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WATER QUALITY MEMORANDUM

Utah Coal Regulatory Program

May 23, 2011

TO: Internal File

THRU: James D. Smith, Permit Supervisor *JS 05/25/11*

FROM: Kevin Lundmark, Environmental Scientist II *KWC*

RE: 2010 Fourth Quarter Water Monitoring, UtahAmerican Energy Inc., Horse Canyon Complex, C/007/0013, WQ10-4, Task ID #3682

This report was prepared from monitoring data queried from the UDOGM database. The data that support this report were collected and submitted to the database by UtahAmerican Energy Inc. (UEI). The data were downloaded into file O:\007013.HOR\WaterQuality\Spreadsheets\HOR_WQ.xls for this review.

Geneva Mine

Mining at the Geneva Mine ceased in 1982 and the mine is undergoing final reclamation. The Permit for the Geneva Mine (Horse Canyon Mine, MRP-A) was most recently re-issued on May 18, 2007. UEI received Phase III bond release at the Geneva Mine Permit on November 30, 2009 for all but 0.49 acres of disturbed area associated with Ditch 31. Surface water monitoring is required for the Geneva Mine under the Reclamation Plan (MRP-A). The Division previously found that all but one monitoring site were not necessary because they no longer provide pertinent resource information for mining effects or influence. Surface water monitoring site B-1, located on Horse Canyon Creek downstream of the mine, will be monitored until the liability period for Ditch 31 is complete.

Lila Canyon Mine

UEI received permit approval for the Lila Canyon Mine on May 18, 2007 with special conditions attached. The Conditions were clarified on August 3, 2007. Operational water monitoring is described in Section 731.200 and monitoring sites are listed in Table 7-3 of the Lila Canyon MRP. Table 7-4 and Table 7-5 list the monitoring parameters for surface water and groundwater, respectively, and Plate 7-4 shows the water monitoring sites. The list of parameters for baseline, operational and post-mining water monitoring are the same.

1. Were data submitted for all required sites?

Springs YES NO

No springs are monitored at the Geneva Mine. Operational monitoring for Lila Canyon includes quarterly monitoring at springs L-7-G, L-8-G, L-9-G, L-11-G, L-12-G, L-16-G and L-17-G. Following a spring reconnaissance with the Division of Water Rights and grazing permittees, UEI agreed to begin monitoring Quaker Spring. Quaker Spring was identified as spring location "3C" during the spring reconnaissance performed by the Permittee during 1994 and 1995.

All springs were monitored according to the schedule and the data were submitted. All spring sites except Quaker Spring were reported with no flow. During fourth quarter 2010 there was flow at Quaker Spring and a water sample was collected; however, the Operator did not record the discharge rate from the pipe.

Streams YES NO

Surface water (stream) sites are monitored quarterly. Surface water site B-1 is the only surface water-monitoring site monitored at the Geneva Mine. Sites L-1-S, L-2-S, L-3-S, L-13-S, L-14-S, L-18-S, and L-19-S are identified for surface water monitoring for the Lila Canyon Mine.

All required stream sites were monitored for the quarter. No flow was reported for all stream monitoring sites.

Wells YES NO

There are no active wells at the Geneva Mine. Three piezometers are monitored for water level only for the Lila Canyon Mine permit: IPA-1, IPA-2 and IPA-3.

The required groundwater wells were monitored during fourth quarter 2010.

UPDES YES NO

There is not an active UPDES permit for the Geneva Mine. Discharges from the Lila Canyon Mine are authorized under UPDES General Permit No. UTG040000 as application number UTG040024. The Lila Canyon Mine UPDES permit identifies two discharges: 001 is discharge from the sediment pond and 002 is discharge from the underground mine. These discharges are being monitored as sites L-4-S and L-5-G, respectively. The UPDES permit specifies monitoring frequency and required parameters. The underground mine and sediment pond are constructed but not discharging.

Required monthly monitoring data were reported for fourth quarter 2010.

2. Were all required parameters reported for each site?

Springs YES [] NO [X]

The Operator did not record the discharge rate for the pipe at Quaker Spring during fourth quarter 2010.

Streams YES [X] NO []

Wells YES [X] NO []

UPDES YES [X] NO []

3. Were irregularities found in the data?

Springs YES [X] NO []

The Operator reported a pH measurement of 9.75 for Quaker Spring, which is unusually high. The Operator indicated that the pH meter is suspected of malfunctioning and requires replacement.

Streams YES [] NO [X]

Wells YES [] NO [X]

UPDES YES [] NO [X]

4. On what date does the MRP require a five-year resampling of baseline water data.

Re-sampling for baseline parameters is due preceding permit renewal. Analysis of baseline water samples is conducted according to the operational monitoring plan, therefore no additional parameters are required for baseline monitoring. The next permit renewal will be May 2011.

5. Based on your review, what further actions, if any, do you recommend?

The Operator should revise the MRP to include water monitoring at Quaker Spring. An MRP amendment for the water monitoring program was submitted to the Division on May 3, 2011 and is currently being reviewed.

The Operator needs to acquire a functioning pH meter to for field measurements.

Does the Mine Operator need to submit more information to fulfill this quarter's monitoring requirements? YES [] NO [X]

6. Follow-up from last quarter, if necessary.

None

Did the Mine Operator submit all the missing and/or irregular data (datum)?

Not applicable