

geology geophysics for

Energy | Mining | Construction | Engineering |
Environmental | Natural and Cultural Resources

Company Overview

Cordillera Geo-Services (CGS) is certified as a Texas Historically Underutilized Business (HUB), a Minority-Owned Business Enterprise (MBE), and a Disadvantaged Business Enterprise (DBE) company. At CGS, we understand the issues sustaining our civilization and future generations. We aim to apply geoscientific and engineering knowledge and expertise to find and use the Earth's natural resources, foresee and avoid natural hazards, and contribute to developing safe infrastructure to improve human lives.

Our Markets

We offer a wide range of professional geoscience services, such as geological and geophysical, to several markets, including mining, energy, environmental, construction, engineering, and natural and cultural resources.

What are Geological Services?

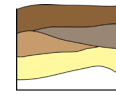
Geological services provide geological information for various purposes and types of projects. Geological information can benefit projects involving mineral exploration, petroleum and gas exploration, groundwater exploration, environmental assessments, cultural resources management, and geotechnical and civil engineering design. Hence, geological services can be used in various industries such as engineering and construction, mining, groundwater exploration, water resources management, and oil and gas extraction. Geological information is precious to decision-makers because it provides data that professional geologists have carefully analyzed.

Typical Geological Services and Applications

- Soil Mapping
- Geologic Surveying
- Geologic Assessment
- Basic Desk Geological Report
- Site-Specific Desk Geological Report
- Geotechnical Site Investigation for Residential and Commercial Land Development
- Geologic Hazard Studies
- Geological Mapping and Modeling
- Mineral Resources Evaluation
- Geological Mining Studies
- Geoarcheological Surveying
- Mineral exploration with geophysical methods
- Groundwater exploration
- Bedrock/Karst mapping
- Rippability studies
- Fracture Zone Detection
- Weathered Zone Detection
- Seismic Site Characterization
- Geologic Logging
- Petrographic Rock Analysis
- Borehole Drilling Support Services
- Rock Sampling for Petrographic, Geochemical, Mineral Assaying, and Geochronological Analysis
- Interpretation and Integration of Petrographic, Geochemical, and Geochronological Data
- Geographic Information Systems (GIS) and Georeferencing

What are Geophysical Services?

Geophysical services are a suite of non-invasive, non-destructive remote sensing methods that explore the Earth's interior (shallow or deep), particularly seismic (reflection, refraction, surface waves), electrical, electromagnetic, magnetic, gravity, and radioactivity methods. Exploration geophysics is of particular commercial interest. Exploration geophysics deals mainly with applications of geophysical techniques to solve geothermal, groundwater, hydrocarbon, and mineral exploration challenges and targets of engineering and environmental interest residing at shallower depths. CGS has the knowledge and expertise to assist you in your projects. CGS offers numerous geophysical exploration services to various sectors, including energy, environmental, mining, natural resources, engineering, construction, and cultural resources management.



Typical Geophysical Services and Applications

The breadth of geo-services CGS performs extensively. Below is a partial list of technical problems commonly tackled with geophysical services.

Geological Problems

- Caves, voids, and sinkhole detection
- Subsidence, cavity, and karst mapping
- Bedrock profiling
- Shallow geological mapping
- Locating fractures, faults, and other shallow subsurface structures
- Archeological and Forensic problems

Archeological Investigations

- Excavation planning
- Unmarked grave locations
- New cemetery plot layouts
- Geoarchaeological surveys
- Geomorphic investigations
- Forensic evidence locating

Engineering Problems

- Drainage tiles mapping
- Clandestine tunnel detection
- Subsurface Utility Engineering (SUE) applications:
 - Locating water lines
 - Metallic and non-metallic utility mapping
- Construction applications:
 - Location of buried foundations and basements
 - Void detection
 - Locating beams
 - Bridge deck surveys
 - Floor surveys
- Concrete applications:
 - Concrete slab scanning and imaging
 - Measure slab thickness

- Find rebar, post-tension cables, conduits, and non-metallic objects
- Void detection
- Clearing of boring locations

Environmental Problems

- Site assessment
- Landfill, waste pits, and trenches delineation
- Shallow water table mapping
- Mapping groundwater pollution
- Locating Underground Storage Tanks (UST) and drums

Mineral Exploration Problems

- Mine safety
- Rock quality mapping
- Sand and gravel (aggregates) mapping

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