

# WATER QUALITY MEMORANDUM

## Utah Coal Regulatory Program

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December 31, 2009

TO: Internal File

THRU: Daron R. Haddock, Permit Supervisor *DRH*

FROM: James D. Smith, Environmental Scientist III *JDS* 06/01/10

RE: 2009 Second Quarter Water Monitoring, PacifiCorp, Deer Creek Mine.  
C/015/0018, Task ID #3332

The Deer Creek Mine monitoring plan is described in Appendix A of Volume 9 of the MRP.

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

<b>Streams</b>	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
<b>UPDES</b>	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
<b>In-mine</b>	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
<b>Springs</b>	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>

NEWUA Meter 2 was not accessible during the Second Quarter 2009.

<b>Wells</b>	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
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Well P-4 was dry all three months of the 2<sup>nd</sup> Quarter.

**2. Were all required parameters reported for each site?** YES  NO

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

Listed parameters were more than two standard deviations from the mean. An asterisk (\*) indicates this is not a parameter specifically required by the MRP.

**Streams** YES  NO   
DCR04 June: flow and K;  
DCR06 June: flow;  
RCF3 June: DO;  
RCLF2 June: field electrical conductivity;  
MFA June: Na;

**UPDES** YES  NO   
UT0023604-002 April: K;  
UT0023604-002 May: cation - anion balance;  
UT0023604-002 June: cation - anion balance;

**In-mine** YES  NO   
Main North Main East June: Na.

**Springs** YES  NO   
NEWUA Meter 3 June: bicarbonate as CaCO<sub>3</sub>, Total alkalinity\*

**Wells** YES  NO

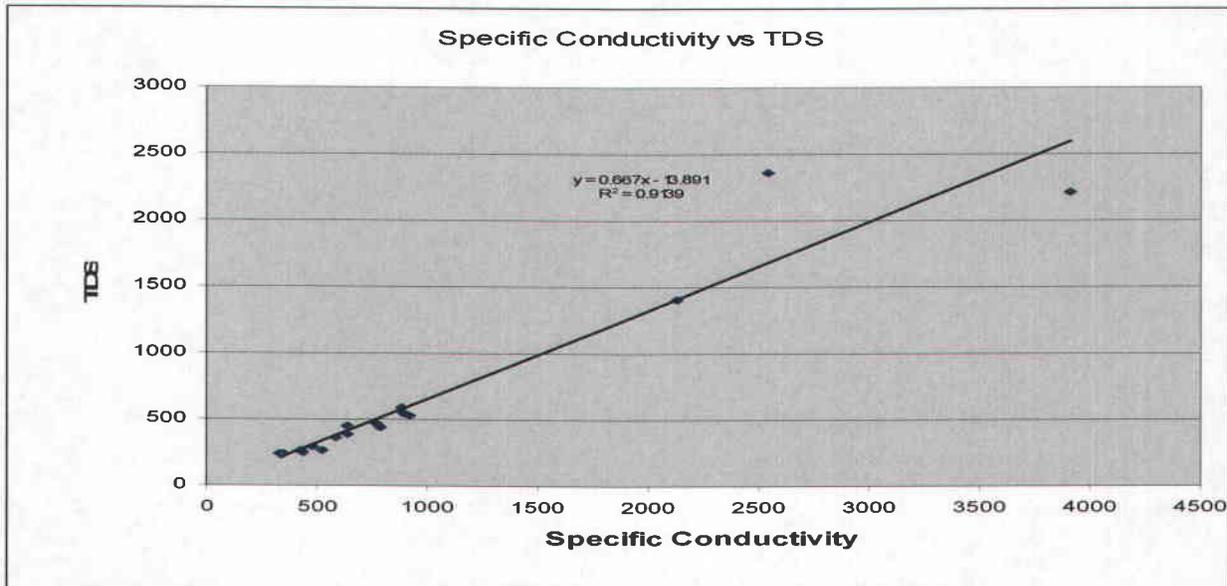
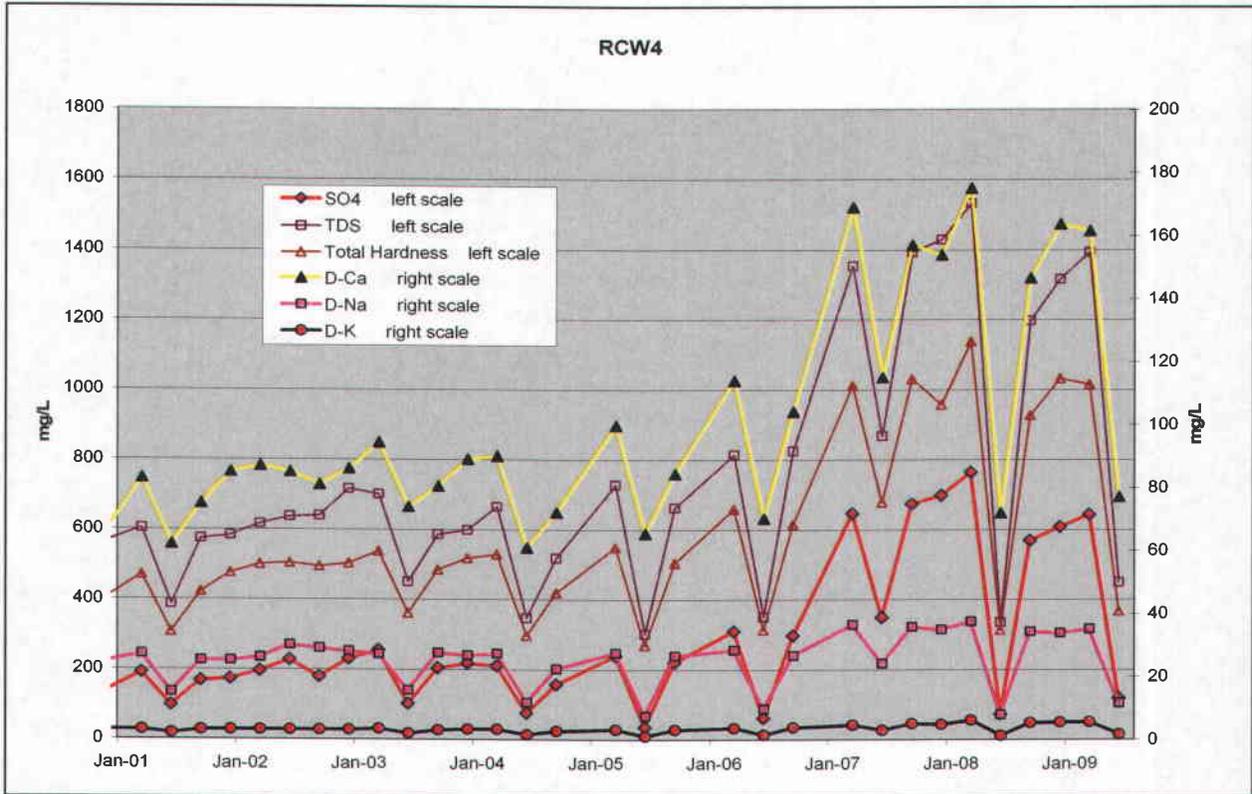
DCWR1 June: acidity

At RCW4 - on Rilda Creek below the new Rilda Canyon facility - field electrical conductivity, Ca, Mg, K, SO<sub>4</sub>, total hardness, and TDS have been higher than the historic average since September 2006. This coincides with the construction of the new portals and surface facilities. See the chart below.

In the parameters noted above as being more than two standard deviations from the mean:

- None of the cation-anion balances exceeded 5 percent difference,
- Although several sites had Na, Mg, Ca, and bicarbonate (as CaCO<sub>3</sub>) values that were more than two standard deviations from the mean, none of the values are extreme in comparison to long-term trends.

An Excel least squares fit calculation of TDS to field specific conductivity (see chart below) indicates the ratio between these two parameters is ~.6, which lies within the acceptable range of 0.55 to 0.76. (The values at DCWR1 were not used because extreme outliers skew least squares fit calculations.)



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

Baseline analyses were performed in 2001 and are to be repeated every 5 years; baseline analyses were done in 2006 and should be done again in 2011: renewal submittal due 10/07/10, renewal due 02/07/11.

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

No further action recommended at this time.

**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 the missing and/or irregular data (datum)?**

NA.