



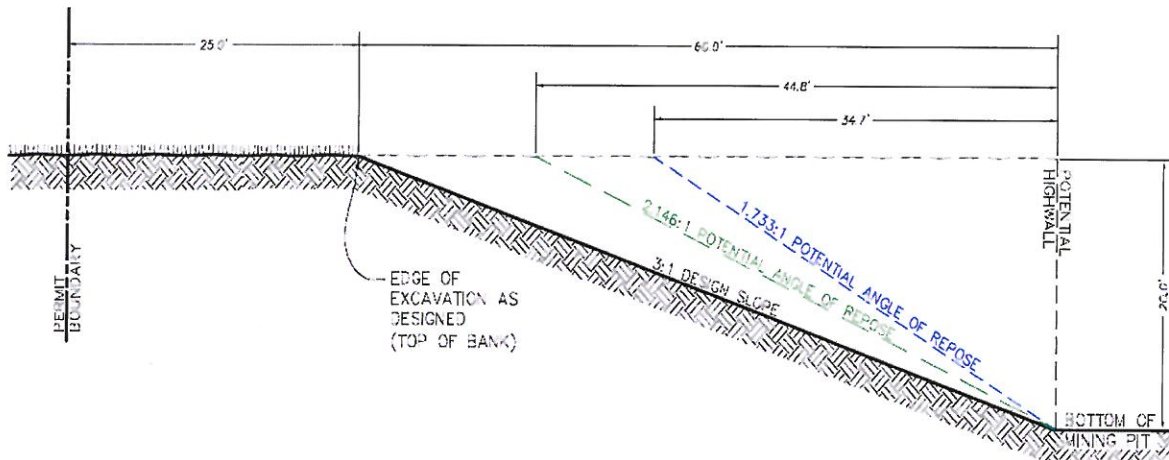
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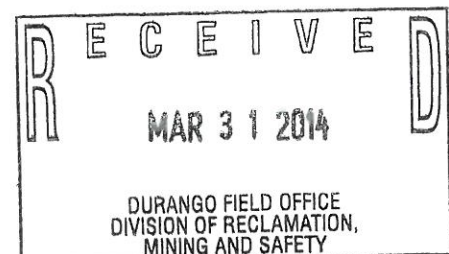
M-2014-005

**Engineering Analysis  
Of the slope stability for O'Rourke Pit #2  
Rio Grande County, Colorado**

Assuming that the Operator ignored their Mining plan, which states that excavated slopes will not exceed 3:1, and instead excavates a highwall 20 feet in depth, a very conservative estimate of the angle of repose for the highwall achieved by gravity alone (the highwall sloughs naturally) would be 3:1. In that case the limit of sloughing would be 60 feet from the highwall; still 25 feet inside the Pit Boundary. In reference texts we have researched, most gravel deposits are indicated to have a natural angle of repose of 25 to 30 degrees, which is slope of 2.146:1 to 1.733:1, or significantly steeper than the slope used for this analysis; therefore the safety factor in this analysis is approximately 1.5 See the diagram below.



March 27, 2014



Summit Job Number: 4828