



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

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August 1, 1996

TO: File

THROUGH: Joe Helfrich, Permit Supervisor *JH*

FROM: Paul Baker, Reclamation Biologist *PB*

Re: Changes to the Castle Gate Water Monitoring Plan, Amax Coal Holding Company, Castle Gate Mine, ACT/007/004-96A, Carbon County, Utah

SUMMARY

In November 1995, violation N95-41-3-1 was written to Amax Coal Company for failing to conduct water monitoring in accordance with the approved mining and reclamation plan. More specifically, this violation was for failing to take water samples at sampling point B-22 in Crandall Canyon. Amax submitted amendment 96A as part of the abatement for the violation, but the understanding of the situation has changed since the violation was written and since the amendment was submitted.

In addition to addressing the location of B-22, Amax proposes to change some ground water analysis parameters, to relocate monitoring point B-17 and change its name, and to make some corrections for other water monitoring locations.

ANALYSIS

SURFACE AND GROUND WATER MONITORING

Regulatory Reference: R645-301-731

Analysis:

Monitoring point B-22 is a spring at the bottom of Crandall Canyon just below the uppermost topsoil pile, and it probably emanates from the alluvium. There is a sign in the streambed indicating a location for the monitoring point. In 1995, water was coming from the ground about 45 feet below the sign, but in 1996, water has been coming from very near the sign.

Various places have been called B-22 in the past. There was a well near the Crandall

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Canyon shafts that was apparently called B-22 at one time. Other places that may have been sampled and called site B-22 include the culvert at the canyon mouth and just below the main disturbed area.

During a hearing where violation N95-41-3-1 was being contested and also in the cover letter accompanying amendment 96A, Amax contended that B-22 was originally a ground water monitoring point for water coming from rock near the topsoil pile about three feet above the channel bottom. However, it appears to be clear, and the Division Director found, that B-22 should actually be sampled where water is coming from the alluvium at the bottom of the canyon.

In amendment 96A, Amax proposes to add a surface water monitoring point in Crandall Canyon and to keep site B-22 as a ground water monitoring point. The surface water monitoring point would be called B-44, and it would be just below the upper topsoil pile where water is coming from the alluvium. However, since it was determined that B-22 is actually ground water from the alluvium and not from the side of the canyon, a new surface water monitoring point is not needed. The Division recognizes that surface water may occasionally make it impossible to take a ground water sample at B-22. If this occurs, Amax should not sample the water because it would distort the true values for ground water and disrupt long-term evaluations of impacts to the site. This is not expected to happen very often.

Another concern is that several places have been called B-22 in the past and that the data from past monitoring should not be compared with data from future monitoring. For this reason, Amax needs to renumber the site. It would be best if it had a number that would associate it with B-22 but distinguish future monitoring from what has occurred in the past. B-22A is suggested. Also, Amax should put a comment in the plan explaining past confusion over the proper location of B-22 and the reason for renumbering it.

In this amendment, Amax has also proposed to delete monitoring point B-17 and add point B-45. B-17 is near the confluence of Sowbelly Gulch and Spring Canyon about a mile below the disturbed area. There are several abandoned mines and other disturbances that may affect water quality between the disturbed area and the monitoring point, so it does not show influences of Amax's operations. The proposed location of B-45 is a much better place for locating a surface water monitoring point in Sowbelly Gulch.

Amax samples water coming from Adit No. 1 at ground water monitoring point BM30. The location of this monitoring point has been corrected on Exhibit 7-3. UPDES sampling point 20 is for discharge from pond 10 at Adit No. 1. The location of this monitoring point has also been corrected.

In 1995, Amax reclaimed ponds 16 and 17 in Sowbelly Gulch. Discharges from these ponds were included in the UPDES permit and in the mining and reclamation plan surface water

monitoring plan. Since it is no longer necessary to monitor any discharge, Amax has dropped these points from the water monitoring plan.

Amax proposes to no longer analyze ground water samples for oil and grease, total suspended solids, settleable solids, and dissolved oxygen. Amax needs to visually monitor the springs for any signs of oil and grease, but otherwise, they Amax may discontinue analyzing ground water samples for these parameters.

Findings:

The Permittee has met the regulatory requirements of this section with the following exception:

R645-301-731.200 Proposed surface water sampling point B-44 should be deleted from the proposal. Amax needs to renumber monitoring point B-22 to distinguish past data from what will be acquired in the future. It should be numbered in a way that will still tie future data to past data. B-22A is suggested. Also, Amax needs to include a comment in the plan explaining that samples taken prior to November 1995 may not be representative of water coming from B-22.

Ground water samples should be checked for visual signs of oil and grease.

RECOMMENDATIONS

Prior to approval, Amax needs to make some changes to this amendment. Proposed sampling point B-44 should be deleted, and B-22 should be renumbered in a way to both distinguish it and tie it to past monitoring data. B-22A is suggested. In addition, Amax should add comments in the plan explaining that past samples labeled as B-22 may not be representative of actual site B-22. Total suspended solids, settleable solids, and dissolved oxygen can be dropped from the parameter list for groundwater samples, but Amax should continue to check these samples for visual signs of oil and grease.