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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

355 West North Temple
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Salt Lake City, Utah 84180-1203
801-538-5340

June 19, 1992

Mr. Glenn Mellor
Senior Geologist
Sunshine Mining Company
P.O. Box 250
Eureka, UT 84628

Dear Mr. Mellor:

Re: Review of Permit Amendment, Sunshine Mining Company , Burgin Project, M/049/009, Utah County, Utah

The Division has completed its review of your permit amendment information received November 6, 1991, January 10, 1992, and March 25, 1992. After reviewing this information, the Division has the comments which are listed below under the applicable Minerals Rule heading. Sunshine will need to adequately address these comments before the Division can finalize its approval of this permit amendment. Our comments have been prepared in chronological order according to the pertinent minerals rule. Please format your response in a similar fashion.

R647-4-105 Maps, Drawings & Photographs

105.3 Other drawings or cross sections (slopes, roads, pads, reclamation treatments, etc.)

Sunshine will need to provide a description of the length and width of the new access road. **(AAG)**

R647-4-107 Operation Practices

107.1 Public safety & welfare

107.1.12 Disposal of trash, scrap, debris

Sunshine will need to commit to the cleanup and removal of any trash, debris, etc., incidental to mining and any materials found during excavation of the old dumps.**(AAG)**

107.1.13 Plugging or capping drill holes

Sunshine will need to commit to plugging any drill holes which were not mined through at the time of final reclamation.**(AAG)**

107.1.14 Posting warning signs

Sunshine will need to post signs during operations warning the public of the pit highwalls.**(AAG)**

107.1.15 Constructing berms, fences, etc. above highwalls

Berms may be needed where/if pit highwalls are accessible to the public.**(AAG)**

R647-4-109 Impact Assessment

109.1 Impacts to surface & groundwater systems

A drainage is currently blocked and routed around the "lower dump" area. This dump will be removed during mining and the drainage will need to be reestablished to its approximate original configuration at the termination of mining.**(AAG-DWH)**

109.4 Slope stability, erosion control, air quality, safety

The plan states that the North Highwall benches will be reseeded. The benches on the South Highwall will need to be revegetated (reseeded), if this side of the pit is redisturbed.**(HWS-DWH)**

R647-4-110 Reclamation Plan

110.2 Roads, highwall, slopes, drainages, pits, etc. reclaimed

Sunshine will need to rip & regrade the new road before applying revegetation treatments such as mulching, discing, seeding. The pit floor and surface of the lower dump area will need to be ripped before receiving revegetation treatments. The ephermeral drainage previously obstructed by the lower dump will need to be re-established to its approximate original configuration. This will require regrading and lining the channel with rip-rap to safely pass the calculated peak design flow from the 25 year-6 hour storm.

The channel should be constructed to reflect the approximate dimensions/capacity of the undisturbed reaches immediately above and below the impacted area. The road, pit floor and dump surface should be drill seeded and the areas inaccessible to a drill seeder (pit benches,etc.) should be broadcast seeded.**(AAG-DWH)**

110.5 Revegetation planting program

SEE ATTACHED SEEDMIX RECOMMENDATION - **(HWS)**

R647-4-111 Reclamation Practices

111.1 Public safety & welfare

1.13 Plugging drill holes

SEE COMMENTS UNDER OPERATIONAL PRACTICES (R647-4-107).

1.14 Posting warning signs

SEE COMMENTS UNDER OPERATIONAL PRACTICES (R647-4-107).

1.15 Constructing berms/fences above highwalls

SEE COMMENTS UNDER OPERATIONAL PRACTICES (R647-4-107).

111.2 Reclamation of natural channels

SEE COMMENTS UNDER SECTION 110.2 ABOVE.

111.8 All roads & pads reclaimed

Need commitment/agreement from Sunshine-SEE COMMENTS UNDER RECLAMATION PLAN SECTION R647-4-110.2.**(AAG)**

111.9 Dams & impoundments left self draining & stable

Will the pit impound water after final reclamation or will it be free-draining?**(AAG)**

111.12 Topsoil redistribution

Virgin (undisturbed) soils must be salvaged, stockpiled, and redistributed where most appropriate upon final reclamation.**(HWS)**

111.13 Revegetation-adaptable species

SEE ATTACHED SEEDMIX RECOMMENDATION - **(HWS)**

R647-4-112 Variance

The operator has requested variances to the following rules:

R647-4-111.7 Highwalls less than 45 degrees - Because of the extenuating circumstances surrounding this prelaw pit disturbance, the Division will accept Sunshine's variance justification to leave existing highwalls at or exceeding 45 degrees.

R647-4-111.12 Topsoil Redistribution - Because no topsoil was salvaged and stockpiled at this pre-law site, the Division will not require Sunshine to import soil to revegetate the pit area. A variance is consequently granted for this area.

R647-4-111.13 Revegetation Standard (pit highwalls) - Sunshine will not be held to the 70% revegetation success standard for reclamation within the pit. However, the Division will require that the pit benches are broadcast seeded upon reclamation. If the benches are accessable to mechanized equipment at final reclamation, then they should be ripped prior to reseeding.**(HWS-DWH)**

R647-4-113 Surety

A draft surety estimate is attached as calculated by the Division for this amendment. The Division is comfortable with reassigning a portion of the existing $737,000 bond to the Zuma project for the time being.

However, because the proposed change in disturbed area is not described under the existing reclamation surety bond, and because of the Division's 5-year surety renewal policy, we believe it is timely to revise the overall reclamation surety for the mine. The Division will require assistance from Sunshine in order to reevaluate the existing (and new) mining-related disturbances against what was permitted and bonded under the original 1985 reclamation surety agreement.

The original surety estimate will need to be revised/recalculated to reflect reclamation costs in 1992 dollars. This figure must be projected/escalated five years ahead (1997 dollars) to bring it in line with present reclamation bonding policy. Once the new surety estimate has been prepared and is agreed upon, Sunshine will need to post a revised surety and complete a new Reclamation Contract (FORM MR-RC) which will include a description of all existing disturbances, the new permitted area(s), and omit any areas which are no longer proposed to be mined.

We will be contacting you in the near future seeking supplemental information which will enable us to proceed ahead with this bonding action. **(AAG)**

Thank you for your cooperation and patience in finalizing this permitting action. If you have any questions in this regard please contact me or Tony Gallegos of the Minerals staff.

Sincerely,

D. Wayne Hedberg

D. Wayne Hedberg
Permit Supervisor
Minerals Regulatory Program

attachments
jb
cc: Lowell Braxton
Minerals staff (route)
M049009.rev

RECOMMENDED SEED MIX (R647-4-110.5)

COMMON NAME	SPECIES NAME	DRILL SEED RATE lbs/acre
Grasses		
Indian Ricegrass	Oryzopsis hymenoides	3
Galleta Grass	Halaria jamesii	2
Crested Wheatgrass	Agropyron desertorum	3
Needle & Thread	Stipa comata	2
Squirrel Tail	Sitanion hystrix	2
Forbs		
Yellow Sweetclover	Melilotus officinalis	2
Palmer Penstemon	Penstemon palmeri	0.5
Prostrate kochia	Kochia prostrata	0.5
Shrubs		
Rubber Rabbitbrush	Chrysothamnus nauseosus	3
Fourwing Saltbush	Atriplex canescens	4
	TOTAL	**22 lb/acre**

The rate described above is for drill seeding only. If this seedmix is to be broadcast the rate should be doubled.

RECLAMATION ESTIMATE **DRAFT**

Sunshine Mining Company

Burgin Project – Zuma Clay Pit Amendment **Utah County**

M/049/009 **last revision** **6/17/92**

Prepared by Utah State Division of Oil, Gas & Mining

Reclamation Details

–This estimate deals with the ZUMA CLAY PIT area ONLY

–All dump areas & pit floor to be regraded =>	*1.9 acre*
–New access road to be completely regraded => EST	*0.2 acre*
–No mining at south highwall, bench both highwalls	*0.2 acre*
–Pit slopes reseeded (broadcast)	*1.6 acre*

–Pit floor to be regraded & ripped; will also include wildlife access

–Pit floor & dumps to be ripped & reseeded (0.5 mph)

–Drainage channel to be reestablished & armored

–Hay mulch to be used on all regraded/reseeded areas at 2,000lb/acre

–Ammonium nitrate fertilizer at 80/100 lbs per acre used on seeded areas

–Areas revegetated via drill seeding unless impractical(=>hand broadcast)

–Disturbed acreage = lower dump & pit floor (1.4) + new road (0.2?) +

upper dump(0.5)+ 3 benches(0.2)+ pit slopes(1.5) = 1. *3.9 ACRES*

–NOTE: Areas estimated from post mine contour map received 3-25-92

Description	Amount		$/Unit	Cost-$
Regrading & ripping access road	0.2	acre	733	147
Regrading dumps & pit floor	1.9	acre	488	927
Ripping dumps & pit floor	1.9	acre	495	941
Benching highwalls (3 benches)	0.2	acre	1,936	387
Reestablish natural drainage channel	0.2	acre	488	98
Placement of rip rap	230	LF	10	2,300
Mulching regraded areas & slopes	3.9	acre	190	741
Seeding regraded areas & slopes	3.9	acre	350	1,365
Fertilizing all reseeded areas	3.9	acre	210	819
Mobilization	1	sum	2,000	2,000
SUBTOTAL				9,724
+ 10% CONTINGENCY				972
SUBTOTAL				10,697
+ 5 yr ESCALATION(1.27%)				697
TOTAL				11,393
ROUNDED TOTAL IN 1997-$				**$11,400**
Average cost per acre =	2,923	$/acre		