

WATER QUALITY MEMORANDUM

Utah Coal Regulatory Program

June 22, 2010

TO: Internal File

THRU: James D. Smith, Permit Supervisor *JS 25 June '10*

FROM: Kevin Lundmark, Environmental Scientist II *KWL*

RE: 2009 4th Quarter Water Monitoring, UtahAmerican Energy Inc., Horse Canyon Complex, C/007/0013, WQ09-4, Task ID #3437

This report was prepared from monitoring data queried from the UDOGM database. The data that support this report were collected by mine personnel and sent to a laboratory that analyzed the samples. Data were submitted to the database by UtahAmerican Energy Inc. (UEI). The data were downloaded into file O:\007013.HOR\Water Quality\Spreadsheets\HC21Jun2010.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.

All springs were monitored according to the schedule and the data were submitted. Springs were reported as dry (no flow) except for: L-7-G (Cottonwood Spring) flow <1 GPM, L-8-G (Cabin Spring) flow 1 GPM, and L-9-G (Pine Spring) flow <1 GPM.

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 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 this quarter.

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-S, respectively. The UPDES permit specifies monitoring frequency and required parameters. The underground mine and sediment pond are constructed but not discharging.

Monthly monitoring data were not reported for November or December 2009.

2. Were all required parameters reported for each site?

Springs YES NO

Streams YES NO

Not applicable this quarter.

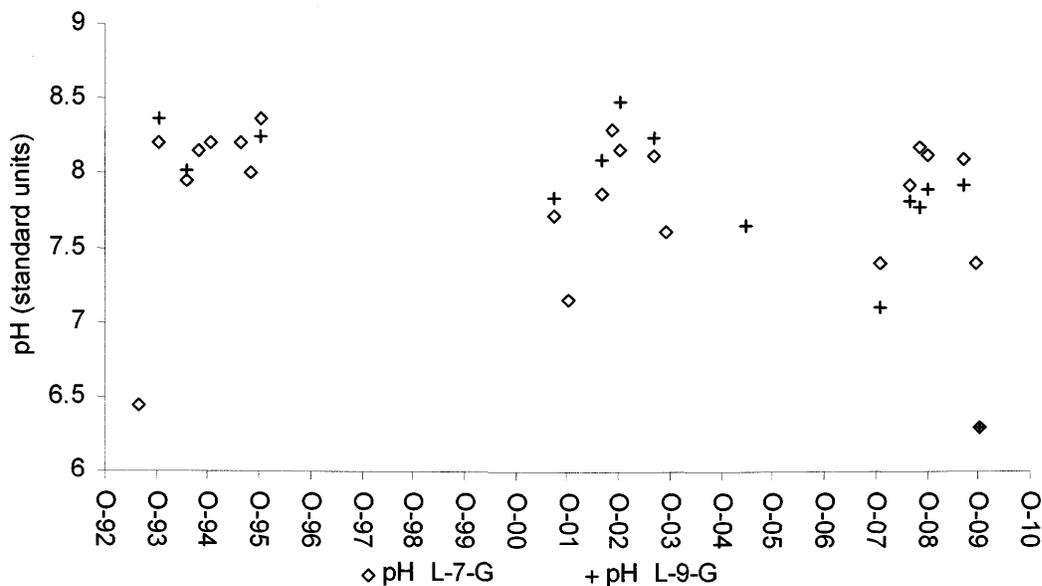
Wells YES NO

UPDES YES NO

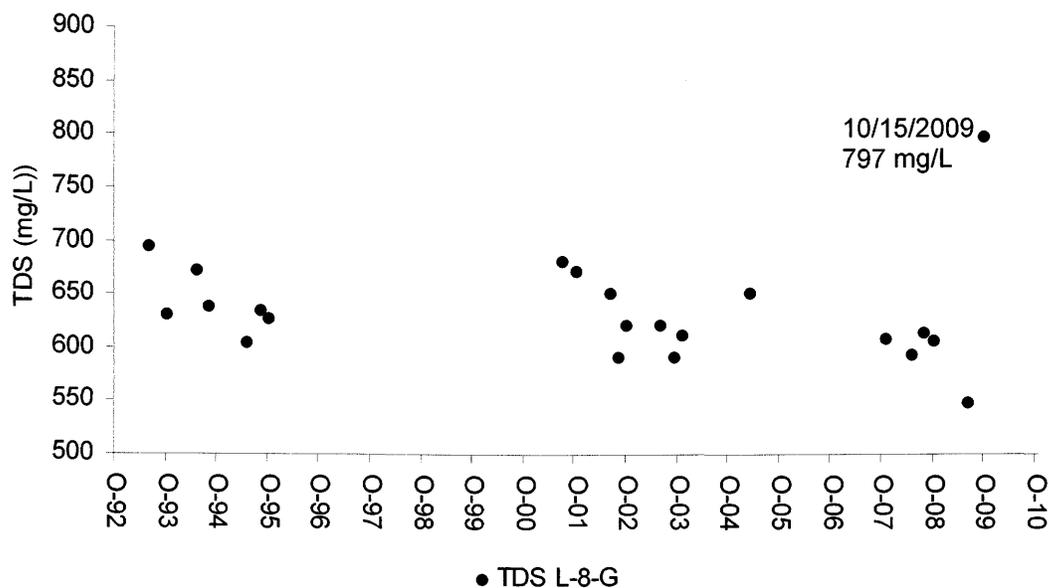
3. Were irregularities found in the data?

Springs YES NO

The reported pH values for springs L-7-G and L-9-G on October 15, 2009 were 6.3 and 6.29, respectively. These pH values are the lowest values reported to date at these sites and are less than the average values at these sites by greater than two times the respective standard deviations. The previous minimum pH values were 6.45 at site L-7-G on May 23, 1993 and 7.1 at site L-9-G on November 2, 2007.



The reported TDS for the sample collected at site L-8-G on October 15, 2009 was 797 mg/L. This TDS concentration is greater than the average concentration at this site by greater than two times the standard deviation, and is considerably greater than the previous maximum reported concentration at this site (694 mg/L for sample date June 4, 1993). The reported TDS concentration for the October 15, 2009 is much greater than the sum of dissolved constituent concentrations from the analysis (578 mg/L), and the ratio of conductivity to TDS (0.87) is outside the "rule of thumb" criteria of 0.55 to 0.75. The reported TDS concentration for 4th quarter 2009 was checked and confirmed by the Operator. The reason for the apparently elevated TDS result is not known; however, the TDS concentrations will be monitored and reviewed during subsequent sampling events.



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?

None

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