

[Mining and Reclamation Plan of Operations Submittal Review]

To BLM Reviewers:

Please complete the MSWord comment matrix (a template is provided at the end of these instructions) by saving this file with a new file name including your last name (for example, name your comment matrix “Cmt-Matrix_SDNM-RMPA-Monger.doc”), and then fill out your comments in the document.

The deadline for comments is [INSERT DATE AND TIME].

How to Provide Valuable Feedback

Commenting:

For each comment, please fill in the following information under the appropriate column heading in the matrix:

- ✓ Page and line number on which you are commenting. **The page and line numbers MUST be used!**
- ✓ Your comments:
 - Your comments should be specific and provide exact changes to the text. Please be unambiguous, clear, and directive, with exact, proposed wording changes. Ambiguous comments, such as “What?,” “Poor,” or “Is this right?,” are not clear, so please be specific.
 - If you have the same comment more than once, please copy and paste your comment to a new row in the matrix and provide the specific page number, instead of just referring back to a previous comment. This will help us to more efficiently address the comments and make any necessary changes.
 - If you need additional space for comments, click in the table cell where you would like to comment, select the *Table* menu, *Insert*, and either *Rows Above* or *Rows Below*.

Comments on [Kirkland Mining and Reclamation Plan of Operations 041817 Draft]

Cmt #	Page #	Line #	BLM Commentor	Comment	Response
1.	BE	-	Buttazoni	<p>Page 1, paragraph 2 & 3 under “Methods” The term “Project area” is not described in terms of acres or referred to in a Figure. Page 1, paragraph 2 and Table 1 on Page 2 uses “Study Area.” Are these the same areas? Be consistent.</p> <p>The survey tracks shown on Figure 24 largely missed the vegetated part of the area. Given that there is a portion of the area that is vegetated and appears to connect to more contiguous vegetation to the NE, it seems likely that BLM SS animals with potential for occurrence could forage there.</p>	
2.	3	Table 1	Buttazoni	Does Kirkland hold all the unpatented mining claims listed in Table 1?	
3.	5	19	Cave	It may be good to clarify and add “as defined by Federal Land Policy and Management Act of 1976 (FLPMA) Section 302(b)” for a reference for the definition of the term ‘unnecessary or undue degradation’ here	
4.	6	6	Cave	Also, other names listed in the Arizona Geological Survey reference cited here actually included Kirkland Tuff Quarry and Maverick Mine as well...	
5.	6	15	Cave	The results of the mineral examination report can now be updated	
6.	6	16-28	Cave	Not necessary for MPO? Some comments could be construed as subjective if not referenced, also could introduce some politicization into public review. I have no issue with any particular point in this paragraph but broader statements related to use of pozzolan and environmental impact are extraneous for specific environmental analysis for Site...	
7.	6	30	Cave	First and only mention of Homesteak placer claim, not on maps either, please clarify location and relevance for reader	
8.	7	20	Cave	Quartz in tuff is mostly phenocrysts and part of the unit composition, not foreign, entrained substrate lithics	
9.	7	31	Sitzmann	The “ephemeral drainage” supports riparian obligate species which indicates that it should be referred to as an intermittent system which supports growth of riparian obligate species.	

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10.	8	13-20	Cave	Section should be rewritten, scientifically inaccurate, please see guidance below:	
11.	8	15	Cave	The 'porosity' in the volcanic rocks does not influence groundwater flow (porosity is void space, permeability is connection of void space, unlike sedimentary rocks volcanic porosity is typically not connected), only permeability is from fractures. Volcanic rocks are inherently impermeable except for fractures, except for intercalated volcanoclastic lenses that contain sand and rounded gravel. Occasionally volcanic rocks make good aquifers because of fracture density, usually basalts (there several basalt sections documented in drill hole #514426 shown on Dewitt et al., 2008, one mile northeast of Site). Rhyolites typically have low permeability to begin with, and tend to alter to devitrification clays that degrade permeability even along fractures, but could potentially have groundwater flow strongly localized along larger fractures or faults	
12.	8	17	Cave	Sand is permeable, clay is 'confining'	
13.	8	19	Cave	(Just FYI, volcanics is not actually a word even though often used informally, volcanic rocks or units is preferred)	
14.	8	20	Cave	Pathways of groundwater occur via [fractures and] faults in granite, metamorphic, [and volcanic rocks]. [add]	
15.	8	30-31	Sitzmann	Citation format is different than other sections	
16.	9	3	Cave	Probably mean December instead of 'winter', also may want to reword sentence, repeating stats without clarifying here that these are historical stats vs current may be confusing	
17.	9	5	Holden	This is an active grazing allotment. Livestock are present in this area during the fall and winter months. An open pit is a hazard to livestock and will need some method of preventing livestock access.	
18.	9	18	Sitzmann	Recommend changing "ephemeral washes" to intermittent washes.	
19.	9	29	Sitzmann	Remove the sentence related to impact analysis in this Physical Settings section.	

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20.	10	1	Sitzmann	Include similar table for migratory birds as required by EO-13186/BLM-FWS MOU (2010) and a similar table for Arizona State Species of Conservation Concern per the BLM-AGFD MOU #AZ-930-0703	
21.	12	12	Cave	Should there be a 'crushing/screening to 2"minus' step before loading here?	
22.	13	2	Sitzmann	Specify the location of the "to be determined" processing facility for impacts analysis because it is a connected action.	
23.	13	15	Cave	Water well on private property (55-505179) collar is probably between 4000' and 4040' based on 7.5 minute topo map, current static water level reported as 25 ft bls (page 20, line 29), i.e. somewhere between 3975'-4015' elevation. Ultimate pit depth is projected here at 3870', well below reported water table, may need a pit dewatering component to mine design.	
24.	13	16	Cave	Extra 'and'	
25.	13	31	Cave	Will no blasting be done on basalt cap? Just FYI, basalt cap is notoriously difficult to strip (hard) or blast (fractured), typically individual basalt blocks are drilled, blasted and then removed	
26.	14	8 & 10	Buttazoni	We need to provide the context that the off-site facility is not a part of this Mining Plan and not subject to BLM approval as that would occur on private lands. If the off-site facility is reasonably foreseeable, the BLM may have to include the impacts associated with it as part of non-federal actions in cumulative effects.	
27.	14	11	Sitzmann	Specify the location of the of "to be determined" processing facility.	
28.	15	11	Buttazoni	"The report assumes..." Do you mean this Plan?	
29.	16	2	Cave	...is 'freeboard volume' used correctly here?	
30.	16	5	Cave	All sumps and retention basins should be sloped enough at least on one side to allow a trapped person/wildlife a safe egress route	
31.	16	14	Cave	Perc may degrade with time as clays coat basin floor and fractures, may need maintenance plan to meet 36 hour requirement	

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32.	16	26	Buttazoni	Clarify "...within an existing access easement..." I assume that is the private land portion of the access road (we don't use the term 'easement') and that approval of Kirklands use of the public land portion of the road would occur with this Plan.	
33.	16	27	Holden	There is an existing gate at this location. Is a different gate planned? As an active grazing lease, the gate can't be left open, a cattle guard might be more appropriate.	
34.	17	15	Sitzmann	Specify the location of where water would be trucked from.	
35.	17	16	Cave	May want to clarify that non-potable water 'trucked to site' can mean either from private parcel 800 ft away or from well to south	
36.	17-18	19	McLaughlin	Within the first paragraph of 2.2.5 Support Facilities There should be a statement about none of these areas will be constructed within areas not previously surveyed by their archaeological contractor and that they will be avoiding sites in the placement of these locations. This would be done to comply with BLM standards, rules and regulations. If this is not possible, these areas would need to be surveyed for cultural resources as well.	
37.	18	10	Cave	May want to mention fuel tank traffic barricade here as well for clarification, along with double sided container and secondary containment (mentioned on page 25, line 22)	
38.	20	5	Sitzmann	Include location of well number 55-625487 on a map and state whether or not it is in an AMA	
39.	20	6	Buttazoni	Clarify "...an existing well on private land located..."	
40.	20	6	Holden	The well indicated is located at the Single Six ranch, private land held by the Hamptons, and the well is in their name. Is there a written agreement guaranteeing this well use?	
41.	20	7	Buttazoni	Tense use. "There is no chemical..." "There <u>would be</u> no chemical..."	
42.	20	25	Sitzmann	Specify whether or not well number 55-625487 is in an AMA and state details about well number 55-625487 as was done for well number 55-505179.	

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43.	25	27	Buttazoni	"Where a notice or a plan of operations is required..." I am not sure if I follow, all roads needed for this Plan would already be approved/included in this approved Plan.	
44.	26	14	Buttazoni	"...would add 30 to 50 truck round trips per day,..." Is this for the initial and full development, or just initial phase?	
45.	26	14	Cave	50 round trips = 100 haul truck ingress/egress + light vehicles (how many anticipated employees? Will use 6 as a minimum, 12 ingress/egress) + possible multiple water truck round trips, in 8-12 hour time frame which could result in ~120 vehicles per ~480 minutes as written, equals potentially on average one vehicle every 4 minutes? (clustered and fluctuating). Please document discussions with ADOT specifically related to public safety at entry point onto state highway, such if there is a need for caution signs, lower speed limit, turn lanes, caution light, etc.	
46.	26	17-18	Buttazoni	"...would use about 20,000-35,000 gallons per day (gpd) during time of peak production." Of fuel?	
47.	26	22	Sitzmann	Remove references to the BLM Field Offices and replace with "BLM's Phoenix District Office."	
48.	27	21	Cave	Need to coordinate after-hours access and safety protocols with local sheriff and fire department (trespass and potentially fire events can occur even if all safety and security protocols are followed through gate malfunctions, willful breaches, electrical malfunctions, lightning, etc.). Please document as part of MPO.	
49.	27	27	Cave	Will do EA analysis for 24 hour operation since 24 operation is possible, unless operator volunteers an illuminated hours cap, seasonal restrictions, etc.	
50.	29	11	Sitzmann	The BLM requests reclamation cost estimate.	
51.	30	11	Sitzmann	Add a bullet related to the removal of all equipment and other infrastructure (such as fences) associated with the mine.	
52.	31	4	Sitzmann	Change ephemeral drainages to "drainages"	
53.	31	8	Cave	Mike Langley at USACE is a good contact for this permitting	
54.	31	20-22	Sitzmann	Specify the location of additional wells because there may be additional impacts associated with any additional wells	

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55.	33	5	Cave	FiberQuant found no fibers related to asbestos, but did not test for erionite specifically. BLM tested independently and found no fibers related compositionally to asbestos minerals or erionite at KMC property. Will recommend monitoring which should include periodic bulk testing for airborne carcinogens, and testing of layers exposed as pit progresses by Operator, please include with MPO. Also BLM will occasionally test as part of site inspections.	
56.	33	25	Sitzmann	Vehicle cleaning may not be required prior to arriving on site if there is no need. If vehicles are arriving on site that have been traveling across unmaintained roads, then vehicle cleaning should be required.	
57.	33	27	Sitzmann	Work may occur at night (see page 27, line 27). Rectify the discrepancy.	
58.	34	8	Buttazoni	The specific location and supporting map (Figure 8) of inventoried historic properties needs to be removed from the Plan. Only a general description can be retained. The Plan will be made available for public comment and the location of the sites cannot be disclosed to the public.	
59.	34	18	Cave	Should we define 'vicinity'?	
60.	35	11	Cave	To be MSHA compliant, there will need to be a barrier such as a berm or fence that can sustain a person's weight (not snow fencing) around the open pit. A fence around any open holes is good practice for managing ATV traffic, livestock, wildlife, security, etc. as well.	
61.	35	14	Cave	To be MSHA compliant, all drivers on site should have current MSHA 5000-23 certification and site-specific pit-driver training. Any driver who does not have that training should be escorted by someone who does.	
62.	BE		Sitzmann	The BE should include a table based on HDMS of species known to occur in this quad	
63.			Sitzmann	May need a fence for public safety, exclusion of wildlife and livestock.	

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64.			Sitzmann	Require open pipes (<12") to be covered to reduce wildlife entrapment IM 2016-023	
65.	Figure 9b initial mine operations	n/a	McLaughlin	In comparing this figure to the cultural report, surveyed area, It is unclear if all this (specifically the areas outside the green dotted line) are within the cultural survey boundaries. They should be. It prevents temporary storage etc from being placed on top of sites.	
66.	Maps		Cave	There appears to be multiple small, steep, NW-SE trending faults crossing proposed pit. Will be conduits for groundwater, and can be sources of topple, sloughing, wedge failures, etc. Mine plan should include daily inspection and daily monitoring (electronic or by personnel) of slope stability.	