



DESERT TORTOISE COUNCIL

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Via email only

8 October 2018

Randy Porter
Bureau of Land Management,
Ridgecrest Field Office
300 S. Richmond Rd.
Ridgecrest, CA 93555
rporter@blm.gov

Re: Comments on Environmental Assessment for a Modification to Keystone Mine Plan of Operations CACA-33965

Dear Mr. Porter:

The Desert Tortoise Council (Council) is a non-profit organization comprised of hundreds of professionals and laypersons who share a common concern for wild desert tortoises and a commitment to advancing the public's understanding of desert tortoises and their habitats. Established in 1975 to promote conservation of tortoises and their habitats in the deserts of the southwestern United States and Mexico, the Council routinely provides information to individuals, organizations, and regulatory agencies on matters potentially affecting desert tortoises.

We appreciate this opportunity to provide comments on the Environmental Assessment for a Modification to Keystone Mine Plan of Operations, dated August 13th, 2018 (EA). The Proposed Project is located in southern Inyo County, California, in the Panamint Valley and Panamint Mountains. Given the location of the Proposed Project in/near habitats occupied by Agassiz's desert tortoise (*Gopherus agassizii*) (synonymous with "Mojave desert tortoise"), our comments pertain to enhancing protection of this species during activities authorized by the Bureau of Land Management (BLM).

The BLM, Ridgecrest Field Office has prepared a Preliminary Environmental Assessment for a Modification to Keystone Mine Plan of Operations dated July 2018 (DOI-BLM-CA-B050-2018-0007-EA). The applicant, Bush Management Company (BMC), proposes to modify the Keystone

Mine Plan of Operations. The modifications include: drilling up to 45 additional drill holes located on seven existing drill pads, storing water in a 5,000-gallon water tank at the intersection of Goler Wash Road and the Keystone Mine Maintenance Road, constructing a pipeline to divert water from Sourdough Spring in Death Valley National Park to the water tank at the Project Site, and hauling water via trucks from Trona to the water tank at the Project Site. BMC anticipates that drilling activities and reclamation would be completed in approximately 7 to 18 months after the start date. However, should drilling identify economic resources, the Keystone Mining Plan of Operations would be amended, and reclamation would be undertaken per the amended plan. The Proposed Action activities would occur 24 hours per day, seven days per week.

Our comments on the EA are intended to assist BLM in complying with the National Environmental Policy Act (NEPA) and its implementing regulations regarding environmental assessments. We note that a federal agency prepares an environmental assessment to assist agency planning and decision making (40 CFR 1501.3(b); provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact (40 CFR 1508.9(a)(1); aid an agency's compliance with NEPA when no environmental impact statement is necessary (40 CFR 1508.9(a)(2); and include brief discussions of the need for the proposal, of alternatives as required by section 102(2)(E), of the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted (40 CFR 1508.9(b). They are intended to assist in complying with the federal Endangered Species Act (FESA), other federal laws and directives, and the California Endangered Species Act (CESA).

Compliance with the Federal Endangered Species Act: We find the EA confusing on three issues regarding compliance with FESA. On page 18 of the EA, BLM refers to the Biological Opinion for Activities in the California Desert (p. 18), and on the same page states “The Project would be operated under the Programmatic Biological Opinion for Small Disturbances.” Later in the EA, BLM references Biological Opinion for Small Projects Affecting Desert Tortoise Habitat in Imperial, Inyo, Kern, Los Angeles, Riverside, and San Bernardino Counties, California (6840 CA-063.50) (1-8-97-F-17) (page 32). On page 37, BLM references the following document – “U.S. Fish and Wildlife Service. 2017b. Biological Opinion for Small Projects Affecting Desert Tortoise Habitat in Imperial, Inyo, Kern, Los Angeles, Riverside, and San Bernardino Counties, California (6840 CA-063.50) (1-8- 97-F- 17), 2017.” The document title and consultation number are for a biological opinion in 1997, not in 2017. Thus, BLM provides three titles of biological opinions in this EA and inconsistent issuance dates. We are unsure under which biological opinion BLM is operating to obtain its authorization for incidental take for the Proposed Project. We request that BLM clarify which biological opinion it is following and provide an account of how it will comply with the biological opinion.

Another issue that confused us is whether incidental take is covered for the Mojave desert tortoise for the Proposed Project. In the EA, BLM states “The USFWS was contacted in September 2017 with a memorandum informing them that the project may affect the federally threatened desert tortoise and that the BLM has proposed to authorize the work under the Biological Opinion for Activities in the California Desert. The USFWS reviewed the information and determined the authorization to work appropriate contingent upon additional protection measures (USFWS 2017a). These additional protection measures state:

- All employees of the project proponent who work on-site shall participate in a tortoise education program prior to initiation of field activities. The project proponent is responsible for ensuring that the education program is developed and presented prior to conducting activities. New employees shall receive formal, approved training prior to working on-site. The employee education program must be received, reviewed, and approved by the BLM Resource Area Office at least 15 days prior to the presentation of the program. The program may consist of a class presented by a qualified biologist (BLM or contracted) or a video.
- The project proponent shall designate an on-site biologist who will be responsible for overseeing compliance with protective stipulations for the desert tortoise and for coordination with the BLM. The biologist must be on-site with a copy of the stipulations during all project activities and they shall have the authority to halt all project activities that are in violation of the stipulations. If a tortoise is sighted in or near project work areas, the biologist will stop work until the tortoise leaves of its own accord. Handling of tortoises is prohibited.”

The last two sentences that prohibit handling a desert tortoise and require that work stop until the tortoise leaves of its own accord are inconsistent with working under a biological opinion. A biological opinion is issued when a proposed action is likely to adversely affect a listed species (e.g., the Mojave desert tortoise) and it authorizes incidental take (e.g., handling, etc.). Thus, it appears that BLM is implementing the Biological Opinion for Activities in the California Desert (USFWS 2017b) because the Proposed Project is likely to adversely affect the Mojave desert tortoise, but USFWS is not authorizing incidental take or some forms of incidental take (e.g., handling). We request that our question of what incidental take, if any, is authorized by the USFWS for the Proposed Project be answered in the Final EA.

The third issue that confused us is about wording in Appendix A. BLM says “No threatened, endangered, or proposed for listing animal species have been identified within or near the project area. Impacts to these species are unlikely.” Yet BLM indicates it has formally consulted with the USFWS on the Proposed Project. As we mention above, wording in the EA says “The USFWS was contacted in September 2017 with a memorandum informing them that the project may affect the federally threatened desert tortoise and that the BLM has proposed to authorize the work under the Biological Opinion for Activities in the California Desert.” We conclude that BLM believes the Proposed Project is likely to adversely affect the Mojave desert tortoise. We request that BLM provide information and analysis in the Final EA that clarifies this confusion and requires typical mitigation for the tortoise.

Compliance with the California Endangered Species Act: We were unable to find any discussion in the EA regarding compliance with CESA. The Mojave desert tortoise is listed as threatened under this law. Similar to the FESA, incidental take is prohibited without authorization from California Department of Fish and Wildlife (CDFW), and mitigation is usually required for project impacts. We request that BLM add information to the Final EA regarding its compliance with CESA.

Compliance with Other Federal Directives: In the EA’s section on “Relationship to Statutes, Regulations, or Other Plans,” we found no mention of compliance with the Clean Air Act, the Migratory Bird Treaty Act, and relevant executive orders and secretarial orders. We suggest that BLM revise this section of the Final EA to include this missing relevant information and how the Proposed Project complies with these laws, regulations, and orders.

Access Issues/Boundary of Proposed Project: In Section 4.6.1 of the EA, BLM states “Impacts to desert tortoise are not anticipated in the Project Area; however, potential impacts to desert tortoise could occur while entering and leaving Goler Canyon. These impacts would be mitigated by following the 15-mile per hour speed limit per CMA LUPA-BIO-IFS-9 and Biological Opinion for Small Projects Affecting Desert Tortoise Habitat in Imperial, Inyo, Kern, Los Angeles, Riverside, and San Bernardino Counties, California (6840 CA-063.50) (1-8-97-F-17) (USFWS 2017b).”

We are concerned that there is confusion regarding the boundary of the Project Area. In the EA, BLM states authorized operations as described under the 1981 Plan, the 1983 Plan Amendment, and the 1988 Plan Amendment include Goler Wash Road improvements made by the mining company and the Keystone Mine Maintenance Road constructed for sole use of the mine. The Keystone Mine Maintenance Road was constructed in accordance with the 1984 and 1988 Plan Amendments. Because 1) road improvements and some maintenance have been part of the mining operation, 2) current and future mining activities would not likely be possible without these improvement, 3) desert tortoises have been seen as recently as spring of 2017 at the mouth of Goler Canyon, 4) no protocol surveys for the presence of desert tortoise/tortoise sign were conducted in the Project Area, and 5) tortoises have been documented as occurring at elevations of up to 3,500 feet [Desert Tortoise Recovery Office (USFWS 2018) with records of tortoises ranging up to 7,300 feet (USFWS 2010a)], we believe the Project Area should include the access roads to the mine.

We believe the Final EA should provide additional information and analysis regarding the location of tortoise habitat in relation to the Project Area including the access roads. If suitable habitat is adjacent to or near the Proposed Project including the access roads, this presence would likely mean that tortoises would venture into or across the Project Area and impacts to tortoise and tortoise habitat including incidental take (injury or mortality) from implementation of the Proposed Project is possible.

We note that to determine the full extent of impacts to the desert tortoise and its habitat from the Proposed Project, including indirect impacts, BLM should consult with the USFWS to determine the action area for the Proposed Project. The USFWS defines “action area” in 50 Code of Federal Regulations 402.2 and their Desert Tortoise Field Manual (USFWS 2009) as “all areas to be affected directly or indirectly by proposed development and not merely the immediate area involved in the action.” To facilitate compliance with NEPA, it is imperative that BLM prepare an analysis of direct and indirect impacts of the action area.

Analysis of Impacts to the Mojave Desert Tortoise: There is little information in the EA about tortoise or tortoise habitat in/near the Plan Area or efforts that were made to determine the presence of tortoise or tortoise habitat. BLM says “Keystone Mine Plan area is located on the northern periphery of newly modeled desert tortoise (*Gopherus agassizii*) habitat with a reported sighting in the spring of 2017 at the mouth of Goler Canyon (C. Woods, personal communication). No tortoise or their sign was found in the Project Area during the 2017 biological survey.” The EA also says that “Special status animal species having the potential to occur in the area include the golden eagle (*Aquila chrysaetos*), prairie falcon (*Falco mexicanus*), Nelson’s bighorn sheep (*Ovis canadensis nelsoni*), the desert tortoise (*Gopherus agassizii*)”

We found no information in the EA that a USFWS protocol level survey was conducted for the Mojave desert tortoise, and no reference in the References section of the EA for the 2017 biological survey that was mentioned in the EA. In addition, we found no information about the location, size, and quality of tortoise habitat in relation to the Project Site. Because of the absence of information from a protocol-level survey, biological survey, or habitat information, it is difficult to for the public and the decision maker to determine what the direct and indirect impacts to the Mojave desert tortoise would be from implementation of the Proposed Project.

There is little information in the EA regarding impacts to the Mojave desert tortoise or tortoise habitat from the Proposed Project. We were unable to find a description of these “potential impacts to the desert tortoise” (pages 6 and 18 in the EA). Because these impacts are not described, we are unable to compare the impacts with the mitigation to determine whether the Environmental Protection Measures described in EA for the tortoise and tortoise habitat (15-mile per hour speed limit and measures required in a USFWS biological opinion) are adequate.

We request that this information be provided in the EA so the public and the BLM decision maker may assess the extent of the direct, indirect, and cumulative impacts and adequacy of the mitigation for the Mojave desert tortoise. Some indirect impacts to ecological processes from mining activities that we were unable to find in the EA include altered surface hydrology, increased wind erosion of soil and dust deposition, disruption of pollination systems, and the spread of invasive nonnative plant species. These impacts contribute to changes in vegetation type; increases in fire frequency, size and intensity; fragmentation and reduction/loss of connectivity; reduced gene exchange; and reduced population persistence (USFWS 2014). These impacts in turn adversely impact the breeding, feeding, sheltering, and connectivity requirements of the desert tortoise.

We are also concerned about the Environmental Protection Measure, “To ensure compliance with the Plan Amendment and other federal and state laws and regulations, BMC would oversee the Project to ensure activities remain within the permitted areas and that the Project is not causing undue or unnecessary degradation to the environment.” (Section 2.7.13 Monitoring). We request the following be added to the Final EA:

- 1) information on the presence of the desert tortoise and tortoise habitat in/near the Project Area (please see “Access Issues/Boundary of Proposed Project”), including information from the biological survey report and other sources (e.g., California Natural Diversity Data Base, recent field surveys, etc.);
- 2) an analysis of the direct, indirect, and cumulative impacts to the tortoise and its habitat;
- 3) a listing and analysis of appropriate mitigation that would be implemented to offset the impacts;
- 4) a requirement that BLM or a neutral qualified third party (i.e., designated biologist) would ensure compliance with the Environmental Protection Measures and Conservation and Management Actions; and
- 5) a requirement that adaptive management would be implemented if any of the Environmental Protection Measures or CMAs were not effective.

We request these additions to the Final EA because the Proposed Project will adversely impact public trust resources on public lands. As the management agency for the public lands for the Proposed Project, BLM's job is to ensure that the public trust resources on these lands are being managed and monitored and that all Environmental Protection Measures and CMAs are being implemented properly.

We are concerned about the increased vehicle use/trips on access roads to the project site that are associated with the Proposed Project. Increased vehicle use on roads equates to increase mortality and increased road edge effect to desert tortoises. Road construction, use, and maintenance impact wildlife through numerous mechanisms that can include mortality from vehicle collisions, and loss, fragmentation, and alteration of habitat (Nafus et al. 2013; von Seckendorff Hoff and Marlow 2002).

Von Seckendorff Hoff and Marlow (2002) reported that they detected reductions in tortoise numbers and sign from infrequent use of roadways to major highways with heavy use. There was a linear relationship between traffic level and reduction. For two graded, unpaved roads, the reduction in tortoises and sign was evident 1.1 to 1.4 km (3,620 to 4,608 feet) from the road. Nafus et al. (2013) reported that roads may decrease tortoise populations via several possible mechanisms, including cumulative mortality from vehicle collisions and reduced population growth rates from the loss of larger reproductive animals. Other documented impacts from road construction, use, and maintenance include increases in roadkill of wildlife species as well as tortoises, creating or increasing food subsidies for common ravens, and contributing to increases in raven numbers and predation pressure on the desert tortoise. Based on this information, the Final EA should include sufficient information and analysis of impacts to the desert tortoise and its habitats from the use of roads by vehicles associated with the proposed project and associated mitigation.

Information/Analysis/Conclusions Regarding the Impacts of the Proposed Project on Subsidizing Desert Tortoise Predators: The Proposed Project will deliver water via pipeline and truck to the drilling sites, and water will be stored, used, and discarded for drilling activities at the Project Site. Water, surface disturbance from drilling activities that unearths underground animals, increased vehicle use that results in roadkill of wildlife, and new or increased presence of food and associated trash from humans – all are activities associated with the Proposed Project. All are subsidies for the common raven, coyote, and potentially other predators of the desert tortoise.

Common ravens are known predators of the Mojave desert tortoise and their numbers have increased substantially because of human subsidies of food, water, and sites for nesting, roosting, and perching to hunt (Boarman 2003). As subsidies of food and water are provided to or increased in the Project Area from mining operations, common ravens and other tortoise predators are attracted to these subsidies and the Project Area. This increases the likelihood of predation on desert tortoises in the Project Area. We expected the EA to analyze this impact; however, we found no information in the EA that mentions common ravens or other tortoise predators, subsidies for tortoise predators provided by the Proposed Project, analysis of impacts to the desert tortoise, or mitigation. Because ravens are able to fly at least 30 miles in search of food and water on a daily basis (Boarman et al. 2006) and coyotes can travel an average of 7.5 miles or more daily (Servin et al. 2003), this analysis should extend out at least 30 miles from the proposed Project Site.

We request that BLM require the Project Proponent to implement a predator management plan for the Mojave desert tortoise (i.e., implement Land Use Plan Amendment LUPA-BIO-6) (BLM 2016). The Project Proponent should monitor and manage ravens and coyotes to eliminate predation on tortoises caused or contributed by the Proposed Project. The predator monitoring and management plan should include measures that reduce/eliminate human subsidies of food and water, and if appropriate, sites for nesting, roosting, and perching in the Plan Area. These measures would address local impacts from the Proposed Project (footprint of the Proposed Project). In addition, we request that the project proponent contribute to the National Fish and Wildlife Foundation's Raven Management Fund for regional and cumulative impacts. These measures are contained in Conservation and Management Action (CMA) LUPA-BIO-7 (BLM 2016). We request that BLM implement this LUPA for the Proposed Project.

According to Appendix A of Common Raven Predation on the Desert Tortoise (USFWS 2010b), "The BLM's biological assessments and the USFWS' biological opinions for the California Desert Conservation Area (CDCA) plan amendments reiterate the need to address the common raven and its potential impacts on desert tortoise populations." Please ensure that all standard measures to mitigate the local, regional, and cumulative impacts of raven predation on the tortoise are included in the Final EA, including developing a raven management plan for this specific project. USFWS (2010b) provides a template for a project-specific management plan for common ravens. This template includes sections on construction, operation and maintenance, and decommissioning (including restoration) with monitoring and adaptive management during each project phase (USFWS 2010b).

Fire Management Plan: While we concur that "The risk and consequences of fires in the area do not necessitate detailed analysis" (EA Appendix A), we are concerned about fires caused by the mining activity including use of access roads, and the impacts of such wildfires on the habitats for the Mojave desert tortoise. There is much information the scientific literature regarding the adverse impacts of fire in the Mojave Desert on soil crusts (Belnap et al. 2001), native plants (Archer and Predick 2008, Brooks 1999, Brooks and Matchett 2006), and seedbanks (Brooks 2002), the adverse effects of surface disturbance (including fire) on the spread of non-native plants, and how this contributes to a fire cycle that replaces native plants with non-native plants (Brooks and Esque 2002, Brooks and Pyke 2001). This situation degrades/destroys habitat for the Mojave desert tortoise by reducing/removing native woody plants needed for cover for protection from temperature extremes and predators, and the loss of native annual and herbaceous perennial vegetation crucial to the nutrition of the tortoise. We note that most fires in the Mojave Desert are started near roads from human activities (Brooks and Minnich 2006). Thus, the effects of fire from use of the access roads for the Proposed Project should be addressed in the fire management plan.

We strongly request that a fire management plan be included as part of the Proposed Project. The EA includes some components of such a plan by managing or prohibiting certain practices that can start a fire. We suggest that another be added, that of prohibiting the parking or operation of a motorized vehicle or equipment in an area that has live or dead vegetation. The fire management plan should include a habitat restoration section that obligates the Project Proponent to replace biological components (e.g., native vegetation, seed banks, soil crusts, etc.) in areas destroyed by fire related to the Proposed Project, established success criteria for restoration, and requires a monetary bond that would fully cover its implementation.

Specific comments

Conservation and Management Actions: In the EA, BLM says it will implement from BLM's Land Use Plan Amendment (LUPA) (BLM 2016) CMAs identified as LUPA-BIO-1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16; LUPA-BIO-PLANT-1; LUPA-BIO-IFS-9 and 24; LUPA SW-1,6, 7, 18, and 31; LUPA-MIN-2; and LUPA-AIR 1, 2, 4, and 5. In addition to these CMAs, we request that LUPA-BIO-7 ("Subsidized predator standards, approved by BLM, in coordination with the USFWS and CDFW, will be implemented during all appropriate phases of activities, including but not limited to renewable energy activities, to manage predator food subsidies, water subsidies, and breeding sites, etc.") and LUPA-MIN-6 ("New or expanded mineral operations will be evaluated on a case-by-case basis, and authorizations are subject to LUPA requirements, and the governing laws and regulations") be included as required CMAs in for the Proposed Project. LUPA-BIO-6 is relevant based on the information we provided above under "Information/Analysis/Conclusions Regarding the Impacts of the Proposed Project on Subsidizing Desert Tortoise Predators."

Analysis of Impacts to Special Status Species: Prior to conducting biological surveys in the field, a knowledgeable biologist should perform a records search of the CNDDDB (CDFW 2018) for rare plant and animal species reported from the region of the Proposed Project. Field surveys for plants and animals should be completed at the appropriate time of year by qualified biologists/botanists using the latest acceptable methodologies (CDFG 2009). We request that the results of the CNDDDB review be reported in the Final EA with an indication of suitable and occupied habitats for all rare species reported from the region.

Fugitive Dust: In the EA, BLM mentions that CMA "LUPA-AIR-5 – a fugitive dust control plan would be prepared and implemented." Because this plan has not been developed, it was not included in the EA.

Adverse impacts to desert vegetation from dust deposition have been documented. Dust has been shown in some species of Mojave Desert plants to increase leaf temperatures and subsequent photosynthetic rates during early spring and may require an increased amount of water for growth and successful reproduction. If this increased amount of water is not available, these plant species may respond by reducing plant vigor and by reducing flower and seed production or abandoning reproduction for the year (USFWS 2014). Subsequent years of dust may result in no recruitment of plants or plant mortality. We did not find a discussion of this impact to biological resources in the EA.

The implementation and effectiveness of a fugitive dust plan is important to the survival of plants in areas near and downwind from the Proposed Project. This area may include desert tortoise habitat. The absence of an analysis of impacts to biological resources, including the tortoise, from dust produced from mining activities and the absence of a dust control plan does not allow the decision maker or the public to analyze whether the dust control plan will be effective in controlling fugitive dust. We request that the Final EA include 1) an analysis of the impacts of dust from all activities associated with the Proposed Project to biological resources, including the desert tortoise, and 2) an analysis of how these impacts would be reduced or eliminated through implementation of a dust control plan.

Mining Closure and Decommissioning: The Conservation [and] Management Actions section of the EA contains the following wording. “LUPA-BIO-8 – the described closure and decommissioning measures would be covered by the site reclamation activities.”

A major impact to the Mojave desert tortoise is the degradation/loss and fragmentation of habitat. Without habitat restoration requirements, the status of the tortoise will continue to decline. We believe BLM has a responsibility to manage the public’s resources. As such BLM should require all mining operators on land managed by BLM to develop and implement a habitat restoration plan for the Plan Area and provide a third party with a performance bond to cover the cost of the habitat restoration should the mining operator be unable to successfully implement the restoration plan.

In closing, we urge BLM to require its applicants with projects that would likely impact the Mojave desert tortoise or its habitat and linkage areas to avoid siting their projects in these areas. If this is not possible, BLM should require applicants to develop and implement, with an adaptive management component, a tortoise predator management plan; weed management plan; fire management plan; compensation plan for the direct and indirect degradation and loss of tortoises and tortoise habitat that includes protection of the acquired, improved, and restored habitat in perpetuity for the tortoise from future development and human use; habitat restoration plan; and translocation plan that includes provisions to protect tortoise translocation area(s) from future development and human impacts in perpetuity. We consider these standard mitigation measures. Based on the information in the EA, we conclude that these plans, except a translocation plan, are appropriate for the Proposed Project.

We appreciate this opportunity to provide input on this EA and trust that our comments will assist BLM in conserving the desert tortoise and its habitat. We ask that the Desert Tortoise Council be identified as an Affected Interest for this and all other BLM projects that may affect the Mojave Desert tortoise, and that any subsequent environmental documentation for this mining plan of operation is provided to us at the contact information listed above.

Regards,



Edward L. LaRue, Jr., M.S.
Desert Tortoise Council, Ecosystems Advisory Committee, Chairperson

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