D2M®
DRILL TO MILL

Unlocking Efficiency and Profitability Across Your Mining Value Chain

DYNO®
Dyno Nobel

Drill to Mill Program

Optimizing Mining Operations for Peak Performance

At Dyno Nobel, we understand that the heart of efficient mining operations lies in optimizing every step—from drilling to milling. Our Drill to Mill approach is designed to deliver unmatched value by enhancing outcomes across your entire mining operation. Through our comprehensive Rapid Operational Diagnostics, our experts meticulously assess the cascading impacts of drilling and blasting adjustments on downstream processes, including loading, hauling, crushing, and milling.

How does Drill to Mill Work?

We Baseline your Operations
- Through rigorous audits, surveys, and data analysis, we evaluate your current operations, identifying critical areas for improvement.

We Analyse your Data
- We delve deep into the data, understanding the interplay between various operational aspects to unveil hidden opportunities for enhancement.

We Optimize your Process
- With precision, we refine your processes, focusing on efficiency and effectiveness to boost your bottom line.

We Control & Monitor to Maximize your Gains
- Our continuous monitoring and evaluation ensure that improvements are achieved and sustained, guaranteeing long-term value creation.

1 BASELINING

2 ANALYSIS

3 OPTIMIZATION

4 CONTROL & MONITOR

Improving Efficiencies to Opt

DRILLING

BLASTING

LOADING

HAUL

Expert Consultation & Tailored Capabilities

Leveraging Expertise for Exceptional Results

Our Drill to Mill projects are powered by a deep understanding of the unique geological challenges and opportunities at each mining site. Our expert team employs advanced capabilities to drive significant, measurable enhancements throughout your operation.

Our Comprehensive Capabilities Include:

- Best practices evaluations for operational excellence.
- Advanced 3D bench modeling for precise drilling and blasting.
- Site-specific production planning to streamline operations.
- Blast pattern design optimization to maximize efficiency.
- Selection and optimization of initiation systems and bulk explosives for optimal results.
- Predictive modeling for accurate fragmentation and material movement forecasts.
- Trend analysis to anticipate and adapt to operational dynamics.
- Strategic explosive distribution planning.
- Fragmentation analysis and optimization to enhance milling efficiency.
- Vibration reduction and slope stability analysis for safer operations.
- Innovative dilution reduction techniques.
- Cutting-edge face scanning and pattern analysis.
- Drone surveys and monitoring for real-time operational insights.
- Implementation of bulk technology for cost-effective operations.

Baseline Material

Optimized Material

imize Your Entire Operation

CRUSHING

MILLING

$$$
INCREASING YOUR REVENUE POTENTIAL

LING

Empowering Your Operation with Proven Results
Explore Real-World Success Stories:

DRILL TO MILL PROJECT ADDS $58.1 MILLION FOR METALS MINE BY OPTIMIZING MILL THROUGHPUT

CHALLENGE
- Increase mill throughput by increasing -1/2" fines percentage

SOLUTION
- Execute a Drill to Mill initiative to analyze and optimize blasting to increase the -1/2" size fraction and overall mill throughput

OUTCOME
- Up to 10% increase in -1/2" size fraction
- 15% increase in mill throughput
- $58.1 million in value added

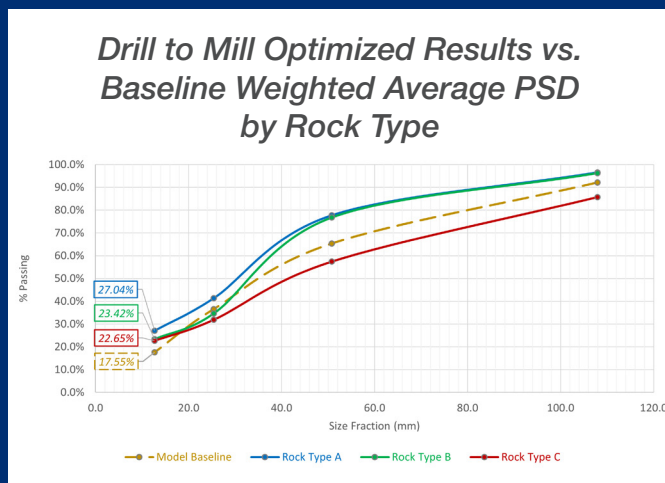### GOLD MINE EXPANDS PATTERN FOR 11% COST REDUCTION USING DIFFERENTIAL ENERGY™

CHALLENGE
- Decrease costs through pattern expansion

SOLUTION
- Introduce DIFFERENTIAL ENERGY to optimize energy distribution

OUTCOME
- 11% reduction in drilling cost in one month
- 5% expansion of pattern
- 2% reduction in explosive material costs with no negative impact on downstream processes

Drill to Mill Optimized Results vs. Baseline Weighted Average PSD by Rock Type

27.04%
23.42%
22.65%
17.55%

— Model Baseline — Rock Type A — Rock Type B — Rock Type C

SCAN TO VIEW THE FULL CASE STUDY

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X @DynoNobel
@DynoNobel
Dyno Nobel
dynonobel.com
dna.marketing@am.dynonobel.com

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