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

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March 9, 1995

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

Re: Update to Appendix 7-J and Appendix 7-N (PHC), Bear Canyon Mine, Co-Op Mining Company, ACT/015/025-95C, Folder #3, Emery County, Utah

Dear Mr. Owen:

The above-noted amendment is conditionally approved upon submittal of three copies of the finalized text (Appendices 7-J and 7-N). The permit amendment approval and Technical Analysis are included for your records.

Additionally, as had been mutually agreed upon, it is understood that complete copies of the volumes of the mining and reclamation plans for the Division of Wildlife Resources, Department of Environmental Quality, and Division of Water Rights will be submitted in their entirety by May 1, 1995.

If you have any questions, please call me. Thank you for your cooperation.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Pamela Grubaugh-Littig'.

Pamela Grubaugh-Littig  
Permit Coordinator

Enclosure

cc: Daron Haddock  
Pete Hess



## PERMIT AMENDMENT APPROVAL

Title: <b>DH-4</b>	PERMIT NUMBER: <b>ACT/015/025</b>
Description: <b>Update to Appendix 7-J &amp; 7N (PHC)</b>	PERMIT CHANGE #: <b>95C</b>
	MINE: <b>Bear Canyon</b>
	PERMITTEE: <b>Co-Op</b>

### 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.		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. Hedrick*  
Division of Oil, Gas and Mining

**3/9/95**  
EFFECTIVE DATE

# TECHNICAL ANALYSIS

## DH-4 AMENDMENT AND REVISED PHC INFORMATION

CO-OP MINING COMPANY  
BEAR CANYON MINE  
ACT/015/025-95C

March 9, 1995

### Analysis

The document contains a significant number of tables and figures which show quality and quantity of surface and groundwater. The rules state the permit application will have assessed **the impacts of the operation upon the surface and ground water under seasonal flow conditions for the proposed permit and adjacent areas.** (R645-301-748.100)

This permit could improve its assessment of water quality and quantity data in its presentation of that data which is known to exist. For example, many of the Tables contained in the PHC are titled **Initial Spring and Mine Flow Rates** or **1991 Average Spring and Mine Flow Rates**. The data is available to update and portray a representative and seasonal flow regime and the influence of season on water quality. Whether the permittee chooses to add an addendum to the PHC or change the tables, it doesn't matter. It is felt that an attempt should be made to be more specific regarding the analysis of data on a seasonal basis and discuss ranges of results from specific parameters and not averages. There are some tables in the PHC which show max, min, and mean data but the tables lack the inclusion of sampling dates to tie them to season.

This recommendation is only meant to enhance the existing document and support the Division's finding of no significant impact. There are many ways to present data and the current PHC has chosen one way but it has been and continues not to tell the whole story. As time goes on, it is an appropriate goal to refine and update this document to enhance its usefulness to the Permittee, public and the Division. The situation of Big Bear Springs and Birch Springs has prompted a lot of data collection and it would be appropriate to organize and use that data to update the PHC as it becomes available.

### Ground Water

Drill Hole DH-4 was added as a result of the loss of drill hole DH-3 abandoned on November, 1993, because pillars were pulled in that section of the mine. Table 2-13 is a summary of the minimum, maximum and mean analytical results for groundwater from all four in-mine wells. This table fails to include dates of the data presented. This is another example of why this information should be refined and dates used to represent the data in a seasonal manner be considered.

The Stratigraphic and Hydrologic Cross-section through in- mine Drillholes DH-1A, DH-2, DH-3 and DH-4 is found in Figure 2-2. The explanation of data regarding water levels in the Blackhawk Formation related to the Spring Canyon Tongue of the Star Point Sandstone is found on page 2-24 of the Revised Hydrologic Evaluation. The new drill hole

DH-4 indicated a static water level of 62 feet above the top of the unit. This indicates a confined condition and explains the leakage in the floor of the mine in the area of the Second East entries. The conclusions regarding this leakage are supported by the water levels found in the three in-mine monitoring wells.

### Finding

The drilling of DH-4 does not change the conclusions of the past CHIA but does indicate that any future mining in the federal leases to the North should be examined to determine the impacts of future mining and interception of the water table.

### Recommendation

The document needs some refinement in terms of adding and/or enhancing existing Tables to show seasonal trends and variation in water quality data collected for surface and ground water. When the maximum and minimum values are listed, as well as, the mean, it would be appropriate for the Standard Deviation to be calculated as well. Average values do not tell the story and merely give a very general description. They should not be used in future tables. The data ranges must include an explanation of where the data is kept so it can be examined for sample dates and values used to calculate results.