

# GeoMet AI | Geometallurgical Modelling

The days of geomet with block-driven traditional geostatistics are behind us. GeoMet AI delivers more **accurate, detailed, blend-level** modelling to increase recovery, product quality, and throughput.

**Know your mine. Deliver more profit.**

## GeoMet AI Team



**Luke Ashford-Hodges: Resource Geologist**

BSc Geology, MBA(Technology)

+10yrs in resource geology



**David First: Chief Geologist**

BSc (Hon) Royal School of Mines, Imperial College

+35yrs of mineral exploration experience



**Max Briggs: Chief Metallurgist**

BEng(Met), GradDip(AppFin), FAusIMM, GAICD

+25 years in Metallurgy

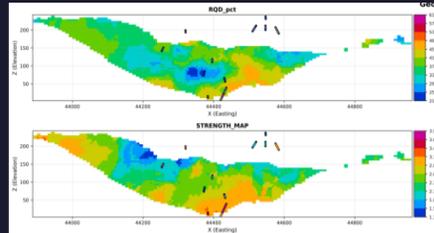


**Marko Huang: Chief Scientist**

PhD CS, University of Toronto - AI Matter (Quantum Chemistry) Lab, BaAS(Eng)

## Technology | GAUGE System (GeoMet AI Universal Geospatial Estimator)

**GAUGE** generates block models for all measured parameters based on drillhole data, fault models, and surface surveys.



▶ GAUGE Geomet Ore Controller:

**Define, batch, and blend** each packet for maximum profit.

## GeoMet AI Philosophy

**Good metallurgical models need good resource, geological, & geotechnical models**

The GAUGE system estimates every parameter – lithology, alteration, field strength, trace element geochemistry – at the same time.

**Learn from the reality of the mill, apply targeted test-work where necessary**

We focus on continuous improvement in mine-to-mill reconciliation workflow at all partnered assets and set up continuous AI learning with real plant performance.

**Mills often speak in blends**

Our goal is comprehensive ore control & mine planning integration. Our blockouts, scheduling, planning systems simulate and optimize the projected daily blend – months before the ore hits the truck.

## GeoMet Business Case Example (Epithermal Gold Operation)

We expect GAUGE to deliver comparable economics to every Au, Ag, Cu, Zn, Li operator.

### Carbon-in-Leach Recovery

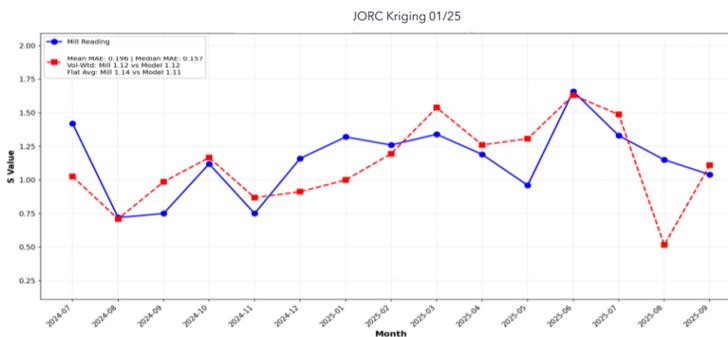
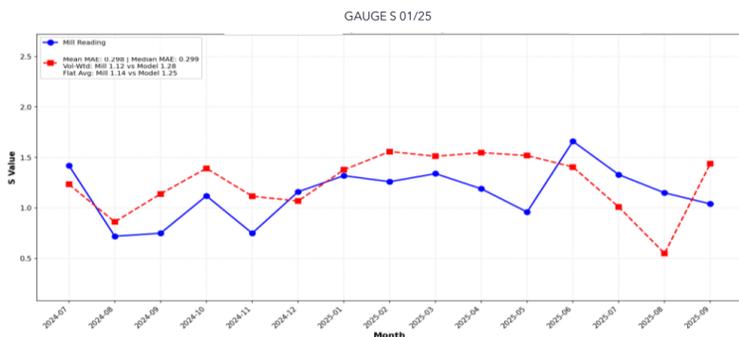
GAUGE identified that recovery is best maximizing by stabilizing the *daily* Au/S blend – achieved through reliable sulphur estimation & GAUGE geomet ore controller. The GAUGE system is on track to enable at least a **1.5% (\$5.4M USD/yr\*)** recovery increase through reliable blend-level recovery estimation backed by GAUGE S, Fe, Au modelling.

### Additional Sulfide Ore Tonnes 2028-2038

Smart blending enabled by high quality GAUGE Fe, S, Au estimation will **unlock 22 million tonnes** within existing design while still meeting concentrate specification for every shipment and meeting daily recovery targets. GAUGE planner designs mine plans to maximize concentrate quality, recovery of the **daily** blend to process these additional tonnes with minimum mine plan risk.

## Epithermal gold operation with 0.3g/T cutoff, 2:1 strip ratio, Australian operator, 12yr LOM

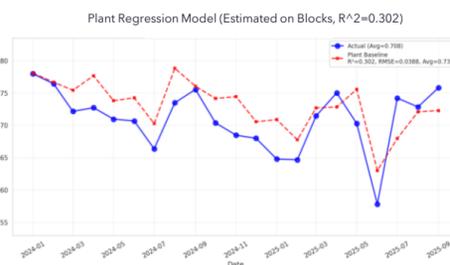
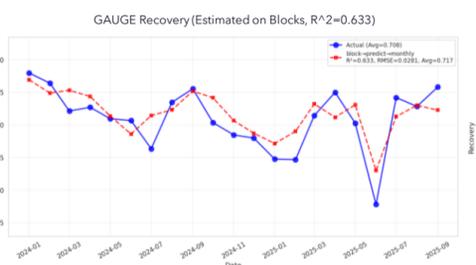
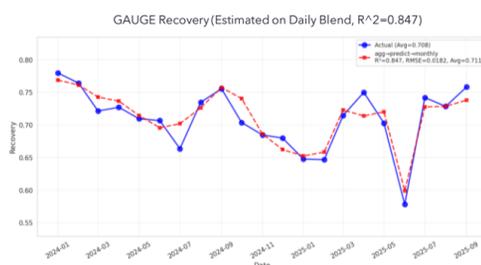
Good metallurgical models need good resource, geological, & geotechnical models



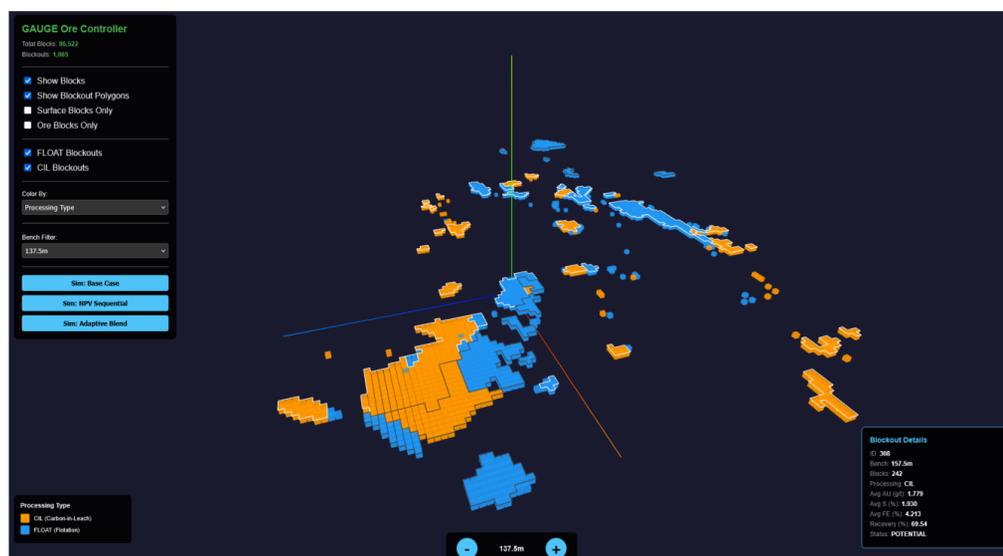
GAUGE estimates all underlying spatial parameters that are used in geomet models. At this mine, sulphur reconciled with **34%** less monthly error, iron with **30%** less error.

Learn from the reality of the mill where feasible, targeted test-work where necessary

We focus on continuous improvement in mine-to-mill reconciliation workflow at all of our partnered assets and set up continuous AI learning with real plant performance.



## GAUGE Geomet Mine Planning & Ore Control Integration



GAUGE generates optimal blockouts, blend schedules, and mine plans to achieve maximum profitability by considering characteristics on a blend basis rather than individual blocks in isolation. It is then able to derive the best plant settings (grind size, reagents) to process any blend. Plan NPV optimization considers the daily blend and reducing double handling where possible.

This **unlocks 22 million tonnes** within existing design while still meeting concentrate specification for every shipment and meeting daily recovery targets. GAUGE planner designs mine plans maximizing concentrate quality, recovery of the **daily** blend to process these additional tonnes with minimum mine plan risk.

## Common Use Cases

### Use Case #1

#### Ore Type Delineation

Reliably identify the best processing strategy (carbon-in-leach, flotation, leaching, milling etc) for each ore blockout to maximize NPV considering recovery, throughput, and concentrate quality.

### Use Case #2

#### Blend-Specific Variable Grind Targets

Schedule ore together amenable to a coarser grind to achieve 5-10% throughput improvements without adverse recovery effects while meeting product specifications.

### Use Case #3

#### Blend Optimization for Recovery & Throughput

Create optimal blends for best plant performance at the mine planning and ore control level. This includes stabilizing ore hardness and feeding the right geochemistry to maximize recovery and achieve viable concentrate quality. At this operation, improving the daily blend results in **1.5%** recovery improvement.

## Working with GeoMet AI

GAUGE will deliver comparable operational improvements across these use cases for all Au, Ag, Cu, Zn, and Li open pit and underground operations. We produce operation ready models within two weeks of initial data delivery and models subsequently update within one day through the platform.