Explore Deeper with Breakthrough Geological Technology

With economic mineral deposits increasingly difficult to detect, the search is on for less apparent, deeper and often buried deposits. Auracle generates 3-D Bare Rock Models® that penetrate ground cover and overburden to reveal bedrock formations, structures, outcrops, contacts and deposits. The structures and alterations with the highest probability of mineralization become targets. With its ability to see through vegetation and overburden, the 3-D Bare Rock Model® has successfully identified skarns, veins, VMS, Kimberlites, porphyry, SEDEX and Surficial Uranium deposits.

**FEATURES**

» The 3-D Bare Rock Model® is accurate to 1 meter

» Narrows original search areas to prospective targets

» Reveals mineralization in dimensions previously unseen

» Extracts anomalous features

» Works for surface and sub-surface deposits

**BENEFITS**

» Map large, remote and inaccessible areas

» Bring down the cost of making new, deeper discoveries

» Large and small scale capacity

» Available year round

» Does not impact the environment

» No permit or social license required

The 3-D Bare Rock Model® classifies satellite data to differentiate rock and formation types. Specialized classification techniques accurately identify and predict minerals and alteration zones.
This mineral classification map shows areas containing high concentrations of copper (red) and feldspar (green). Locations of spatial correlation of copper and feldspar are identified (yellow) prospective targets.

**PROCESSING AND PRODUCTS**

» Advanced remote sensing technology that fuses optical and radar satellite imagery.

» WorldView-3 super-spectral optical satellite images are classified to differentiate mineral deposits and rock types.

» Synthetic Aperture Radar is not affected by weather or atmospheric conditions and penetrates vegetation, ground cover and overburden to allow for the identification of buried geology.

» Results in integrated and corrected geological, geophysical and geochemical datasets.

» A cost-effective alternative to ground surveying and airborne LiDAR mapping.

» For operating mines, existing knowledge about the known deposit is applied to a 3-D Bare Rock Model© to identify near-by but yet unexplored targets.

» Models can be regional, property or project-specific scale.

**ORDERING AND DELIVERABLES**

In constructing the 3-D Bare Rock Model©, a high resolution Digital Elevation Model is produced. Each Model includes geological structural lineament extraction. Fault and fracture models, with strike and dip interpretation are also produced. Geological interpretations and upgraded geological maps, accurate to 5 meters, provide more constraints for modeling geochemistry data and constrained inversion of geophysics data. All deliverables are distributed and stored on a secure client ftp site and every project includes a technical report. Contact Auracle Remote Sensing to receive a customized quote.

The 3-D Bare Rock Model© lays the foundation of an upgraded geology map that removes map boundary dissonance and corrects features and attributes. The original geology map (image 1) is adjusted to align mapped domains with positions on the ground to correct locational error (image 2.) The upgraded geology map (image 3) is accurate to 5 meters.