



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

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March 10, 1995

Thomas E. Ehmett, Acting Director  
Office of Surface Mining  
Reclamation and Enforcement  
505 Marquette N.W., Ste. 1200  
Albuquerque, NM 87102

Re: Catch Basin Removal, ACT/015/021-95A, Trail Canyon Mine, Co-Op Mining  
Company, Folder #2, Emery County, Utah

Dear Mr. Ehmett:

Enclosed please find approved permit changes for the Trail Canyon Mine approved on March 1, 1995 ((pages 3G-12, 7-iii, 7-34, 7-44, 7-44A, 7-45, 7-45A, 7-50, 7-51B, 7-51C, 7-51D, 7-51E, 7-51F, and Plates 3-2D, 7-4A, 7-4B, 7-4C, and 7-4D).

If you have any questions, please call me.

Sincerely,

  
Pamela Grubaugh-Littig  
Permit Coordinator

Enclosure

cc: Price Field Office  
Robert Morgan, State Engineer



# PERMIT CHANGE TRACKING FORM

DATE RECEIVED	1/30/95	PERMIT NUMBER	ACT/1015/021
Title of Proposal:	Catch Basin Removals	PERMIT CHANGE #	95 A
Description:	2nd review received response received 2/13	PERMITTEE	Co-Op Mining Co.
		MINE NAME	Trail Canyon

	DATE DUE	DATE DONE	RESULT
<input type="checkbox"/> 15 DAY INITIAL RESPONSE TO PERMIT CHANGE APPLICATION			<input type="checkbox"/> ACCEPTED <input type="checkbox"/> REJECTED
<input type="checkbox"/> Notice of Review Status of proposed permit change sent to the Permittee.			Permit Change Classification
<input type="checkbox"/> Request additional review copies prior to Division/Other Agency review.			<input type="checkbox"/> Significant Permit Revision
<input type="checkbox"/> Notice of Approval of Publication. (If change is a Significant Revision.)			<input checked="" type="checkbox"/> Permit Amendment
<input type="checkbox"/> Notice of request to modify proposed permit change prior to approval.			<input type="checkbox"/> Incidental Boundary Change

REVIEW TRACKING	INITIAL REVIEW		MODIFIED REVIEW		FINAL REVIEW AND FINDINGS	
DOGM REVIEWER	DUE	DONE	DUE	DONE	DUE	DONE
<input type="checkbox"/> Administrative						
<input type="checkbox"/> Biology						
<input type="checkbox"/> Engineering						
<input type="checkbox"/> Geology						
<input type="checkbox"/> Soils						
<input checked="" type="checkbox"/> Hydrology	IM	2/27	2/13	2/13		
<input type="checkbox"/> Bonding						
<input type="checkbox"/> AVS Check						

COORDINATED REVIEWS	DUE	DONE	DUE	DONE	DUE	DONE
<input type="checkbox"/> OSMRE						
<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						
<input type="checkbox"/> Other						

<input type="checkbox"/> Public Notice/Comment/Hearing Complete (If the permit change is a Significant Revision)	<input type="checkbox"/> Permit Change Approval Form signed and approved effective as of this date. <input type="checkbox"/> Permit Change Denied.
<input type="checkbox"/> Copies of permit change marked and ready for MRP.	<input type="checkbox"/> Notice of <input type="checkbox"/> Approval <input type="checkbox"/> Denial to Permittee.
<input type="checkbox"/> Special Conditions/Stipulations written for approval.	<input type="checkbox"/> Copy of Approved Permit Change to File.
<input type="checkbox"/> TA and CHIA modified as required.	<input type="checkbox"/> Copy of Approved Permit Change to Permittee.
<input type="checkbox"/> Permit Change Approval Form ready for approval.	<input type="checkbox"/> Copies to Other Agencies and Price Field Office.

# CO-OP MINING COMPANY

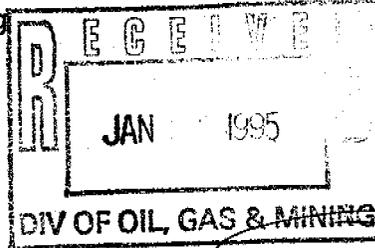
P.O. Box 1245  
Huntington, Utah 84528



(801) 381-5238  
Coal Sales (801) 381-5777

January 26, 1995

Pamela Grubaugh-Littig  
Utah Division of Oil, Gas & Mining  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203



Ms. Grubaugh-Littig,

Re: Catch Basin Removal, Trail Canyon Mine, ACT/015/021, Emery County, Utah

75A #2

Joey PAM

Enclosed are three DRAFT copies of a proposed amendment to the Trail Canyon MRP by Co-Op Mining Company.

The amendment involves two issues. The first issue involves a Catch Basin which currently treats undisturbed runoff from a portion of the access road before the runoff enters Trail Creek. During an inspection in December, it was noted that the MRP did not contain adequate designs for the catch basin. Since the catch basin is not necessary to comply with State regulations, Co-Op is proposing to eliminate the catch basin and allow the drainage to flow past it to Trail Creek.

The second issue was observed during the preparation of the amendment. Co-Op noted that the Hydrology designs included designs for culvert structures that either are not part of the permit area drainage control or that no longer exist. The proposed amendment removes references and designs for these structures, and clarifies some designs for the existing culverts.

Upon approval, finalized copies of the revised plates and pages will be forwarded to the Division. If you have any questions, please call Charles Reynolds at (801) 687-2450.

Thank You,

Wendell Owen,  
Resident Agent

Enclosure(s)  
cr

## Application for Permit Change Detailed Schedule of Changes to the Permit

Title of Change:

*Catch - Basin Removal*

Permit Number: *ACT 1 015 1 021*

Mine: *Trail Canyon*

Permittee: *Co-op Mining Co*

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit change. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the existing mining and reclamation plan. Include page, section and drawing numbers as part of the description.

			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>pg. 36-12; Reference to Catch Basin Removed</i>
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>Plate 3-2D; Catch Basin Removed from Map</i>
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>pg. 7-iii; Table of Contents Revised</i>
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>pg. 7-34; Reference to Catch Basin Removed</i>
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>pg. 7-44; Culvert descriptions revised to include</i>
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>only culverts applicable to the Trail Canyon Permit</i>
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>pg. 7-44A; Same as 7-44, Catch Basin Removal discussed.</i>
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input checked="" type="checkbox"/> REMOVE	<i>pg. 7-44A(1); Text Condensed to pg. 7-44A.</i>
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input checked="" type="checkbox"/> REMOVE	<i>pg. 7-44E; Design Removed (Structure no longer exists and</i>
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>does not apply to Trail Canyon Permit Area.</i>
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>pg. 7-45; Culvert descriptions revised to include only</i>
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>culverts applicable to the Trail Canyon Permit.</i>
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>pg. 7-45A; Same as 7-45</i>
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>pg. 7-50; Culverts design (Table 7.3-2) revised to</i>
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>include only culverts applicable to the Trail</i>
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>Canyon Permit.</i>
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>Plate 7-4A; TCC-1 Reference Removed</i>
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>Plate 7-4B; TCC-2 and TCC-3 Reference Removed</i>
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>Plate 7-4D; Catch Basin Removed (Drainage Revised</i>
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>on Map.</i>
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	

Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?

# APPLICATION FOR PERMIT CHANGE

Title of Change:

*Catch Basin Removal*

Permit Number: *ACT 1 015 1021*

Mine: *Trail Canyon*

Permittee: *Co-Op Mining Co*

Description, include reasons for change and timing required to implement:

*Revision ~~to~~ a result of onsite inspection, December 27, 1994. Co-Op advised to either submit detailed designs of basin or remove. Catch Basin is not necessary or required.*

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 1. Change in the size of the Permit Area? _____ acres <input type="checkbox"/> increase <input type="checkbox"/> decrease.               |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 2. Change in the size of the Disturbed Area? _____ acres <input type="checkbox"/> increase <input type="checkbox"/> decrease.            |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 3. Will permit change include operations outside the Cumulative Hydrologic Impact Area?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 4. Will permit change include operations in hydrologic basins other than currently approved?   |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 5. Does permit change result from cancellation, reduction or increase of insurance or reclamation bond?                                  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 6. Does permit change require or include public notice publication?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 7. Permit change as a result of a Violation? Violation # _____   |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 8. Permit change as a result of a Division Order? D.O.# _____  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 9. Permit change as a result of other laws or regulations? Explain: _____  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 10. Does permit change require or include ownership, control, right-of-entry, or compliance information?                                 |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 11. Does the permit change affect the surface landowner or change the post mining land use?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 12. Does permit change require or include collection and reporting of any baseline information?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 13. Could the permit change have any effect on wildlife or vegetation outside the current disturbed area?                                |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 14. Does permit change require or include soil removal, storage or placement?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 15. Does permit change require or include vegetation monitoring, removal or revegetation activities?                                     |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 16. Does permit change require or include construction, modification, or removal of surface facilities?                                  |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | 17. Does permit change require or include water monitoring, sediment or drainage control measures?                                       |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | 18. Does permit change require or include certified designs, maps, or calculations?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 19. Does permit change require or include underground design or mine sequence and timing?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 20. Does permit change require or include subsidence control or monitoring?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 21. Have reclamation costs for bonding been provided or revised for any change in the reclamation plan?                                  |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | 22. Is permit change within 100 feet of a public road or perennial stream or 500 feet of an occupied dwelling?                           |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 23. Is this permit change coal exploration activity <input type="checkbox"/> inside <input type="checkbox"/> outside of the permit area? |

Attach 3 complete copies of proposed permit change as it would be incorporated into the Mining and Reclamation Plan.

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.

*Wendell Claver - Per Agent - 1/26/95*  
 Signed - Name - Position - Date

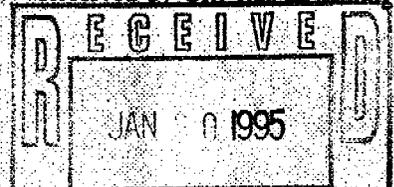
Subscribed and sworn to before me this *26* day of *January*, 19 *95*  
*Wendell Claver*  
 Notary Public

My Commission Expires: \_\_\_\_\_, 19\_\_\_\_  
 Agent: STATE OF \_\_\_\_\_  
 COUNTY OF \_\_\_\_\_



Notary Public  
 WENDELL CLAVER  
 P.O. Box 300  
 Monticello, Utah 84524  
 My Commission Expires  
 June 18, 1997  
 State of Utah

Received by Oil, Gas & Mining



DIV OF OIL, GAS & MINING

ASSIGNED PERMIT CHANGE NUMBER

3. Two trapezoidal shaped diversion/check dams will be constructed at the base of the pre-SMCRA area above the lower pad. The dams will have 3 ft min depth sides keyed into the hillside and will slope to a trapezoidal outlet with a 1 ft depth and 2 ft min width. These dams will be constructed at the base of the recently formed washes and will dissipate runoff velocity and divert it into two ditches that will divert the runoff into TCD-1. See Figure 3G-1.
4. The two ditches that carry runoff below the diversion/check dams, see item #3 above, will be constructed with a min triangular cross section; 3 ft wide and 1 ft min deep. The ditches will be rip-rapped with 8 in. min depth of 4 in. M.D. angular rock (See Table 7.3-2A). This design is based on the runoff volume from all of Watershed Area J, 3 acres (See Table 7.3-1). For a ten year 24 hour storm event of 2.25 in.;  $Q_{p10} = 0.50$  cfs, Max slope 30%, flow depth 0.15 ft, and velocity 2.75 fps.
5. The West bank of ditch TCD-1 at the base of the two new ditches will be raised an additional 12 in. to a min of 3.25 ft and rip-rapped to prevent potential erosion.
6. The road across the top of the lower pad will be raised approx 30 in. and sloped from East to West, eliminating the low spot in the road that has directed flow onto the lower pad.
7. A ditch and berm will be constructed on the low side of the road (lower pad side) to divert drainage down the main access road ~~away from the reclaimed area and into the sediment basin down the road.~~ See Figure 3G-2. Drainage is incidental to the road and rip-rap ~~treatment~~ is not required. ~~See Design for Ditch TCD-2, up canyon, Table 7.3-3.~~

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All field measurements will be made by qualified personnel, using standard, accepted methods. All laboratory tests will be performed by a qualified, accredited laboratory, using standard, accepted tests and equipment. Results will be forwarded submitted to DOGM in the quarterly Water Monitoring Report within 30 days following receipt of the laboratory results the end of each quarter, or as required by DOGM. The typical report form is shown on Figure 7.2-3.

The sedimentation pond will continue to be monitored per NPDES Permit requirements. Any discharge from the pond will be sampled and reported to the regulatory authority in accordance with the NPDES discharge Permits reporting procedure.

#### 7.2.5 Surface Water Control and Diversions

The vast majority of the disturbed area of the Trail Canyon Mine is on the east side of Trail Canyon (same side as the mine portal and to the south). The runoff from this east side disturbed area is collected and channeled to the Sedimentation Pond. The small amount of runoff from the road area west of Trail creek is channeled to a small Catch Basin adjacent to the reclaimed area is diverted around the reclaimed area through the undisturbed drainage along the road (Plate 7-14D).

There are presently 3 large culverts in place along the main drainage Trail Creek. It is proposed to leave these culverts in place, since the area is to become a permanent residential area, and will continue to use existing access roads. The culverts will be fitted with trash racks. There are no other modifications or

#### 7.3.4 Post Mining Culvert Design

The following culverts/structures are projected to remain in place after reclamation and until bond release.

<del>TCC-1</del>	<del>Channel Crossing Structure - Upper Crossing Trail Creek</del>
<del>TCC-2</del>	<del>54" x 60' CMP at the Middle Road crossing of Trail Creek</del>
<del>TCC-3</del>	<del>54" x 60' CMP at the Fire Station crossing of Trail Creek</del>
<del>TCC-4</del>	<del>54" x 220' CMP at the lower Road crossing of Trail Creek</del>
<del>TCC-5</del>	<del>24" x 20' CMP at lower pad road crossing</del>
<del>TCC-6</del>	<del>24" x 60' CMP at the end of Ditch TCD-3</del>

The culverts are designed to carry the expected runoff from a 10 yr-24 hr. event, except the main Trail Creek culverts, which are sized to carry a 50 yr-24 hr. storm. This 50 yr design has been agreed to during on-site and subsequent discussions with DOGM and Co-Op. Calculations and culvert sizing is shown on Tables 7.3-2 and Figure 7.3-1. The location of each of the culverts are shown on the "Post-Mining Hydrology" maps, Plates 7-4.

Culvert TCC-4 exists in Trail Creek at the South end of the Residential Exclusion area and extends underneath a portion of the lower pad area. This culvert is to remain in place in order to maintain the stability of the access road and the Trail Creek crossing into the Residential Area as shown on Plate 7-4C. Culvert TCC-6 is placed at the outlet of TCD-4, and conveys runoff from BTCA Area 3 across the residential road to Trail Creek as shown on Plate 7-4B.

~~Culvert TCC-1 was originally deleted in 1989 during reclamation but it was later determined that access across the creek was required for residents of Trail Canyon. In 1990 a channel crossing structure will be constructed as shown in Figure 7.3-10. The inlet and outlet apron to the crossing will be rip-rapped, as discussed in Section 7.3.6.~~

A temporary culvert not listed above will be installed at the end of TCD-1 where it flows off the lower pad during the winter of 1989/90. When spring weather conditions permit access across the lower pad with minimal disturbance, the down slope will be rip-rapped as described in Section 7.3.6. The location of each of the culverts are shown on the "Post-Mining Hydrology" Maps, Plates 7-4. The designs for this culvert are shown in Table A and described in Section 7.3.3.

As shown on Plates 7-4, the main Trail Creek culverts are to be within the Trail Canyon Residential Exclusion limits. COP has committed to maintain the culverts and ditches (Appendix 3-B) within the Trail Canyon reclamation Residential Exclusion area; therefore, the culvert sizing will be adequate and will be maintained and are adequately sized to pass expected flows up to the 50 yr-24 event. This 50 yr design has been agreed to during on-site and subsequent discussions with DOGM and Co-Op. All main canyon culverts will be fitted with a trash rack to facilitate Cleaning (Figure 7.3-3). Since these structures are in the exclusion area and do not directly serve drainage control for the bonded areas, designs are not included in this plan.

~~Headwater depths required for the culverts to pass the expected flows were taken from the Culvert Nomograph, Figure 7.3-1 on page 7-46. As shown on Table 7.3-1, all culverts have adequate available headwater to pass the expected flows.~~

### 7.3.5 POST MINING DIVERSION DESIGN

One ~~Two~~ disturbed diversions (TCD-1 and TCD-2) ~~is~~ ~~are~~ projected to remain in place after reclamation to direct runoff to the sediment pond. When the sediment pond is removed, TCD-1 will be extended and rip-rapped to Trail Creek (Plates 7-4). The diversion structure (TCD-4) coming down from the middle pad will also remain in place. These diversions will be maintained in place until bond release. ~~An additional undisturbed diversion will remain on the West side of the road to divert natural drainage away from the mine site and roadway.~~ Diversions within the residential exclusion area are maintained by C.O.P. Coal Development Company (Appendix 3-B) with the exception of TCD-2, which extends into the bottom of the residential area.

The location of each of these diversion structures is shown on Plates 7-4. TCD-4 is shown on Figure 7.3-6. See Tables 7.3-2 and 7.3-3 for culvert sizing and ditch sizing and rip-rap.

Diversion TCD-1 is located near the base of the side slope along the east edge of the road and lower pad recreation area. Erosion will be minimized with the installation of 9 in. M.D. rip-rap as required in Table 7.3-3. Diversion TCD-2 does not indicate any erosive flow, and therefore, will not be rip-rapped. The undisturbed diversions along the ~~west side of the main road is~~ ~~are~~ within the residential exclusion area (no liability) and will not be rip-rapped. ~~Please note that this~~ ~~These~~ diversion structures only carries ~~undisturbed and road~~ drainage.

The undisturbed drainage along the west side of the road will flow directly to the highway drainage as shown on Plate 7-4D. The small catch basin on the east side of the access road at the southern end of the property will ~~remain after reclamation as it is presently configured~~ ~~be removed and the undisturbed drainage extended to Trail Creek.~~ There will be no ditch maintained along the east side of the access road ~~below the catch basin adjacent to BTCA Area 7;~~ however, any drainage from this area will flow onto the reclaimed picnic area ~~or into the Highway 31 drainage.~~ Drainage from the picnic area is described in Appendix 7-G (BTCA Area "7").

DRAFT

Calculations for runoff to the diversions are based on the areas and flows from Table 7.3-1. Design criteria and adequacy for the diversions are shown in Table 7.3-3.

#### 7.3.6 RIP-RAP LOCATION AND SIZING

Rip-rap will be required at the following locations:

- ~~1. Outlet of Structure TCC-1 - 9 in. med. diam.~~
- ~~2. Outlet of Culvert TCC-2 - 18 in. med. diam.~~
- ~~3. Outlet of Culvert TCC-3 - 18 in. med. diam.~~
4. Outlet of Culvert TCC-4 - 18 in med. diam.
5. Outlet of Culvert TCC-6 - 9 in. med. diam.
- ~~3. Portions of Ditch TCD-1 - 9 in. med. diam.~~
- ~~6. Reclaimed Ditch TCD-4 - 9 in. med. diam.~~
- ~~5. Channels on slope above TCD-1 - 4 in. med. diam.~~

Rip-rap will be well graded, with the majority of the stones of the median diameter as shown. The material will be of a solid, non-slaking angular rock. Typical rip-rap will be placed on a bedding of a filter blanket or a bed of graded gravel 1.5 times the diameter of the median size stone.

The rip-rap sizes are taken from the chart on Figure 7.3-2, using the velocities given in Table 7.3-2 and 7.3-3. The chart is based on spherical stone diameters. The use of angular material will provide even greater resistance to movement and thus increase the effectiveness of the control.

DRAFT

TABLE 7.3-2

Post-Mining Culvert Sizing  
10 yr - 24 hr Event

Culvert	TCC-2	TCC-3	TCC-4	TCC-5
Dr. Areas	C,D,E,F,G	A,B,C,D,E, F,G,H,I	A,B,C,D,E, F,G,H,I	N
Flow (cfs)	96.24	109.90	109.90	0.92
Velocity (fps)	2.70	6.79	6.79	4.01
Rip-rap (m.d.)	18 in.	18 in.	18 in.	not req'd
Slope (%)	3.33	3.33	8.5	8.0
Diameter	54 in.	54 in.	54 in.	24 in.**
Required Headwater	59 in.	59 in.	59 in.	N/A
Available Headwater	178 in.	190 in.	238 in.	N/A

Culvert	TCC-1***	50 yr - 24 hr Event			
		TCC-2	TCC-3	TCC-4	TCC-6
Dr. Areas	E	C,D,E, F,G	A,B,C,D, E,F,G,H,I	A,B,C,D, E,F,G,H,I	A,B,H,I, L/2
Flow (cfs)	221.85	265.16	287.79	287.79	27.13
Velocity (fps)	7.85	16.67	16.67	16.67	7.68
Rip-rap (m.d.)	9 in.	38 in.	38 in.	38 in.**	9 in.
Slope (%)	2.65	3.33	3.33	8.5	10.20
Diameter	N.A.	54 in.	54 in.	54 in.	42 in.
Required Headwater	30 in.	156 in.	156 in.	156 in.	26 in.
Available Headwater	48 in.	178 in.	190 in.	238 in.	42 in.

Note: \* Existing earthen headwall will remain for Culverts TCC-2 thru TCC-4. Headwalls to culverts TCC-1, TCC-5 and TCC-6 will be rip-rapped.  
 \*\* Drainage area includes section of road only. Culvert oversized. Existing 18" riprap, originally sized for the 10 yr. 24 hr. Event, will not be disturbed (See section 7.3.6).  
 \*\*\* Channel crossing structure.

# CO-OP MINING COMPANY

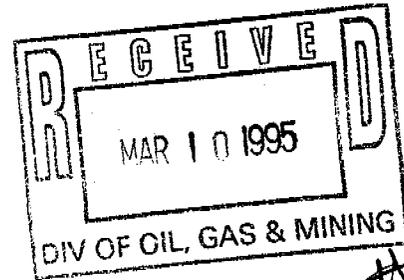
P.O. Box 1245  
Huntington, Utah 84528



(801) 381-5238  
Coal Sales (801) 381-5777

March 9, 1995

Daron Haddock  
Permit Supervisor  
Utah Division of Oil, Gas & Mining  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203



Mr. Haddock,

Re: Catch Basin Removal, Trail Canyon Mine, ACT/015/021-95A, Emery County, Utah

Enclosed are four finalized copies of the above referenced proposal, which were approved per Division letter dated March 1, 1995. The fourth copy is for Mark Page at the Division of Water Rights. The approved amendment also includes removal of pages 7-44A(1) and 7-44G from the plan.

If you have any questions, please call Charles Reynolds at (801) 687-2450.

Thank You,

Wendell Owen,  
Resident Agent

Enclosure(s)  
cr



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

Michael O. Leavitt  
Governor

Ted Stewart  
Executive Director

James W. Carter  
Division Director

355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

March 1, 1995

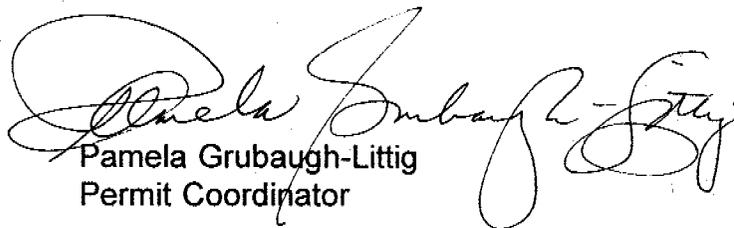
Mr. Wendell Owen  
Co-Op Mining Company  
P.O. Box 1245  
Huntington, UT 84528

Re: Catch Basin Removal, Trail Canyon Mine, Co-Op Mining Company,  
ACT/015/021-95A, Folder #3, Emery County, Utah

Dear Mr. Owen:

The above-noted amendment is approved. Please submit three copies of the finalized text and maps by April 3, 1995.

Sincerely,

  
Pamela Grubaugh-Littig  
Permit Coordinator

cc: Daron Haddock



Folder # 3

**PERMIT AMENDMENT APPROVAL**

Title: <u>Catch Basin Removal</u>	PERMIT NUMBER: <u>015/021</u>
Description:	PERMIT CHANGE #: <u>95A</u>
	MINE: <u>Trail Canyon</u>
	PERMITTEE: <u>Co Op Mining Co.</u>

**WRITTEN FINDINGS FOR PERMIT APPLICATION APPROVAL**

YES, NO or N/A

1.	The application is complete and accurate and the applicant has complied with all the requirements of the State Program.	Yes
2.	The proposed permit area is not within an area under study or administrative proceedings under a petition, filed pursuant to R645-103-400 or 30 CFR 769, to have an area designated as unsuitable for coal mining and reclamation operations, unless:	Yes
A.	The applicant has demonstrated that before January 4, 1977, substantial legal and financial commitments were made in relation to the operation covered by the permit application, or	Yes
B.	The applicant has demonstrated that the proposed permit area is not within an area designated as unsuitable for mining pursuant to R645-103-300 and R645-103-400 or 30 CFR 769 or subject to the prohibitions or limitations of R645-103-230.	Yes
3.	For coal mining and reclamation operations where the private mineral estate to be mined has been severed from the private surface estate, the applicant has submitted to the Division the documentation required under R645-301-114.200.	Yes
4.	The Division has made an assessment of the probable cumulative impacts of all anticipated coal mining and reclamation operations on the hydrologic balance in the cumulative impact area and has determined that the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area.	Yes
5.	The operation would not affect the continued existence of endangered or threatened species or result in destruction or adverse modification of their critical habitats, as determined under the Endangered Species Act of 1973 (16 U.S.C. 1531 et.seq.).	Yes
6.	The Division has taken into account the effect of the proposed permitting action on properties listed on and eligible for listing on the National Register of Historic Places. This finding may be supported in part by inclusion of appropriate permit conditions or changes in the operation plan protecting historic resources, or a documented decision that the Division has determined that no additional protection measures are necessary.	Yes
7.	The Applicant has demonstrated that reclamation as required by the State Program can be accomplished according to information given in the permit application.	Yes
8.	The Applicant has demonstrated that any existing structure will comply with the applicable performance standards of R645-301 and R645-302.	Yes
9.	The Applicant has paid all reclamation fees from previous and existing coal mining and reclamation operations as required by 30 CFR Part 870.	Yes
10.	The Applicant has satisfied the applicable requirements of R645-302.	NA
11.	The Applicant has, if applicable, satisfied the requirements for approval of a long-term, intensive agricultural postmining land use, in accordance with the requirements of R645-301-353.400.	NA

**SPECIAL CONDITIONS OR STIPULATIONS TO THE PERMIT AMENDMENT APPROVAL**

YES NO

1.	Are there any variances associated with this permit amendment approval? If yes, attach.		X
2.	Are there any special conditions associated with this permit amendment approval? If yes, attach. <u>appropriate copies</u> <u>be submitted</u>	X	
3.	Are there any stipulations associated with this permit amendment approval? If yes, attach.		X

The Division hereby grants approval for Permit Amendment to the Existing Permit by incorporation of the proposed changes described herein and effective the date signed below. All other terms and conditions of the Existing Permit shall be maintained and in effect except as superseded by this Permit Amendment.

Signed *Dawn R. Staddock*  
Division of Oil, Gas and Mining

2/28/95  
EFFECTIVE DATE



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

Michael O. Leavitt  
Governor

Ted Stewart  
Executive Director

James W. Carter  
Division Director

355 West North Temple  
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Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

February 24, 1995

Memo to: Daron Haddock

Memo from: Tom Munson *TM*

Re: Trail Canyon Catch Basin Removal, Co-Op Mining Company,  
Trail Canyon Mine, ACT/015/021-95a, file folder #2, Emery  
County #2

Synopsis

The Division received a request to add two ditches and remove a catch basin within the disturbed area at the Trail Canyon Mine.

Analysis

The calculations for the addition of ditches TCU-1 and 2 are to demonstrate the acceptability of these ditches to handle road drainage in a non-erosive manner. After looking at the removal of the catch basin and the inclusion of these road ditches into the plan, it is appropriate that the area of disturbance associated with the catch basin removal would be revegetated under the requirements of R645-301-356.400. Although this was not mentioned in the submittal, it is assumed that this will take place following removal of the siltation structure.

Recommendation

It is considered approved and the updated pages and plates can be put in the permit.

## PERMIT CHANGE TRACKING FORM

DATE RECEIVED	1/30/95	PERMIT NUMBER	ACT/015/021
Title of Proposal:	Catch Basin Removals	PERMIT CHANGE #	95 A
Description:	Jud Response 2/13	PERMITTEE	Co-Op Mining Co.
		MINE NAME	Trail Canyon

<input type="checkbox"/> 15 DAY INITIAL RESPONSE TO PERMIT CHANGE APPLICATION  <input type="checkbox"/> Notice of Review Status of proposed permit change sent to the Permittee. <input type="checkbox"/> Request additional review copies prior to Division/Other Agency review. <input type="checkbox"/> Notice of Approval of Publication. (If change is a Significant Revision.) <input type="checkbox"/> Notice of request to modify proposed permit change prior to approval.	DATE DUE	DATE DONE	RESULT
			<input checked="" type="checkbox"/> ACCEPTED <input type="checkbox"/> REJECTED
			Permit Change Classification
			<input type="checkbox"/> Significant Permit Revision
			<input type="checkbox"/> Permit Amendment

REVIEW TRACKING	INITIAL REVIEW		MODIFIED REVIEW		FINAL REVIEW AND FINDINGS	
DOGM REVIEWER	DUE	DONE	DUE	DONE	DUE	DONE
<input type="checkbox"/> Administrative _____						
<input type="checkbox"/> Biology _____						
<input type="checkbox"/> Engineering _____						
<input type="checkbox"/> Geology _____						
<input type="checkbox"/> Soils _____						
<input type="checkbox"/> Hydrology Tom	2/27		2/27			
<input type="checkbox"/> Bonding _____						
<input type="checkbox"/> AVS Check _____						

COORDINATED REVIEWS	DUE	DONE	DUE	DONE	DUE	DONE
<input type="checkbox"/> OSMRE						
<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						
<input type="checkbox"/> Other						

<input type="checkbox"/> Public Notice/Comment/Hearing Complete (If the permit change is a Significant Revision)  <input type="checkbox"/> Copies of permit change marked and ready for MRP. <input type="checkbox"/> Special Conditions/Stipulations written for approval. <input type="checkbox"/> TA and CHIA modified as required.	<input type="checkbox"/> Permit Change Approval Form signed and approved effective as of this date. <input type="checkbox"/> Permit Change Denied.  <input type="checkbox"/> Notice of <input type="checkbox"/> Approval <input type="checkbox"/> Denial to Permittee. <input type="checkbox"/> Copy of Approved Permit Change to File. <input type="checkbox"/> Copy of Approved Permit Change to Permittee.
--	---

# CO-OP MINING COMPANY

P.O. Box 1245  
Huntington, Utah 84528



(801) 381-5238  
Coal Sales (801) 381-5777

February 9, 1995

Daron R. Haddock  
Permit Supervisor  
Utah Division of Oil, Gas & Mining  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

Mr. Haddock,

*File*  
Re: Catch Basin Removal, Bear Canyon Mine, ACT/015/021-95A, Emery County, Utah

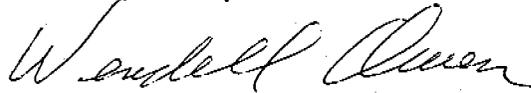
13 1995  
DIVISION OF OIL, GAS & MINING

*Copy [Signature]*  
#2

Enclosed are three copies of revisions to the above-referenced amendment. The revisions have been made in response to your letter dated February 3, 1995, and include designs for the diversions in accordance with R645-301-723.423. Also included is an updated copy of form C2 showing all pages included in the amendment. Please insert these pages into the previously submitted pages, and replace pages 7-iii and 7-44A.

Upon approval, finalized copies will be sent to the Division. If you have any questions, please call Charles Reynolds at (801) 687-2450.

Thank You,



Wendell Owen,  
Resident Agent

Enclosure(s)  
cr

# Application for Permit Change Detailed Schedule of Changes to the Permit

Title of Change: <i>Catch Basin Removal</i>	Permit Number: <i>ACT1015021</i>
	Mine: <i>Trail Canyon</i>
	Permittee: <i>Co-Op Mining Co</i>

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit change. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the existing mining and reclamation plan. Include page, section and drawing numbers as part of the description.

			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	36-12; Catch Basin Reference Removed
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate 3-2D; Catch Basin Reference Removed
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	7-711; Table of Contents Revised
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	7-34; Catch Basin Reference Removed
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	7-44; R.E.A. Culvert Design Removed
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	7-44A; Culverts removed / Catch Basin Removal Discussed
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input checked="" type="checkbox"/> REMOVE	7-44A(1); Text contained on pg. 7-44A
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input checked="" type="checkbox"/> REMOVE	7-44G; Design removed (Structure and lower costs)
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	7-45; R.E.A. Culvert descriptions Removed
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	7-45A; Same as 7-45
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	7-50; Same as 7-44
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate 7-4A; TCC-1 Reference Removed
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate 7-4B; TCC-2 and TCC-3 Reference Removed
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate 7-4C; TCU-1 and TCU-2 Label Added
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate 7-4D; Catch Basin removed / TCU-1 & TCU-2 Added
<input checked="" type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	7-51B thru 7-51F; TCU-1 and TCU-2 design Added
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
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<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	

Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?

*\* Pages and Plans Revised on the 2-9-95 submitted*

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<del>7.3-5</del>	<del>Ditch TCU-1 and TCU-2 Summary . . . . .</del>	<del>51F</del>

~~Headwater depths required for the culverts to pass the expected flows were taken from the Culvert Nomograph, Figure 7.3-1 on page 7-46. As shown on Table 7.3-1, all culverts have adequate available headwater to pass the expected flows.~~

### 7.3.5 POST MINING DIVERSION DESIGN

One ~~two~~ disturbed diversions (TCD-1 ~~and TCD-2~~) ~~is~~ ~~are~~ projected to remain in place after reclamation to direct runoff to the sediment pond. When the sediment pond is removed, TCD-1 will be extended and rip-rapped to Trail Creek (Plates 7-4). The diversion structure (TCD-4) coming down from the middle pad will also remain in place. These diversions will be maintained in place until bond release. ~~An additional undisturbed diversion will remain on the West side of the road to divert natural drainage away from the mine site and roadway. Diversions within the residential exclusion area are maintained by C.O.P. Coal Development Company (Appendix 3-5) with the exception of TCD-2, which extends into the bottom of the residential area.~~

The location of each of these diversion structures is shown on Plates 7-4. TCD-4 is shown on Figure 7.3-6. See Tables 7.3-2 and 7.3-3 for culvert sizing and ditch sizing and rip-rap.

Diversion TCD-1 is located near the base of the side slope along the east edge of the road and lower pad recreation area. Erosion will be minimized with the installation of 9 in. M.D. rip-rap as required in Table 7.3-3. Diversion TCD-2 does not indicate any erosive flow, and therefore, will not be rip-rapped. The undisturbed diversion ~~along the west side of the main road is~~ ~~are~~ within the residential exclusion area (no liability) and will not be rip-rapped. ~~Please note that this~~ ~~these~~ diversion structures only carries ~~undisturbed and road~~ drainage.

The undisturbed drainage along the west side of the road (TCD-~~1~~) will flow directly to the highway drainage as shown on Plate 7-4D. The small catch basin on the east side of the access road at the southern end of the property will ~~remain after reclamation as it is presently configured~~ ~~be removed and the undisturbed drainage extended to Trail Creek (TCD-2)~~. There will be no ditch maintained along the east side of the access road ~~below the catch basin adjacent to BTCA Area 7~~; however, any drainage from this area will flow onto the reclaimed picnic area ~~or into the Highway 31 drainage~~. Drainage from the picnic area is described in Appendix 7-G (BTCA Area "7").

## Primary Road Drainage

This section presents the designs for ditches TCU-1 and TCU-2, which carry runoff along the primary road above BTCA Area "7" and BTCA Area "8".

Ditch TCU-1 flows along the West side of the road between the residential exclusion area and BTCA Area "8" (Plate 7-4D) and drains into the Highway 31 drainage. The ditch carries a portion of the runoff from Watershed M (Table 7.3-1). TCU-2 flows along the East side of the road in the same area, and drains into Trail Creek. The diversions carry only undisturbed and road drainage, so runoff treatment is not required.

Designs for these diversions are shown following. The "PEAK" hydrograph generation program was used to determine the peak flows from the watersheds. Calculations for Watershed M were based on the watershed information in Table 7.3-1 and were calculated using an SCS Type II distribution. The road watershed calculations were also performed using "PEAK". Both diversions are sized for the 10 year 24 hour storm event of 2.25 inches.

Table 7.3-4

Peak Flow Calculations for TCU-1 and TCU-2

**PEAK  
HYDROGRAPH GENERATION PROGRAM**

INPUT SUMMARY FOR W.S.: M

STORM:	WATERSHED:
Distribution = SCS Type '2'	Land Slope = 71.0000 PCT
Precip. Depth = 2.25 in	Curve Number = 60.00
Duration = 24.00 hr	Channel Length = 981.00 ft
Number of Lines = 1695	Time of Conc. = 0.1072 hr
	Area = 48.21 Acres
	D = 0.0143 hr

OUTPUT SUMMARY

Runoff depth = 0.1094 in  
 Initial Abstraction = 1.3333 in  
 Peak Flow = 1.71 cfs (0.0352 iph)  
 At T = 12.57 hrs

INPUT SUMMARY FOR W.S.: ROAD

STORM:	WATERSHED:
Distribution = SCS Type '2'	Land Slope = 9.3000 PCT
Precip. Depth = 2.25 in	Curve Number = 86.00
Duration = 24.00 hr	Channel Length = 687.00 ft
Number of Lines = 1726	Time of Conc. = 0.1052 hr
	Area = 0.72 Acres
	D = 0.0140 hr

OUTPUT SUMMARY

Runoff depth = 1.0375 in  
 Initial Abstraction = 0.3256 in  
 Peak Flow = 0.78 cfs (1.0684 iph)  
 At T = 12.52 hrs

Trapezoidal Channel Analysis & Design  
Open Channel - Uniform flow

Worksheet Name: TCU-1

Comment: Ditch Design

Solve For Depth

Given Input Data:

Bottom Width.....	0.00 ft
Left Side Slope..	1.50:1 (H:V)
Right Side Slope.	1.50:1 (H:V)
Manning's n.....	0.030
Channel Slope....	0.0800 ft/ft
Discharge.....	1.71 cfs

Computed Results:

Depth.....	0.49 ft
Velocity.....	4.83 fps
Flow Area.....	0.35 sf
Flow Top Width...	1.46 ft
Wetted Perimeter.	1.75 ft
Critical Depth...	0.60 ft
Critical Slope...	0.0250 ft/ft
Froude Number....	1.73 (flow is Supercritical)

Open Channel Flow Module, Version 3.3 (c) 1991  
Haestad Methods, Inc. \* 37 Brookside Rd \* Waterbury, Ct 06708

Trapezoidal Channel Analysis & Design  
Open Channel - Uniform flow

Worksheet Name: TCU-2

Comment: Ditch Design

Solve For Depth

Given Input Data:

Bottom Width.....	0.00 ft
Left Side Slope..	1.50:1 (H:V)
Right Side Slope.	1.50:1 (H:V)
Manning's n.....	0.033
Channel Slope....	0.0800 ft/ft
Discharge.....	0.78 cfs

Computed Results:

Depth.....	0.38 ft
Velocity.....	3.69 fps
Flow Area.....	0.21 sf
Flow Top Width...	1.13 ft
Wetted Perimeter.	1.35 ft
Critical Depth...	0.44 ft
Critical Slope...	0.0336 ft/ft
Froude Number....	1.50 (flow is Supercritical)

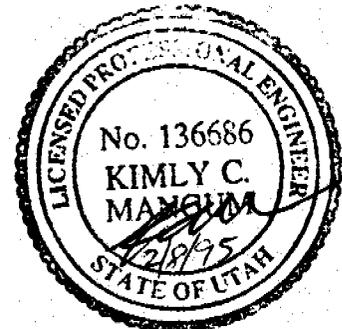
Open Channel Flow Module, Version 3.3 (c) 1991  
Haestad Methods, Inc. \* 37 Brookside Rd \* Waterbury, Ct 06708

Table 7.3-5

Ditch TCU-1 and TCU-2 Summary

Ditch	TCU-1	TCU-2
Drainage Area	M Partial	Misc. Road
Flow (cfs)	1.71	0.78
Velocity (fps)	4.83	3.69
Rip-rap (m.d.)	Soil	Soil
Slope (%)	8.0	8.0
Min. Depth of Ditch (ft)	0.67	0.5
Depth of Flow (ft)	0.49	0.38
Minimum Freeboard (ft)	0.18	0.12
Manning's N	0.03	0.033
Bottom Width (ft)	0	0
Side Slopes	1.5:1	1.5:1

NOTE: Calculations for TCU-1 and TCU-2 were performed by "FlowMaster", Version 3.3, 1991, Haestad Methods, Inc., and are shown on pg. 7-51D and 7-51E





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

Michael O. Leavitt  
Governor

Ted Stewart  
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James W. Carter  
Division Director

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Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

January 31, 1995

To: Daron Haddock  
From: Tom Munson   
Re: Catch Basin Removal, Trail Canyon Mine, Co-Op,  
ACT/015/021-95A, Emery County, Utah

Synopsis

The Co-Op Mining Company requested an amendment to the Trail Canyon Mine plan. The amendment involves two issues. One is the removal of the catch basin which treats road drainage. The second is the removal from the permit, calculations and reference to culverts within the residential exclusion.

Analysis

It is considered appropriate to remove the culvert calculations from the permit for the culverts within the residential exclusion. The removal of the catch basin involves the construction of a ditch to treat road drainage and as such requires that the operator meet the requirements for drainage control for primary roads with the permit area. Any drainage for a primary road needs to meet the requirements of R645-301-742.423 and the calculations for road ditches needed to safely pass the 10 year- 6 hour storm event.

Recommendation

It is considered appropriate that the operator remove the culvert calculations from the permit for the culverts within the residential exclusion.

The second issue regarding removal of the catch basin brought to light the fact that the operator must meet the requirements of R645-301-742.423 to design road drainage for any ditches associated with a primary road. Therefore, the operator must supply the necessary information to meet the requirements of R645-301-723.423. The Trail Canyon access road is within the permit area and is considered a primary road. All primary road drainage must be designed to safely pass the 10 year-6 hour storm. The operator must supply adequate design information prior to approval of this amendment.



## PERMIT CHANGE TRACKING FORM

DATE RECEIVED	1/30/95	PERMIT NUMBER	ACT/013/021
Title of Proposal:	Catch Basin Removal	PERMIT CHANGE #	95A
Description:		PERMITTEE	Co Op Mining Co.
		MINE NAME	Trail Camp

	DATE DUE	DATE DONE	RESULT
<input type="checkbox"/> 15 DAY INITIAL RESPONSE TO PERMIT CHANGE APPLICATION			<input type="checkbox"/> ACCEPTED <input type="checkbox"/> REJECTED
<input type="checkbox"/> Notice of Review Status of proposed permit change sent to the Permittee.			Permit Change Classification
<input type="checkbox"/> Request additional review copies prior to Division/Other Agency review.			<input type="checkbox"/> Significant Permit Revision
<input type="checkbox"/> Notice of Approval of Publication. (If change is a Significant Revision.)			<input type="checkbox"/> Permit Amendment
<input type="checkbox"/> Notice of request to modify proposed permit change prior to approval.			<input type="checkbox"/> Incidental Boundary Change

REVIEW TRACKING	INITIAL REVIEW		MODIFIED REVIEW		FINAL REVIEW AND FINDINGS	
DOGM REVIEWER	DUE	DONE	DUE	DONE	DUE	DONE
<input type="checkbox"/> Administrative _____						
<input type="checkbox"/> Biology _____						
<input type="checkbox"/> Engineering _____						
<input type="checkbox"/> Geology _____						
<input type="checkbox"/> Soils _____						
<input type="checkbox"/> Hydrology <span style="float: right;">Tom</span>	2/27					
<input type="checkbox"/> Bonding _____						
<input type="checkbox"/> A/S check <span style="float: right;">MSP P. HESS</span>						

COORDINATED REVIEWS	DUE	DONE	DUE	DONE	DUE	DONE
<input type="checkbox"/> OSMRE						
<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						
<input type="checkbox"/> Other						

<input type="checkbox"/> Public Notice/Comment/Hearing Complete (If the permit change is a Significant Revision)	<input type="checkbox"/> Permit Change Approval Form signed and approved effective as of this date. <input type="checkbox"/> Permit Change Denied.
<input type="checkbox"/> Copies of permit change marked and ready for MRP.	<input type="checkbox"/> Notice of <input type="checkbox"/> Approval <input type="checkbox"/> Denial to Permittee.
<input type="checkbox"/> Special Conditions/Stipulations written for approval.	<input type="checkbox"/> Copy of Approved Permit Change to File.
<input type="checkbox"/> TA and CHIA modified as required.	<input type="checkbox"/> Copy of Approved Permit Change to Permittee.
<input type="checkbox"/> Permit Change Approval Form ready for approval.	<input type="checkbox"/> Copies to Other Agencies and Price Field Office.

# CO-OP MINING COMPANY

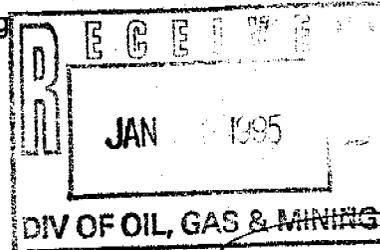
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Coal Sales (801) 381-5777

January 26, 1995

Pamela Grubaugh-Littig  
Utah Division of Oil, Gas & Mining  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203



Ms. Grubaugh-Littig,

Re: Catch Basin Removal, Trail Canyon Mine, ACT/015/021, Emery County, Utah

95A #2  
Dory Pam

Enclosed are three DRAFT copies of a proposed amendment to the Trail Canyon MRP by Co-Op Mining Company.

The amendment involves two issues. The first issue involves a Catch Basin which currently treats undisturbed runoff from a portion of the access road before the runoff enters Trail Creek. During an inspection in December, it was noted that the MRP did not contain adequate designs for the catch basin. Since the catch basin is not necessary to comply with State regulations, Co-Op is proposing to eliminate the catch basin and allow the drainage to flow past it to Trail Creek.

The second issue was observed during the preparation of the amendment. Co-Op noted that the Hydrology designs included designs for culvert structures that either are not part of the permit area drainage control or that no longer exist. The proposed amendment removes references and designs for these structures, and clarifies some designs for the existing culverts.

Upon approval, finalized copies of the revised plates and pages will be forwarded to the Division. If you have any questions, please call Charles Reynolds at (801) 687-2450.

Thank You,

Wendell Owen,  
Resident Agent

Enclosure(s)  
cr

## Application for Permit Change Detailed Schedule of Changes to the Permit

Title of Change:

Catch - Basin Removal

Permit Number: ACT 10151021

Mine: Trail Canyon

Permittee: Co-op Mining Co

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit change. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the exiting mining and reclamation plan. Include page, section and drawing numbers as part of the description.

			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pg. 36-12; Reference to Catch Basin Removed
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate 3-2D; Catch Basin Removed from Map
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pg. 7-iii; Table of Contents Revised
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pg. 7-34; Reference to Catch Basin Removed
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pg. 7-44; Culvert descriptions revised to include
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	only culverts applicable to the Trail Canyon Permit
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pg. 7-44A; Same as 7-44, Catch Basin Removal discussed.
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input checked="" type="checkbox"/> REMOVE	Pg. 7-44A(1); Text Condensed to Pg. 7-44A.
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input checked="" type="checkbox"/> REMOVE	Pg. 7-44E; Design Removed (Structure no longer exists and
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	does not apply to Trail Canyon Permit Area.
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pg. 7-45; Culvert descriptions revised to include only
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	culverts applicable to the Trail Canyon Permit.
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pg. 7-45A; Same as 7-45
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pg. 7-50; Culverts designs (Table 7.3-2) revised to
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	include only culverts applicable to the Trail
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Canyon Permit.
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate 7-4A; TCC-1 Reference Removed
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate 7-4B; TCC-2 and TCC-3 Reference Removed
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate 7-4D; Catch Basin Removed (Revision Revised
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	on Map
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	

Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?

# APPLICATION FOR PERMIT CHANGE

Title of Change:

*Catch Basin Removal*

Permit Number: *ACT 1 015 1021*

Mine: *Trail Canyon*

Permittee: *Co-Op Mining Co*

Description, include reasons for change and timing required to implement:

*Revision ~~is~~ a result of onsite inspection, December 27, 1994. Co-Op advised to either submit detailed designs of basin or remove Catch Basin if not necessary or required.*

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 1. Change in the size of the Permit Area? _____ acres <input type="checkbox"/> increase <input type="checkbox"/> decrease.               |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 2. Change in the size of the Disturbed Area? _____ acres <input type="checkbox"/> increase <input type="checkbox"/> decrease.            |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 3. Will permit change include operations outside the Cumulative Hydrologic Impact Area?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 4. Will permit change include operations in hydrologic basins other than currently approved?   |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 5. Does permit change result from cancellation, reduction or increase of insurance or reclamation bond?                                  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 6. Does permit change require or include public notice publication?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 7. Permit change as a result of a Violation? Violation # _____   |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 8. Permit change as a result of a Division Order? D.O.# _____  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 9. Permit change as a result of other laws or regulations? Explain: _____  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 10. Does permit change require or include ownership, control, right-of-entry, or compliance information?                                 |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 11. Does the permit change affect the surface landowner or change the post mining land use?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 12. Does permit change require or include collection and reporting of any baseline information?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 13. Could the permit change have any effect on wildlife or vegetation outside the current disturbed area?                                |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 14. Does permit change require or include soil removal, storage or placement?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 15. Does permit change require or include vegetation monitoring, removal or revegetation activities?                                     |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 16. Does permit change require or include construction, modification, or removal of surface facilities?                                  |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | 17. Does permit change require or include water monitoring, sediment or drainage control measures?                                       |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | 18. Does permit change require or include certified designs, maps, or calculations?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 19. Does permit change require or include underground design or mine sequence and timing?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 20. Does permit change require or include subsidence control or monitoring?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 21. Have reclamation costs for bonding been provided or revised for any change in the reclamation plan?                                  |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | 22. Is permit change within 100 feet of a public road or perennial stream or 500 feet of an occupied dwelling?                           |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 23. Is this permit change coal exploration activity <input type="checkbox"/> inside <input type="checkbox"/> outside of the permit area? |

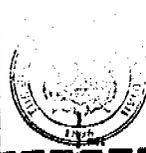
Attach 3 complete copies of proposed permit change as it would be incorporated into the Mining and Reclamation Plan.

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.

*Wendell Brown - Res. Agent - 1/26/95*  
 Signed - Name - Position - Date

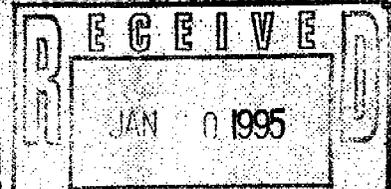
Subscribed and sworn to before me this *26* day of *January*, 19 *95*.  
*Wendell Brown*  
 Notary Public

My Commission Expires: \_\_\_\_\_, 19\_\_\_\_  
 Attest: STATE OF \_\_\_\_\_ COUNTY OF \_\_\_\_\_



Notary Public  
 WENDELL BROWN  
 P.O. Box 300  
 Huntington, Utah 84521  
 My Commission Expires  
 June 18, 19\_\_\_\_  
 State of Utah

Received by Oil, Gas & Mining



DIV OF OIL, GAS & MINING

ASSIGNED PERMIT CHANGE NUMBER

3. Two trapezoidal shaped diversion/check dams will be constructed at the base of the pre-SMCRA area above the lower pad. The dams will have 3 ft min depth sides keyed into the hillside and will slope to a trapezoidal outlet with a 1 ft depth and 2 ft min width. These dams will be constructed at the base of the recently formed washes and will dissipate runoff velocity and divert it into two ditches that will divert the runoff into TCD-1. See Figure 3G-1.
4. The two ditches that carry runoff below the diversion/check dams, see item #3 above, will be constructed with a min triangular cross section; 3 ft wide and 1 ft min deep. The ditches will be rip-rapped with 8 in. min depth of 4 in. M.D. angular rock (See Table 7.3-2A). This design is based on the runoff volume from all of Watershed Area J, 3 acres (See Table 7.3-1). For a ten year 24 hour storm event of 2.25 in.;  $Q_{p10} = 0.50$  cfs, Max slope 30%, flow depth 0.15 ft, and velocity 2.75 fps.
5. The West bank of ditch TCD-1 at the base of the two new ditches will be raised an additional 12 in. to a min of 3.25 ft and rip-rapped to prevent potential erosion.
6. The road across the top of the lower pad will be raised approx 30 in. and sloped from East to West, eliminating the low spot in the road that has directed flow onto the lower pad.
7. A ditch and berm will be constructed on the low side of the road (lower pad side) to divert drainage down the main access road ~~away from the reclaimed area and into the sediment basin down the road.~~ See Figure 3G-2. Drainage is incidental to the road and rip-rap ~~treatment~~ is not required. ~~See Design for Ditch TCD-2, up canyon, Table 7.3-3.~~

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All field measurements will be made by qualified personnel, using standard, accepted methods. All laboratory tests will be performed by a qualified, accredited laboratory, using standard, accepted tests and equipment. Results will be forwarded submitted to DOGM in the quarterly Water Monitoring Report within 30 days following receipt of the laboratory results the end of each quarter, or as required by DOGM. The typical report form is shown on Figure 7.2-3.

The sedimentation pond will continue to be monitored per NPDES Permit requirements. Any discharge from the pond will be sampled and reported to the regulatory authority in accordance with the NPDES discharge Permits reporting procedure.

#### 7.2.5 Surface Water Control and Diversions

The vast majority of the disturbed area of the Trail Canyon Mine is on the east side of Trail Canyon (same side as the mine portal and to the south). The runoff from this east side disturbed area is collected and channeled to the Sedimentation Pond. The small amount of runoff from the road area west of Trail creek is channeled to a small Catch Basin adjacent to the reclaimed area is diverted around the reclaimed area through the undisturbed drainage along the road (Plate 7-14D).

There are presently 3 large culverts in place along the main drainage Trail Creek. It is proposed to leave these culverts in place, since the area is to become a permanent residential area, and will continue to use existing access roads. The culverts will be fitted with trash racks. There are no other modifications or

#### 7.3.4 Post Mining Culvert Design

The following culverts/structures are projected to remain in place after reclamation and until bond release.

<del>TCC-1</del>	<del>Channel Crossing Structure</del>	<del>Upper Crossing Trail Creek</del>
<del>TCC-2</del>	<del>54" x 60' CMP</del>	<del>at the Middle Road crossing of Trail Creek</del>
<del>TCC-3</del>	<del>54" x 60' CMP</del>	<del>at the Fire Station crossing of Trail Creek</del>
TCC-4	54" x 220' CMP	at the lower Road crossing of Trail Creek
<del>TCC-5</del>	<del>24" x 20' CMP</del>	<del>at lower pad road crossing</del>
TCC-6	24" x 60' CMP	at the end of Ditch TCD-34

The culverts are designed to carry the expected runoff from a ~~10 yr-24 hr. event~~, except the main Trail Creek culverts, which are sized to carry a 50 yr-24 hr. storm. This 50 yr design has been agreed to during on-site and subsequent discussions with DOGM and Co-Op. Calculations and culvert sizing is shown on Tables 7.3-2 and Figure 7.3-1. The location of each of the culverts are shown on the "Post-Mining Hydrology" maps, Plates 7-4.

Culvert TCC-4 exists in Trail Creek at the South end of the Residential Exclusion area and extends underneath a portion of the lower pad area. This culvert is to remain in place in order to maintain the stability of the access road and the Trail Creek crossing into the Residential Area as shown on Plate 7-4C. Culvert TCC-6 is placed at the outlet of TCD-4, and conveys runoff from BTCA Area 3 across the residential road to Trail Creek as shown on Plate 7-4B.

~~Culvert TCC-1 was originally deleted in 1989 during reclamation but it was later determined that access across the creek was required for residents of Trail Canyon. In 1990 a channel crossing structure will be constructed as shown in Figure 7.3-10. The inlet and outlet apron to the crossing will be rip-rapped, as discussed in Section 7.3.6.~~

A temporary culvert not listed above will be installed at the end of TCD-1 where it flows off the lower pad during the winter of 1989/90. When spring weather conditions permit access across the lower pad with minimal disturbance, the down slope will be rip-rapped as described in Section 7.3.6. The location of each of the culverts are shown on the "Post-Mining Hydrology" Maps, Plates 7-4. The designs for this culvert are shown in Table A and described in Section 7.3.3.

~~As shown on Plates 7-4, the main Trail Creek culverts are to be within the Trail Canyon Residential Exclusion limits. COP has committed to maintain the culverts and ditches (Appendix 3-B) within the Trail Canyon reclamation Residential Exclusion area; therefore, the culvert sizing will be adequate and will be maintained and are adequately sized to pass expected flows up to the 50 yr-24 event. This 50 yr design has been agreed to during on-site and subsequent discussions with DOGM and Co-Op. All main canyon culverts will be fitted with a trash rack to facilitate cleaning (Figure 7.3-3). Since these structures are in the exclusion area and do not directly serve drainage control for the bonded areas, designs are not included in this plan.~~

~~Headwater depths required for the culverts to pass the expected flows were taken from the Culvert Nomograph, Figure 7.3-1 on page 7-46. As shown on Table 7.3-1, all culverts have adequate available headwater to pass the expected flows.~~

### 7.3.5 POST MINING DIVERSION DESIGN

One ~~Two~~ disturbed diversions (TCD-1 and TCD-2) ~~is~~ ~~are~~ projected to remain in place after reclamation to direct runoff to the sediment pond. When the sediment pond is removed, TCD-1 will be extended and rip-rapped to Trail Creek (Plates 7-4). The diversion structure (TCD-4) coming down from the middle pad will also remain in place. These diversions will be maintained in place until bond release. ~~An additional undisturbed diversion will remain on the west side of the road to divert natural drainage away from the mine site and roadway. Diversions within the residential exclusion area are maintained by C.O.P. Coal Development Company (Appendix 3-B) with the exception of TCD-2, which extends into the bottom of the residential area.~~

The location of each of these diversion structures is shown on Plates 7-4. TCD-4 is shown on Figure 7.3-6. See Tables 7.3-2 and 7.3-3 for culvert sizing and ditch sizing and rip-rap.

Diversion TCD-1 is located near the base of the side slope along the east edge of the road and lower pad recreation area. Erosion will be minimized with the installation of 9 in. M.D. rip-rap as required in Table 7.3-3. Diversion TCD-2 does not indicate any erosive flow, and therefore, will not be rip-rapped. The undisturbed diversions ~~along the west side of the main road is~~ ~~are~~ within the residential exclusion area (no liability) and will not be rip-rapped. ~~Please note that this~~ ~~These~~ diversion structures only carries ~~undisturbed and road~~ drainage.

The undisturbed drainage along the west side of the road will flow directly to the highway drainage as shown on Plate 7-4D. The small catch basin on the east side of the access road at the southern end of the property will ~~remain after reclamation as it is presently configured~~ ~~be removed and the undisturbed drainage extended to Trail Creek.~~ There will be no ditch maintained along the east side of the access road ~~below the catch basin adjacent to BTCA Area 7;~~ however, any drainage from this area will flow onto the reclaimed picnic area ~~or into the Highway 31 drainage.~~ Drainage from the picnic area is described in Appendix 7-G (BTCA Area "7").

DRAFT

Calculations for runoff to the diversions are based on the areas and flows from Table 7.3-1. Design criteria and adequacy for the diversions are shown in Table 7.3-3.

### 7.3.6 RIP-RAP LOCATION AND SIZING

Rip-rap will be required at the following locations:

- ~~1. Outlet of Structure TCC-1 - 9 in. med. diam.~~
- ~~2. Outlet of Culvert TCC-2 - 18 in. med. diam.~~
- ~~3. Outlet of Culvert TCC-3 - 18 in. med. diam.~~
4. Outlet of Culvert TCC-4 - 18 in med. diam.
5. Outlet of Culvert TCC-6 - 9 in. med. diam.
3. Portions of Ditch TCD-1 - 9 in. med. diam.
6. Reclaimed Ditch TCD-4 - 9 in. med. diam.
5. Channels on slope above TCD-1 - 4 in. med. diam.

Rip-rap will be well graded, with the majority of the stones of the median diameter as shown. The material will be of a solid, non-slaking angular rock. Typical rip-rap will be placed on a bedding of a filter blanket or a bed of graded gravel 1.5 times the diameter of the median size stone.

The rip-rap sizes are taken from the chart on Figure 7.3-2, using the velocities given in Table 7.3-2 and 7.3-3. The chart is based on spherical stone diameters. The use of angular material will provide even greater resistance to movement and thus increase the effectiveness of the control.

## APRON DIMENSIONS ON CULVERTS

The aprons to be placed at ~~the channel crossing TCC-1 and culverts TCC-2 through TCC-4~~ are based on actual, velocities, site conditions and proven performance. The in place culvert apron areas ~~(TCC-2 through TCC-4)~~ will be improved, by adding rip-rap for approx 20 ft down steam. ~~The channel crossing TCC-1 will be rip-rapped for approx 10 ft upstream and 20 ft down stream.~~ The only disturbance anticipated during reclamation to the areas associated with culverts ~~TCC-2 through TCC-4~~, will be the addition of rip-rap which will be done by hand and will improve stability during heavy runoff events. The 18" rip-rap which has become established in the stream / bed since installation of the culverts will not be disturbed.

DRAFT

TABLE 7.3-2

Post-Mining Culvert Sizing

Culvert	<del>10 yr - 24 hr Event</del>				
	<del>TCC-2</del>	<del>TCC-3</del>	<del>TCC-4</del>	<del>TCC-5</del>	
Dr. Areas	<del>C, D, E, F, G</del>	<del>A, B, C, D, E, F, G, H, I</del>	<del>A, B, C, D, E, F, G, H, I</del>	N	
Flow (cfs)	<del>96.24</del>	<del>109.90</del>	<del>109.90</del>	<del>0.92</del>	
Velocity (fps)	<del>2.70</del>	<del>6.79</del>	<del>6.79</del>	<del>4.01</del>	
Rip-rap (m.d.)	<del>18 in.</del>	<del>18 in.</del>	<del>18 in.</del>	not req'd	
Slope (%)	<del>3.33</del>	<del>3.33</del>	<del>8.5</del>	<del>8.0</del>	
Diameter	<del>54 in.</del>	<del>54 in.</del>	<del>54 in.</del>	<del>24 in.**</del>	
Required Headwater	<del>59 in.</del>	<del>59 in.</del>	<del>59 in.</del>	N/A	
Available Headwater	<del>178 in.</del>	<del>190 in.</del>	<del>238 in.</del>	N/A	
Culvert	50 yr - 24 hr Event				
	<del>TCC-1***</del>	<del>TCC-2</del>	<del>TCC-3</del>	TCC-4	TCC-6
Dr. Areas	E	<del>C, D, E, F, G</del>	<del>A, B, C, D, E, F, G, H, I</del>	A, B, C, D, E, F, G, H, I	A, B, H, I, L/2
Flow (cfs)	221.85	265.16	287.79	287.79	27.13
Velocity (fps)	7.85	16.67	16.67	16.67	7.68
Rip-rap (m.d.)	9 in.	38 in.	38 in.	38 in.**	9 in.
Slope (%)	2.65	3.33	3.33	8.5	10.20
Diameter	N.A.	54 in.	54 in.	54 in.	42 in.
Required Headwater	30 in.	156 in.	156 in.	156 in.	26 in.
Available Headwater	48 in.	178 in.	190 in.	238 in.	42 in.

Note:

- \* Existing earthen headwall will remain for Culverts ~~TCC-2 thru TCC-4~~. Headwalls to culverts ~~TCC-1, TCC-5 and TCC-6~~ will be rip-rapped.
- \*\* Drainage area includes section of road only. Culvert oversized. Existing 18" riprap, originally sized for the 10 yr. 24 hr. Event, will not be disturbed (See section 7.3.6).
- \*\*\* Channel crossing structure.

DRAFT

# CO-OP MINING COMPANY

P.O. Box 1245  
Huntington, Utah 84528

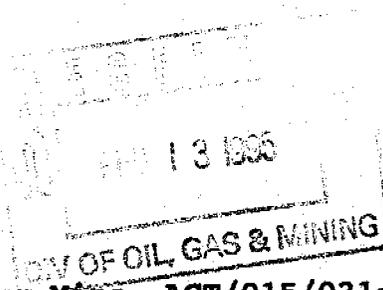


(801) 381-5238  
Coal Sales (801) 381-5777

February 9, 1995

Daron R. Haddock  
Permit Supervisor  
Utah Division of Oil, Gas & Mining  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

Mr. Haddock,



*Copy [Signature]*  
#2

*Trail*

Re: Catch Basin Removal, Bear Canyon Mine, ACT/015/021-95A, Emery County, Utah

Enclosed are three copies of revisions to the above-referenced amendment. The revisions have been made in response to your letter dated February 3, 1995, and include designs for the diversions in accordance with R645-301-723.423. Also included is an updated copy of form C2 showing all pages included in the amendment. Please insert these pages into the previously submitted pages, and replace pages 7-iii and 7-44A.

Upon approval, finalized copies will be sent to the Division. If you have any questions, please call Charles Reynolds at (801) 687-2450.

Thank You,

A handwritten signature in cursive script that reads "Wendell Owen".

Wendell Owen,  
Resident Agent

Enclosure(s)  
cr

## Application for Permit Change Detailed Schedule of Changes to the Permit

Title of Change:

*Catch Basin Removal*

Permit Number: *ACT1015421*

Mine: *Trail Canyon*

Permittee: *Co-Op Mining Co*

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit change. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the existing mining and reclamation plan. Include page, section and drawing numbers as part of the description.

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<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>36-12; Catch Basin Reference Removed</i>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>Plate 32D; Catch Basin Reference Removed</i>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>7-iii; Table of Contents Revised</i>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>7-34; Catch Basin Reference Removed</i>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>7-44; R.E.A. Culverts design Revised</i>
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	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>7-44G; Design removed (Structure and lower courts)</i>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>7-45; R.E.A. Culvert descriptions Removed</i>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>7-45A; Same as 7-45</i>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>7-50; Same as 7-44</i>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>Plate 7-4A; TCC-1 Reference Removed</i>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>Plate 7-4B; TCC-2 and TCC-3 Reference Removed</i>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>Plate 7-4C; TCU-1 and TCU-2 Label Added</i>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>Plate 7-4D; Catch Basin removed / TCU-1 &amp; TCU-2 added</i>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>7-51B thru 7-51F; TCU-1 and TCU-2 design Added</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?

*\* Pages and Plates removed in the 2-9-95 submittal*

## PERMIT CHANGE TRACKING FORM

DATE RECEIVED	1/30/95	PERMIT NUMBER	ACT/015/021
Title of Proposal:	Catch Basin Removals	PERMIT CHANGE #	95 A
Description:	2 <sup>nd</sup> Response 2/13	PERMITTEE	Co-Op Mining Co.
		MINE NAME	Trail Canyon

	DATE DUE	DATE DONE	RESULT
<input type="checkbox"/> 15 DAY INITIAL RESPONSE TO PERMIT CHANGE APPLICATION			<input checked="" type="checkbox"/> ACCEPTED <input type="checkbox"/> REJECTED
<input type="checkbox"/> Notice of Review Status of proposed permit change sent to the Permittee.			Permit Change Classification
<input type="checkbox"/> Request additional review copies prior to Division/Other Agency review.			<input type="checkbox"/> Significant Permit Revision
<input type="checkbox"/> Notice of Approval of Publication. (If change is a Significant Revision.)			<input type="checkbox"/> Permit Amendment
<input type="checkbox"/> Notice of request to modify proposed permit change prior to approval.			<input type="checkbox"/> Incidental Boundary Change

REVIEW TRACKING	INITIAL REVIEW		MODIFIED REVIEW		FINAL REVIEW AND FINDINGS	
DOGM REVIEWER	DUE	DONE	DUE	DONE	DUE	DONE
<input type="checkbox"/> Administrative _____						
<input type="checkbox"/> Biology _____						
<input type="checkbox"/> Engineering _____						
<input type="checkbox"/> Geology _____						
<input type="checkbox"/> Soils _____						
<input type="checkbox"/> Hydrology Tom	2/27		2/27	2/28		
<input type="checkbox"/> Bonding _____						
<input type="checkbox"/> AVS Check _____						

COORDINATED REVIEWS	DUE	DONE	DUE	DONE	DUE	DONE
<input type="checkbox"/> OSMRE						
<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						
<input type="checkbox"/> Other						

<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. <input type="checkbox"/> Permit Change Denied.	2/28/95
<input type="checkbox"/> Copies of permit change marked and ready for MRP.	<input type="checkbox"/> Notice of <input type="checkbox"/> Approval <input type="checkbox"/> Denial to Permittee.	
<input type="checkbox"/> Special Conditions/Stipulations written for approval.	<input type="checkbox"/> Copy of Approved Permit Change to File.	
<input type="checkbox"/> TA and CHIA modified as required.	<input type="checkbox"/> Copy of Approved Permit Change to Permittee.	

# CO-OP MINING COMPANY

P.O. Box 1245  
Huntington, Utah 84528



(801) 381-5238  
Coal Sales (801) 381-5777

February 9, 1995

Daron R. Haddock  
Permit Supervisor  
Utah Division of Oil, Gas & Mining  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

Mr. Haddock,

*File*  
Re: Catch Basin Removal, Bear Canyon Mine, ACT/015/021-95A, Emery County, Utah

13 1995  
DIV OF OIL, GAS & MINING

*Copy [Signature]*  
#2

Enclosed are three copies of revisions to the above-referenced amendment. The revisions have been made in response to your letter dated February 3, 1995, and include designs for the diversions in accordance with R645-301-723.423. Also included is an updated copy of form C2 showing all pages included in the amendment. Please insert these pages into the previously submitted pages, and replace pages 7-iii and 7-44A.

Upon approval, finalized copies will be sent to the Division. If you have any questions, please call Charles Reynolds at (801) 687-2450.

Thank You,

A handwritten signature in cursive script that reads "Wendell Owen".

Wendell Owen,  
Resident Agent

Enclosure(s)  
cr

## Application for Permit Change Detailed Schedule of Changes to the Permit

Title of Change:

*Catch Basin Removal*

Permit Number: *ACT1015021*

Mine: *Trail Canyon*

Permittee: *Co-Op Mining Co.*

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit change. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the existing mining and reclamation plan. Include page, section and drawing numbers as part of the description.

### DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED

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<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	36-12; Catch Basin Reference Removed
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Plate 3-2D; Catch Basin Reference Removed
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7-III; Table of Contents Revised
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7-34; Catch Basin Reference Removed
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7-44; R.E.A. Culvert Design Removed
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7-44A; Culverts removed / Catch Basin Removal Discussed
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	7-44A(1); Text condensed to fig. 7-44A
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	7-44G; Design removed (Structure and lower costs)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7-45; R.E.A. Culvert descriptions Removed
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7-45A; Same as 7-45
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7-50; Same as 7-44
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Plate 7-4A; TCC-1 Reference Removed
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Plate 7-4B; TCC-2 and TCC-3 Reference Removed
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Plate 7-4C; TCU-1 and TCU-2 Label Added
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Plate 7-4D; Catch Basin removed / TCU-1 & TCU-2 Added
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7-51B thru 7-51F; TCU-1 and TCU-2 design Added
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?

\* Pages and Plates Revised in the 2-9-95 submittal

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7.3-5A	Typical Split Fence Installation . . . . .	47D

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<del>7.3-5</del>	<del>Ditch TCU-1 and TCU-2 Summary . . . . .</del>	<del>51F</del>

~~Headwater depths required for the culverts to pass the expected flows were taken from the Culvert Nomograph, Figure 7.3-1 on page 7-46. As shown on Table 7.3-1, all culverts have adequate available headwater to pass the expected flows.~~

### 7.3.5 POST MINING DIVERSION DESIGN

One ~~two~~ disturbed diversions (TCD-1 ~~and TCD-2~~) ~~is~~ ~~are~~ projected to remain in place after reclamation to direct runoff to the sediment pond. When the sediment pond is removed, TCD-1 will be extended and rip-rapped to Trail Creek (Plates 7-4). The diversion structure (TCD-4) coming down from the middle pad will also remain in place. These diversions will be maintained in place until bond release. ~~An additional undisturbed diversion will remain on the west side of the road to divert natural drainage away from the mine site and roadway. Diversions within the residential exclusion area are maintained by C.O.P. Coal Development Company (Appendix 3-B) with the exception of TCD-2, which extends into the bottom of the residential area.~~

The location of each of these diversion structures is shown on Plates 7-4. TCD-4 is shown on Figure 7.3-6. See Tables 7.3-2 and 7.3-3 for culvert sizing and ditch sizing and rip-rap.

Diversion TCD-1 is located near the base of the side slope along the east edge of the road and lower pad recreation area. Erosion will be minimized with the installation of 9 in. M.D. rip-rap as required in Table 7.3-3. Diversion TCD-2 does not indicate any erosive flow, and therefore, will not be rip-rapped. The undisturbed diversion ~~along the west side of the main road is~~ ~~are~~ within the residential exclusion area (no liability) and will not be rip-rapped. ~~Please note that this~~ ~~These~~ diversion structures ~~only carries~~ undisturbed ~~and road~~ drainage.

The undisturbed drainage along the west side of the road (TCD-~~1~~) will flow directly to the highway drainage as shown on Plate 7-4D. The small catch basin on the east side of the access road at the southern end of the property will ~~remain after reclamation as it is presently configured~~ ~~be removed and the undisturbed drainage extended to Trail Creek (TCD-2)~~. There will be no ditch maintained along the east side of the access road ~~below the catch basin adjacent to BTCA Area 7~~; however, any drainage from this area will flow onto the reclaimed picnic area ~~or into the Highway 31 drainage~~. Drainage from the picnic area is described in Appendix 7-G (BTCA Area "7").

**DRAFT**

## Primary Road Drainage

This section presents the designs for ditches TCU-1 and TCU-2, which carry runoff along the primary road above BTCA Area "7" and BTCA Area "8".

Ditch TCU-1 flows along the West side of the road between the residential exclusion area and BTCA Area "8" (Plate 7-4D) and drains into the Highway 31 drainage. The ditch carries a portion of the runoff from Watershed M (Table 7.3-1). TCU-2 flows along the East side of the road in the same area, and drains into Trail Creek. The diversions carry only undisturbed and road drainage, so runoff treatment is not required.

Designs for these diversions are shown following. The "PEAK" hydrograph generation program was used to determine the peak flows from the watersheds. Calculations for Watershed M were based on the watershed information in Table 7.3-1 and were calculated using an SCS Type II distribution. The road watershed calculations were also performed using "PEAK". Both diversions are sized for the 10 year 24 hour storm event of 2.25 inches.

Table 7.3-4

Peak Flow Calculations for TCU-1 and TCU-2

**PEAK  
HYDROGRAPH GENERATION PROGRAM**

INPUT SUMMARY FOR W.S.: M

STORM:	WATERSHED:
Distribution = SCS Type '2'	Land Slope = 71.0000 PCT
Precip. Depth = 2.25 in	Curve Number = 60.00
Duration = 24.00 hr	Channel Length = 981.00 ft
Number of Lines = 1695	Time of Conc. = 0.1072 hr
	Area = 48.21 Acres
	D = 0.0143 hr

OUTPUT SUMMARY

Runoff depth = 0.1094 in  
Initial Abstraction = 1.3333 in  
Peak Flow = 1.71 cfs (0.0352 iph)  
At T = 12.57 hrs

INPUT SUMMARY FOR W.S.: ROAD

STORM:	WATERSHED:
Distribution = SCS Type '2'	Land Slope = 9.3000 PCT
Precip. Depth = 2.25 in	Curve Number = 86.00
Duration = 24.00 hr	Channel Length = 687.00 ft
Number of Lines = 1726	Time of Conc. = 0.1052 hr
	Area = 0.72 Acres
	D = 0.0140 hr

OUTPUT SUMMARY

Runoff depth = 1.0375 in  
Initial Abstraction = 0.3256 in  
Peak Flow = 0.78 cfs (1.0684 iph)  
At T = 12.52 hrs

Trapezoidal Channel Analysis & Design  
Open Channel - Uniform flow

Worksheet Name: TCU-1

Comment: Ditch Design

Solve For Depth

Given Input Data:

Bottom Width.....	0.00 ft
Left Side Slope..	1.50:1 (H:V)
Right Side Slope.	1.50:1 (H:V)
Manning's n.....	0.030
Channel Slope....	0.0800 ft/ft
Discharge.....	1.71 cfs

Computed Results:

Depth.....	0.49 ft
Velocity.....	4.83 fps
Flow Area.....	0.35 sf
Flow Top Width...	1.46 ft
Wetted Perimeter.	1.75 ft
Critical Depth...	0.60 ft
Critical Slope...	0.0250 ft/ft
Froude Number....	1.73 (flow is Supercritical)

Open Channel Flow Module, Version 3.3 (c) 1991  
Haestad Methods, Inc. \* 37 Brookside Rd \* Waterbury, Ct 06708

Trapezoidal Channel Analysis & Design  
Open Channel -- Uniform flow

Worksheet Name: TCU-2

Comment: Ditch Design

Solve For Depth

Given Input Data:

Bottom Width.....	0.00 ft
Left Side Slope..	1.50:1 (H:V)
Right Side Slope.	1.50:1 (H:V)
Manning's n.....	0.033
Channel Slope....	0.0800 ft/ft
Discharge.....	0.78 cfs

Computed Results:

Depth.....	0.38 ft
Velocity.....	3.69 fps
Flow Area.....	0.21 sf
Flow Top Width...	1.13 ft
Wetted Perimeter.	1.35 ft
Critical Depth...	0.44 ft
Critical Slope...	0.0336 ft/ft
Froude Number....	1.50 (flow is Supercritical)

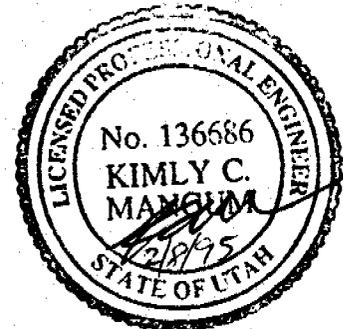
Open Channel Flow Module, Version 3.3 (c) 1991  
Haestad Methods, Inc. \* 37 Brookside Rd \* Waterbury, Ct 06708

Table 7.3-5

Ditch TCU-1 and TCU-2 Summary

Ditch	TCU-1	TCU-2
Drainage Area	M Partial	Misc. Road
Flow (cfs)	1.71	0.78
Velocity (fps)	4.83	3.69
Rip-rap (m.d.)	Soil	Soil
Slope (%)	8.0	8.0
Min. Depth of Ditch (ft)	0.67	0.5
Depth of Flow (ft)	0.49	0.38
Minimum Freeboard (ft)	0.18	0.12
Manning's N	0.03	0.033
Bottom Width (ft)	0	0
Side Slopes	1.5:1	1.5:1

NOTE: Calculations for TCU-1 and TCU-2 were performed by "FlowMaster", Version 3.3, 1991, Haestad Methods, Inc., and are shown on pg. 7-51D and 7-51E



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7.3-5A	Typical Silt Fence Installation . . . . .	47D

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~~Headwater depths required for the culverts to pass the expected flows were taken from the Culvert Nomograph, Figure 7.3-1 on page 7-46. As shown on Table 7.3-1, all culverts have adequate available headwater to pass the expected flows.~~

#### 7.3.5 POST MINING DIVERSION DESIGN

One ~~two~~ disturbed diversions (TCD-1 ~~and~~ TCD-2) ~~is~~ ~~are~~ projected to remain in place after reclamation to direct runoff to the sediment pond. When the sediment pond is removed, TCD-1 will be extended and rip-rapped to Trail Creek (Plates 7-4). The diversion structure (TCD-4) coming down from the middle pad will also remain in place. These diversions will be maintained in place until bond release. ~~An additional undisturbed diversion will remain on the West side of the road to divert natural drainage away from the mine site and roadway. Diversions within the residential exclusion area are maintained by C.O.P. Coal Development Company (Appendix 3-B) with the exception of TCD-2, which extends into the bottom of the residential area.~~

The location of each of these diversion structures is shown on Plates 7-4. TCD-4 is shown on Figure 7.3-6. See Tables 7.3-2 and 7.3-3 for culvert sizing and ditch sizing and rip-rap.

Diversion TCD-1 is located near the base of the side slope along the east edge of the road and lower pad recreation area. Erosion will be minimized with the installation of 9 in. M.D. rip-rap as required in Table 7.3-3. Diversion TCD-2 does not indicate any erosive flow, and therefore, will not be rip-rapped. The undisturbed diversions ~~along the west side of the main road is~~ ~~are~~ within the residential exclusion area (no liability) and will not be rip-rapped. ~~Please note that this~~ ~~these~~ diversion structures ~~only carries~~ ~~undisturbed~~ ~~and~~ ~~road~~ drainage.

The undisturbed drainage along the west side of the road (TCU ~~1~~) will flow directly to the highway drainage as shown on Plate 7-4D. The small catch basin on the east side of the access road at the southern end of the property will ~~remain after reclamation as it is presently configured~~ ~~be removed~~ and the undisturbed drainage ~~extended to Trail Creek (TCD-2)~~. There will be no ditch maintained along the east side of the access road ~~below the catch basin adjacent to BTCA Area 7~~; however, any drainage from this area will flow onto the reclaimed picnic area ~~or into the Highway 31 drainage~~. Drainage from the picnic area is described in Appendix 7-G (BTCA Area "7").

## Primary Road Drainage

This section presents the designs for ditches TCU-1 and TCU-2, which carry runoff along the primary road above BTCA Area "7" and BTCA Area "8".

Ditch TCU-1 flows along the West side of the road between the residential exclusion area and BTCA Area "8" (Plate 7-4D) and drains into the Highway 31 drainage. The ditch carries a portion of the runoff from Watershed M (Table 7.3-1). TCU-2 flows along the East side of the road in the same area, and drains into Trail Creek. The diversions carry only undisturbed and road drainage, so runoff treatment is not required.

Designs for these diversions are shown following. The "PEAK" hydrograph generation program was used to determine the peak flows from the watersheds. Calculations for Watershed M were based on the watershed information in Table 7.3-1 and were calculated using an SCS Type II distribution. The road watershed calculations were also performed using "PEAK". Both diversions are sized for the 10 year 24 hour storm event of 2.25 inches.

Table 7.3-4

Peak Flow Calculations for TCU-1 and TCU-2

**PEAK  
HYDROGRAPH GENERATION PROGRAM**

INPUT SUMMARY FOR W.S.: M

STORM:	WATERSHED:
Distribution = SCS Type '2'	Land Slope = 71.0000 PCT
Precip. Depth = 2.25 in	Curve Number = 60.00
Duration = 24.00 hr	Channel Length = 981.00 ft
Number of Lines = 1695	Time of Conc. = 0.1072 hr
	Area = 48.21 Acres
	D = 0.0143 hr

OUTPUT SUMMARY

Runoff depth = 0.1094 in  
Initial Abstraction = 1.3333 in  
Peak Flow = 1.71 cfs (0.0352 iph)  
At T = 12.57 hrs

INPUT SUMMARY FOR W.S.: ROAD

STORM:	WATERSHED:
Distribution = SCS Type '2'	Land Slope = 9.3000 PCT
Precip. Depth = 2.25 in	Curve Number = 86.00
Duration = 24.00 hr	Channel Length = 687.00 ft
Number of Lines = 1726	Time of Conc. = 0.1052 hr
	Area = 0.72 Acres
	D = 0.0140 hr

OUTPUT SUMMARY

Runoff depth = 1.0375 in  
Initial Abstraction = 0.3256 in  
Peak Flow = 0.78 cfs (1.0684 iph)  
At T = 12.52 hrs

Trapezoidal Channel Analysis & Design  
Open Channel - Uniform flow

Worksheet Name: TCU-1

Comment: Ditch Design

Solve For Depth

Given Input Data:

Bottom Width.....	0.00 ft
Left Side Slope..	1.50:1 (H:V)
Right Side Slope.	1.50:1 (H:V)
Manning's n.....	0.030
Channel Slope....	0.0800 ft/ft
Discharge.....	1.71 cfs

Computed Results:

Depth.....	0.49 ft
Velocity.....	4.83 fps
Flow Area.....	0.35 sf
Flow Top Width...	1.46 ft
Wetted Perimeter.	1.75 ft
Critical Depth...	0.60 ft
Critical Slope...	0.0250 ft/ft
Froude Number....	1.73 (flow is Supercritical)

Open Channel Flow Module, Version 3.3 (c) 1991  
Haestad Methods, Inc. \* 37 Brookside Rd \* Waterbury, Ct 06708

Trapezoidal Channel Analysis & Design  
Open Channel - Uniform flow

Worksheet Name: TCU-2

Comment: Ditch Design

Solve For Depth

Given Input Data:

Bottom Width.....	0.00 ft
Left Side Slope..	1.50:1 (H:V)
Right Side Slope.	1.50:1 (H:V)
Manning's n.....	0.033
Channel Slope....	0.0800 ft/ft
Discharge.....	0.78 cfs

Computed Results:

Depth.....	0.38 ft
Velocity.....	3.69 fps
Flow Area.....	0.21 sf
Flow Top Width...	1.13 ft
Wetted Perimeter.	1.35 ft
Critical Depth...	0.44 ft
Critical Slope...	0.0336 ft/ft
Froude Number....	1.50 (flow is Supercritical)

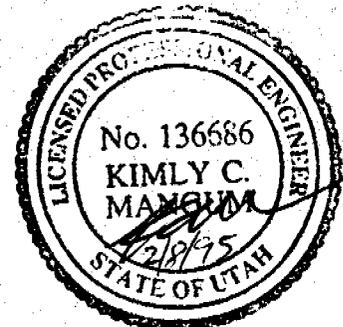
Open Channel Flow Module, Version 3.3 (c) 1991  
Haestad Methods, Inc. \* 37 Brookside Rd \* Waterbury, Ct 06708

Table 7.3-5

Ditch TCU-1 and TCU-2 Summary

Ditch	TCU-1	TCU-2
Drainage Area	M Partial	Misc. Road
Flow (cfs)	1.71	0.78
Velocity (fps)	4.83	3.69
Rip-rap (m.d.)	Soil	Soil
Slope (%)	8.0	8.0
Min. Depth of Ditch (ft)	0.67	0.5
Depth of Flow (ft)	0.49	0.38
Minimum Freeboard (ft)	0.18	0.12
Manning's N	0.03	0.033
Bottom Width (ft)	0	0
Side Slopes	1.5:1	1.5:1

NOTE: Calculations for TCU-1 and TCU-2 were performed by "FlowMaster", Version 3.3, 1991, Haestad Methods, Inc., and are shown on pg. 7-51D and 7-51E



## PERMIT CHANGE TRACKING FORM

DATE RECEIVED	1/30/95	PERMIT NUMBER	ACT/015/021
Title of Proposal:	Catch Basin Removals	PERMIT CHANGE #	95 A
Description:	Judgy Response 2/13	PERMITTEE	Co Op Mining Co.
		MINE NAME	Trail Canyon

<input type="checkbox"/> 15 DAY INITIAL RESPONSE TO PERMIT CHANGE APPLICATION  <input type="checkbox"/> Notice of Review Status of proposed permit change sent to the Permittee. <input type="checkbox"/> Request additional review copies prior to Division/Other Agency review. <input type="checkbox"/> Notice of Approval of Publication. (If change is a Significant Revision.) <input type="checkbox"/> Notice of request to modify proposed permit change prior to approval.	DATE DUE	DATE DONE	RESULT	
			<input checked="" type="checkbox"/> ACCEPTED	<input type="checkbox"/> REJECTED
Permit Change Classification				
			<input type="checkbox"/> Significant Permit Revision	
			<input type="checkbox"/> Permit Amendment	
			<input type="checkbox"/> Incidental Boundary Change	

REVIEW TRACKING	INITIAL REVIEW		MODIFIED REVIEW		FINAL REVIEW AND FINDINGS	
DOGM REVIEWER	DUE	DONE	DUE	DONE	DUE	DONE
<input type="checkbox"/> Administrative						
<input type="checkbox"/> Biology						
<input type="checkbox"/> Engineering						
<input type="checkbox"/> Geology						
<input type="checkbox"/> Soils						
<input type="checkbox"/> Hydrology	Tom	2/27	2/27			
<input type="checkbox"/> Bonding						
<input type="checkbox"/> AVS Check						

COORDINATED REVIEWS	DUE	DONE	DUE	DONE	DUE	DONE
<input type="checkbox"/> OSMRE						
<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						
<input type="checkbox"/> Other						

<input type="checkbox"/> Public Notice/Comment/Hearing Complete (If the permit change is a Significant Revision)  <input type="checkbox"/> Copies of permit change marked and ready for MRP.  <input type="checkbox"/> Special Conditions/Stipulations written for approval.  <input type="checkbox"/> TA and CHIA modified as required.  <input type="checkbox"/> Permit Change Approval Form ready for approval.	<input type="checkbox"/> Permit Change Approval Form signed and approved effective as of this date. <input type="checkbox"/> Permit Change Denied.  <input type="checkbox"/> Notice of <input type="checkbox"/> Approval <input type="checkbox"/> Denial to Permittee.  <input type="checkbox"/> Copy of Approved Permit Change to File.  <input type="checkbox"/> Copy of Approved Permit Change to Permittee.  <input type="checkbox"/> Copies to Other Agencies and Price Field Office.
---	--

# CO-OP MINING COMPANY

P.O. Box 1245  
Huntington, Utah 84528



(801) 381-5238  
Coal Sales (801) 381-5777

February 9, 1995

Daron R. Haddock  
Permit Supervisor  
Utah Division of Oil, Gas & Mining  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

Mr. Haddock,

*Trail*  
Re: Catch Basin Removal, Bear Canyon Mine, ACT/015/021-95A, Emery County, Utah

1 3 1995  
DIVISION OF OIL, GAS & MINING  
*Copy Owen*  
#2

Enclosed are three copies of revisions to the above-referenced amendment. The revisions have been made in response to your letter dated February 3, 1995, and include designs for the diversions in accordance with R645-301-723.423. Also included is an updated copy of form C2 showing all pages included in the amendment. Please insert these pages into the previously submitted pages, and replace pages 7-iii and 7-44A.

Upon approval, finalized copies will be sent to the Division. If you have any questions, please call Charles Reynolds at (801) 687-2450.

Thank You,

Wendell Owen,  
Resident Agent

Enclosure(s)  
cr

## Application for Permit Change

### Detailed Schedule of Changes to the Permit

Title of Change:

Permit Number: ACT1015 021

Mine: Trail Canyon

Permittee: Co-Op Mining Co

Catch Basin Removal

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit change. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the existing mining and reclamation plan. Include page, section and drawing numbers as part of the description.

## DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED

<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
			36-12; Catch Basin Reference Removed
			Plate 32D; Catch Basin Removed
			7-77; Table of Contents Revised
			7-34; Catch Basin Reference Removed
			7-44; R.E.A. Culvert Design Removed
			7-44A; Culverts Removed / Catch Basin Removal Discussed
			7-44A(1); Text condensed to Page 7-44A
			7-44G; Design Removed (Structure <del>and</del> lower east)
			7-45; R.E.A. Culvert descriptions Removed
			7-45A; Same as 7-45
			7-50; Same as 7-44
			Plate 7-4A; TCC-1 Reference Removed
			Plate 7-4B; TCC-2 and TCC-3 Reference Removed
			Plate 7-4C; TCU-1 and TCU-2 Label Added
			Plate 7-4D; Catch Basin Removed / TCU-1 & TCU-2 Added
			7-51B thru 7-51F; TCU-1 and TCU-2 design Added
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?

\* Pages and Plates Revised in the 2-9-95 submittal

# CO-OP MINING COMPANY

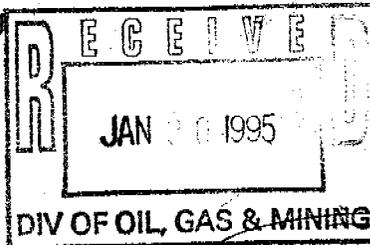
P.O. Box 1245  
Huntington, Utah 84528



(801) 381-5238  
Coal Sales (801) 381-5777

January 26, 1995

Pamela Grubaugh-Littig  
Utah Division of Oil, Gas & Mining  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203



Ms. Grubaugh-Littig,

Re: Catch Basin Removal, Trail Canyon Mine, ACT/015/021, Emery County, Utah

*95A #2  
Copy from*

Enclosed are three DRAFT copies of a proposed amendment to the Trail Canyon MRP by Co-Op Mining Company.

The amendment involves two issues. The first issue involves a Catch Basin which currently treats undisturbed runoff from a portion of the access road before the runoff enters Trail Creek. During an inspection in December, it was noted that the MRP did not contain adequate designs for the catch basin. Since the catch basin is not necessary to comply with State regulations, Co-Op is proposing to eliminate the catch basin and allow the drainage to flow past it to Trail Creek.

The second issue was observed during the preparation of the amendment. Co-Op noted that the Hydrology designs included designs for culvert structures that either are not part of the permit area drainage control or that no longer exist. The proposed amendment removes references and designs for these structures, and clarifies some designs for the existing culverts.

Upon approval, finalized copies of the revised plates and pages will be forwarded to the Division. If you have any questions, please call Charles Reynolds at (801) 687-2450.

Thank You,

Wendell Owen,  
Resident Agent

Enclosure(s)  
cr

## Application for Permit Change Detailed Schedule of Changes to the Permit

Title of Change:

Catch Basin Removal

Permit Number: ACT 1 015 1 021

Mine: Trail Canyon

Permittee: Co-op Mining Co

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit change. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the existing mining and reclamation plan. Include page, section and drawing numbers as part of the description.

			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pa. 36-12; Reference to Catch Basin Removed
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate 3-2D; Catch Basin Removed from Map
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pa. 7-iii; Table of Contents Revised
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pa. 7-34; Reference to Catch Basin Removed
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pa. 7-44; Culvert descriptions revised to include
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	only culverts applicable to the Trail Canyon Permit
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pa. 7-44A; Same as 7-44, Catch Basin Removal discussed
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input checked="" type="checkbox"/> REMOVE	Pa. 7-44A(1); Text Condensed to Pa. 7-44A
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input checked="" type="checkbox"/> REMOVE	Pa. 7-44G; Design Removed (Structure no longer exists and
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	does not apply to Trail Canyon Permit Area
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pa. 7-45; Culvert descriptions revised to include only
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	culverts applicable to the Trail Canyon Permit
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pa. 7-45A; Same as 7-45
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pa. 7-50; Culverts designs (Table 7.3-2) revised to
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	include only culverts applicable to the Trail
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Canyon Permit
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate 7-4A; TCC-1 Reference Removed
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate 7-4B; TCC-2 and TCC-3 Reference Removed
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate 7-4D; Catch Basin Removed (Design Revised
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	on Map
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	

Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?

# APPLICATION FOR PERMIT CHANGE

Title of Change:

Catch Basin Removal

Permit Number: ACT 1 015 1021

Mine: Trail Canyon

Permittee: Co-Op Mining Co

Description, include reasons for change and timing required to implement:

Revision ~~is~~ a result of onsite inspection, December 27, 1994. Co-Op advised to either submit detailed designs of basin or remove catch basin is not necessary or required.

- Yes  No 1. Change in the size of the Permit Area? \_\_\_\_\_ acres  increase  decrease.
- Yes  No 2. Change in the size of the Disturbed Area? \_\_\_\_\_ acres  increase  decrease.
- Yes  No 3. Will permit change include operations outside the Cumulative Hydrologic Impact Area?
- Yes  No 4. Will permit change include operations in hydrologic basins other than currently approved?
- Yes  No 5. Does permit change result from cancellation, reduction or increase of insurance or reclamation bond?
- Yes  No 6. Does permit change require or include public notice publication?
- Yes  No 7. Permit change as a result of a Violation? Violation # \_\_\_\_\_
- Yes  No 8. Permit change as a result of a Division Order? D.O.# \_\_\_\_\_
- Yes  No 9. Permit change as a result of other laws or regulations? Explain: \_\_\_\_\_
- Yes  No 10. Does permit change require or include ownership, control, right-of-entry, or compliance information?
- Yes  No 11. Does the permit change affect the surface landowner or change the post mining land use?
- Yes  No 12. Does permit change require or include collection and reporting of any baseline information?
- Yes  No 13. Could the permit change have any effect on wildlife or vegetation outside the current disturbed area?
- Yes  No 14. Does permit change require or include soil removal, storage or placement?
- Yes  No 15. Does permit change require or include vegetation monitoring, removal or revegetation activities?
- Yes  No 16. Does permit change require or include construction, modification, or removal of surface facilities?
- Yes  No 17. Does permit change require or include water monitoring, sediment or drainage control measures?
- Yes  No 18. Does permit change require or include certified designs, maps, or calculations?
- Yes  No 19. Does permit change require or include underground design or mine sequence and timing?
- Yes  No 20. Does permit change require or include subsidence control or monitoring?
- Yes  No 21. Have reclamation costs for bonding been provided or revised for any change in the reclamation plan?
- Yes  No 22. Is permit change within 100 feet of a public road or perennial stream or 500 feet of an occupied dwelling?
- Yes  No 23. Is this permit change coal exploration activity  inside  outside of the permit area?

Attach 3 complete copies of proposed permit change as it would be incorporated into the Mining and Reclamation Plan.

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.

*Wendell Clancy - Res Agent - 1/26/95*  
Signed - Name - Position - Date

Subscribed and sworn to before me this 26 day of January, 19 95.

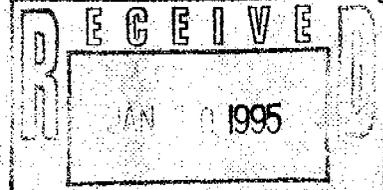
*Alanna Stone*  
Notary Public

My Commission Expires: \_\_\_\_\_, 19\_\_\_\_  
Asset: STATE OF \_\_\_\_\_  
COUNTY OF \_\_\_\_\_



Notary Public  
ANNE STONE  
Box 300  
Cannonville, Utah 84524  
My Commission Expires  
June 18, 1997  
State of Utah

Received by Oil, Gas & Mining



DIV OF OIL, GAS & MINING

ASSIGNED PERMIT CHANGE NUMBER

# CO-OP MINING COMPANY

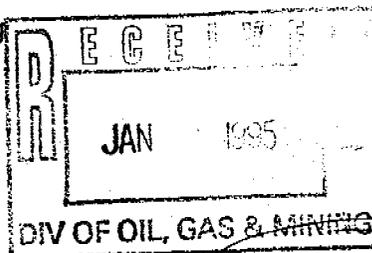
P.O. Box 1245  
Huntington, Utah 84528



(801) 381-5238  
Coal Sales (801) 381-5777

January 26, 1995

Pamela Grubaugh-Littig  
Utah Division of Oil, Gas & Mining  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203



Ms. Grubaugh-Littig,

Re: Catch Basin Removal, Trail Canyon Mine, ACT/015/021, Emery County, Utah

95A #2  
Copy Pam

Enclosed are three DRAFT copies of a proposed amendment to the Trail Canyon MRP by Co-Op Mining Company.

The amendment involves two issues. The first issue involves a Catch Basin which currently treats undisturbed runoff from a portion of the access road before the runoff enters Trail Creek. During an inspection in December, it was noted that the MRP did not contain adequate designs for the catch basin. Since the catch basin is not necessary to comply with State regulations, Co-Op is proposing to eliminate the catch basin and allow the drainage to flow past it to Trail Creek.

The second issue was observed during the preparation of the amendment. Co-Op noted that the Hydrology designs included designs for culvert structures that either are not part of the permit area drainage control or that no longer exist. The proposed amendment removes references and designs for these structures, and clarifies some designs for the existing culverts.

Upon approval, finalized copies of the revised plates and pages will be forwarded to the Division. If you have any questions, please call Charles Reynolds at (801) 687-2450.

Thank You,

Wendell Owen,  
Resident Agent

Enclosure(s)  
CR

## Application for Permit Change Detailed Schedule of Changes to the Permit

Title of Change:  
*Catch - Basin Removal*

Permit Number: *ACT 10151021*  
 Mine: *Trail Canyon*  
 Permittee: *Co-op Mining Co*

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit change. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the exiting mining and reclamation plan. Include page, section and drawing numbers as part of the description.

			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>pg. 36-12; Reference to Catch Basin Removed</i>
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>Plate 3-20; Catch Basin Removed from Map</i>
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>pg. 7-iii; Table of Contents Revised</i>
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>pg. 7-34; Reference to Catch Basin Removed</i>
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>pg. 7-44; Culvert descriptions revised to include</i>
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>only culverts applicable to the Trail Canyon Permit</i>
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>pg. 7-44A; Same as 7-44, Catch Basin Removal discussed.</i>
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input checked="" type="checkbox"/> REMOVE	<i>pg. 7-44A(1); Text Condensed to pg. 7-44A.</i>
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input checked="" type="checkbox"/> REMOVE	<i>pg. 7-44E; Design Removed (Structure no longer exists and</i>
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>does not apply to Trail Canyon Permit Area.</i>
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>pg. 7-45; Culvert descriptions revised to include only</i>
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>culverts applicable to the Trail Canyon Permit.</i>
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>pg. 7-45A; Same as 7-45</i>
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>pg. 7-50; Culverts design (Table 7.3-2) revised to</i>
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>include only culverts applicable to the Trail</i>
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>Canyon Permit.</i>
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>Plate 7-4A; TCC-1 Reference Removed</i>
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>Plate 7-4B; TCC-2 and TCC-3 Reference Removed</i>
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>Plate 7-4D; Catch Basin Removed (Drawing Revised</i>
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	<i>on Map.</i>
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<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	

Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?

# APPLICATION FOR PERMIT CHANGE

Title of Change:

Catch Basin Removal

Permit Number: ACT 1 015 1021

Mine: Trail Canyon

Permittee: Co-Op Mining Co

Description, include reason for change and timing required to implement:

Revision ~~is~~ a result of onsite inspection, December 27, 1994. Co-Op advised to either submit detailed designs of basin or remove catch basin is not necessary or required.

- Yes  No 1. Change in the size of the Permit Area? \_\_\_\_\_ acres  increase  decrease.
- Yes  No 2. Change in the size of the Disturbed Area? \_\_\_\_\_ acres  increase  decrease.
- Yes  No 3. Will permit change include operations outside the Cumulative Hydrologic Impact Area?
- Yes  No 4. Will permit change include operations in hydrologic basins other than currently approved?
- Yes  No 5. Does permit change result from cancellation, reduction or increase of insurance or reclamation bond?
- Yes  No 6. Does permit change require or include public notice publication?
- Yes  No 7. Permit change as a result of a Violation? Violation # \_\_\_\_\_
- Yes  No 8. Permit change as a result of a Division Order? D.O.# \_\_\_\_\_
- Yes  No 9. Permit change as a result of other laws or regulations? Explain: \_\_\_\_\_
- Yes  No 10. Does permit change require or include ownership, control, right-of-entry, or compliance information?
- Yes  No 11. Does the permit change affect the surface landowner or change the post mining land use?
- Yes  No 12. Does permit change require or include collection and reporting of any baseline information?
- Yes  No 13. Could the permit change have any effect on wildlife or vegetation outside the current disturbed area?
- Yes  No 14. Does permit change require or include soil removal, storage or placement?
- Yes  No 15. Does permit change require or include vegetation monitoring, removal or revegetation activities?
- Yes  No 16. Does permit change require or include construction, modification, or removal of surface facilities?
- Yes  No 17. Does permit change require or include water monitoring, sediment or drainage control measures?
- Yes  No 18. Does permit change require or include certified designs, maps, or calculations?
- Yes  No 19. Does permit change require or include underground design or mine sequence and timing?
- Yes  No 20. Does permit change require or include subsidence control or monitoring?
- Yes  No 21. Have reclamation costs for bonding been provided or revised for any change in the reclamation plan?
- Yes  No 22. Is permit change within 100 feet of a public road or perennial stream or 500 feet of an occupied dwelling?
- Yes  No 23. Is this permit change coal exploration activity  inside  outside of the permit area?

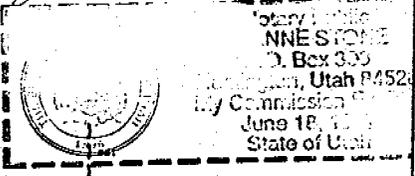
Attach 3 complete copies of proposed permit change as it would be incorporated into the Mining and Reclamation Plan.

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.

*Wendell Clavin - Per. Agent - 1/26/95*  
Signed - Name - Position - Date

Subscribed and sworn to before me this 26 day of January, 19 95.  
*Wendell Clavin*  
Notary Public

My Commission Expires: \_\_\_\_\_, 19\_\_\_\_  
Agent: STATE OF \_\_\_\_\_  
COUNTY OF \_\_\_\_\_



Received by Oil, Gas & Mining

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JAN 10 1995

DIV OF OIL GAS & MINING

ASSIGNED PERMIT CHANGE NUMBER

3. Two trapezoidal shaped diversion/check dams will be constructed at the base of the pre-SMCRA area above the lower pad. The dams will have 3 ft min depth sides keyed into the hillside and will slope to a trapezoidal outlet with a 1 ft depth and 2 ft min width. These dams will be constructed at the base of the recently formed washes and will dissipate runoff velocity and divert it into two ditches that will divert the runoff into TCD-1. See Figure 3G-1.
4. The two ditches that carry runoff below the diversion/check dams, see item #3 above, will be constructed with a min triangular cross section; 3 ft wide and 1 ft min deep. The ditches will be rip-rapped with 8 in. min depth of 4 in. M.D. angular rock (See Table 7.3-2A). This design is based on the runoff volume from all of Watershed Area J, 3 acres (See Table 7.3-1). For a ten year 24 hour storm event of 2.25 in.;  $Q_{p10} = 0.50$  cfs, Max slope 30%, flow depth 0.15 ft, and velocity 2.75 fps.
5. The West bank of ditch TCD-1 at the base of the two new ditches will be raised an additional 12 in. to a min of 3.25 ft and rip-rapped to prevent potential erosion.
6. The road across the top of the lower pad will be raised approx 30 in. and sloped from East to West, eliminating the low spot in the road that has directed flow onto the lower pad.
7. A ditch and berm will be constructed on the low side of the road (lower pad side) to divert drainage down the main access road ~~away from the reclaimed area and into the sediment basin down the road.~~ See Figure 3G-2. Drainage is incidental to the road and ~~rip-rap treatment~~ is not required. ~~See Design for Ditch TCD-2, up canyon, Table 7.3-3.~~

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All field measurements will be made by qualified personnel, using standard, accepted methods. All laboratory tests will be performed by a qualified, accredited laboratory, using standard, accepted tests and equipment. Results will be forwarded submitted to DOGM in the quarterly Water Monitoring Report within 30 days following receipt of the laboratory results the end of each quarter, or as required by DOGM. The typical report form is shown on Figure 7.2-3.

The sedimentation pond will continue to be monitored per NPDES Permit requirements. Any discharge from the pond will be sampled and reported to the regulatory authority in accordance with the NPDES discharge Permits reporting procedure.

#### 7.2.5 Surface Water Control and Diversions

The vast majority of the disturbed area of the Trail Canyon Mine is on the east side of Trail Canyon (same side as the mine portal and to the south). The runoff from this east side disturbed area is collected and channeled to the Sedimentation Pond. The small amount of runoff from the road area west of Trail creek is channeled to a small Catch Basin adjacent to the reclaimed area is diverted around the reclaimed area through the undisturbed drainage along the road (Plate 7-14D).

There are presently 3 large culverts in place along the main drainage Trail Creek. It is proposed to leave these culverts in place, since the area is to become a permanent residential area, and will continue to use existing access roads. The culverts will be fitted with trash racks. There are no other modifications or

### 7.3.4 Post Mining Culvert Design

The following culverts/structures are projected to remain in place after reclamation and until bond release.

<del>TCC-1</del>	<del>Channel Crossing Structure - Upper Crossing Trail Creek</del>
<del>TCC-2</del>	<del>54" x 60' CMP at the Middle Road crossing of Trail Creek</del>
<del>TCC-3</del>	<del>54" x 60' CMP at the Fire Station crossing of Trail Creek</del>
<del>TCC-4</del>	<del>54" x 220' CMP at the lower Road crossing of Trail Creek</del>
<del>TCC-5</del>	<del>24" x 20' CMP at lower pad road crossing</del>
<del>TCC-6</del>	<del>24" x 60' CMP at the end of Ditch TCD-34</del>

The culverts are designed to carry the expected runoff from a ~~10 yr-24 hr. event, except the main Trail Creek culverts, which are sized to carry a 50 yr-24 hr. storm. This 50 yr design has been agreed to during on-site and subsequent discussions with DOGM and Co-Op. Calculations and culvert sizing is shown on Tables 7.3-2 and Figure 7.3-1. The location of each of the culverts are shown on the "Post-Mining Hydrology" maps, Plates 7-4.~~

~~Culvert TCC-4 exists in Trail Creek at the South end of the Residential Exclusion area and extends underneath a portion of the lower pad area. This culvert is to remain in place in order to maintain the stability of the access road and the Trail Creek crossing into the Residential Area as shown on Plate 7-4C. Culvert TCC-6 is placed at the outlet of TCD-4, and conveys runoff from BTCA Area 3 across the residential road to Trail Creek as shown on Plate 7-4B.~~

~~Culvert TCC-1 was originally deleted in 1989 during reclamation but it was later determined that access across the creek was required for residents of Trail Canyon. In 1990 a channel crossing structure will be constructed as shown in Figure 7.3-10. The inlet and outlet apron to the crossing will be rip-rapped, as discussed in Section 7.3.6.~~

~~A temporary culvert not listed above will be installed at the end of TCD-1 where it flows off the lower pad during the winter of 1989/90. When spring weather conditions permit access across the lower pad with minimal disturbance, the down slope will be rip-rapped as described in Section 7.3.6. The location of each of the culverts are shown on the "Post-Mining Hydrology" Maps, Plates 7-4. The designs for this culvert are shown in Table A and described in Section 7.3.3.~~

~~As shown on Plates 7-4, the main Trail Creek culverts are to be within the Trail Canyon Residential Exclusion limits. COP has committed to maintain the culverts and ditches (Appendix 3-B) within the Trail Canyon reclamation Residential Exclusion area; therefore, the culvert sizing will be adequate and will be maintained and are adequately sized to pass expected flows up to the 50 yr-24 event. This 50 yr design has been agreed to during on-site and subsequent discussions with DOGM and Co-Op. All main canyon culverts will be fitted with a trash rack to facilitate cleaning (Figure 7.3-3). Since these structures are in the exclusion area and do not directly serve drainage control for the bonded areas, designs are not included in this plan.~~

~~Headwater depths required for the culverts to pass the expected flows were taken from the Culvert Nomograph, Figure 7.3-1 on page 7-46. As shown on Table 7.3-1, all culverts have adequate available headwater to pass the expected flows.~~

### 7.3.5 POST MINING DIVERSION DESIGN

One ~~Two~~ disturbed diversions (TCD-1 and TCD-2) ~~is~~ are projected to remain in place after reclamation to direct runoff to the sediment pond. When the sediment pond is removed, TCD-1 will be extended and rip-rapped to Trail Creek (Plates 7-4). The diversion structure (TCD-4) coming down from the middle pad will also remain in place. These diversions will be maintained in place until bond release. ~~An additional undisturbed diversion will remain on the West side of the road to divert natural drainage away from the mine site and roadway. Diversions within the residential exclusion area are maintained by C.O.P. Coal Development Company (Appendix 3-B) with the exception of TCD-2, which extends into the bottom of the residential area.~~

The location of each of these diversion structures is shown on Plates 7-4. TCD-4 is shown on Figure 7.3-6. See Tables 7.3-2 and 7.3-3 for culvert sizing and ditch sizing and rip-rap.

Diversion TCD-1 is located near the base of the side slope along the east edge of the road and lower pad recreation area. Erosion will be minimized with the installation of 9 in. M.D. rip-rap as required in Table 7.3-3. Diversion TCD-2 does not indicate any erosive flow, and therefore, will not be rip-rapped. The undisturbed diversions along the ~~west side of the main road is~~ are within the residential exclusion area (no liability) and will not be rip-rapped. ~~Please note that this~~ These diversion structures only carries ~~undisturbed and road~~ drainage.

The undisturbed drainage along the west side of the road will flow directly to the highway drainage as shown on Plate 7-4D. The small catch basin on the east side of the access road at the southern end of the property will ~~remain after reclamation as it is presently configured be removed and the undisturbed drainage extended to Trail Creek.~~ There will be no ditch maintained along the east side of the access road ~~below the catch basin adjacent to BTCA Area 7;~~ however, any drainage from this area will flow onto the reclaimed picnic area ~~or into the Highway 31 drainage.~~ Drainage from the picnic area is described in Appendix 7-G (BTCA Area "7").

Calculations for runoff to the diversions are based on the areas and flows from Table 7.3-1. Design criteria and adequacy for the diversions are shown in Table 7.3-3.

#### 7.3.6 RIP-RAP LOCATION AND SIZING

Rip-rap will be required at the following locations:

- ~~1. Outlet of Structure TCC-1 - 9 in. med. diam.~~
- ~~2. Outlet of Culvert TCC-2 - 18 in. med. diam.~~
- ~~3. Outlet of Culvert TCC-3 - 18 in. med. diam.~~
41. Outlet of Culvert TCC-4 - 18 in. med. diam.
52. Outlet of Culvert TCC-6 - 9 in. med. diam.
3. Portions of Ditch TCD-1 - 9 in. med. diam.
64. Reclaimed Ditch TCD-4 - 9 in. med. diam.
5. Channels on slope above TCD-1 - 4 in. med. diam.

Rip-rap will be well graded, with the majority of the stones of the median diameter as shown. The material will be of a solid, non-slaking angular rock. Typical rip-rap will be placed on a bedding of a filter blanket or a bed of graded gravel 1.5 times the diameter of the median size stone.

The rip-rap sizes are taken from the chart on Figure 7.3-2, using the velocities given in Table 7.3-2 and 7.3-3. The chart is based on spherical stone diameters. The use of angular material will provide even greater resistance to movement and thus increase the effectiveness of the control.

DRAFT

## APRON DIMENSIONS ON CULVERTS

The aprons to be placed at ~~the channel crossing TCC-1 and culverts TCC-2 through TCC-4~~ are based on actual, velocities, site conditions and proven performance. The in place culvert apron areas ~~(TCC-2 through TCC-4)~~ will be improved, by adding rip-rap for approx 20 ft down steam. ~~The channel crossing TCC-1 will be rip-rapped for approx 10 ft upstream and 20 ft down stream.~~ The only disturbance anticipated during reclamation to the areas associated with culverts ~~TCC-2 through TCC-4~~, will be the addition of rip-rap, which will be done by hand and will improve stability during heavy runoff events. The 18" rip-rap which has become established in the stream bed since installation of the culverts will not be disturbed.

DRAFT

TABLE 7.3-2

Post-Mining Culvert Sizing  
10 yr - 24 hr Event

Culvert	TCC-2	TCC-3	TCC-4	TCC-5
Dr. Areas	C, D, E, F, G	A, B, C, D, E, F, G, H, I	A, B, C, D, E, F, G, H, I	N
Flow (cfs)	96.24	109.90	109.90	0.92
Velocity (fps)	2.70	6.79	6.79	4.01
Rip-rap (m.d.)	18 in.	18 in.	18 in.	not req'd
Slope (%)	3.33	3.33	8.5	8.0
Diameter	54 in.	54 in.	54 in.	24 in.**
Required Headwater	59 in.	59 in.	59 in.	N/A
Available Headwater	178 in.	190 in.	238 in.	N/A

Culvert	50 yr - 24 hr Event				
	TCC-1***	TCC-2	TCC-3	TCC-4	TCC-6
Dr. Areas	E	C, D, E, F, G	A, B, C, D, E, F, G, H, I	A, B, C, D, E, F, G, H, I	A, B, H, I, L/2
Flow (cfs)	221.85	265.16	287.79	287.79	27.13
Velocity (fps)	7.85	16.67	16.67	16.67	7.68
Rip-rap (m.d.)	9 in.	38 in.	38 in.	38 in.**	9 in.
Slope (%)	2.65	3.33	3.33	8.5	10.20
Diameter	N.A.	54 in.	54 in.	54 in.	42 in.
Required Headwater	30 in.	156 in.	156 in.	156 in.	26 in.
Available Headwater	48 in.	178 in.	190 in.	238 in.	42 in.

- Note:
- \* Existing earthen headwall will remain for Culverts TCC-2 thru TCC-4. Headwalls to culverts TCC-1, TCC-5 and TCC-6 will be rip-rapped.
  - \*\* Drainage area includes section of road only. Culvert oversized. Existing 18" riprap, originally sized for the 10 yr. 24 hr. Event, will not be disturbed (See section 7.3.6).
  - \*\*\* Channel crossing structure.



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

Michael O. Leavitt  
Governor  
Ted Stewart  
Executive Director  
James W. Carter  
Division Director

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Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

February 3, 1995

Mr. Wendell Owen  
Co-Op Mining Company  
P. O. Box 1245  
Huntington, Utah 84528

Re: Catch Basin Removal, Co-Op Mining Company, Trail Canyon Mine, ACT/015/021-95A, Emery County, Utah

Dear Mr. Owen:

The Division has completed a review of the catch basin removal amendment which was received on January 30, 1995. The amendment is complete and adequate with one exception; that being the designs for road drainage along the Trail Canyon access road. Design requirements of R645-301-742.423 must be satisfied for any ditches associated with a primary road. All primary road drainage must be designed to safely pass the 10 year 6 hour storm event. You must supply the necessary information to meet the requirements of R645-301-723.423 in order to complete the amendment and receive approval. Please submit the required information by no later than March 3, 1995.

If you have any questions please call me or Tom Munson.

Sincerely,

A handwritten signature in black ink that reads "Daron R. Haddock".

Daron R. Haddock  
Permit Supervisor

cc: P. Grubaugh-Littig  
T. Munson  
roadrain.tra



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

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If you have any questions please call me or Tom Munson.

Sincerely,

A handwritten signature in black ink that reads "Daron R. Haddock".

Daron R. Haddock  
Permit Supervisor

cc: P. Grubaugh-Littig  
T. Munson  
roadrain.tra

# CO-OP MINING COMPANY

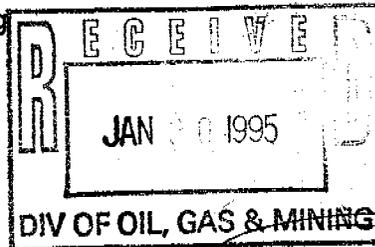
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Huntington, Utah 84528



(801) 381-5238  
Coal Sales (801) 381-5777

January 26, 1995

Pamela Grubaugh-Littig  
Utah Division of Oil, Gas & Mining  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203



Ms. Grubaugh-Littig,

Re: Catch Basin Removal, Trail Canyon Mine, ACT/015/021, Emery County, Utah

*95A #2  
Copy Pam*

Enclosed are three DRAFT copies of a proposed amendment to the Trail Canyon MRP by Co-Op Mining Company.

The amendment involves two issues. The first issue involves a Catch Basin which currently treats undisturbed runoff from a portion of the access road before the runoff enters Trail Creek. During an inspection in December, it was noted that the MRP did not contain adequate designs for the catch basin. Since the catch basin is not necessary to comply with State regulations, Co-Op is proposing to eliminate the catch basin and allow the drainage to flow past it to Trail Creek.

The second issue was observed during the preparation of the amendment. Co-Op noted that the Hydrology designs included designs for culvert structures that either are not part of the permit area drainage control or that no longer exist. The proposed amendment removes references and designs for these structures, and clarifies some designs for the existing culverts.

Upon approval, finalized copies of the revised plates and pages will be forwarded to the Division. If you have any questions, please call Charles Reynolds at (801) 687-2450.

Thank You,

Wendell Owen,  
Resident Agent

Enclosure(s)  
cr

## Application for Permit Change Detailed Schedule of Changes to the Permit

Title of Change:

Catch Basin Removal

Permit Number: ACT 10151021

Mine: Trail Canyon

Permittee: Co-op Mining Co

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit change. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the exiting mining and reclamation plan. Include page, section and drawing numbers as part of the description.

			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pg. 36-12; Reference to Catch Basin Removed
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate 3-2D; Catch Basin Removed from Map
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pg. 7-iii; Table of Contents Revised
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pg. 7-34; Reference to Catch Basin Removed
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pg. 7-44; Culvert descriptions revised to include
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	only culverts applicable to the Trail Canyon Permit
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pg. 7-44A; Same as 7-44, Catch Basin Removal discussed.
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input checked="" type="checkbox"/> REMOVE	Pg. 7-44A(1); Text Condensed to Pg. 7-44A.
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input checked="" type="checkbox"/> REMOVE	Pg. 7-44G; Design Removed (Structure no longer exists and
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	does not apply to Trail Canyon Permit Area.
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pg. 7-45; Culvert descriptions revised to include only
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	culverts applicable to the Trail Canyon Permit.
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pg. 7-45A; Same as 7-45
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pg. 7-50; Culverts design (Table 7.3-2) revised to
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	include only culverts applicable to the Trail
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Canyon Permit.
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate 7-4A; TCC-1 Reference Removed
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate 7-4B; TCC-2 and TCC-3 Reference Removed
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Plate 7-4D; Catch Basin Removed (Location Revised
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	on Map
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	

Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?

# APPLICATION FOR PERMIT CHANGE

Title of Change:

*Catch Basin Removal*

Permit Number: *ACT 1 015 1021*

Mine: *Trail Canyon*

Permittee: *Co-Op Mining Co*

Description, include reason for change and timing required to implement:

*Revision ~~is~~ a result of onsite inspection, December 27, 1994. Co-Op advised to either submit detailed designs of basin or remove. Catch Basin is not necessary or required.*

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 1. Change in the size of the Permit Area? _____ acres <input type="checkbox"/> increase <input type="checkbox"/> decrease.               |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 2. Change in the size of the Disturbed Area? _____ acres <input type="checkbox"/> increase <input type="checkbox"/> decrease.            |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 3. Will permit change include operations outside the Cumulative Hydrologic Impact Area?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 4. Will permit change include operations in hydrologic basins other than currently approved?   |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 5. Does permit change result from cancellation, reduction or increase of insurance or reclamation bond?                                  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 6. Does permit change require or include public notice publication?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 7. Permit change as a result of a Violation? Violation # _____   |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 8. Permit change as a result of a Division Order? D.O.# _____  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 9. Permit change as a result of other laws or regulations? Explain: _____  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 10. Does permit change require or include ownership, control, right-of-entry, or compliance information?                                 |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 11. Does the permit change affect the surface landowner or change the post mining land use?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 12. Does permit change require or include collection and reporting of any baseline information?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 13. Could the permit change have any effect on wildlife or vegetation outside the current disturbed area?                                |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 14. Does permit change require or include soil removal, storage or placement?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 15. Does permit change require or include vegetation monitoring, removal or revegetation activities?                                     |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 16. Does permit change require or include construction, modification, or removal of surface facilities?                                  |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | 17. Does permit change require or include water monitoring, sediment or drainage control measures?                                       |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | 18. Does permit change require or include certified designs, maps, or calculations?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 19. Does permit change require or include underground design or mine sequence and timing?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 20. Does permit change require or include subsidence control or monitoring?  |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 21. Have reclamation costs for bonding been provided or revised for any change in the reclamation plan?                                  |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | 22. Is permit change within 100 feet of a public road or perennial stream or 500 feet of an occupied dwelling?                           |
| <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | 23. Is this permit change coal exploration activity <input type="checkbox"/> inside <input type="checkbox"/> outside of the permit area? |

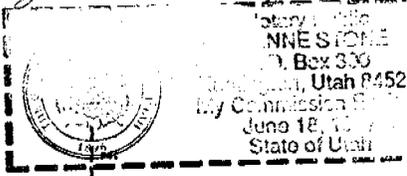
Attach 3 complete copies of proposed permit change as it would be incorporated into the Mining and Reclamation Plan.

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.

*Wendell Chaves - Res Agent - 1/26/95*  
 Signed - Name - Position - Date

Subscribed and sworn to before me this *26* day of *January*, 19 *95*.

My Commission Expires: \_\_\_\_\_, 19 \_\_\_\_\_  
 Notary Public  
 STATE OF \_\_\_\_\_  
 COUNTY OF \_\_\_\_\_



Received by Oil, Gas & Mining

RECEIVED

JAN 26 1995

DIV OF OIL, GAS & MINING

ASSIGNED PERMIT CHANGE NUMBER