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

September 2022

A1 Lithium Incorporated Mineral Exploration Project

Draft Environmental Assessment

DOI-BLM-UT-Y010-2021-0068-EA

Grand County, Utah

Locations:
Mineral Canyon Federal #1-3
Sec. 03 T26S 19E, SE ¼ NE ¼

Sunburst #1
Sec. 14 T26S R19E, SW ¼ SW ¼

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CHAPTER 1. INTRODUCTION

Anson Resources Ltd, through its United States subsidiary A1 Lithium Inc. (A1 Lithium), proposes to conduct mineral exploration activities in accordance with the General Mining Law of 1872 and Surface Management Regulations of 43 CFR Subpart 3809.

On March 4, 2021, A1 Lithium submitted a Plan of Exploration to the Bureau of Land Management (BLM) Moab Field Office (MFO) to explore for locatable minerals on its unpatented placer claims located in Grand County, Utah. The BLM accepted this plan as complete, and it is now being evaluated in this EA.

A1 Lithium is proposing to reopen two previously cored, plugged, and abandoned wells named the Mineral Canyon Federal #1–3 and the Sunburst #1 to test the fluids contained in sedimentary rock sequences located approximately 6,200 feet below the surface for economic quantities of lithium, bromine, and other locatable minerals. Table 1 provides the identifying details on each of the two wells.

Table 1. Identifying details of the existing wells proposed for re-entry

Well Name	API #	Original Operator	UTM Z12, NAD 83		Public Land Survey System
Mineral Canyon Federal #1-3	4301931119	Enserch Exploration	604073E	4269985N	Sec. 3 T26S R19E, SE1/4, NE1/4
Sunburst #1	4301930357	Energy Reserves	604689E	4265978N	Sec14 T26S R19E, SW1/4, SW1/4

The proposed well locations are along State Route 313 in Utah, approximately nine air miles west of the town of Moab, 3 miles north of Canyonlands National Park, and 2 miles northwest of Dead Horse Point State Park (Map 1, Appendix B). A project area is defined as the area of land upon which the operator conducts operations, including the area required for construction or maintenance of access routes; this proposed project area would be the drill pad sites and access routes for the Mineral Canyon Federal #1-3 (3.17 acres) well and Sunburst #1 (3.43 acres) well.

The BLM MFO approved three Notice-level lithium exploration proposals in 2017 (UTU-92750), 2018 (UTU-93341), and 2019 (UTU-93817) from A1 Lithium to test for lithium at four well locations within a 5-mile radius of the current proposed project area. Two of the exploration actions are active until November 2022; and one exploration action is complete. The current proposal is to determine the economic feasibility of the locatable resources determined to be present by the prior Notice-level exploration activities. The brine contained in a one of the clastic intervals of the Paradox Formation appears to be the most viable resource target because it tested with economic amounts of lithium from rocks with higher formation pressures that promote natural flow. The assays for the minerals sampled from this clastic interval of interest are shown in Table 2.

Table 2. Assays for Clastic Interval 31 from A1 Lithium Notice-level exploration, Grand Co.

Hole ID	UTU	Lithium (ppm)	Bromine (ppm)	Boron (ppm)	I (ppm)
Gold Bar Unit 2	92750	21	680	8.3	NA
Skyline Unit 1	93817	193.5	4427	163.8	NA
Long Canyon Unit 2	93817	253	2282	189	NA

Currently, there are no other related mining operations proposed from A1 Lithium to the BLM Moab Field Office. If economic quantities of the proposed target locatable minerals are found present within the brines sampled from Mineral Canyon Federal #1-3 and Sunburst #1, A1 Lithium may submit a Plan of Operations to the BLM for development and production (mining) of the target locatable minerals. In the event of a Plan of Operations submission, a site-specific NEPA analyses on the mining operations in the proposal would occur.

1.1. Purpose and Need

The purpose of the proposed action is to respond to A1 Lithium's application to explore for economically viable mineral deposits by re-entering existing plugged and abandoned wellbores to test for lithium, bromine, and other potential locatable minerals contained in brines within the subsurface sedimentary rock sequences.

The need is established by the BLM's responsibilities under the General Mining Act of 1872, 43 CFR Subpart 3809, and the Federal Land Policy Management Act (FLPMA) as amended (1976). FLPMA recognizes mineral exploration and production of mineral resources as a "principal" land use within the BLM's multiple-use mandate 43 USC 1702(l). Multiple use is defined as the "management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people . . ." 43 USC § 1702(c).

1.1.1. Decision to be Made

The BLM will decide whether to authorize the proposed action to reenter wellbores and explore for locatable minerals, and if authorized, the BLM would apply terms, conditions of approval or stipulations specific to the proposal and to the Moab Field Office. The final decision may select either of the analyzed alternatives and may include the modification of an alternative. Modification of an alternative may be the approval to explore for locatable minerals in one or both well bores.

1.2. Conformance with BLM Land Use Plan(s)

The Proposed Action and alternative(s) are in conformance with the 2008 Moab Field Office Record of Decision and Approved Resource Management Plan (2008 Moab RMP). Specifically, the Proposed Action is provided for in the following sections of the 2008 Moab RMP:

Minerals (MIN):

> **MIN-7. Locatable Minerals:** Operations on BLM-administered lands open to mineral entry must be conducted in compliance with BLM's surface management regulations (43 CFR 3715, 3802, 3809, and 3814). BLM surface management regulations do not apply to operations on other Federal lands but do apply to split-estate lands (page 74).
>
> **MIN-9. Locatable Minerals:** To the extent possible, the stipulations developed for oil and gas leasing are applicable to all mineral activities (leasable, locatable, and salable). These stipulations are found in Appendix A [of the 2008 Moab RMP]. Leasable minerals include oil and gas, coal, and potash. Locatable minerals include gold, copper, and uranium. Salable minerals include sand and gravel, clay, and building stone (page 74).
>
> **MIN-17. Locatable Minerals:** A no surface occupancy stipulation cannot be applied to locatable minerals with a withdrawal. All public lands overlaying Federal minerals are open to mining claim location unless specifically withdrawn from mineral entry by Secretarial order or by a public land law. Therefore, other than the existing withdrawals (Three Rivers, Westwater, and Black Ridge Wilderness), all public lands within the MPA remain open under the mining laws. Future withdrawals may be recommended in areas identified as closed or with a no surface occupancy stipulation if it becomes necessary to prevent unacceptable resource impacts (page 76).

1.3. Relationship to Statutes, Regulations, or other Plans

The following laws, regulations are directly related to the Proposed Action:

- Federal Lands Policy Management Act (FLPMA) (1976) – establishes the agency's multiple-use and sustained-yield mandate to manage the lands and various resource values, including minerals.
- General Mining Law of 1872 – authorizes the mining of mineral resources on public lands.
- Mineral Leasing Act of 1920 – enables leasing of public lands for development of mineral resources.
- Mining and Minerals Policy Act of 1970 – declares it is the continuing policy of the Federal Government to foster the development of domestic mineral resources.

1.4. Scoping and Issues

Identification of issues and alternatives were accomplished through internal BLM resource specialist review. On July 12, 2021, the Moab Field Office Interdisciplinary Team (IDT) met with the applicant onsite at the two proposed wellsite locations to discuss potential resource impacts. The conclusions from this meeting and subsequent discussions are presented in the IDT Checklist in Appendix A. The IDT Checklist provides a rationale for issues that were considered but not analyzed further.

The IDT developed issues for analysis based on resources determined to be present and potentially impacted by the alternatives. The issues carried forward for detailed analysis in Chapter 3 are presented in Table 3.

Table 3. Issues Analyzed in Detail

Issue #	Resources	Issue Statement
Issue 1	**Visual and Auditory Resources**	How would activities that are associated with well re-entry and brine fluid sampling (access route construction and drilling operations) impact visual resources? How would well re-entry and brine fluid sampling impact the sound scape of Horsethief Campground? How would well re-entry and brine fluid sampling impact the dark night skies?
Issue 2	**Recreation Resources**	How would activities that are associated with well re-entry and brine fluid sampling (access route construction and drilling operations) impact recreational activities, such as mountain biking, scenic driving, and camping, in and around the project area?
Issue 3	**Geology/Minerals/Energy Production**	How would activities that are associated with well re-entry and brine fluid sampling (access route construction and drilling operations) impact the geological, mineral and energy resources in the area?
Issue 4	**Water Quality and Quantity**	How would activities that are associated with well re-entry and brine fluid sampling (access route construction and drilling operations) impact the quality of the water resources, including aquifers, surface water and ground water? How would site construction impact the surface water runoff? How would the water quantity caps of the city of Moab be impacted from water needs of the project?

CHAPTER 2. ALTERNATIVES

2.1. Alternative A – No Action Alternative

The No Action alternative is to reject the applicant's application to re-enter abandoned wellbores to explore for lithium, bromine, and other locatable minerals.

2.2. Alternative B – Proposed Action

Under Alternative B, the BLM would approve A1 Lithium's Plan of Exploration to conduct mineral exploration by re-entering two previously cored, plugged, and abandoned oil and gas wells to test brines for economic quantities of lithium, bromine, and other potential economic locatable minerals in its unpatented placer mining claims. The proposed wells for exploration are Mineral

Canyon Federal #1-3 and Sunburst #1, located off State Route 313 in Grand County, Utah. The proposed timeline would not exceed 24 months for all phases of operation, including:

- Access route improvement and drill pad development – maximum ten days per site.
- Drilling operations – maximum twenty days per site.
- Brine sampling – immediately after drilling and up to 24 months.
- Hole abandonment and reclamation – maximum 42 days per site.

A1 Lithium would not test intervals where oil and gas or potash resources are previously leased without entering into an agreement with the existing lessee. The Multiple Mineral Development Act of 1954 provides, "Where the same lands are being utilized for mining operations and Leasing Act operations, each of such operations shall be conducted, so far as reasonably practicable, in a manner compatible with such multiple use…mining operations shall be so conducted as not to endanger or materially interfere with any existing surface or underground improvements, workings, or facilities which may have been made for the purpose of Leasing Act operations." 30 U.S.C. § 526.

2.2.1. Access Roads

The proposed access routes to the Mineral Canyon Federal #1-3 and Sunburst #1 would follow previously used access routes built during the original well operations. These routes would be reconstructed in short sections and widened to a width of 14 feet to allow for the passage of equipment and vehicles. Improvements would include grading, contouring and minor cuts and fills. Access routes would remain dirt. Significant cuts/fills are not anticipated with the construction and improvements needed for either access route. Mineral Canyon Federal #1-3 would utilize a previously created and used access route that is approximately 1,040-foot-long that connects the drill pad to the maintained Mineral Canyon Road (BLM 129). Five turnouts would be constructed on the access route to Mineral Canyon Federal to allow for equipment to pass safely; each turnout would be approximately 0.1 acres in size. Sunburst #1 would utilize a previously created and used 520-foot-long access route that connects to an unmaintained designated road. These two routes were chosen because they were the original routes utilized in past drilling operations and would require the least amount of disturbance.

Two Army Corp of Engineers (ACOE) jurisdictional channels would be crossed by the proposed project features. Both channels were dry at the time of the biological survey. If any construction occurs within a channel demonstrating an ordinary high-water mark, consultation with the ACOE would take place.

Turnouts would be in areas of least visual and vegetative disturbance to mitigate potential impacts. Access route construction would not be conducted during wet conditions when soils are saturated. Dust abatement would be used along the access routes

Access route improvement equipment may include:

- Caterpillar D8 with 14-foot blade or similar sized bulldozer
- Caterpillar 140G Road Grader or similar sized equipment
- Backhoe or small excavator
- Hydraulic rock breaker
- Dump truck for hauling fill dirt
- Water truck for periodic dust control

Access routes would be signed as open to authorized use only and would not be open to the public. Access routes would not be added to the Travel Plan.

2.2.2. Drill Pad

The re-entering of abandoned oil and gas wells would require the construction of a level ground surface drill pad and installation of equipment used in the operation, followed by the temporary occupancy of a drill rig for up to 20 days. The reclaimed original drill pads for the Mineral Canyon Federal #1-3 and Sunburst #1 wells would be re-constructed by grading and leveling the site to a size of 375 feet x 350 feet (3.0 acres), building berms along the edges of the pad for containment of operations and for storm water diversion around the site, and digging a reserve pit 20 feet x 80 feet in size (see Figure 1, below).

Vegetation removal and/or ground disturbance would be limited to the minimum amount necessary to create a safe and effective surface for drilling and sampling activities. If water is encountered during construction of a pit, construction would cease, and A1 Lithium would immediately contact the BLM.

2.2.2.1. *Drill Pad Construction*

Drill pads would be constructed by contractors hired by A1 Lithium. Quality assurance for the construction phase would be the responsibility of the construction contractor completing pad development. Drill pad preparation activities would include clearing, earthwork, drainage, and other improvements necessary for safe operations. Each drill pad would be prepared to create a level pad for the drill rig and support equipment.

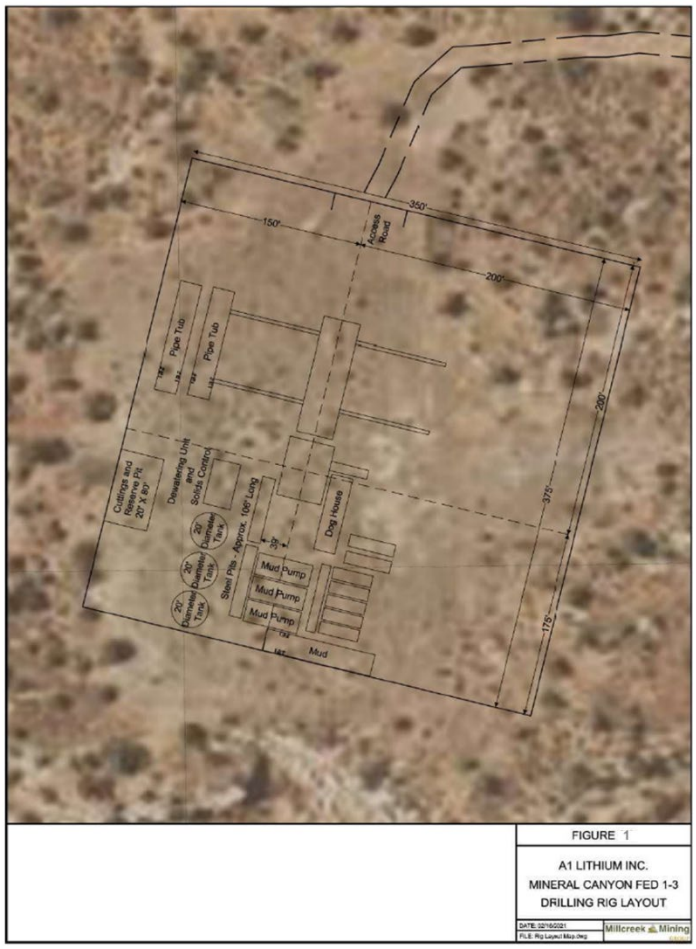
Clearing activities would include removal of topsoil, organic material, stumps, brush, and slash. Topsoil would be stored separately to avoid mixing with other organic materials during construction, storage, and reclamation. Stockpiles would be located so that wind and water erosion would be minimized, and reclamation potential maximized.

The drill pads are in areas that have very little topographic relief, with surfaces sloping to the west at a rate of 2.0-4.0 degrees per 1000 feet; therefore, surface run-on/run-off would not be anticipated to cause ruts or rills as a result of water flowing fast from high angles. If surface water does accumulate after a rainfall, small berms constructed on the uphill side of the drill pad would direct flow around the drill pad. A small sump at the downgradient end of the diversion ditch would collect any run-off and dissipate the velocity of flow prior to entering undisturbed ground.

A reserve pit would be constructed on each drill pad for the containment of materials extracted from the drill hole during operations. Reserve pits would be placed in an area of the drill pad that avoids shallow groundwater. Reserve pits would be fenced and lined with impermeable liners to prevent groundwater and soil contamination.

Equipment on-site the drill pad would be a valve tree, mud tanks and pumps, water tanks, drilling rig, doghouse/staging area, H2S monitors, pipe tubs/racks and solids control units.

Figure 1. Layout of A1 Lithium Drill Pad.



2.2.3. Exploration Operations

A1 Lithium would contract a petroleum drill rig to re-enter the two abandoned wells, one at a time. Drilling operations would involve drilling out the cement plugs and any abandonment equipment in the hole to the predicted depth of the targeted clastic brine zones. 5 ½ -inch thick casing would be installed after reaching total depth; casing would be installed from the surface of the well to its total depth. Surface casing would be cemented back to the surface and is subject to BLM inspection and verification. If the primary cement job does not circulate back to surface, remedial cementing will be required. Integrity of the well bore would also be tested during these drilling operations.

The drilling rig would have a 10,000 pounds per square inch (psi) blow-out prevention, hydrogen sulfide (H_2S) monitors and breathing apparatus rigged up and operational while re-entering the well bore. A pit volume totalizer system would be used to monitor mud for losses and/or gains.

Brine horizons would be perforated for sampling following hole cleanout and casing operations. Sampling of brine fluids would first occur when the drill rig is onsite. A valve tree would be installed to facilitate additional sampling and testing once the drill rig is off-site. The valve tree is an assembly that regulates the flow in the well and is constructed of valves, casing spools, and

fittings. The valve tree, along with all other facilities on site, would be painted to match the natural landscape and to comply with the BLM Gold Book.

A1 Lithium personnel would be onsite during drilling operations. Drilling operations are anticipated to take a maximum of twenty days per site.

2.2.3.1. *Well Testing*

The primary targets in the well re-entries are five clastic beds in the Paradox Formation that have been identified by A1 Lithium as containing lithium-rich brine fluids. Fluid samples would be collected at each well in IBC containers from these five clastic beds. Sample sizes collected would depend on the fluid flow rates from each of the target intervals. One of the clastic beds targeted is predicted to have higher formation pressures and therefore higher fluid flow rates. The proposed samples from this interval would range in size between 1,000 and 3,000 liters. Clastic Beds with lower formation pressures may have lower fluid flow rates and samples are predicted to range in size from 300-400 liters. From these bulk samples, smaller samples would be extracted (approximately 1-liter in size) and dispatched to a certified laboratory for analysis. While bulk samples are being collected, flow rate would be evaluated. Temperature and brine weight would also be tested.

Samples would be collected when the drill rig is still in place. Once the drill rig is removed from the drill pad, further sampling would not be anticipated. In the event further sampling is needed, the samples would be collected from the valve tree on the well head. The BLM MFO would be notified of any activities on site after the rig is released and if additional sampling is needed.

2.2.3.2. *Water*

A petroleum drill rig would be used to re-enter the abandoned wells and is therefore subject to the applicable Federal and State drilling and operating requirements to protect surface and subsurface waters in all stages of the project.

The proposed drilling and casing methods are in accordance with Federal regulations as described in 43 CFR 3594.5 (a) (b) and 43 CFR 3593.1 (a) (b) (c) (d); and the Utah Division of Oil, Gas and Mining requirements in Rule R649-3 that are put in place to protect groundwaters.

Water associated with the drilling operations would be managed by using tanks and pits shown on the drill site layouts for each hole (see Figure 1). Water used in the operations would be purchased from a contractor who purchases water from Grand Water and Sewer Service Agency. The contractor has a metered hydrant and metered water trucks and are charged monthly on water used based on the meter readings. The contractor would haul in two truckloads of water to the site for the re-entry of each abandoned oil well; approximately 200 barrels would be held in reserve tanks on the drill pad. The proposed project would be a zero-discharge facility, with any liquids generated during drilling contained in tanks prior to transport and disposal off-site.

The water stored in the tanks would be used for drilling operations and to control the consistency and weight of the drilling mud fluids used in the drill hole during these operations. The drilling muds are composed of water, bentonite clay and barite for viscosity and weight, and emulsifiers and detergents for lubricity; drilling muds are used to move rock cuttings and debris out of the

bore hole and provide a physical and chemical barrier between the borehole and the rocks in the formation

Temporary diversion structures and sumps at the drill locations would be used for surface water management. Diversion structures would redirect any surface flow around the drill pad to reduce the amount of water needing to be contained on site. A small sump would be placed at the downgradient end of the diversion ditch to collect and detain any run-off and reduce the velocity of flow prior to entering undisturbed ground.

2.2.4. Reclamation

The objective of the reclamation plan is to create a stable configuration of soils in disturbed areas to minimize erosion potential and to provide an environment for the establishment of a self-sustaining vegetation community. When sampling and exploration is completed, A1 Lithium would contact the BLM in writing with the submittal of Form 3160-5 to plug and abandon the wells, following the recommendations and procedures set forward by the BLM. A workover rig would be brought on site to plug and abandoned the wells. Well abandonment would be done one well at a time.

Over the course of the project, interim reclamation would take place by reclaiming all portions of the well site not needed for testing operations. Sufficient level area would remain for setup of a workover rig and to park equipment. The portion of the cleared drill pad not needed for operational safety purposes would be recontoured to a final or intermediate contour that blends with the surrounding topography as much as possible.

Upon completion of the project, all structures would be removed from the drill pads. The fenced and lined reserve pits would have their liners folded inside the pit and backfilled.

Drill pads would be regraded to blend with the adjacent topography, and to prevent future erosion and foster revegetation of the native plant community. Access routes would be closed and regraded to establish a stable configuration and reclaimed back to pre-existing conditions. Berms and turnouts would be completely removed and reclaimed. Plant medium, including organic matter, brush, rocks, and shrub/tree debris, taken during grading activities would be used as windthrow on disturbed areas to promote regeneration and foster environments for successful seeding. Disturbed areas would be reseeded with an approved native seed mix to promote the growth of native vegetation.

Seeding would be accomplished by hand or by drilling on the contour whenever practical or by other approved methods, such as dozer track walking to create microsites that promote establishment. Repeat seeding or planting may be required until revegetation is successful, as determined by the BLM authorizing officer. Regular monitoring of revegetated and reclaimed areas would be conducted with regular maintenance or reseeding as needed.

2.2.5. Summary of Surface Disturbance

Total surface disturbance from the project would amount to approximately 6.6 acres for the Mineral Canyon Federal #1-3 and Sunburst #1 wells. Table 4 shows the amount of surface disturbance area in detail. Surface disturbance activities would include clearing and leveling a 3-acre drill pad area for operations. Improvements to access routes would include approximately 0.6

acres of surface disturbance to recontour and widen the route for safe passage of vehicles and equipment.

Table 4. Proposed surface disturbance in project area

Well Name	Route Length (feet)	Route Area (acres)	Number of Turnouts	Turnout Area (acres)	Pad area (acres)	Total Disturbance (acres)
Mineral Canyon Federal #1-3	524.7	0.17	0	0.0	3.0	3.17
Sunburst #1	1040.8	0.33	5	0.10	3.0	3.43
Total	1565.5	.50	5	0.10	6.0	6.6

2.2.6. Design Features and Conditions of Approval

Design features apply to each well being proposed. Design features and Conditions of Approval were discussed during internal scoping and taken from the A1 Lithium Revised Plan of Operations (Millcreek Mining Group, 2021), the 2016 Moab Field Office Record of Decision and Approved Master Leasing Plan (2016 MLP), 2008 Moab RMP, and The Gold Book (BLM, 2007).

Noise levels would be kept to 120 decibels or lower. Dust abatement would be used along the access routes when appropriate to further protect the visual and recreational resources in the area.

Should a need arise to change or modify the drilling or sampling plans submitted, A1 Lithium would contact the BLM's MFO to discuss and coordinate a plan for modifications.

A1 Lithium would avoid creating soil conditions that promote weed germination and establishment. All equipment, including on-road and off-road equipment, shall be cleaned to remove weed seed and soil (that may contain weed seed) prior to commencing operations on public lands within the project area. The operator and contractor shall monitor disturbed areas in the project area for project-related establishment and spread of noxious and exotic weeds.

Minimum Air Pollution Controls for Drilling Rig Operations:

- Tier II or better drilling engines.
- Stationary internal combustion engine standard of 2g NOx/bhp-hr. for engines <300 HP and 1g NOx/bhp-hr. for engines >300HP.
- Low bleed or no bleed pneumatic pump valves.
- Dehydrator Volatile Organic Compound (VOC) emission controls to >95 percent efficiency.
- Tank VOC emission controls to >95 percent efficiency.

The following Drilling Operation Best Management Practices (BMPs) are applied to minimize long-term disruption of the surface resources and existing uses, and to promote successful reclamation.

- Proposed casing and cementing programs shall be conducted as approved to protect and/or isolate all usable water zones. All isolating medium other than cement shall receive approval prior to use.
- Casing setting depths shall be calculated to position the casing seat opposite a competent formation based on relevant factors, including the presence/absence of hydrocarbons; fracture gradients; usable water zones; formation pressures; lost circulation zones; other minerals; or unusual characteristics.
- All indications of usable water will be reported to the BLM MFO Authorized Officer.
- Surface casing will be set at a minimum depth of 50 feet below the deepest usable source drinking water.
- All formations bearing usable quality water will be protected by employing casing and cement.
- Run cement bond logs to verify the effectiveness of the casing cement job to ensure the protection of usable water bearing zones. When needed, or as directed by the Authorized Officer, the operator shall conduct reasonable tests and/or surveys, which will demonstrate the mechanical integrity of the down hole equipment.
- Any cement plug that is the only isolating medium for a usable water interval shall be tested by tagging with the drill string. Any plugs placed where the fluid level will not remain static will also be tested.
- At a minimum, the operator and the BLM will adhere to BLM Instruction Memorandum 2010-055 regarding the Protection of Groundwater in Association with Oil and Gas Leasing, Exploration, and Development. Areas identified with shallow unconfined aquifers and potential unconsolidated aquifers will require additional mitigation that may include closed loop drilling, no surface pits, offsite location of production storage facilities; a spill prevention, control and countermeasure plan (as specified by the Environmental Protection Agency [EPA]); and a storm water management plan. A water monitoring plan may be required to ensure the effectiveness of mitigation to protect water resources.
- Disposal or use of water produced from Federal wells must be approved by the BLM before such operations begin, even if the operator has approval from the surface management agency. In cases of water disposal into pits or other impoundments, the structures must conform to approved construction requirements in accordance with Onshore Order No. 7, BLM Manual 9172, and applicable State agency requirements.
- Pits, water impoundments, and surface discharges that present a potential hazard to humans, livestock, wildlife, and other resources should be subject to appropriate mitigation, such as fencing, netting, caging, or covers, as appropriate. Refer to the BLM Gold Book for exclosure fence construction standards.
- Any materials removed from the drill holes during drilling operations would be collected in the reserve pit for each drill hole.
- Disposal or emergency pits will be in cut material rather than fill material.
- All chemicals and hydrocarbon products (including used oil) shall be contained and controlled in accordance with the Spill Prevention Control and Countermeasure Plan (SPCCP) pursuant to 40 CFR Part 112.

- A spill contingency plan includes appropriate containers and secondary containment for tanks and smaller containers, such as drums and barrels of fuels and lubricants required for drilling, in accordance with all applicable environmental and safety regulations.
- Spill response materials (absorbents, drums) would be used to contain spills at the source, prevent a release to the environment, and complete the required clean-up. All hazardous constituents would be stored in approved containers and volumes and all safety protocols would be followed. All fuels/lubricants would be properly disposed and/or recycled according to specific product direction.
- Any chemical/fluid/oil/grease accidental spills from equipment, should be cleaned up, collected, and taken to a proper disposal site or landfill. Waste from portable sanitation facilities shall be properly disposed of at an approved facility.

The following safety practices would be followed throughout the project:

- Hydrogen sulfide (H_2S) monitors and operational breathing apparatuses would be ready onsite while re-entering the old well.
- Signs would be posted at access points prohibiting unauthorized personnel from entering the well sites. Unauthorized personnel would not be allowed on the rig floor, and all information would be kept confidential.
- No smoking would be permitted on the pits or rig floor. Smoking areas would be provided at a predetermined location.
- Safety meetings would be held on a regular basis to discuss upcoming operations and procedures.
- Re-entry would utilize blowout prevention procedures.
- Quality assurance and control would be implemented by A1 Lithium personnel and reported to the BLM MFO Authorized Officer.

If fossil material is encountered in the area during operations, A1 Lithium would cease activity at that location and notify the MFO.

All phases of the Proposed Action would adhere to stipulations put in place by the 2008 Moab RMP to protect wildlife, including migratory birds. If drilling were to occur during owl breeding season, an owl survey would be done prior to commencing any activities.

Project construction that removes vegetation that supports nesting structure for migratory birds will be avoided from April 1 to July 31 to ensure nesting migratory birds with not be disturbed.

A temporary snow fence would be placed along the southern edge of Mineral Canyon Federal # 1-3 pad for cultural resource protection of resources just below the ledge. The snow fence would be removed at the end of the project period. All persons who are associated with mineral operations will be informed of the temporary fencing that they will be subject to prosecution for knowingly disturbing archaeological sites or collecting artifacts.

If any previously unidentified cultural resources or human remains are discovered as a result of mineral operations, activity in the vicinity of the discovery will cease and will be immediately reported to the BLM MFO Authorized Office. Work may not resume at that location until approved by the BLM Authorized Officer.

All vehicular traffic, personnel and equipment movement, and construction activities will be confined to the locations surveyed for cultural and paleontological resources, or to the existing roadways and/or inventoried access routes.

Access routes would be signed as authorized use only and would not be open to the public.

2.3. Alternatives Considered but Eliminated

The alternative of building new access routes to the drill pads instead of improving the existing access routes was considered but eliminated as an alternative. This alternative was found to be ineffective as the access routes already exist and would require less disturbance to refurbish into a working condition than to build new routes on previously undisturbed surfaces.

No other alternatives were discussed in detail during internal scoping or with A1 Lithium.

CHAPTER 3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

This chapter describes the existing conditions relevant to the issues presented in Table 1 in Section 1.3 and discusses the potential impacts of the Proposed Action and alternatives. The affected environment provides the baseline for comparison of impacts/effects described under environmental impacts. For a discussion of issues not described, see the IDT Checklist (Appendix A).

3.1. General Location

Situated within the Colorado Plateau physiographic province, the landscape is flat and marked by mesas and buttes (Stokes, 1986). The project's elevation ranges between 5,800-6,100 feet above mean sea level and lies within Blackbrush and Pinyon-Juniper vegetation biomes. The Mineral Canyon Federal #1-3 location is on the Kayenta Formation sandstone and the Sunburst #1 is located on the Navajo Formation sandstone, and each site is covered with 0-10 feet of mixed alluvial and aeolian deposits (Doelling, 2002).

The project area is in the Upper Sonoran life zone in the Intermountain Colorado Plateau region, and as such, the climate is predominately arid to semi-arid, but subject to seasonal monsoonal storms which deposit most of the annual rainfall of 9.0 inches and average total annual snowfall of 9.8 inches (See Table 5, below).

Table 5. Summary of Climate Data from 1893-2021: Moab, Utah

Climate Component	Typical Value*
Temperature	Maximum: 98.2°F; Annual max average 71.4°F Minimum: 18.2 °F; Annual min average 40.5°F
Precipitation	Average total annual rainfall: 9.0 inches Average total annual snowfall: 10.0 inches

* Source: WRCC, 1889-2021: https://wrcc.dri.edu/; 1893-2016 totals; https://wrcc.dri.edu/Climate/

3.2. Effects Analysis Methodology

3.2.1. General Effects Analysis

General effects analysis used the following methodologies to analyze the proposed alternatives' potential effects of issues identified:

- GIS data, resource data and use data collected over a series of years form the basis of analysis. Data provided by A1 Lithium from past notices was used to disclose potential effects on identified issues.
- Effects analysis is based on the best available data and resource staff knowledge. Quantitative data was used where available and supplemented with detailed qualitative data where no quantitative data was available.

3.2.2. Cumulative Effects Analysis

Cumulative effects analysis is based on the best available data and information; in cases where quantitative data is not available, analysis is primarily qualitative in nature. Projects, plans or actions relevant to all issues are described in the tables below. Projects, plans or actions specific to issues will be described in the respective cumulative effects analysis; other projects, plans and actions will be summarized.

Table 6. Past and Present Projects, Plans and Actions that Make Up the Cumulative Impact Scenario

Past and Present	Description of Project, Plan or Action
Recreation	Hiking, biking (road and mountain bike), motorized recreation (4x4 driving, scenic driving), camping
Livestock Grazing	Livestock grazing and associated range infrastructure
2016 MLP Reasonably Foreseeable Development Scenario (RFDS)	Existing oil and gas development averaged approximately 2 wells being drilled per year (66 wells during the past 30 years) in the Moab Master Leasing Plan Area (MMLPA). An upward trend from 2007-2012 hints at a projected level of drilling above past activity in the past 30 years (BLM, 2012).
Mineral Activity	How many mineral explorations and/or developments have occurred? Potash?

Table 7. Reasonably Foreseeable Projects, Plans and Actions

Reasonably Foreseeable	Description of Project, Plan or Action
Recreation	Recreation activities of all types are expected to continue and most likely increase
Livestock Grazing	Livestock grazing is expected to continue at current use levels
2016 MLP Reasonably Foreseeable Development Scenario	The 2016 MLP RFDS projected oil and gas drilling in the MMLPA to average 8.5 wells per year for the next 15 years.

A1 Lithium Plan of Operations	In the event A1 Lithium finds the proposed wells to have economic quantities of locatable minerals, it is reasonably foreseeable for A1 Lithium to submit a Plan of Operations to the MFO.
Mineral Exploration and Development	Exploration and development of minerals including oil and gas and locatable minerals including lithium, potash and uranium.

3.3. Issue 1 – Visual and Auditory Resources

- How would activities that are associated with well re-entry (route construction and drilling operations) and brine fluid sampling impact the visual resources?
- How would well re-entry and brine fluid sampling impact the sound scape of Horsethief Campground?
- How would well re-entry and brine fluid sampling impact the dark night skies?

3.3.1. Affected Environment

The BLM manages public lands for visual resources using the Visual Resources Management (VRM) system. The VRM system classifies land based on visual appeal, public concern for scenic quality, and visibility from travel routes or other Key Observation Points (KOPs). A visual resources inventory (VRI) class is used to place BLM-administered lands into one of four VRM classes. The VRI class is used as a baseline for the inventoried characteristics of the landscape and is not the indicator used for determining land management for a specific tract of land. VRM is used to guide the management decision throughout the BLM-administered lands as they are designated in the approved 2008 Moab RMP (Table 8, below). Both the Mineral Canyon Federal #1-3 and Sunburst #1 wells are within VRI Class II. VRI classes range from I to IV, with Class I being assigned to areas designated to preserve a natural landscape (Map 2, Appendix B). Class II, III, and IV are assigned based on a combination of characteristics present in overlays: scenic quality, sensitivity level, and distance zones. Both wells fit under all three overlays, thus possessing all three characteristics.

Using the VRI Class determinations, the area in which Mineral Canyon Federal #1-3 is located was designated as VRM Class III in the 2008 Moab RMP; the Sunburst #1 location is within designated VRM Class II. See Table 8 for objectives of visual resource classes.

Table 8. Objectives for Visual Resource Classes

VRM Class	Objective
Class I	The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.
Class II	The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
Class III	The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract

VRM Class	Objective
	attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
Class IV	The objective of this class is to provide for management activities which require major modifications of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

State Route 313, designated as the Dead Horse Mesa Scenic Byway by the State of Utah in 2002, is managed for its scenic driving enjoyment. State Route 313 is a KOP in its entirety; over one million people per year travel on State Route 313 to enjoy the scenery. It is designated as a Focus Area – Scenic Driving Corridor in the 2008 Moab RMP. The corridor is defined as having a width of ½ mile from the centerline. State Route 313 is also managed according to the VRM Class II objectives, where levels of change to the landscape should be low and not attract the attention of the casual observer.

Drivers on State Route 313 often access Canyonlands National Park or Dead Horse Point State Park via the Scenic Byway, enjoying the vistas on the way to their destinations. Dead Horse Point State Park receives over one million visitors per year, all of whom arrive via State Route 313.

Many recreational activities can be found in the vicinity of State Route 313 including hiking, biking, and camping. Horsethief Campground, Cowboy Camp Campground and Rodeo Bike Trail are located adjacent to the project area and managed with VRM Class III objectives, where levels of change to the landscape should be moderate and activities may attract attention but should not dominate the view of the casual observer.

The Rodeo Bike Trail, also considered a KOP, is part of a larger system of popular mountain biking trails accessed from State Route 313. This bike trail receives a substantial, but unknown number of users. The Mineral Canyon Federal #1-3 access route would intersect a 14-foot section of this bike trail.

Horsethief Campground is a popular spot for campers, offering both individual and group campsites. This campground, the largest in the MFO, is located off State Route 313 and attracts campers year-round. Seasonal closures for portions of the campground occur during winter months when visitation rates dip. The Horsethief and Cowboy Camp Campgrounds are within one mile of the Mineral Canyon Federal location, making it within earshot of that location. Visitors using the Rodeo Bike Trail and/or State Route 313 may be temporarily impacted by noise production from the wells when in the vicinity. See Map 4 and 5 in Appendix B.

Both Canyonlands National Park and Dead Horse Point State Park are International Dark Sky Parks, representative of the largely undeveloped and unpopulated nature of the surrounding area in which the project area would be located.

3.3.2. Environmental Impacts

3.3.2.1. *Impacts of Alternative A – No Action Alternative*

Under the No Action Alternative, the BLM would not permit drilling, sampling, or reclamation. Impacts to visual resources would occur as previously permitted. Drivers on State Route 313 would have unimpeded views of the VRM Class II and III scenery, no temporary structures would be in place to impact the visual aesthetics of the area for any duration, and campers at Horsethief and Cowboy Camp Campgrounds would not hear sounds of operations. Any potential impact to night skies from exploration activities would not occur.

3.3.2.2. *Impacts of Alternative B – Proposed Action*

The Mineral Canyon Federal #1-3 well is approximately 0.5 miles from State Route 313 and the proposed access route would intersect with the Rodeo Bike Trail. The number of individuals frequenting the project area varies based on the season, with the highest visitation being in the spring (March-May) and fall (September-October) months. Over the two-year course of this project, an estimated one - two million individuals per year may be impacted concerning their enjoyment of the quality of visual resources in the area. Visitors come to the area to enjoy the generally undeveloped and scenic landscapes found in the vicinity of the project.

Visual resources would be potentially impacted during each phase of the project, including route work and drill pad development, drilling operations, sampling, and reclamation. Initial access route work and drill pad development, drilling operations, and reclamation activities are expected to cause the greatest impacts on visual resources because more equipment would be present to impede the viewshed. Although these activities would cause the most impact, they would only occur for less than ¼ of the project timeline (five months in total of the 24-month period) and thus result in fewer potential impacted visitors than if these activities were to last the entire 24 months. Those visitors who travel State Route 313, use the Rodeo Bike Trail, or camp at Horsethief or Cowboy Camp Campgrounds during these activities would be most impacted.

During the remainder of the project a valve tree that could be between 5 and 16 feet tall and a 12-foot by 20-foot storage tank would be left on the drill pad to facilitate sampling. Sampling of brine fluids would be expected to occur with the rig on-site, and additional sampling may occur within the 2-year exploration period. A1 Lithium would periodically return to the site for monitoring purposes, and there would likely be a few pick-up trucks on site.

Drill rigs, the valve tree and storage tank would temporarily intrude on the visual character of the project area, but no long-term increment in visual contrast would result. To reduce effects to visual resources, all semi-permanent infrastructure (i.e., valve tree) would be painted a pre-approved color from the BLM Gold Book to blend into the surrounding environment. The Proposed Action would be in previously disturbed areas (i.e., existing well pad), access would be limited to existing access roads, and no permanent structures would remain after the 24-month project period. Therefore, the level of change to the landscape would be low and would meet VRM Class II objectives. It is expected that all visual and auditory resources would return to pre-existing conditions once the elements of the Proposed Action were completed.

Auditory resources in the project area would also be impacted. Noise modeling undertaken as part of the 2016 MLP shows that areas located within 2.5 miles of a location are audible. The Horsethief

Campground is less than one mile (4,230 feet) from the Mineral Canyon Federal #1-3 well. Horsethief Campground is the largest campground in the Moab Field Office, with 83 individual sites, and five group sites. Cowboy Campground is approximately one mile from Mineral Canyon Federal and two miles from Sunburst #1. Construction and drilling activities, which would take a combined 60 days for each site, would generate noise up to 120 decibels during the day. Map 4 and 5 in Appendix B shows estimated noise pollution from the two proposed well locations based on a 120-decibel drill rig; the estimated noise pollution does not take topography or vegetation into account so it is assumed that noise levels would be less than estimated. Noise pollution would range from 40-50 decibels within Horsethief Campground, and 40-50 decibels at Cowboy Campground. BMPs in the 2016 MLP suggest noise levels not exceed 50 decibels above background noise where equipment is located within the proximity of sensitive receptors. Horsethief and Cowboy Campgrounds are considered sensitive receptors. Natural barriers such as vegetation and topography would help dissipate the noise heard at the campgrounds.

Elevated noise levels would be apparent for recreationists on portions of the Rodeo Bike Trail during the initial development and drilling operations, and reclamation. According to estimated noise pollution maps (Map 4 and 5 in Appendix B), estimated noise pollution would range from 40-80 decibels. The 70-80 decibel range would occur for approximately one-tenth of a mile. The 60-70 decibel range would occur for approximately two-tenths of a mile; 60-70 decibels is equivalent to the noise of street traffic. Noise estimates do not consider the topography and vegetation which would decrease the noise pollution.

Minimal auditory impacts are expected after drilling operations; the drill rig, which would produce the auditory intrusion would no longer be on site. As another design feature to reduce impacts, the BLM would hang signs at the campground warning visitors of potential disturbances. Information would also be made available on the BLM MFO webpage. Additionally, to protect night sky resources, any lights affixed to well infrastructure would be pointed downward.

3.3.2.3. *Cumulative Impacts*

The Cumulative Impact Analysis Area (CIAA) for visual resources is the Paradox Basin and the lands within its viewshed.

The Paradox Basin, in which the project area is located, is thought to contain economically viable quantities of locatable minerals, including lithium. Past exploration in the area by A1 Lithium has shown certain beds within the formation to be a viable target for lithium due to subsurface pressures and high grades of lithium located within those brines. Oil and gas development also occurs in the area surrounding the proposed locations for exploration.

Past, present or reasonably foreseeable projects, plans and actions contributing to cumulative impacts of the visual resources within the CIAA include:

- Recreation use including use of roads, trails and campgrounds.
- Mineral exploration and development including oil and gas and locatable minerals such as lithium, potash and uranium.
- Master Leasing Plan and its associated Reasonably Foreseeable Development Scenario for oil and gas and potash.
- Possible A1 Lithium Plan of Development.

- Livestock grazing and associated range infrastructure.

Cumulative impacts to visual resources include changes in the form, line, color or texture of the existing character and natural features of the landscape. The CIAA includes areas of VRM Class I, II, III and IV, where objectives range from preserving the existing character (Class II) to allowing for major changes in the landscape (Class IV). Impacts to VRM Class objectives may result from mineral exploration activities and development of recreational, mineral or oil and gas and livestock facilities.

Under the No Action Alternative, there would be no changes to the character or natural features of the landscape. Impacts to the CIAA would be a continuation of the current activities in the area and exploration activities at the proposed well locations would not occur.

The Proposed Action would include surface disturbing activities and installation of facilities on drill pads that would directly impact the viewshed as seen from certain areas within the CIAA, such as State Route 313 and the Rodeo Bike Trail. Design features would be applied to the temporary development of the access routes and drill pads to reduce impacts on the visual resource. These design features would limit surface disturbance to the minimal amount necessary for safe operations, facilities would be painted an approved color that would blend in with the surrounding landscape, and reclamation activities would return the area to pre-existing conditions upon completion of exploration activities. While these changes to the landscape would be temporary, they would cumulatively change the lines, forms and color of the natural landscape, albeit in a low-moderate sense. Once the facilities are removed and reclamation is complete, the cumulative impacts to the natural landscape would over time return to pre-existing conditions.

Additional development to the area as presented in the RFDS and any potential Plan of Operations for development, would cumulatively add industrial infrastructure within the CIAA, potentially incrementally impeding the viewsheds within the various VRM Classes. Stipulations and BMPs were developed in the 2016 MLP which would apply regulations on new oil and gas development that would reduce impacts to visual resources and limit locations and levels of development in areas to further preserve the visual character. Additional stipulations would be imposed to a Plan of Operations for development compared to a Plan of Operations for exploration. Any of these scenarios would go through additional site specific NEPA and project specific terms and conditions would be applied.

3.4. Issue 2 – Recreation Resources

How would well re-entry and sampling activities impact recreational activities such as mountain biking, scenic driving, and camping in and around the project area?

3.4.1. Affected Environment

The proposed Project Area is in the Labyrinth Rims/Gemini Bridges Special Recreation Management Area (SRMA) (Map 17 in the 2008 Moab RMP). The Labyrinth Rims/Gemini Bridges SRMA is 300,650 acres in size and is managed as a Destination SRMA (majority of visitation is from outside the area).

The analysis area is heavily used by those seeking recreation activities including scenic driving, biking, hiking, camping, and 4x4 driving. State Route 313 is a designated State Scenic Byway and

Scenic Driving Corridor Focus Area for the MFO. Drivers on State Route 313 are often accessing Canyonlands National Park or Dead Horse Point State Park, enjoying the vistas on the way to their destinations. Drivers also access the many bike trails, four-wheel drive trails, campgrounds and other recreation facilities off State Route 313. Dead Horse Point State Park receives over one million visitors per year, all of whom arrive via State Route 313. The best estimate of the number of visitors to the project area is provided by the traffic counters on State Route 313. In 2021, over 625,000 vehicles utilized State Route 313 (one way). If one assumes 3 people per vehicle, then 1,875,000 people travelled State Route 313.

The Rodeo Bike Trail, also in the analysis area, is part of a larger system of popular mountain biking trails accessed from State Route 313. This bike trail receives a substantial, but unknown number of users. The original access route to Mineral Canyon Federal #1-3 wellsite was created before the Rodeo bike trail existed. The proposed access route would use the footprint of the previous access route, which would cross a 14-foot section of the now existing bike trail.

Horsethief Campground is a popular spot for campers, offering both individual and group campsites. This campground, the largest in the Moab Field Office, is located off State Route 313 and attracts campers year-round. Seasonal closures for portions of the campground occur during winter months when visitation rates dip. In 2019, the campground hosted approximately 58,000 people.

3.4.2. Environmental Impacts

3.4.2.1. *Impacts of the Alternative A – No Action Alternative*

Labyrinth Rims/Gemini Bridges SRMA would not be impacted under the No Action Alternative. There would be no route maintenance and no disruption to any designated bicycle trail. Additional impacts to recreational experiences would not occur beyond baseline impacts already present in the project area as described in Section 3.3.1. The original access routes (undesigned routes) would be expected to continue to deteriorate in a consistent manner with unmaintained routes in the area and return to natural conditions.

3.4.2.2. *Impacts of the Alternative B – Proposed Action*

State Route 313, which is immediately adjacent to the project area and would be used as the primary access route to the wells, is a popular driving destination and used to access many recreational activities, including access to Canyonlands National Park and Dead Horse Point State Park. Dead Horse Point State Park receives over one million visitors per year. Recreational visits vary by season, with spring and fall averaging the highest visitation rates. Based on the data from Dead Horse Point State Park and the State Route 313 traffic counters, between one million and two million visitors visit the general project area for recreational purposes within a year.

The greatest impacts to recreational resources would occur during the initial route work and drilling (approximately 30 days per site) and well abandonment and reclamation (approximately 42 days per site). These activities would create more impacts than those created during routine sampling of the well due to the associated noise, traffic, and dust created. Although these activities are expected to cause the most impacts, they are of relatively short duration (five months total) in

comparison to the 24-month period of the project. Impacts occurring over a five-month period versus a 24-month period would impact approximately 80% fewer visitors.

The Rodeo Bike Trail is located immediately adjacent to the Mineral Canyon Federal #1-3 well pad; the access route to the well pad would cross this designated bike trail. Currently, the reclaimed route crosses the bike trail and is visible as a road, although it is not evident where the route leads. Route improvement at the beginning of the project period would temporarily impact recreational resources on this section of bike trail but would not restrict access to the trail. Design features would include posting signs alerting users of operational activities where the bike path crosses the proposed access route. Additional impacts would be expected throughout the length of the project during intermittent monitoring and reclamation efforts from light truck traffic. These impacts would be temporary in nature and recreational resources on the Rodeo Bike Trail would be expected to return to pre-existing conditions once the project is completed.

Horsethief Campground is located 4,230 feet from Mineral Canyon Federal #1-3 drill site. The drill site would be visible from approximately six campsites on the south-western edge of the campground (out of 83 campsites total); The operation would be audible during initial drilling activities. See section 3.1.2.2 for auditory analysis. Recreational resources at Horsethief Campground are not expected to be heavily impacted by the Proposed Action.

A1 Lithium would implement BLM BMPs and additional Conditions of Approval (COA) set forth by the MFO as addressed in Section 2.2.6 to further reduce impacts to recreational resources. The MFO sees an influx of one to two million visitors per year, therefore approximately two to four million visitors' recreational experience may be impacted. Impacts to recreational resources including State Route 313, Rodeo Bike Trail, and Horsethief and Cowboy Camp Campgrounds would be temporary in nature and would not exceed the length of the project (24-months). Short-term impacts would include visible equipment, noise production (as analyzed in section 3.1.2.2), and a slight but nominal increase in daily traffic. Long-term impacts to recreation and access would not be expected.

3.4.2.3. *Cumulative Impacts*

The CIAA for recreation is the area that includes recreation facilities, including trailheads and associated trails, campgrounds and scenic pull-outs along State Route 313. These recreation facilities include but are not limited to the Horsethief Campground and Rodeo Bike Trail.

Past, present or reasonably foreseeable actions contributing to cumulative impacts to recreation within the CIAA include:

- Recreation use including use of roads, trails and campgrounds
- Mineral exploration and development including oil and gas and locatable minerals such as lithium, potash and uranium.
- Master Leasing Plan and its associated Reasonably Foreseeable Development Scenario for oil and gas and potash.
- Possible A1 Lithium Plan of Development
- Livestock grazing and associated range infrastructure

Cumulative impacts to recreation within the CIAA include accessibility and enjoyment of the recreation facilities, user conflicts between user groups and loss of solitude due to development.

The No Action Alternative would not limit accessibility or enjoyment of the recreation facilities. User groups would not encounter construction equipment or personnel associated with A1 Lithium mineral exploration and their solitude would not change from its current condition.

Recreation activities abound in the MFO-managed areas and visitors who are impacted by the activities associated with the Proposed Action, as discussed in Section 3.4.2.2, may choose to recreate or camp elsewhere. Because there are ample opportunities for hiking, mountain biking, 4x4 driving and camping, it is anticipated that the impacted users would be able to disperse to other areas and not bring high levels of increased visitation to any one area.

Additional development as presented in the RFDS and potential Plan of Development, would cumulatively add industrial infrastructure within the CIAA that has the potential to impact recreational opportunities. Stipulations and BMPs were developed in the 2016 MLP which would apply regulations on new oil and gas development that would reduce impacts to recreationists and limit locations and levels of development in areas to further protect recreation opportunities. Additional stipulations would be able to be imposed on a Plan of Development compared to Plan of Explorations. Any of these scenarios would go through additional site specific NEPA and project specific terms and conditions would be applied.

The RFDS projected an average of 8.5 new wells per year in the master leasing area over the next 15 years, but this predicted rate of drilling has not occurred in Grand County. According to the Utah Division of Oil Gas and Mining, of the ten wells drilled in Grand County since 2015, five were drilled in the area of the Big Flat Oil and Gas Field where the proposed project is situated (Utah Division of Oil, Gas and Mining, 2022a)

3.5. Issue 3 – Geology/Minerals/Energy Production

- How would the re-opening of the two wells impact the geological, mineral and energy resources in the area?
- How would sampling brine fluids located within the subsurface sedimentary sequences impact the geological, mineral, and energy resources in the project area?

3.5.1. Affected Environment

The proposed project is in an area that is open to the location of mining claims and oil and gas mineral leasing subject to standard terms and conditions as outlined in 2008 Moab RMP.

The Proposed Action would explore for minerals in the rocks within the Paradox Basin (Map 3, Appendix B), a subsurface geologic depression with thick sequences of sedimentary rocks. The Paradox Basin is geologically defined as an asymmetric foreland basin approximately 33,000 square miles (85470 km2) in size located mostly in southeast Utah and southwest Colorado. On the east it is bordered by the tectonically uplifted Uncompahgre Plateau, on the west by the Circle Cliffs Uplift, and on the northwest by the San Rafael Swell. The formation and burial history of the basin are the determining factors as to why locatable minerals such as lithium are likely to be present in the area and the basin boundaries reflect the extent of potential mineral deposits. The sediments that make up the rock formations in the Paradox Basin were deposited in a marginal marine environment that underwent cycles of restricted marine circulation throughout Mid-Pennsylvanian time, resulting in thick sequences of interbedded evaporites, carbonates, and

siliciclastic sediments. The basin contains approximately 29 depositional cycles and is over 3,500 feet thick. The lithology of these evaporite cycles contain halite and anhydrite facies with chemistries conducive to lithium mineral exploration (Nuccio and Condon, 1996).

Oil and gas exploration in the Paradox Basin has occurred since the 1950s primarily from the Mississippian Age Leadville Formation the Pennsylvanian Age Hermosa Group (Honaker Trail Formation and Cane Creek interval of the Paradox Formation), and the Permian Age Cutler Formation (Brown, Alan Lee, 2002). The Proposed Action would re-enter wells drilled in an area of oil and gas extraction defined as the Big Flat and Cane Creek Oil and Gas Fields. Production from the Big Flat and Cane Creek oil and gas fields is recorded in the Utah Division of Oil, Gas, and Mining (UDOGM) Summary Production Report from September 2021 (Table 9).

Table 9. UDOGM Summary Production Report by Field from September 2021

Field	Total wells	Cumulative Oil Produced (BBL)*	Active wells	Monthly Oil (BBL)*	Monthly Gas (MCF)*	Monthly Water (BBL)*
Big Flat	170	6,584,772	22	10,212	7,209	10,584
Cane Creek	377	114,966	3	323	48	2

*Barrel (BBL) is 42 U.S. gallons; gas is volume measured in increments of a thousand cubic feet (MCF). Utah Division of Oil, Gas and Mining, 2021.

Wells in the Big Flat Field have produced over 6,584,772 barrels (BBLs) of oil since the discovery well Big Flat #1 was drilled in 1957 (Smith, 1978). The field is currently producing over 10,000 BBLs/month from 22 active wells. Both the Mineral Canyon Federal #1-3 and the Sunburst #1 locations are situated within 8,000 feet (~1.5miles) of an active horizontal well producing oil from the Honaker Trail or Cane Creek intervals (Utah Division of Oil, Gas, and Mining, 2022a).

The Proposed Action is not within a designated Potash Leasing Area as outlined in the 2016 Moab Master Leasing Plan, but potash has historically been mined in this area from deposits ranging in depths 3,000-6,000 feet below the surface. There is no active leasable mineral development or production that would be affected by the proposed action.

There are currently no active mineral mining operations in the proposed project area, and the Proposed Action does not intersect, nor would it interfere with the 16 existing active placer mineral claims in T26S R19E Sections 03 and 14.

3.5.2. Environmental Impacts

3.5.2.1. *Impacts of Alternative A – No Action Alternative*

Under the No Action Alternative, no well re-entry would occur, therefore there would be no impact on geological resources. Additionally, no interference of commingled resources would occur.

3.5.2.2. *Impacts of Alternative B – Proposed Action*

The Proposed Action would re-enter two wellbores to depths approximately 5200 – 6500 feet below the surface and perforate the formation with holes to extract brine fluids that would be tested for economic quantities of lithium and other locatable minerals. The proposed testing would target

five specific clastic intervals predicted to contain the highest amounts of lithium out of the 35 total clastic intervals identified within the Paradox Formation of the Hermosa Group.

The original drilling reports, mudlogs, and electric logs collected from the two wells were used to determine the formation intervals that contain oil and gas and the formation intervals that contain the target brines. Clastic beds in the formations that are identified for testing could change based on the results of the geophysical data collected during the operation, and either more or fewer intervals could be tested. BMPs would be utilized throughout the life of the Proposed Action and during procedural and operational plans.

The clastic beds in the Paradox Formation proposed for testing are sandwiched between intervals with known and producing leasable commodities. The clastic beds proposed for testing are situated approximately 500 feet below recorded potash-containing intervals and 100-500 feet above oil & gas producing intervals in the Cane Creek Formation that are not the target. A packer and plug system would be used in the hole to isolate the target clastic intervals during testing to prevent any sampling of non-target intervals.

Because active leasable mineral exploration and development in the surrounding area is targeting formations above and below the target clastic intervals in the Proposed Action, the potential to encounter leasable minerals contained in the Paradox Formation while exploring for locatable minerals is not zero. The leasable minerals are subject to valid existing rights as outlined in the 2016 Moab MLP and cannot be produced during the extraction of locatable mineral resources during exploration operations.

The Proposed Action is not expected to result in any long-term environmental impacts because of the short-term duration of operations, the use of previous surface disturbances, and adherence to BLM BMPs during operations. The BLM recognizes the potential impacts to mineral resources upon the development of either mineral in the future due to the interbedded nature of the leasable and locatable deposits in the sedimentary Paradox Basin. Short term, temporary impacts may occur to the ground surface from the use of drill pads and access routes; however, the A1 Lithium would return them to the conditions that existed before the exploration operations in their reclamation of the project area.

3.5.2.3. *Cumulative Impacts*

The CIAA for geology, minerals and energy production is the Paradox Formation which includes the targeted intervals producing leasable commodities.

Past, present or reasonably foreseeable actions contributing to cumulative impacts to geology, minerals and energy production within the CIAA include:

- Mineral exploration and development including oil and gas and locatable minerals such as lithium, potash and uranium.
- Master Leasing Plan and its associated Reasonably Foreseeable Development Scenario for oil and gas and potash.
- Possible A1 Lithium Plan of Development

Cumulative impacts to geology, minerals and energy production would be considered if locatable minerals are found to be in economic quantities because any plans to mine and produce the resource would have to account for the potential to interfere with existing leasable resources. A

plan of operations for the development of the locatable resource would be required to keep commodities separate during production in a manner compatible with multiple use, and which would avoid damage to any known deposit of any Leasing Act mineral as described in the Multiple Mineral Development Act of 1954 at 30 U.S.C. § 526.

3.6. Issue 4 – Water Quality and Quantity

- How would re-opening and exploring abandoned wells and extracting brine fluids impact the water resources, including aquifers, surface water and ground water?
- How would re-opening and improving existing access routes impact surface water runoff?

3.6.1. Affected Environment

The proposed project area is situated in the Upper Colorado-Kane Springs Hydrologic Unit between the Green River and Colorado Rivers. The aquifer systems are found in shallow Mesozoic porous sandstone intervals and in deep Upper Paleozoic sandstone beds sandwiched between confining evaporite beds down to 8,000 feet below the surface (Rush, et. al., 1982). The topography in the project area has little relief and is relatively flat. Groundwater from aquifer systems may be found at a depth starting at approximately 75 feet below the surface and potable groundwaters can be found approximately 75-500 feet below the surface (Rush, et. al., 1982).

There are no springs, seeps, or perennial streams in, adjacent to or near the proposed project area, and it is not within a municipal watershed. No riparian or wetland vegetation exist in the proposed project area or along proposed access routes (2008 Moab RMP), and no river segments in the National System of Wild and Scenic Rivers, or river segments eligible for inclusion in the system (Map 22, 2008 Moab RMP). Access routes to the proposed project area cross ephemeral drainages. These drainages only flow during and after precipitation events for short periods of time.

3.6.2. Environmental Impacts

3.6.2.1. *Impacts of Alternative A – No Action Alternative*

Under the No Action Alternative, no access route or drill pad improvements would take place and well re-entry would not occur. Thus, aquifers and ground water resources would remain in their current condition with no impacts from well re-entry associated with the Proposed Action. Surface water resources would remain unaltered.

3.6.2.2. *Impacts of Alternative B – Proposed Action*

The Proposed Action would re-enter existing well bores and potentially encounter the surrounding potable water resources. With potable ground water resources found at approximately 75-500 feet below ground level, there is potential for encountering groundwater during exploration operations. The following proposed procedures would reduce the impacts to water resources and ensure the isolation of the testing procedures used in the wellbore from the surrounding connate formation waters:

- Installation of 5 ½-inch casing with cement to surface.
- Run cement bond and casing inspection logs to surface.

- Pressure testing at numerous steps and intervals for mechanical integrity of casing.
- Blowout prevention (BOP).
- Closed-loop, salt-saturated mud system with monitors to track volume gains and losses.

On re-entry of each well, A1 Lithium would sample the fluids from five clastic intervals in the target formation. The original drilling reports from the Mineral Canyon Federal #1-3 and the Sunburst #1 report higher reservoir pressures and artesian water flow from clastic interval 31. This artesian flow has been previously recorded in numerous historic drilling reports and USGS publications.

The produced waters are expected to be a brine; the brine fluid samples would be collected in 1,000-liter IBC containers. Clastic intervals with higher formation pressures would have artesian flow and produce more water therefore the sample size collected would be larger than those intervals with lower formation pressures and no artesian flow. The maximum amount of fluid collected for testing from each well would be 4,300 liters (1,136 gallons).

The topographic features of the area surrounding the drill pads are generally flat, with little topographic relief. In the event of heavy rains, surface runoff would be less likely to cause flooding or erosion issues compared to areas with more topography. The ephemeral drainages within the project area could cause flash flooding or damage to roads or access routes in the event of heavy storms. These occurrences would be more impactful to the infrastructure present than to the water resources themselves. Berms, diversion channels and sumps would be built to reduce any potential impacts that may arise from heavy monsoon events. These features would ensure surface water follows the least impactful path and would keep surface water out of areas of potential contamination, such as the reserve pit.

3.6.2.3. *Cumulative Impacts*

The CIAA for water quality and quantity is the Upper Colorado-Kane Springs Hydrologic Unit which includes the targeted depth intervals for producing leasable commodities.

Past, present or reasonably foreseeable actions contributing to cumulative impacts to water quality and quantity within the CIAA include:

- Mineral exploration and development including oil and gas and locatable minerals such as lithium, potash and uranium.
- Master Leasing Plan and its associated Reasonably Foreseeable Development Scenario for oil and gas and potash.
- Possible A1 Lithium Plan of Operations to mine locatable minerals.
- Livestock grazing and associated range infrastructure.

Cumulative impacts to water quality include potential future mining of the locatable mineral because the drilling operations used to reach the mineral resource could encounter groundwaters. Design features were developed for this project to reduce the potential for groundwater contamination. BMPs would also be applied to further reduce potential for contamination which would reduce potential for cumulative impacts. See Sections 2.2.3.2 and 2.2.6 for a list of design features and BMPs for the Proposed Action.

Reasonably foreseeable oil and gas and mineral development from areas within the Upper Colorado-Kane Springs Hydrologic Unit may result in cumulative impacts to water quantity; it is difficult to quantify the impacts because the BLM cannot predict the scale of development and the amount of water required to mine without a mine proposal. The BLM acknowledges that water would potentially be used in the drilling operations as part of this type of locatable lithium mineral resource development and that the extraction and production of this locatable mineral resource could include the production of formation waters that would need to be handled in a manner that complies with Federal, State and local regulations. Site specific NEPA would occur for any future proposals.

CHAPTER 4. PUBLIC INVOLVEMENT, CONSULTATION, AND COORDINATION

4.1. Public Involvement

The BLM hosted a public comment period for the A1 Lithium Mineral Exploration Project in accordance with 43 CFR 3809.411(c) from June 27 to July 27, 2022. Approximately 120 comments were received as a result of the comment period. A Public Comment Period Report has been prepared and is included in Appendix C.

4.2. Consultation and Coordination

Table 10: List of all Persons, Agencies, and Organizations Consulted for Purposes of this EA.

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
Utah State Historic Preservation Office	National Historic Preservation Action Section 106	"No Historic Properties affected" – SHPO concurrence on 10/13/2020 (Case No. 20-3421)
Dead Horse Point State Park	Review Proposed Action for potential impacts to Dead Horse Point State Point	Minimal to no impacts expected to State Park.
Canyonlands National Park	Review Proposed Action for potential impacts to Canyonlands National Park	No Finding or conclusion from contact.

4.3. List of Preparers

The specialists listed in the following tables assisted in the preparation of this EA.

Table 11: List of Preparers (BLM)

Name	Title	Responsible for the Following Section(s) of this Document
Jennifer Whittington	Geologist	Project Lead and Author, Geology, Wastes, Water
Jill Stephenson	Planning and Environmental Specialist	NEPA coordination and Author
Nate Huber	Air Quality Specialist	Air Quality, Green House Gas Emissions

Name	Title	Responsible for the Following Section(s) of this Document
Gabe Bissonette	Hydrologist	Wetlands, Floodplains
Aaron Vollmer	Rangeland Specialist	Soils, Grazing, Vegetation, Forestry
Katie Stevens	Outdoor Recreation Planner	Recreation, Visual Resources
Bill Stevens	Outdoor Recreation Planner	WSA, LWC, Wild and Scenic Rivers, Socioeconomics, Environmental Justice
Ami Schlosser	Archaeologist	Cultural Resources
Pam Riddle	Biologist	Wildlife (Sensitive Species, T&EC, General, Migratory Birds)
Charles Fischer	Natural Resource Specialist Fuels	Invasive Species/Noxious Weeds, Fire/Fuels
Lisa Wilkolak	Realty Specialist	Lands/Access
Bob Hartman	Petroleum Engineer	Petroleum Engineering

Table 12: Other Preparers

Name	Title	Responsible for the Following Section(s) of this Document
Jared Bigler	Principle Ecologist	Project Manager
Rebecca Steely	NEPA Specialist	Primary Author
Caroline Brown	NEPA Specialist	Revisions, Secondary Author
Tyson Schreiner	GIS Specialist	GIS, Maps, Graphics
Heather Boekweg	NEPA Specialist	Review, Secondary Author
Chuck Easton MA, RPA	Senior Environmental Planner	Review, Quality Assurance

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Appendices

Appendix A: IDT Checklist

Appendix B: Maps

Appendix C: Comment Response Report

APPENDIX A:
INTERDISCIPLINARY TEAM CHECKLIST

Project Title: A-1 Lithium Incorporated Mineral Exploration Project

NEPA Log Number: DOI-BLM-UT-Y010-2021-0068-EA

Project Leader: Jennifer Whittington, Geologist, Moab Field Office

DETERMINATION OF STAFF: ***(Choose one of the following abbreviated options for the left column)***

NP = not present in the area impacted by the proposed or alternative actions
NI = present, but not affected to a degree that detailed analysis is required
PI = present with potential for relevant impact that need to be analyzed in detail in the EA
The following elements are not present in the Moab Field Office and have been removed from the checklist: Farmlands (Prime or Unique), Wild Horses and Burros.

RESOURCES AND ISSUES CONSIDERED (INCLUDES SUPPLEMENTAL AUTHORITIES APPENDIX 1 H-1790-1)

Determi-nation	Resource	Rationale for Determination*	Signature	Date
NI	Air Quality Greenhouse Gas Emissions	The Proposed Action is located in an area that is currently meeting all ambient air quality standards. Emissions of air pollutants would occur during access road and drill pad improvements, drilling operations, and during reclamation. The Moab Master Leasing Plan (BLM 2016) evaluated the impacts to air quality from the development of up to 9 wells per year (3 oil, 5 potash, and 1 "other"); this EA tiers to the Moab MLP FEIS and decision. Since the Proposed Action is to re-enter previously plugged wells the air pollutant emissions would be similar to those identified in the Moab MLP for a workover rig, road/pad maintenance, and reclamation. These emissions calculated in the Moab MLP are: PM_{10} = 1.15 tons per year (tpy) $PM_{2.5}$ = 0.13 tpy NO_x = 0.25 tpy SO_2 = 0.01 tpy CO = 0.17 tpy HAPs = 0.01 tpy These emissions rates are well below the rates identified in Utah State Administrative Code (R307-410-4) for when a detailed air quality analysis should be performed for new emissions sources. Values below the levels in R307-410-4 are considered to not have a substantial impact on air quality and would not change the attainment status of air quality standards. As of 9/8/2022, there have not been any wells developed this year in Grand and San Juan counties according to the Utah Division of Oil Gas and Mining. This is below the level of development evaluated in the Moab MLP which showed no exceedances of air quality standards in a year when up to nine wells are developed. A1 Lithium Inc has included air pollution control measures in the plan of development that are the same as analyzed and required by the Moab MLP. Inclusion of these measures ensure that impacts will not exceed those identified in the Moab MLP. These measures include implementing drill rig pollution controls, dust abatement measures, minimizing surface disturbance to the smallest area possible, and the use of equipment to control volatile organics evaporating from tanks. Dust abatement measures include: • the application of water on roads and during earth moving activities, • use of existing well pads and roads to minimize new surface disturbance to the smallest area possible	Nate Huber	9/12/2022

Determi-nation	Resource	Rationale for Determination*	Signature	Date
		• Soil stockpiles would be located so that wind erosion would be minimized The de minimis level of emissions and inclusion of emissions control measures by A1 Lithium do not warrant additional analysis.		
NI	Greenhouse Gas Emissions	Greenhouse gas emissions would occur during access route and drill pad improvements, drilling operations, and during reclamation. Total emissions from these activities will likely be in the range of tens to hundreds of metric tonnes. If the wells go into production additional emissions may occur during lithium processing and transport. However, there would be a long-term climate benefit from lithium production as it is a critical mineral used in batteries that are part of the energy transition away from fossil fuels towards renewable energy, especially in the transportation sector. The BLM is not able to quantify the potential emissions reductions from the energy transition as it depends on the quantity of lithium produced, and eventual end-use. Overall, the small amount of emissions from this project will be far outweighed by the long-term climate benefit of lithium in the transition from fossil fuel energy to renewable energy and the associated GHG emissions reduction.	Nate Huber	9/12/2022
NP	Floodplains	No floodplains are present with the project area.	Gabe Bissonette	4/1/2021
NI	Soils	Well pad and access road disturbance would equal approximately 6.6 acres of soil disturbance. Reclamation activities described in Design Features would reduce impacts to soils by regrading and revegetating the area to reduce future runoff or continued soil disturbance	Aaron Vollmer	3/30/2021
PI	Water Resource Quality and Quantity (drinking/surface/ground)	Drilling practices must protect surface and subsurface waters in all stages by adhering to Utah Division of Oil, Gas and Mining applicable well requirements outlined in Rule R649-3: Drilling and Operating Practices. The drilling procedures that would affect water resource quality are addressed in the proposed Plan for Exploration in Appendix II and in the Description of Operations Part II, pg. 6; and the procedures satisfy the regulation in 43 CFR 3594.5 (a) (b) and the regulation at 42 CFR 3593.1 (a) (b) (c) (d). The use of temporary diversion and sumps at the drill locations for surface water management as described in section 2.2.6 in the EA are sufficient to control surface water drainage until reclamation.	Jennifer Whittington	7/26/2021
NP	Wetlands/Riparian Zones	No Riparian or Wetlands are present within the project area. This is determination is based on riparian datasets from the Properly Functioning Condition (PFC) geocortex, AIM geoportal, and through the inspection of aerial imagery.	Gabe Bissonette	4/1/2021
NP	Areas of Critical Environmental Concern	No Areas of Critical Environmental Concern are present within the project area. See Map 21 in 2008 Moab RMP.	Katie Stevens	7/20/21
PI	Recreation	Up to one million visitors utilize the area – on way to Dead Horse Point State Park as well as Island in the Sky District of Canyonlands National Park. Access to Mineral wellsite crosses Rodeo bike trail Sunrise well site is visible from Utah State Route 313, a State of Utah Scenic Byway.	Katie Stevens	7/20/21

Determi-nation	Resource	Rationale for Determination*	Signature	Date
NP	Wild and Scenic Rivers	No Wild and Scenic Rivers are present within the project area. See Map 22 in 2008 Moab RMP.	Bill Stevens	4/1/21
PI	Visual Resources	Proposed Action is within VRM Class II. Sunburst wellsite is visible from the Utah State Scenic Byway (State Route 313) corridor. Mineral wellsite is visible from the Mineral Bottom Road (access to the White Rim and the Green River) as well as from the Horsethief and Cowboy Camp Campgrounds. Auditory impacts may be incurred by campers, especially at night.	Katie Stevens	7/20/21
NP	BLM Natural Areas	No BLM Natural Areas are present within the project area. See Map 16 in 2008 Moab RMP.	Bill Stevens	4/1/21
NI	Socioeconomics	Minimal impact relative to overall economy of planning area. According to data from U.S. Department of Commerce (2021), Census Bureau and County Business Patterns, all mining in Grand County (including oil and gas) accounted for 0.3 percent of total county employment in 2019. They type of exploration proposed in this action is highly likely to involve spending on labor and services from outside the local economy, given the lack of mining infrastructure in Grand County.	Bill Stevens	4/1/21
NP	Wilderness/WSA	No Wilderness or WSAs are present within project area. See Map 16 in 2008 Moab RMP.	Bill Stevens	4/1/21
NP	Lands with Wilderness Characteristics	No lands with wilderness characteristics as identified by BLM are present within the project area. See Map 15 in 2008 Moab RMP.	Bill Stevens	4/1/21
NI	Cultural Resources	Placement of temporary snow fence along southern edge of Mineral Canyon Fed 1-3 pad for cultural resource protection of resources just below the ledge. "No Historic Properties Affected" – SHPO concurrence 10/13/2020 - Case No. 20-3421	Ami Schlosser	7/21/21
NP	Native American Religious Concerns	Tribal Consultation was initiated on 10/13/2020 with letters mailed to tribes. Tribal responses did not identify any concerns within project area.	Ami Schlosser	7/21/21
NI	Environmental Justice	No EJ populations identified in planning area. See https://headwaterseconomics.org/apps/economic-profile-system/49019.	Bill Stevens	4/1/21
NI	Wastes (Hazardous or solid)	Drilling fluids, produced water, and other wastes associated with the exploration for lithium/bromine minerals are excluded as a hazardous waste under 40 CFR 261.4(a)(17). The surface use and drilling procedures contained in the proposed plan include containment and disposal measures of hazardous solid wastes or spills (Description of Operations, pg. 14, part vii-ix; and pg. 31 section 8 General Performance Standards). Sumps and cuttings pits must be lined to prevent water seepage, monitored for wildlife and cleaned of trash and debris during the drill and testing phases of the proposed operations, and before final reclamation.	Jennifer Whittington	4/2/21

Determi-nation	Resource	Rationale for Determination*	Signature	Date
		All non-exempt waste generated during the proposed operations must be collected and disposed of in a landfill		
NP	Threatened, Endangered or Candidate Animal Species	No Mexican spotted owl habitat in the vicinity of the Sunburst & Mineral 1-3 locations.	Pam Riddle	3/29/21
NI	Migratory Birds	WestWater Engineering Surveys June 2020: no raptor nests with 0.5 miles of Sunburst 1 & Mineral 1-3. Due to the absence of cliff structure and minimal vegetative structure, cliff and tree nesting raptors are not expected to nest in the vicinity of these two locations. If additional locations other than the Sunburst 1 & Mineral 1-3 are proposed for project construction, resurveying a during the active nesting season by a qualified biologist will be required. Project construction that removes vegetation that supports nesting structure for migratory birds will be avoided from April 1 to July 31 to ensure nesting migratory birds with not be disturbed. Non-nesting migratory birds & raptors are not tied to a nesting location with young and therefore can readily avoid away from disturbances that may occur as a result of this project. Due to lack of nesting habitats, seasonal avoidances, and mobility of non- nesting migratory birds & raptors. These species will not be affected to a degree that detailed analysis is required.	Pam Riddle	7/05/21
NI	Utah BLM Sensitive Species	WestWater Engineering Surveys June 2020: Minimal SSS animal habitats, no SSS animals were observed during surveys. BLM Sensitive Species animal habitat is minimal in the project areas; occupancy is not expected. No BLM Sensitive Species (plants or animal) were observed during surveys; therefore, BLM Sensitive Species will not be affected to a degree that detailed analysis is required.	Pam Riddle	3/29/21
NI	Fish and Wildlife Excluding USFW Designated Species	Minimal, short-term impacts to general wildlife during surface disturbing activities. No bighorn lambing habitat in the vicinity of these two locations. General wildlife can readily move into nearby suitable habitats during surface disturbing activities, permanent displacement is not expected. Approximately 3 acres per pad adjacent to existing roads (less than 7 acres total) will be disturbed. Minimal, short-term impacts on less than 7 aces is not expected to affect wildlife and their habitats to a degree that detailed analysis is required.	Pam Riddle	3/29/21
NI	Invasive Species/Noxious Weeds	Design features including cleaning vehicles and equipment prior to entering site so as not to bring in invasive species and reclamation activities, reduce the potential for impact of invasive species spread and establishment. Native species would be seeded over all disturbed areas upon completion of operations.	Charles Fischer	7/26/21
NP	Threatened, Endangered or	WestWater Engineering Surveys June 2020:	Pam Riddle	3/29/21

Determi-nation	Resource	Rationale for Determination*	Signature	Date
	Candidate Plant Species	Navajo Sedge - no seep-springs or hanging gardens present within 100 meters of the proposed project features Jones cycladenia, occurs on gypsiferous saline soils derived from the Chinle, Cutler, and Summerville Formations. The proposed project would be located on soils derived from the: Kayenta, Wingate sandstone, and mixed eolian alluvial deposits. No suitable habitat for Jones cycladenia was observed during surveys.		
NI	Livestock Grazing	Livestock usage will not be impacted by the 6.6 acres of disturbance because the Big Flat Ten Mile allotment is 160,000 acres in size, allowing the cattle ample grazing area.	Aaron Vollmer	3/25/21
NI	Rangeland Health Standards	There is a potential for 6.6 acres of rangeland to be impacted, but due to reclamation activities as outlined in Design Features to regrade soil and reseed area with native vegetation, rangeland health standards would not be impacted to a degree requiring further analysis.	Aaron Vollmer	3/25/21
NI	Vegetation Excluding USFW Designated Species	The well pads and access routes would cause 6.6 acres of disturbance, potentially impacting 6.6 acres of vegetation. Reclamation activities outlined in Design Features require reseeding of native seed after the project is complete (24 months after start date).	Aaron Vollmer	3/25/21
NI	Woodland / Forestry	Proposed disturbance would be within area of previous disturbance in a sparsely wooded area. Some individual trees may be impacted by road and drill pad construction but not to a degree requiring detailed analysis. Revegetation would scatter removed vegetation material to promote growth of future trees.	Aaron Vollmer	3/25/21
NI	Fuels/Fire Management	Both proposed well locations fall within Fire Management Unit (FMU) 8 – Dead Horse Point. Fuels within this FMU are generally sparse and consist of a mixture of sagebrush, blackbrush, salt brush, native grasses and pinyon-juniper (PJ). When the proposed action is overlaid with the fire history layer and buffered ½ mile there have been a total of 4 fires over the past 30 years; all fires were 1/10th acre or less. Due to the sparse fuels and lack of historical fires within the area, the proposed action does not warrant further analysis, as no impacts are anticipated.	Josh Relph	5/11/22
PI	Geology / Mineral Resources/Energy Production	Oil and gas resource exploration and development is active in the proposed exploration area. The depths proposed for mineral exploration and testing (6200-6300ft) are stratigraphically above the historic oil and gas producing Cane Creek formation (>7400ft). Subject to valid existing rights. See 2016 MLP.	Jennifer Whittington	4/2/21
NI	Lands/Access	Access to drill pads are subject to valid, existing rights-of-way in area of proposed action. No existing rights-of-way would be impacted.	Lisa Wilkolak	7/20/21
NI	Paleontology	The geologic formations at the surface in the areas of the proposed locations have a potential fossil yield classification of PFYC3 (moderate). If fossil material is encountered in the area during	Jennifer Whittington	4/2/21

Determi-nation	Resource	Rationale for Determination*	Signature	Date
		operations, cease activity at that location and notify the Moab Field Office.		

Final Review:

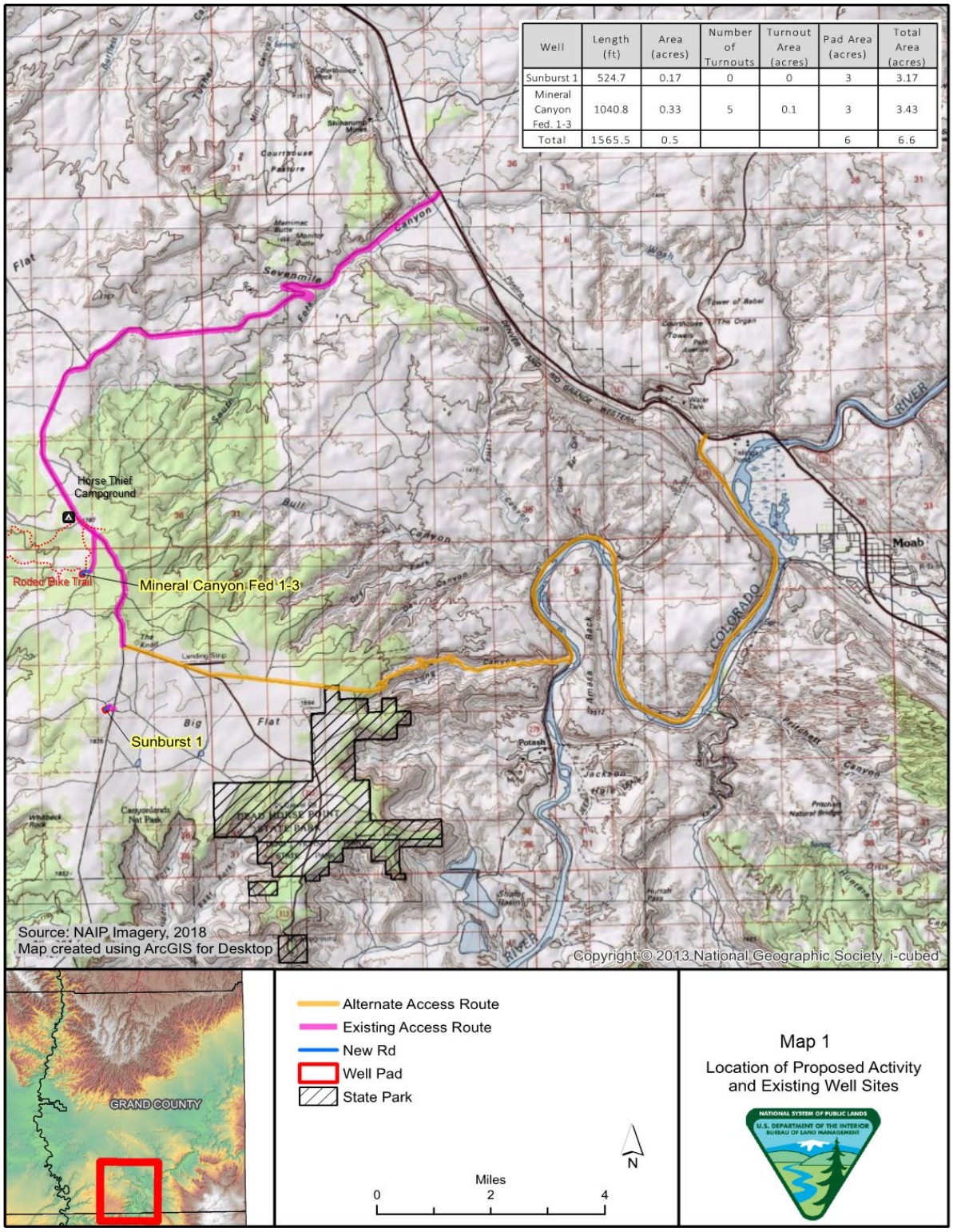
A1 Lithium Mineral Exploration Project Interdisciplinary Teams Checklist

DOI-BLM-UT-Y010-2021-0068-EA

Reviewer Title	Signature	Date	Comments
Environmental Coordinator	JILL STEPHENSON Digitally signed by JILL STEPHENSON Date: 2022.09.28 10:46:28 -06'00'		
Authorized Officer	DAVID PALS Digitally signed by DAVID PALS Date: 2022.09.28 12:46:33 -06'00'		Acting Field Manager

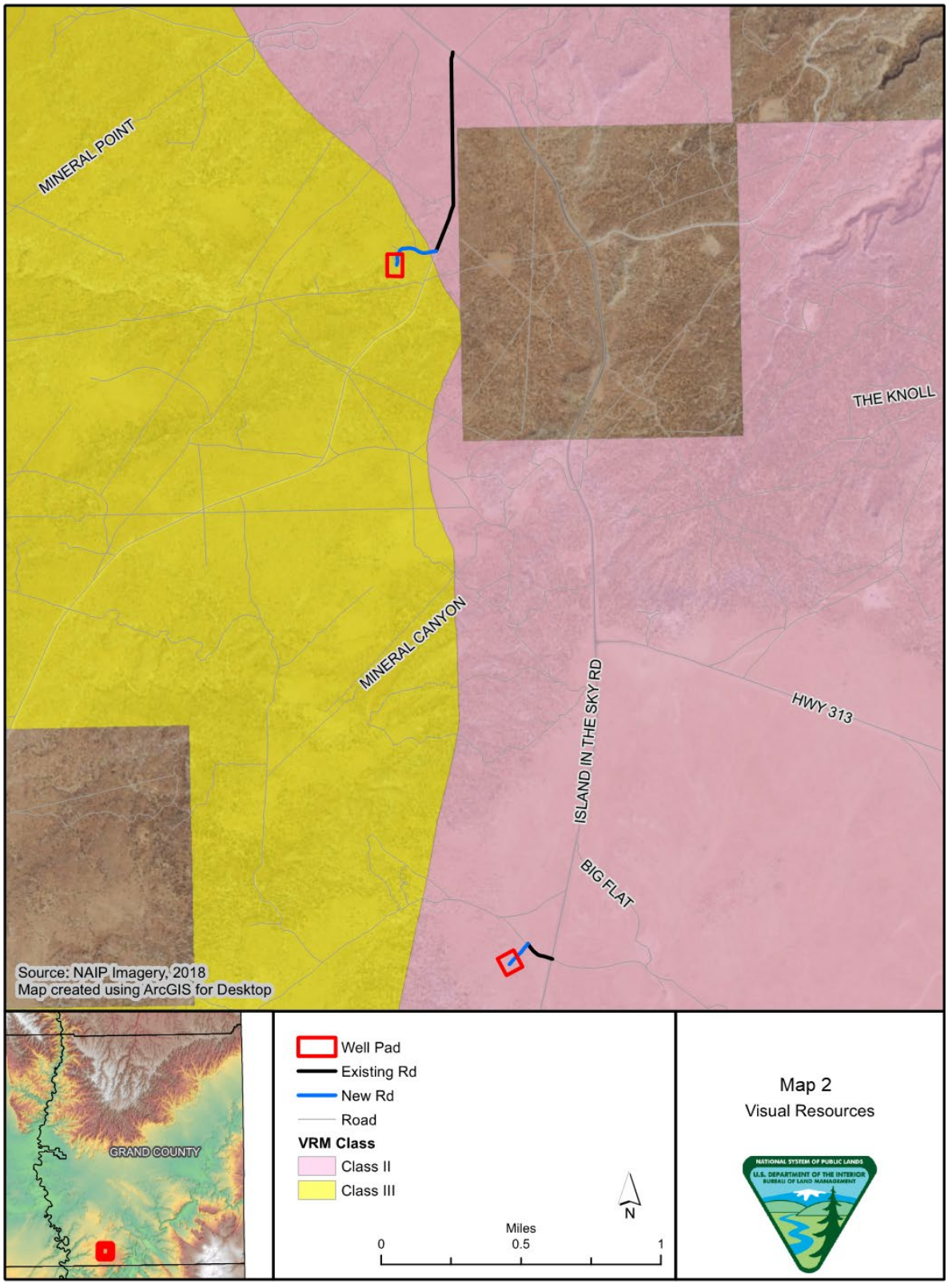
Appendix B: Maps

Map 1: Location of Proposed Action and Existing Well Sites.

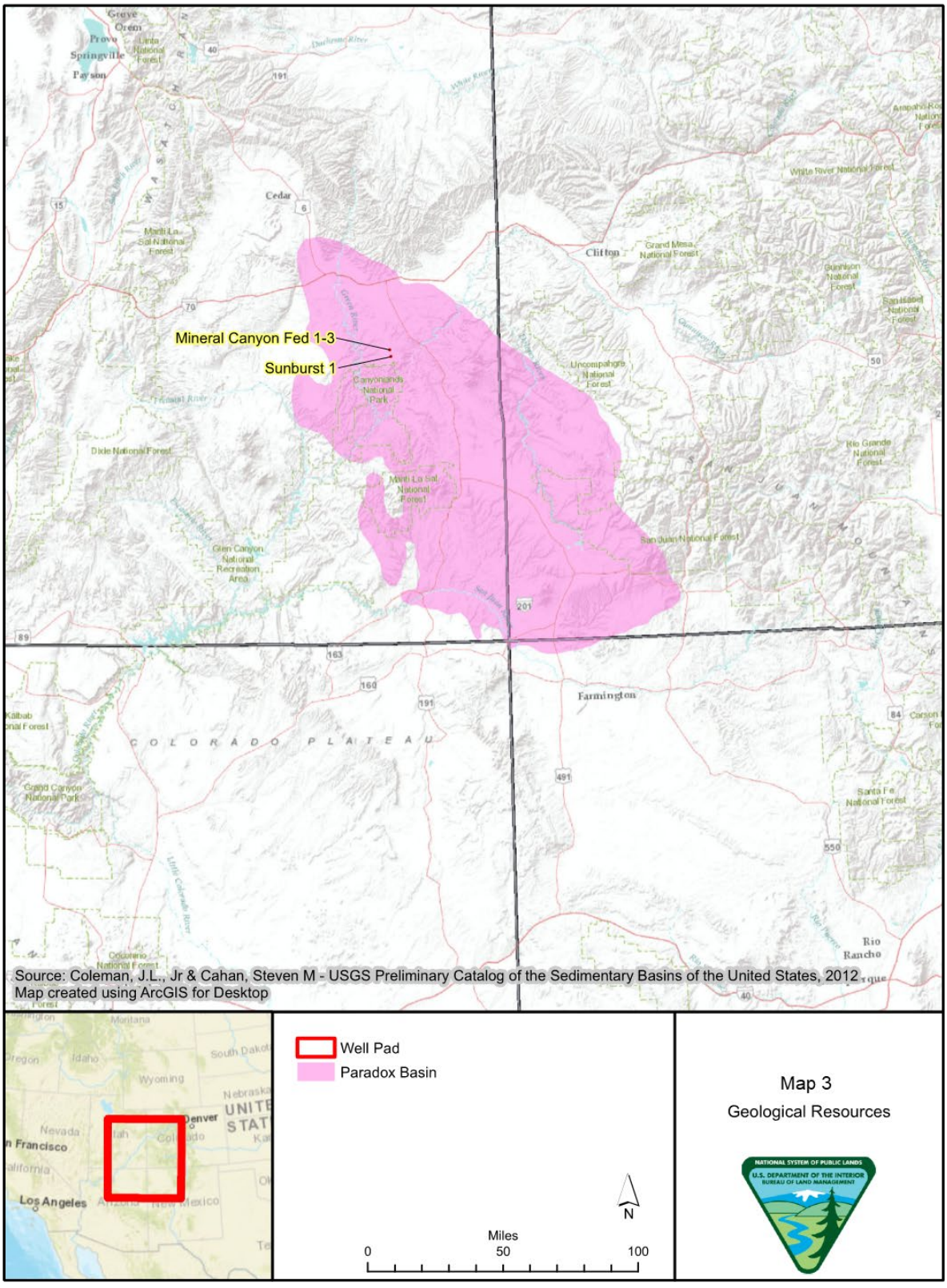


3/6/2022 C:\GIS_Projects\Frontier_Resources\FR21010_01_A1_Lithium_Paradox_Basin\Project_Location.mxd

Map 2: Visual Resources Management (VRM) Map

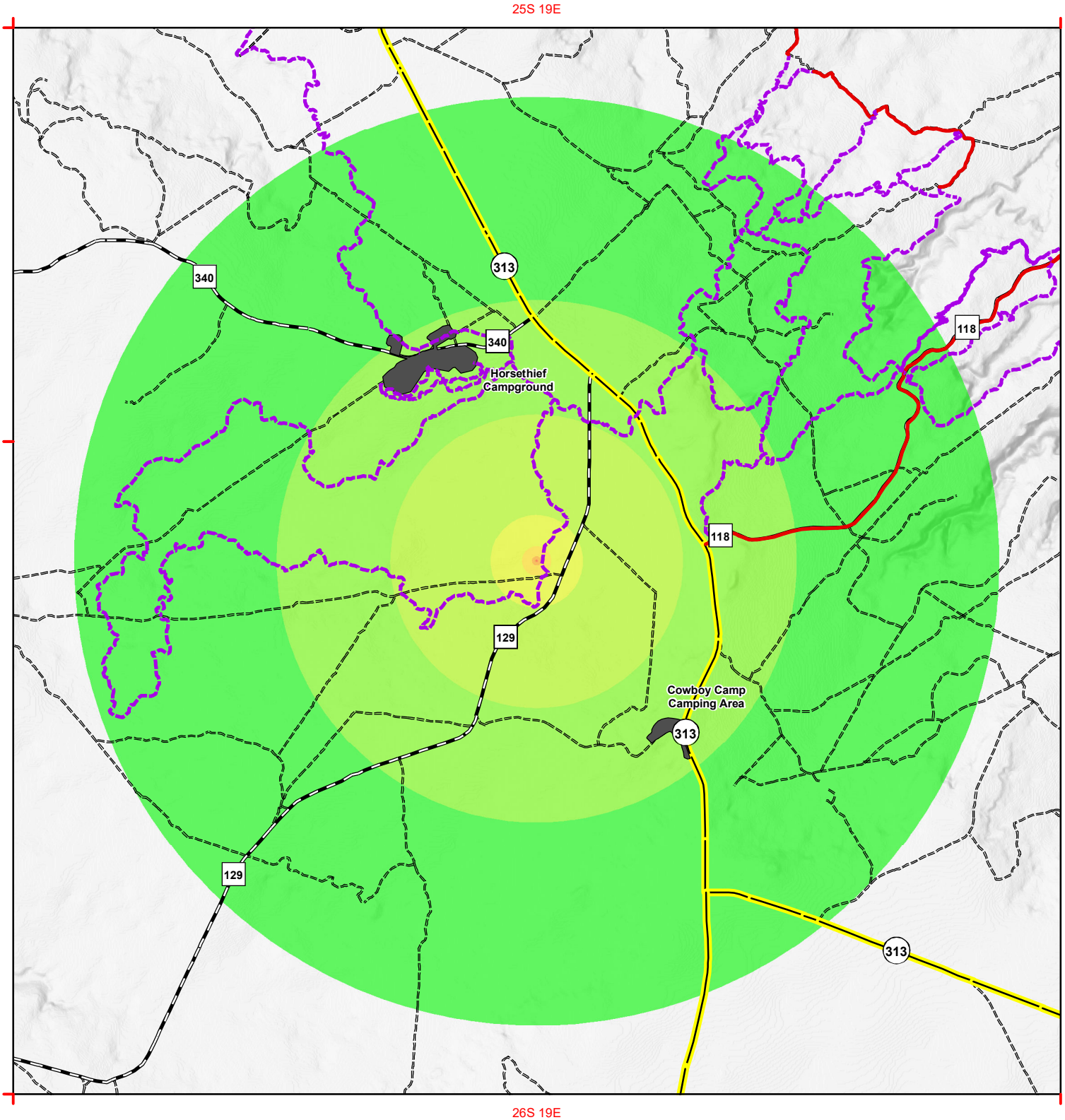


Map 3: Geological Resource Map

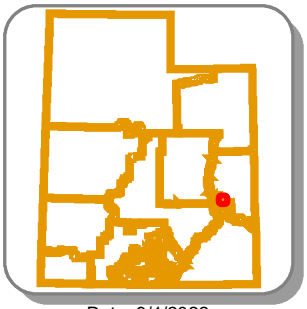


Map 4: Mineral Canyon Federal # 1-3 Estimated Noise Pollution

Bureau of Land Management
Moab Field Office



Location Map
Utah BLM Field Office Boundaries



Date: 9/1/2022

Estimated Noise Pollution (db)

- 110 - 120
- 100 - 110
- 90 -100
- 80 - 90
- 70 - 80
- 60 -70
- 50 - 60
- 40 - 50

- Campgrounds
- State and Federal Highways
- B Roads (Maintained)
- D Roads (Unmaintained)

Mountain Bike Trails

- Single Track
- Dual Use

1:45,000

0 0.45 0.9 Kilometers

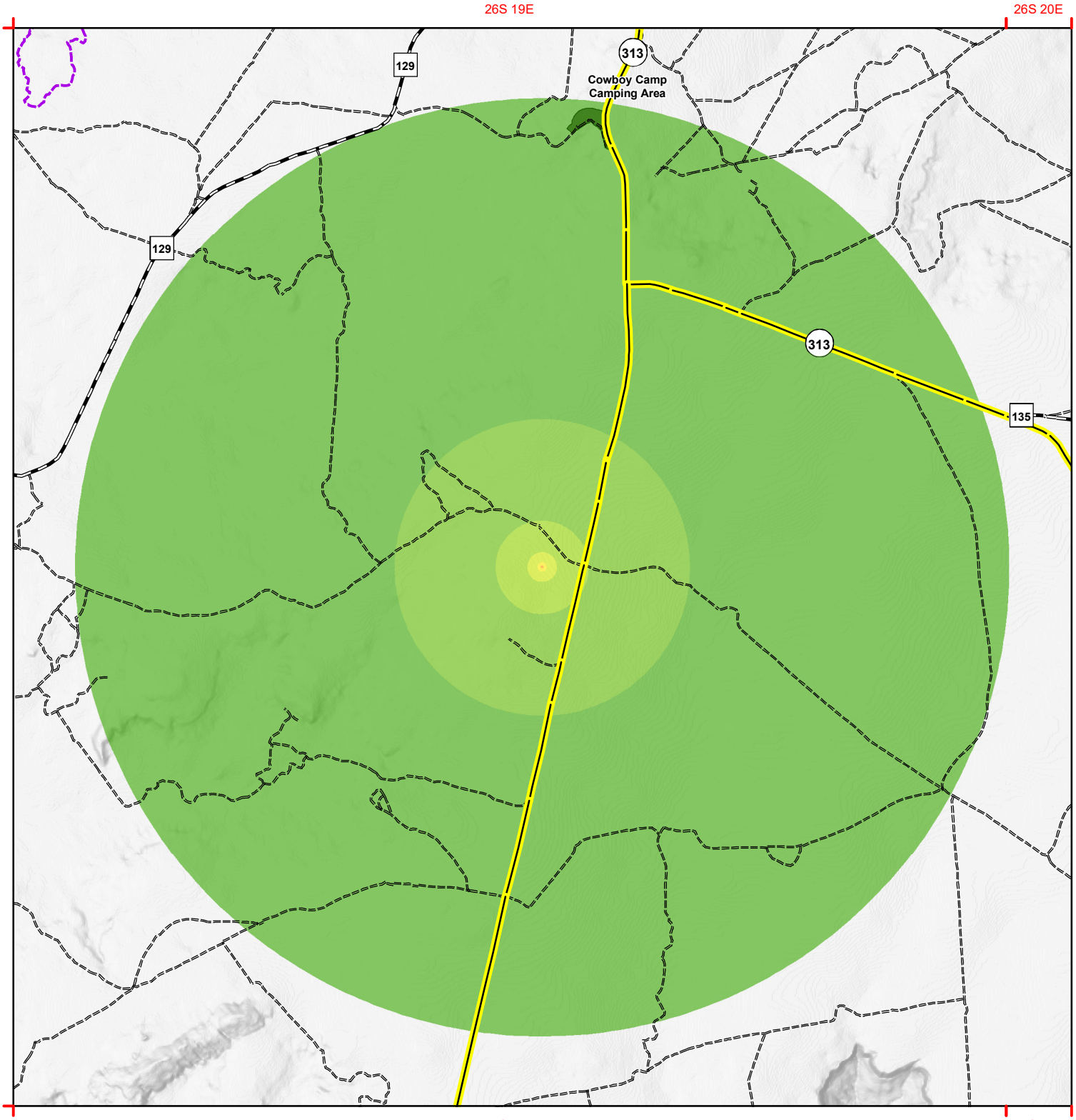
0 0.45 0.9 Miles

N
W E
S

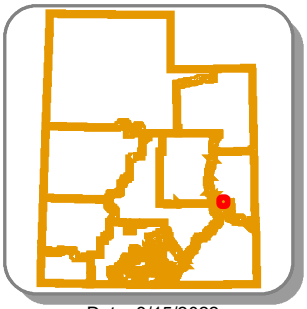
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.

Map 5: Sunburst #1 Estimated Noise Pollution

Bureau of Land Management
Moab Field Office



Location Map
Utah BLM Field Office Boundaries



Date: 8/15/2022

Estimated Noise Pollution (db)

- 40 - 50
- 50 - 60
- 60 - 70
- 70 - 80
- 80 - 90
- 90 - 100
- 100 - 110
- 110 - 120

- Campgrounds
- State and Federal Highways
- B Roads (Maintained)
- D Roads (Unmaintained)

Mountain Bike Trails

- Single Track
- Dual Use

1:45,000

0 0.45 0.9 Kilometers

0 0.45 0.9 Miles

N
W E
S

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.

APPENDIX C:
UNITED STATES DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Moab Field Office

Comment Response Report

DOI-BLM-UT-Y010-2021-0068-EA

I. INTRODUCTION

The Bureau of Land Management (BLM) Moab Field Office (MFO) posted the A1 Lithium Mineral Exploration Project to the BLMs ePlanning site on July 1, 2021. The BLM hosted a public comment period from June 27 to July 27, 2022. The BLM received approximately 120 comments as a result of the comment period.

Notification of the public comment period was made available through email notifications and social media posts. Edits and clarifications have been made to the EA in response to comments. Substantive comments have been summarized by category with the BLMs responses provided.

II. COMMENT RESPONSE REPORT

i. Category: Coordination

Summary of Comments: The BLM should consult with the National Park Service and Deadhorse Point State Park on the A1 Lithium Mineral Exploration Project in order to evaluate the potential impacts of the Proposed Action and any reasonably foreseeable impacts on natural, cultural and historical resources protected within the parks.
BLM Response: The BLM reached out to Dead Horse Point State Park and Canyonlands National Park on August 4, 2022 asking for input on the project regarding potential impacts to the parks' natural and cultural resources. Dead Horse Point concluded that they have no concerns with the project at this time. No input was received from Canyonlands National Park. The BLM will commit to maintain communication with State and National Parks for this and future projects.

ii. Category: Proposed Action

Summary of Comments: A1 Lithium should provide a full plan for the proposed exploration project.
BLM Response: A1 Lithium submitted a Plan for Exploration at the request of the Moab Field Office in accordance with 43 CFR 3809.21(b) because the MFO previously accepted three Notice-level exploration proposals from A1 Lithium. The MFO requested that all remaining plans for exploration by A1 Lithium be included in this Plan for Exploration for NEPA review.

Summary of Comments: The BLM must explain in the EA why the Mineral Canyon Federal and Sunburst wells are the environmentally preferred alternatives.
BLM Response: Exploration locations for locatable minerals are determined by the proponent. These locations were chosen by the proponent because the sedimentary horizons identified from the drilling logs collected at these wells indicate an economic resource target based on the proponent's previous exploration operations in the area (see Table 2 on page 2 of the EA). Utilizing existing drill pads and well bores would reduce the environmental impacts because it

eliminates the need to drill a new well and would decrease the amount of new surface disturbance.

Summary of Comments: The BLM must ensure that the proposal be done in the most environmentally responsible manner possible. Lithium extraction should not stress fragile ecosystems or scenic nature of the Colorado Plateau; rigorous guidelines should be developed and enforced.
BLM Response: The BLM, by working with A1 Lithium, has developed design features and conditions of approval to reduce impacts to resources present in the proposed location. Design features and conditions of approval (Section 2.2.6 of the EA) were developed utilizing the A1 Lithium Revised Plan of Operations, the 2016 Moab Field Office Record of Decision and Approved Master Leasing Plan, 2008 Moab Field Office Record of Decision and Approved Resource Management Plan, and The Gold Book.

iii. **Category: Alternatives**

Summary of Comments: The BLM should analyze an alternative that would limit exploration to the Mineral Canyon Federal #1-3 well to reduce impacts to resources present in the project area.
BLM Response: The BLM can decide whether or not to authorize the exploration of one or both wellbores in the Decision Record. This language has been added to Section 1.1.1.

Summary of Comments: The BLM should analyze a phased development alternative that would start with Mineral Canyon Federal #1-3 and authorize exploration at Sunburst #1 if economic quantities of lithium are produced at Mineral Canyon Federal #1-3.
BLM Response: H-3809-1-Surface Management Handbook states "a validity examination is not required to process a Plan of Operations and the NEPA analysis does not need to address the mining claim status or validity" (page 4-40). Thus, mineral value does not need to be determined for an exploration plan and a phased approach contingent on presence and/or absence of economic quantities of lithium at one location (Mineral Canyon Federal #1-3) does not warrant approval or denial of another location (Sunburst #1).

iv. **Category: Effects Analysis/ General Effects**

Summary of Comments: Environmental Impacts and Cumulative Impact Analysis needs to be analyzed quantitatively for all resources.
BLM Response: The BLM used quantitative analysis where available. The BLM NEPA Handbook describes a "hard look" as being a reasoned analysis containing quantitative or detailed qualitative information. Where quantitative information was not available, the BLM provided detailed qualitative information to the best of its knowledge.

Summary of Comments: How would the Proposed Action impact biological soil crust?
BLM Response: The proposed well pad and access route locations are existing disturbances from previous oil and gas wells. The EA states that 6.6 acres of surface disturbance would occur; this disturbance includes the previously disturbed areas where varying amounts of reclamation took place and biological soil crust development is minimal. Sunburst #1 location is on a Begay-Sazi complex soil that is very sandy in character. The Mineral Canyon Federal #1-3 site is located on a closed road and the surface is rocky and sandy with a Rizno-Rock outcrop complex soil type. While surface disturbance would occur, neither location would result in significant impacts to biological soil crust.

Summary of Comments: The EA fails to identify past, present and reasonably foreseeable actions including oil and gas drilling, potash mining, locatable mineral/lithium exploration that might affect the environment. The BLM must include the Reasonably Foreseeable Development Scenario.
BLM Response: The BLM added the RFDS into the cumulative impact analysis for the issued analyzed in the EA. See Sections 3.2.2 and Cumulative Impacts Sections for the identified issues in the EA.

Summary of Comments: How would reopening abandoned roads and well pads in the midst of a multi-decade drought with widespread pinyon and juniper die-offs impact reclamation efforts?
BLM Response: The proposed access routes and well pads are existing disturbances in varying degrees of reclamation. Minimal pinyon and juniper trees would be impacted from the reopening and use of these access roads and well pads. A1 Lithium would commit to the least amount of disturbance necessary to reopen the roads. Reclamation procedures imposed by the Moab Field Office use native and drought tolerant plant species. These seeds are often obtained from local sources, and include soil preparation methods for a hot, dry and windy environment.

Summary of Comments: What are the long-term effects of this project? Unknown long-term effects inherently make a project risky, especially in a treasured area. Effects need to be analyzed in a comprehensive manner.
BLM Response: Long term impacts of the proposed action on the resources present that are managed for by the BLM MFO are analyzed in Chapter 3 of the EA. Impacts and cumulative impacts are fully analyzed with the best available data and knowledge by the resource specialists.

Summary of Comments: Industrialization of the area would degrade the experience of thousands of people and cause impacts to vegetation, wildlife and natural resources. There is a need to protect and preserve the natural landscapes of the area for the high value tourism industry in Moab. Lithium exploration should be done in the most environmentally protective and responsible manner possible and have as minimal an impact as possible. The BLM must ensure that air, climate, water, viewsheds and soundscapes are protected.
BLM Response: The BLM is committed to ensuring this project is done with the least number of impacts to the human environment. The EA includes design features and conditions of approval in Section 2.2.6 that would minimize any long-term disruption of the surface resources and to promote successful reclamation. These measures include conditions on air pollution, water quality, spill contingency, soundscapes, viewsheds, wildlife and cultural protections.

Summary of Comments: This proposal would impact recreation sites utilized by multitudes of recreationist in proximity to the proposed locations, which are known for beauty and serenity. The proposal would impact those sites with noise and disruption to the natural landscape.
BLM Response: The BLM acknowledges in the EA that there would be impacts to the many recreationists who visit the area primarily to enjoy the visual and auditory landscapes. See Sections 3.3 and 3.4 for the impacts of the project on Recreation and Visual Resources (includes auditory information). Information has been added to the EA as to the number of people travelling along State Route 313, nearly all of which do so to enjoy the natural landscapes along that Scenic Byway. A visual resource analysis was conducted and is available as part of the project record.

v. **Category: Monitoring**

Summary of Comments: The BLM must effectively monitor project operations to ensure A1 Lithium complies with proposed mitigations measures and reclamation requirements.
BLM Response: Section 2.2.6 covers the conditions of approval (COA) for the proposed exploration operations; included in the COAs are the Best Management Practices from the Moab 2016 MLP Appendix A, operational standards from the BLM Gold Book, and monitoring and reclamation standards as outlined in the BLM Surface Management Handbook H-3809-1 and Solid Mineral Reclamation Handbook H-3042-1.

The BLM responsibilities for the inspection of operations and enforcement requirements are outlined in 43 CFR 3809.600 through 3809.605. The BLM is required to inspect the exploration operations, including all structures, equipment, and workings located in the project area. During and following reclamation activities the operator is responsible for monitoring and, if necessary, protecting the reclaimed landscape to help ensure reclamation success until the liability and bond are released.

Summary of Comments: The BLM should develop a plan on how to consider mineral material proposals that provides oversight on future exploration and development and covers long-term impacts after initial exploration.
BLM Response: Development of a plan on how to consider mineral material proposals is out of the scope of this project. However, the 2008 Moab RMP provides opportunities for environmentally responsible exploration and development of mineral and energy resources subject to appropriate BLM policies, laws and regulations while establishing conditions of use through land-use planning to protect other resource values. The proposed action is in conformance with the 2008 Moab RMP and the conditions of use, including surface disturbing stipulations, that would be applied to the proposed exploration activities are outlined in Chapter 2.2.6, Design Features and Conditions of Approval.

The 2016 Moab Master Leasing Plan provides additional BMPs and a Reasonably Foreseeable Development Scenario which is analyzed in the EA. The A1 Lithium proposal is in conformance with FLPMA (1976), the General Mining Law of 1872, Mineral Leasing Act of 1920 and the Mining and Minerals Policy Act (1970) which give the BLM authority to authorize proposals such as mineral exploration. See Section 1.3 of the EA.

vi. **Category: Technical**

Summary of Comments: The role of lithium for batteries will soon be replaced by graphene as breakthroughs in its technology show graphene batteries are far superior to lithium batteries.
BLM Response: Executive Order 13817 "A Federal Strategy to Ensure Secure and Reliable Supplies of Critical Minerals," emphasizes the need for the United States to domestically source critical minerals. The Secretary of the Interior published a "Final List of Critical Minerals" on May 18, 2018. This list includes commodities that can be leased as non-energy minerals, such as potash and metals like lithium or rare earth on any unclaimed, undeveloped area of public domain and on acquired lands.

vii. **Category: Reclamation and Bonding**

Summary of Comments: How is the BLM ensuring this project will not create degrading environmental effects, logistical/infrastructural disruption or decreased value of public lands?

Sufficient bonding must be collected to ensure any accidents, environmental degradation and reclamation are covered.
BLM Response: The proponent would be required to mitigate potential impacts associated with the project by implementing all regulatory requirements, conditions of approval, and BMPs. The BLM will hold a bond of sufficient value to fully cover the plugging of the holes and surface reclamation liability associated with this exploration project. A1 Lithium and BLM responsibilities for establishment, maintenance, termination, and forfeiture of financial guarantees are described in 43 CFR 3809.500 through 3809.599. If A1 Lithium's proposal is approved, a bond estimate would be included in the decision letter sent to A1 Lithium (43 CFR 3809.312(c)); and the bond would be posted before exploration operations commence.

Summary of Comments: How would climate change and aridification impact reclamation? How successful would reclamation in the project area be?
BLM Response: Guidance for site-specific reclamation is outlined in the U.S. Department of the Interior Bureau of Land Management Solid Minerals Reclamation Handbook (H-3042-1) and Surface Management Handbook (H-3809-1). The proposed reclamation plan analyzed in Section 2.2.4 considers the effects of the local climate in the area of the proposed project.

According to NOAA's Climate Prediction Center, Eastern Utah, including Grand County, is in an extreme drought (US Drought Monitor Center, https://droughtmonitor.unl.edu/). During the drought period, A1 Lithium completed one exploration notice through successful reclamation and bond release, showing that reclamation for these types of exploration projects can be completed to BLM 3809 requirements. A1 currently has one exploration notice at the end of the reclamation phase, and one exploration notice at the beginning of the reclamation phase. The reclamation for these projects is monitored by the BLM and Utah's Department of Natural Resources Division of Oil Gas and Mining (UDOGM). The BLM and UDOGM must concur on the final state of reclamation and bond release.

viii. **Category: Water**

Summary of Comments: The EA fails to take a hard look at water quantity and quality. Lithium mining and brine extraction require large amounts of water; how does the BLM plan to address the large quantities of water needed?
BLM Response: Water quantity and quality is analyzed in Section 3.6 of the EA. The proposal is to re-enter two existing abandoned wellbores, which would require less water than to drill a new hole. The quantity of water proposed for operations (200 barrels) would be provided by local contractors who purchase water from Grand and San Juan counties. Water would be trucked to the site and stored in tanks. Design features outlined in Section 2.2.6 describe measures that would be taken to reduce the potential for impacts to water quality.

Summary of Comments: The EA fails to analyze impacts to groundwater resources. BLM must ensure that surface and groundwater resources are protected, as well as aquifers. Contamination from this proposal could harm the nearby State and National Parks.
BLM Response: Groundwater resources are analyzed in Section 3.6 of the EA. The groundwater system for this part of Grand County is described in the paper *Regional Hydrology of the Green River-Moab Area, Northwestern Paradox Basin, Utah* (Rush, F.E., et. Al., 1982), and the depth to potable water ranges from 75-500 feet below the surface. Drilling operations must protect potable and semi-saline subsurface waters by following Utah Division of Oil Gas and Mining Rule R649-3: Drilling and Operating Practices, Section R649-3-8 - Casing Program. The casing

program is specifically designed to protect Utah groundwaters. The design features in Section 2.2.6 describe the measures that would be taken to reduce the potential for impacts to groundwater resources. .

Summary of Comments: The EA fails to analyze the cumulative impacts that reasonably foreseeable oil and gas, mineral, potash and lithium exploration will have on water quantity in the Upper Colorado River Basin.
BLM Response: See section 3.6.2.3 for cumulative impact analysis for water quantity in the proposed project area.

ix. **Category: Air Quality**

Summary of Comments: The EA fails to take a hard look at air quality, GHG emissions and climate change.
BLM Response: The Interdisciplinary Team checklist has been updated to provide more details for why there will be little to no impact to air quality, and GHG emissions and climate change.

Summary of Comments: How would waste evaporates impact air quality?
BLM Response: It is anticipated that there will be little to no evaporation of volatile organic compounds (VOC) and hazardous air pollutants (HAPS) from waste in reserve pits. The Proposed Action is to re-enter a plugged and abandoned well that is cased, so the drill waste in the reserve pits will mostly be from the concrete plugs, debris in the hole, and drilling mud that contains water. Water and brine released from the formation during testing would be collected in containers, with any excess going to the reserve pit. These waters released from the rock formations could contain low levels of VOCs and HAPs, but the plan is to collect this fluid and test it for lithium and other minerals. No oil or gas would be produced during this operation as required by the Multiple Mineral Development Act of 1954 (Chapter 2. Alternatives).

Summary of Comments: The EA needs to analyze and disclose the social cost of GHG.
BLM Response: Greenhouse Gases emissions are not identified as an issue needing detailed analysis. Without quantification of GHG emissions it is not possible to quantify the social costs or benefits. The project would likely have a minor short-term social cost due to GHG emissions from the drill rig and other fossil fuel consuming equipment identified in the plan of operations. However, if the exploration is economically feasible, then production of lithium would have long-term social benefits, as lithium is used in batteries that are part of the energy transition away from fossil fuels towards renewable energy, especially in the transportation sector.

Summary of Comments: The BLM must analyze the cumulative impacts of dust production from exploration projects.
BLM Response: The BLM NEPA Handbook states that, “If the proposed action and alternatives would have no direct or indirect effects on a resource, you do not need a cumulative effects analysis on that resource.” Dust has not been identified as a direct or indirect issue because the applicant plans to minimize new surface disturbance by using previously constructed well pads and roads. As a result, windblown dust will be nearly the same between the proposed action and No Action alternatives. Additionally, applicant committed measures to apply water to the roads and well pads, and to reduce wind erosion from soil stockpiles will minimize dust emissions. Estimated particulate matter emissions of 1.15 tons (PM_{10}) are well below de minimis levels for new sources (Utah Administrative Code R307-410-4) and will have a negligible contribution to cumulative dust issues in the region. Reclamation requirements to restore the land toas close to natural conditions as possible will prevent long-term degradation from wind-blown fugitive dust.

x. **Category: Minerals**

Summary of Comments: Approval of this proposal could lead to a piecemeal extraction approach in lithium exploration. Past energy development in the area has been disruptive and has a major impact on public lands.
BLM Response: Prior to this proposal, A1 Lithium had submitted three Notice-level exploration proposals. Upon the fourth proposal, the Moab Field Office requested the submission of a Plan for Exploration in accordance with 43 CFR 3809.21(b). Exploration is not considered development of the resource, which would require the submission of a Plan of Operations.

Although the 2016 Moab Master Leasing Plan applies specifically to leasable mineral actions, BMPs developed in the MLP are applicable and appropriate for all surface disturbing exploration and development actions. The BLM applies these BMPs where appropriate to mitigate potential impacts on public lands.

Summary of Comments: The BLM needs to take a comprehensive look at what cumulative impacts Lithium and Boron production in the area would result it.
BLM Response: This EA does not analyze the production of lithium and boron, but the exploration of these minerals (43 CRF 3809.5). The RFDS and potential Plan of Development are analyzed in the cumulative impact analysis sections. The BLM cannot speculate on reasonably foreseeable actions and the analysis is limited to known information, opportunities or trends.

xi. **Category: Wildlife**

Summary of Comments: Numerous bird species particular to the area would be impacted from the physical disturbance of the project. A 2018 study of Western and Mountain Bluebirds and Ash-throated Flycatcher found that consistent noise generated by gas compressors created chronic stress in these bird species, resulting in nest failure and reducing odds or survival. A 2008 study showed reduced pairing success in Ovenbirds nesting near compressor pads. Greater sage-grouse occur in the area and are very sensitive to disturbance by oil and gas extraction. Drilling and mining would have a similar impact on sage-grouse.
BLM Response: Westwater Engineering conducted vegetation and wildlife surveys for the Mineral Canyon Federal and Sunburst well locations. No raptor nests were identified within 0.5 miles of either well pad, and the absence of a nesting habitat was noted. Stipulations limiting construction activities that would remove vegetation that supports nesting structure for bird species would be implemented from April 1 to July 31. As of 2008, there was no occupied sage grouse habitat within the MFO; surveys did not indicate that sage grouse were present in the project area.

xii. **Category: Recreation**

Summary of Comments: Reopening access roads may encourage OHV and dispersed camping use on those roads.
BLM Response: The access routes would be available only to the proponent for the purposes of the project. The routes would be signed as "No Access" for the public (see Section 2.2.6). If necessary, the access routes could be gated. The access routes would not be added to the Travel Plan as available for public use. The routes would be reclaimed and closed at the conclusion of the project (Section 2.2.4).

Summary of Comments: Noise, dust and environmental degradation of the trail system can do irreparable harm and should be considered in the conditions of approval.
BLM Response: The Mineral Canyon Federal #1-3 proposed access route crosses a 14-foot-wide section of the Rodeo bike trail. The EA acknowledges that users of the trail would be impacted during certain periods of the project. The access route, including the disturbed section of trail, would be rehabilitated at the conclusion of the project, removing or reducing any long-term harm to the trail from the temporary route.

Summary of Comments: The proposal is near world class destinations (Dead Horse Point State Park, Canyonlands National Park, scenic byways, campgrounds, bike trails) that draw millions of visitors every year. How would the recreation experience for these visitors be impacted? How would an increase in truck traffic impact visitors?
BLM Response: The impacts to recreationists at the aforementioned sites have been disclosed in Section 3.4. Traffic is not expected to exceed eight vehicles per day and would only add a nominal amount of traffic to State Route 313.

Summary of Comments: Well pads that will not be detectable to tourists and recreationists should be considered above all else.
BLM Response: The EA acknowledges that the Sunburst well pad would be visible to travelers on Utah State Route 313 as well as to drivers on the Canyonlands National Park Entrance Road. The Mineral Canyon Federal well pad would be visible from the Rodeo Bicycle Trail as well as from approximately six campsites at the Horsethief Campground. Both well pads are existing disturbances; the building of new well pads would create additional new impacts to the surface while having the same potential to be detected in the viewshed. Additional visual analysis was conducted and is available as part of the project record and on the projects ePlanning website.

Summary of Comments: Alerting campers of noise from the proposal by hanging signs at Horsethief Campground is not a sufficient mitigation to reduce impacts to visitors. Additional measures should be taken to alert campers prior to arriving at the campsite so alternative plans can be made.
BLM Response: The BLM will post information to the BLM MFO webpage and social media pages to alert the public of potential impacts to Horsethief and Cowboy Camp Campgrounds. This information was added to Section 3.3.2.2 of the EA.

Summary of Comments: The EA establishes arbitrary time frames and in so doing attempts to minimize the impacts of the proposed action.
BLM Response: The BLM acknowledges that impacts to recreationists may occur over a 24-month timeframe however, in much of that timeframe no activity is anticipated at either site. It is estimated that activity impacting visitors by producing noise and increased traffic volumes would occur for approximately five months over the course of the project. Impacts that occur for 5 months versus 24 months would be expected to impact approximately 80% fewer visitors. This is addresses in Section 3.4 of the EA.

Summary of Comments: The proposed drilling activities are inconsistent with the existing recreation and conservation values of the area.
BLM Response: The proposed action is consistent with the current Land Use Plan (2008 Moab RMP). This conformance is documented in Section 1.2 of the EA.

xiii. **Category: Economics**

Summary of Comments: The tourism industry and the recreation income it provides the community from the recreation opportunities in the Big Flat area through job opportunities will be negatively impacted from this project. The BLM needs to analyze the economic value of leaving the Big Flat area undeveloped.
BLM Response: Headwaters Economics report on tourism for Grand County estimates that 48.1 percent of Grand County jobs were in sectors related to travel and tourism. As stated in the IDT checklist, data from U.S. Department of Commerce Census Bureau, County Business Patterns (2021), indicates that minerals employment accounted for 1.45 percent of total employment in Grand County. BLM believes it unlikely that the small number of workers involved in this project will vault minerals-related employment anywhere close to tourism-related employment in the foreseeable future. Visitation to the MFO has shown steady increases for decades, despite some level of minerals development in the State Route 313 area.

The Big Flat area is not currently "undeveloped". State Route 313, a paved road with tens of thousands of vehicles annually, traverses the area. Three BLM campgrounds, four developed overlooks and several long-present oil wells lie on or close to the road. There are several developed mountain bike trailheads along the road. The road itself terminates at Dead Horse Point State Park, with a spur to Canyonlands National Park, both of which have relatively high levels of recreation infrastructure.

Refer to the recreation section of the EA for additional analysis on the impacts of the proposed action on recreation.

Summary of Comments: The BLM needs to analyze the cumulative impacts from this proposal on the quality of lives and livelihoods of citizens of Moab.
BLM Response: Please see the above response addressing the relative strengths of the tourism and minerals sectors of the Grand County economy. The commentor does not provide BLM with data or arguments explaining how the proposed action would affect the quality of life in Moab. The area in which the proposed action is located has witnessed a coexistence between mineral activities and recreation for decades, which has been accompanied by ever increasing levels of recreation activity in the subject area.

Summary of Comments: How does the BLM plan to address the often-short-term cyclical economic benefits of mining projects that can negatively impact the tourism industry long-term?
BLM Response: The area in which the proposed action is located has witnessed a coexistence between mineral activities and recreation for decades, with significantly increasing levels of recreation activity in the subject area each year. There are several wells in the area which have been there for decades, with no apparent negative impact on recreation-oriented visitation to this area. Refer to the recreation section in the EA for additional analysis on the impacts of the proposed action on recreation.

September 2022
A1 Lithium Incorporated Mineral Exploration Project
Finding of No Significant Impact
DOI-BLM-UT-Y010-2021-0068-EA

Grand County, Utah

Locations:

Mineral Canyon Federal #1-3
Sec. 03 T26S 19E, SE ¼ NE ¼

Sunburst #1.
Sec. 14 T26S R19E, SW ¼ SW ¼

Applicant/Address:
A1 Lithium Incorporated
1635 Village Center Circle
Las Vegas, NV 89134

Moab Field Office
82 East Dogwood Avenue
Moab, UT 84532
435-259-2100

I. INTRODUCTION:

The Bureau of Land Management (BLM) Moab Field Office (MFO) completed an environmental review (DOI-BLM-UT-Y010-2021-0068-EA) prepared for A1 Lithium Incorporated Mineral Exploration Project in Grand County, Utah. The Proposed Action as described in the Environmental Assessment (EA), would approve A1 Lithium's Plan of Exploration to conduct mineral exploration by re-entering two previously cored, plugged, and abandoned oil and gas wells to test brines for economic quantities of lithium, bromine, and other potential economic locatable minerals in its unpatented placer mining claims. The project area is located along State Route 313, approximately nine air miles west of Moab, Utah, 3 miles north of Canyonlands National Park, and 2 miles northwest of Dead Horse Point State Park. The project area is approximately 6.6 acres in size and includes the two proposed wells, Mineral Canyon Federal #1-3 and Sunburst #1, and their access roads.

II. FINDING OF NO SIGNIFICANT IMPACT:

Based upon a review of the attached Environmental Assessment and supporting documents, I have determined that the Proposed Action will not significantly affect the quality of the human environment. None of the environmental effects analyzed in the EA are considered significant under the criteria established by 40 CFR 1501.3(b).The following have been considered in my evaluation of the Proposed Action:

i. Short- and long-term effects:

Re-entering two wells to explore for locatable minerals would impact the visual, auditory and recreational resources in the developed recreation areas adjacent to the project area, such as Horsethief Campground and the Rodeo Bike Trail. Short-term effects to the visitors would be those incurred during their time spent in the area from visual intrusion of the wells, noise from the drilling equipment, or traffic on roads, including the access road that crosses the Rodeo Bike Trail. These effects would only last for the duration that the recreating public are in the area, usually ranging from a few hours to a few days. Design features, as described in the EA, would require reclamation of all disturbed areas at the conclusion of exploration activities and would restore the visual, auditory and recreational resources back to pre-existing conditions. Thus, impacts would not last past the duration of the project, which is two years.

Short term, temporary impacts may occur to the ground surface from the use of drill pads and access routes. The targeted brine fluids are situated between oil and gas producing intervals and there is the potential that A1 Lithium would encounter these leasable minerals during exploration activities. The leasable minerals are subject to valid existing rights as outlined in the Moab Field Office Record of Decision and Approved Master Leasing Plan (2016 MLP). If leasable minerals are encountered during exploration, testing would pause and move to another interval; and future development plans would need to account for mixed commodities present in the interval.

ii. Beneficial and adverse effects:

Visitors wishing to recreate by hiking, mountain biking, 4x4 driving, or camping may be adversely affected during their stay in the area if it coincides with exploration activities or is within the viewshed of the wells. Adverse effects may include auditory intrusion from exploration operations, visual intrusions on the landscape, and increased traffic along the access road that crosses the Rodeo Bike Trail.
Adverse effects to geological resources are not anticipated from the preferred alternative because of its use of previously drilled wells and adherence to best management practices (BMPs) during operations.
To protect water resources, including ground water and aquifers, cement and casing would be set from total depth to the surface of each well to isolate the system. The natural topography of the area is flat and does not pose many risks to surface runoff; design features and construction plans would reduce adverse effects to surface water

iii. Effects on public health and safety:

The environmental impacts are disclosed in the EA, and measures to reduce effects to public health and safety were incorporated into the design of the Proposed Action alternative. Safety practices were incorporated into the Conditions of Approval (COAs) to ensure safe operating procedures for A1 Lithium personnel and contractors. Signs would be posted in certain locations to alert the public of operations and to protect public safety. Short-term effects may occur to the ground surface from the use of drill pads and access routes; however, A1 Lithium would adhere to BMPs as outlined in the 2016 MLP during operations to reduce effects to surface waters. All disturbances would be reclaimed back to the conditions that existed prior to exploration operations to ensure no lasting effects to public health or safety are present after the completion of the project. No long-term effects on public health and safety are expected to result from the preferred alternative action because of these BMPs, design features, and COAs.

iv. Effects that would violate Federal, State, or Tribal laws protecting the environment

The Proposed Action would not violate any Federal, State, or Tribal laws protecting the environment. Design features would be implemented to ensure compliance with Federal laws and regulations, and State of Utah mining Regulations, air quality standards, and groundwater protection standards (see Section 2.2 of the A1 Lithium Incorporated Mineral Exploration Project Environmental Assessment).

III. APPROVAL:

DAVID PALS

Digitally signed by DAVID PALS
Date: 2022.09.28 12:46:57 -06'00'

Dave Pals, Acting Moab Field Manager

September 2022
A1 Lithium Incorporated Mineral Exploration Project
Decision Record
DOI-BLM-UT-Y010-2021-0068-EA

Grand County, Utah

Locations:

Mineral Canyon Federal #1-3
Sec. 03 T26S 19E, SE ¼ NE ¼

Sunburst #1.
Sec. 14 T26S R19E, SW ¼ SW ¼

Applicant/Address:
A1 Lithium Incorporated
1635 Village Center Circle
Las Vegas, NV 89134

Moab Field Office
82 East Dogwood Avenue
Moab, UT 84532
435-259-2100

I. DECISION:

Based on my review of the EA, it is my decision to approve A1 Lithium's Plan of Exploration to conduct mineral exploration by re-entering two previously cored, plugged and abandoned oil and gas wells to test brines for economic quantities of lithium, bromine and other potential economic locatable minerals in its unpatented placer mining claims. A1 Lithium will re-enter the Mineral Canyon Federal #1-3 and Sunburst #1 wells located off State Route 313 in the Moab Field Office. The timeline for this project will not exceed 24 months for all phases of operation. This action is incorporated by reference from Section 2.2 (page 4) of the EA.

This decision selects the Proposed Action and incorporates by reference the design features and conditions of approval as outlined in Section 2.2.6 (page 10) of the EA. The decision has adopted all practicable means to avoid and minimize environmental harm from the Proposed Action.

II. COMPLIANCE AND MONITORING:

The BLM will inspect the exploration operations including all structures, equipment and workings located in the project area. The BLM may inspect operations at any time; inspections may include verification that operations comply with 43 CFR 3809.600.

III. AUTHORITIES:

The authority for this decision is contained in the following laws and regulations:

- Federal Lands Policy Management Act (FLPMA) (1976) – establishes the agency's multiple-use and sustained-yield mandate to manage the lands and various resource values, including minerals.
- General Mining Law of 1872 – authorizes the mining of mineral resources on public lands.
- Mineral Leasing Act of 1920 – enables leasing of public lands for development of mineral resources.
- Mining and Minerals Policy Act of 1970 – declares it is the continuing policy of the Federal Government to foster the development of domestic mineral resources.

IV. ALTERNATIVES CONSIDERED:

The Proposed Action and No Action alternatives were considered and analyzed in detail in the EA. An alternative to build new access routes to the drill pads was considered but eliminated in the EA. This alternative was found to be ineffective because of the presence of existing access roads. No other alternatives were identified that would have potential to create fewer issues than identified in the Proposed Action. Design features and conditions of approval that are included in the Proposed Action reduced potential issues and potential impacts to identified issues.

V. RATIONALE FOR DECISION:

The proposed action has been reviewed and found to be in conformance with the Moab Field Office Record of Decision and Approved Resource Management Plan, October 2008. It is specifically provided for in the following decisions:

> **MIN-7. Locatable Minerals:** Operations on BLM-administered lands open to mineral entry must be conducted in compliance with BLM's surface management regulations (43

CFR 3715, 3802, 3809, and 3814). BLM surface management regulations do not apply to operations on other Federal lands but do apply to split-estate lands (page 74).

MIN-9. Locatable Minerals: To the extent possible, the stipulations developed for oil and gas leasing are applicable to all mineral activities (leasable, locatable, and salable). These stipulations are found in Appendix A [of the 2008 Moab RMP]. Leasable minerals include oil and gas, coal, and potash. Locatable minerals include gold, copper, and uranium. Salable minerals include sand and gravel, clay, and building stone (page 74).

MIN-17. Locatable Minerals: A no surface occupancy stipulation cannot be applied to locatable minerals with a withdrawal. All public lands overlaying Federal minerals are open to mining claim location unless specifically withdrawn from mineral entry by Secretarial order or by a public land law. Therefore, other than the existing withdrawals (Three Rivers, Westwater, and Black Ridge Wilderness), all public lands within the MPA remain open under the mining laws. Future withdrawals may be recommended in areas identified as closed or with a no surface occupancy stipulation if it becomes necessary to prevent unacceptable resource impacts (page 76).

The decision to approve A1 Lithium's mineral exploration complies with the BLM's responsibility under the General Mining Act of 1872, 43 CFR Subpart 3809 and FLPMA (1976). Executive Order 13817 "A Federal Strategy to Ensure Secure and Reliable Supplies of Critical Minerals", emphasizes the need for the United States to domestically source critical minerals. Metals such as lithium are listed on the "Final List of Critical Minerals" (May 18, 2018).

A Finding of No Significant Impact was produced and found that the Proposed Action will not cause any significant impacts, and thus an EIS is not required. Analysis within the EA analyzed direct and indirect impacts to issues present. Conditions of approval and mitigation measures will be applied to reduce direct and indirect impacts to issues identified through the analysis.

The A1 Lithium Incorporated Mineral Exploration proposal was published to ePlanning on June 1, 2021. A public comment period was held from June 27 to July 27, 2022. Approximately 120 comments were received. A Public Comment Report was prepared in response to comments and is attached as an appendix to the EA. Additionally, edits and clarifications were made to the EA in response to comments.

VI. RIGHT OF PROTEST AND/OR APPEAL:

This decision may be reviewed by the BLM Utah State Director or appealed to the Office of Hearings and Appeals (OHA).

If you are adversely affected by this decision, you may request that the BLM Utah State Director review this decision. If you request a State Director Review, the request must be received in the BLM Utah State Office at 440 West 200 South, Ste. 500, Salt Lake City, UT 84101, no later than 30 calendar days after you receive or have been notified of this decision. The request for State Director Review must be filed in accordance with the provisions in 43 CFR 3809.805. This decision will remain in effect while the State Director Review is pending unless a stay is granted by the State Director. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

If the State Director does not make a decision on your request for review of this decision within 21 days of receipt of the request, you should consider the request declined and you may appeal

this decision to the OHA. You may contact the BLM Utah State Office to determine when the BLM received the request for State Director Review. You have 30 days from the end of the 21-day period in which to file your notice of appeal with this office at 82 E. Dogwood Avenue, Moab, Utah 84532, which we will forward to the OHA.

If you wish to bypass a State Director Review, this decision may be appealed directly to the OHA in accordance with the regulations at 43 CFR 3809.801(a)(1). Your notice of appeal must be filed in this office at 82 E. Dogwood Avenue, Moab, Utah 84532 within 30 days from receipt of this decision. As the appellant, you have the burden of showing that the decision appealed is in error. This decision will remain in effect while the OHA reviews the case unless a stay is granted by the OHA. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted. The provisions for filing an appeal and a petition for a stay of the effectiveness of this decision during appeal review, should you wish to file a petition for a stay pursuant to 43 CFR 4.21(b), are outlined on Form 1842-1.

VII. APPROVAL

DAVID PALS

Digitally signed by DAVID PALS
Date: 2022.09.28 12:47:20 -06'00'

Dave Pals, Acting Moab Field Manager

Date