

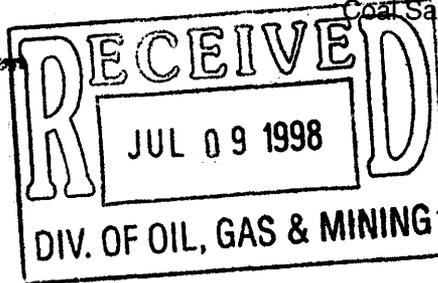
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CO-OP MINING COMPANY

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July 6, 1998

Coal Program
Utah Division of Oil, Gas & Mining
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P.O. Box 145801
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*Copy Mary Ann,
Ken, Sharon,
Sharon*

To Whom It May Concern,

Re: Birch Spring Investigation and Required Action Plan, Bear Canyon Mine,
ACT/015/025, Emery County, Utah

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On June 9, 1998, Co-Op Mining Company received a request to develop an action plan regarding the Birch Spring investigation. This request is based on the fact that to date no explanation for the change in Birch Spring has been agreed upon.

The findings document states:

1) The Star Point Mine mining activities are not likely to have affected the flows at Birch Spring, 2) evidence linking decreased flows at Birch Spring to Co-Op mining activities was determined unconvincing; however, the cause for decreased flow at Birch Spring cannot be concluded using the available information, and 3) Co-Op is requested to develop an action plan to increase understanding the Birch Spring hydrogeology.

Co-Op Mining Company agrees that the Star Point Mine activities are not likely to have affected the flows at Birch Spring. Co-Op Mining Company has also investigated the relationship of the Bear Canyon Mine activities and Birch Spring, and determined the following information:

1. Chemical properties of the Birch Spring water has been shown to be dissimilar to the water encountered in the Bear Canyon Mine.
2. Isotopic information has been collected from the in-mine water and water West of the Blind Canyon fault (obtained through exploration drilling) and has shown the water West of the Blind Canyon Fault to be of a different age from the water encountered in the Bear Canyon Mine.

3. The Blind Canyon fault has been encountered in the Bear Canyon Mine in several places and has been found to be dry. It has also been found to contain clay fault gouge which appears to seal the fractures and restrict water movement across and through the fault. This would likely isolate the water in the Bear Canyon Mine from the water going to Birch Spring.
4. Mining activities in the Trail Canyon Mine encountered water on the West side of the Blind Canyon fault on the Northern end of the mine. Immediately across the fault, the Bear Canyon Mine has not encountered any water in these same areas, also indicating that groundwater is not moving across the Blind Canyon fault.
5. In-mine exploration drilling has shown that the water in the formations below the mine are dipping to the Southeast, away from the Blind Canyon fault. This would cause the groundwater in the area of the Bear Canyon Mine to flow away from, and not to, Birch Spring.
6. Investigations have been made by Co-Op into the accusations that water has been discharged from the Bear Canyon Mine into the Blind Canyon drainage. These accusations have proved to be incorrect.
7. Co-Op has examined the potential for water discharged into the South workings of the Bear Canyon Mine to exit into the Birch Spring drainage canyon through subsidence fractures or seepage. Due to the dip of the strata away from the surface area, Co-Op has determined there is no potential for this to happen.
8. Investigations into the development of Birch Spring as well as recent quality patterns has indicated that the spring's collection system is possibly becoming restricted by sediment, roots, or other debris. This is indicated by intermittent discharges of sediment from the spring.
9. Expert testimony, along with the above investigations, has demonstrated in several hearings that Birch Spring is in fact isolated from the Bear Canyon Mine.

Flow patterns from Birch Spring in recent years have indicated a decline in flow, which, based on the above information, is not associated with the Bear Canyon Mine. Co-Op agrees with the Division that additional knowledge and understanding of the spring and surrounding geology is necessary in order to understand the cause of the decline in flow.

In a cooperative effort to resolve these issues, Co-Op has developed an action plan for additional investigations of the Birch Spring groundwater system. However, Co-Op feels that a cooperative involvement of the North Emery Water Users Association is necessary in order to evaluate the spring.

The following steps outline a proposed action plan to increase the hydrogeologic understanding of Birch Spring.

Bear Canyon Mine
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1. Co-Op Mining Company and the North Emery Water Users Association should review historical flow data for Birch Spring and attempt to determine the accuracy of existing data and come to an agreement as to what flow records may be accurate and what flow records may be inaccurate. This will help to verify and determine historic flow patterns of the spring in order to accurately compare current flows to.
2. NEWUA, Co-Op and DOGM should conduct an onsite visit to review the present condition of the Spring collection system and surrounding area. This would involve looking at existing seeps, vegetation, etc. in the surrounding areas of Birch Spring, as well as the condition of the collection box. This will aid in developing a plan of what investigations may be necessary to the spring collection system in order to determine its functionality.
3. Co-Op proposes to conduct additional on-the-ground investigations of faults, fractures, and joints in the area of Birch Spring. This would include identifying and mapping faults, fractures, and joints to determine the aerial extent, orientation, and associated lithologies. This would help to identify which faults, fractures, and joints may extend regionally beyond the immediate area of the springs and the Bear Canyon Mine, and provide a greater knowledge of the potential flow patterns in the area.
4. Co-Op has retained the services of Mayo & Associates to conduct a complete chemical and isotopic investigation of the Bear Canyon Mine permit and surrounding areas to attempt to determine ground and surface water flow patterns and properties. This investigation includes examining water quality and isotopic data for seasonal variations in the data. Co-Op proposes to continue this investigation, which includes Birch Spring, in order to identify potential recharge areas for the springs. This investigation began in the Spring of 1998 and will continue through the year 1998. The information collected will be used to update the Bear Canyon Mine PHC and evaluate potential recharge areas for Birch Spring, Big Bear Spring, In-mine water, and other springs.

Co-Op feels that these steps and a cooperative effort on the part of all parties will help to increase our understanding of Birch Spring, and may identify potential explanations for the observed flow patterns of Birch Spring.

If you have any questions, please call me or Charles Reynolds at (435) 687-2450.

Thank You,



Wendell Owen
Resident Agent

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