

# WATER QUALITY MEMORANDUM

Utah Coal Regulatory Program

September 27, 2007

TO: Internal File

THRU: Pamela Grubaugh-Littig, Permit Supervisor

FROM: James D. Smith, Environmental Scientist 10/2/07

RE: 2007 Second Quarter Water Monitoring, PacifiCorp, Cottonwood/Wilberg Mine, C/015/0019, Task # 2710

The Cottonwood/Wilberg Mine monitoring plan is described in Appendix A of Volume 9 of the MRP.

There are no springs monitored at this site. The mine was sealed May 10, 2001, so in-mine monitoring sites TMA @ 32 and 2<sup>nd</sup> S XC-11 are no longer accessible. WCWR1 at the Waste Rock Site is the only well monitored. The pond at the Cottonwood Fan Portal was reclaimed in 2002 so UPDES 22896-002 is no longer reported to DOGM or the Division of Water Quality.

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

Streams	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
Wells	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
UPDES	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>

DMRs were submitted in electronic format (Adobe). DMR data were submitted to the DOGM database as operational parameters, not as DMR parameters.

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

Streams	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
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**Wells** YES  NO

**UPDES** YES  NO

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

Listed parameters were outside two standard deviations.

**Streams** YES  NO

GWR-02 June: TDS

GWR-03 June: water temperature

**Wells** YES  NO

**UPDES** YES  NO

22896-001 (WMD01) April, May, June: bicarbonate as CaCO<sub>3</sub>,

22896-001 (WMD01) May: field electric conductivity,

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

The next renewal submittal is due 03/06/09 for renewal on 07/06/09. Baseline analyses were performed in 2001 and 2006 and will be repeated every 5 years, i.e., the next baseline analyses will be in 2011.

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

At 22896-001 (WMD01) bicarbonate as CaCO<sub>3</sub> was outside two standard deviations from the mean for 7 out of 12 months in 2006, including all 6 months of the 3<sup>rd</sup> and 4<sup>th</sup> Quarters, and for the first six months of 2007. However, values are not extreme and the cation -anion balance is within acceptable limits, so no further action is recommended at this time.

Field electric conductivity measured at UPDES 22896-001 (WMD01) was low in April and May; the corresponding TSD values were slightly lower than typical but close to the mean value and well within one standard deviation of the mean. The TSD to electric conductivity ratio

indicates the field measurement may have been faulty these two months.

Date	TDS	Field electric conductivity	TDS/Field electric conductivity
03/06/2007	766	1106	0.692
04/04/2007	754	926	0.814
05/16/2007	757	<b>697</b>	<b>1.086</b>
06/05/2007	763	1170	0.652

Mean (7/05 – 6/07)	759	976	0.79
Mean ± 1 Std. Dev.	744 - 774	846 - 1106	0.68 – 0.90
Mean ± 2 Std. Dev.	729 - 789	716 - 1236	0.57 – 1.01

**6. Does the Mine Operator need to submit more information to fulfill this quarter's monitoring requirements?** YES  NO

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

None.

**8. Did the Mine Operator submit all missing and/or irregular data?**

NA