



Environmental Solutions for Mining

HGI uses advanced geophysical technologies to map the presence, or movement, of mining-impacted water. We develop site-specific surveys to find your source, understand the impact, and provide recommendations to mitigate your risk.

Monitoring & Managing Environmental Challenges



Environmental Geophysics

Monitoring & Managing Environmental Challenges

HGI has extensive experience characterizing the subsurface to map plumes from PLS seepage, acid rock drainage, unintentional waste discharges and spills. Our geophysical approach to these environmental challenges ensures you receive the highest quality service while balancing your detection/mapping goals with mining site logistics and project costs to maximize project value.

- Acid Rock Drainage (ARD)
- Leak Detection
- Groundwater
- Plume Mapping
- Contaminant Source ID
- Seepage Mapping

Mina Inmaculada Peru Goldcorp Barrick Dominican Republic
Resolution Copper Florence Copper Los Filos Mine

WE GET THE BIG PICTURE

HGI is an innovative, solution oriented geophysical consulting company and service provider to the environmental, engineering, ground water, mining, oil & gas, and natural resource exploration industries. We specialize in the application of 3D geophysical methods for time lapse subsurface characterization and monitoring of fluid flow through geologic materials.

Innovation, quality of work, focus, and flexibility are hallmarks of HGI's service. Our ability to create custom-fit solutions based on individual client needs makes us an industry leader in the field of geophysics and geosciences.



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Mining Geophysics

For more information [hgiworld.com]

Exploration

Innovative Geophysics



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It's Your Greatest Asset

Heap Characterization

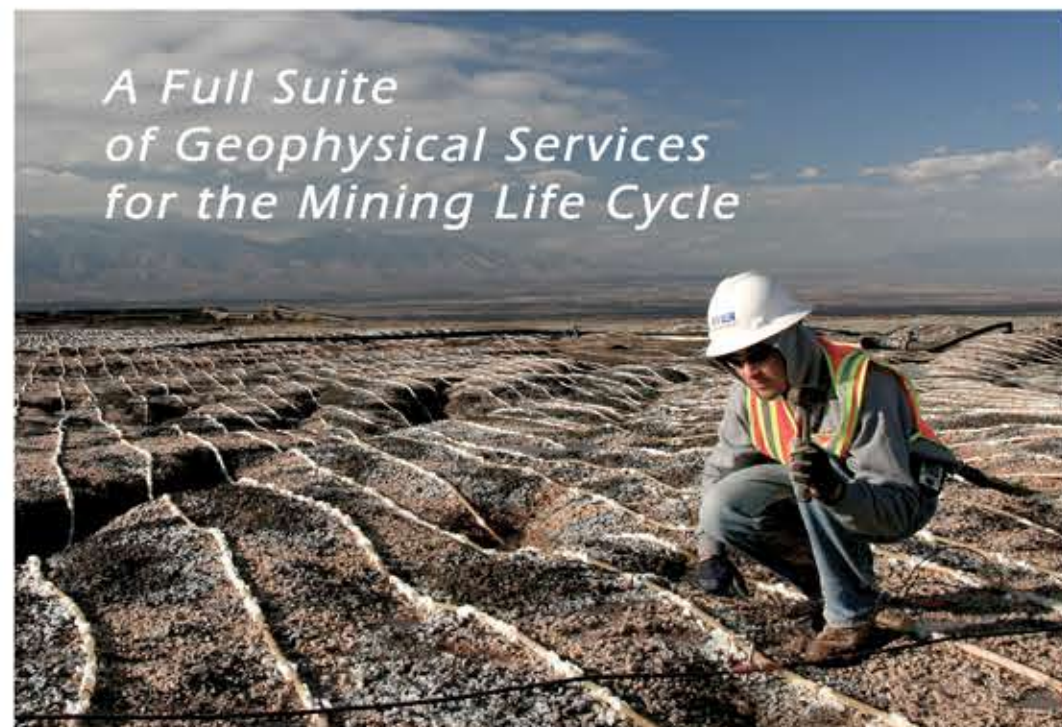
Heaps are a mine's greatest asset and a significant amount of unrecovered metal inventory may be locked within them. HGI's experience has shown that up to 40% of the ore inventory may remain unrecovered due to inefficient leaching. We can help you unlock that potential and realize hidden value in your heaps through geophysical characterization.

Injection Monitoring

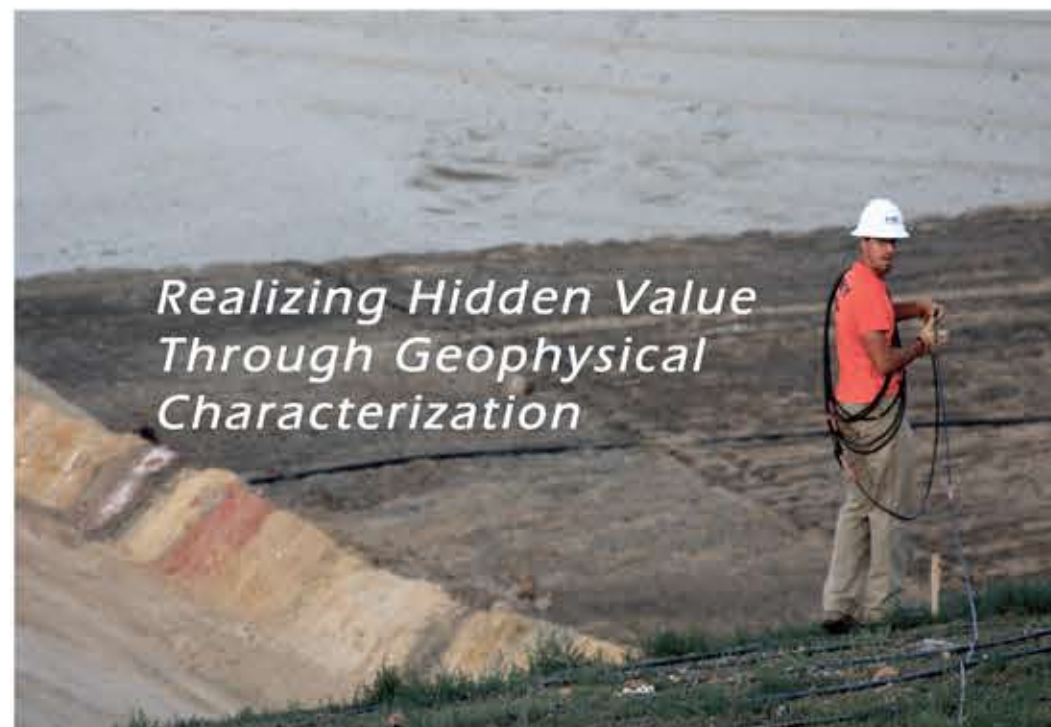
A Billion Gallons of Experience

Enhanced recovery programs can yield an additional 2% to 5% of total metal recovered in just a few years, with a significant return on investment. HGI has developed a set of monitoring and validation tools that can track the success of subsurface leaching, assuring the delivery on that investment.

A Full Suite of Geophysical Services for the Mining Life Cycle



Realizing Hidden Value Through Geophysical Characterization



Geophysical Monitoring - Extending Production and Reducing Risk



Exploration

Ore Body Location & Delineation

HGI's geophysical exploration methods provide useful and cost-effective information to identify the physical properties of commercially viable concentrations of minerals. Our geophysicists, geologists and engineers have extensive experience applying these methods to target the presence and location of viable mineral deposits for the mining industry.

- Seismic
- Gravity
- Magnetic
- Resistivity
- Induced Polarization
- Electromagnetic

Heap Characterization

Heap Permeability Analysis & Assessment

HGI's geophysical analysis offers the ability to see a broad picture of the dynamic and interrelated systems at work inside heaps. We apply the information acquired from the assessments and tailor geophysical surveys at metal mines to help drive innovative means of extraction, resulting in increased production and revenue.

- Compaction
- Pooling
- Seeps
- Drainage
- Perched Solution
- Liner Integrity

Injection Monitoring

Heap Mitigation & Recovery Optimization

With our state-of-the-art, 180-channel geophysical monitoring system, we can provide the highest resolution (16 bit) and fastest data acquisition of any method available today. The Geotection™ system monitors and maps the performance of enhanced recovery subsurface leaching, rinsing, or injection methods, reducing risk and ensuring project success.

- Slope Stability
- Water Balance
- Recovery Est.
- Metal Liberation
- Reagent Consumption
- Injection Mapping

Our Clients

Apollo Gold / Jipangu ASARCO Freeport McMoRan Cotter Corporation Inland Explorations Kennecott Mining Rio Tinto KGHM
Alamos Gold Anglo Gold Barrick Coeur Mining Kinross Gold Newmont Mining Sago Mine Pacific Copper