VALUE OF SGS’ MECHANICAL SAMPLING SYSTEMS AND ON LINE ANALYSIS IN THE COAL INDUSTRY
TOPIC SUMMARY

- Why is sampling required?
- The value of representative samples
- Mechanical versus manual sampling?
- Real-time process control
- Services provided by SGS
THE BENEFITS OF SAMPLING

- Analysis of the sample determines the product value
- Sample data allows process control
- Contract compliance and specifications are verified
COAL INDUSTRY PLAYERS

- Producers want to be paid a fair price for the quality of coal produced
- Consumers want to pay for the energy in the coal that was actually delivered
- Traders want the analysis to agree each time a shipment is sampled
ISO and ASTM standards recognize that mechanical sampling of coal generates the most representative and repeatable sampling results.
Mechanical sampling is more reliable than Manual sampling because:
• Entire coal stream is intersected and sampled
• No human bias or discretion
• System always runs the same
• Automated operation
• ISO, ASTM Standards recognize this
VALUE OF INTEGRATED PILOT PLANTS

SGS can provide:

- On-line analysis as an integral part of a sampling system
- Instant coal quality feedback to an operator
- Increase operational profitability

REAL-TIME CONTROL OF COAL QUALITY
BENEFITS OF AN ON-LINE ANALYSIS

Feed-Back Control to improve mining performance and profits.
- Ash feed-back data used to control out-of-seam dilution. Maximize value of ROM coal.
- Real quality feed-back can be used to update and maintain mine quality data base without the need of channel samples. This is real as-mined data.

On-Line Analyzer
Generates Data
- Moisture
- Ash
- Sulfur
- Ash minerals
- Heating value estimate

Information Flow
From On-Analyzer

Storage, plant or Load-out

Feed-Forward Controls
- Sort coal based on quality
- When quality from the mine is right bypassing the preparation plant and directly hitting a train.
COAL TERMINALS & POWER PLANTS

Sort coal based on quality:
- Ash
- Sulfur
- Ash Minerals

- Reduce derates
- Improve Efficiency
- Reduce CO₂/MW

Sort coal based on quality:
- Moisture
- Ash
- Sulfur
- Ash minerals to control slagging
Design, build and operate sampling systems

Have decades of expertise

Are core members of ISO and ASTM committees which developed the global sampling standards
YOUR TOTAL MECHANICAL SAMPLING SOLUTION

- Provides:
  - Inspection of existing systems
  - Bias testing
  - Systems design
  - Equipment supply
  - Turn-key construction
  - Operation and maintenance
  - Sample analysis
  - On-line analyzer systems
SGS can inspect your existing mechanical sampling systems to determine if they are operating properly and test them for bias. If problems are found, SGS will have the solutions and corrections.

The SGS sampling team, working with you, will develop sampling system designs that SGS guarantee will not be biased when tested, operate reliably and at a fair price.

SGS can supply the equipment and construction services to turn your sampling plans into a bias-free sampling system.
SGS can operate and maintain your sampling system. This insures that your sampling system is operational when needed.

SGS operations services can gather, maintain, and report data that monitor the sampling systems performance. This insures the systems SGS operates for you continue to operate in a manner that produces representative results.