

# WATER QUALITY MEMORANDUM

Utah Coal Regulatory Program

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January 25, 2010

TO: Internal File

THRU: James D. Smith, Permit Supervisor *JDS 2/10/10*

FROM: Kevin Lundmark, Environmental Scientist II *KL*

RE: 2009, 2nd Quarter Water Monitoring, Sunnyside Cogeneration Association, Sunnyside Refuse/Slurry, C0070035, WQ09-2, Task 3324

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 at the adjacent cogeneration facility. Sunnyside Cogeneration Association (SCA) started mining coal refuse at this site in 1993 and projects a total mine life of at least 20 years. Water monitoring requirements are described in the MRP in Section 730 and Appendix 7-8.

This report was prepared from monitoring data queried from the UDOGM database. The data that support this report were collected and submitted to the database by SCA. The data were downloaded into file O:\007035.SRS\Water Quality\DATA\SRS\_21Jan2010.xls for this review.

**1. Was data submitted for all required sites?**

**Springs**      YES       NO

The Permittee is required to monitor and sample springs CRS, CRB and F-2 quarterly. CRS was not flowing at the time of monitoring. Flows of 30 and 45 gpm were reported for springs CRB and F-2, respectively.

**Streams**      YES       NO

The Permittee is required to monitor and sample Iclander Creek at location ICE-1 quarterly. A flow of 3 gpm was reported for ICE-1.

**Wells**            **YES [X]**        **NO [ ]**

The Permittee is required to monitor and sample the East Carbon City Well (a.k.a. Dragerton Well or WELL-1) and well B-6 quarterly. WELL-1 was sampled June 10, 2009 and well B-6 was reported as dry.

**UPDES**           **YES [X]**        **NO [ ]**

There are six active UPDES sites at the Sunnyside Refuse/Slurry Mine. They are all under the permit UT0024759, and include outfalls 007, 008, 009, 012, 014, and 016. The Permittee is required to monitor each UPDES site monthly according to the permit. The current permit expires July 31, 2012. The Permittee monitored and reported no discharges during the quarter.

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

**Springs**           **YES [X]**        **NO [ ]**

**Streams**           **YES [X]**        **NO [ ]**

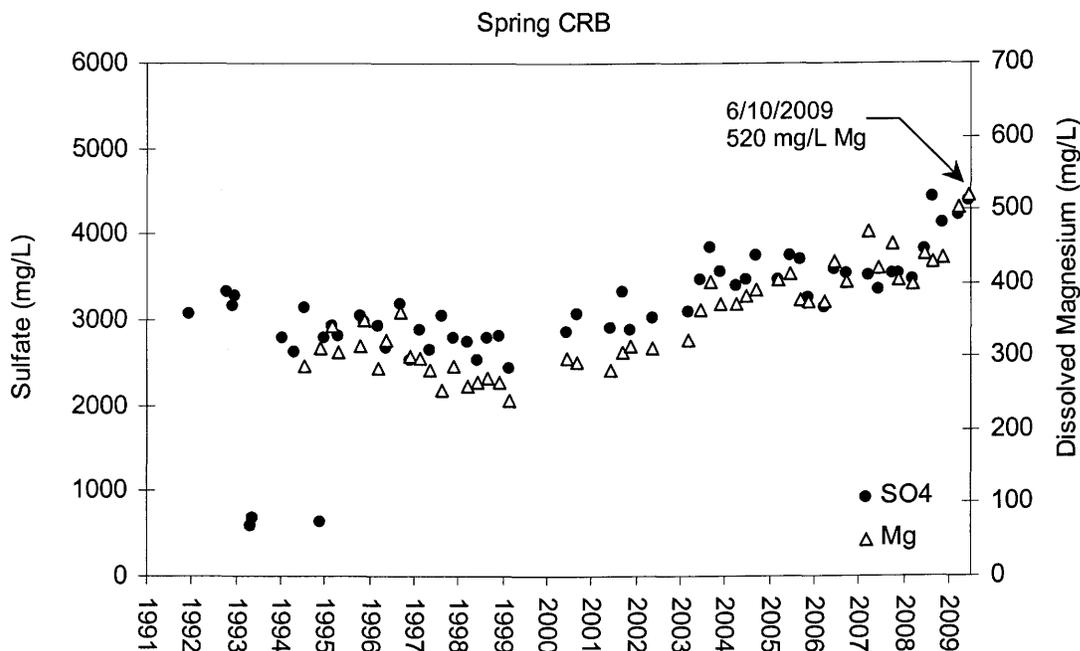
**Wells**             **YES [X]**        **NO [ ]**

**UPDES**            **YES [X]**        **NO [ ]**

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

**Springs**           **YES [X]**        **NO [ ]**

Total anions and dissolved magnesium and potassium were elevated by greater than two standard deviations above the average values at location CRB. The cation-anion balance was acceptable for the analysis (0.3 percent). Dissolved magnesium concentrations appear to be increasing at spring monitoring location CRB (see plot below).



Streams      YES [X]      NO [ ]

Results for the sample collected at location ICE-1 on June 10, 2010 were elevated above the average values for the parameters identified below:

Parameter (units)	Stream Location ICE-1		
	6/10/2009	Average	Std. Deviation
Diss. Calcium (mg/L)	180.4	82.2	35.9
Diss. Magnesium (mg/L)	216.11	103.5	36.5
Diss. Potassium (mg/L)	10.55	4.92	2.61
Diss. Sodium (mg/L)	406.46	218	67.7
Chloride (mg/L)	79	45.6	14.3
Sulfate (mg/L)	1627	656	318
Total Hardness (mg/L CaCO <sub>3</sub> )	1340	670	225
Total Dissolved Solids (mg/L)	2991	1541	636
Total Cations (meq/L)	44.7	23.3	7.44
Total Anions (meq/L)	44	23.5	6.99

There was no flow reported at ICE-1 in first quarter 2009; however, the results for second quarter 2009 appear similar to fourth quarter 2008. While elevated, the TDS concentration reported for second quarter 2009 (2991 mg/L) is below the UT Water Quality Standards – Site Specific Standards for TDS for the Price River and Tributaries from the confluence with the Green River to confluence with Soldier Creek (3000 mg/L, UAC R317-2).

Wells            YES [ ]        NO [X]

UPDES           YES [ ]        NO [X]

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

MRP Appendix 7-8 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 Permittee monitored the complete list of baseline parameters during the first quarter of 2007. The next five-year sampling should take place in 2012.

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

None.

**Does the Mine Operator need to submit more information to fulfill this quarter's monitoring requirements?        Yes [ ]        No [X]**

**6.    Follow-up from last quarter, if necessary.  
Did the Mine Operator submit all the missing and/or irregular data (datum)?**

None required.