

Case Study: Kumtor Gold Company, Kyrgyz Republic

Automated Data Logging for Environmental Monitoring Systems

The Challenge

Natural water systems related to mine operations are closely monitored by the environmental group at the Kumtor Gold Mine, Kyrgyz Republic. The traditional, hands-on approach to stream flow measurement and data management is labour intensive, prone to errors, and is low in both sample rate and reporting frequency. For mine operators, this slow and unreliable data hindered decision making regarding wastewater outflow, potentially resulting in environmental concerns or lost productivity.

The Need

A method for reliable automated data collection was needed to improve accuracy and increase sample resolution. The data needed to be centralized to an online server to allow for real-time monitoring and analysis.

The Solution

SRC's Development Engineering and Manufacturing team designed an automated data logging system, complete with solar power supply, communication modules and peripheral sensors.

The system was programmed with software to continuously measure stream flow from sensor inputs, record 5 minute averages locally, and to hourly upload the most recent 24 hours of data to an online environmental data repository and analysis server. Data redundancy was provided by storing a copy locally, as well as by sending repeat data in every upload.

The system was thoroughly tested before being installed and commissioned by SRC personnel at the mine site. Remote access was incorporated to allow for future expansions or troubleshooting without the necessity of travelling to site.

The final result is up-to-the-hour environmental data, accessible from anywhere with an internet connection. The centralized data server allows the site operators to make real-time decisions, as well as meet their regulatory reporting requirements.

Associated Services

- Development and Implementation of Autonomous Remote Environmental Measurements Systems
- Project Management and On-site Commissioning
- Custom Programming of Data Loggers
- Selection, Procurement and Integration of Specialized Equipment
- Meteorological Stations
- Environmental Monitoring
- Wireless Communication
- Custom Tie-in to Existing Databases
- Automated Warning Systems
- Remote Data Collection with Built-in Redundancy

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