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State of Utah
DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining
JOHN R. BAZA
Division Director

February 23, 2010

Tony Christofferson
Sunroc Corporation
525 West Arrowhead Trail
P.O. Box 488
Spanish Fork, Utah 84639

Subject: Second Review of Notice of Intention to Commence Large Mining Operations, Sunroc Corporation, Levan Chicken Creek Mine, M/023/0016, Juab County, Utah

Dear Mr. Christofferson:

The Division has completed a review of your Notice of Intention to Commence Large Mining Operations for the Levan Chicken Creek Mine, which was received May 26. 2009. The attached comments will need to be addressed before tentative approval may be granted.

The comments are listed under the applicable Minerals Rule heading; please format your response in a similar fashion. Please address only those items requested in the attached technical review by sending replacement pages of the original mining notice using **redline and strikeout** text, so we can see what changes have been made. After the notice is determined technically complete and we are prepared to issue final approval, we will ask that you send us two clean copies of the complete and corrected plan. Upon final approval of the permit, we will return one copy stamped "approved" for your records.

The Division will suspend further review of the Notice of Intention until your response to this letter is received. If you have any questions in this regard please contact me at 801-538-5261 or Wayne Western, at 801-538-5236. Thank you for your cooperation in completing this permitting action.

Sincerely,

Paul B. Baker
Minerals Program Manager

PBB:whw:vs
Attachment: Review
cc: twlloyd@fs.fed.us and tshore@fs.fed.us
P:\GROUPS\MINERALS\WP\M023-Juab\M0230016-Levan-chickencreek\final\REV2-2996-02232010.doc

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UTAH DNR OIL, GAS & MINING

SECOND REVIEW OF NOTICEOF INTENTION
TO COMMENCE LARGE MINING OPERATIONS

Sunroc Corporation
Levan Chicken Creek Mine
M/023/0016
February 23, 2010

General Comments:

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
1	General	Submittal should be formatted to easily incorporate additional revisions and amendments.		
2	General	If the changes to the NOI will result in adding, replacing or removing changes to the current plan use the form at https://fs.ogm.utah.gov/pub/mines/minerals_related/forms/MR-REV.pdf to show what changes will occur. If the changes will result in a new NOI please state so and include all supporting documents in the appendixes.		
3	General	Please write the plan as if the Division had approved the changes approved, and do not refer to permitted areas as proposed.		

R647-4-104 - Filing Requirements and Review Procedures

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
4	104.1	Please include the name of the resident agent and the person to whom all official contact should be made, in addition to the contact person (Earl Davis) at the mine	WW	

R647-4-104 - Operator's, Surface and Mineral Ownership

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
5	104.2	Please include the contact name(s), mailing address(es) and telephone number(s) for each of the surface and mineral owners. Note: Appendix 104-1 does not contain any information.	WW	
6	104.3	Please include the federal mining claim numbers and/or federal project numbers.	WW	

R647-4-105 - Maps, Drawings & Photographs

General Map Comments

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
7	Figure 105-2A	Parts of the access road to the West Pit are outside of the mine boundary. Please include them within the boundary or provide an explanation why they are outside the permitted area.	WW	

105.1 - Topographic base map, boundaries, pre-act disturbance

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
8	Section 105.1.14	Please state whether there are any areas within or adjacent to the permit boundaries that ceased mining prior to July 1, 1977, or which were previously exempt prior to April 29, 1989. If these areas exist in the mine area, they need to be shown on a map.	WW	

105.3 - Drawings or Cross Sections (slopes, roads, pads, etc.)

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
9	Figure 110-1	The Operator must provide actual cross sections that show the premining, operational and reclaimed phases. The Operator must include cross sections for each pit and facilities area. In addition, the Operator must include cross sections for areas that have had slides in the past.	WW	
10	Figures	The legends do not show the culverts as a separate line	TM	
11	Omission	Please include a geology map of the area and make sure the features discussed in the text are located on the geology map.	lah	
12	Figure 106-1A	As shown x-section d-d' indicates that a pump would be needed to transmit water to West Pond #2. Is the x-section mislabeled? Should d-d' really be c-c'?	lah	

R647-4-106 - Operation Plan

General Operation Comments

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
13	106-1	Please avoid using phases such as proposed operation. When the amendment is approved, the Division will incorporate it into the existing NOI or use the amendment as the NOI. Phrases like proposed operations in an approved NOI imply that operations have not been approved or are not in existence when in fact the operation has been approved and should be in operation.	WW	

106.2 - Type of operations conducted, mining method, processing etc.

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
14	P 106-1	Please include a list and general description of all equipment and facilities (temporary or permanent) that will be present on the site. The Division needs this list to calculate the bond amount.	WHW	

R647-4-109 - Impact Assessment

109.1 - Impacts to surface & groundwater systems

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
15	Plate 106-1a	WEST PIT Plate 106-1a represents the hydrology for the West site. Several areas of practical concern present themselves and are related to culverts. On the west property, three culverts are shown on this plate. The concern with these culverts is there are no drawings showing inlets and outlet design or discussion of how they will be installed. They are shown at the end of various reaches of diversion ditches; please provide. Please address the installation and long-term maintenance of the 600-foot pipe #3. The Division questions the practicality of this design given the ability to protect inlets of culverts from plugging during flood events, so please provide a drawing of how this will be accomplished. It is also not clear if this culvert is incorporated with pond #3 or below it. EAST PIT Both Channel #1 and #2 capture runoff from a 600-foot–long, steep, 1H:1V slope. It would be appropriate to include a transition or splash basin at the base of the reclaimed 1H:1V slope to prevent erosion and keep the flows in the channel.	TM	
16	Page 106-9	The Division was under the impression that the City of Levan and Sunroc had already installed meters to monitor the flows from Rose Springs and Tunnel Springs and that this was a requirement of past approvals. Your response states that this is not the case. Please clarify.	TM	

109.2 - Impacts to threatened & endangered wildlife/habitat

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
17	Figure 109-2	Please mark this figure confidential.	lah	

109.4 - Slope stability, erosion control, air quality, safety

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
18	Section 109.4	The slope stability analysis does not include enough detail to fully evaluate the stability of the slopes. Please contact the Division (Wayne Western or Leslie Heppler) for further information about the type of detail required.	WW	
19	Figure 110-1	The feasibility of achieving the reclamation plan laid out on Figure 110-1 is not spelled out in the plan. The plan needs to discuss how these cut and fill benches will be constructed and be stable.	TM	
20	Appendix 111-2	Slope stability analysis is for a gypsum fill and does not analyze the mine highwall, which is historically where the area has had problems in the past. Please provide a slope stability analysis for the highwall and include the factor of safety (FOS).	lah	
21	Appendix 111-2	Based on the model parameters chosen the FOS shown would be expected. Was there any lab testing to justify the parameters that were used in the model?	lah	
22	Appendix 109-4	Have one consistent page numbering system.	lah	
23	Appendix 109-4	Blasting – Commit to follow all local, state and Federal laws for blasting. (Should be placed in public safety area of the permit.)	lah	

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
24	Appendix 109-4	Blasting, Seismic Monitoring, - Commit to either a schedule for monitoring or a QC QA program for seismic monitoring. Commit to a maximum peak particle velocity not to exceed. (Should be placed in public safety area of the permit.)	lah	

109.5 - Actions to mitigate any impacts

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
25		Due to the history of slope stability issues in the area, the Division requests a stability analysis to determine an adequate factor of safety for mining, and be stamped by the Engineer of record. The report should contain clear direction for the operator, and should include a recommended slope angle for each of the different geologic units or geomechanical regimes. Most failures in rock are not caused by the rock but are caused by the fractures and the orientation of the fractures to the orientation of the excavated surface. Include the stereonets for fractures analysis. Include in the text a brief discussion on the different modes of fracture failures (i.e. bedding, wedge, topple etc.) as they apply to the rock mechanics at the site and the Factor of Safety for each case scenario. Include model parameters that are used for each unit modeled.	lah	

110.2 - Roads, highwalls, slopes, drainages, pits, etc., reclaimed

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
26	Section 110.2 pp 110-1 and 110-2	"Conceptual plan." The Division cannot accept a conceptual reclamation plan. The reclamation plan must be based on the approved mine plan. The Division acknowledges that mining and reclamation can change due to economic factors and conditions on the ground. A detailed reclamation plan is needed so that the Division can make a finding that the reclaimed site will comply with the rules.	WW	

R647-4-113 – Surety

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
27		Please update the reclamation cost estimate format to that currently used by the Division. The estimate must include demolition and removal costs for equipment and facilities, such as office buildings, fuel tanks, crushers and conveyors. In addition, the please also supply supporting documentation about the amount of material to be moved and equipment productivity.	WW	
28		Add the total disturbed acres that bond is for on the summary sheet.	lah	