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GEOLOGY

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**HIDDEN VALLEY  
DIVERSIONS ANALYSIS**

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ACT/015/007  
#2  
Copy Susan,

**RECEIVED**  
MAR 07 1991

To: Susan White, Division of Oil, Gas and Mining

DIVISION OF  
OIL, GAS & MINING

From: Joseph M. Jarvis, JBR Consultants Group

Subject: Definitions of Highwalls

The two bench cuts, one each above the A and B seams at Hidden Valley Coal Mine, were constructed when the coal seams were exposed and sampled by Soldier Creek Coal Company. They are separate structures from the face-ups or highwalls created to expose the coal seams.

During the drafting of the reclamation plan, it was recognized by the hydrologist that these benches could serve to divert overland flows, due to high intensity storms, from coursing down the new fill slopes that covered the highwalls. The overland flows originate on the steep slopes and rock cliffs immediately above the fill slopes when the high intensity storms striking the cliffs cause almost instant runoff flows.

The first high intensity storm after reclamation was completed caused erosion damage to the fill slopes, especially at the A seam. To correct this problem the fill slopes were regraded, reseeded and covered with erosion matting to protect the surface of the silty topsoil. Secondly, the benches were cleaned to increase their capacity and graded to divert all the flows away from the fill slopes. After the benches were improved in 1989, the runoff from a second high intensity storm in 1990 was handled by the bench diversions so the slopes were protected from the erosive force of the overland flows.

The slopes must be protected from the force of the overland flows until sufficient vegetation develops to counter the erosive force of these flows. If these bench diversions are removed then some other diversion systems must be constructed to protect the fill slopes.

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