

Total Ore Processing Integration and Management

6th Quarterly Technical Progress Report 01 October - 31 December 2004

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Abstract

This report outlines the technical progress achieved for project DE-FC26-03NT41785 (Total Ore Processing Integration and Management) during the period 01 October through 31 December of 2004.

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Executive Summary

Work in Progress: Minntac Mine

A new dataset to illustrate ordinary, non-segregated operation of the mine and mill has been collected. Beginning in mid-November, it ended on 31 December, 2004.

Drill monitoring data for several blast patterns is being analyzed. Figures 1 through 6 represent one of the patterns.

Work in Progress: Hibtac Mine

Sample preparation for laboratory rock strength tests is underway, for comparison with the density and point-load test results measured last summer.

Future Work

The relationships among data mined from the databases and the ore segregation tests of both mines are being examined, mainly through use of multiple regression analysis. The study is ongoing

Dissemination and Outreach

One technical paper and two presentations have been finalized for the SME Annual Meeting to be held in Salt Lake City, UT in 2005.

Introduction

This sixth quarterly report discusses the activities of the project team during the period 1 October through 31 December 2004.

Work in Progress

Minntac Mine

A new dataset to illustrate ordinary, non-segregated operation of the mine and mill has been collected. Beginning in mid-November, it ended on 31 December, 2004.

Drill monitoring data for several blast patterns is being analyzed. Figures 1 through 6 represent one of the patterns being studied. The remaining patterns are being prepared for graphical analysis during the next quarter.

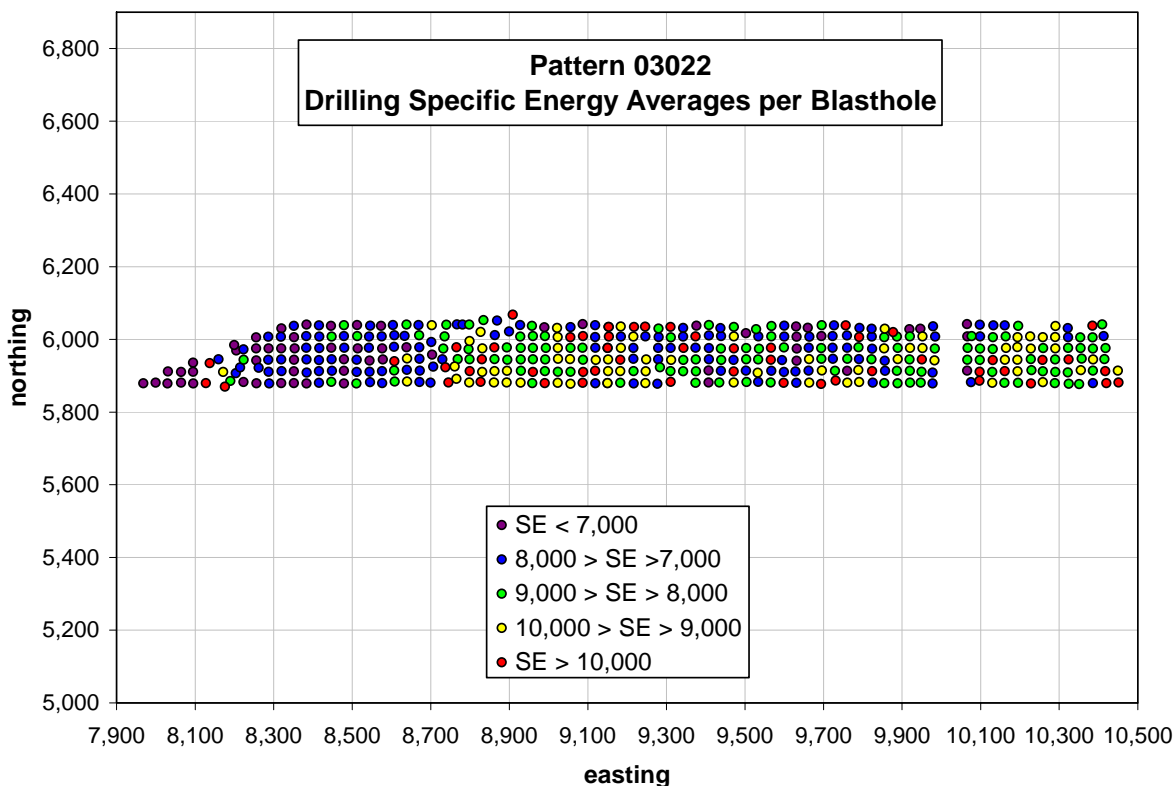


Figure 1. Variation of average specific energy through one of the blast patterns monitored at Minntac Mine in 2003.

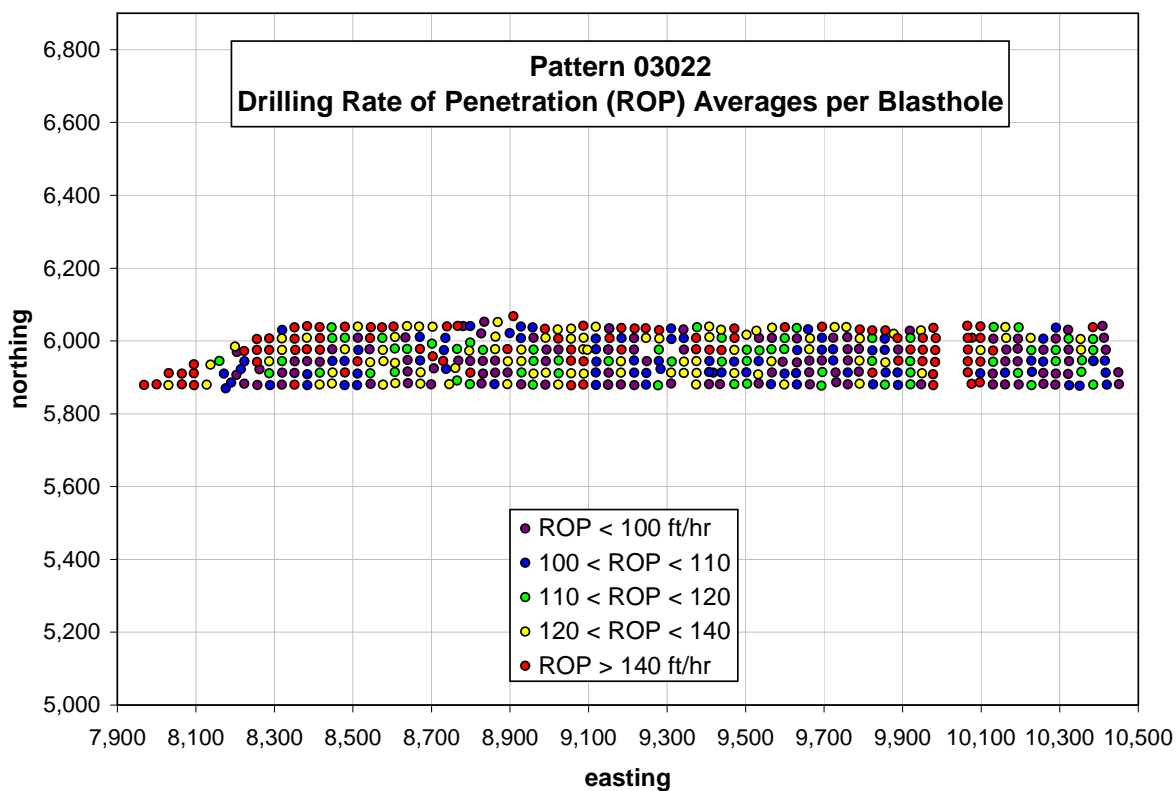
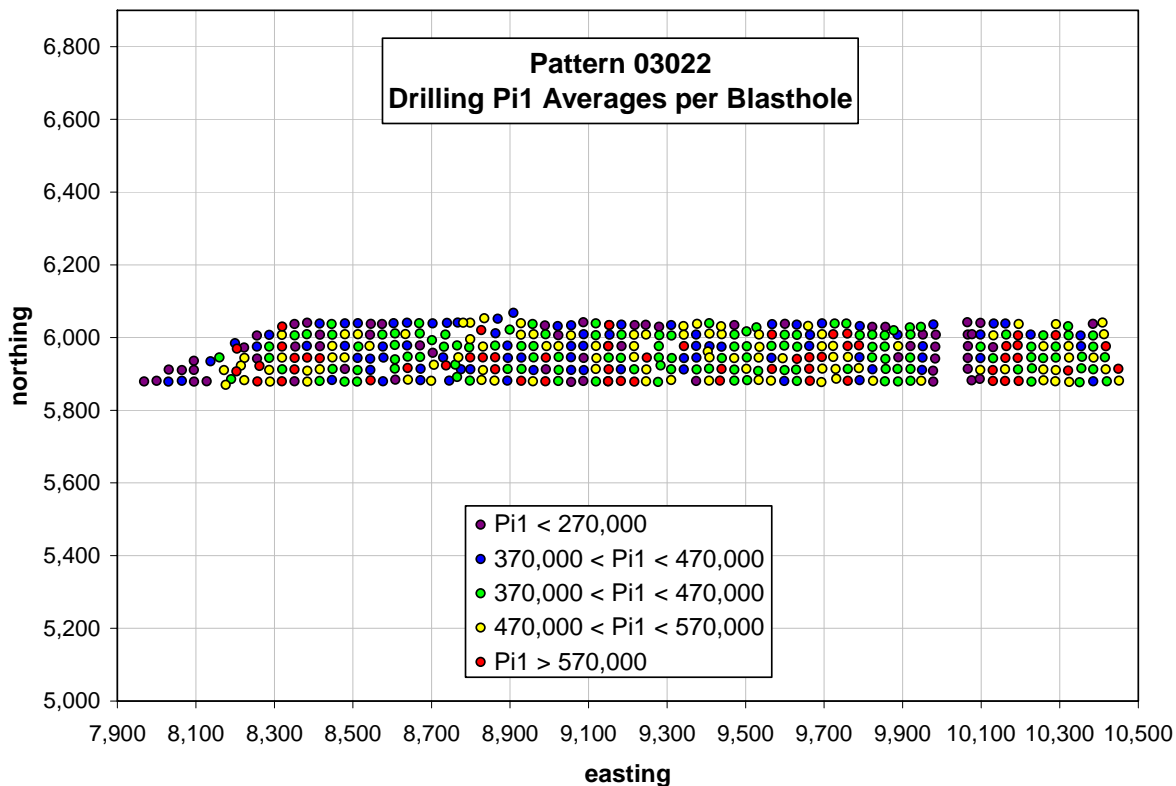


Figure 2. Variation of average penetration rate.

Figure 3. Variation of average Pi_1 index.

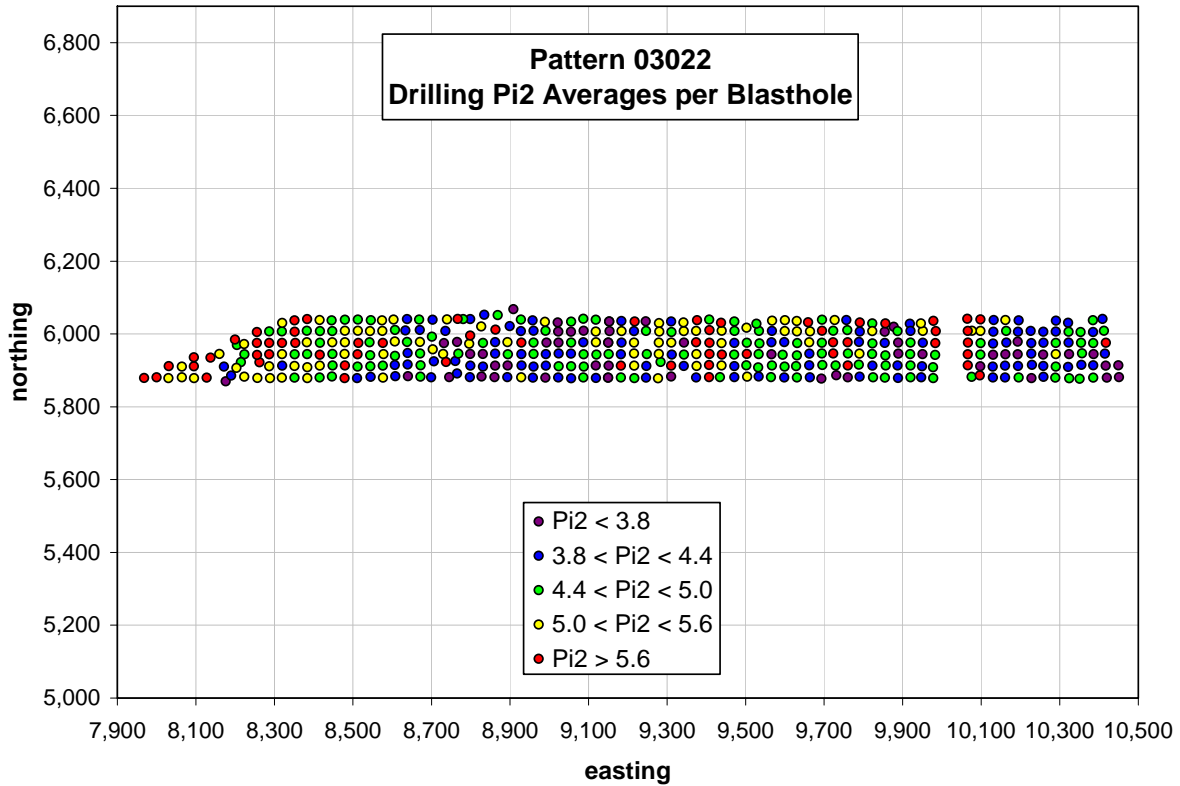
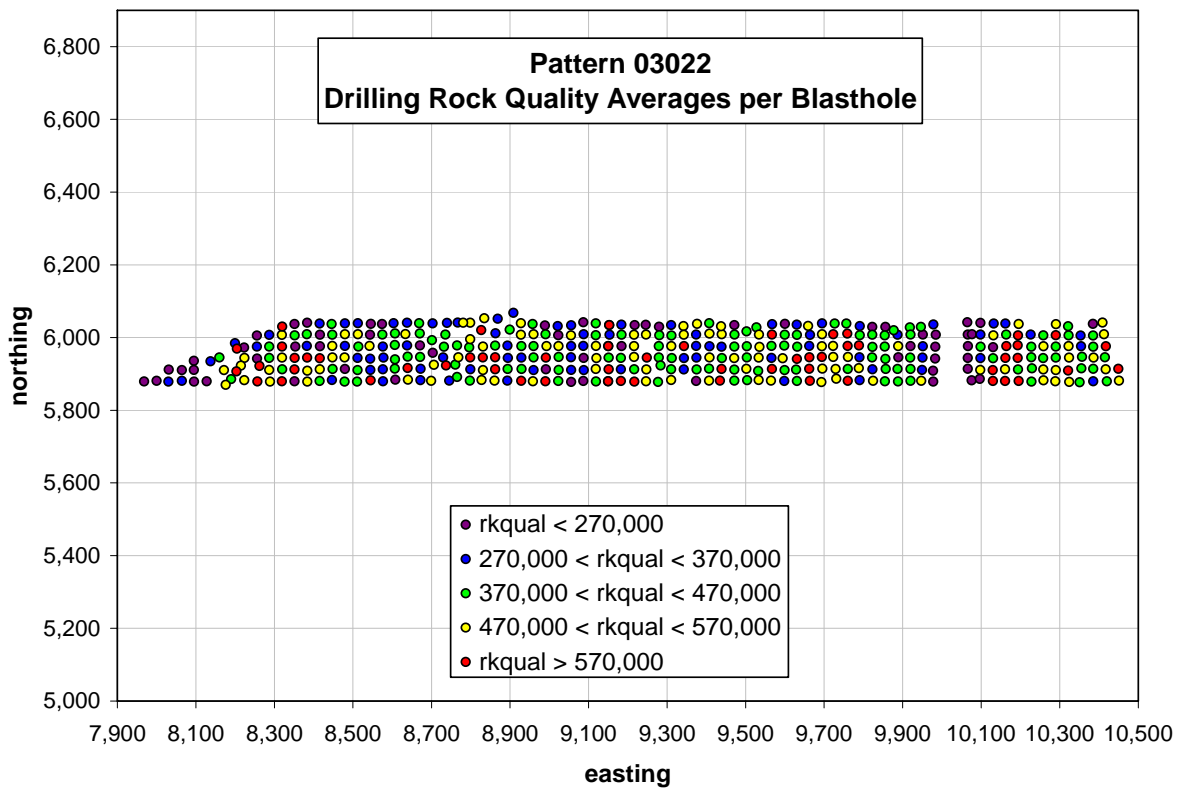
Figure 4. Variation of average Pi_2 index.

Figure 5. Variation of average rock quality index.

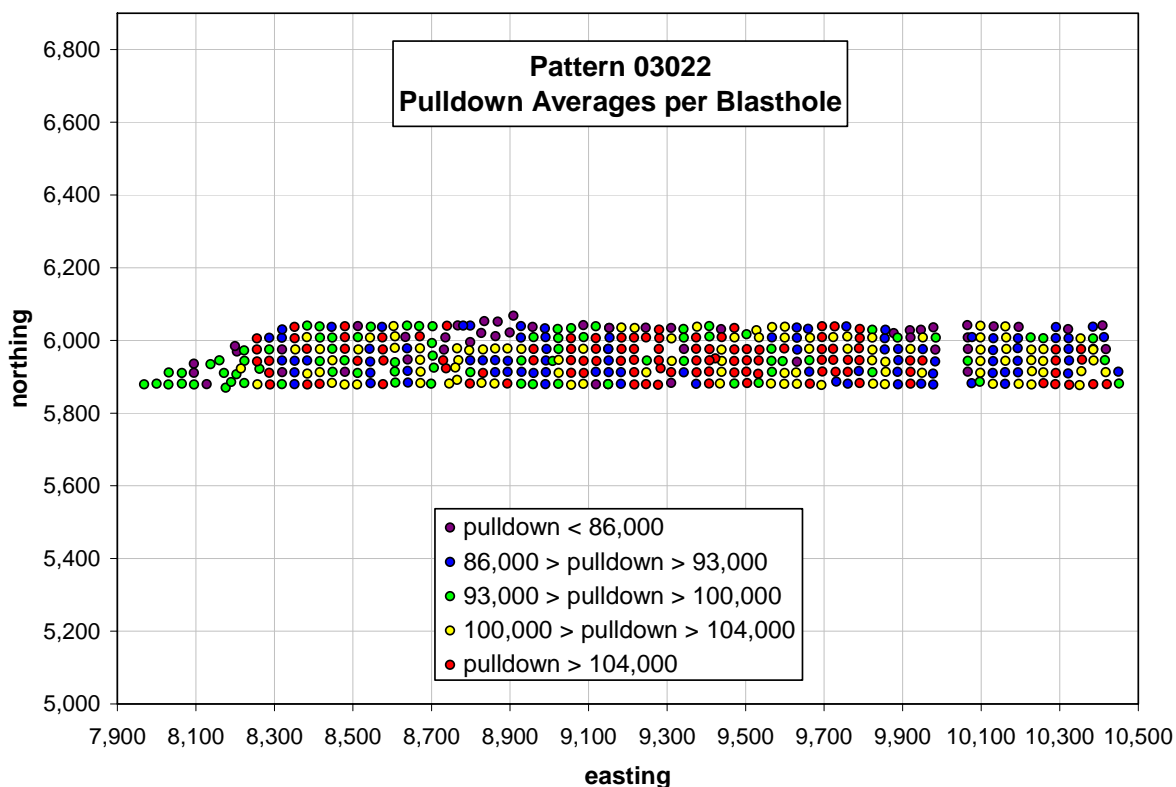


Figure 6. Variation of average pulldown (bit weight).

Hibtac Mine

Sample preparation for laboratory rock strength tests is underway, for comparison with the density and point-load test results measured last summer.

Future Work

Statistical Analysis

The relationships among data mined from the databases and the ore segregation tests of both mines are being examined, mainly through use of multiple regression analysis. The study is ongoing

Dissemination and Outreach

One technical paper and two presentations have been finalized for the SME Annual Meeting to be held in Salt Lake City, UT in 2005.