

From: "C. W. Mining" <cwmining@etv.net>
To: Joe Helfrich <joe Helfrich@utah.gov>
Date: 8/16/2005 12:17:23 PM
Subject: Re: Bear Canyon reformat task 2114

Here is a copy of the changed pages I found. We also had to renumber Appendix 7H from pages 52 thru 133 to address one of Jim's deficiencies. I can try to email you a copy of Appendix 7-H, but it might not work since it has a lot of pictures in it.

Joe Helfrich wrote:

>Hi Mark, This is Jim's memo, I will ask him to call you.....Joe
>
>
>

APPLICATION FOR COAL PERMIT PROCESSING

Permit Change [X] New Permit [] Renewal [] Exploration [] Bond Release [] Transfer []

Permittee: CO-OP MINING COMPANY

Mine: BEAR CANYON MINE

Permit Number: ACT/015/025

Title: MRP Reformat Task ID #1989

Description, Include reason for application and timing required to implement:

Instructions: If you answer yes to any of the first eight (gray) questions, this application may require Public Notice publication.

- 1. Change in the size of the Permit Area? Acres: _____ Disturbed Area: _____ [] increase [] decrease.
2. Is the application submitted as a result of a Division Order? DO# _____
3. Does the application include operations outside a previously identified Cumulative Hydrologic Impact Area?
4. Does the application include operations in hydrologic basins other than as currently approved?
5. Does the application result from cancellation, reduction or increase of insurance or reclamation bond?
6. Does the application require or include public notice publication?
7. Does the application require or include ownership, control, right-of-entry, or compliance information?
8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
9. Is the application submitted as a result of a Violation? NOV # _____
10. Is the application submitted as a result of other laws or regulations or policies? Explain: _____
11. Does the application affect the surface landowner or change the post mining land use?
12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2)
13. Does the application require or include collection and reporting of any baseline information?
14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
15. Does the application require or include soil removal, storage or placement?
16. Does the application require or include vegetation monitoring, removal or revegetation activities?
17. Does the application require or include construction, modification, or removal of surface facilities?
18. Does the application require or include water monitoring, sediment or drainage control measures?
19. Does the application require or include certified designs, maps or calculation?
20. Does the application require or include subsidence control or monitoring?
21. Have reclamation costs for bonding been provided?
22. Does the application involve a perennial stream, a stream buffer zone or discharges to a stream?
23. Does the application affect permits issued by other agencies or permits issued to other entities?

Please attach four (4) review copies of the application. If the mine is on or adjacent to Forest Service land please submit five (5) copies, thank you. (These numbers include a copy for the Price Field Office)

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

Print Name

Sign Name, Position, Date

Subscribed and sworn to before me this _____ day of _____, 20____

Notary Public

My commission Expires: _____, 20____

Attest: State of _____ } ss:
County of _____

Table with 3 columns: For Office Use Only, Assigned Tracking Number, Received by Oil, Gas & Mining

The following table summarizes the channel slopes (from [Plates 7-7 and 7-7A](#)):

Channel	Watershed	Peak Flow (cfs)	Minimum Slope (ft/ft)	Maximum Slope (ft/ft)	Manning's coefficient *
RC-1	WS-1	8.03	0.08	0.31	0.035
RC-2	WS-2	10.51	0.09	0.29	0.038
RC-3	WS-3	3.51	0.08	0.67	0.038
RC-4	WS-4	4.46	0.05	0.40	0.035
RC-5	WS-5	1.78	0.05	0.50	0.035
RC-6	WS-6	9.21	0.10	0.10	0.035
RC-7	Right Fork Lower	317.39	0.10	0.10	0.044
RC-8	WS-17, RC-9	154.03	0.13	0.26	0.044
RC-9	Right Fork Right	153.91	0.04	0.25	0.044
RC-10	Bear Canyon	776.76	0.06	0.06	0.044
RC-11	WS-22, WS-23, WS-24	6.14	0.12	0.12	0.035
RC-12	WS-27	6.55	0.08	0.68	0.038
RC-TS1	WS-1 partial	4.53	0.03	0.40	0.035
RC-TS2	WS-1 partial	2.42	0.20	0.75	0.035
RC-TS3	WS-1 partial	2.18	0.30	0.50	0.035
RC-TS4	WS-1 partial	0.43	0.35	0.70	0.035
RC-TS5	WS-1 partial	0.31	0.30	0.60	0.035
RC-TS6	WS-1 partial	0.60	0.16	0.65	0.035

*Manning's coefficient based on riprap sizes shown on the following page.

The reclaimed channel designs for RC-1 through RC-12 are shown on the following pages. [Plates 7-8A](#) and [7-8B](#) show the profiles for these channels. See [pages 7H-52 50](#) thru [7H-77 74](#) for RC-TS channel designs, associated with the reclaimed Tank Seam Access Road. [Plate 7-8C](#) shows the profiles for these channels. Channels RC-7, RC-8, RC-9, RC-11 and RC-12 are associated with the Right Fork drainage of Bear Creek (Wild Horse Ridge disturbance).

Castlegate Sandstone

The Castlegate Sandstone, generally considered the basal member of the Price River Formation (Spieker, 1931) consists of massive, highly resistant medium to coarse-grained sandstone beds containing, in places, conglomerate with a matrix of grit (Doelling, 1972). It is thought to be of marine origin. Although the Castlegate overlies the Black hawk Formation, it appears barren of coal in the plateau lease area.

Price River Formation

The lithologic characteristics of the Price River Formation and the underlying Castlegate Sandstone are similar; however, the castlegate member is differentiated from the Price River Formation in that it consists of medium to coarse-grained sandstone beds with occasional lenses of shale. Although the unit has a high porosity, its apparent low permeability (Cordova, 1964) reduces its water yielding capabilities except through fractures.

North Horn Formation

The youngest geologic formation within the permit area is the North Horn Formation, which caps Price River Formation on Gentry Mountain (Doelling, 1972). The North Horn, the lowest member of the Wasatch Group, consists of variegated shale's, irregular beds of gray, brown, or cream colored sandstone of various textures, and thin beds of steel-gray and cream colored limestone (Spieker, 1931).

Ball Park Channel

RC-BP1

This channel is proposed as a post-mining channel to divert water away from the reclaimed ballpark area.

During the year 2000, increased flows have been observed coming from springs located upslope from the ballpark. These increased flows have resulted in water flowing from offsite onto the ballpark and through the silt fences and straw bales currently treating the area. In an effort to provide permanent protection for the reclaimed area, Co-Op proposes to construct this channel along the upslope side of the ballpark to divert flows around the ballpark.

The current flows which have been observed from the spring average 15 - 20 gpm, or 0.044 cfs. To provide added safety, a flow three times that of the observed flow was used in the design, or 0.13 cfs. The channel flow and cross section was analyzed using "Flowmaster" channel design software. This program uses Manning's formula to determine the required flow and depth. The results of the evaluation are shown on the following pages.

A maximum flow velocity of 2.03 fps was determined as shown on [page 7H-125-131](#). This flow indicates that no riprap will be required (see riprap designs on [page 7H-18](#)). A maximum flow depth of 0.24 feet was determined ([page 7H-126-132](#)). A freeboard of 1 foot has been added to allow for additional capacity.

The proposed channel designs are as follows:

Channel	Q max	Max. Vel.	Left Side	Rt Side	Depth	Max Slope
RC-BP1	0.13 cfs	2.03 fps	3H:1V	1H:1V	1.24'	0.05 ft/ft

A cross section of the channel is shown on [page 7H-127-133](#).

Bear Canyon Haul Road and No. 3 Mine Access Road Post-Mining Diversion Designs

As described in [Appendix 3-D](#), the Bear Canyon Haul Road and the No. 3 Mine Access Road will remain in place for post-mining access to the Wild Horse Ridge hunting cabin. Following are the post-mining designs for the diversions located along these roads.

The watershed characteristics and peak flow calculations are shown on [pages 7H-2](#) through [7H-15](#). In accordance with R645-301-742.423.1, the 10-year, 6-hour storm event was used to determine the peak flows. The flows are based on the SCS curve number technology using a Type II storm distribution. The table on the following page summarizes the post-mining road diversion design characteristics.

The designs were evaluated using Flowmaster software program. The Flowmaster printouts are shown beginning on [page 7H-8+ 78](#). Riprap sizes were selected from [figure 7H-2](#) ([page 7H-18](#)).

arranged in as near natural position as possible paying special attention not to "J" the root tips. (Figure 3-4 2).

By holding the seedling at the root crown, soil will be compacted back around the roots being careful to leave no air pockets or loose dirt (which would constitute settling). The tree will be firm when light pressure is exerted on the needles and standing in an erect position. Only hands shall be used to pack soil around the tree, the use of a stick or foot is strictly forbidden.

At all times the trees will be protected from direct sun light and special care will be exhibited when lifting the seedling from the planting bag to the prepared hole. The spacing of planted shrubs and trees will be to obtain the desired density and diversity while providing small clumps of cover for wildlife on approximately 100 ft intervals throughout the areas of disturbance that are in excess of 2 acre in size.

Field storage facilities are illustrated in Figure 3-2. In the event snow is not available, a similar cache can be constructed using wet burlap and damp straw.

The mine will have to maintain a sorting, packaging and storing tent at the cache site. A sorting table will need to be set up in one tent. Each seedling must be examined and all that do not have a 2 to 1 crown to root relationship or are damaged must be discarded. The seedlings then need to be dipped in a vermiculite slurry and then rolled in wet burlap and placed in canvas planting bags.

10.4 of this report. It is doubtful that proposed expansions will seriously impact the other species sense no new surface disturbances are planned.

Birds

One species of involved birds are on the endangered species list: the peregrine falcon (thought to be a year-round resident in southeastern Utah). However, there are no known nesting sites for the peregrine falcon in this area. Because of the suspected transient nature of these birds, no problems are foreseen with the projected development. A Raptor survey was made during 1987 to confirm these assumptions. Potential areas of impact are shown on [Plate 5-3](#). The areas designated for potential impact include the mine site location and the haul road and utility corridor.

The more important bird species of the area are listed in [Appendix 3-K](#).

- b. Solid waste generated in the facilities removal will be collected and disposed of as identified in R645-301-541.300. See [Appendix 5-D](#) for toxic materials and handling.

In disturbed areas which contain coal fines from current operations and are not proposed to be ~~regarded~~ regraded, the coal fines will be removed to pre-mining levels. Methods of removal will consist of either vacuuming (if justified by large quantities), or by washing down the area by high-pressure water hoses. The wash down procedure is particularly effective on rock and rocky slopes. All other extraneous debris from the operations will also be removed from the areas. Disposal of all materials will be as described in [R645-301-529](#).

It should be noted that the existence of small to moderate amounts of coal fines has not been established as detrimental to either soils or vegetation; ~~therefore, amounts less than the 50 pct figure cited above will not be removed.~~

- c. A backhoe and dozer will work in conjunction to remove the outer edge of the recontoured operational benches and compact it against the cut slopes. This will be accomplished by the backhoe reaching over the edge of the bank approx 20 ft. and pulling the material back. The dozer will then push and compact this material from the cut slope outward to reach a bench slope of approx 1v:3h for drainage purposes and a maximum of 1v:2h on slopes outside of drainage areas. Culverts will be removed by excavating the material over the culvert, extracting the pipe, and backfilling the area.