

PERMIT CHANGE TRACKING FORM

- Significant Permit Revision
- Permit Amendment
- Incidental Boundary Change

DATE RECEIVED 9-15-95	By: mail <small>(initial)</small>	PERMIT NUMBER ACT/015/025					
Title of Proposal: Ditch D-100 Route Modification		PERMIT CHANGE # 95R					
Description: Extend Ditch D-100 to Coal Processing Pad - replaces section of culvert C-20 which was destroyed during 8/23/95 storm event.	PERMITTEE	CO-OP MINING COMPANY					
	MINE NAME	BEAR CANYON MINE					
<input checked="" type="checkbox"/> 15 DAY INITIAL RESPONSE TO PERMIT CHANGE APPLICATION	DATE DUE	9/30/95	DATE DONE	9/18/95			
				RESULT <input checked="" type="checkbox"/> ACCEPTED <input type="checkbox"/> REJECTED			
<input checked="" type="checkbox"/> Notice of Review Status of proposed permit change sent to the Permittee.	DATE DUE	9/30/95	DATE DONE	9/18/95			
<input type="checkbox"/> Responses Received.	COMMENTS						
<input type="checkbox"/> Notice of Affidavit of Publication. (If change is a Significant Revision.)							
REVIEW TRACKING		INITIAL REVIEW		MODIFIED REVIEW		FINAL REVIEW AND FINDINGS	
DOGME REVIEWER		DUE	DONE	DUE	DONE	DUE	DONE
<input checked="" type="checkbox"/> Lead	PH	9/30	9/18				
<input type="checkbox"/> TA (See Attached)							
<input checked="" type="checkbox"/> Reviewers							
<input type="checkbox"/> Administrative (AVS)							
<input type="checkbox"/> Biology							
<input checked="" type="checkbox"/> Engineering	PH	9/30	9/18				
<input type="checkbox"/> Geology							
<input type="checkbox"/> Soils							
<input type="checkbox"/> Hydrology							
COORDINATED REVIEWS		SENT	DUE	RECEIVED	SENT	DUE	DONE
<input type="checkbox"/> OSMRE		NA	NA				
<input type="checkbox"/> US Forest Service							
<input type="checkbox"/> Bureau of Land Management							
<input type="checkbox"/> US Fish and Wildlife Service							
<input type="checkbox"/> US National Parks Service							
<input type="checkbox"/> UT Environmental Quality							
<input type="checkbox"/> UT Water Resources							
<input type="checkbox"/> UT Water Rights							
<input type="checkbox"/> UT Wildlife Resources							
<input type="checkbox"/> UT State History (SHPO)							
<input type="checkbox"/> State Trust Lands							
<input type="checkbox"/> Public Notice / Comment / Hearing Complete. (If the permit change is a Significant Revision)				<input checked="" type="checkbox"/> Permit Change Approval Form signed and approved effective as of this date.			9/18/95
<input type="checkbox"/> Copies of permit change marked and ready for MRP.				<input type="checkbox"/> Permit Change Denied.			9/18/95
<input type="checkbox"/> Special Conditions/Stipulations written for approval.				<input type="checkbox"/> Notice of <input checked="" type="checkbox"/> Approval <input type="checkbox"/> Denial to Permittee.			9/18/95
<input type="checkbox"/> TA and CHIA modified as required.				<input type="checkbox"/> Copy of Approved Permit Change to File.			9/18/95
<input type="checkbox"/> Permit Change Approval Form ready for approval.				<input type="checkbox"/> Copy of Approved Permit Change to Permittee.			9/18/95
				<input type="checkbox"/> Copies to Other Agencies and Price-Field Office.			SLO



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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September 18, 1995

Wendell Owen
Resident Agent
Co-Op Mining Company
PO Box 1245
Huntington, Utah 84528

Re: Ditch D-10D Route Modification, Bear Canyon Mine, Co-Op Mining Company, ACT/015/025-95, Folder #3, Emery County, Utah

Dear Mr. Owen:

The aforementioned amendment ACT/015/025-95 is approved, effective September 18, 1995.

Sincerely,

A handwritten signature in cursive script, appearing to read "Peter Hess".

Peter Hess
Engineer II

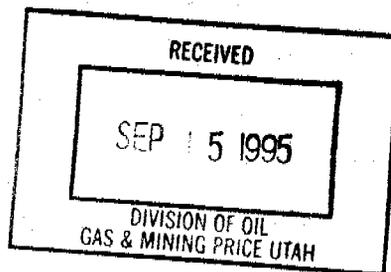
sd

Enclosure

cc: James Fulton, OSM, Denver
Joe Helfrich, DOGM, SLC, w/o enc
Pam Grubaugh-Littig, DOGM, SLC

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~~Use Minimum Depth = 1 ft => Min Freeboard = 0.5 ft~~
~~Velocity < 5 fps => No rip-rap required~~

DITCH CHARACTERISTICS

DITCH	CHANNEL SLOPE %	CONTRIBUTING WATERSHED	PEAK Q(cfs)	BANK AND BOTTOM DESC.	MANNING'S n (a)
D-1D	2 Min, 11 Max	AD-3A	0.23	Rocky Soil	0.03
D-2D	6 Min, 20 Max	AD-3A, AD-5	0.53	Rocky Soil, Bedrock	0.03
D-3D	2 Min, 6 Av 14 Max	AD-3A, AD-5, AD-7	2.36	Soil, grouted half round culvert	0.03
D-4D	2 Min, 7 Av 17 Max	AD-14	0.05	Soil	0.03
D-5D	4 Min, 10 Max	AD-9	0.23	Soil	0.03
D-6D	2 Min, 4 Max	AD-3A, AD-5, AD-7, AD-9, AD-10 AD-12, AD-14	3.61	Rocky Soil	0.03
D-7D	2 Min, 6 Av 55 Max	AD-1A, AD-1B, AD-2A, AD-2B, AD-2C, AD-3B, AD-4, AD-6, AD-8	4.46	Soil, $D_{50}=3"$	0.03, 0.033
D-8D	2 Min, 7 Max	AD-13	1.23	Soil	0.03
D-8D Water Bar	3 Av.	AD-13	1.23	Soil	0.03
D-9D	4 Min, 10 Max	AD-15	1.25	Soil	0.03
D-10D	7 Min, 50 Max	AD-6, AD-3B, AD-2C	0.93	$D_{50}=4"$	0.033
D-10aD	7 Av.	AD-6, AD-3B, AD-2C(part)	0.93	$D_{50}=4"$	0.033
D-11D	41 Min, Near Vertical Max	TIPPLE WASH HOSE	0.25	Grouted rip-rap	0.035
D-12D	81 Av.	TIPPLE WASH HOSE	0.25	Grouted	0.03
D-13D Water Bar	0.5 Av.	AD-6 Partial	0.23	Soil	0.03
D-14D	0.05 Av.	AU-4A	0.54	Soil	0.03

Table 7.2-10 Summary of Diversion Ditch Calculations

DITCH	BOTTOM WIDTH (FT)	TOP WIDTH (FT)	DEPTH (FT)	TYP SIDE SLOPE H:V	MEASURED SLOPE %	CONTRIBUTING WATERSHED	REQ'D AV. RIP-RAP SIZE (IN.)
D-1D	0	1.33	0.67	1:1	2 Min 11 Max	AD-3A	Soil
D-2D	0	1.33	0.67	1:1	6 Min 20 Max	AD-3A, AD-5	Bedrock
D-3D	0	2	1	1:1	2 Min 6 Av. 18 Max	AD-3A, AD-5 AD-7	Soil Soil Grouted
D-4D	0	2	1	1:1	2 Min 6 Av. 17 Max	AD-14	Soil Soil D ₅₀ 6"
D-5D	0	1.33	0.67	1:1	4 Min 10 Max	AD-9	Soil
D-6D	0	3	1.5	1:1	2 Min 4 Max	AD-3A, AD-5, AD-7, AD-9, AD-10, AD-12, AD-14	Soil
D-7D	2	3.5	0.75	1.5:1	2 Min 6 Av. 55 Max	AD-1A, AD-1B, AD-2A, AD-2B, AD-2C, AD-3B, AD-4, AD-6, AD-8	Soil Soil D ₅₀ 6"
D-8D	0	2	1	1:1	2 Min 7 Max	AD-13	Soil
D-8D Water Bar	0	2.67	0.67	2:1	3 Av.	AD-13	Soil
D-9D	0	2	1	1:1	4 Min 10 Max	AD-15	Soil
D-10D	1	3.33	0.67	1.5:1	7 Min 50 Max	AD-6, AD-3B, (part) AD-2B, AD-2C	D ₅₀ 4" Bedrock
D-10aD	0	2	1	1:1	7 Av.	AD-6, AD-3B, (part) AD-2B, AD-2C	Soil
D-11D	0	1	0.5	1:1	41 Min Near Vert	TIPPLE WASH HOSE	Grouted Rip-rap
D-12D	0	1	0.5	1:1	81 Av.	TIPPLE WASH HOSE	Soil
D-13D Water Bar	0	6	0.5	10:1 2:1	0.5 Av.	AD-6 Partial	Soil
D-14D	0	1.33	0.67	1.5:1	0.05 Av	AU-4A	Soil

- Notes:
1. Dimensions given indicate minimum requirements. Actual dimensions may vary. Minimum required cross section will be maintained.
 2. The use of riprap to line drainage ditches is required when flow velocities exceed approximately 5 feet per second. Rip-rap may be installed where not required.

Additional Control for Hiawatha Seam Mining

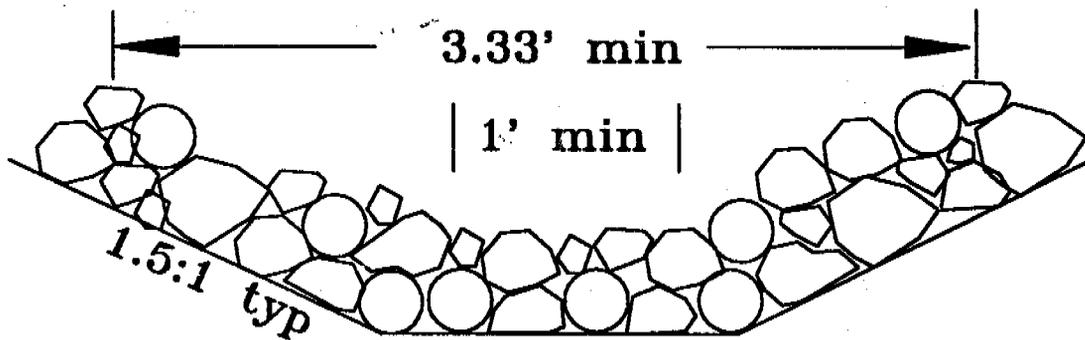
As shown on Plate 7-1C, the out-slope of the proposed Hiawatha Seam portal pad encroaches upon the ephemeral channel between D-1D and D-2D. A 15 in. flexible culvert (C-1D and C-2D) and drainage ditch (D-10D), as shown on Plates 7-1C, and Plates 2-4 is installed to convey the drainage from the upper areas of the channel beneath the pad to the coal storage pad below. Installation details are shown in Figures 7.2-8 (Downspout Structure), 7.2-9 (Collection Box), 7.2-10 (Open Culvert Ditch D-10D Cross-Section), 7.2-11 (Buried Cross Sections), 7.2-12 (Exposed Section Anchor) and 7.2-13 (Outlet Protection). Rip-rap specifications will be adhered to as specified in Table 7.2-10 and Table 7.2-11.

~~The pad and channel were constructed prior to placing the flexible culvert in the excavated channel. Where the culvert is on a slope too steep for backfilling to be practical, the culvert was anchored as shown in Figure 7.2-6. The remaining sections were backfilled and all heavy equipment will be precluded from the area to avoid an accidental crushing of the culvert. The flexible culvert is designed to withstand being buried but will not hold up under heavy equipment traffic.~~

Prior to September, 1995, the flexible culvert was used to convey the drainage the entire length of the slope. A storm event which exceeded the design peak flow of the culvert destroyed a section of the flexible culvert from the uppermost belt tower below the coal storage bin to the coal processing pad. To reduce maintenance, this section will be replaced by a drainage channel as shown in Figure 7.2-10 and on Plate 7-1C.

DITCH D-10D

Typical Cross-Section



Minimum channel depth = 0.67'

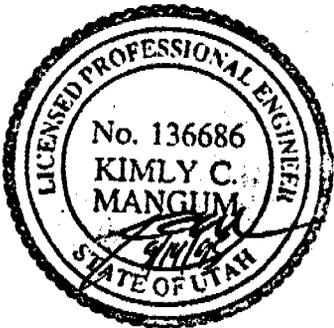


Figure 7.2-10 ~~Open Culvert, Typical Section~~
~~Ditch D-10D Cross-Section~~

The ~~out-slope of the pad drainage channel~~ is protected by ~~6 4~~ in. M.D. ~~riprap rock along the area where drainage will occur.~~ The ~~only drainage that will reach.~~ ~~When the drainage reaches the Coal Processing toe of the pad,~~ ~~is that from the upper pad to the lower,~~ the majority of the drainage above it will be conveyed through ~~into~~ the ~~lower flexible~~ culvert C-2D (Plate 7-1C). ~~The 6 in. rock is more than adequate,~~ since the approved plan calls for natural 6 in. rip-rap in the post-mining channel that will carry not only the disturbed drainage AD-1, but the undisturbed drainage from AU-3 as well. ~~Ditch designs are shown in Appendix 7-G.~~

The ditch in this area has been measured, and ~~a~~ typical ~~post-mining~~ section is shown ~~in Appendix 7-H~~ on ~~Plate 7-8~~ as cross-section ~~D-D RC-3~~. The ditch profile is also shown on this Plate ~~7-8A~~ as Profile "F" ~~RC-3~~. ~~Plate 7-8a is a typical section of the proposed channel restoration in the area of the portal pad and culvert, after their removal and upon final reclamation.~~

DRAINAGE CONTROL SYSTEM BEAR CANYON NO. 1 MINE

LOWER SEAM PORTAL AREA

- a. Upper Pad. Drainage from the disturbed area on the upper pad from the sub-station to culvert C-1D, will continue to flow into culvert C-1D, as approved; the outlet location of the flexible culvert was moved approx 20 ft to the west of the original location to direct runoff onto the rock ledge above the Lower Seam (Hiawatha) portals; water then flows over the rock ledge to the portal pad below;
- b. Portal Pad. The northeast corner of the bin is bermed a min of 30 in. high over to the highwall. Runoff water from the upper pad flows southward around the bin and into Ditch D-10D. Runoff from under the bin flows into a collection box at the edge of the portal pad area; the pad is sloped to flow to the box;
- c. Flexible Culvert. The collection box at the portal pad discharges into a 15 in. flexible culvert, the culvert drops into the next lower pad areas (Conveyor Support Pads) which discharges into Ditch D-10D adjacent to the uppermost conveyor support;
- d. Conveyor Support Pads Area and Slope. This pad area is divided into two sections and is sloped to drain to the flexible culvert; the flexible culvert is opened (or replaced with 1/2 round culvert) for a distance of at least 8 ft to allow surface water to enter the culvert at both sections; the entrance to Ditch D-10D is constructed to weave across this area as shown on Plate 7-1C until it reaches

~~the culvert is protected by a trash rack and grouted as shown on the attached typical drawing; water then flows down the flexible culvert to the Coal Processing Pad area, where it drains into the lower flexible culvert.~~

- e. Coal Processing Pad. This pad is also sloped to drain to the culvert; ~~another 8 ft opening was left in the culvert for the surface runoff;~~ water is then conveyed down to the lower (Lump Coal) pad area;
- f. Lump Coal Pad. The flexible culvert parallels the conveyor down to the lump coal bin, passes beneath the bin supports, and empties into a catch basin/energy dissipater just south of the bin; runoff then flows south into ditch D-7D and passes into Sediment Pond "A."

Drainage is shown on Plate 7-1. Detailed drawings of the various drainage controls are shown in the attached typical details.

~~Culvert C-7D Inlet, 1991~~

~~The inlet to culvert C-7D is situated on the coal storage pad (Plate 7-1C). The activities involved in during stockpiling and loading, makes it difficult to maintain standard inlet protection. In order to maintain drainage from the storage pad, the inlet will be configured with a steel grate and large, 6 in. median dia rubble with an intermediate steel screen as shown in Figure 7.2-16. This configuration will allow drainage off the coal storage pad to continue in the event that coal is placed over the inlet area.~~

complete. Areas in which the vegetation is not successful, or where rills and gullies develop shall be repaired and revegetated.

In addition, all dams and embankments shall be routinely maintained during the mining operation. Any vegetative growth will be cut where necessary to facilitate inspection and repairs. Ditches and spillways shall be cleaned as needed. Any combustible materials present on the surface shall be removed and all other appropriate maintenance procedures followed.

Sediment ponds will be cleaned out when they reach the 60 pct clean out level. Sediment material from the sedimentation ponds will be placed in the sediment pond waste area (Plate 2-4C) and is discussed in Appendix 3-K.

Quarterly Inspections. Quarterly inspections will be made of all sediment ponds and submitted to DOGM within ~~90 days~~ the quarterly Water Monitoring Report. If any inspection discloses that a potential hazard exists, Co-Op will notify the Division immediately as required by R645-301-515.200.

Annual Inspections. Annual inspections will be made by a qualified registered professional engineer of all sediment ponds and a certified report will be submitted to the Division with the annual report. The report will include discussion of items noted in R645-301-514.312. Copies of the reports will be placed in Appendix 7-I.