

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

September 25, 2006

OK

TO: Internal File

THRU: D. Wayne Hedberg, Permit Supervisor *DWH*

FROM: *D* Dana Dean, P.E., Senior Reclamation Hydrologist

RE: Status of Abatement Step #1, NO-06-37-1-1, Wellington Preparation Plant, Nevada Electric Investment Company (NEICO), C/007/0012. Task ID #2571

SUMMARY:

This memo is an effort to describe the author's point-of-view regarding the abatement of step 1 for NOV 06-37-1-1. The NOV was written on July 7, 2006. The Permittee responded with engineering and hydrologic reports on August 7, 2006. An inspection was held on-site with representatives from the Division, the Permittee, and the Division of Water Rights.

The NOV questioned the origin of water entering the dryer pond, through a pipe, and how and when the pipe will be reclaimed.

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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:

Hydrologic Reclamation Plan

The reclamation that has taken place in the area of the pump house is interim; it is not to be considered final reclamation. Final reclamation will include plugging or transfer of the well, and stemming the flow of water to the Dryer Pond by removing or plugging the pipe.

Abatement step #1 asked the Permittee to "Positively determine the source of the water creating a bog at the reclaimed Price River pump house site and the source of the water entering the Dryer Pond."

It is this reviewer's contention that the Permittee has identified the source of the water creating a bog, and entering the Dryer Pond as the alluvial groundwater system connected to the Price River. A water source would signify the water, not a physical piping system in this reviewer's mind. Scientifically a "positive" identification is not feasible, however much evidence supports the finding. The groundwater at the Wellington Preparation plant is typically quite shallow, and is influenced both by the Price River, and precipitation. There are other damp, swampy places within the permit area where the alluvial groundwater intersects the surface when the water table is high.

This reviewer does not believe that the water is coming from the pump house area through the old clear water pipeline. Since the surface elevation at the bog, which is approximately where the pump house used to stand is 0.85 feet below the outlet of the pipe at the Dryer Pond (5331.19 ft. at bog, 5332.04 ft. at outlet), and the beginning of the clear water pipeline is shown 8 feet below the surface at the pump house and placed at a decline (Plate E9-3430), a significant source of head would have to exist to push the water uphill to the Dryer Pond. Even if 8 feet of water could produce sufficient head, the 2 gpm would have to be constantly replaced to have constant flow at the Dryer Pond.

Additionally, if there were some sort of underground sump where the pump house used to be, there would be a sinkhole there, not a bog. Furthermore, if there were a pipe submerged in an 8-foot sump that was full of water, the flow would amount to 4,634 gpm, not 2 gpm. This number of course depends on the amount of water that might be in the "sump," but even six-tenths of a foot would generate a 535 gpm flow (see attached calculation sheet).

If the clear water pipe is the conveyance of the water, the entrance is most likely not near the pump house. Plate E9-3430 shows the pipe going beneath the river as part of the diversion dam, and then going uphill.

This reviewer believes that the Permittee has scientifically shown that the source of the water causing the bog, and entering the Dryer Pond is the shallow alluvial groundwater system of the area. Where the water is entering the pipe conveyance system is not clear, but it is most likely not the clear water pipeline.

Findings:

Interim Step #1 towards abatement of NO-06-37-1-1 requested that NEICO, "Positively determine the source of the water creating a bog at the reclaimed Price River pump house site and the source of the water entering the Dryer Pond." This remedial interim step has been accomplished.

RECOMMENDATIONS:

Notify NEICO that abatement of interim Step 1 has been accomplished.