

# WATER QUALITY MEMORANDUM

## Utah Coal Regulatory Program

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January 28, 2016

TO: Internal File

THRU: Steve Christensen, Permit Supervi

FROM: Keenan Storrar, Hydrologist



RE: Second Quarter 2015 Water Monitoring, PacifiCorp, Deer Creek Mine.  
C/015/0018, Task ID #4913

The Deer Creek Mine monitoring plan is described in Appendix A-1 of Volume 9 of the MRP. The Deer Creek Mine indefinitely ceased operations January 7<sup>th</sup>, 2015 and has transitioned to reclaiming the mine. Bulkheads are proposed to prevent in-mine gravity discharge from flowing out the Rilda right portals. The Permittee has submitted a closure plan for how they will handle in-mine gravity discharge. The Division has contracted the review of this plan with the consultant Golder Associates Inc. who are experienced in the installation of bulkheads in sedimentary strata.

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

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

**In-mine** YES  NO   
No longer applicable, the mine is sealed.

**Springs** YES  NO   
NEWUA meter-2 not monitored— NEWUSSD controls these meters

**Streams** YES  NO

**Wells** YES  NO

**UPDES** YES  NO

3. Were any irregularities found in the data?

Listed parameters are more than two standard deviations above the mean.

**In-mine** YES  NO

**Springs** YES  NO

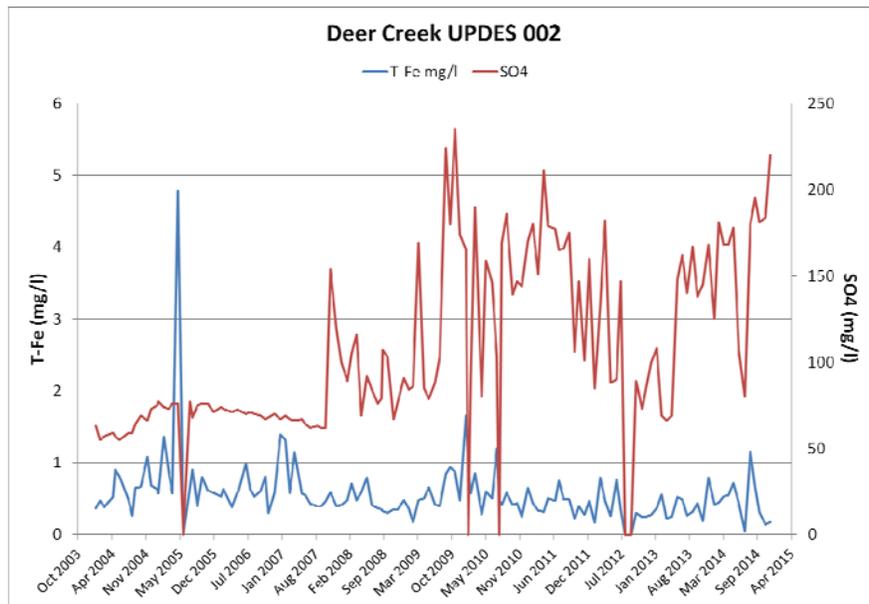
**Streams** YES  NO

**Wells** YES  NO

**UPDES** YES  NO

Discharge at the UPDES outfalls will change dramatically in the coming quarters. The south half of the Deer Creek mine has been sealed. The pumps in the Mill Fork lease that produced the vast majority of in-mine dewatering were shut off as of mid-2015.

This graph is currently not applicable. There is no discharge from the Deer Creek mine. Once the gravity drainage reaches the Deer Creek portals this graph should be updated.



**In-mine** YES  NO

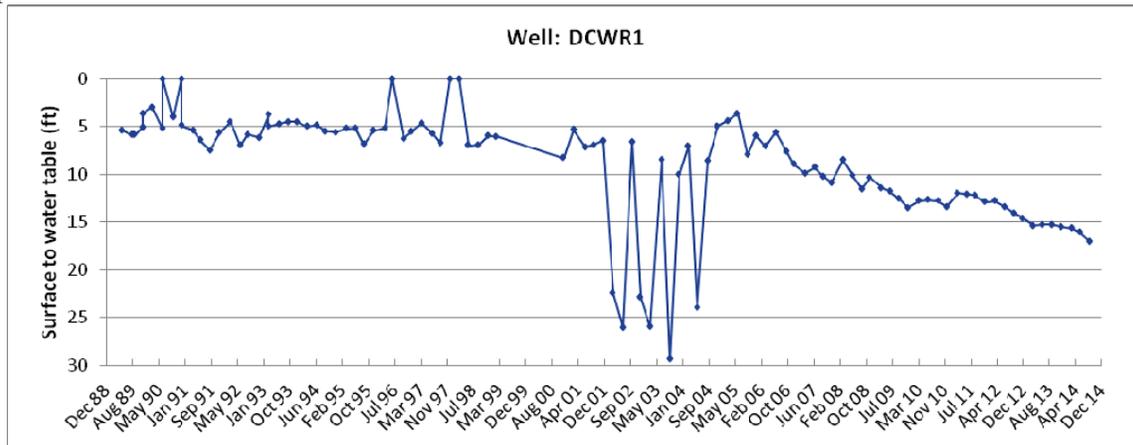
The water temperature at Main North Main East varies seasonally year-after-year (see following chart), indicating that this in-mine source is most likely fed by infiltrating surface water rather than draining surrounding strata. The temperature at TW-10 shows some seasonal variation, but it is not as definitive as at Main North Main East.

This will probably be the last quarter of in-mine sampling. As of mid-2015 these sampling locations are no longer accessible.

**Wells**

YES  NO

Although it hasn't been flagged as varying from the mean by more than two standard deviations, water level at DCWR1 has been dropping since 2006 (following a small rise in 2004-2005). These changes are probably from factors other than disposal of waste rock at this site: a similar drop in water level is seen at WCWR1 at the Cottonwood/Wilberg Mine Waste Rock Disposal Site.



This well is no longer a Pacificorp water monitored site. It is now monitored by Bowie as the Deer Creek Waste Rock site.

4. **On what date does the MRP require a five-year resampling of baseline water data.**  
 Baseline analyses were performed in 2001, 2006 and 2011 and are to be repeated every 5 years. The next baseline analyses will be conducted in 2016.
5. **Based on your review, what further actions, if any, do you recommend?**  
 There is no indication of trends or extremes in any of the parameter values. 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.