

# WATER QUALITY MEMORANDUM

Utah Coal Regulatory Program

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August 26, 2005

TO: Internal File

THRU: D. Wayne Hedberg, Permit Supervisor

FROM: Dana Dean, P.E., Senior Reclamation Hydrologist

RE: 2004 Fourth Quarter Water Monitoring, Savage Industries, Inc., Savage Coal Terminal, C/007/0022, Task #2229

- 1. Was data submitted for all of the MRP required sites?** YES  NO   
*Identify sites not monitored and reason why, if known:*

- 2. On what date does the MRP require a five-year resampling of baseline water data.**  
See Technical Directive 004 for baseline resampling requirements. Consider the five-year baseline resubmittal when responding to question one above. Indicate if the MRP does not have such a requirement.

#### Resampling due date

There is no commitment in the MRP to resample for baseline parameters.

- 3. Were all required parameters reported for each site?** YES  NO   
*Comments, including identity of monitoring site:*

The Permittee inadvertently omitted chloride from the sampling for CV-1-W.

- 4. Were irregularities found in the data?** YES  NO   
*Comments, including identity of monitoring site:*

Some readings at CV-1-W were more than 2 standard deviations higher than average values. They were:

Parameter	Value	Std. Dev. Above Avg.	Average
Depth	32 feet	2.47	13.06 feet
Sulfate	1614 mg/L	2.16	6928.42 mg/L
Hardness	770 mg/L	2.09	2098.95 mg/L

Several routine reliability checks were outside of standard values at CV-1-W. They were:

Reliability Check	Value Should Be...	Value is...
TDS/Conductivity	>0.55 & <0.75	0.32
Conductivity/Cations	>90 & <110	211
Mg/(Ca + Mg)	< 40 %	41%
Ca/ (Ca + SO4)	> 50 %	21%

The Permittee should work with the lab to make sure that samples pass all quality checks so that the reliability of the samples does not come into question. These inconsistencies do not necessarily mean that a sample is wrong, but it does indicate that something is unusual. An analysis and explanation of the inconsistencies by the Permittee would help to increase the Division's confidence in the samples. One reference the Permittee may read to learn more about these reliability checks and some of the geological and other factors that could influence them is Chapter 4 of *Water Quality Data: Analysis and Interpretation* by Arthur W. Hounslow.

**5. Were DMR forms submitted for all required sites?**

1<sup>st</sup> month,    YES     NO   
 2<sup>nd</sup> month,    YES     NO   
 3<sup>rd</sup> month,    YES     NO

**6. Were all required DMR parameters reported?**

YES     NO

*Comments, including identity of monitoring site:*

**7. Were irregularities found in the DMR data?**

YES     NO

*Comments, including identity of monitoring site:*

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

No further actions are required at this time.

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