

DynoConsult and DynoMiner™ Provide Underground Solution



Project Summary

WITH DYNOCONSULT'S KNOWLEDGE AND THE DYNOMINER LOADING SYSTEM, THIS UNDERGROUND MINES EXPECTATIONS WERE MORE THAN MET

A desire to reduce operating costs by converting from packaged to bulk explosives had this underground limestone operator running trials using different explosive companies. The mine operator also wanted to decrease the time required to load the heading rounds in order to improve the efficiency of the blast crews thus improving production through an increased number of rounds blasted per day.

DynoConsult addressed these goals by introducing the DynoMiner system into the mine in a month-long trial. In the course of the trials, DynoConsult performed a time study on the blast-related tasks, quantified the face advance and over-break limits, and calculated the potential cost savings through the use of the DynoMiner. The results of the trial convinced the mine operator that DynoConsult's knowledge and the DynoMiner were the right solutions for their operation.

Background

UNDERGROUND CHEMICAL OPERATOR LOOKED FOR AN EDGE

This underground operation produces an industrial grade lime product used in a variety of industries. The mine was interested in evaluating the use of bulk emulsion products in order to reduce their explosives costs and increase operational efficiency.

In order to insure selection of the best solution to meet their needs, this operation opened up trials to explosives suppliers who wished to demonstrate the value of their products.



Project Goals

FASTER LOADING, MORE ADVANCE TARGETED FOR THIS PROJECT

The principal goal of the Dyno Nobel team put in place for this project was to demonstrate the versatility and efficiency of the DynoMiner for heading blasts. By combining the DynoMiner with Titan bulk gassed emulsion, the team hoped to demonstrate how effectively this combination could be to expand the slashing and bench blasts performed at this operation.

Technology Applied

THE DYNOMINER AND TITAN GASSED EMULSION SELECTED TO MEET CUSTOMER'S DEMANDS

To meet the challenges of underground mining, DynoConsult provided their expertise to insure the success of this trial. Face profiling of each heading was done using the MDL Quarryman system.

DYNO
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Groundbreaking Performance

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The Titan® 1000 G gassed emulsion was introduced to speed the loading of wet holes, and quarry personnel were trained to operate the DynoMiner underground loading system. By using compressed air instead of hydraulic pressure, the DynoMiner underground loading system was able to operate using existing mine air systems, which greatly simplified the drilling and loading procedures. Since the entire DynoMiner unit and components are self-contained, quarry personnel found their movement in the mine to be both safe and efficient.

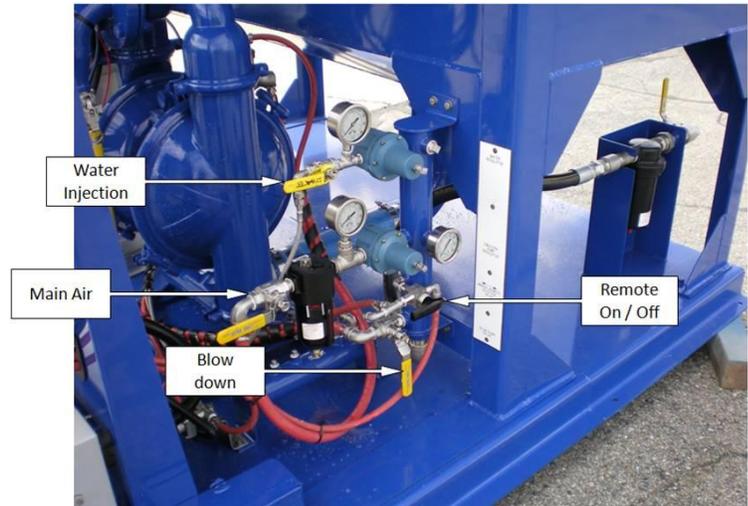
By using Titan gassed emulsion the density of the loaded product was able to be adjusted from 0.80g/cc to 1.20 g/cc, providing added flexibility for this mine operator. As a gassed emulsion product, the Titan emulsion is classified as an oxidizer until it is sensitized in the hole, providing the ultimate safe product for underground applications.

Value Added

FASTER LOADING WITH DYNOMINER AND INCREASED ADVANCE WITH TITAN GASSED EMULSION EQUALS A WIN FOR THIS MINE

The trial outcome was that this mine operator chose the DynoMiner as the bulk delivery system for their operation.

The customer affirmed that the DynoMiner system was much easier to use and maintain than the competitor's system. With the use of the DynoMiner, there is the potential for an explosives savings cost of 30% for this mine.



When compared to their previously-used packaged explosives, the DynoMiner allowed the blasters to reduce by 50% the time required to load the wet holes of the pattern. The face advance of the blasts monitored increased by 10% without any change in the perimeter limits of the heading.

Furthermore the DynoMiner offered an easier method of loading than stick powder, since no lifting of heavy boxes was required. The preparatory work required at the beginning of the shift was reduced since bulk materials are quicker and easier to handle.

The combination of DynConsult's knowledge and the DynoMiner offered significant improvements to this hard-rock mine operator, resulting in reduce costs and improved productivity.



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