

Landfill Characterization & Monitoring



Characterize Extent of Landfill Debris & Waste

Differentiate Distribution of Moisture Regimes

Map Shallow Bedrock Topography

Delineate Leachate Plumes

Clarify Potential Groundwater Impact

We Image the Subsurface.

Your Environment Benefits.

www.hgiworld.com

Tucson, AZ • Richland, WA



Landfill

Characterization & Monitoring

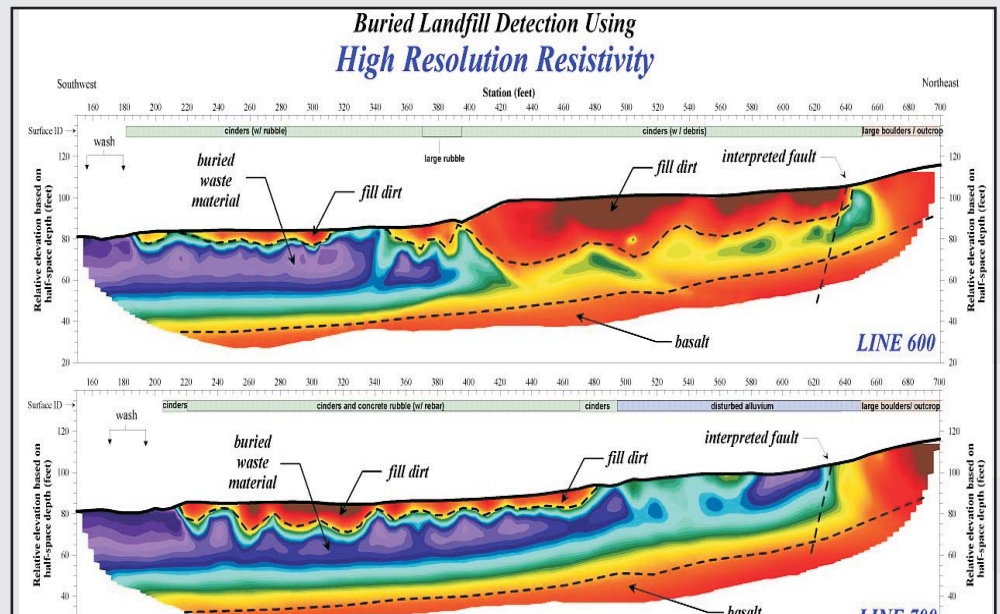


High resolution resistivity (HRR™) is an enhanced galvanic resistivity method developed specifically for imaging subsurface variations in geology, pore space water content, and pore water chemistry.

As with all galvanic resistivity methods, electric current is injected at known points on the surface or within the subsurface. The resulting electric potential field is measured at known locations relative to the current injection point, most often along linear 2D traverses. Use of a 3D network of electrodes and borehole to borehole configurations is becoming more common. RTK GPS surveys are completed to obtain necessary precision for electrode position and elevation data.

Data are processed with HGI's proprietary HRR™ algorithm to directly create 2D resistivity versus depth image sections, 3D volumetric renderings, or resistivity tomograms visualizing lateral and vertical changes in resistivity. The HRR™ algorithm readily accommodates surface topography.

Though HRR™ is most often employed to image the subsurface at a single point in time, it is also used for time lapse 3D imaging of hydrodynamic processes. Example applications include monitoring solution infiltration through a rock pile, leachate formation within a landfill, and grout injected into a void. Since 2002, HRR™ has been successfully employed to detect, monitor, and characterize contaminant emissions from large, (i.e. > 1 million gallons) underground storage tanks containing toxic, radioactive waste at the US DOE Hanford Nuclear Reservation near Richland, WA.



A trailer mounted large channel system designed and built by HGI is used to acquire time lapse resistivity monitoring data. The system is configurable for 2D and 3D characterization surveys.

HGI is an innovative, solutions oriented geophysical consulting and services provider headquartered in Tucson, AZ with offices in Richland, WA

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