To: Melissa Jennings  
Bureau of Land Management  
P.O. Box 911  
Tonopah, Nevada, 89049  

Via email mjennings@blm.gov

June 2, 2020

Re: Comments on the Silicon Exploration Project Environmental Assessment DOI- 
BLM-NV-B020-2020-0017-EA

Dear Ms. Jennings,

We submit comments on a large gold exploration project in a scenic and 
biodiverse southern Nevada region near the town of Beatty, and Oasis Valley where the 
headwaters of the Amargosa River occur in Nye County

Western Watersheds Project is a non-profit organization with more than 12,000 
members and supporters. Our mission is to protect and restore western watersheds and 
wildlife through education, public policy initiatives, and legal advocacy.

Basin and Range Watch is a 501(c)(3) non-profit working to conserve the deserts 
of Nevada and California and to educate the public about the diversity of life, culture, and 
history of the ecosystems and wild lands of the desert.

The Center for Biological Diversity is a national, nonprofit conservation 
organization with over 1.7 million members and online activists dedicated to the 
protection of endangered species and wild places. The Center has members and 
employees living in the Great Basin including Nye County, who have visited Beatty and 
the Bare Mountains for recreational, scientific, educational, and other pursuits; they will 
continue to do so in the future. The Center, its members, directors, and staff have worked 
and advocated for decades to conserve and protect public lands and wildlife across the 
Great Basin and Mojave deserts, including Mojave desert tortoise and numerous species 
endemic to these areas.

Great Basin Resource Watch is a 501(c)(3) non-profit founded in 1994 by a 
collection of environmental, Native American, and scientific community representatives. 
We are a regional environmental justice organization dedicated to protecting the health
and well-being of the land, air, water, wildlife, and human communities of the Great Basin from the adverse effects of resource extraction and use.

AngloGold (applicant) is submitting an application to the Bureau of land management (BLM) to expand current gold exploration activities in important habitat for desert bighorn sheep, pronghorn antelope, Mojave desert tortoise, and rare plants. The applicant is seeking to expand surface disturbance during exploration beyond the 5-acre limit, to 155 acres across a 3,630-acre Project Area.

Ongoing gold exploration in the area has resulted in numerous apparently new roads, sump ponds, drill rig pads, and material laydown sites. The attempts to backfill pits with waste rock and dirt create scared land where invasive weeds can grow back which also creates greater risk for wildfires. The mining exploration in the region has left unmistakable scars on the landscape and the BLM allows this in spite of long-term impacts to the recreational potential of the region. The exploration projects have covered and destroyed parts of the new Mountain Bike Trails.

The BLM also did not review a full range of alternatives for the project. Travel on Existing Roads Alternatives seemed reasonable to mitigate the environmental impacts, but we did not have the option of discussing it during a scoping process. This alternative should be reconsidered. Some previously constructed new mine exploration roads disturbing Mojave Desert habitats in the last 2 years in our opinion may be larger than 5 acres. More new roads are not needed.

Please consider a View-Shed Protection or Reduced Footprint Alternatives for this project. These alternatives should consider a plan that removes all new planned roads from the Oasis Valley view-shed. The Environmental Assessment (EA) is using the outdated Resource Management Plan which designates the region as VRM Class IV and does not consider the future tourism potential of Oasis Valley.

The project will be visible from Oasis Valley which has a bright future for recreation. The Battle Mountain Resource Management Plan does not talk enough about the recreation and tourism potential of Oasis Valley nor does it cover a future of Mountain bike recreation. No public scoping meetings were held, even though the size and impacts of this exploration Project Area will be significant.

This project should be delayed until BLM can review an updated recreational and tourism plan for Oasis Valley and Beatty, or the BLM can amend the Resource Management Plan to acknowledge the scenic and recreational potential of the region. Doing so would allow a more reasonable range of alternatives which would allow the public to be more involved in this planning process. If the Visual Resource Management Class were upgraded to VRM Class III, the public could ask that more attention be given to tourism, recreation and property values.
The Purpose and Need Statement references the General Mining Law of 1872, but should also include a “need” to protect the natural resources, recreational, scenic and economic values of the region.

Environmental impacts from current mineral exploration in the Bare Mountains, Beatty Wash, and upper Crater Flat areas are destructive and visually intrusive.

Figure 1. This photo shows current recent new roads in the distant viewshed constructed with drill site pads on hills where the existing Silicon Mine is located along Beatty Wash. These new roads were built since 2018.

AngloGold proposes to construct approximately 93,343 linear feet of new exploration roads under Phase I of the Project. Up to 186,685 linear feet of exploration roads will be constructed under subsequent phases of the Project. The standard running width will be approximately 12 feet with an additional two feet for a safety berm as required by the Mine Safety and Health Administration (MSHA), for a total width of 14 feet (Plan of Development at 7).
Figure 2. Current gold exploration at the base of the Bare Mountains. We believe this is the Motherlode Project, which is adjacent to the Silicon Mine Project area.
Figure 3. Drill rig, water truck, and water tanks on newly constructed drill pad at the base of the Bare Mountains. A new access road is in the foreground through desert scrub.
Figure 4. Large drill rig and water tank.
Figure 5. Laydown site for gold exploration at the Motherlode Project, next to a rock formation locally known as the Cheese Holes. The drilling was too close to this unique rhyolitic formation. This is a previous burn from 2006, and red brome is common.
Figure 6. New road and drilling pad off an existing BLM route.
Figure 7. Drill rig and support vehicles on newly bulldozed roads through Mojave Desert scrub.
Figure 8. A new road created by Anglo Ashanti Gold in 2018 approaching the Silicon Mine, seen on the peak in the upper right. Does this violate 43 CFR 3809 – the 5 acre rule? The road cuts through desert pavement, desert tortoise habitat, and new Mountain bike trails.

**Water Resources**

The locations and methods for any well-drilling and water extraction should be detailed.

Oil, lubricants and other chemicals are in the sumps. Equally, any accidents or faulty equipment could result in hazardous fluid spills. Flash flooding could transport hazardous materials into washes and eventually the Amargosa River which is habitat for many species including the rare Amargosa toad (*Anaxyrus nelsonii*) and is also a water supply for local people. A smaller footprint alternative would reduce the risks.

**Sumps and Drill Holes**

The EA states that one unlined sump would be constructed within the footprint of each drill site to contain cuttings and manage drilling fluids, and each sump would typically measure approximately 50 feet long by 20 feet wide by 6.75 deep. Each sump would be constructed with a sloped end for egress. Earthwork would be performed with a backhoe, D7 dozer, or equivalent equipment.

Uncovered sumps have been left all over this area by Anglo Ashanti and other companies. They are often full of water which contains oil and other potentially toxic fluids. These sumps and drill holes are a hazard to wildlife. Small reptiles including protected desert tortoises could drown in the sumps. A smaller footprint alternative would reduce these risks.

**Biological Resources**

**Golden Eagles**

The Nevada Division of Wildlife has identified 35 raptor nests within 10 miles of the project area and 5 golden eagle nests within 4 miles of the project area. One of the nests was occupied. The project site has excellent foraging habitat for eagles and many other species of raptors. The project’s close proximity to Oasis Valley increases the potential for diversity of raptors.

A reduced footprint alternative would reduce these impacts.

**Desert Bighorn Sheep**
The Bare Mountains harbors one of the best populations of desert bighorn in the state of Nevada. We have no detailed discussion of the impacts to bighorn sheep of all the new roads, drilling equipment, noise, habitat fragmentation, or water resource impacts.

**Pronghorn Antelope**

The EA needs to analyze new roads and exploration impacts to Pronghorn antelope (*Antilocapra americana*) in the area. In fact, there are now records of pronghorn south into Amargosa Valley, Nevada and even Shoshone, California. This is a surprising oversight. We have observed pronghorn in the project area regularly since 2002. These rare populations need to be analyzed with respect to mining exploration impacts.

**Mojave Desert Tortoise**

The Mojave Population of the Agassiz’s desert tortoise was listed as Threatened by the US Fish and Wildlife Service (USFWS) in 1990 followed by the designation of critical habitat in 1994. In 2000, the USFWS began systematically surveying tortoise populations in critical habitat and recovery unit areas to determine population trends. Based on their findings (USFWS 2015), which are briefly summarized in the table below.

<table>
<thead>
<tr>
<th>Recovery Unit: Designated Critical Habitat Unit/Tortoise Conservation Area</th>
<th>Surveyed area (km²)</th>
<th>% of total habitat area in Recovery Unit &amp; CHU/TCA</th>
<th>2014 density/km² [SE]</th>
<th>% 10-year change (2004--2014)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Mojave, CA</td>
<td>6,294</td>
<td>24.51</td>
<td>2.8 (1.0)</td>
<td>-50.7 decline</td>
</tr>
<tr>
<td>Fremont-Kramer</td>
<td>2,347</td>
<td>9.14</td>
<td>2.6 (1.0)</td>
<td>-50.6 decline</td>
</tr>
<tr>
<td>Ord-Rodman</td>
<td>852</td>
<td>3.32</td>
<td>3.6 (1.4)</td>
<td>-56.5 decline</td>
</tr>
<tr>
<td>Superior-Cronese</td>
<td>3,094</td>
<td>12.05</td>
<td>2.4 (0.9)</td>
<td>-61.5 decline</td>
</tr>
<tr>
<td>Colorado Desert, CA</td>
<td>11,663</td>
<td>45.42</td>
<td>4.0 (1.4)</td>
<td>-36.25 decline</td>
</tr>
<tr>
<td>Chocolate Mtn AGR, CA</td>
<td>713</td>
<td>2.78</td>
<td>7.2 (2.8)</td>
<td>-29.77 decline</td>
</tr>
<tr>
<td>Chuckwalla, CA</td>
<td>2,818</td>
<td>10.97</td>
<td>3.3 (1.3)</td>
<td>-37.43 decline</td>
</tr>
<tr>
<td>Chemehuevi, CA</td>
<td>3,763</td>
<td>14.65</td>
<td>2.8 (1.1)</td>
<td>-64.70 decline</td>
</tr>
<tr>
<td>Fenner, CA</td>
<td>1,782</td>
<td>6.94</td>
<td>4.8 (1.9)</td>
<td>-52.86 decline</td>
</tr>
<tr>
<td>Joshua Tree, CA</td>
<td>1,152</td>
<td>4.49</td>
<td>3.7 (1.5)</td>
<td>+178.62 increase</td>
</tr>
<tr>
<td>Pinto Mtn, CA</td>
<td>508</td>
<td>1.98</td>
<td>2.4 (1.0)</td>
<td>-60.30 decline</td>
</tr>
<tr>
<td>Pahrump Valley, NV</td>
<td>927</td>
<td>3.61</td>
<td>5.3 (2.1)</td>
<td>+162.36 increase</td>
</tr>
<tr>
<td>northeastern Mojave</td>
<td>4,160</td>
<td>16.2</td>
<td>4.5 (1.9)</td>
<td>+325.62 increase</td>
</tr>
<tr>
<td>Beaver Dam Slope, NV, UT, AZ</td>
<td>759</td>
<td>2.92</td>
<td>6.2 (2.4)</td>
<td>+370.33 increase</td>
</tr>
<tr>
<td>Coyote Spring, NV</td>
<td>960</td>
<td>3.74</td>
<td>4.0 (1.6)</td>
<td>+265.06 increase</td>
</tr>
<tr>
<td>Gold Butte, NV &amp; AZ</td>
<td>1,607</td>
<td>6.26</td>
<td>2.7 (1.0)</td>
<td>+384.37 increase</td>
</tr>
<tr>
<td>Mormon Mesa, NV</td>
<td>844</td>
<td>3.29</td>
<td>6.4 (2.5)</td>
<td>+217.80 increase</td>
</tr>
<tr>
<td>eastern Mojave, NV &amp; CA</td>
<td>3,446</td>
<td>13.42</td>
<td>1.9 (0.7)</td>
<td>-67.26 decline</td>
</tr>
<tr>
<td>El Dorado Valley, NV</td>
<td>999</td>
<td>3.89</td>
<td>1.5 (0.6)</td>
<td>-60.14 decline</td>
</tr>
<tr>
<td>Ivanpah, CA</td>
<td>2,447</td>
<td>9.53</td>
<td>2.3 (0.9)</td>
<td>-56.05 decline</td>
</tr>
<tr>
<td>upper Virgin River</td>
<td>115</td>
<td>0.45</td>
<td>15.3 (6.0)</td>
<td>-26.57 decline</td>
</tr>
<tr>
<td>Red Cliffs Desert</td>
<td>115</td>
<td>0.45</td>
<td>15.3 (6.0)</td>
<td>-26.57 decline</td>
</tr>
<tr>
<td>Range-wide Area of CHUs - TCAs/Range-wide Change in Population Status</td>
<td>25,678</td>
<td>100.00</td>
<td></td>
<td>-32.18 decline</td>
</tr>
</tbody>
</table>

Summarizing the results of these surveys (USFWS 2015), 17 populations of Mojave desert tortoise are described occur in Critical Habitat Units (CHUs) and
Tortoise Conservation Areas (TCAs), including 14 that are on lands managed by the Bureau of Land Management.

The table includes the area of each Recovery Unit and CHU/TCA, percent of total habitat for each Recovery Unit and CHU/TCA, density (number of breeding adults/km2 and standard errors = SE), and the percent change in population density between 2004 and 2014. Populations below the viable level of 3.9 breeding individuals/km2 breeding individuals per square mile (assumes a 1:1 sex ratio) and showing a decline from 2004 to 2014 are in red.

You can see from the results of USFWS surveys in the table that (a) 10 of 17 populations of the Mojave desert tortoise declined from 2004 to 2014; (b) 11 of 17 populations of the Mojave desert tortoise are no longer viable; and (c) these 11 populations represent 89.7 percent of the range-wide habitat in CHUs/TCAs, which encompass the best remaining tortoise habitats and populations.

The Beatty region area of desert tortoises represents a healthy population that needs more study, and may represent an area that needs further conservation in light of climate change corridors for future population corridor climate refugia.

Joshua tree

The species of Joshua tree located on the project site is the Western species. The Joshua tree has recently been recognized as composed of two distinct species, the western Joshua tree (Yucca brevifolia) and the eastern Joshua tree (Y. jaegeriana). The two species occupy different areas of the desert, are genetically and morphologically distinguishable, and have different pollinating moths.

The California population of the Western Joshua tree is recently petitioned for California State Endangered status.¹ The listing petition identifies threats including rising temperatures, drought, habitat loss and vandalism. The Nevada populations share the same genetics as this California population, and mining threats from the Silicon Mine Project.

Rare Plants

Rare plant surveys need to be undertaken and all populations avoided.

Lands with Wilderness Characteristics (LWC)

Approximately 1,399 acres of the eastern portion of the Project Area are in the Yucca Mountain Lands with Wilderness Characteristics unit (NV-050-363).

The region has a large area of remote desert, naturalness, and outstanding opportunities for both solitude and primitive and unconfined recreation, according to BLM values.²

This is a unique area with scenic rhyolite formations, but BLM has allowed Anglo Gold to take ATV’s cross country to put mining claim markers out there.

Again, BLM could have reviewed a reduced footprint alternative for this project. Driving across remote desert lands and placing exploration markers in LWC areas should be better analyzed and the public notified. Please review alternatives that avoid these important resources.

We visited this proposed Wilderness Area in 2020, and our photos are shown below.

![Figure 9. Rhyolite rock formations in a LWC area. We found mine markers here.](image)

Figure 10. Rhyolite rock formations in a remote desert area considered for gold mine exploration, that should be protected as Wilderness in Nevada.

**Socioeconomics**

The EA talks about jobs and how hotels will be used, but fails to discuss the project impacts to recreation, tourism and property values.

**Visual Resources Not Discussed Adequately**

The EA dodges the visual impacts by using the old Visual Resource Management (VRM) Class IV designation which has an objective of: “providing for management
activities which require major modification of the existing character of the landscape, and the level of change to the characteristic landscape can be high.”

If the BLM had reviewed the visual impacts properly, we would have a much better analysis of the visual impacts of this project. Those will be:

- New roads cutting into the hills.
- Bright night lights as the miners run their exploration 24/7, impacting dark night skies for national park visitors at Death Valley National Park.
- New water sumps and pits.

If the exploration eventually does result in a larger mining operation, the BLM will need to review a much greater range of impacts as well.

The Battle Mountain Resource Management Plan does not do a good job of acknowledging the tourism potential of the Beatty area. It does not review the efforts of creating a network of Mountain Bike Trails. It does not analyze that the Beatty region attracts many tourists due to the close proximity to Death Valley National Park which is growing in visitation, and that increased gold mining could have significant impacts.

Please review the project proposal under higher visual standards such as VRM Class III. The objective of VRM Class III is to “partially retain the existing character of the landscape. Allow a moderate level of change that may attract attention but should not dominate the view of a casual observer.”

VRM Class III would still allow mining exploration, but would also help satisfy the concerns of those of us who are concerned about view-shed impacts.

The BLM should create a view-shed map like they have done for some larger projects they are reviewing for VRM Class III lands in other parts of Nevada. The below map is the visual impact study for the BLM’s recently approved Gemini Solar Project.
The BLM could do this a few different ways:

1. Amend the Battle Mountain RMP to create a recreation plan and upgrade the VRM Class for Oasis Valley.
2. Review a reduced footprint alternative or a use existing road only alternative to protect the view-shed.
3. Create an alternative that allows the applicant to only use the existing roads that are located in the Oasis Valley view-shed, but allows new ones outside of the view-shed.
4. Delay the review for the project until the Battle Mountain RMP can be updated or amended.

Data Collection:

We recommend that the applicant, if the project is permitted, gather as much geochemical and hydrological data as possible as part of the exploration project. The
purpose of this data gathering would be to obtain the baseline data necessary to estimate the future impacts of a mine if the exploration successfully identifies an ore body. The data should include depth to water in every borehole it is encountered. In addition to mineralogical assessments, the applicant should complete some basic geochemical analysis on the sample withdrawn from any core holes so that impacts on future water quality, should a mine be constructed, can be assessed. These would include some static acid/base accounting to assess early on whether a project could be an acid producer. This data will prove valuable in assessing potential future mining in the area.

Thank you for considering these comments. Western Watersheds Project, Basin and Range Watch, Center for Biological Diversity, and Great Basin Resource Watch thank you for this opportunity to assist the BLM Forest by providing comments for this project. Please keep us informed of all further substantive stages in this and related NEPA processes and documents by contacting us at the addresses below.

Thank you,

Laura Cunningham

California Director
Western Watersheds Project
Cima CA 92323
Mailing: PO Box 70
Beatty NV 89003
775-513-1280
lcunningham@westernwatersheds.org

Kevin Emmerich
Co-Founder
Basin and Range Watch
PO Box 70
Beatty NV 89003
775-553-2806
emailbasinandrange@gmail.com
Patrick Donnelly  
Nevada State Director  
Center for Biological Diversity  
7345 S. Durango Dr., B-107, Box 217  
Las Vegas, NV 89113  
702.483.0449 | pdonnelly@biologicaldiversity.org

John Hadder  
Executive Director  
Great Basin Resource Watch  
1474 Terminal Way Ste. C  
Reno, NV 89502  
775-348-1986 | john@gbrw.org

References
