Re: Comments on Environmental Assessment for the Panamint Valley Lithium Exploration Project, Inyo County, California (Plan of Operations CACA-57756)

Dear Mr. Porter;

Thank you for the opportunity to review and submit comments on the Environmental Assessment (EA) for the Panamint Valley Lithium Exploration Project, Inyo County, California. On behalf of our hundreds of thousands of members and supporters, the California Wilderness Coalition (CalWild), The California Native Plant Society (CNPS), Californians for Western Wilderness (CalUWild), Center for Biological Diversity (CBD), Conservation Lands Foundation (CLF), Defenders of Wildlife (Defenders), Friends of The Inyo (FOI), the Sierra Club, Sierra Club Range of Light Group, Transition Habitat Conservancy (THC), Western Watersheds Project (WWP), and The Wilderness Society (TWS) submit these comments in response to the Bureau of Land Management’s (BLM) request for public input on the Panamint Valley Lithium
Exploration Project Environmental Assessment (EA). Our organization’s members and supporters include residents of Inyo County and active participants in the abundant recreational opportunities in the area that may be directly and indirectly impacted by the proposed Panamint Valley Lithium Exploration Project.

CalWild is a nonprofit public benefit corporation organized under the laws of the State of California in 1976 and composed of conservation organizations, businesses, and individual members. Through advocacy and public education, CalWild builds support for the protection of California’s wildest remaining places, primarily those managed by the federal government.

The California Native Plant Society (“CNPS”) is a non-profit environmental organization with more than 10,000 members in 35 Chapters across California and Baja California, Mexico. CNPS’s mission is to protect California’s native plant heritage and preserve it for future generations through the application of science, research, education, and conservation. CNPS works closely with decision-makers, scientists, and local planners to advocate for well-informed policies, regulations, and land management practices, and participated as a stakeholder on the DRECP throughout its development.

Californians for Western Wilderness (CalUWild) is a citizens organization based in San Francisco, California, dedicated to encouraging and facilitating participation in legislative and administrative actions affecting wilderness and other public lands in the West. Our members use and enjoy the public lands in California and all over the West.

The Center for Biological Diversity is a national, nonprofit conservation organization with more than 1.4 million members and online activists dedicated to the protection of endangered species and wild places. The Center has actively advocated for the protection of public lands the CDCA for more than 20 years.

The mission of the Conservation Lands Foundation (CLF) is to protect, restore, and expand the National Conservation Lands through education, advocacy and partnerships. We are the only nonprofit dedicated solely to safeguarding National Conservation Lands and supporting the more than 60 community-based organizations across the West who are leading the on-the-ground stewardship, education, and advocacy efforts for these protected public lands.

Defenders is a national conservation organization with over 1.8 million members and supporters, including 279,000 in California. We are dedicated to protecting all wild animals and plants in their natural communities. To this end, we employ science, public education and participation, media, legislative advocacy, litigation, and proactive on-the-ground solutions to impede the accelerating rate of extinction of species, associated loss of biological diversity, and habitat alteration and destruction.

FOI is a grassroots nonprofit conservation organization based in Bishop, California, dedicated to the stewardship, exploration and preservation of the Eastern Sierra’s public lands and wildlife. Over our 30-year history, FOI has become an active partner with federal land management agencies including the BLM.
The Sierra Club was founded by legendary conservationist John Muir in 1892 and is now the nation’s largest grassroots environmental organization – with more than two million members and supporters including nearly 450 in the Eastern Sierra. In Inyo and Mono Counties, CA the Sierra Club Range of Light Group is a member of the Toiyabe Chapter of the Sierra Club and offers outings and advocates for public lands and environmental protection on a wide range of issues with 400 members across both Counties.

Transition Habitat Conservancy is a land trust whose mission is focused on habitat protection in the West Mojave, but we also support our conservation partners throughout the California Desert. For background connection, we spearheaded a comprehensive hydrology survey effort to visit and map all spring sites within BLM California Desert District- including the springs that will be affected by this project in the Panamint Valley.

Western Watersheds Project(WWP) is a conservation nonprofit with more than 9,500 members and followers, that works to protect and conserve the public lands, wilderness, wildlife, and natural resources of the American West through education, scientific study, public policy initiatives, and litigation.

The Wilderness Society (TWS) is a national non-profit organization with over one million members and supporters nationwide whose mission is to protect wilderness and inspire Americans to care for our wild places. Since it’s founding in 1935, TWS has worked to provide scientific, legal, and policy guidance to land managers, communities, local groups, state and federal decision-makers, and diverse interests who care about our American public lands.

Our organizations offer the following comments in regards to the Panamint Valley Exploration Project EA. As written in the Panamint Valley Lithium Exploration Project EA, “the Federal Land Policy and Management Act (FLPMA) of 1976 states that it is the policy of the United States to manage the public lands for multiple-use and sustained yield while providing for resource protection in a manner that also recognizes the nation’s need for domestic sources of minerals, provides rights of ingress and egress to locators under the Mining Law of 1872, and mandates the Secretary of the Interior to prevent unnecessary or undue degradation of public lands.”

BLM’s multiple-use mandate prohibits the agency from managing public lands primarily for resource development or in a manner that unduly or unnecessarily degrades other uses. See, 43 U.S.C. § 1732(a). The multiple-use mandate directs BLM to achieve “a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations.” 43 U.S.C. § 1702(c). Further, as co-equal, principal uses of public lands, outdoor recreation, fish and wildlife conservation must receive the same consideration as resource development, including grazing, logging, hard rock mining and rights-of-way. 43 U.S.C. § 1702(l).

In recognition of the environmental components of the multiple-use mandate, courts have repeatedly held that permitting industrial uses and development of public lands is not required, but must instead be weighed against other possible uses, including conservation. See, New
Mexico ex rel. Richardson, 565 F.3d at 710 (“BLM’s obligation to manage for multiple-use does not mean that development must be allowed. . . Development is a possible use, which BLM must weigh against other possible uses — including conservation to protect environmental values, which are best assessed through the NEPA process.”); Rocky Mtn. Oil & Gas Ass’n v. Watt, 696 F.2d 734, 738 n.4 (10th Cir. 1982) (“BLM need not permit all resource uses on a given parcel of land.”). Thus, any action by BLM that seeks to establish resource development as the dominant use of public lands would violate FLPMA.

Our organizations would like to emphasize that FLPMA’s multiple-use mandate does not permit the prioritization of mineral development over other uses of public lands. The other resources and uses of the project site must be given full and equal consideration in the BLM’s decision making for the Panamint Valley Lithium Exploration Project particularly in light of the fact these lands are designated for conservation through the Desert Renewable Energy Conservation Plan (DRECP) as National Conservation Lands and Areas of Critical Environmental Concern.

Project background: In November 2017, Battery Mineral Resources California, Inc. submitted a plan of operations to explore for lithium on four unpatented, undiscovered placer mining claims located on BLM National Conservation Lands within Panamint Valley. The proposed exploration entails drilling four 3-inch diameter wells to 2,000 feet deep on or immediately adjacent to the Panamint Dry Lake playa. Water for the drilling operations would be obtained from an outside source and trucked to each site. Drilling fluids would be contained in an excavated sump at each site measuring 10-feet wide, 5-feet deep and 20-feet long. After brine samples for lithium are obtained and the drilling fluids naturally dry, the sumps would be backfilled and recontoured to approximate conditions and contours that existed prior to the operations.

Regulatory framework: The primary regulatory framework governing locatable mineral exploration and development on public lands includes the Surface Management Regulations (43 CFR 3809) and the California Desert Conservation Area (CDCA) Plan, as amended. The most recent applicable amendments to the CDCA Plan are from the 2016 DRECP. The Bureau of Land Management’s primary responsibility in regulating locatable mineral exploration and development is the prevention of Unnecessary or Undue Degradation\(^1\) of public lands and their resources. 43 CFR 3809.420 (a)(3) establishes performance standards for conducting locatable mineral exploration and development, and specifically requires that such activities must comply with the applicable BLM land-use plans and activity plans (i.e., the CDCA Plan, as amended by the DRECP).

Our comments on the EA for the Panamint Valley Lithium Exploration Project are as follows:

1. The Project Description in the EA is Inaccurate.
   The description of the proposed action fails to include several important facts:

\[^1\] In this context, “unnecessary and undue degradation” means “[s]urface disturbance greater than what would normally result when an activity is being accomplished by a prudent operator in usual, customary, and proficient operations of similar character and taking into consideration the effects of operations on other resources and land uses, including those resources and uses outside the area of operations.
State Lands and Mineral Prospecting Permits

The EA also fails to describe the State Lands that are within the project footprint of the proposed mining area. EA at 25, Figure 3-1. Mineral prospecting permits were issued by the State Lands Commission for these 2 sites:

Parcel 1: Sec. 16, T22S, R44E; Permit , term began January 1, 2017, expired on 12/31/18

Parcel 2: Sec. 16, T23S, R44E: Permit # PRC 9390.2, term began May 1, 2017, will expire 4/30/19

The BLM EA should have also disclosed that the lease on one permit is expired and the other will expire on April 30, 2019. The County of Inyo issued a notice in mid-April regarding a proposal for exploratory drilling on the State land parcel just south of Ballarat, # PRC 9385.2, along with an environmental review document pursuant to CEQA, a Mitigated Negative Declaration. This state CEQA environmental review process should be coordinated with the BLM’s EA process as these are two parts of the same project and the cumulative impacts must be fully addressed.

2. Inadequate Baseline Environmental Information

BLM failed to collect and analyze baseline information necessary to meet its requirements under NEPA, including on the presence/absence of special status plants and animals, groundwater resources, and other imperiled resources. NEPA requires that an agency must establish baseline conditions to facilitate an accurate evaluation of the intensity of impacts from agency decision. See Am. Rivers v. FERC, 201 F.3d 1186, 1195 n.15 (9th Cir. 2000) (environmental baseline is “a practical requirement in environmental analysis employed to identify the environmental consequences of a proposed agency action”); Half Moon Bay Fishermans’ Mktg. Ass’n v. Carlucci, 857 F.2d 505, 510 (9th Cir. 1988) (discussing importance of baseline conditions). Without establishing the baseline conditions which exist in the vicinity before the project begins, “there is simply no way to determine what effect the proposed [project] will have on the environment and, consequently, no way to comply with NEPA. Half Moon Bay, 857 F.2d at 510. BLM’s EA fails to adhere to this NEPA requirement of providing an adequate baseline analysis.

A. Special Status Plants

In its EA and Biological Assessment, BLM relies on two sources of information in establishing the baseline for special-status species of plants and animals potentially occurring in the area of the proposed activities: a database search and a single field visit by a private contractor. For the reasons discussed below, each of these sources fails for separate reasons.

2 While the applicant has applied for extensions, any extension is discretionary and may or may not be approved by the State Lands Commission at a future meeting.
3 Available at http://www.inyoplanning.org/projects.htm
First, BLM cannot reasonably rely on a database search for the presence/absence of special status species to meet its NEPA obligation. While using databases of rare plant locations, such as the Californian Natural Diversity Database, are helpful in determining the species that might occur on a project site this is not a suitable substitute for detailed on the ground surveys. From a botanical perspective, the California desert remains among the least well-documented areas in the state. This is exemplified by the large number of new species that have been described from and the multitude of rare plants that have been added to the CNPS Rare Plant Inventory from this region over the past decade. This underscores the fact that we still have much to learn from desert habitats, and that appropriately-timed, full-floristic surveys are necessary to document and disclose project-level impacts.

Moreover, BLM also errs in relying on a one-time survey to establish the environmental baseline. Indeed, BLM even acknowledges that this survey has limited value in establishing the baseline because it was taken too late in the season to identify the presence/absence of native vegetation. Pg.18, Sec 2.1.5 of the EA sites:

“The baseline biological survey of the area included surveying for special status plants, however, as stated in the Biological Report, it was not conducted during the appropriate survey season for annual species, therefore a second survey will be completed prior to construction. The surveys for special status plants should be implemented in the spring when conditions are suitable for target species to be present and in bloom.”

BLM cannot rely on these two data sets to establish the environmental baseline. Instead, to meet its NEPA obligations, BLM must conduct additional surveys of the affected project area this spring and summer for special status species of annual plants and to submit a written report of the findings before BLM completes the environmental assessment for the proposed activities. This additional survey must occur through the period of peak bloom, and into the summer season, due to the relatively abundant precipitation that has occurred over much of the Mojave Desert during the winter and early spring of 2019 and the relevant flowering periods, outlined below. Suitable habitat for eight special status species (CRPR 1B or 2B) is present on the project site. Five annual taxa, Clokey’s cryptantha (Cryptantha clokeyi), Death Valley round-leaved phacelia (Phacelia mustelina), creamy blazing star (Mentzelia tridentata), Latimer’s woodland gilia (Saltugilia latimeri), and Hoffman’s buckwheat (Eriogonum hoffmanii var. hoffmanii) have the potential to occur on the site. The flowering period for these taxa as reported in the CNPS Rare Plant Inventory is provided in the table below:

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Rank</th>
<th>Flowering Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cryptantha clokeyi</td>
<td>1B.2</td>
<td>April</td>
</tr>
</tbody>
</table>

4 California Department of Fish and Wildlife (CDFW) Natural Diversity Database (CNDDB) Rarefind 5 and the California Native Plant Society’s Online Inventory of Rare and Endangered Plants (CNPS v8-02).


6 http://www.rareplants.cnps.org/
Only *Eriogonum hoffmanii* var. *hoffmanii* would have possibly been detectable during botanical surveys. Appendix C, the Biological Assessment, notes that a “follow up spring survey would be required to determine the presence or absence of the five annual species under suitable seasonal conditions.” We agree fully with this recommendation. The detectability of rare species should be confirmed with visits to reference sites for all taxa for which there is suitable habitat on the project site. Visits to reference sites are necessary to ensure that rare taxa would be detectable on a project site if they are present. This practice is especially important for annual plants in desert habitats that may not be detectable unless the proper conditions for seed germination occur.

Sites DDH-1 and RC-5 occur within 1 mile of known locations of desert winged cress (*Sibara deserti*) desert winged cress and Cooper’s rush (*Juncus cooperi*), both of which are on CRPR 4.3. While *Juncus cooperi* is a perennial species *Sibara deserti* is an annual that flowers in March and April, and could have been missed in surveys. We recommend that additional surveys be conducted to document all rare plant taxa, including those that are on CRPR 3 and 4.

Moreover, BLM’s failure to collect adequate information prior to approving the plan of operations also runs afoul of the requirements in the DRECP. Under the DRECP, BLM is required to “[c]onduct properly timed protocol surveys in accordance with the BLM’s most current (at time of activity) survey protocols for plant Focus and BLM Special Status Species. DRECP, LUPA-BIO-PLANT-1. Yet, BLM has failed to adhere to this requirement.

**B. Special Status Wildlife – Western Snowy Plover (Charadrius nivosus nivosus)**

The inland breeding population of Western snowy plover is considered a Bird Species of Special Concern by the California Department of Fish and Wildlife.

Inland breeding populations of snowy plovers are potentially present in Panamint Valley at Warm Sulphur Springs and Post Office Springs (Laura Cunningham, personal observations). Snowy plovers have been observed at Warm Sulphur Springs by L. Cunningham. The Ridgecrest Field Office of Bureau of Land Management has undertaken breeding snowy plover surveys at these springs in Panamint valley to survey for snowy plovers. This data should be made available and analyzed in the EA.

Snowy plovers breed at Mono Lake, Mono County, and at Owens Lake and Deep Springs Lake, Inyo County. Small numbers nest at Bridgeport Reservoir, Long Valley (Crowley Lake, Little

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>CRPR Code</th>
<th>Time Period</th>
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<tr>
<td><em>Phacelia mustelina</em></td>
<td>1B.3</td>
<td>May-July</td>
</tr>
<tr>
<td><em>Mentzelia tridentata</em></td>
<td>1B.3</td>
<td>March-May</td>
</tr>
<tr>
<td><em>Saltugilia latimeri</em></td>
<td>1B.2</td>
<td>March-June</td>
</tr>
<tr>
<td><em>Eriogonum hoffmanii</em> var.</td>
<td>1B.3</td>
<td>July-September</td>
</tr>
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Alkali Lake), and Adobe Valley, Mono County, and at Salt Lake (Saline Valley), and Tinemaha Reservoir, Inyo County. Other breeding sites where plovers have been recorded are Tecopa Marsh, Inyo County; Koehn Lake, Kern County; Rosamond Lake, Kern, and Los Angeles counties; China Lake, Kern and San Bernardino counties; and Searles and Harper lakes, San Bernardino County. More information is needed from Panamint Valley.

Snowy plovers nest from March to September. Nests typically occur in flat, open areas with sandy or saline substrates. Nesting sites typically occur on barren to sparsely vegetated flats and along shores of alkaline and saline lakes. Plovers can nest and raise broods even where just a small seep is the only source of water. Adults and broods typically forage near shallow water (1–2 cm deep)—sometimes up to 4 km from their nests—and on dry flats. Nest distance to water ranges from 1 m to 3 km. On alkali flats, plovers usually nest in areas of moderate relief and often cluster near wet or dry channels or depressions sculpted by runoff flowing onto, or pooling on, the playa.  

Loss of nesting habitat and destruction of playa wetlands are a leading cause of snowy plover inland breeding population declines. Human disturbance and vehicle use may cause nest abandonment.

Habitat management and changes in water levels, particularly if human-induced, pose the greatest threat to inland-nesting Snowy plovers. Interior alkaline and saline lakes are subject to a high degree of natural seasonal and annual water level and salinity fluctuations, and local plover populations must disperse when conditions are no longer favorable. Groundwater pumping for Lithium exploration and future mining could reduce water flowing to terminal playa lakes and springs, potentially causing Warm Sulphur Spring and Post Office Spring to dry up earlier in the season, or more often on an annual basis than they might if no water diversions occur, or dry up completely.

Breeding areas must receive adequate high-quality water and groundwater pumping must not eliminate or degrade nesting habitats.

Water impoundments that concentrate brines containing Lithium salts, such as at the commercial Lithium extraction operations such in Clayton Valley in Nevada, do not provide high-quality plover habitat. Brines are too concentrated and could be toxic to waterbirds. This should be analyzed in the EA.

C. Vegetation Mapping

While Appendix C includes information on the habitat at each of the proposed drilling sites no vegetation map is provided. It is accordingly impossible to determine if rare vegetation types as defined by the California Department of Fish and Wildlife occur on the site. We recommend that an Alliance Level vegetation map, following the National Vegetation Classification Standards (NVCS), be completed for the project site as per DRECP LUPA-BIO-1. This is necessary

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7 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=10398
to ensure that rare vegetation types will not be impacted by the project and that DRECP CMAs for special vegetation features can, if applicable, be implemented appropriately.

D. Dune Vegetation

If drill sites are relocated within different claim sites other than the ones specified in the EA, a supplemental EA will be required. This is particularly important because of the presence of vegetated dunes within the claim location. These islands of wildlife are host to a variety of species: birds, coyotes, rabbits, bobcats, etc. who find shelter and shade in the dense foliage of the vegetated dunes. During a field visit on April 6, 2019 there were numerous tracks in and out of these vegetated dunes as well as scat and dens that show abundant activity. Birds use the vegetated dunes as well. The noise, lights, and human bustle of drilling should be a safe distance away.

E. Wetland Habitats

No wetland delineation was completed for the project. Sites DDH-1 and RC-5 contain vegetation stands characterized as Suaeda nigra Shrubland Alliance. Suaeda nigra (formerly Sueda moquinii) is a groundwater dependent and alkali tolerant plant, and is listed as an obligate wetland species in the National Wetland Plant List: 2014 Update of Wetland Ratings\(^8\). This important and sensitive plant community requires a proper habitat assessment in the form of a vegetation map according to the National Vegetation Classification Standards be completed for the project area, as per DRECP CMA LUPA-BIO-1.

Until BLM completes additional surveys and otherwise collects valid data establishing the environmental baseline for these resources, it is improper for BLM to approve the Plan of Operations as submitted. Moreover, BLM’s assertion that further monitoring will be completed prior to exploration is insufficient to cure this defect. BLM’s assurances that the operator will undertake future studies – while admitting that it has not done so in the past – does not meet NEPA’s requirements that federal agencies must undertake “coherent and comprehensive up-front environmental analysis to ensure informed decision making.” See Center for Biological Diversity v. USFS, 349 F.3d 1157 (9th Cir. 2003) (NEPA “prohibits uninformed – rather than unwise – agency action”), citing Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 351 (1989). Thus, as a matter of law, BLM may not rely upon future data collection and studies to skirt its NEPA obligations to make informed decisions.

F. Noise Impacts Are Not Analyzed

Noise is not included in the list of resources in Appendix A, the Interdisciplinary Team Analysis Record Checklist. The EA is silent on the subject of noise impacts. Drill rigs can be loud and

noisy, for long periods of time, potentially day or night. If noise impacts were not analyzed there should be a valid justification for this provided in the EA.

G. Greenhouse Gas Impacts Are Not Analyzed

Appendix A, the Interdisciplinary Team Analysis Record Checklist rates GHG Determination as NI.

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<tr>
<th>NI</th>
<th>Greenhouse Gas (GHG) Emissions</th>
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<td>The Proposed Action would not impact or contribute substantially to increase GHG emissions and does not meet the requirements for greenhouse gas reporting <a href="https://www.epa.gov/ghgreporting">https://www.epa.gov/ghgreporting</a> The limited amount of pollutants resulting from the drilling exploration would not impede the BLM and the State of California from meeting the air quality objectives or reductions in GHG emissions.</td>
</tr>
</tbody>
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The NI option chosen is unsupported – there is no GHG analysis concluding detailed analysis is not required. The Rationale for Determination talks of requirements for greenhouse gas reporting, not generation. Without analysis of the project’s pollutants, the project’s pollutants are compared to BLM and California requirements. The cited website [https://www.epa.gov/ghgreporting](https://www.epa.gov/ghgreporting) leads to an EPA page discussing GHG reporting, not GHG analysis.

The EA must include an analysis. Drilling deep holes is energy intensive. GHG emission analysis must be analyzed from not only the drilling but from the transport of supplies, moving equipment and to and from the site, commuting, and all other sources.

3. BLM Failed to Demonstrate Compliance with CMAs.

The project must comply with the conditions of the DRECP Land Use Plan Amendment, including relevant Conservation Management Actions (CMAs). The Environmental Assessment (EA) notes (at page 12) that a number of Conservation and Management Actions (CMAs) govern the exploration project, but the EA unfortunately supplies no analysis and little discussion of how those CMAs have been applied by the agency in reaching the EA conclusions. BLM must provide additional details beyond terse conclusory statements on how compliance with the CMAs was determined.
Moreover, the EA list of applicable CMAs omits several critical additional CMAs that clearly apply. Both the listed and omitted CMAs will require additional work by the BLM and/or the project applicant before the EA decision record can be issued and project can receive its authorization to proceed.

The following CMAs are applicable to this project:

**Biological Resources**

**LUPA-BIO-PLANT-1:** Conduct properly timed protocol surveys in accordance with the BLM’s most current (at time of activity) survey protocols for plant Focus and BLM Special Status Species.

**LUPA-BIO-PLANT-2:** Implement an avoidance setback of 0.25 mile for all Focus and BLM Special Status Species occurrences. Setbacks will be placed strategically adjacent to occurrences to protect ecological processes necessary to support the plant Species (see Appendix Q, Baseline Biology Report, in the Proposed LUPA and Final EIS [2015], or the most recent data and modeling).

**Lands with Wilderness Characteristics**

Proposed exploratory drilling activities are located within two Wilderness Inventory Units: CDCA 140 (Panamint Lake) and CDCA 142-1(Slate Range and Southern Panamint Valley). BLM has determined both units to have Lands with Wilderness Characteristics (LWC). More specifically:

1. **CDCA 140:** There is one proposed exploration project within CDCA 140, which is also the Citizen LWC unit named Wildrose Wash. As acknowledged by BLM, this unit contains “outstanding opportunities for solitude and for primitive and unconfined recreation... within the wetland areas and mesquite bosques in the northeast corner of the unit. Supplemental values include a relatively large expanse of open water and fresh and saltwater marshes emanating from Warm Sulphur Spring and several reported prehistoric sites in the area.” EA at 33. This units is also:
   a. Composed of federal public land;
   b. Near four other large roadless areas;
   c. Primarily affected by the forces of nature;
   d. Possesses supplemental values, including recreational, scientific, cultural and wildlife values.

2. **CDCA 142-1:** There are three proposed exploration sites within CDCA 142-1. As stated by the BLM, this unit “provides many outstanding opportunities for solitude and for primitive and unconfined recreation for visitors traveling cross-country on foot or by horse. The unit has many unique supplemental values. It contains an important wildlife corridor, enabling Nelson’s desert bighorn sheep and other upland species, to move without disruption or interference across Panamint Valley between mountainous areas on NAWS lands, in the Slates, Panamints and Argus Ranges.” EA at 32.
This project and any future mineral development in these areas will have impacts to all of these characteristics.

Although the CDCA Plan, as amended, does not require BLM to manage these lands to retain wilderness characteristics, the following additional CMA, which BLM failed to include in the EA does apply:

**LUPA-WC-3**: For inventoried lands found to have wilderness characteristics but not managed for those characteristics, compensatory mitigation is required if wilderness characteristics are directly impacted. The compensation will be:

- 2:1 ratio for impacts from any activities that impact those wilderness characteristics, except in DFAs and transmission corridors.

Allowable compensatory mitigation includes restoration of impaired wilderness characteristics in Wilderness, Wilderness Study Areas, and lands managed to protect wilderness characteristics, which is a substitute for acquisition of private land within these areas.

BLM must consider all of the valuable wilderness characteristics in the project area and the impacts that exploration and potential mining would have on those characteristics. BLM must also apply the CMA (LUPA-WC-3) for impacts to wilderness characteristics as set out in the DRECP.

**Groundwater and Surface Water CMAs Including Omitted Provisions**

The following are some of the CMAs that apply to the exploratory project for lithium mining. If the exploration leads to a commercial venture, many more ground and surface water CMAs would apply.

**LUPA-SW-6** Requires standard industry construction practices to prevent toxic substances from leaching into the soil. The EA includes this stipulation, but does not discuss or include specific requirements, such as lining waste disposal pits to avoid leaching into groundwater, nor does it discuss the substances that will be potentially released by the exploratory drilling project. The project EA seems to assume that drilling and formation fluids will be allowed to percolate into soils from the sumps. Given a lack of toxicity data for the sump contents, fluids and cuttings should be placed into portable tanks and disposed offsite or impermeable liners should be required to be installed in the sumps.

**LUPA-SW-10** (omitted) Requires the mapping of specific sensitive soil types, including hydric soils and biologically intact soil crusts, which are likely present on the proposed project site, and should be avoided. There is no mapping of soil types included in the EA.

**LUPA-SW-16** Requires mapping of floodplain boundaries of surface water features “in the vicinity of the project,” and avoidance of construction or alteration of floodplains unless all other required permits from other agencies are obtained. The EA concludes that no further analysis is required if the exploratory project complies with SW-16; however, there is no
evidence that it has met the SW-16 requirements. The EA does not include mapping of floodplain boundaries, nor any hydrologic modeling or analysis, either of which is required. The EA acknowledges that DDH-1, RC-2, and RC-5 are sited in locations designated as Special Flood Hazard Area Subject to Inundation by the 1% Annual Chance Flood (Without Base Flood Floodplains NI Elevation, Zone A) and thus the project must seek California state permits for alteration of intermittent flows associated with these units.

Mining CMAs
Because the exploratory drilling sites lie both within areas designated as National Landscape Conservation System (NLCS) lands and Area of Critical Environmental Concern (ACEC), the EA needed but failed to reference or analyze two requisite CMAs. Specifically, for High Potential Mineral Areas, which includes the Panamint Valley, CMA-NLCS-MIN-1 and CMA-ACEC-MIN-1 both state:

“In California Desert National Conservation Lands and ACECs, determine if reasonable alternatives exist outside of the California Desert National Conservation Lands and ACECs prior to proposing mineral resource development within one of these areas.”

The EA fails to identify if this CMA was taken into consideration. The EA is mute on analysis of it. It is unclear if other areas outside of the CDNCL and ACEC designated lands may have similar resources and where development could be a reasonable alternative.

Furthermore CMA-NLCS-MIN-1 requires a rigorous environmental review as follows:

In California Desert National Conservation Lands, subject to valid existing rights, if mineral resource development is proposed on a parcel of public land administered by the BLM for conservation purposes and designated as part of the NLCS within the CDCA, pursuant to Omnibus Public Land Management Act Section 2002(b)(2)(D):

- Identify, analyze, and consider the resources and values for which that parcel of public land is administered for conservation purposes.

- Determine whether the development of mineral resources is compatible with the BLM’s administration of that parcel of public land for conservation purposes. If development is incompatible, the mineral resource would not be developed, subject to valid existing rights.

- Approve any operation for which valid existing rights have been determined, subject to the applicable CMAs in the DRECP LUPA, including LUPA-MIN-1 through 6.

However, the proposed reclamation for the exploratory drilling (EA at pg. 16) fails to result in a net benefit for CDNCL values. First, as explained above, without appropriate survey data there is no way to assess the likely impacts to plants and soils and therefore no way to ensure a net benefit. Second, while the reclamation provided tries to temporarily safeguard against wildlife impacts from the sumps, it ultimately degrades the exploratory drilling areas, as shown in

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9 DRECP Proposed LUPA and Final EIS at pg. III.15-12
Figure 2-1 Sample Reclaimed Exploration Site (EA pg. 17). In fact, this type of reclamation may also encourage illegal off-road vehicle trespass which is already a significant problem in the Panamint Valley (see Figures 1 and 2 below). Thus the sump reclamation certainly provides no net benefit to the CDNCL lands in the Panamint Valley. Third, there is no discussion of the risks of cross contamination from the deep brines to the freshwater aquifer and the drill site reclamation practices to not appear to have taken this risk into account.

The following CMAs LUPA-BIO-1, LUPA-BIO-2, LUPA-WC-3, LUPA-SW-6, SW-10, SW-16, SW-35, NLCS-MIN-1 and ACEC-MIN-1 as referenced above in Section 3 (pg.10-12) either restrict or require considerable review by the BLM before the exploratory drilling project can move forward. If an industrial scale lithium mine were to come to fruition, an additional review of these CMAs is required.

4. Failure to Adequately Consider Cumulative Impacts

NEPA requires agencies to prepare an Environmental Impact Statement (EIS) for “major Federal actions significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(2)(C). If there is a substantial question that a proposed action may be “significant,” then the agency is required to perform an EIS. Anderson v. Evans, 371 F.3d 475, 488 (9th Cir. 2004) (“plaintiffs need not demonstrate that significant effects will occur. A showing that there are substantial questions whether a project may have a significant effect on the environment is sufficient”). “Plaintiffs must show only the potential for cumulative impact” to require an EIS. Te-Moak Tribe v. U.S. Dep’t of the Interior, 608 F.3d 592, 605 (9th Cir. 2010).

To determine whether an EIS is necessary, an agency must consider ten “intensity” factors – including potentially significant cumulative impacts. 40 C.F.R. § 1508.27(b). “A cumulatively significant impact is an impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.” Western Watersheds Project v. Bennett, 392 F.Supp.2d 1217, 1223 (D. Id. 2005) (internal quotations and ellipses omitted), quoting Kern v. BLM, 284 F.3d 1062, 1075 (9th Cir. 2002). See also 40 C.F.R. § 1508.7.

In considering cumulative impacts, this Court has noted that an agency must provide “some quantified or detailed information” because “[g]eneral statements about possible effects and some risk do not constitute a hard look absent a justification regarding why more definitive information could not be provided.” Bennett, 392 F.Supp.2d at 1223, citing Ocean Advocates v. U.S. Army Corps of Eng’rs, 402 F.3d 846, 868 (9th Cir. 2005). See also Western Watersheds Project v. Rosenkranze, Case No. 09-CV-298-EJL, 2011 WL 39651 at *11-13 (D. Idaho January 5, 2011) (reversing cumulative impact analysis as arbitrary and capricious). This cumulative analysis “must be more than perfunctory; it must provide a useful analysis of the cumulative impacts of past, present, and future projects.” Bennett, 392 F.Supp.2d at 1223.

A. Existing Ground Disturbance
According to the CDCA Plan, as amended by the DRECP, “Ground disturbance will be calculated on BLM managed land at the time of an individual proposal, by BLM for a BLM initiated action or by a third party for an activity needing BLM approval or authorization, for analysis in the activity-specific National Environmental Policy Act (NEPA) document.” Ground disturbance includes, but is not limited to, all routes, trails, etc., authorized and unauthorized; and from wildfire, animals, or other disturbances that can be seen at a 1:10,000 scale using the best available aerial imagery. BLM should include in its inventory of existing disturbance in the ACEC and NCL lands all authorized and unauthorized off-road vehicle tracks. This is particularly important given the existence of extensive unauthorized vehicle tracks on the Panamint Playa and other adjacent areas. Below are two examples:
BLM should include in its inventory of existing disturbance in the ACEC and NCL lands all areas impacted by burros. BLM’s amendments to the CDCA Plan in 1982 established a management goal of zero burros throughout Panamint Valley, Panamint Mountains and Argus Mountains. As an example, below is an image of burro disturbance at the Warm Sulfur Spring ACEC.
5. BLM Failed to Consider an Adequate Range of Alternatives

Under NEPA, all federal agencies must consider a reasonable range of alternative actions. See 42 U.S.C. § 4332(2)(c)(iii); 40 C.F.R. § 1502.14; Bob Marshall Alliance v. Hodel, 852 F.2d 1223 (9th Cir. 1988), cert. denied, 489 U.S. 1066 (1988). This requirement applies to EAs as well as EISs. See 40 C.F.R. § 1508.9(b). Alternatives are indeed the “heart” of the NEPA analysis. See 40 C.F.R. § 1502.14. The range of alternatives should "sharply [define] the issues and [provide] a clear basis for choice among options by the decisionmaker and the public." Id. Under NEPA, alternatives analysis must:

(a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated. . . .
40 C.F.R. § 1502.14 (a) and (c). See California v. Block, 690 F.2d 753, 765-69 (9th Cir. 1982) (reversing EIS for failure to address reasonable range of alternatives). A “viable but unexamined alternative renders [the environmental analysis] inadequate.” Muckleshoot, 177 F.3d at 814, quoting Citizens for a Better Henderson v. Hodel, 768 F.2d 1051, 1057 (9th Cir. 1985).
Despite this well-known NEPA requirement, BLM gave only cursory attention to alternatives analysis in its EA. Indeed, the Panamint Valley Lithium Exploration Project EA identifies a proposed action and a no action alternative to the project. While the no action alternative is our preferred decision for this project, the environmental assessment fails to identify a significant range of alternatives to the proposed action. To avoid limiting the scope under which this project can be executed in a less environmentally damaging way, the BLM should consider additional alternatives to the project, including the following.

A. **A Drill-on-Road Alternative** - A drill-on-road alternative for two of the holes should be included.

The KOP pictures show the drill sites adjacent to Wingate Road would have substantial damage to adjacent undisturbed surface.

- Hole DDH1 at KOP#3, a mile or so south of Ballarat.
- Hole RC2 at KOP #4, a few miles south of DDH1.

Wingate Road is quite wide in places, with very light traffic. This alternative would use one side of the road for the drilling operation, with traffic control devices before and after the site. Impact to the planned, undisturbed surface adjacent to the road would not occur.

This alternative would essentially eliminate the cumulative impact described in 4.1.7.2 (p.40) of the EA.

Holes RC4 and RC5:

- Hole RC4 (KOP#1) is on a ‘hardly-ever’ used road, which very closely matches the surrounding non-road surface at the drill site. The drill-on-road concept is inapplicable here.
- Hole RC5 (KOP #2) is at the south side of the western end of the road on the playa leading to Ballarat: A wide spot there, presumed to be the proposed drilling location, is already disturbed, so there would be no reason to drill on the road.

B. **Reduced Impact and Full Reclamation and Restoration Alternative** - Panamint Valley in general, and lands within the designated ACEC and National Conservation Lands, have high scenic quality and are identified as a Visual Resource Management (VRM) Class II designation, the highest rating outside of designated wilderness.

We recommend that BLM explore an alternative that requires the following additional stipulations attached to the approval for the exploratory drilling activities in order to further minimize impacts to the visual quality of the affected areas:

- Drilling fluids used in the exploratory drilling operations will be contained in portable sumps and disposed of at an appropriate landfill facility. This stipulation would prevent disturbance caused by using excavated sumps at each drilling site which would be 10-feet wide, 5-feet deep and 20-feet long.
• All vehicle tracks, berms and other physical alteration of the soil at the drill sites should be removed and the sites restored to the same condition as existed prior to the exploratory drilling. We make this recommendation because the EA includes an example of a reclaimed site on Panamint Lake which shows evidence of physical alteration which is avoidable through more stringent site reclamation standards. Below is EA Figure 2-1 Sample Reclaimed Exploration Site, showing residual vehicle tracks, and excavated area and a displaced soil mound.

• All areas with desert pavement (proposed drill sites RC2 and DDH-1) should be protected through avoidance stipulations. Since each of the four mining claims involved in the exploratory drilling are 20 acres, BLM should seek to relocate authorized drill sites to previously disturbed locations. If that is not practicable, then suitable mats designed to prevent disruption of desert pavement should be required, such as military surplus aircraft landing mats, plastic construction mats [e.g., duradek (https://signaturecorp.com/duradeck/)].

• The EA states that all drill sites are on existing roads. However, the “road” to RC4 is along a 4WD trail that is barely visible as of April 2019 and is in a nearly natural state with washes and hard-packed desert flooring in places. Winter rains have erased previous 4WD tracks. The other drill sites are along graded roads designed for vehicles. They are packed, graded, and wetted. P0929 is not and it is 0.8 miles in from Indian Ranch Road. Heavy vehicles making frequent trips on P0929 (or P3) for nearly a mile will significantly scar and rut the playa and it may not be possible to restore it to its original state. (RC4 is 1.1 miles in from Indian Ranch Road on P3.) Left over scars will make it easy for the public to find it, increasing the use of it. The EA should indicate that this road is significantly more primitive than the roads to the other drill sites and that this project will essentially create a new road. Consider having the employees park along Indian Ranch Road and walk in to this site to minimize traffic along P0929 or P3 and wetting the road if vehicles kick up dust. P3 is representative to what the roads off of Indian Ranch Road near RC4 are like.

6. BLM Must Consider Impacts From The Intended Lithium Brine Mining Project

BLM regulations require that cumulative impact analyses include reasonably foreseeable actions. Based on our review of the Haines Technical Report, the EA, and the CMA of the Panamint/Argus ACEC Lake Unit and Mountain Unit, an industrial scale lithium mine would be impermissible. The operation would have to conform with the NLCS and ACEC disturbance caps (CMA NLCS-DIST-2 and CMA ACEC-DIST-2) which are already exceeded leading to significant compensatory mitigation requirements at a likely ratio of 3:1 as with the exploration activities. The operation would also need to be managed in accordance with Visual Resource Management (VRM) Class II objectives (EA Section 3.6) which include retaining the existing character of the landscape with a low level of change to the characteristic landscape. This would mean the development of a lithium mine that does not attract the attention of the casual observer. Further, given that the site falls within the Panamint Lake ACEC, the operation would also have to be assessed to determine whether it could be accommodated within the ACEC and its management goals, many of which are in conflict. (Panamint/Argus Special Unit Management Plan, Basin and Range Subregion, DRECP Appendix L). Furthermore, BLM must
analyze whether the proposed project’s impacts could be contrary to conservation purposes for which these areas were designated.

While impacts from the proposed exploration activities may be designed to avoid and/or minimize impacts to resource values in the project area, it is unclear how a future mine development proposal would be permissible given likely impacts to the larger landscape. If a future mine development project is a non-starter, our organizations strongly encourage the BLM to consider foregoing any further exploration activities on this site, and to select the no action alternative.

The cumulative impacts analysis presented in the EA is insufficient to gauge the long-term and synergistic effects of the project as a whole on the sustainability of the resource, ecological setting, or sociocultural setting. Therefore, we believe the mitigation and minimization measures identified in the EA fail to protect and disclose impacts to the known public trust resources such as groundwater, special status species, air quality, and the other items listed in this comment letter.

BLM cannot segment the NEPA analysis; it must look at the project as a whole and cannot rely on the Plan of Operation (POO) for the exploratory drilling as the sole basis for assessing disturbance. The EA completely fails to identify or analyze the likely effects of a large scale mining expansion that is contemplated for this site. BLM cannot close its eyes to the true purpose of the exploratory drilling. It is clear that the exploratory drilling is intended as the first step towards expanding mining potential lithium brines on claims across tens of thousands of acres of public land.\(^\text{10}\) Clearly the company, BMR Inc., contemplates full-scale mining at this site and its website indicates that they have already sampled the brine, which is within the range needed for a commercially viable operation:

*The Panamint Valley project is an enclosed basin with a salar located in Inyo County, California and 100% owned by BMR. The project has excellent access and regional infrastructure and water sampling at the project returned results as high as 252 ppm Li.*\(^\text{11}\)

In addition to above excerpt from the BMR website, the following information leads our organizations to believe that if a positive lithium brine solution above 200 ppm is found in exploration, it will lead to a large scale lithium.

Furthermore, information about the likely impacts of full scale brine mining at this site is not speculative even if the proposed size of a full-scale lithium mining proposal in Panamint Valley is currently uncertain. For example, the Haines report repeatedly mentions the lithium brine mining operation in Clayton Valley, Nevada, which is similar to the kind of mining that would be proposed in Panamint Valley. The Clayton Valley project uses over 21,000 acre-feet/year of

\(^{10}\) The EA also fails to explain that more than many of these claims were located during the time these public lands were under segregation and therefore are invalid.

\(^{11}\) [https://www.batterymineralresources.com/projects/lithium/panamint-li-project/](https://www.batterymineralresources.com/projects/lithium/panamint-li-project/)
water\textsuperscript{12} and an estimate of the evaporation ponds and other surface disturbance, seen on the figure below from google earth, is approximately 7,150 acres:

\begin{figure}[h]
  \centering
  \includegraphics[width=\textwidth]{figure.png}
  \caption{Evaporation ponds and surface disturbance seen on Google Earth.}
  \end{figure}

\begin{thebibliography}{9}
\bibitem{1} Nevada Division of Water Resources, Hydrographic Area #143 Clayton Valley, Underground Mining, 21,280.23 AFY; data from \url{http://water.nv.gov/DisplayHydrographicGeneralReport.aspx} accessed on 4/12/2019
\bibitem{12} Hains, Don. “TECHNICAL REPORT ON THE PANAMINT VALLEY LITHIUM PROJECT, PANAMINT VALLEY, CALIFORNIA.” HAINS ENGINEERING COMPANY LIMITED, 25 Mar. 2018
\end{thebibliography}

\section{Haines Technical Report}
The Haines Engineering Technical Report\textsuperscript{13} on the Panamint Valley Lithium Project contains information that demonstrates a clear intent of an industrial scale lithium brine mining operation. There are multiple references to the similarity of Panamint Valley and Clayton Valley, the location of the only operating lithium mine in the United States. For example:

\textsuperscript{12} [1] Nevada Division of Water Resources, Hydrographic Area #143 Clayton Valley, Underground Mining, 21,280.23 AFY; data from \url{http://water.nv.gov/DisplayHydrographicGeneralReport.aspx} accessed on 4/12/2019
\textsuperscript{13}Hains, Don. “TECHNICAL REPORT ON THE PANAMINT VALLEY LITHIUM PROJECT, PANAMINT VALLEY, CALIFORNIA.” HAINS ENGINEERING COMPANY LIMITED, 25 Mar. 2018
The Haines Report (Conclusions (p.25-1)):
“The Panamint Valley property is considered prospective for lithium brine. The geological characteristics of the region and the property are similar to those of Clayton Valley, NV., an existing production centre for lithium brine.”

2. **Battery Minerals Investment In The Claims**
Battery Minerals intention for a large scale lithium mine is indicated by its significant investment in the project to date. The following table outlines the major expenses of the claimholders:

<table>
<thead>
<tr>
<th>Amount</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$2,592,500</td>
<td>Exploration budget (Hanes p. 1-3)</td>
</tr>
<tr>
<td>$500,000</td>
<td>Annual payments to Wetzel, to date (April 2019)</td>
</tr>
<tr>
<td>$4,000,000</td>
<td>Potential full payment to Wetzel</td>
</tr>
<tr>
<td>$300,000</td>
<td>Annual claim maintenance fees. 1955 claims at $169/claim (p. 1-4)</td>
</tr>
</tbody>
</table>

The table above is built from sections 1-3 and 4-1 of the Hains Technical Report and shows payment estimates for exploration, claim maintenance fees, and payments to geology consultant, Mr. Robert Wetzel. It is unlikely that Battery Minerals Inc. would invest this amount of capital into an exploration project that would not see the final stage; an industrial lithium mine.

3. **Size Of Claim Block**

The size of the claim block is an additional indication of serious intent. Figure 1 below is taken from the Hains Report. The claim block covers a significant percentage of Panamint Valley, and almost the entire southern playa. It averages 3 miles wide, and 18 miles north-south, from below Goler Canyon to Jail Canyon, north of Surprise Canyon. Counting square miles from the section lines, the map shows approximately 60 sq-mi (38,000 ac) under claim.

The claim block figure in the Hains Report should be in the EA. It contributes to understanding the intent and the potential for negative environmental impact.
Given this, the EA should have considered the ultimate mining project as a connected action, or at minimum, as a reasonably foreseeable future action in the cumulative impacts analysis. NEPA requires an agency to consider the effects of “connected actions.” 40 C.F.R. § 1508.25(a)(1)(ii). Where a follow-on action cannot proceed unless the proposed action is undertaken, the proposed and follow-on actions are connected. Id. To evaluate the relationship between a proposed and a follow-on action, BLM should assess whether the proposed action has utility independent of the follow-on action. Where a proposed action’s justification derives from the possibility of the follow-on action, the former lacks independent
utility, and the actions are connected. *Save the Yaak Comm. v. Block*, 840 F.2d 714, 720 (9th Cir. 1988). The only purpose for the exploration project here is to facilitate potential future mining—exploratory drilling has no utility independent of that goal. Therefore, the exploratory drilling and future lithium brine mining at this site are connected actions that should have been considered together in BLM’s environmental review.

Similarly, and alternatively, BLM was required to analyze the impacts of lithium brine mining because it is reasonably foreseeable and its impacts to the resources in this area will be cumulative to the impacts of the exploration project. 40 C.F.R. § 1508.8; *Kern v. Bureau of Land Mgmt.*, 284 F.3d 1062, 1075-76 (9th Cir. 2002). NEPA implementing regulations require an agency to consider the cumulative impacts of future actions that are reasonably foreseeable, even if these future actions and/or their potential impacts are uncertain. 40 C.F.R. § 1502.22(b)(4); *City of Davis v. Coleman*, 521 F.2d 661, 675 (9th Cir. 1975); *Mont. Envtl. Info. Ctr. v. Office of Surface Mining*, 274 F. Supp. 3d 1074, 1091-93 (D. Mont. 2017). Although development of full scale lithium brine mining is not certain, it is reasonably foreseeable. Certainly, reasonable foreseeability and some uncertainty that full-scale mining will occur are not mutually exclusive.

In sum, the BLM should have addressed the impacts that full-scale lithium brine mining would have to the environmental resources of this area, now, in this EA or a detailed Environmental Impact Statement (EIS), before exploratory drilling is allowed. Because BLM must evaluate the likely impacts of brine mining activities on all resources before making a determination on the exploratory drilling proposal, the BLM should not approve the proposal at this time.

**Summary**

We appreciate the opportunity to comment and engage on the EA for this project which is, however, wholly inadequate and fails to comply with NEPA. In closing, CalWild, CNPS, CBD, CLF, Defenders, FOI, Sierra Club, and TWS, would like to restate their opposition to the Panamint Valley Lithium Exploration Project. We request that the BLM deny further exploration activities on the proposed site given the impacts associated with exploration in this sensitive location and because it is highly unlikely that development of an industrial scale lithium mine could ever be compatible with the conservation values of these public lands. We urge the BLM to select the no-action alternative. Our organizations, our Boards, members, and supporters will continue to stay engaged in this project and look forward to working with the BLM in a transparent and effective manner on these important issues.

Sincerely,

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