



Smart Solutions

Case study:

Gaining 124,000 tons per year
at no additional cost

Application: *Underground coal*

Location: *Midwestern United States*

Products featured: *Joy continuous miners*

Challenge: Improve efficiency

Methods of operation at a U.S. mine were holding back production levels

Mine crews were eager for information to improve, but **did not have a way to benchmark or track progress**

Contributing factors:

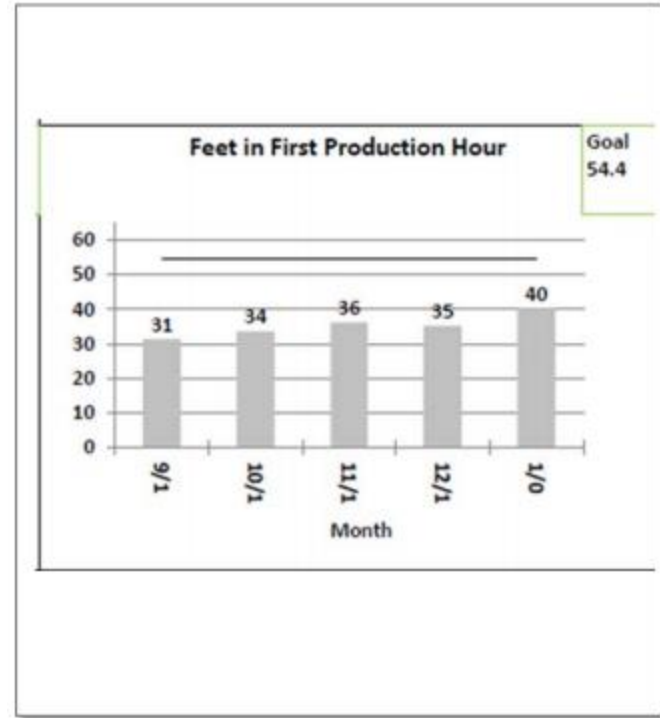
- Customer was averaging a rate of only **27.6 feet** in the first production hour of a shift
- **No systematic approach** to readying the unit for a new cutting cycle or ensuring that equipment was serviced and staged properly
- **Lack of teamwork** needed to promote change
- Crew workspaces not functioning efficiently due to **lack of information and expectations**



Solution: Define solution for improved productivity

Using data produced by our smart, connected products, we provided weekly reports on the mine teams' contributions towards **higher production rates, promoting teamwork across shifts.**

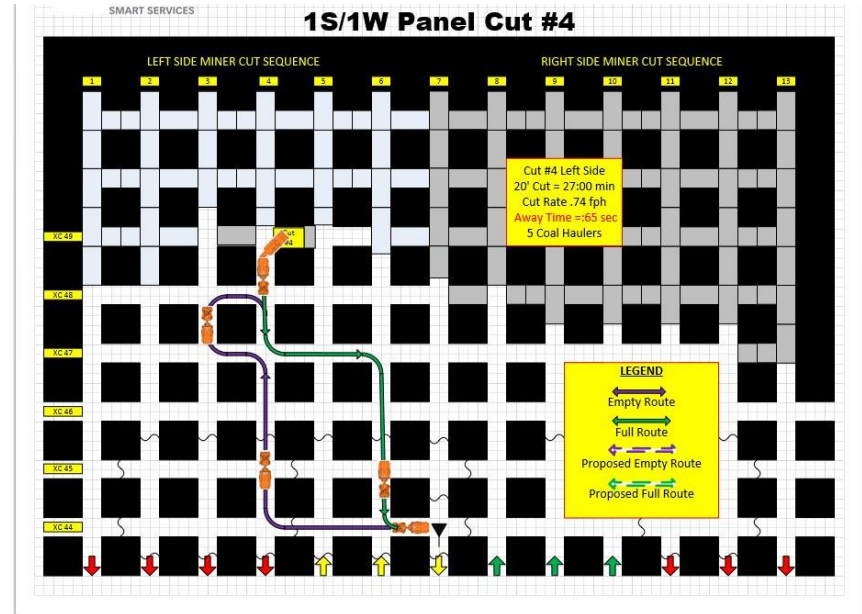
By providing the initial data to show low production levels, and then helping crews set and track methods to improve efficiency, we brought **accountability to the mine.**



Engagement Process: Working toward a solution

Using JoySmart Solutions, we tracked the mine's “**feet mined in the first production hour,**” to determine where production was falling short.

Data and monitoring revealed that previous shift workers were not leaving workspaces ready for a new shift to begin production in a **timely and productive fashion.**



Results:

Comparison data showed a **gain of 6.1 feet per continuous miner**, per shift, over the year prior
The gains result in an additional **124,440 tons produced per year**

