



Exploration · Environmental · Groundwater · Geotechnical
2534 Black Creek Road, Muskegon, MI 49444

Westshore Consulting Exploration/Geophysical Department

STATEMENT OF QUALIFICATIONS

Exploration, Geotechnical, Environmental and Groundwater Geophysics

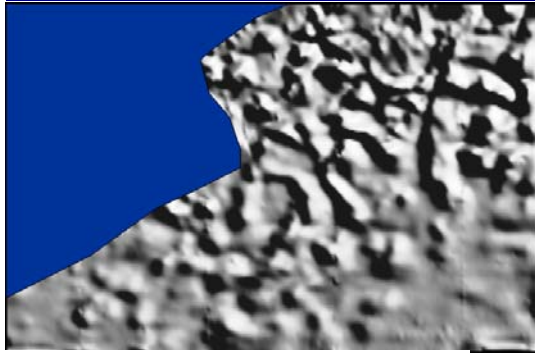
Introduction

Westshore Consulting (Westshore) is a multi-disciplinary consulting firm made up of professional engineers, scientists and surveyors which has been in business since 1982. Westshore has four departments, which work together to effectively implement solutions. These are the Engineering Department, the Environmental Department, the Survey Department and the Exploration/Geophysical Department. Westshore's Exploration/Geophysical Department has expertise in a broad range of geophysical techniques including gravity, electromagnetic (EM), magnetic, DC resistivity, seismic refraction and ground-penetrating radar. This broad experience allows Westshore to select the most effective geophysical techniques to meet the project needs in the most cost effective manner. Westshore's broad geological and geophysical expertise insures interpretations incorporate all available information to provide the client with the best possible product.

Westshore has provided geophysical services to many well-known firms across the United States. One of the Department's primary focuses over the last six years has been the acquisition of detailed gravity surveys to allow the capture of high frequency gravity anomalies not adequately captured by most gravity surveys. Most of the detailed gravity surveys have been conducted for the oil and gas industry. Other geophysical projects have fulfilled diverse objectives including aquifer characterization, contaminant leachate delineation and the detection and delineation of buried materials.

Geophysical Services

Westshore utilizes many surface geophysical techniques commonly used in mining and hydrocarbon exploration, geotechnical, environmental, and groundwater applications including gravity, EM, magnetic, DC resistivity, seismic refraction and ground-penetrating radar. Westshore uses state-of-the-art field equipment, data processing, and analysis methods to assure the accuracy of its data. Westshore's staff believes the best interpretations include input from all available sources so our integrated geophysical interpretations utilize all available geologic information.



Shaded relief image of reprocessed filtered public domain aeromagnetic data in a portion of New York State highlighting north-northeast lineaments believed to be associated with strike-slip faulting.

Westshore's geophysical experience comes from involvement in a wide range of projects including:

- Delineation of buried glacial bedrock scours using detailed gravity surveys across a large portion of Northern Michigan.
- Mapping the extent of brine at the base of an aquifer in and around a city well field using DC resistivity.
- Delineation of a clay aquitard using seismic refraction.
- Delineation of underground storage tanks using ground magnetics and EM.
- Delineation of the edges of a historical dump using various geophysical techniques including EM and ground magnetics.
- Mapping Ordovician carbonate structures in Texas and Oklahoma using detailed gravity.
- Reprocessing and interpreting aeromagnetic data to locate strike-slip faults in magnetic basement.
- Mapping the extent of a contaminant spill in a wetland using EM.

Exploration/Geophysical Staff

Westshore's Exploration/Geophysical Department has a full time staff of 5 persons and utilizes several professionals from other departments as needed.

Alan Hinks, C.P.G., P.G., leads Westshore's Exploration/Geophysical department and has over 25 years of experience in geophysics. After completing his degree in geology he went to work for Three-D Gravity in Denver, Colorado. Several years later while working full time he completed a masters in geology at the University of Houston. He has directed geophysical programs throughout the United States. Alan is a Professional Geologist in the states of Michigan and Florida.

Robert L. Schulz, C.P.G., C.P., is a Geologist with over 30 years of experience in a wide range of projects. He provides assistance in geological interpretation and technical oversight of projects.

Eric Johnson is a graduate of the University of Colorado. He is a project scientist who spent several years acquiring geophysical data on one of the Department's field crews. Currently Eric oversees field operations, quality control and processing of geophysical data.

Tim DeMumbrum, P.S., is a Professional Surveyor who has degrees in both applied mathematics and survey engineering. Besides working as a surveyor on geophysical projects he oversees survey data QA/QC.

Jordan VanLiere has a degree in surveying from Michigan Technological University and works providing the quality survey data required for our geophysical projects.

Pete Nugent is a project scientist who has worked as a geophysical equipment operator for Westshore for over 10 years.

Mike Johnson is a geophysical equipment operator and is responsible for attaining quality geophysical data.

Kellie Gossett oversees the office operations of the Exploration/Geophysical department. She is responsible for data retrieval and administrative responsibilities.

Resources

Besides Westshore's greatest resource, its staff, Westshore utilizes state-of-the-art geophysical equipment and software including:

- Syntrex CG-5 Gravimeter
- Geometrics G-858 magnetometer/ gradiometer
- AGI SuperSting R8 Resistivity System
- Geonics EM-31 Conductivity Meter
- Geonics EM-34 Conductivity Meter
- Geonics EM-47 Conductivity Meter
- Trimble R8 GPS Receivers



Collection of gravity data

For data processing and analysis, Westshore uses the latest Geosoft Oasis Montaj® software including the GM-SYS module. Data can be presented in any CAD or GIS format.

Client Listings

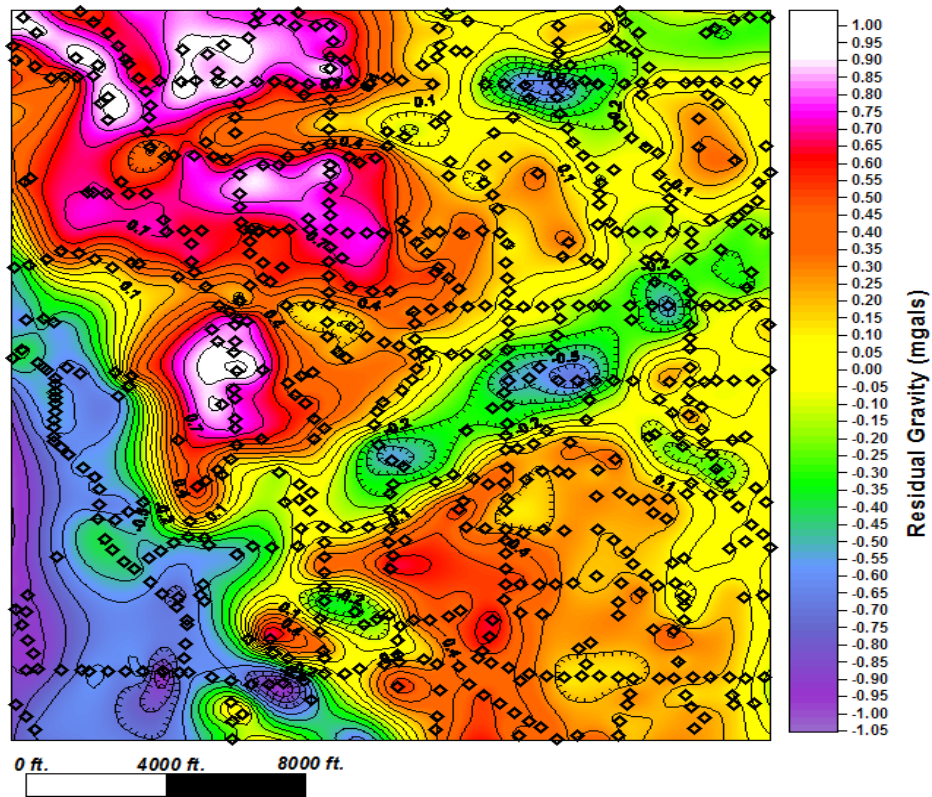
Based on industry standards, Westshore has one of the highest levels of repeat work with existing clients. Following is a listing of some of the clients the Department has worked with.

- Atlas Gas & Oil
- Aurora Oil & Gas
- Belding & Blake Corporation
- DTE Gas & Oil
- Highmount Exploration and Production
- Jordan Development Company
- KCS Energy
- Morton Salt

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- Paxton Resources
 - Presidium Exploration
 - Quicksilver Resources
 - Rohm & Haas Corporation
 - Samson Investment Company
 - SRW, Inc.
 - Ward Lake Energy
 - Waste Management Corporation
 - West Bay Exploration Company

Meeting Your Needs

Feel free to contract Alan W. Hinks at (231) 777-3447 or ahinks@westshoreconsulting.com to discuss your specific needs.



Residual gravity map of a 4 x 6 mile area in Northern Michigan containing linear high-frequency anomalies associated with buried glacial bedrock scours.