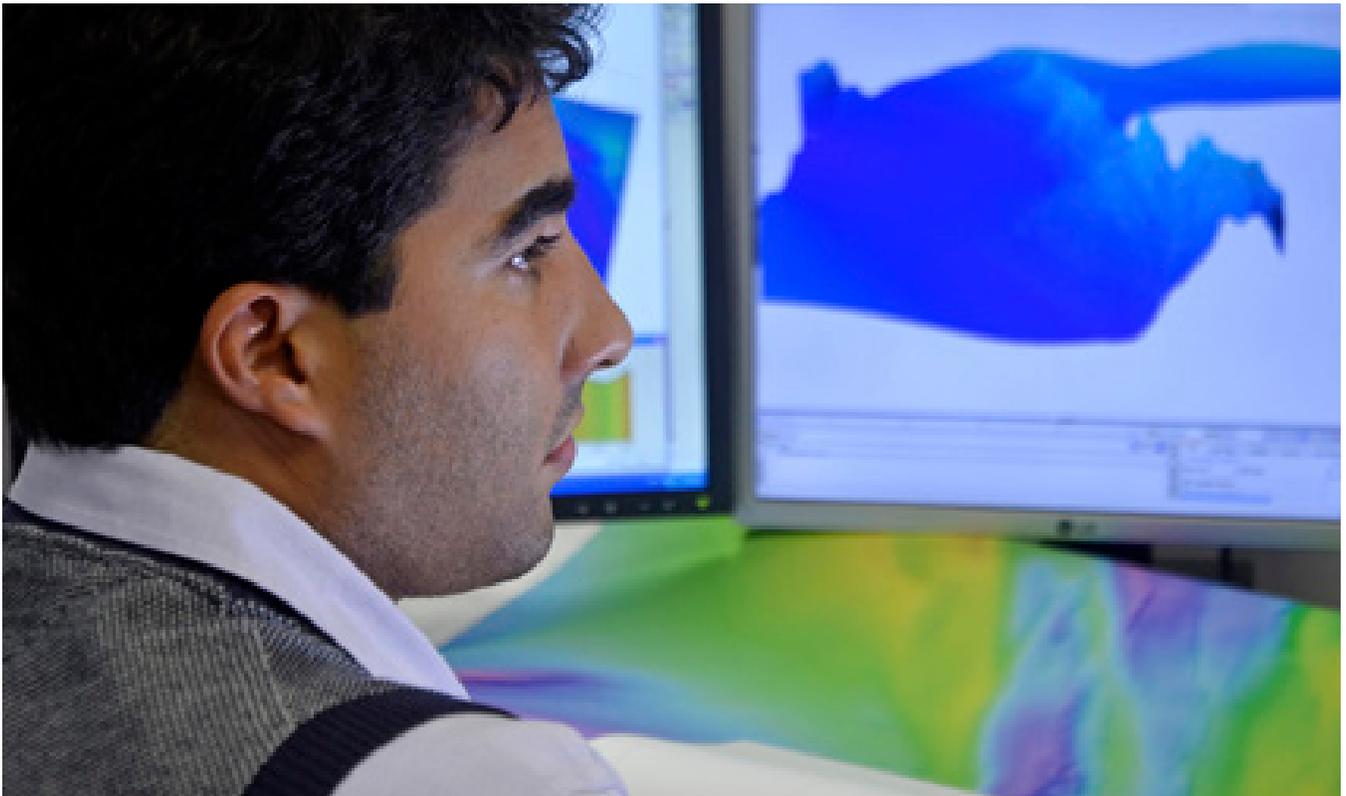


Professional Geoscience Services



Oceanering geophysicists, geologists, archaeologists, marine scientists, cartographers, and data analysts specialize in the interpretation, reporting, and processing of high-resolution geophysical data.

Desktop Studies

We deliver preliminary studies to aid in the design of the most feasible routing option prior to a field survey. Studies contain bathymetric information from public domain databases and use hydrographic charts, published papers, and United States Geological Survey (USGS) and Bureau of Ocean Energy Management (BOEM) / Bureau of Safety and Environmental Enforcement (BSEE) databases as resources.

Pipeline Engineering and Hazard Reports

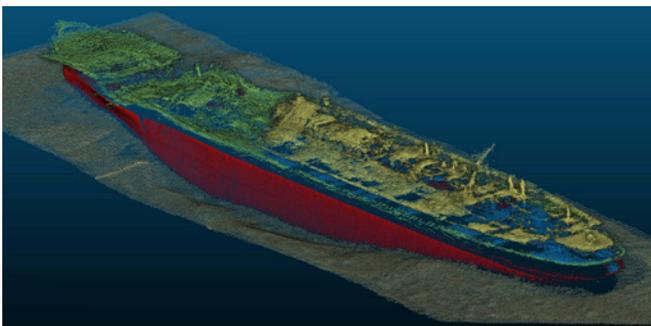
We use geophysical data from deepwater autonomous underwater vehicle (AUV) or conventional shelf surveys to provide engineering and hazard reports with alignment sheets for marine pipeline and flowline routing. Installation contractors and project engineers use the reports to identify design criteria required to suit the bathymetric, environmental, and geological conditions found along the proposed route.

Deepwater Geohazard 3D Block Survey Reports

Deepwater prospects are usually assessed for geohazards using the operator's 3D exploration seismic data for a lease. The reports and well site assessments conform to BOEM/BSEE guidelines and address seafloor and subsurface drilling hazards, shallow gas, and shallow water flow potential. The 3D data is loaded and interpreted using IHS's Kingdom Suite software.

Archaeological Assessments

Marine archaeologists interpret geophysical data of shipwrecks and potential prehistoric habitation sites. Recommendations for avoidance or further investigation of archaeologically significant targets are provided in compliance with BOEM/BSEE guidelines.



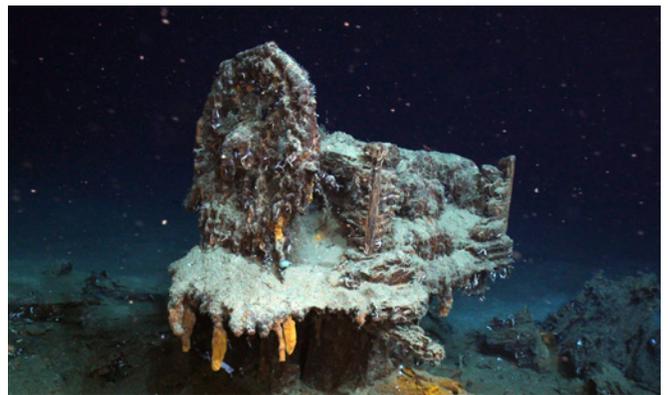
Pipeline Inspection Reports

Our software engineers developed Pipeline Inspection Software running under Esri ArcGIS which correlates features found or observed along the inspection line with stationing. The final results are provided in a comprehensive report and alignment sheets provide a visual display of the results which could include spans, burial percentage, or lateral buckling areas. Images and laser data of any valves, inline tees, clamps, welds, pipeline end manifolds (PLEMs), pipeline end terminations (PLETs), and other engineering features are logged and documented for easy reference.



Decommissioning Survey Reports

Shelf platform decommissioning may require an archaeological and geohazard assessment to identify anchor placements. An archaeological survey may be required at proposed artificial reef sites prior to removing or reefing the platform. Tow route surveys for determining the bathymetry, obstructions, and least clearance depths for the platform tow are typically performed between the existing platform and the designated reefing area.



■ For more information: oceanengineering.com/survey

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