07	97.93 – 103.50	NA
361840116184006 230 025N006E10N04S USGS GA-08F	36°18'47.96" 116°19'38.42"	252	2,224.18	2,111.38 – 2,117.35	104.31 – 110.28	NA
361845116193708 230 025N006E10N08S GA-08J	36°18'43.7" 116°19'40.5"	98.7	2,220	2,123.52	96.48	Downward
361845116193707 230 025N006E10N07S GA-08J Rathole	36°18'43.7" 116°19'40.5"	85	2,220	2,135.16 – 2,136.40	83.60 – 84.84	Downward
361840116184001 230 025N006E10N05S USGS GA-08K	36°18'43.6" 116°19'41.8"	107	2,220	2,122.68 – 2,128.09	91.91 – 97.32	NA
361840116184007 230 025N006E10N06S USGS GA-08M	36°18'48.0" 116°19'38.4"	110	2,224.2	2,112.48 – 2,123.91	97.77 – 109.20	NA

Water levels taken between May 1984 and February 2018 range from 83.60 feet to 110.28 feet below land surface. Water level elevations were between 2,111.38 feet to 2,143.67 feet above NGVD29. Land surface elevations varied from about 2,220 feet to about 2,230 feet NGVD

Wells GA-08J and GA-08J Rathole appear to be in the same location. Well GA-08J was completed at a depth of 98.7 feet below land surface, and Well GA-08J Rathole was completed at a depth of 85 feet below land surface. There appears to be a downward vertical gradient at this location because the water level in Well GA-08J is lower than the water level in Well GA-08J Rathole.

Additional exploratory boreholes in this same area would be expected to encounter water at approximately the same depths and under the same water table, non-pressurized conditions as encountered in the existing boreholes. The risk of encountering a pressurized water zone appears to be low. Regardless, state drilling regulations should be followed during exploratory drilling so that any unexpected, pressured water zones can be controlled and properly plugged and abandoned.

3.3.3.1 GROUNDWATER - MITIGATION MEASURES

Based on the information provided above and the environmental protection measures that would be adhered to in this section, see Appendix G, the proposed action is not anticipated to have significant direct or indirect impacts on the ACEC. If groundwater is encountered during drilling, abandonment of well would occur in accordance with California Water Code (California Water Well Standards [DWR Bulletins 74-81 and 74-90]). See Appendix B: Figure 5a for more details.

3.3.3.1.1 DRILL HOLE CLOSURE IF GROUNDWATER IS NOT ENCOUNTERED

For drill holes that do not encounter the water table, St. Cloud Mining would plug, seal, or cap each drill hole in a manner consistent with California Water Code, Part III. Destruction of Monitoring Wells-Section 23; Requirements of Destroying Wells. See Appendix B: Figure 5a for more details:

> The drill holes would be situated in unconsolidated material in an unconfined groundwater zone requiring that the upper 20 feet of the drill holes be sealed with suitable sealing material and the remainder of the well to be filled with suitable fill, as shown below in diagram below (referencing Figure 9 from Bulletin 74-81 California Department of Water Resources [for diagram see Appendix B: Figure 5a]). The upper 20 feet of the drill holes would be filled with bentonite and the remainder filled with filler material, consisting of either bentonite or the ash tuff drill cuttings and or ash tuff brought from the pit area. The ash tuff might be used to avoid potential contamination of future minable ore resources. The drill holes would be filled using a tremie pipe or equivalent, proceeding upward from the bottom of the drill hole in such a manner as to prevent freefall, bridging, or dilution of sealing materials and/or prevent separation of aggregate from sealants.

3.3.3.1.2 DRILL HOLE CLOSURE IF GROUNDWATER IS ENCOUNTERED

For dill holes that intersect the water table, St. Cloud Mining would follow CDWR, Bulletin 74-81, Part III Destruction of Water Wells, Section 23, B. for proper abandonment of the drill hole(s). See Appendix B: Figure 5a for more details.

Wells situated in unconsolidated material in an unconfined groundwater zone. In all cases the upper 20 feet of the well shall be sealed with suitable sealing material and the remainder of the well shall be filled with suitable fill or sealing material.

***Well penetrating several aquifers or formations*.** In all cases the upper 20 feet of the well shall be sealed with impervious material. In areas where the interchange of water between aquifers will result in a significant (See Note 1) deterioration of the quality of water in one or more aquifers, or will result in a loss of artesian pressure, the well shall be filled and sealed so as to prevent such interchange. Sand or other suitable inorganic material may be placed opposite the producing aquifers and other formations where impervious sealing material is not required. To prevent the vertical movement of water from the producing formation, impervious material must be placed opposite confining formations above and below the producing formations for a distance of 10 feet or more. The formation producing the deleterious water shall be sealed by placing impervious material opposite the formation, and opposite the confining formations for a sufficient vertical distance (but no less than 10 feet) in both directions, or in the case of "bottom" waters, in the upward direction. In locations where interchange is in no way detrimental, suitable inorganic material may be placed opposite the formations penetrated. When the boundaries of the various formations are unknown, alternate layers of impervious and pervious material shall be placed in the well.

***Well penetrating creviced or fractured rock*.** If creviced or fractured rock formations are encountered just below the surface, the portions of the well opposite this formation shall be sealed with neat cement, sand-cement grout, or concrete. If these formations extend to considerable depth, alternate layers of coarse stone and cement grout or concrete may be used to fill the well. The limiting dimensions of coarse stone are usually considered to range between ¼ and 4 inches. Fine grained material shall not be used as fill material for creviced or fractured rock formations.

***Well in noncreviced, consolidated formation*.** The upper 20 feet of a well in a noncreviced, consolidated formation shall be filled with impervious material. The remainder of the well may be filled with clay or other suitable inorganic material.

Well penetrating specific aquifers, local conditions. Under certain local conditions, the enforcing agency may require that specific aquifers or formations be sealed off during destruction of the well.

3.3.3.1.3 DRILL HOLE CLOSURE IF GROUNDWATER WITH HEAD PRESSURE IS ENCOUNTERED

In the event where a drill hole encounters groundwater and there is head pressure or unconsolidated flow (artesian conditions) St. Cloud Mining will follow CDWR, Bulletin 74-81, Part III Destruction of Water Wells, Section 23, C. requirements:

Where the head (pressure) producing flow is great, special care and methods must be used to restrict the flow while placing the sealing material. In such cases, the casing must be perforated opposite the area to be sealed and the sealing material forced out under pressure into the surrounding formation.

In destroying gravel-packed wells, the casing shall be perforated or otherwise punctured opposite the area to be sealed. The sealing material shall then be placed within the casing, completely filling the portion adjacent to the area to be sealed and then forced out under pressure into the gravel envelope.

When pressure is applied to force sealing material into the annular space, the pressure shall be maintained for a length of time sufficient for the cementing mixture to set.

To assure that the well is filled and there has been no jamming or "bridging" of the material, verification shall be made that the volume of material placed in the well installation at least equals the volume of the empty hole.

3.3.3.2 GROUNDWATER - CUMULATIVE EFFECTS

Based on the mitigation measures in this document and Appendix G, the fact that no water or monitoring wells are proposed for this project, the proposed action would not create cumulative groundwater impacts on the Amargosa North ACEC. Water required for the project, 20,000-40,000 gallons, will be trucked to the site. If groundwater is encountered during drilling activities, abandonment of the well will occur in accordance with California Water Code (California Water Well Standards [DWR Bulletins 74-81 and 74-90]). Per the DRECP, other projects in the Amargosa North ACEC account for a nominal reduction of groundwater.

3.4 RESOURCE ISSUE: SPECIAL STATUS PLANTS & INVASIVE SPECIES/NOXIOUS WEEDS

Special status species are plants listed or proposed for listing under the Endangered Species Act (ESA), or species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under ESA, which are designated as Bureau sensitive by the State Director(s) (BLM – 6840). Invasive species are those that are non-native to an ecosystem and whose introduction causes or is likely to cause economic or environmental harm or harm to human health. A noxious weed is one that is harmful to the environment or animals, especially one that may be the subject of regulations governing attempts to control it. The California Invasive Plant Inventory, published by the California Invasive Plant Council (CIPC), categorizes non-native invasive plants that threaten the state's wildlands. Categorization is based on an assessment of the ecological impacts of each plant. The inventory represents the best available knowledge of invasive plant experts in the state.

The inventory categorizes plants as High, Moderate, or Limited, reflecting the level of each species' negative ecological impact in California. Other factors, such as economic impact or difficulty of management, are not included in this assessment. It is important to note that even Limited species are invasive and should be of concern to land managers. Although the impact of each plant varies regionally, its rating represents cumulative impacts statewide. Therefore, a plant whose statewide impacts are categorized as Limited may have more severe impacts in a region. Conversely, a plant categorized as having a High cumulative impact across California may have very little impact in some regions (CIPC 2006). Below are the impact ratings, as defined by CIPC:

High – These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate – These species have substantial and apparent, but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation

structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited – These species are invasive, but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

3.4.1 AFFECTED ENVIRONMENT

Per the 2016 DRECP Amendment to the CDCAP Amargosa North Area of Critical Environmental Concern (ACEC), contains habitat for the federally endangered Amargosa niterwort (Nitrophila mohavensis) and the federally threatened Ash Meadows gumplant (Grindelia fraxino-pratensis). The area also provides habitat for several endemic species, some of which may not have been described yet by scientists. As noted in section 3.1.3.1, both the Amargosa niterwort and Ash Meadows gum plant are located in Carson Slough approximately 2-3 miles west of the project area. Additionally, no records of Rare, Threatened, or Endangered plant species are reported at the project site or in its vicinity, in the California Natural Diversity Database (CNDDB) observation records or in the United States Fish and Wildlife Service (USFWS) Inyo County Species List.
While special status plants may occur in the general vicinity, direct impacts to these species are not anticipated as none were encountered during the spring 2023, rare plant survey conducted by Erimico Biological Services, LLC (see Appendix K for more details).

During the Spring 2023 rare plant survey by Erimico Biological Services, LLC, Russian thistle (*Salsola tragus*) was observed in the area and has a CIPC rating of "Limited." Although not observed in the project site, tamarisk (*Tamarix* spp.) is present in low lying areas east of the current zeolite pit and has a CIPC "High" rating (see Appendix K for more details).

3.4.2 ENVIRONMENTAL IMPACTS - ALTERNATIVE A (NO ACTION)

The No Action Alternative is to deny the proposed Plan modification. The No Action Alternative would not meet the need and underlying purpose of the Proposed Action. Selection of the No Action Alternative would result in no additional underground geologic data being gathered on the St. Cloud Mining claims. The St. Cloud Mining claims would continue to be managed pursuant to its current approved plan of operations. There would be no impacts to resources as determined in the interdisciplinary review.

3.4.2.1 INVASIVE SPECIES/NOXIOUS WEEDS - MITIGATION MEASURES

The No Action Alternative would have no effect upon the invasive species or noxious weeds. The proposed action would not occur, and current land management would continue. Effects cumulative or otherwise would occur.

3.4.2.2 INVASIVE SPECIES/NOXIOUS WEEDS - CUMULATIVE EFFECTS
No cumulative effects are anticipated to invasive species or noxious weeds from No Action Alternative.

3.4.3 ENVIRONMENTAL IMPACTS - ALTERNATIVE B (PROPOSED ACTION)
The proposed action would result in a temporary direct impact to a limited acreage of public land. Russian thistle was observed near the project area and tamarisk is present in low areas east of the current mine area outside the project area.

3.4.3.1 INVASIVE SPECIES/NOXIOUS WEEDS - MITIGATION MEASURES
Given the small disturbance area and the presence of only two invasive plants and noxious weed species in limited, isolated locations, the level of potential effects is considered unlikely; however, weed management practices would be implemented as part of the Proposed Action including vehicle cleaning, use of weed-free materials, and monitoring and treatment for weed species upon reclamation. These mitigation measures further remove the potential effects by lowering the possible spread of invasive species and noxious weeds.

3.4.3.2 INVASIVE SPECIES/NOXIOUS WEEDS - CUMULATIVE EFFECTS
Given the size of the project within the larger, mostly undisturbed ACEC and the mitigation measures specified in this document, the proposed action would not have measurable cumulative impacts from invasive species or noxious weeds. Cumulative impacts in the reasonably foreseeable future could be a modification to expand the current authorized mine operation which is adjacent to the proposed drill hole project and therefore increase the potential to introduce invasive species and noxious weeds; however, future modifications to the proponent's current authorized mine operation cannot be known or reasonably foreseen at this time. Per the DRECP, other projects in the Amargosa North ACEC account for a minimal risk of the invasive species and noxious weeds.

3.5 RESOURCE ISSUE: CULTURAL RESOURCES
3.5.1 AFFECTED ENVIRONMENT
The region is known to contain areas of significant prehistoric and historic cultural resources as well as the Old Spanish National Historic Trail. An archaeological survey of the general area was conducted in 1978 and is part of BLM records. The report is titled An Archaeological Survey of Mining Claim Areas in Nevada and California in the Southern Periphery of the Amargosa Desert Near Ash Springs, Nevada by Richard Brooks and Joseph King, Archaeological Research Center UNLV Museum of Natural History. At that time archaeological clearance was recommended for the project area. A Class III pedestrian survey was completed Sept 14-16, 2022, on 100% of the APE (176 acres), at and around the modification project site. Based on the 2022 archaeological survey and assessment, it was determined that there would not be any cultural resources or historic properties affected. No historic properties were deemed eligible for the National Register of Historic Places.

3.5.2 ENVIRONMENTAL IMPACTS - ALTERNATIVE A (NO ACTION)
The No Action Alternative is to deny the proposed Plan modification. The No Action Alternative would not meet the need and underlying purpose of the Proposed Action. Selection of the No

Action Alternative would result in no additional underground geologic data being gathered on the Ash Meadows claim.
The Ash Meadows claim would continue to be managed pursuant to its approved plan of operations.

3.5.2.1 CULTURAL RESOURCES - MITIGATION MEASURES
The No Action Alternative is not anticipated to have effects on the current cultural resources identified within the project area.

3.5.2.2 CULTURAL RESOURCES - CUMULATIVE EFFECTS
The No Action Alternative is not anticipated to have cumulative effects on the current cultural resources identified within the project area.

3.5.3 ENVIRONMENTAL IMPACTS - ALTERNATIVE B (PROPOSED ACTION)
On May 11, 2023, the BLM received the final report for a Class III pedestrian survey of the project area. Based on the results of the survey, as noted in this document, activities related to the proposed subsurface exploratory drilling would not have an effect on any known cultural resources if exploration and cross-country travel are limited to the areas outlined in Appendix B: Figure 4.

3.5.3.1 CULTURAL RESOURCES - MITIGATION MEASURES
Any new proposals for exploratory activities would require additional review by the BLM and may require additional cultural resource studies, including evaluating the site as part of a larger mining district. If previously unidentified archaeological or historical sites are discovered during any proposed action, work within the vicinity of the discovery would stop immediately and a BLM archaeologist would be notified to examine the find and to prevent further impacts or effects on the resource.

Federal law and regulations (Archaeological Resources Protection Act (ARPA) 16 USC 470 & 43 CFR 7; Native American Graves Protection & Repatriation Act (NAGPRA) 25 USC 3001 & 43 CFR 10; and, Public Lands, Interior 43 CFR 8365.1-7; as well as, California state law (California Health & Safety Code 7050.5, *Dead Bodies* and California Public Resources Code 5097.98, *Notification of Discovery of Native American Human Remains*) require all parties that discover human remains in California to follow a well-defined process.

Protocol -Discovery of Human Remains in California
All discovered human remains shall be treated with respect and dignity. California state law (California Health & Safety Code 7050.5) and federal law and regulations ([Archaeological Resources Protection Act (ARPA)16 USC 470 & 43 CFR 7], [Native American Graves Protection & Repatriation Act (NAGPRA) 25 USC 3001 & 43 CFR 10] and [Public Lands, Interior 43 CFR 8365.1-7]) require a defined protocol if human remains are discovered in the state of California regardless if the remains are modern or archaeological.
Upon discovery of human remains, all work within a minimum of 200 feet of the remains must cease immediately, nothing disturbed and the area is to be secured. The County Coroner's

Office of the county where the remains were located must be called. The coroner has two working days to examine the remains after notification. The appropriate land manager/owner or the site shall also be called and informed of the discovery. If the remains are located on federal lands, federal land managers/federal law enforcement/federal archaeologist are to be informed as well because of complementary jurisdiction issues. It is very important that the suspected remains and the area around them remain undisturbed and the proper authorities called to the scene as soon as possible as it could be a crime scene. Disturbing human remains is against federal and state laws and there are criminal/civil penalties including fines and/or time in jail up to several years. In addition, all vehicles and equipment used in the commission of the crime may be forfeited. The coroner will determine if the bones are historic/archaeological or a modern legal case.

Modern Remains

If the Coroner's Office determines the remains are of modern origin, the appropriate law enforcement officials will be called by the coroner and conduct the required procedures. Work will not resume until law enforcement has released the area.

Archaeological Remains

If the remains are determined to be archaeological in origin and there is no legal question, the protocol changes depending on whether the discovery site is located on federally or non-federally owned/managed lands.

Remains discovered on federally owned/managed lands

After the Coroner has determined the remains are archaeological or historic and there is no legal question, the appropriate Field Office Archaeologist must be called. The archaeologist will initiate the proper procedures under ARPA and/or NAGPRA. If the remains can be determined to be Native American, the steps as outlined in NAGPRA, 43 CFR 10.6 *Inadvertent discoveries*, must be followed.

Remains discovered on non-Federally owned/managed lands

After the Coroner has determined the remains on non-federally owned/managed lands are archaeological and there is no legal question, the coroner will make recommendations concerning the treatment and disposition of the remains to the person responsible for the excavation, or to his or her authorized representative. If the Coroner believes the remains to be those of a Native American, he/she shall contact by telephone within 24 hours, the California Native American Heritage Commission (NAHC). The NAHC will immediately notify the person it believes to be the most likely descendent of the remains. The most likely descendent has 48 hours to make recommendations to the landowner for treatment or disposition of the human remains. If the descendent does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from further disturbance. If the landowner does not accept the descendant's recommendations, the owner or the descendent may request mediation by the NAHC.

Resumption of activity

The activity that resulted in the discovery of human remains may resume at any time that a written, binding agreement is executed between the BLM, lineal descendants, and/or the

federally recognized affiliated Indian Tribe(s) that adopts a recovery plan for the excavation or removal of the human remains, funerary objects, sacred objects, or objects of cultural patrimony following 43 CFR §10.3 (b)(1) of these regulations. The disposition of all human remains and NAGPRA items shall be carried out following 43 CFR §10.6.

3.5.3.2 CULTURAL RESOURCES - CUMULATIVE EFFECTS

A Class III pedestrian survey was completed Sept 14-16, 2022, on 100% of the Area of Potential Effect (APE: 176 acres), at and around the modification project site. The recommendation based on the 2022 survey is that there would not be any cultural resources or historic properties affected based on their archaeological survey and assessment. No historic properties were deemed eligible for the National Register of Historic Places. Therefore, no cumulative impacts to the cultural resources are anticipated. Cumulative impacts in the reasonably foreseeable future could potentially be a modification to expand the current authorized mine operation which is adjacent to the proposed drill hole project. Future additional modifications to the proponent's current authorized mine operation are not known or reasonably foreseeable at this time. Per the analysis in the DRECP, other projects in the Amargosa North ACEC account for a nominal risk of cumulative impacts for cultural resources.

CHAPTER 4: CONSULTATION, COORDINATION & PUBLIC PARTICIPATION

Consultation and coordination for this project is outlined in the subsequent sections. See Appendices E, D, and N: Acronyms for more information.

4.1 CULTURAL RESOURCES

A Class III pedestrian survey was completed Sept 14-16, 2022, on 100% of the APE (176 acres), at and around the modification project site. On May 11, 2023, the BLM received the final report from this survey. Based on the results of the survey, as noted in this document, activities related to the proposed subsurface exploratory drilling would not have an effect on any known cultural resources if exploration and cross-country travel are limited to the areas outlined in Appendix B: Figure 4. Timbisha-Shoshone tribal representatives subsequently requested an additional archaeological survey by the BLM with participation from tribal monitors. The BLM Barstow Field Office archaeologist and the tribal historic preservation officer of the Timbisha Shoshone Tribe conducted a partial re-survey of the APE on February 12, 2024, and did not find any additional archaeological resources and met their concerns for the project.

Tribal Consultation letters were sent to the Timbisha Shoshone Indian Tribe on July 11, 2023. BLM staff had two additional consultation meetings with the Timbisha Shoshone Indian Tribe regarding this project, resulting in a reconnaissance survey with BLM staff Archaeologist and the Tribal Historic Preservation Officer in February of 2024.

4.2 BIOLOGICAL RESOURCES

The BLM consulted with the USFWS on the threatened desert tortoise using the Biological Opinion for Activities in the California Desert Conservation Area, dated September 1, 2017. If the applicant wishes to obtain authorization to move desert tortoise, BLM will need to consult with the USFWS to allow for such "take" of this species.

4.3 PUBLIC PARTICIPATION

On April 4, 2024, the Barstow Field Office posted the POO modification and EA on BLM's ePlanning website and was available for public comments for 30 days from original posting, ending on May 6, 2024. During this comment period, 15 responses were received through ePlanning. Other public comments were also received through emails and letters. See Appendix D. Substantive comments received during the 30-day public comment period have been used in the decision-making process by BLM. See Appendix E for BLM's responses to these comments.

On April 11, 2024, the Barstow Field Office held a public meeting in Tecopa, California to discuss the project and field questions from the attendees. Substantive questions that were received during this public meeting and BLM's responses can be found in Appendix E.

CHAPTER 5: LIST OF PREPARERS

BLM Interdisciplinary Team:
Archaeologist – Alexis Francois
Biologist – Christopher Otahal
Geologists – Jamie Livingood and Joella Campbell
Hydrologists – David O'Connor and Peter Burck
Natural Resource Specialist – Lorenzo Encinas
NEPA Coordinators – Jeremy Vargas, Amy McGowan, and Kaitlin Flahive

REFERENCES

Desert Renewable Energy Conservation Plan Land Use Plan Amendment and Record of Decision

Form 1221-2, 6840 - Special Status Species Management

Brooks, R. and King, J., 1978. Archaeological Survey of Mining Claim Areas in Nevada and California in the Southern Periphery of the Amargosa Desert Near Ash Springs, Nevada, Archaeological Research Center UNLV Museum of Natural History

Halford, K.J. and Jackson, T.R., 2020. Groundwater characterization and effects of pumping in the Death Valley regional groundwater flow system, Nevada and California, with special reference to Devils Hole (Professional Paper No. 1863). US Geological Survey.

Winograd, I.J. Fridrich, C.J., Sweetkind, D., Belcher, W.R., Thomas, J.M., 2005. Comment on "Testing the interbasin flow hypothesis as Death Valley, California". Eos, Transactions American Geophysical Union 86(32), p. 295-295.

Jackson, T.R., Fenelon, J.M. and Paylor, R.L., 2021. Groundwater flow conceptualization of the Pahute Mesa–Oasis Valley Groundwater Basin, Nevada—A synthesis of geologic, hydrologic, hydraulic-property, and tritium data (Scientific Investigations Report 2020-5134). US Geological Survey.

Merino, N., Jackson, T.R., Campbell, J.H., Kersting, A.B., Sackett, J., Fisher, J.C., Bruckner, J.C., Zavarin, M., Hamilton-Brehm, S.D. and Moser, D.P., 2022. Subsurface microbial communities as a tool for characterizing regional-scale groundwater flow. Science of the Total Environment, 842, p.156768.

Zdon, A., Davisson, M.L. and Love, A.H., 2015. Testing the established hydrogeologic model of source water to the Amargosa River Basin, Inyo and San Bernardino Counties, California. Environmental Forensics, 16(4), pp.344-355.

Zdon, A., McNab, Walt 2022. Applications of Death Valley 3 Groundwater Model for Understanding Area Flow System Components, County of Inyo - Yucca Mountain.