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June 20, 2002

TO: Internal File

THRU: Susan White, Team Lead pgl for Susan White

FROM: David W. Darby, Reclamation Specialist III DD

RE: Miller Canyon Portal Phase III Bond Release, PacifiCorp, Cottonwood / Wilberg Mine, C\015\019-BR99D-2

SUMMARY:

PacifiCorp reclaimed the Miller Canyon portals in late June of 1999. They are now seeking Phase I bond release.

The Miller Canyon Portals consists of three separate breakouts, approximately sixteen feet wide, eight feet high, located on an extremely steep rock ledge. Natural coal outcrops exist throughout the canyon. The area impacted by the three breakouts was approximately 0.02 acres. Topography in the area is extremely steep and access is limited. The breakouts have been permanently sealed since 1987.

The Cottonwood/Wilberg Mines are developed in the Hiawatha Coal Seam and the Deer Creek Mine is constructed in the Blind Canyon Seam, above the Hiawatha Coal Seam. The breakouts were constructed in 1981 at the outcrop of the Hiawatha coal seam on the north side of Miller Canyon, about 1 mile from Cottonwood Creek. The portals provided necessary ventilation for the western portion of the Wilberg Mine. The breakouts were developed off the 3rd South Mains to Miller Canyon.

The main portals for the Cottonwood/Wilberg Mines lie at 7700 feet in Grimes Wash. Text in Volume 9, page 170 indicates the Miller Canyon breakouts are at an elevation of 7,360 feet, the lowest level of all the portals Deer Creek/Wilberg Mine , however the strata dips away from the portals. Map HS3 shows the Trail Mountain conveyor tube portal is at approximately 7250 feet, down dip from the Miller Canyon portals. Groundwater should not back up against the breakout seals in large volumes.

Miller Creek breakout portals are a UPDES Permit site, UT-0022896-004. PacifiCorp (Utah Power & Light Company) applied for the discharge point (location 004) in 1982 and started reporting in the first quarter of 1983. Discharge from the portals began after portal seals were installed. Due to the steep topography, a 2" discharge pipe was installed to assist in sample collection. From 1994 to 1996 discharges from the Miller Canyon breakouts averaged less than 20 gpm and steadily decreased to less than 5 gpm. Discharge from the #1 portal was estimated to be less than 3 gpm. Portal #1 has discharges water in the past, but no significant flows have been measured since July 1996. Field investigations conducted in May 1999 identified minor seeps at portals two and three. Flow from the portal area reaches the canyon floor, but infiltrates within 100 ft.

TECHNICAL ANALYSIS:

RECLAMATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 784.14, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645 -301-512, -301-513, -301-514, -301-515, -301-532, -301-533, -301-542, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-733, -301-742, -301-743, -301-750, -301-751, -301-760, -301-761.

Analysis:

Ground-water Monitoring

There is no data or evidence that the portal area discharged large flows prior to mining or prior to development of the breakouts. Although flows appear to be low at this time, a question exists whether the portals will emit groundwater flow in the future. I discussed the matter with Dennis Oakley on October 13, 2000. He stated that future flow emanating from the portals is unlikely, because the portals are sealed. He mentioned that the flow currently coming from the portal area is caused by seepage from sandstone channels in the rock facies above the mine. There is seepage from other areas appearing at the same stratigraphic level. Map HS-3 shows the mapped channel sands. There is a high potential that the seeps existed prior to mining.

The Trail Mountain tunnel, consists of the belt and roadway portal, are lower in elevation and dip than the Miller Canyon portals, Map HM-3. This being the case, water filling the mine voids would tend to flow from this portal first if sections of the mine were filled and not sealed. It is unclear at this point how the Trail Mountain tunnel will be sealed or what function it will take at the time of mine closure, also if this portal will prevent water from backing up against the Miller Canyon seals.

Monthly monitoring has taken place at the mine in compliance with provisions of the UPDES permit. The applicant's authorization to discharge expires October 31, 2002.

Surface-water Monitoring

The amount of disturbed runoff and sediment yield has been controlled by roughening the surface and is very minimal. The reclaimed area was pocked to retain any runoff and control erosion. Vegetation is growing. The applicant will be required to show that the surface runoff is not contributing additional sediments to the receiving stream prior to Phase III bond release. The proposed monitoring plan should provide sufficient information to determine if impacts will occur.

Gravity Discharges

The three Miller Canyon Portals were temporarily sealed in 1984 following the Wilberg Mine fire and permanently sealed in 1989. A pipe was installed in the seal of the eastern (#1) portal and extended (outside of the mine) at least 500 feet down the canyon to facilitate the collection of water samples. Initially there was almost no discharge, with only five sporadic discharges, ranging from 4 to 25 gpm, measured between October 1986 and November 1988.

Water started flowing consistently beginning in April 1989, when discharge jumped to 70 gpm. The highest discharge was 78 gpm in August 1989, after which, flow-volumes trended downward. There were some high flows in the spring of 1991, flow-volumes decreased significantly in 1994, and there has been no reported discharge since July 1996. In May 1999 it was discovered that the pipe had been pinched-off by caving of the portal openings and that water was flowing from the seals, over the rock ledge, and to the canyon floor, where it dissipates within a few hundred feet: flow from portal #1 was estimated at 3 gpm..

It is unknown how long the pipe was pinched-off and what effect this had on the accuracy of flow measurements. Photos taken in June 1999 during backfilling of the portals show water seeping from the top of the Starpoint Sandstone ledge just below the portals: French drains were installed in 1999 in the base of the fill to prevent slope failure due to saturation. (The water-sampling pipe was also removed at that time, and the UPDES monitoring point is now in the stream bed of Miller Canyon near the confluence with Cottonwood Creek).

Water Quality Standards and Effluent Limitations

The combined disturbed area for the portals is .02 acres. The amount of disturbed runoff and sediment yield is very small. The reclaimed area was pocked to retain any runoff and control erosion. The applicant has conformed to UPDES water quality standards in the past, when water was flowing from the discharge pipe. The location of the UPDES monitoring point has been changed and as a result the seeps from the mine area do not reach the monitoring site.

The Division received comments dated January 22, 2002, from the Forest Service saying it concurs with Phase I bond release but required a change in water monitoring parameters evaluate potential impacts to National Forest System lands. The supplemental list of water monitoring parameters include: 1) longwall equipment has been left underground and the discharge should be monitored for RCRA metals and; 2) Miller Canyon drains to Cottonwood Creek, that supports spawning fish. It drains to Strait Canyon, which receives flow from Joes

Valley Reservoir and is a Class 3A fishery. The Forest Service wants to ensure that any mine water discharges meet the water quality standards designated for Class 3A streams; 3) Sampling must be done within an identified 2 week window in the spring and fall; 4) samples will be collected at the confluence of the mine discharges, but not immediately after storms; 5) Sampling must be sent to the UDOGM water monitoring database with notice to the U.S. Forest Service; 6) If any parameter limits are exceeded, a retest must be completed within 30 days; 7) Two photopoints must be selected and sampled each time samples are collected (see Forest Service letter of January 22, 2002.

The applicant submitted an amended water monitoring parameter list on June 10, 2002, to be used as a guide for monitoring. A review of the list revealed that the applicant has committed to monitoring all of the parameters requested by the Coal Mining Water Monitoring Guidelines and the U.S. Forest Service letter of January 22, 2002. The Division concurs with the applicant's proposal to monitor two times per year, in June and October for quantity and quality according to the parameter list. Their proposal also meets the U.S Forest Service monitoring requirements.

Findings:

The applicant has supplied sufficient information to address this section.

MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645 -301-323, -301-512, -301-521, -301-542, -301-632, -301-731.

Analysis:

Affected Area Boundary Maps

The applicant has supplied the required maps and information to analyze the Miller Canyon portal site. Map HC-3 and Appendix XXII provide the documentation to describe the portal site, extent, reclamation activities and surface configuration or the portal area .

Findings:

The operator meets the requirements of this section.

RECOMMENDATIONS:

It is recommended that Phase I Bond Release application for the hydrologic sections be approved.