

TITAN[®] XL for Wet Blasting Conditions



Project Summary

REDUCING VISIBLE NO_x WITHOUT REDUCING WATER RESISTANCE

Ground conditions in this large western surface coal mine vary between shale, clay, and sand. Many areas are wet, requiring a water resistant product.

Blasting for the shovels usually consists of loading a 50/50 Emulsion/ANFO blend. Because of the soft ground conditions and the use of a high density explosive, visible NO_x often occurs.

Technology Applied

TITAN XL VARIABLE DENSITY CONTROL PROVIDES BEST PRACTICES

TITAN XL emulsion was utilized as a water resistant product that could be chemically gassed to various lower densities. Instead of the 1.30 gm/cc density of the 50/50 blend, TITAN XL was brought down to 1.10 gm/cc. The product is pumped through a hose placed in the hole. This eliminates the need to de-water the boreholes.

Results

NO VISIBLE SIGNS OF NO_x AND NO IMPACT IN SHOVEL PRODUCTIVITY MARKS SUCCESSFUL TEST OF TITAN XL CAPABILITIES IN SOFT GEOLOGY

Several shots were detonated in various areas of the mine under many different conditions. There was no visible NO_x generated in any of the shots. Shovel productivity did not appear to be reduced.



Next Steps

ADDITIONAL SHOTS PLANNED TO CONTINUE DOCUMENTATION OF VALUE TO CUSTOMER AND FURTHER REFINE OPTIMUM DENSITY FOR EXCAVATION PRODUCTIVITY

More shots will be done to confirm the initial results. Bulk trucks capable of loading a pumped product are being built. If shovel productivity is maintained, TITAN XL pumped emulsion will be used in any area that typically produces visible NO_x.



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