

# WATER QUALITY MEMORANDUM

Utah Coal Regulatory Program

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August 7, 2006

TO: Internal File

THRU: D. Wayne Hedberg, Permit Supervisor *pgl*

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

RE: 2005 Third Quarter Water Monitoring, Sunnyside Cogeneration Association, Sunnyside Refuse/Slurry, C/007/0035-WQ-05-2, Task #2366

The Sunnyside Refuse/Slurry Mine is currently operational. The facility mines the old Sunnyside Mine coarse refuse and slurry cells, blends the material and burns it in an on-site co-generation facility. SCA started mining at this site in 1993 and projects a total mine life of at least 20 years.

Pertinent water monitoring requirement information is in the MRP in Section 730, and Appendix 7-8.

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

Springs –

*The Permittee is required to monitor springs CRS, CRB, and F-2 quarterly for the parameters listed in Table 7-2C.*

The Permittee monitored and reported the essential data for all springs as required during this quarter. CRS was not flowing.

Streams –

*The Permittee is required to sample ICE-1 quarterly for the parameters outlined in Table 7-2C.*

The Permittee monitored and reported the essential data for all streams as required during this quarter.

Wells–

*The Permittee is required to sample Well-1, and B-6 quarterly for the parameters listed in Table 7-2C.*

The Permittee monitored and reported the essential data for all wells as required during this quarter. B-6 was dry.

**UPDES**

*There are seven active UPDES sites at the Sunnyside Refuse/Slurry Mine. They are all under the permit UT0024759, and include outfalls 004, 007, 008, 009, 012, 014, and 016. The Permittee is required to monitor each UPDES site monthly according to Table 7-1B. They are required to sample flow and total suspended solids twice monthly at each outfall.*

The Permittee monitored and reported the essential data for all UPDES sites as required during this quarter. None of the UPDES sites discharged during the quarter.

2. Were all required parameters reported for each site?      YES       NO
3. Were any irregularities found in the data?                      YES       NO

Several routine Reliability Checks were outside of standard values. They were:

Site	Reliability Check	Value Should Be...	Value is...
ICE-1	Conductivity/Cations	> 90 & < 110	81
ICE-1	Mg/(Ca + Mg)	< 40 %	69%
ICE-1	Ca/ (Ca + SO4)	> 50 %	27%
CRB	TDS/Conductivity	>0.55 & <0.75	1.12
CRB	Conductivity/Cations	> 90 & < 110	66
CRB	Mg/(Ca + Mg)	< 40 %	59%
CRB	Ca/ (Ca + SO4)	> 50 %	22%
F-2	Conductivity/Cations	> 90 & < 110	82
F-2	Mg/(Ca + Mg)	< 40 %	64%
F-2	Ca/ (Ca + SO4)	> 50 %	32%
WELL-1	Conductivity/Cations	> 90 & < 110	84
WELL-1	Mg/(Ca + Mg)	< 40 %	60%
WELL-1	Ca/ (Ca + SO4)	> 50 %	45%

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. 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. The Permittee can learn more about these reliability checks and some of the geological and other factors that could influence them by reading Chapter 4 of *Water Quality Data: Analysis and Interpretation* by Arthur W. Hounslow.

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

The MRP states that "once every five years (prior to each application for permit renewal) one sample from each of the monitoring sites listed in Table 7-2A will be sampled and analyzed for the parameters listed in Table 7-2B". The next requirement will be in 2007.

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

No actions are necessary at this time.