



HALEY WARD

ENGINEERING | ENVIRONMENTAL | SURVEYING

Geophysics Site Characterization Service

Haley Ward recently added Geophysical capabilities to our suite of services. Geophysics offers a comprehensive and cost-effective approach to subsurface site characterization and can reduce costs, increase margins of safety, improve project efficiency, and enhance subsurface detail.

Widespread Use Throughout Environmental and Engineering Projects

Project-specific requirements and site conditions are used to identify the proper geophysical approach, if any, to provide a means to safely and efficiently aid in site characterization. Single techniques or integrated approaches can be used to provide valuable subsurface information. Resulting geophysical information can be used in multiple aspects of project implementation.

For example, geophysical data can be used in simple boring and utility clearance applications to more complex conceptual site model (CSM) refinement and generation. Surveys can also be used to provide rationale for drilling programs and target specific areas of interest. Our diverse experience and familiarity with unique and technically complex project sites allows us to determine a geophysical approach to meet project objectives.

Generating a More Complete Subsurface Model and Enhanced Data Correlation

Information on the location and approximate dimension of voids, subsurface geologic structure, etc., can be obtained reliably through proper planning and implementation of geophysical techniques. Geophysics is valuable when used for strategic well or boring placement or when specific subsurface information is required (e.g. bedrock topography between wells). Added versatility is achieved by collecting one or more techniques that can be utilized and processed individually or integrated to generate of a more complete subsurface model. Geophysical methods can often be adjusted in the field to change the depth of investigation or increase data density by modifying collection parameters or survey techniques. The flexibility of geophysical techniques to be modified to suit a variety of

What is Geophysics?

- A tool designed to aid in obtaining subsurface information
- A process to aid in making decisions
- A project component that can help fill in gaps
- A tool with unparalleled advantages

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standard and unique geologic and engineering scenarios makes it a valuable subsurface imaging tool.

Haley Ward's Approach

Through Haley Ward's three technical divisions we dedicate experienced professional consultants to identify a sensible solutions approach toward project development, implementation, and outcome. We can use Geophysics at the project onset to determine the proper tools and services for the job.

We utilize industry-standard, state-of-the-art equipment, software, and techniques to aid in the evaluation of site assessment needs. From simple boring clearance surveys to more complex 2D/3D ERI tomography for visualization of geologic structure, Haley Ward's long-standing history in the industry translates to client satisfaction and confidence in our services and capabilities. Haley Ward provides regular interdisciplinary approaches to developing a turnkey approach that our clients have come to expect. Whether this means we integrate geophysics into the development of a geotechnical drilling program or use utility locating techniques to supplement subsurface site investigations, having internal capabilities that compliment other areas of expertise allows for a seamless approach to multiple project demands.

Services Offered

Infrastructure Mapping/Utility Locating

- Utility Clearance
- Infrastructure Mapping

Geologic/Hydrogeologic

- Karst Topography
- Structural/Fault Mapping
- Bedrock Characterization
- Shallow Stratigraphic Mapping
- Water Resource Investigations

Key Geophysical Services

- Electromagnetic Surveys
- Resistivity Grounding Grid Surveys
- 2D/3D Electrical Resistivity Surveys
- Ground Penetrating Radar (GPR)
- Seismic Refraction and MASW
- Metal Detection and Utility Surveys
- Concrete Evaluation and Rebar Locating