

DEI+

Drill Monitoring

*Providing Information to Manage
Your Drilling and Blasting Process*

Thunderbird's Drilling Efficiency Indicators were introduced to the mining industry in 1982 and continues to be the industry 'standard' for an operator's basic drill monitoring system. The DEI+ has proven during the past three and half decades to be an extremely reliable and useful tool for the driller providing him with critical information to help improve drill productivity. Many of the systems sold 10, 20 or more years ago are still in operation.

KEY BENEFITS

- Helps to minimize or eliminate over or under drilling
- Provides real-time feedback to the operator on Rate of Penetration when making changes to pull-down, torque or bit RPM
- Captures key drilling statistics
- Thunderbird has installation kits for virtually every make and model of drill
- Easy to install—less than a shift
- Easy to use—operator sets bit on ground, pushes Zero Hole button, and starts drilling
- Automatically handles the addition of pipe or steel
- Great tool for operator training as it provides a reference point on how changes in drill control parameters impact the Rate of Penetration



- *Increased Safety*
- *Improved Fragmentation*
- *Higher Recovery*
- *Lower Costs*



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DRILL SCREEN

- Provides the operator with key drilling information: Depth, Rate of Penetration, Drilling Time, and Estimated Time to Complete the Hole.
- ROP Graph: An optional screen provides the operator with a ROP vs Depth Plot that helps him to identify the depth of void, hard or soft zones, or the location and thickness of coal seams.
- Pipe-in-Hole: A warning feature alerts the operator if the drill pipe or steel is still in the hole thus preventing a damaged or bent pipe if the drill is lower or trammed. The operator is alerted with a flashing 'PIPE' warning on the display. There is an optional audible warning or a relay connection that can lock-out the lowering or moving of the drill.

CURRENT SHIFT STATISTICS

- The DEI+ tracks the Total Number of Holes Drilled, Total Drill Time, Average Hole Depth, Average ROP and Average Drill Time. This screen can be viewed by the operator and the information copied onto his Driller's Sheet. This same information is available for previous shifts, so the operators have a performance reference.

OVERALL PRODUCTION STATISTICS

- This same productivity information can be collected for a week, a month, or a pattern for a bit or drill productivity study

OTHER DEI PLUS SCREENS OR FEATURES

- Alarm package for Target Depth Alarm to help prevent overdrilling, and ROP Alarm to identify void, hard or soft zones, or the location and thickness of coal seams.
- Built-in step by step calibration instructions to walk installer through the initial setup.



Drill Screen



ROP Screen



Statistics Screen

See Thunderbird's website for additional product information and copies of technical papers.

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