Geosyntec consultants

10875 Rancho Bernardo Road, Suite 200
San Diego, California 92127
PH 858.674.6559
FAX 858.674.6586
www.geosyntec.com

Memorandum

Date: 15 June 2007

To: Harold Roberts, Denison Mines (USA) Corporation

From: Gregory T. Corcoran, Geosyntec Consultants

Subject: Slimes Drain Design
Cell 4A, White Mesa Mill
Geosyntec Project: SC-0349-01-04

In accordance with our conference call on 5 June 2007, Geosyntec has revised the slimes drain lateral design to account for the installation of sand bags to act as a filter layer overlying the strip drain laterals proposed for the base of Cell 4A at the White Mesa Mill in Blanding, UT. The revised design, which is illustrated in the attached Figure 1, will utilize a continuous row of sand bags filled with a concrete sand meeting Utah Department of Transportation (UDOT) standard specifications for Portland Cement Concrete, which can be imported from Bluff, UT. The gradation of the UDOT concrete sand is shown below:

Sieve Size	**Percent Passing**
3/8 inch	100%
No. 4	95% to 100%
No. 16	45% to 80%
No. 50	10% to 30%
No. 100	2% to 10%

The concrete sand will act as a filter between the tailings and the strip drain. Based on the above gradation for the concrete sand and the anticipated gradation of the tailing materials (Table 1) to be placed within Cell 4A, the following US Army Corps of Engineers filtration criteria is used to evaluate the performance of the filter:

$$\frac{D_{15}Filter}{D_{85}Tailings} \leq 5$$

$$\frac{D_{50}Filter}{D_{50}Tailings} \leq 25$$

Where:

D_{15} Filter = 0.18 to 0.38 mm

D_{85} Tailings = 0.27 to 0.32 mm

D_{50} Filter = 0.5 to 1.5 mm

D_{50} Tailings = 0.08 to 0.11 mm

Inserting the values into the above equations results in the following:

$$\frac{D_{15}Filter}{D_{85}Tailings} \leq 5 \rightarrow 0.56 \text{ to } 1.4 \leq 5 \rightarrow \textbf{OK}$$

$$\frac{D_{50}Filter}{D_{50}Tailings} \leq 25 \rightarrow 4.5 \text{ to } 18.8 \leq 25 \rightarrow \textbf{OK}$$

Therefore, the proposed UDOT concrete sand will be used to fill sand bags that, when placed overlying the strip composite, will have an approximate length of 18 inches, width of 12 inches, and a height of 3 inches. This results in a sand bag that is approximately 30 to 35 pounds and will provide sufficient coverage over the width and ends of the strip composite to act as a filter layer.

The sand bags will be comprised of a woven geotextile capable of allowing liquids to pass. The concrete sand will not have a carbonate loss greater than 10% by dry weight basis when tested in accordance with ASTM D 3042, as specified for the drainage aggregate.

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