

April 17, 2003

TO: Internal File

THRU: Daron R. Haddock, Permit Supervisor

FROM: Priscilla W. Burton, Sr. Reclamation Specialist/Soils

RE: Technical Field Visit, Phase II Reclamation, Energy West Corp., Des Bee Dove Mine, C/015/017

Other Attendees:

Mr. Dennis Oakley, Energy West Mining
Mr. Wayne Western, DOGM

Date & Time: April 15, 2003, 12:30 p.m. – 2:00 p.m.

PURPOSE:

To observe the progress of Phase II reclamation.

OBSERVATIONS:

Light snow had been falling all morning, but there was no accumulation and the soil was not damp. Reclamation and seeding was complete on the bathhouse pad and halfway down the slope from the bathhouse, See Plate 500-3.

One dozer was pushing refuse from tipple yard against the cutslope below the “undisturbed island.”

TECHNICAL FIELD VISIT

Two trackhoes were pushing boulders and soil from the bathhouse outslope down to the main drainage and pocking the slope as they moved downward. The soil will be used to cover the mine waste on both sides of the drainage.

A trackhoe with a pneumatic hammer was breaking large boulders down in the main drainage. These smaller rocks and boulders will be used as rip rap in the main drainage.

Topsoil

Some of the 2,500 cu yd substitute topsoil stockpile (from the southern bathhouse pad trench) was used to cover the side slopes in the main drainage at Sta 2+00 to a depth of 6 inches. There appears to be about 2,000 cu yds remaining in the pile. This soil will be used to cover the coal mine waste on the south west side of the Tipple yard.

The 2,000 cu yd stockpile of (best available) substitute topsoil material from the upper drainage (which was against the south side of tipple yard) was inadvertently mixed and buried underneath coal mine waste.

Change Order #3 Main bathhouse pad outslope from approximately 3+00 through 7+00, describes the recovery of substitute topsoil from the outslopes of the bathhouse pad. Approximately 10,000 cu yds was proposed to be gained from this outslope. This material was sampled on April 9, 2003 to substantiate with laboratory analysis, the qualities of the substitute topsoil, i.e. pH, EC, texture, SAR. The results are not available at this time. This soil material will be used to cover the coal mine waste on the east side of the main drainage.

Coal Mine Waste

The results of sampling the mine waste compacted against the slopes of the bathhouse pad were emailed to the Division on March 31, 2003. The mine waste was sampled to a depth of two feet. The Intermountain Labs/Sheridan analysis indicated that the four mine waste samples were non-acidic material with sandy loam texture, with an average of 4.7 mmhos/cm Electrical Conductivity; 2.84 Sodium Adsorption Ratio; 2.4 ppm Boron, and 0.02 ppm Selenium. As a result, two more feet of cover were placed over the waste on the bathhouse pad, as per R645-301-553.260 (and R645-301-553.250, by reference).

There is a sizeable amount of coal mine waste being placed in the location of Stations 9+00 to 11+00 on Map 500-3 and along the bathhouse access road cut at stations 7+00 and 8+00. The characteristics of this waste would be similar to the material sampled on the bathhouse pad and described in the paragraph above. The waste is being pushed up with a track dozer. There does not appear to be any compaction other than the track vehicle travel over the waste. The waste will rest at a 2h:1v slope and will be covered with two feet of substitute topsoil material, according to Mr. Oakley.

Waste material is still exposed on the east side of the main drainage at Stations 6+00 to 10+00. This waste will be buried under two feet of substitute topsoil.

Grading and Pocking of slopes

The main drainage will pour off solid rock into a pool in the tipple yard, where the constructed riprap drainage will begin. The configuration of the toe of three slopes that meet at this point in the drainage is being discussed at this time. The south facing slope ends abruptly at a cut into the native soil. The addition of more fill on the south-facing slope is not likely as there is a large boulder supporting a portion of this toe. The soil on the south facing cut slope was loose enough to facilitate rooting.

Mr. Oakley indicated that it was more likely that the coal mine waste would all be placed onto the north-facing slope (described in the paragraph above at Stations 9+00 to 11+00). And this slope will be armored with large boulders to protect the toe from the force of the water that may flow towards this toe from the pour off in the main drainage.

Pocking of the bathhouse outslope is becoming less random down the slope. Mr. Oakley is going to convey to the trackhoe operator the requirement for random placement of the pocks, such that one pock will not overflow into another and another in sequence and begin erosion of the slope.

Armored Channels

Two locations on the bathhouse outslope have been reinforced with rock. At the last inspection, the Division requested that these channels are covered with soil. There were parts of the channel that were covered with soil, but not all. The following statement in Appendix XV section 762.100, page 20 describes the construction of these channels:

“Several small runoff areas exist above the bathhouse pad. Upon completion of the bathhouse pad slope, fill material will be contoured and armored in areas where drainages intercept the fill to prevent erosion.”

The above description of bathhouse pad reclamation did not include Change Order #3, Main bathhouse pad outslope from approximately 3+00 to 7+00 (a slice that is 400 feet long approximately 75 feet wide and a distance of about 25 ft vertically). Consequently, these armored installations extend 75 feet longer than initially planned.

Main Drainage

Mr. Oakley indicated that most, if not all, of the large boulders would be broken into riprap size rock, leaving few boulders to nest into the reclaimed slope (as described in Appendix XV, page 6 of Table 1, Procedural Steps of Reclamation Time Table, Section 540 Reclamation Plan,) and few boulders to create boulder/rock drop structures (as described on page 20, Section 762.100 of App XV).

TECHNICAL FIELD VISIT

The boulder fragments in the main drainage at Stations 4+00 through 6+00 will be removed to construct the channel, i.e. filter bed etc.

The results of sampling the mine waste/spoil in the main drainage were emailed to the Division on April 8, 2003. Composite samples of the mine waste/spoil were taken from a depth of zero to four feet at each of the channel stations from 1+00 to 8+00. The Intermountain Labs/Sheridan analysis indicated that the eight mine waste samples were non-acidic material with sandy loam to loam texture, with an average of 5.35 mmhos/cm Electrical Conductivity; 4.00 Sodium Adsorption Ratio; 1.84 ppm Boron, and less than 0.02 ppm Selenium.

Other

At the tipple yard concrete footings were unearthed in the sandstone strata above the grade of the drainage. Mr. Oakley indicated that the two footings would be removed.

Photos from this date can be viewed under the folder name 04152003 at:
<ftp://ogm.utah.gov/PUB/MINES/coal/Images/015/017>

RECOMMENDATIONS/CONCLUSIONS:

Currently, there is about 2,000 cu yds of substitute topsoil stored on site from the southern bathhouse trench, reserved for cover over the coal mine waste in the tipple area. Soil from the bathhouse outslope is critical for achieving cover over the remaining areas.

Mr. Oakley indicated that:

- the mine waste in the tipple area and on the slopes of the main drainage will be covered with two feet of soil.
- Footings will be removed from the sandstone cliffs of the tipple yard.
- Pocking will be randomized.
- Armoring of drainage ways on the slopes will be covered with soil.

The Permittee and Division should monitor:

- the compaction of the mine waste in the tipple area.
- construction of the armored drainage ways on the fill.
- Pocking.
- Substitute topsoil conservation.

Construction of drop structures as described on page 20, Section 762.100 of App XV, should be promoted, to the extent possible, to break up the 13.1% grade of the drainage from the tipple area downstream.