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TO: Internal File

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

FROM: Peter Hess, Reclamation Specialist III *SM for Peter*

RE: Midterm Permit Review, Alternate Sediment Control Areas, Sunnyside Cogeneration Associates, Sunnyside Refuse/Slurry, ACT/007/035-MT00

SUMMARY:

On August 22, 2000 representatives from the Utah Division of Oil, Gas and Mining conducted a field visit to the Sunnyside Cogeneration Associates facility located in Sunnyside, Utah to obtain information relative to four items which were chosen as part of the review process for the midterm permit review and renewal. Item 3 was relative to the use of "best technology currently available" (BTCA) practices at the site. This technical memo will address the requirements of the R645 coal rules as they relate to BTCA areas and the implementation of these rules at Sunnyside Cogeneration Associates.

The site currently has three areas which implement "best technology currently available" practices. These are:

- 1) The area north and west of the clear water pond (adjacent to slurry cells #1 and #2);
- 2) The reclaimed area directly South of the East and West slurry cells known as the "old coarse refuse haul road". This area was reclaimed in 1995; reestablished vegetation and silt fences in strategic locations currently provide sediment control.
- 3) The third and final BTCA area lies NE of the coarse refuse toe pond, on the east side of the Carbon County Railway line, but on the South side of the drainage to which the seep at the base of the coarse refuse pile (monitoring point known as "CRS") reports. Sediment control in this area is provided by berms, vegetation, and a silt fence at the flow discharge point, (directly to an essentially undisturbed drainage).

TECHNICAL MEMO

TECHNICAL ANALYSIS:

OPERATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: R645-301-742.231

Analysis:

Other Treatment Facilities

The Table of Contents for the Sunnyside Cogeneration Associates mining and reclamation plan indicates that Book 4, Chapter 10, Section 10.5.2 supposedly discusses methods for sediment control. This is where one would supposedly find information relative to BTCA areas. Book 4 of the Price Field Office copy of the Sunnyside Co-gen MRP does not contain a Section 10.5.2 nor a Chapter 10.

Book 4, Chapter 7, Hydrology contains information relative to erosion control for the old coarse refuse road reclamation (which is the second area described above and supposedly uses BTCA methods for sediment control). The information is P.E. certified by Alane Boyd of Eckhoff, Watson and Praetor and confirms that the silt fence which is constructed as indicated on Plate 7-18 is effective to control the sediment from the reclaimed disturbance.

Although a Plate 7-18 exists, Plate 7-18 is plan view and cross section of the **coal pile sedimentation pond**. The correct map which shows the old coarse refuse pile haul road reclaimed area and its associated sediment control methods are maps 7-1B and 7-1C. The requirement of R645-301-731.720 has been met, but the text relative to the erosion control needs to be revised to point an individual toward the correct map. Also Book 4A uses the same designations (i.e., 7-1A) to refer to "plates" or "sheet numbers". These are both drawings of areas within the permit, but great confusion is generated.

- 1) Map (or rather sheet numbers) 7-1B and & 7-1C specifically delineates the area of the watershed (old coarse refuse haul road reclaimed area) which is implementing BTCA methods as treatment. Silt fences and/or straw bale locations are depicted, but flow paths are not. A down gradient flow path is realized, but P.E. certified BTCA maps generally show how flow paths are to report to the treatment facilities. The drawing is P.E. certified and the erosion control design meets the requirements of 731.720 and 301-512. Field conditions, however, do not correspond with plan depiction.

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- 2) Map 7-1E depicts the BTCA area which is north and west of the clearwater pond, UPDES point 004A. Straw bales are depicted, but the general treatment here is vegetation. This area also encompasses the clear water pond topsoil stockpile which utilizes designed berms to preserve the resource. The 8/22/2000 field inspection showed that the straw bales appear to have been in place for a long time. The permittee should perform a vegetation density/diversity analysis along with a SEDIMOT or SEDCAD analysis to confirm that this method of treatment is capable of meeting effluent limitations prior the area's runoff sheet flowing from the permit area. The permit boundary here is immediately due west of this BTCA. It should be pointed out that the sheet flow runoff reports to identical filtration conditions immediately off permit.

- 3) BTCA area #3 lies at the NNW toe of the coarse refuse pile, directly east of the abandoned Carbon County Railway track, and south of the drainage to which flow from the coarse refuse seep reports. Design calculations for the 36-inch culvert which carries both disturbed (this BTCA) and undisturbed flow from the watershed north of the drainage can be found in the Cogen mining and reclamation plan. However, the area which is considered to be BTCA #3 is included as part of these calculations. The design for the 36-inch culvert which reports this flow under the Carbon County Railroad thence to the Iclander Creek is P.E. certified., but there is not a P.E. certified design for this BTCA area.

Plate 7-1B shows the area; same is not cross hatched as are the other two BTCA's as depicted on Maps 7-1A, 7-1C, and 7-1E. Map 7-1B contains a note "APPROXIMATE LOCATION SILT FENCE", but there is no arrow which indicates where this location is. The 8/22/2000 field tour indicated that the silt fence which is in place lies adjacent to the inlet of the 36-inch CMP which routes the flow under the railroad bed.

For this BTCA, the permittee should confirm that the treatments which are being utilized here, (the silt fence and vegetation), are adequate to meet effluent limitations where the flow from the BTCA enters the drainage (off permit). Vegetation is fair to good immediately east of the rail bed, but is thin to nonexistent where the Mancos shale is prevalent. To accomplish this, a vegetative analysis may be necessary. If the permittee desires to only consider the silt fence as the necessary treatment, then same must be shown to be adequate by a professional engineer utilizing a SEDCAD or SEDIMOT analysis. This will determine if the requirements of R645-301-742.231 are being met.

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Findings:

R645-301-742.231, Two of the three areas which have been reported as BTCA areas have not had sufficient analyses performed (design and treatment analysis) to qualify them as such. Although the area of BTCA #3 is shown on P.E. certified sheet number 7-1B, the area **is not designated as a BTCA**. No sediment analysis for this area can be found in the MRP. No sediment analysis can be found for the designated BTCA area which is adjacent to the clear water pond. The only sediment analysis which can be found in the current plan is for the old coarse refuse haul road reclamation, which has been generally referred to in this document as BTCA #2. Problems exist with BTCA #2 as current field conditions do not match what is shown in the MRP, (i.e., silt fence locations). This fact voids the P.E. certification of sheet numbers 7-1A and 7-1C.

RECOMMENDATION:

The mining and reclamation plan does not adequately address the R645 coal rules requirements for areas which are treated by methods other than siltation structures. The plan is deficient relative to the requirements for BTCA areas.