

ACT/007/012 #2

FAX TRANSMISSION

Time: 11:20 AM/PM

Date: 8/7/97

To: Daron Haddock cc: Robert Davidson

Company: DOGM

FAX #: _____

From: Tim Thompson

JBR Environmental Consultants, Inc. Re: Wellington/COVOL

FAX #: 801-942-1852 TOPSOIL BALANCE CALCS.

Total number of pages (including cover page): 3

Special Instructions or Comments: Add'l info for your review.

Since we will be meeting Patrick Collins Tuesday at the site, I will get his signature and formally submit this info.

Thanks for the interactive relationship. Call if you have any questions.

Thanks Jim



environmental consultants, inc.

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PROJECT NO. Wellington Wash Plt. (ACT/007/02)
 BY Joe Jarvis DATE 8/7/97
 CHK'D BY Tim Thompson DATE _____
 SHEET NO. 1 OF 1

Wellington Modular Wash Plant TOPSOIL BALANCE

A small dozer will be used to carefully remove existing topsoil from the two areas of the wash plant site. The smaller area, where the column flotation cells are located, will yield 5" of A1 and A2 soil. A truck will transport this 27 yd³ of salvaged soil to the topsoil stockpile on the southeast side of the wash plant.

The larger area, where the wash plant (and veg. test plot) are located, will yield an average of 7.5" of soil. The total volume salvaged, 1,610 yd³, will be placed in the stockpile.

BALANCE CALCULATIONS:

Flotation Cells Area

$$\begin{array}{rcl}
 40' \times 43' \times .42' & = & 27 \text{ yd}^3 \quad \text{Salvaged} \\
 40' \times 43' \times 1' & = & 64 \text{ yd}^3 \quad \text{Reclamation Requirement} \\
 \hline
 & & 37 \text{ yd}^3 \quad \text{Borrow Req'd.}
 \end{array}$$

Wash Plant Area

$$\begin{array}{rcl}
 230' \times 300' \times .63' & = & 1,610 \quad \text{Salvaged} \\
 230' \times 300' \times 1' & = & 2,555 \quad \text{Reclamation Requirement} \\
 & & 945 \text{ yd}^3 \quad \text{Borrow Req'd.}
 \end{array}$$

Total Borrow Req'd

$$37 \text{ yd}^3 + 945 \text{ yd}^3 = \underline{\underline{982 \text{ yd}^3}}$$

Soils

A soil survey was conducted at the two sites to be disturbed on July 17, 1997. The wash plant site is located on the old test plot site where various repetitions of topsoil and coarse coal refuse were applied to determine affects on revegetation. The upper disturbed area is situated on a small knoll that may have been altered in the past by removal of the soil materials. All soil surveys were conducted in accordance with standards of the National Cooperative Soil Survey.

The test plots consist of 6-12 inch layer of topsoil over coarse coal refuse or areas of topsoil over the abandoned coal fines. Pits were dug to obtain samples of the topsoil and coarse coal refuse for analysis in the lab according to Table 1 in Guidelines For Management of Topsoil and Overburden 1988. No profile descriptions were obtained other than to note the thickness of the material examined. Generally the topsoil materials were loams about 9-10 inches thick on the 12 inch applications and 3-5 inches on the 6 inch applications. The topsoil materials would be salvaged and stockpiled southeast of the modular coal fines wash plant. It is estimated that at a maximum about 1637 cu. yds. (1.6 acres at average depth of 5 to 7.5 inches) could be salvaged.

The upper disturbed area is a Gerst soil that apparently has had the upper horizons removed or disturbed in the past as the depths to the underlying Mancos shale were uncharacteristically shallow. Two pits were excavated to 60 inches and profile descriptions obtained, both are indicated below. The number one pit adjacent to the construction site indicated only a 5 inch horizon of suitable topsoil material or about 27 cu. yds of salvageable material. This small amount would be salvaged and transported to the topsoil stockpile adjacent to the modular coal fines wash plant.

The topsoil stockpile would be seeded for vegetative cover, bermed to protect it from surface erosion and signed. Should any of the topsoil material deemed suitable prove to be unsuitable due to current and future chemical analysis, additional topsoil material would be obtained from the approved borrow site at reclamation. If all of the salvaged topsoil is useable, it is estimated that 982 cu. yds. of borrow is still required. Tables 2-6,2-7 and page 122 in the current MRP have chemical and physical data on the Gerst soils in the borrow areas sufficient to characterize the substitute topsoil materials.

Gerst Soil Series

Pit #1

- A1 0-3" grayish brown (2.5Y 5/2) gravelly fine sandy loam, dark grayish brown (2.5Y 4/2) moist; moderate medium subangular blocky structure breaking to weak thin platy structure; slightly hard, firm, slightly sticky and slightly plastic; few fine roots; strongly effervescent; clear irregular boundary.
- A2 3-5" grayish brown (2.5Y 5/2) fine sandy clay loam, very dark grayish brown (2.5Y 3/2) moist; thin platy structure; hard, firm, sticky and plastic; few fine roots; strongly effervescent; gradual wavy boundary.
- C1 5-17" grayish brown (2.5Y 5/2) channery clay loam, dark grayish brown (2.5Y 4/2) moist; massive, hard, firm, very sticky and very plastic; 50 percent shale fragments; strongly effervescent; gradual wavy boundary.
- Cr 17"- partly weathered Mancos shale.