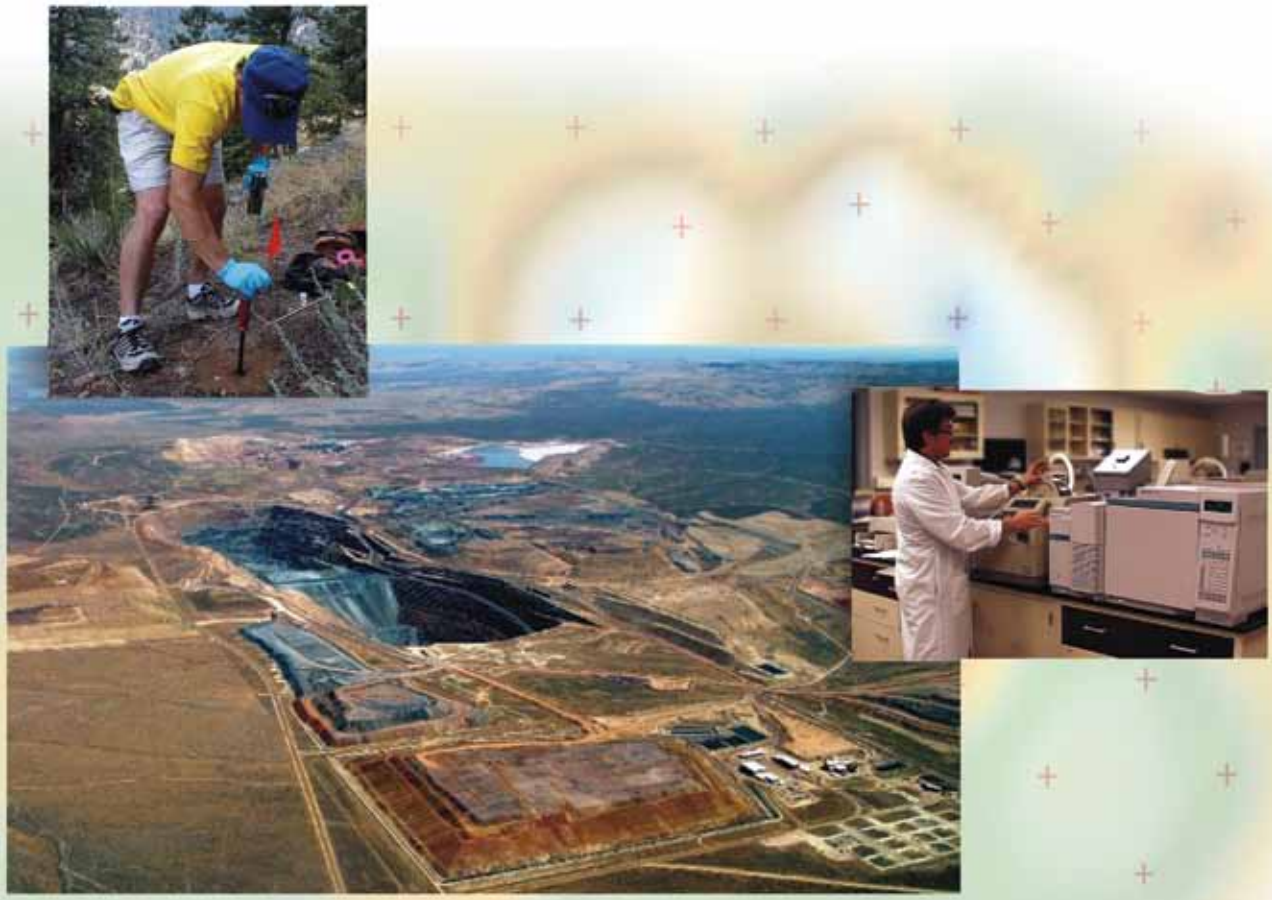
AMPLIFIED
GEOCHEMICAL
IMAGING, LLC



For Mineral Exploration

Advanced Technology for the Detection of Buried Mineral Deposits

Increase your probability of success:
AGI Surveys for Mineral Exploration can detect buried mineral deposits.

Yields sensitive, compound specific results

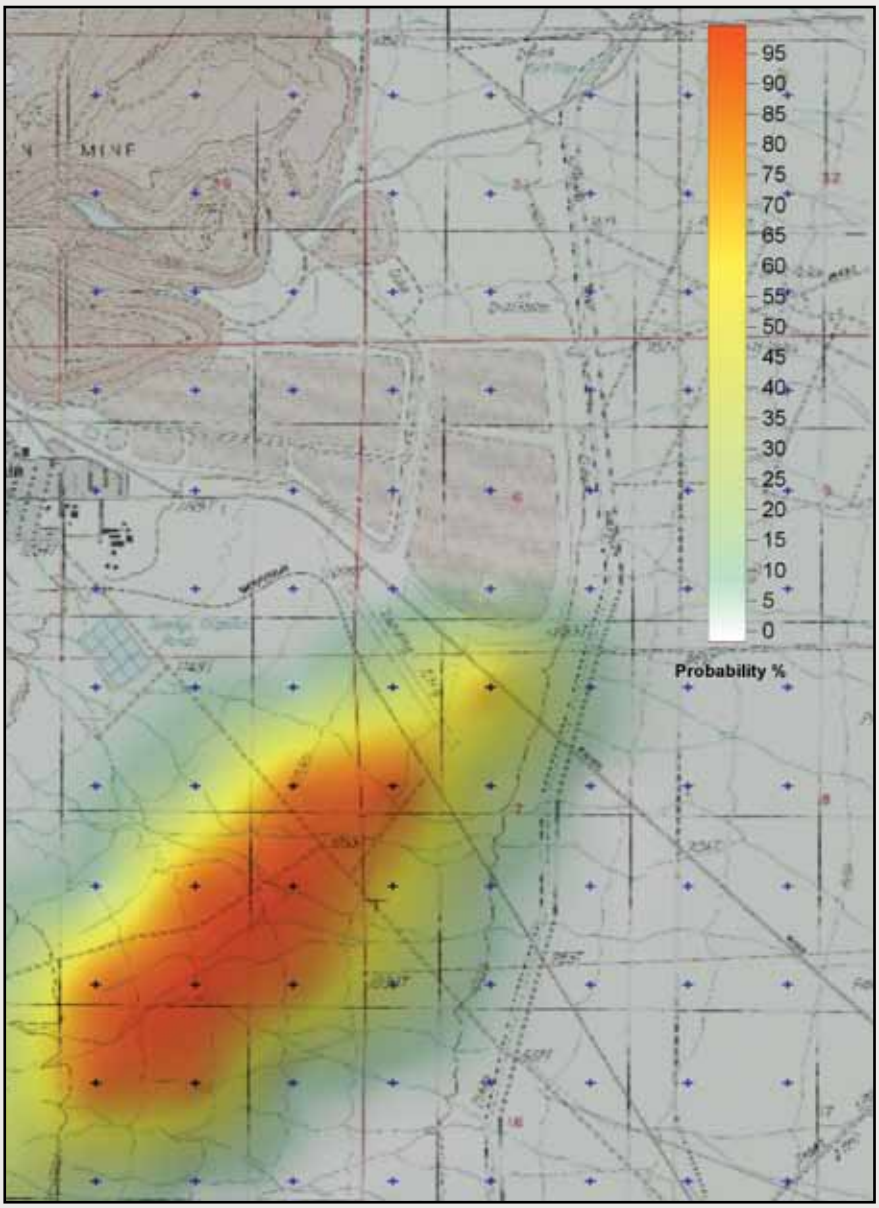
Analytical compound standards

- About 90 compounds - through C_{20}
- Aliphatics
- Aromatics
- Oxygenated compounds
- Inorganic and sulfur compounds
  - H_2S Hydrogen Sulfide
  - S_8 Molecular Sulfur
  - $(CH_3)_2S$ Dimethylsulfide
  - CS_2 Carbon disulfide
  - COS Carbonal sulfide
  - SO_2 Sulfur dioxide
  - Mercury

The AGI Universal Sampler was originally developed for environmental site assessment and oil and gas exploration surveys.

AGI's Experience - 1992 to present

- Thousands of surveys
- All major continents
- All climates
- All site conditions



History of Geochemical Exploration

- **Antiquity - Early 20th Century Geochemical Techniques**
  - Panning
  - Stream Sediments
  - Soils
  - Outcrop

- **Key Technological Milestones - Next 70 Years**
  - Botanical
  - Biogeochemical (Bacteria)
  - Aqueous geochemistry
  - Lithogeochemistry
  - Active gas sampling (CO_2/O_2)

- **Recent Technology Milestones – Last 5 Years**
  - Adsorbent-based passive (time integrated) in situ soil gas sampling
  - Increased sensitivity to a wider range of volatile organic and inorganic compounds
  - High-resolution compound specific analyses

3-D's of Surface Geochemistry

- **Detection**
  - Direct detection of active gases from mineralization
- **Differentiation**
  - Inorganic and organic compound specific soil gas signatures
- **Delineation**
  - Define and delineate extent of inorganic and organic gas emanations from buried mineralization

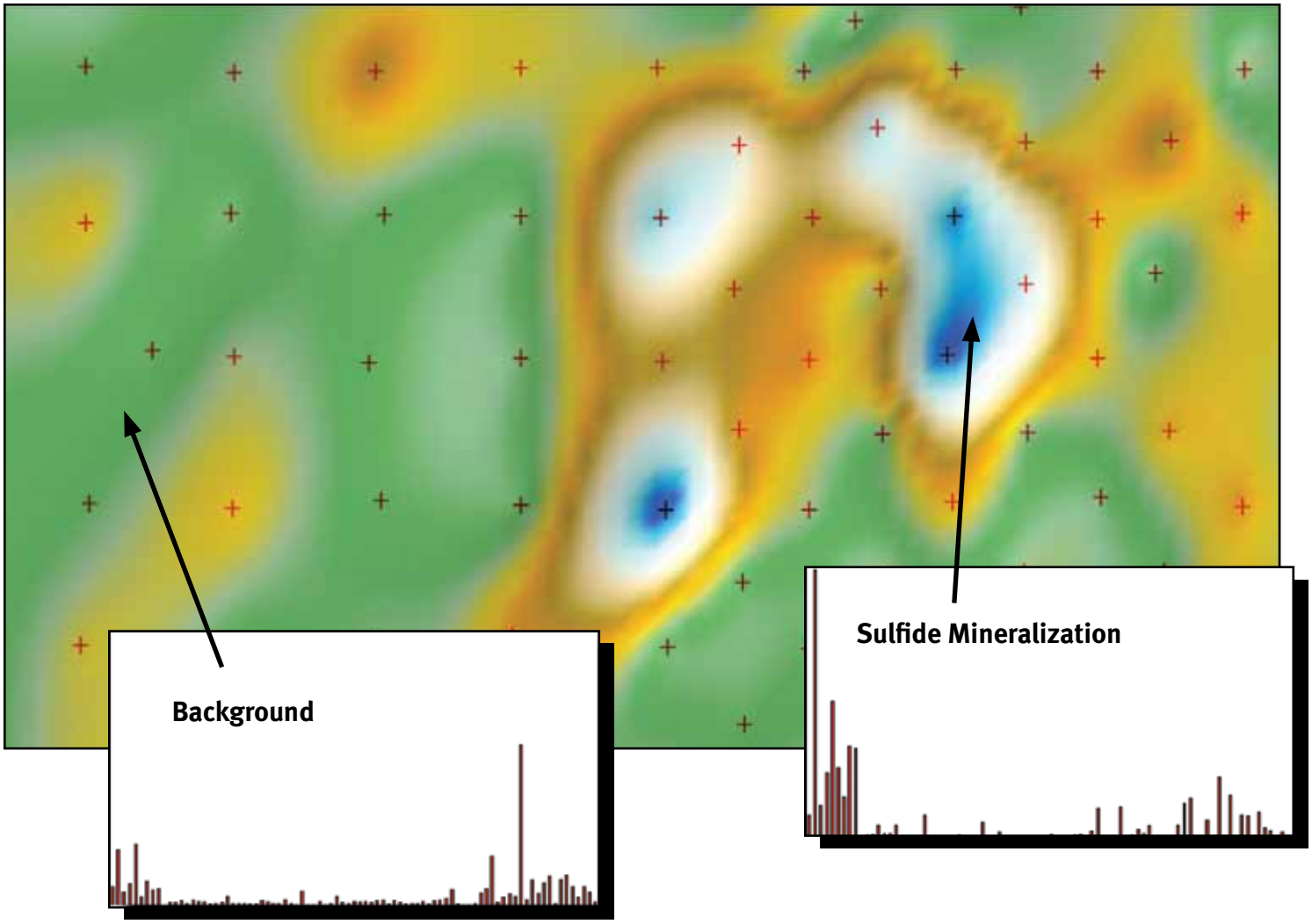
Reserve Expansion

Desert

Arctic

Jungle or Swamps

SURFACE GEOCHEMICAL MODELING



AGI's approach to geochemical modeling and interpretation is a significant departure from traditional surface geochemical methods. This approach uses quantified inorganic and organic gases to differentiate mineralized regions from country rock, shallow pollution, or vegetation. AGI's geochemical modeling falls into two general categories depending on the exploration objective.

In **mine site exploration** applications, AGI Universal Samplers are installed at locations of known mineralization and non-mineralization. The geochemical soil gas signatures, determined from these known sites, are compared with soil gas signatures over the unknown areas, using multivariate statistics, to identify prospective areas. This method is empirically based as drill sites are employed in the survey design for surface soil gas sampling.

In **grass-roots exploration** where no known mineralization exist, geochemical modeling consists of identifying geochemical anomalies in the soil gas signatures using statistical clustering, factor analysis and other statistical techniques.

The results are presented as color contour maps of the geochemical anomalies. Geophysical information and other exploration data can be integrated with the soil gas results in your map compositions.

Why are these modeling techniques favored by AGI?

Proper geochemical modeling requires multivariate target compound data collected at each sampling location, as provided by an AGI Survey survey. The statistical processing of this rich dataset enables more reliable classification of prospectivity, when compared to other geochemical sampling and interpretive techniques that are based on narrow compound or elemental suites.

QUESTIONS AND ANSWERS ABOUT AGI SURVEYS

What is "passive" sampling of soil vapors?

Passive refers to the time-integrated collection of soil vapors via a buried, sorbent-based collector, over an extended period of time (typically 30-60 days).

How does passive sampling of soil vapors compare to other geochemical methods?

Passive sampling is based on the direct detection of vapors emanating from mineralization which is different from many other surface geochemical techniques.

The primary advantages of passive sampling (days) versus short term, "active" sampling (minutes) include the ability of passive techniques to successfully work in soils with low permeability or high moisture, to work in a variety of ambient conditions and to detect a broader range of compounds than active methods.

What impact does the deposit depth have on the success of surface geochemistry?

In theory, the deeper the mineralization, the more sensitive the surface technique needs to be. Successful surveys have been conducted over deposits as deep as 1,800 feet.

Can different oxidation states or zonation be separately identified?

This is possible if the sources are chemically different. Integrating sample data from known mineralized zones and background areas (modeling) is critical for success in this application.

Does surface geochemistry also identify the depth to the mineralization?

Surface geochemical methods primarily delineate the aerial extent of mineralization but do not yield information regarding deposit depth.

Does surface or shallow contamination interfere with results?

Organic compounds from shallow contamination can be detected but, with the appropriate geochemical method, can be excluded from the final geochemical interpretation.

How does soil type or moisture impact results?

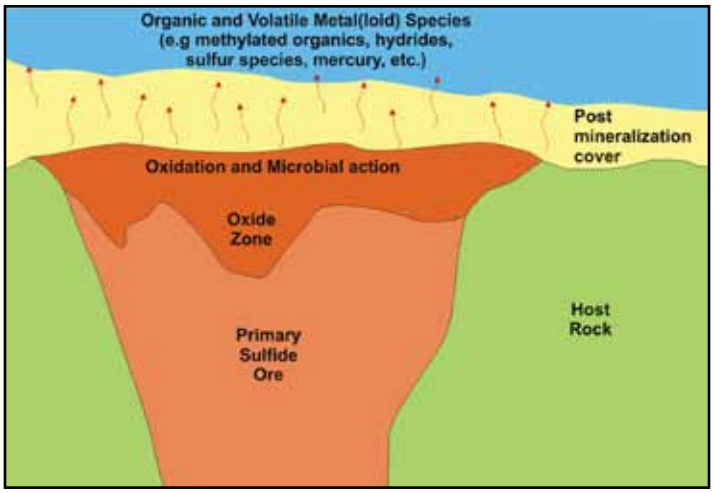
Sampling with passive techniques is integrated over time, therefore these impacts are minimized and do not affect results. However, results from active soil gas methods that sample over a very short period of time can be significantly impacted by soil moisture or permeability.

What is the source of the gases detected over ore deposits?

Possible sources of organic gases include methylated compounds from bio-oxidation, organic compounds incorporated in the hydrothermal fluids from sedimentary rocks, or oxidation reaction products, especially sulfur compounds.

What is the optimal sample spacing?

This varies with deposit type; a porphyry system may only require one sample per square kilometer, whereas a vein deposit would require closer sample spacing. We work closely with the client's exploration staff to clearly understand the objectives and deposit model in order to design an effective survey.



The AGI Universal Sampler allows for the direct detection of organic, organometal(loid) and inorganic compounds at the surface through hundreds of feet of post mineralization cover.

A SYSTEM DESIGNED FOR ACCURACY

When you're exploring for buried mineral deposits ... accuracy counts

An AGI Survey is the most accurate and comprehensive surface geochemical sampling technology available for use in mineral exploration for buried mineral deposits. Accuracy translates directly into fewer non-mineralized holes and increased success rates when used as part of your overall exploration program. This high level of accuracy is achieved from the combination of these unique elements:

- **AGI Universal Sampler**

  This patented, passive, sorbent-based vapor collector is constructed of expanded polytetrafluoroethylene (ePTFE) membrane. ePTFE is a microporous, chemically inert polymer that is ideal for collecting soil vapor samples while preventing soil and water from impacting the sorbent integrity.

  – **Engineered sorbent system for direct detection of organic and inorganic gases**

  sorbents are selected for their sensitivity to a broad range of compounds, hydrophobicity relative to water vapor, and the ability to "hold" onto these compounds at atmospheric conditions; sorbents provide consistent sampling media, and eliminate variability associated with the use of soil as a sorbent media

  – **Sorbents housed in ePTFE**

  sorbers are sealed inside a hollow insertion/retrieval tube comprised of ePTFE

  – **Replicate samples**

  within each module, allowing for backup or alternative analysis, if required

  – **Unique identification**

  modules uniquely numbered to ensure rigorous QA/QC, and accurate sample tracking from module manufacturing, field installation, and laboratory analysis, through mapping and final reporting

  – **Highly durable collector design**

  makes installation and retrieval simple, with no need to case the hole

- **Time-integrated sampling**

  eliminates impacts caused by variations in soil permeability or moisture; maximized sensitivity to a broad range of organic and inorganic gases

- **Gas chromatography/mass spectroscopy (GC/MS) analysis**

  yields sensitive, compound-specific results that are used in identifying buried mineralization

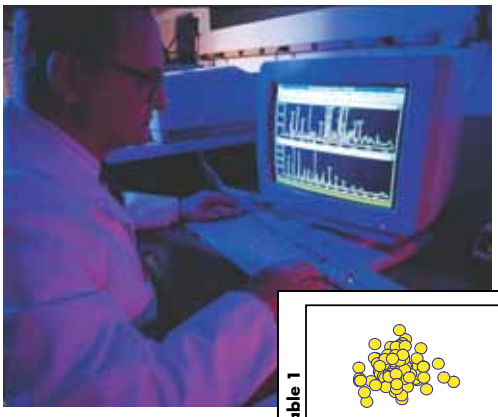
- **Geochemical modeling and interpretation**

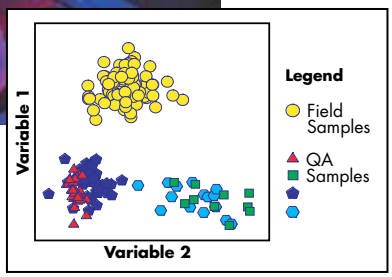
  differentiates mineralization related compounds from those associated with vegetation, host rock, or shallow pollution

Analysis & Quality Assurance (QA)

The efficient desorption and analysis of organic and inorganic gases from the AGI Universal Sampler is a critical part of maximizing the sensitivity of this technology.

- **GC/MS analysis** yields sensitive, compound-specific results.
- **Robust laboratory QA program** includes routine analysis of method, instrument, trip blanks, and over 100 target compounds.
- Based on **ISO** guidelines.





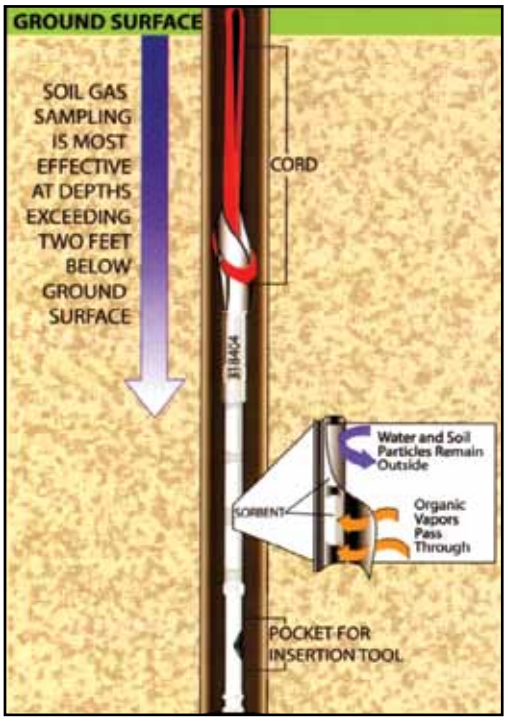
HOW TO INSTALL THE AGI UNIVERSAL SAMPLER

During AGI Universal Sampler installation, the field technician uses hand tools to make a small pilot hole (1cm diameter) to a shallow depth (50-60 cm).

As each AGI Universal Sampler is removed from its container, the serial number and corresponding site information are recorded.

The insertion rod is placed into the pocket in the end of the module and then inserted into the pilot hole.

The sample location is marked and the coordinates are recorded using GPS hand units.



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