

B-MINE PLAN



1. General Description of Mining Operation

a. Type of Mine

The mine will consist of one small open cut. The cut will cover approximately two acres and will never exceed four acres.

b. Life of Mine

Each cut will be reclaimed within 180 days of being mined out. Mining will be active within the permit area for at least the next ten years.

c. Equipment List

1-D-8 (46A), 1-DW-20 Scraper, 1-10 yard paddlewheel scraper, 1-3 yd. front end loader

2. Description and mapped locations of Mine Facilities and Other Construction. (See enclosed Mine maps showing pit plan, haul and access roads.)

a. No building, processing plants or other facilities are planned.

b. Existing roads that are now used to gain access to private land owned by Bear Creek and Beaver Creek Ranch will be used as access and haul roads to the mine area. Roads within the permit area will be reclaimed to their pre-mine status after mining is terminated, or, if requested by the land owners, kept open for property access.

3. Mining Method and Schedule

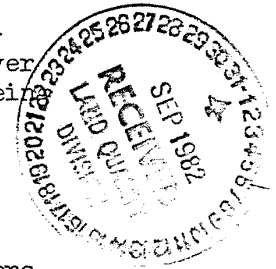
a. Topsoil

i) Stripping and Handling - Topsoil from the 1982 pit and the westend of the 1983 pit will be stockpiled on the south edge of the property until mining is completed. Then it will be used to reclaim the topsoil of the last pit.

ii) Quantity - Only one permanent topsoil stockpile will be made. Its location and approximate size is shown on the reclamation map. The height of the stockpile will not exceed ten feet. There is an estimated 30,000 yards of topsoil in the mine area; all of the topsoil will be saved and replaced during the reclamation process. See Soils inventory map for topsoil thickness.

Exhibit DEQ 6

- iii) Stockpile Conservation - Any stockpile of soil which is to be stored for more than one year and natural re-vegetation does not take place, a suitable temporary cover will be planted and the stockpile will be marked as being topsoil.



b. Mine Pit Excavation, Backfilling and Contouring

- i) Methods - The topsoil will be recovered to a depth of 1 to 1.5 feet. Overburden will be removed with scrapers and push cats. The overburden from pit "1982" and part of "1983" will be stockpiled as shown on the Mine Plan Map. When the 1982 pit is mined out topsoil from the 1983 pit will be stockpiled adjacent to the 1984 pit. The overburden from the 1983 pit will be used to backfill the 1982 pit. The topsoil from the 1983 pit will be used to cover the 1982 pit. This process will be continued until the last pit is mined. The stored topsoil and overburden (See the Mine Plan Map) will be used to reclaim the last pit ("1990").

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All pits as well as the last pit will be shaped and graded to a surface configuration consistent with post-mining uses and adjacent topography. All mined out pits will then be topsoiled and reseeded. All slopes will be no greater than 3:1. The affected land in the permit will not exceed 35 acres. See affected area outlined on the mine plan map.

- ii) None
- iii) Burial of Toxic Materials - No acid-forming or other toxic materials are encountered or created in the mining process. All stray bentonite and bentonite cleanings will be deposited with other overburden and then with suitable topsoil material to the extent available.
- iv) In the process of pushing overburden into the preceding cut, the weight of the equipment will provide adequate compaction. No toxic substances are anticipated.
- v) Mine Sequence Map - See Mine Plan Map.

c. Commodity Removal and Handling

- i) Removal Process - Plans are to use a field drying program that involves leaving the bentonite in the field for approximately one year after exposure. This field drying reduces the moisture content of the clay from approximately thirty percent to eighteen percent, saving fuel in both the hauling and processing of the bentonite. With this in mind the bentonite is removed in six to eight inch layers and placed adjacent to the pit high-wall. Topsoil will be removed before piling the bentonite. A scraper wide buffer zone will be left adjacent to the bentonite. The dried bentonite will then be hauled to the railroad before the next pit is opened up.

Storage and/or Stockpile Sites (amended)

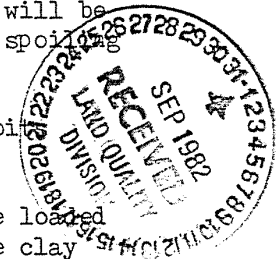
All topsoil will be removed before starting an overburden stockpile. A buffer zone of one scraper width wide will be left adjacent to the overburden stockpile to insure spoilage of topsoil will not occur.

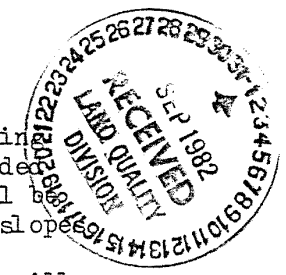
The overburden pile outside the pit boundary (from pits 1981 and 1982) is estimated to be 18,000 yards.

- ii) Handling - After field drying, the bentonite will be loaded and hauled to a bulk-loading facility in Basin. The clay will be stockpiled and eventually loaded into bulk railroad cars without further processing. The bentonite is taken by rail to a grinding plant.

d. Mining Hydrology

No water is used in the mining process. All pits will be designed to let natural drainage continue for the life of each pit. No impoundments will be created unless the surface owner documents a need for one. At no time will overburden be pushed over the edge of the pit, or into the adjacent Bear Creek drainage area. During the mining process a barrier will be kept in place adjacent to Bear Creek to prevent surface runoff. If at any time water collects in the pits (if the water is of good quality), the water will be pumped out and sprinkled on reclaimed areas. But, based on past knowledge of the area, due to the small drainage area, pit water should not be a problem. The bottom of the bentonite bed varies from 50' to 80' above the Bear Creek flood plain. There is no evidence of any record of Bear Creek ever getting out of its natural channel.





d. Erosion Control

Natural drainage will be maintained throughout the mining operation. Any stockpile of soil material will be seeded if left for longer than one year. Re-graded areas will be graded so as to prevent loss by water erosion. Steep slopes will usually not be affected by mining; in cases where steep slopes are disturbed, a suitable seeding program will be used.

e. Soil Amendments

No fertilizers or other soil treatments are planned at this time. However, if any such treatments are deemed necessary, the recommendations of the appropriate State or Federal agencies will be sought.

6. Re-Vegetation Practices

Live-topsoiling will be employed on all regraded cuts. On any affected steep slopes, a suitable seed mixture will be used to re-vegetate the area. All affected areas will be re-vegetated based on soil tests and recommendations of the DEQ. The seed will be broadcast or drilled and harrowed or dragged on the contour. All seeding will be done between October 15 and May 15 with late fall the preferred planting time. A seed bed will be prepared with tillage machinery. Seed to be used on the re-seeding program is attached.

7. Protection of Re-seeded Areas

The newly seeded areas will be protected from grazing pressure for at least two years through a co-operative agreement of grazing deferment with the surface owners. If this cannot be worked out the re-seeded area will be fenced.

8. Other Reclamation in the Permit Area

a. Building and Structures

No buildings or other structures will be constructed within the permit area.

b. Roads

Existing roads will be used as much as possible and any new roads developed or any significant improvement to existing roads, will have the road structure obliterated and will be contoured to the approximate original contours, topsoiled and seeded. Culverts will be installed at all stream crossings which require the addition of fill material. These culverts will be removed when the roadway is obliterated. Roads within the permit area will be reclaimed area will be reclaimed to their pre-mine status after mining is terminated, or, if requested by the landowner or other entities and they agree to maintain the road, then the reclamation of the road need not be complete.

9.

Reclamation Costs

Since all reclamation will be conducted during the mining operations and is in essence a part of the mining process, an exact cost is difficult to determine. An estimated total reclamation cost is \$4250.00/acre. The first year of operation will affect only 1 to 2 acres - less than 8,000 yards of overburden will be removed. The cost to reclaim access roads and the first pit area should not exceed \$3,600.00. During the life of the operation no more than three acres will be affected during any one year and the total mine area to be affected for the life of the mine will not exceed 20 acres. Total reclamation costs for the mine, during any one year, should not exceed \$17,000; however, the total cost of reclamation over the life of the mine based on 20 acres of disturbed land will run around \$85,000.00. I have tried to estimate the costs on a contract basis, by an outside contractor.



Pat Boles Recommendations to TFN 1 1/236

<u>Species</u>	<u>LBS PLS*/acre</u>
Bluebunch wheatgrass	3.5
Indian ricegrass	2.0
Needle & thread grass	2.0
Thickspike wheatgrass	3.0
Western wheatgrass	3.0
Big sagebrush	0.25
Rubber rabbitbrush	1.0
TOTAL	14.75



* = Pure live seed. Amounts given are for drill seeding, double if the seeds are broadcast. If the seeds are broadcast, seeding should be followed by raking in order to cover the seeds.

