WATER QUALITY MEMORANDUM

Utah Coal Regulatory Program

February 2, 2017

TO: Internal File

THRU: Steve Christensen, Permit Supervisor

FROM: Keenan Storrar, Hydrologist

SUBJECT: Second Quarter 2016 Water Monitoring, Andalex Resources, Centennial Mine, C/007/0019, Task ID #5215

The Centennial Mine is currently in temporary cessation. No mining or coal processing activities take place there. Contemporaneous reclamation has been ongoing at the gas vent well sites on top of the mountain on the Cave and Mathis land as weather permits.

Chapter 7 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.

The UPDES permit covers this site under Andelex Resources, Inc. - Tower Mine. The mine is currently covered under a general coal UPDES permit that expires on August 31, 2018. No outfalls are discharging. If the mine portals begin discharging, allowable effluent limitations will be exceeded. At that time the Centennial Mine will need to apply for an individual UPDES permit specific for this site. If mining of the Kennilworth lease commences the mine pool will need to be sampled for quality and a treatment system will need to treat the mine pool as it is dewatered.

1. Were data submitted for all of the MRP required sites?

Springs YES ☒ NO ☐

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 Q2 2016.

Streams YES ☒ NO ☐

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.

Neither of the streams reported flow for Q2 2016.

Wells YES ☒ NO ☐

Well #1 is located in Deadman Canyon and is screened in the Aberdeen Sandstone below the coal seam.

Flow GMP values given in column P represent the rate at which the well was pumped. The depth value is taken before the pump is turned on.

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 outfall locations was reported for Q4 2015. 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 ☐

Streams YES ☒ NO ☐

Wells YES ☒ NO ☐

UPDES YES ☒ NO ☐

3. Were any irregularities found in the data?

Springs and Pond YES ☐ NO ☒

Streams YES ☐ NO ☒

Wells YES ☐ NO ☒

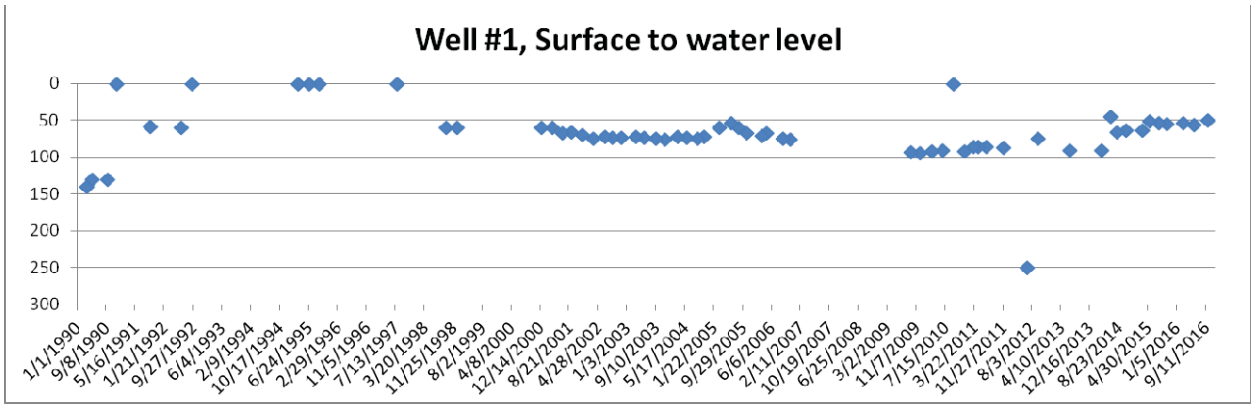

Figure 1. Surface to ground water levels, 1989-2016

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 continued examination of the depth to water at Well #1 is required.

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

None