



Statement of

QUALIFICATIONS



Advantage Geophysics, Inc.
Gilbert, Arizona
San Diego, California
Portland, Oregon
www.advantagegeophysics.com



About Us

Advantage Geophysics, Inc. (Advantage) provides professional geologic and geophysical consulting services through non-destructive methods. We strive to ensure that preliminary geophysical exploration can prevent unforeseen and costly complications.

The use of geophysics can provide beneficial information regarding site structural, geologic, geotechnical, hydrologic conditions, and subsurface infrastructure often providing innovative and cost-effective solutions to our clients, reducing site exploration costs, and minimizing unexpected site conditions.

We pride ourselves on our ability to perform almost any geophysical evaluation under challenging conditions, while preserving data quality. We use state-of-the-art geophysical instrumentation for data collection, GNSS equipment for spatial control, and blue listed drone equipment for large scale projects. Some commonly requested services include:

- Private utility locating and mapping.
- Seismic refraction for depth to bedrock and bedrock rippability.
- Ground Penetrating Radar (GPR) for asphalt and concrete thickness or rebar and cable locating.
- Refraction Microtremor (ReMi) for IBC Vs100 and seismic Site Class.
- Multichannel Analysis of Surface Waves (MASW) for seismic shear wave and void detection.
- Seismic reflection for fault detection.
- Electric Resistivity Tomography (ERT) for void detection, depth to bedrock, karst detection.
- Wenner array ASTM G57 and IEEE Std. 81 soil corrosion and grounding studies.
- Surface to downhole and cross hole seismic (ASTM D7400 and D4428).
- Hybrid-Source Audio Magnetotellurics (HSAMT) for groundwater, well siting, lithium brine exploration, or fault detection.
- Ground vibration monitoring.
- Magnetics (MAG) and Electromagnetics (EM) for underground storage tanks (UST), abandoned well detection, or landfill delineation.
- Gravity evaluations for geologic structure and fault detection.

Our team members are highly qualified and experienced geologists and geophysicists, with knowledge and experience over the full range of survey techniques, each providing complementary skills, while working proficiently, effectively, and safely. Advantage is based in Arizona, California, and Oregon but has the capability to service projects nationwide. Our principal geophysicists carry the following professional registrations as needed by state:

- Professional Geophysicist (PGp), California
- Professional Geologist (PG), California
- Registered Geologist (RG), Arizona, Missouri, Oregon

MISSION STATEMENT

Advantage is committed to providing quality and consistent professional services at competitive prices. We strive to meet our clients' standards of satisfaction. We love what we do, and we do it with passion.

Standard Services

Advantage is fully equipped and prepared to perform surface wave and shear wave (ReMi and MASW) studies, electrical resistivity profiles and soundings (including ERT profiles), hybrid source audio magnetotellurics (HSAMT), private utility locating and mapping, seismic evaluations (depth to bedrock, rippability, IBC Vs100, seismic site class, seismic reflection, and fault detection), void detection, earth fissure detection, Wenner array ASTM G57 and IEEE Std. 81 soil corrosion and grounding studies, fall of potential (FOP) ground rod and ground grid testing, ground penetrating radar (GPR), magnetics and electromagnetics, groundwater resource exploration, lithium brine detection, well siting, ground vibration monitoring, blast monitoring, and gravity evaluations for geologic structure and fault detection.

These geophysical methods are often useful in evaluating depth to bedrock, rock rippability, stratigraphy, soil corrosivity, the presence of buried underground structures such as underground storage tanks and infrastructure, site response, faults and fractures, abandoned wells, landfills, concrete condition, rebar location, UXO (unexploded ordnance), voids, grave sites, contamination plumes, and presence of groundwater.

Geophysical Methods and Applications

	GPR	Magnetics	Electro-Magnetics	Seismic Refraction	MASW & ReMi	Electrical Resistivity	Seismic Reflection	Gravity	HSAMT
Environmental Sector									
Underground storage tanks	●	●	●						
Abandoned oil/water well detection		●	●						
Landfill delineation	●	●	●	●	●	●			
Private utility locating	●	●	●						
Locate previous excavations	●		●						
Lost monitoring wells	●	●	●						
Ordnance UXO	●	●	●						
Geotechnical Sector									
Subsurface utility engineering	●	●	●						
Rebar/post tension cable locating	●		●						
Asphalt and concrete thickness	●								
Ground vibration monitoring				●					
Fault detection		●		●	●	●	●	●	●
Soil corrosion and grounding studies						●			
IBC site classifications				●	●				
Void study	●		●		●	●		●	
Depth to bedrock and rippability				●	●				
Geologic structure		●	●	●	●	●	●	●	●
Karst and sea cave detection			●			●	●	●	
Groundwater exploration			●			●	●	●	●
Lithium brine exploration							●	●	●
Mining & Exploration									
Mineral exploration		●	●	●		●	●	●	●

Our Team

Our highly-qualified team is led by professionals who have experience performing geophysical consulting and evaluation services for environmental, engineering, infrastructure, and design projects. Our staff backgrounds in geotechnical, environmental, and construction provide them with a thorough understanding of our clients' needs and potential challenges. In addition to standard safety and quality compliance training, our team members have specialized certifications and training associated with oil refinery activities, railroad activities, transportation authorities, mine activities, OSHA HAZWOPER, and MEC/UXO evaluations. Our team has completed geophysical consulting services for government and private entities including:

- State Transportation Agencies
- Department of Defense
- Department of Homeland Security
- Environmental Protection Agency
- Department of Water and Power
- State Transportation Agencies
- Municipalities
- International Airports
- Mining and Energy companies
- Water Authorities and Water Agencies
- Data Centers
- Developers
- Refineries
- Railway Companies
- School Districts

We have achieved great success in solving many complex problems for our clients working with Patrick and his team over the past decade, especially for landfill, superfund, and UXO projects throughout the U.S. We have worked seamlessly together integrating our strengths and specialties to deliver solutions to clients that they simply cannot get anywhere else. [Advantage] personnel are very professional, safe, efficient, responsive, and solution-oriented, and are always a pleasure to work with!

Jeff Eddo, PGP, PG, Senior Geophysicist/Geologist, Tetra Tech, Inc.



Mark Edwards, RG
Principal Geologist/Geophysicist

Mark Edwards is a Registered Geologist in Arizona and has extensive national and international experience in geologic and geophysical evaluations, geologic resource evaluations, hydrogeologic evaluations, geologic and geophysical site characterization, environmental remediation, and subsurface utility engineering.

With a Bachelors in Geology from Oregon State University and a Masters in Geohydrology with a Geophysics thesis from Illinois State University, Mark has 34 of years of experience in conducting geologic, geophysical, and geotechnical design evaluations for such projects as groundwater exploration and basin studies, schools, medical centers, convention centers, treatment plants, pipelines, power generating facilities and substations, transportation corridors, resorts, bridges, dams and spillways, mine haul roads, mine facilities including ball mill and flotation plants, commercial and residential developments, and landfills.

Patrick Lehrman, PG, PGP
Principal Geologist/Geophysicist

Patrick Lehrmann has 28 years of extensive national and international experience in geologic and geophysical evaluations and site characterization, geologic and geohydrologic resource evaluations, environmental assessments, environmental remediation, subsurface utility engineering, gas fired and solar generating station ground grid testing, substation and switchyard ground grid testing, and regulatory quality assurance/quality control requirements.

Patrick has managed a wide variety of geophysical field evaluations. He conducts geophysical evaluations including seismic reflection, seismic refraction tomography, downhole and crosshole seismic, MASW seismic, ReMi seismic, vibration and noise monitoring, ground penetrating radar magnetics and electromagnetic studies, electrical resistivity tomography; plans and conducts site characterization; performs detailed geologic reconnaissance studies through literature review, field mapping, analysis of aerial imagery; satellite imagery and data; and performs subsurface utility engineering Quality Level B utility designating. He authors and reviews summary geophysical survey reports including interpreted geologic and environmental factors.

Patrick holds a Bachelors in Geology from the University of Wisconsin and is a Professional Geophysicist (PGP) registered in California and a Professional Geologist (PG/RG) registered in Arizona, California, Oregon, and Missouri.

I have worked collaboratively on geophysical exploration projects with Advantage personnel for several years and they are knowledgeable, professional, and honest. They are qualified to conduct geophysical projects from the initial design and efficient field operations to final reports with continual client interface. I highly recommend them.

Jim Hasbrouck PGp,
Hasbrouck Geophysics, Inc.
Prescott, AZ

I've been using Advantage recently for my geophysical needs on geotechnical projects and they've been a sincere pleasure to work with.

I highly recommend reaching out to Advantage for any geophysical needs you might have.

Greg Wilson, Senior Geologist
MTGL Inc.

Thanks again for all the great work the Advantage team has been providing me and others at Terracon. We truly appreciate it.

Joe Reilly, Senior Staff Engineer
Terracon

We always enjoy the work Advantage Geophysics does.

Aubrey T. Smith, PE (TN),
Sr Engineering Project Manager
Partner Engineering

Mehrnoush Yavary, PE
Program Manager/Engineering Director

Mehrnoush has 25 years of diversified experience in civil engineering and construction, ocean engineering, engineering geology, and geotechnical consultation in southern California. With a Bachelor of Applied Sciences in Civil Engineering from the University of Ottawa and a Masters in Ocean Engineering from Stevens Institute of Technology, Mehrnoush is a licensed Professional Engineer (PE) registered in California. She has managed and performed technical engineering and geological work on a variety of projects that have generally included design and construction of state highways, airport runways and taxiways, ports and piers.

Mehrnoush has managed a large team of professional engineers, geologists, and geophysicists. Her duties included the oversight of geotechnical and geologic hazard investigations, including the review of field exploratory data and interpretation of subsurface geologic conditions, geotechnical calculations, review of temporary shoring systems, and the review of geotechnical reports and distress surveys of slopes, excavations, buildings, bridges, pavements, retaining walls and other improvements. During construction, she assessed earthwork compliance, advised on special inspection and testing results, and provided quality reviews and technical advice.

Additionally, Mehrnoush is responsible for leading business development and sales, client management, risk and financial matters, day-to-day operations, quality assurance and control, as well as management of projects, scheduling, and staffing.

Paul Neuberger, RG
Senior Geophysicist

Paul has seven years of experience in geologic and geophysical evaluations while working in construction materials testing, environmental consulting, and geotechnical engineering. Paul has led field crews in geophysical evaluations, including seismic refraction and reflection, surface wave seismic (MASW and ReMi), electrical resistivity tomography, Wenner array electrical resistivity testing, HSAMT, utility locating, buried metal detection using electromagnetics and ground penetrating radar. Paul has a Bachelors in Geology from University of Maryland, College Park, and is a Registered Geologist in Arizona.

Steven Moody, GIT
Geophysicist

Steve has five years of experience as a geologist/geophysicist and has gained vast knowledge while working under the guidance of a registered geologist and professional geophysicist. Steve has worked on and led numerous projects using various geophysical methods, including seismic refraction and reflection, surface wave seismic (MASW and ReMi), electrical resistivity tomography, utility delineation, underground storage tank locating, and HSAMT during the past four years. Steve holds a Bachelors in Earth Science: Geology from California Polytechnic State University, San Luis Obispo, and a Masters in Geophysics from California Polytechnic State University, Pomona. He is registered as a geologist in training in California.

Frederico Diogo
Geophysicist

Fred has four years of experience which includes geologic and geophysics evaluations and site characterization, subsurface utility engineering, magnetics and electromagnetics data collection and analysis, seismic refraction, surface wave seismic (MASW and ReMi), ground penetrating radar, HSAMT, and hazards and safety management. Fred coordinates geophysical field surveys, processing field data, maintains and calibrates our field equipment (geophones, geodes, cables, etc.), and with his software programming experience, Fred has developed or modified scripts to increase data processing speed and effectiveness. Fred holds a Bachelors in Geophysical Engineering from Colorado Schools of Mines, Golden.

Timothy Scott Williams, MBA
Geophysicist

Scott has four years of experience as a geophysicist with adept project management, data analysis, and project coordination. Scott is proficient in a spectrum of geophysical software applications, data analytics, core sampling, and mapping. Scott has successfully managed multiple geophysical projects from inception to completion, ensuring adherence to timelines, budgets, and quality standards; drafted comprehensive reports detailing project findings, analysis, and recommendations; conducted extensive fieldwork on projects including seismic, gravity and magnetic, electrical resistivity, ground penetrating radar, and borehole geophysics surveys, employing appropriate equipment and methodologies to gather subsurface data accurately.

Scott holds an MBA, minor in Environmental Sustainability, from Southern New Hampshire University, Masters in Applied Geological Sciences with a focus in Petroleum Geophysics, a Bachelors in Geology from University of Arkansas, and a Bachelors in Chemistry from For Valley State University, Georgia.

Kyle Armendariz
Geophysicist

Kyle is a motivated geophysicist with four years of experience conducting a vast array of geophysical methods on a variety of projects. These projects have included fault mapping, landfill delineation, bedrock and formation analysis, site classification, void detection, aquifer structure, mineral resource potential, abandoned well delineation, underground storage tank searches, and utility/rebar locating. Geophysical methods employed on these projects include seismic refraction and reflection, surface wave seismic (MASW and ReMi), electrical resistivity tomography, electromagnetics, magnetics, and ground penetrating radar. In addition to his technical abilities, Kyle has experience managing projects of a variety of scales, offering geophysical implementation insights to meet client needs, and ensuring timelines are met with high standards of quality. Kyle holds a Bachelors in Geology from San Diego State University and is working towards his Masters in Geology at San Diego State University.

Ricardo Hernandez
Geophysicist

Ricardo was trained in classical and modern methods of geophysics at the California State Polytechnic University, Pomona where he specialized in subsurface geophysics. His two years of fieldwork experience using geophysical methods include seismic refraction and reflection, MASW seismic, electrical resistivity tomography (Wenner and ERT), sump/UST and landfill locating, pile integrity testing, rebar locating, ground penetrating radar, void locating, and utility locating. He is proficient in deploying a full suite of geophysical equipment including EM31, EM61, magnetometer, geode seismographs, ground penetrating radar, geophones, land streamer, and resistivity instruments.



Business Accountability

Advantage has a team culture that is committed to delivering geophysical services at the highest industry standard, managing safety and risk, using the best technology, and providing high quality data efficiently and cost effectively.

Managing Safety and Risk

Advantage follows all industry safety standards including information on exposure times, engineering controls and necessary risk mitigations. We provide safe working procedures for all employees and comply with occupational health and safety and environmental objectives. We dedicate staff time to professional development in geophysical techniques, and training in equipment operation and work health safety. To ensure we stay compliant and safe in the field, we:

- Focus on identifying, assessing, and controlling hazards.
- Provide and maintain a safe working environment.
- Provide and maintain safety equipment and systems of work.
- Provide safety information, instruction, and supervision to all employees.
- Provide and monitor use of personal protection equipment (PPE).
- Provide employees with access to policies, procedures, and processes.
- Encourage employees to stop work if safety is in question, offer feedback and recommendations.

Cost Control and Project Tracking

Our accounting department operates on an independent network, facilitating efficient sharing of financial data among team members. Financial information relevant to our team members is presented through various reports, including the work-in-progress reporting and monthly invoices. Before issuing a final invoice, draft invoices are printed and meticulously reviewed by managers to ensure accuracy. Advantage uses restricted networks to ensure confidentiality and security of client-sensitive information.

Quality of Work

Working effectively and efficiently to provide professional and quality services in all aspects is our main goal. Quality is achieved through an applied consistent methodology program. Mandated procedures for conducting fieldwork, equipment maintenance and calibration, data acquisition and processing, and reporting are performed under industry organizational standards and guidelines. All data undergo rigorous quality control steps to ensure the data meets industry quality standards. Our equipment is frequently maintained and calibrated to ensure smooth data collection and to provide quality data sets and interpretations. Our reports undergo a 3-step review process to minimize errors. We strive to deliver our reports in a timely manner.

Compliance With Performance Schedules

Advantage is committed to ensuring adherence to project schedules and budgets from start to finish. Our team members and principals are available seven days a week to address any questions or emergencies, and are accustomed to performing field data acquisition overnight, on weekends, and holidays to accommodate project demands when required.

Insurance Coverage

Insurance Type	Amount	Provider
Worker's Compensation	\$1 Million per claim	State Farm General Insurance Company
Professional Liability	\$2 Million per claim, \$2 Million per aggregate	Lloyd's London
General Liability	\$2 Million per claim, \$4 Million per aggregate	The Hartford
Automobile Liability	\$2 Million	The Hartford
Excess Umbrella liability	\$4 Million	The Hartford

