

# WATER QUALITY MEMORANDUM

Utah Coal Regulatory Program

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May 30, 2012

TO: File

THRU: Steve Christensen, Permit Supervisor

FROM: April A. Abate, Environmental Scientist III *AA* 6/4/12

SUBJECT: 2011 4th Quarter Water Monitoring, Andalex Resources, Centennial Mine, C/007/0019, Task ID #3958

The Centennial Mine is currently in temporary cessation. No mining or coal processing activities currently take place there, nor is the site in active reclamation. Sections 711.300 pages 7-2 through 7-10 and Appendix L of the MRP pertain to water monitoring. Water sampling locations are shown on Figure IV-11.

1. Were data submitted for all of the MRP required sites? YES  NO

## Springs

The spring in Deadman Canyon – S18-1 below the confluence of the Left and Right Forks of Deadman Canyon is sampled quarterly.

The spring reported no flow during the fourth quarter of 2011.

## Streams

Two stream locations are required for quarterly sampling: Site 18-3 is located in the Left Fork of Deadman Canyon above the confluence with the Right Fork of Deadman Canyon and flows on an ephemeral basis. Site 18-4 represents the right fork of Deadman Canyon below the main surface facilities.

Stream sample 18-3 at the left fork of Deadman wash has not flowed since May 2008, which was right around the same time the mine shut down. Stream sample 18-4 has not flowed since 2005. Both of these sample locations are surface water points located below the mine.

**Wells**

Well #1 is located in Deadman Canyon and is screened in the Aberdeen Sandstone below the coal seam. Well #1 was sampled during the 4th quarter of 2011 on December 8, 2011 for operational parameters.

**UPDES**

YES  NO

A total of four UPDES discharge outfalls are permitted at the Centennial Mine. Outfall 001 represents the sediment pond discharge location. Outfall 002 represents mine discharge from the Pinnacle Mine portion of the permit area. Outfall 003 represents discharge from the second sediment pond in the permit area. Outfall 004 represents discharge from the Aberdeen Mine. All outfalls are required to be monitored on a monthly basis in accordance with UPDES Permit #UTG040000.

No discharge from any of the sample locations was reported for the 4th quarter of 2011. Discharge has not been reported from any of the UPDES locations since June 2008, which was right around the same time the mine shut down.

**2. Were all required parameters reported for each site?**

**Springs**

YES  NO

Not applicable this quarter.

**Streams**

YES  NO

Not applicable this quarter.

**Wells**

YES  NO

The operator reported that the pH meter not working in the field. A lab pH reading was reported.

**UPDES**

YES  NO

Not applicable this quarter.

**3. Were any irregularities found in the data?**

**Springs and Pond**

YES  NO

Not applicable this quarter.

**Streams** YES  NO

Not applicable this quarter.

**Wells** YES  NO

The following parameters analyzed were outside of two standard deviations:

<u>PARAMETER</u>	<u>RESULT</u>	<u>STD. Deviation</u>
Conductivity	5,702 umhos/cm	2.19
T-Hardness	2,975 mg/L	2.03
TDS	4,746 mg/L	2.39
T-Iron	103.44 mg/L	3.44

**UPDES** YES  NO

None of the above locations discharged during this quarter.

**4. Did the Permittee make a timely submittal of all data, including initially missing data, and satisfactorily explain irregular data?**

YES  NO

**5. Does the Mine Permittee need to submit more information to fulfill this quarter's monitoring requirements?**

YES  NO

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

The amount of total iron in the well was the highest reported during the year 2011 at a concentration of 103.44. Is the well being purged for the appropriate volume of groundwater prior to collecting a sample? Typically, a total of three well volumes should be purged from the well in order to avoid sampling stagnant water. Another possibility is that there is some metal corrosion occurring in this well. The source of the iron should be investigated.

**7. Follow-up from last quarter, if necessary.**

None