Independent, secure, anonymous comparison of surface mining equipment performance

SURFACE MINING EQUIPMENT BENCHMARKING
benchmarking.smartmines.com
COMPARE. FOCUS. IMPROVE.

- Compare your operations to others
- See trends of own equipment
- Identify areas for improvement in your operations
- Identify industry best performers
- Choose where to focus your efforts
- Set your performance improvement targets
- Use metrics as parameters for planning
- Aid in purchasing decisions

MORE THAN 40 EQUIPMENT TYPES REPRESENTED

- Draglines
- Cable and Hydraulic Shovels
- Haul Trucks
- Loaders

INCLUDING:

- Marion Draglines and Shovels
- Bucyrus Draglines and Shovels
- P&H Cable Shovels
- Terex O&K Hydraulic Shovels
- Komatsu Demag Hydraulic Shovels
- Caterpillar Trucks, Shovels and Loaders
- Komatsu Haulage Trucks
- Liebherr Haulage Trucks
- LeTourneau Loaders

Benchmarking Metrics

Thirteen standardized performance metrics are reported, including:

- **MECHANICAL AVAILABILITY**
  How much time was your equipment operationally ready to be put to work?

- **OPERATING EFFICIENCY**
  How much of the operating time was equipment actively working?

- **CAPITAL EFFICIENCY**
  How much of the scheduled operating time was equipment productively working?

- **USE OF AVAILABILITY**
  How much of the time that equipment was available to operation was it actually operating?

- **PERCENT WAIT TIME**
  How much time did equipment wait on other equipment?

- **PERCENT DELAY TIME**
  How much time was equipment prevented from operating productively?

- **TONNAGE PER GROSS OPERATING HOUR**
  How much material is your equipment hauling while it is in operation?
**Surface Mining Equipment Benchmarking**

Marston, in conjunction with the *Surface Mining Association for Research and Technology* (SMART), provides a robust, user-friendly benchmarking program where participants may easily compare key equipment performance indicators across the mining industry to gauge their operation’s position relative to their peers.

- **Comparable Performance Indicators**
  
  Standardized time categorization and indicator metric calculations allow comparison between companies.

- **Continuous**
  
  Monthly data updated quarterly.

- **Simplicity**
  
  Web based reporting with easy to use interface.

- **Anonymous**
  
  Mines are only identified by letters on the web site.

- **Confidential**
  
  Marston is the 3rd party administrator.

- **Data Set**
  
  Historical data dating back to 2004.

- **Low Overhead**
  
  Your data can be submitted in your easiest format.
About SMART Benchmarking

Formed in 1995, the SMART (Surface Mining Association for Research and Technology) benchmarking program was developed to form a coordinated approach to technology development for the mining industry. Members include many of the major surface mining companies in North America. Their website is www.smartmines.com.

SMART engaged Marston to develop a low cost solution to provide continuous, anonymous, secure, standard benchmarking.

The result:

A ROBUST, USER-FRIENDLY WEBSITE.

Data is tracked for many equipment types in several equipment classes including cable and hydraulic shovels, draglines, haul trucks and loaders.

Marston keeps your data confidential and presents standardized equipment performance metrics anonymously.

Visit BENCHMARKING.SMARTMINES.COM to learn more.