Task: 4106

State of Utah

DEPARTMENT OF NATURAL RESOURCES

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July 20, 2011

James Patten
Red Leaf Resources, Inc.
200 West Civic Center Drive, Suite 190
Sandy, Utah 84070

Subject: Initial Review of Notice of Intention to Commence Large Mining Operations, Red Leaf Resources, Southwest #1, M/047/0103, Uintah County, Utah

Dear Dr. Patten:

The Division has completed a review of your Notice of Intention to Commence Large Mining Operations for the Southwest #1 Mine, which was received April 28, 2011. 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. After the notice is determined technically complete and we are prepared to issue final approval, we will ask that you submit 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 Leslie Heppler at 801-538-5257. Thank you for your cooperation in completing this permitting action.

Sincerely,

Paul B. Baker
Minerals Program Manager

PBB:lah:eb
Attachment: Review
cc: SITLA – Jblake@utah.gov
P:\GROUPS\MINERALS\WP\M047-Uintah\M0470103-Southwest#1\final\REV1-4106-06132011.doc

Initial REVIEW OF NOTICEOF INTENTION
TO COMMENCE LARGE MINING OPERATIONS

Red Leaf Resources
Southwest #1

M/047/0103
July 19, 2011

General Comments:

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
1	General	Submittal should be formatted to easily incorporate additional revisions and amendments. NOI form should **not** be used in conjunction with NOI narrative. When a simple name change is requested then many pages will have to be resubmitted.	lah	
2	General	Include all info in NOI form in NOI narrative. Delete the NOI form.	lah	
3	General	Additional comments from the Division can be generated in the future based on submittals received in the future. Please make every attempt to submit a complete NOI the first time around.	lah	
4	Page 1 para 2 & Page 2 para 3	Exploration permit "E/047/0055"	lah	
5	Page 1-3	Description of figures should be moved to Section II, Page 5.	lah	
6	Appendix N	Submit Appendix "N" when received.	lah	

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

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
7	Page 4 I. 1.	Mine Name has been recorded as "Southwest #1". Please match existing mine name.	lah	
8	Page 4 # 5.	Write out legal township description.	lah	
9	Page 5 #10.	Consider rewriting sentence and prior notification of adjacent property owners, so this page will not have to be written in the future.	lah	

R647-4-105 - Maps, Drawings & Photographs

General Map Comments

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
10	Page 5 #II	More written detail is needed on figures; much of this is in the introduction.	lah	
11	Figure 2	Hard to tell which green is the temporary topsoil stockpile; please distinguish.	lah	
12	Figure 3	It is unclear what the difference is between Tier I and Tier II.	lah	

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

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
13	Figure 1	Pipe corridor is hard to distinguish, as color is similar the topographic contour line; please distinguish the pipeline.	lah	
14	Figure 14	Add more detail on the drainages; use different symbols for a perennial stream or river versus an intermittent stream or river, etc.	lah	

105.2 - Surface facilities map

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
15	Figure 9	Add unit numbers from Figure 9 to the surety calculation sheets under demolition, the description column.	lah	

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

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
16	Figure 4	Gray topographic line layers in CADD are the top layer, map would be more readable, if it was a lower layer.	lah	

105.4 - Photographs

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
17	Figure 6	Check geo-reference for the local roads layer; the CADD layer doesn't match the airphoto base map.	lah	

R647-4-106 - Operation Plan

General Operation Comments

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
18	Page 15 Para 3	The pumping system solar panels, battery system, storage tanks and water wells will need to be accounted for in the bond; include hole plugging, demolition and regrading.	lah	

106.1 - Minerals mined

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
19	Page 7	Include a few sentences about the other materials, such as the BAS and the gravels, that that will be generated from the waste rock and utilized for the capsules (such as the second line on page 12).	lah	

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

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
20	Page 8 Bullet List	Include the Tier II sequence in the sequence of mining bulleted list.	lah	
21	Page 11 Para 1	Please clarify that the proposed 53-degree angle is during mining and final highwall angle will not exceed 45 degrees.	lah	
22	Page 15 Para 1	The Division recommends that sumps be designed to a larger storm event.	lah	

106.5 - Existing soil types, location, amount

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
23	Omission	Please include a map of the soils of the area. This map could also show the areas where various amounts of soil are to be salvaged as discussed in Section 109.3 Soils, Table 109.3-1. A map showing the soil salvage plan is probably more useful than the text.	Lah & PBB	

106.6 - Plan for protecting & re-depositing soils

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
24	Omission	Show topsoil or growth medium stockpiles on the map during mining. Refer to the map or figure in the text on page 24 paragraph 2	lah	
25	Page 24 Para 2	Refer to page 43 table W.	lah	

106.7 - Existing vegetation - species and amount

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
25	Page 25 para 2	Address in the text what RLR will do to prevent the spreading of the cheat grass, thistle and white top.	lah	
26	Page 26	Please include total cover values for each community individually rather than relative cover values across communities. The information in Table 106.7-2 is correct, so the revegetation success standard would be 30.1 percent.	PBB	

106.8 - Depth to groundwater, extent of overburden, geology

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
27	Omission	Include a geology map and refer to the location in the text on page 28 paragraph 13.	lah	
28	Figure 13	Stratigraphic column should be labeled as "Typical stratigraphic column".	lah	
29	Page 27 Para 2 & 3	Paragraphs conflict. Please rewrite based on actual water table data provided on page 28.	lah	
30	Page 28 para 4	Note change listed above: "Typical stratigraphic column".	lah	

107 – Operation Practices

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
31	Pages 29-31	NOIs do not include Section 107 Operation Practices. All the info that has been provided by the operator is very good and needs to be included under the Operation Plan or other section as it applies. The Operation Practice should simply note that the Operator will follow the Operation Plan.	lah	

R647-4-109 - Impact Assessment

109.1 - Impacts to surface & groundwater systems

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
32	Page 31 para 4	As written "Figure 13…" should be written as Figure 14.	lah	

109.2 - Impacts to threatened & endangered wildlife/habitat

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
33	Pages 33-35, omission	The biological field report lists two plant species, Barnaby ridge cress and Graham's penstemon, that were survey for, but the report says they should have been checked earlier in the spring. The report also says they will be re-surveyed during the proper survey window in 2011. Assuming this survey was completed, please include a copy in the plan. If either of the species was located in an area to be affected by mining operations, the plan needs to show what mitigation measures will be used to protect these species.	PBB	
34	Page 33	The last paragraph (incomplete) on this page says nests located within one half mile of the area proposed for disturbance in the next five years were removed. This should have required a permit from the Fish and Wildlife Service. If this permit was obtained before moving the nests, please include a statement to this effect. If no permit was obtained, please explain the rationale.	PBB	
35	Omission	The plan says there are no anticipated significant impacts, but it also says the mine is within sage grouse brood rearing habitat though sage grouse have not been seen in the area since 2008. Please provide further discuss about this issue. The Division suggests contacting the Division of Wildlife Resources to determine whether protection and mitigation measures need to be included in the plan. Any written comments from Wildlife Resources should be included in the plan.	PBB	

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

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
	Appendix D	Include output file for rockfall analysis.	lah	

109.5 - Actions to mitigate any impacts

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
	Page 39 Para 6	Commit in the plan to maintain a minimum Factor of Safety (FOS) of 1.**, and if the geology, geomechanical properties of the rock or the phretic surface changes during excavation additional studies will be done.	lah	

R647-4-110 - Reclamation Plan

110.3 - Description of facilities to be left (post mining use)

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
36	Page 40 Para 4	Commit in NOI to leave end pit ponds with a sound hydrologic design and beneficial to the post mining land use.	lah	
37	Page 40 para 3 and Appendix D	Text notes all highwalls will be regraded to less than 45 degrees (this is also supported by figure 5). Stability report in appendix D analyzes steeper configuration. Please address in text the difference and where each will apply; a few sentences on the perimeter highwall (final) versus the interior capsule highwall (temporary).	lah	
38	Page 41	The plan says any foundations left at the site will be fractured and covered with an adequate amount of soil so that the area can be revegetated. Please provide a commitment as to how much soil will be used. The Division recommends at least two feet would probably be necessary.	PBB	

110.5 - Revegetation planting program

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
39	Pages 37 and 41, Sections 109.3 and 110.5	These sections both indicate approximately six inches of soil will be placed on the capsules. This appears to be in conflict with other sections of the plan (Tables 106.4 and 109.3-1) showing an average of one foot of soil salvage across the entire area. Please clarify the soil salvage and redistribution plan. There is a statement on page 42 that approximately 6-12 inches of soil will be used.	PBB	

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
40	Pages 43-45	The Division offers the following suggestions for the seed mixes: Revegetation in this area is notoriously difficult, and the Division suggests including Siberian wheatgrass at a low rate (about one pound PLS/acre) in all the mixes. Bitterbrush needs to be drill seeded, so it is not recommended for the side slopes which will be broadcast seeded. Neither bitterbrush nor squawbush sumac is shown on the list of species occurring in the area, and it is doubtful whether they would survive except perhaps in the most mesic areas. Please consider using fourwing saltbush on the slopes. Galleta grass, though a desirable species and native to the area, rarely establishes from reclamation seedings in Utah. Some of the species cannot go through a drill and will need to be hand broadcast. These include winterfat, the sages, and possibly galleta.	PBB	
41	Omission	Please include commitments to seed as soon as possible after surface preparation and to seed in the fall. The Division recognizes that fall seeding is not always practical, especially for interim seedings, but effort should be made to seed in the fall whenever possible. If spring seeding is necessary, it should be done as early as possible.	PBB	

R647-4-112 - Variance

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
42		No variance requested – no further action is needed	lah	

R647-4-113 – Surety

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
43	Appendix A	Surety Sheets have been cut off in printing on the left hand side of the page. Please add facility number from figure 9 to the surety sheets in appendix A.	lah	
	Appendix A	Please use the number on the facilities map to identify the facilities on the bond calculations.	whw	
	Appendix A	The Division did a preliminary evaluation of the bond calculations. The Division will do a complete analysis on the second review.	whw	