



PROOF OF CONCEPT: TESTING SPECTOR IN EXTREME REMOTE CONDITIONS

Newmont - Goldcorp, Chile (Norte Abierto)

Core Logging Pain Point

Geological exploration is a resource consuming process, producing at times incoherent data sets, risking material misclassifications and delays. Geologists spend valuable time traveling to remote sites, for core logging and analyzing, a repetitive, time consuming task. This is a labor-intensive, costly process that often yields inconsistent results, making relogging necessary.

SPECTOR: Proof of Concept

SPECTOR is a visual core imaging technology, paired with artificial intelligence (AI), designed to log and interpret core. The unique hardware + software + AI suite, is empowering geologists and mining professionals to streamline the core logging and extract more value from the data. Since inception, in 2018, SPECTOR has been adopted by 5 of the world's largest mining companies, improving consistency, quality and timeliness of geological data.

Benefits of using SPECTOR

The objective of the Newmont - Goldcorp project was to support the fast core logging, at a large-scale mining project in Chile, where an extensive re-logging and re-sampling campaign was underway. Logistically, the team was able to transport and operate SPECTOR Optics in extreme conditions, uploading thousands of meters of photography to the Cloud, from a patchy Wi-Fi, while geologists were logging core remotely, from an office in Toronto.

RESULTS

SPECTOR OPTICS: Imaging Hardware

During the validation and testing stage, over 25,000, of core imagery was acquired, at up to 1,500 m/day. Data quality and consistency was evaluated and confirmed by client. Instrumentation passed the reliability and durability test, in extreme conditions.

SPECTOR GEO: Visual Core Logging Software

Software assisting geologists with core logging and validation passed the data acquisition test, with speed, productivity and consistency of data acquisition confirmed. Encrypted data was stored and managed from the secure Cloud.

SPECTOR AI: Machine Learning Modeling

The team of geologists deployed AI to prepare and classify lithology and alteration from acquired image data. They were able to compare and evaluate the correlation between predicted and manual interpretations, and the results confirmed the assumptions that AI can function as an assistant to the geologist, streamlining the core logging and classification process.



The initial pilot of the hardware and machine learning software has shown good prediction of geological attributes and we look forward to KORE continuing to customize their product to support site-specific needs. As a result, Newmont Goldcorp's invested in KORE, which acted as a catalyst, accelerating their product development pipeline.

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