HEAP SOLUTIONS
A hydro GEOPHYSICS SERVICE

Acid Rock Drainage

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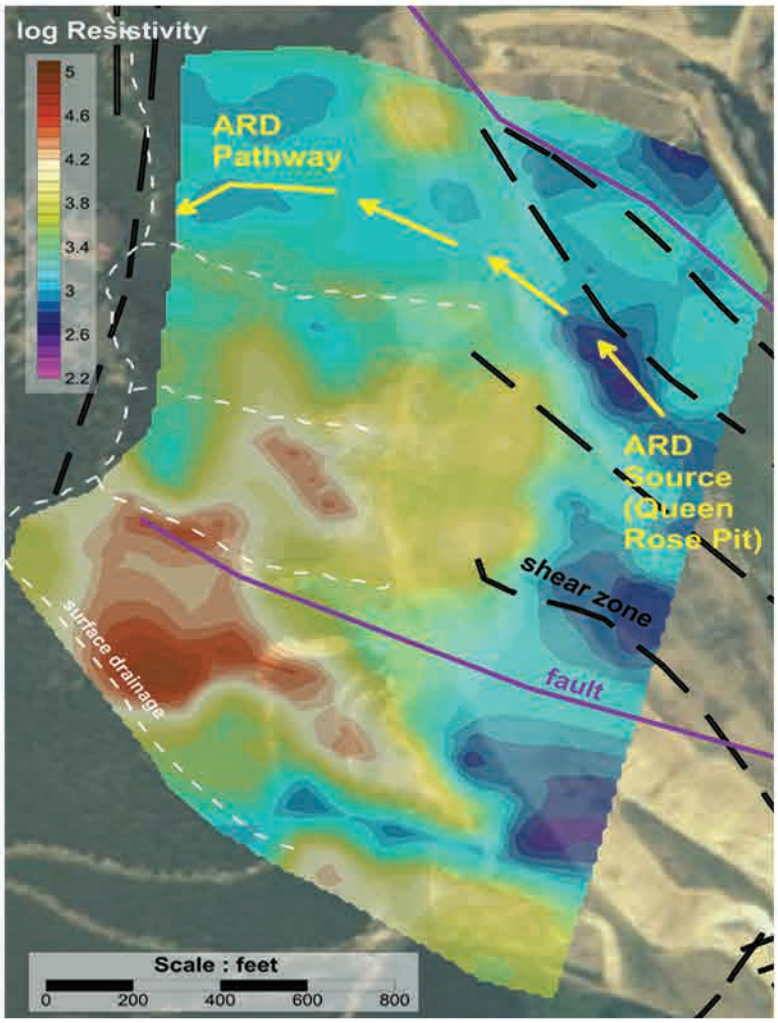
Acid Rock Drainage

Acid rock drainage (ARD) has far reaching environmental consequences, from water pollution to toxicological effects in biota. Acidic solutions can easily dissolve and transport heavy metals and inorganics through soil and groundwater. ARD is considerably more electrically conductive than the host material and provides a perfect target for imaging with geophysical techniques. Both electrical resistivity and induced polarization can map the pollutant, whether it is the amount of total dissolved solids or the oxidation of reduced iron species (e.g., pyrite).

Mapping ARD

HGI has a significant history of mapping ARD using geophysical methods. Our record of identifying flow paths and source areas has helped solve many difficult problems. The example to the right shows the results of a 60 acre resistivity survey at the Landusky mine in Montana. The pit had been reclaimed but ARD was persistent. Initial drilling and characterization was only marginally effective due to the geological structure that gave rise to the initial gold deposit and controlled how ARD moved offsite. Electrical resistivity geophysics allowed a re-focus for characterization of the low pH, high TDS groundwater plume seeping into Swift Gulch.



Years of Experience

HGI has over 18 years of experience in geophysical characterization and monitoring. Our multidisciplinary professionals will support all aspects of your project, helping your organization minimize environmental damage and maximize compliance. Our investigative tools can be applied to tailings, heaps, reclaimed lands, landfills, and other related facilities.

About HGI

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.

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