GEOLOGICAL SERVICES CASE STUDY: GEOLOGICAL SURVEY IRELAND
Professional Core Store Management
INTRODUCTION

ABOUT GEOLOGICAL SURVEY IRELAND (GSI)

Founded in 1845, GSI is a public earth science knowledge centre located in Dublin, Ireland. GSI provides free, open and accurate data and maps on Ireland’s subsurface to landowners, the public, industry and other stakeholders. GSI also provides interpretation of data and develops models and viewers to allow people to understand underground.

ABOUT GEOLOGICAL SERVICES

Geological Services, the exploration group associated with SGS, has over 35 years of experience providing the mining industry with mineral resource estimation services using cutting edge geostatistical techniques. SGS is known globally as the expert in ore body modelling and reserve evaluation, providing a diverse array of services to clients working from greenfields exploration through to production. These services include:

- Exploration services including customizable software solutions
- Core store and core shed management
- Ore body modelling and resource estimation within our own GENESIS™ software
- Mine engineering including optimization, design and scheduling
- Mine audits including resources, reserves, mine to plant reconciliation and technical due diligence
- Technical Reports (NI 43-101, JORC and SAMREC) and Desktop Studies
- Sample selection for metallurgical tests to ensure representativity
- Data science and interpretation through XploreIQ

WHY SGS?

Due to SGS’ experience handling drill core, in-depth knowledge of analytical requirements and proven QA/QC procedures, SGS were chosen to manage the core store for the GSI.

In September 2018 SGS took over the management of GSI’s core store, with the goal of improving processes, increasing organization and optimizing daily operations. Furthermore, it is within the contract to log and store drill core data in a consistent, digital manner for easy retrieval by GSI clients.
SGS’ PROJECT SCOPE AND RESULTS

OPTIMIZATION OF DAILY ACTIVITIES AND INVENTORY MANAGEMENT

Due to GSI’s mandate of public access, SGS first ensured that the core store was functioning safely and securely as per our global health and safety requirements. The core store also was organized to become a fully functioning warehouse facility.

Steps take to optimize daily operations included:

- Rearranging container workflow to minimize carrying distance and handling of drill core
- Organization of core trays by exploration industry
- Training of staff on warehouse activity and sample farm management
- Creation of SOPs on core logging and movement of core
- Upgrading equipment for customized use
- Ensuring that health and safety procedures are followed by both staff and core store visitors

CORE DIGITIZATION LABORATORY OPERATIONS

Once the core store was functioning in a safe and optimized manner, SGS begun to log core through hyperspectral core scanning to provide GSI with digital information and extraction of alteration data. The core digitization laboratory is housed in a 40-foot sea container, customized with galvanized roofing and melamine-lined insulation. Core trays are individually placed on the unit and scanning takes approximately 2 minutes per tray. The data, including high-resolution imagery, is recorded for future use. As of 2018, SGS is successfully scanning 16,000 trays of core per year, a result of operational efficiency and safe procedures.

NEXT STEPS

SGS is working to define alteration haloes around areas of well known mineralization, picked out by identified industry core and scanning data. Providing examples of alteration haloes, detected by core digitization from the GSI’s core archives show value to the minerals industry in Ireland by providing historical information to make future decisions.

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