M/001/045

GEMSTONE MINING INC

PO BOX 3413
Cedar City, UT 84721-3413
Telephone: 435-559-7751
Fax: 435-691-0045

July 6, 1999

D. Wayne Hedberg
Permit Supervisor
Minerals Regulatory Program

RE: Review of Notice to Commence Large Mining Operations, Gemstone Mining Inc., Ruby Violet Mine, M/001/045, Beaver County, Utah

Dear Wayne Hedberg,

Attached is our response to your review of Gemstone Mining's Notice to Commence Large Mining operations. The responses are formatted as per your request. Please note that there are several attachments A-H) included to help clarify your comments and answer your questions.

It has been a pleasure working with your staff, and we thank you for the cooperation received. We at Gemstone Mining are looking forward to work with you in the future.

RECEIVED
JUL - 9 1999
DIV. OF OIL, GAS & MINING

Sincerely,

Clinton H. Christensen
Project Manager

RESPONSE TO REVIEW OF NOTICE OF INTENTION TO COMMENCE LARGE MINING OPERATIONS

Gemstone Mining Inc.
Ruby Violet Mine

M/001/045
June 29, 1999

R647-4-105 Maps Drawings & Photographs

105.2 Surface facilities map
See attachments A and B. The attachments are updated surface facilities maps. Five year estimated disturbance (figure 4), and the final footprint of the mine (figure 5).

105.3 Drawings or Cross Sections (slopes, roads, pads, etc.)
Scale and contour interval have been added to the figures for slope interpretation. Attachment G (final pit and dump map) will help with the final designed pit configurations. Cross-sections, with the dump in place, are not available.

R647-4-106 Operation Plan

106.3 Estimated acreages disturbed, reclaimed annually.
51.5 acres are a projection of mine-life disturbance. 35.59 acres are a five year projection of disturbance.
The first phase of mining has actually begun in both the lower pits (the area that the Harris's have mined) and also the upper pit (the area Red Emerald previously mined) These areas have been outlined on the attached plant map (figure 4).
The drainage disturbance has been included in the total disturbance for the 5-year and life of mine plans. Note that the areas of channel disturbance have been shortened on attachment C. On the original figures the lines indicating areas of channel diversion went beyond the areas of actual disturbance (see attachment C).

106.5 Existing Soil Types, location, amount.
No response needed. Note the existing soil depth is 2-3 inches.

106.6 Plan for protecting & re-depositing soils
As indicated in the large mine permit, the available topsoil will be salvaged and stockpiled for reclamation. Topsoil stockpiles will be stabilized by seeding with 5 lbs./acre grass seed. The attached recommended seed mix will be used. We will also place signs indicating the presence of the topsoil stockpiles, and that it is not to be disturbed. See attached recommended topsoil stabilization species list (Attachment D).

106.7 Existing vegetation - species and amount

See attachment H, letter from the BLM #1. The Percentage vegetation cover is 30-35%.

R647-4-107 Operation Practices

107.2 Drainages to minimize damage
See attached revised figure 13 designating a letter for each specific drainage diversions. Note the drainage labeled D located near the proposed plant site will be reclaimed back to its original drainage during reclamation of the plant site. The cost of the reclamation is included in rough grade and contour mine areas in the bond calculation. The other modified drainages will remain. Diversion drainages will be built with similar width and slope to the original drainage to ensure their ability to handle the expected storm run-off volumes. The formed sides of the channels that will not be returned to their original location will be seeded with the recommended reclamation seed mix. Oversize mine waste will be placed in the channels where the channel bends to reduce velocity and minimize potential erosion.

107.5 Suitable soils removed and stored
See R647-4-106.6

107.6 Concurrent reclamation
Reclamation will be delayed until final closure.

R647-4-110 Reclamation Plan

110.2 Roads, highwalls, slopes, drainages, pits, etc., reclaimed
See 107.2

110.5 Re-vegetation planting program
GMI agrees to use the suggested seed mix, however the BLM has indicated that they would like to have the option to change the seed mix as needed at the end of the project. See attached recommended re-vegetation species list (Attachment E).

R647-4-111 Reclamation Practices

111.2 Reclamation of natural channels
See 107.2

111.12 Topsoil Redistribution

As indicated on your review of notice of intention to commence large mining operations, 106.5 the existing soils/organic media are relatively shallow being only 2-3 inches. We feel applying topsoil at a minimum of 6 inches is actually enhancement, and would exceed the required reclamation to the natural state. As discussed at the mine site with Lynn Kunzler, it was determined that 2-3 inches of organic matter would suffice during reclamation. Please clarify.

R641-4-112 Variance

Page 4 of GMI's large mine permit incorrectly states that the mine highwalls will be reduced to 21 degrees. Our mine plan projects 51 degree overall slopes for the highwalls. We feel a need to apply for a variance from the 45-degree maximum angle. The 51 degree angle is the optimum angle for our economic mine plan and we have noted that natural slopes in the area commonly exceed 51 degrees. The 51-degree slopes will be very stable and blend in with the natural topography. The BLM is in agreement with a remaining slope angle of 51 degrees (see attachment H, letter from the BLM #3). The barren rock facility will be reduced to 21 degrees.

R647-4-113 Surety

Existing Plant
We understood that the existing plant fell under the jurisdiction of a different permit and bond.

The information regarding the existing processing plant is just general information that we felt was important to complete the large mine permit. Please note that the bonding calculation for the area to remove trash and debris is supposed to be 10.035 acres, not the stated amount of 11,035 acres.

Mine Site
The attached recalculated bond estimate uses an escalation rate of 3.27% per year for the 5-year period of the bond (see Attachment F).

See revised figure 4 for scaled site map to confirm bonding acreages.

Waterline right-of-way? See attachment H, letter from the BLM #4.

See revised figure 5 (Attachment B) for topsoil stockpile locations.
Handling costs for topsoil reclamation were included in the bonding calculations under the heading Replace Topsoil Material.

The cost for drainage reclamation is included in the Rough Grade/Contour Mine Areas.

Attachment D

Recommended Topsoil Stabilization
Species List
for

GMI
Ruby Violet Mine
M/001/045

Common Name	Species Name	*Rate lbs/ac (PLS)
Thickspike wheatgrass	Agropyron dasystachum	2.0
Western Wheatgrass	Agropyron smithii	2.0
'Piute' orchard grass	*Dactylis glomerata*	0.5
Ladac Alfalfa	*Medicago sativa*	1.5
Yellow sweetclover	*Melilotus officinalis*	1.0
Small burnet	*Sanguisorba minor*	1.5
	Total	8.5 lbs/ac

*This the recommended broadcast seeding rate.

Attachment E

Recommended Revegetation Species List
for

GMI
Ruby Violet Mine
M/001/045

Common Name	Species Name	*Rate lbs/ac (PLS)
Crested wheatgrass	Agropyron cristatum	0.5
Bluebunch wheatgrass	Agropyron spicatum	2.0
Western wheatgrass	Agropyron smithii	2.0
Basin wildrye	*Elymus cinereus*	2.0
Indian ricegrass	Oryzposis hymenoides	3.0
'Ladak' alfalfa	*Medicago sativa*	1.0
Yellow sweetclover	*Melilotus officinalis*	0.5
Palmer penstemon	*Penstemon palmerii*	0.5
Small burnet	*Sanguisorba minor*	1.0
Black sagebrush	*Artemisia nova*	0.1
Forage kochia	*Kochia prostrata*	0.5
Bitterbrush	*Purshia tridentata*	1.0**
	Total	14.1 lbs/ac

* Recommended Broadcast (hyrdroseeding) rate. If drill seeding, cut rate by 1/4.
** Bitterbrush seed should be hand planted on firm seedbed - it does not establish well from broadcast seeding methods.

This seed mix is acceptable to the BLM (as per phone call to Ed Ginouves on June 14, 1999)

Note: If reclamation does not occur for several years, it is suggested that the seed mix be reviewed and modified as necessary to reflect current revegetation technology and species availability.

M0010045.sdm

5 YEAR RECLAMATION BONDING CALCULATIONS FOR RUBY VOILET MINE, WASTE ROCK, NEW PLANT SITES AND ROADS

Item/Description	Quantity	Units	Unit Costs in $	Total Cost in $
Reclaim the Mine Areas				
Rough Grade/Contour Mine Areas	10.7	acres	500	5350
Replace Topsoil Material	10.7	acres	1500	16050
Revegetate	10.7	acres	1700	18190
Subtotal	10.7	acres		39590
Reclaim Waste Rock Area				
Rough Grade/Contour Areas	15	acres	500	7500
Erosion Control Structures	15	acres	500	7500
Replace Topsoil Material	15	acres	1500	22500
Revegetate	15	acres	1700	25500
Subtotal	15	acres		63000
Reclaim New Plant Site				
Remove Equipment/Structures	1	Lump Sum	5000	5000
Remove Concrete	35.2	Cubic Yards	50	1760
Rough Grade	8.9	acres	500	4450
Spread Waste Rock	8.9	acres	1500	13350
Replace Topsoil Material	8.9	acres	1500	13350
Revegetate	8.9	acres	1700	15130
Subtotal	8.9	acres		53040
Reclaim Roadways				
Remove Culverts	2	each	200	400
Rough Grade	0.99	acres	500	495
Replace Topsoil Material	0.99	acres	1500	1485
Erosion Control	0.99	acres	1500	1485
Revegetate	0.99	acres	1700	1683
Subtotal	0.99	acres		5548
Total for all sites	35.59	acres		161178
Supervision 5%				8060
Contingency 10%				16925
Subtotal				186160
5-years Escalation @ 3.27% Per Year				32495
TOTAL				**210830**
Average Cost Per Acre				**5924**

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Cedar City Field Office
176 East DL Sargent Drive
Cedar City, Utah 84720

In Reply Refer To:
UT-040
3809: UTU-72232

June 29, 1999

Mr. Clint Christensen
P.O. Box 3413
Cedar City, UT 84720

Dear Mr. Christensen:

This letter is in regard to Gemstone Mining Inc.'s (GMI) plan of operations submitted to this office on February 4, 1999, for the Ruby Violet Project. The plan of operations covers the proposed mining and processing of red beryl within 52 acres of Federal lands, located within portions of Secs. 29 & 30, T. 29 S., R. 14 W., Beaver County, Utah.

By cover letter dated June 21, 1999, the State of Utah, Division of Oil, Gas, and Minerals (UDOGM), provided you with their initial review of GMI's large mining permit application to cover the Ruby Violet Project plan of operations. In response to our telephone conversation on June 29, 1999, regarding some of the deficiencies noted in the initial review, I am providing the following information:

1. R647-4-106- Operation Plan;
   106.7 Existing vegetation - species and amount

BLM letter of June 11, 1999 provided GMI with a list of species, and their relative densities, for a typical plot of undisturbed ground in the area of the proposed disturbances. We would like to add the following statement regarding the percentage of vegetative cover :

"The percentage of the surface covered by these vegetative species is typically in the range of 30-35% of the available land surface".

2. R647-4-111- Reclamation Practices
   111.12 Topsoil redistribution

A telephone conversation with Mr. Lynn Kunzler of UDOGM indicated that this comment can be rectified by specifying that reclaimed areas will be covered with topsoil to a thickness of 6" ***or*** covered with suitable organic matter at a rate of 20 tons/acre.

3. R647-4-177- Variance

GMI will have to specifically request a variance for that portion of the pit where the highwalls will be left at a slope of greater than 45°. In your reasoning and justification for requesting such a variance feel free to note that the BLM, as land owner, considered GMI's proposal to leave portions of the pit highwall at 51° in it's environmental assessment process. The BLM concluded that, given the location of the site, present and likely future land uses, and the nature of the surrounding terrain, that there was no reasonable basis to impose a slope limitation for public safety or resource concerns.

4. R647-4-117- Surety
Mine Site

With regard to UDOGM's comment to include the water pipeline within the mine plan, this office believes this would be inappropriate given the BLM's desire to leave this water development system in place at project completion. GMI, through its acceptance of the terms and conditions of the BLM right-of-way covering the water well and pipeline (refer to conditions 4b & 4d of right-of-way grant UTU-77917), has already committed to perform reclamation on any disturbances made in the process of installing the water well, pump houses, and pipeline on lands outside the current permit area, and to remove all improvements at the termination of the project, unless otherwise directed by the BLM. For the period while the mine and processing plant are active, the BLM has an agreement with GMI that allows the agency to make use of water produced from the well in surplus of its processing plant and mine site needs, through branch pipelines located along the length of the main pipeline. At the completion of mining and processing activity at the site, it will be the desire of the BLM that the water well and pipeline will transfer to the agency rather than be reclaimed, so that the BLM can continue to make use of the water resource. Even if this transfer where not to take place, it would be the desire of the agency to leave the buried pipeline in place, rather than re-disturbing the surface of the right of way. Therefore, the only reclamation concern we feel is appropriately part of the mine reclamation plan is the capping or plugging the pipeline terminus at the processing plant site.

It is our hope that this letter will help answer some of UDOGM's concerns with the permit application. If you have any questions, or think I could assist you further in some manner, feel free to call me at (435) 865-3040.

Sincerely,

Ed Ginouves
Mining Engineer

xc: Mr. Lynn Kunzler, DOGM