

## NAEVA Geophysics Excels in UXO Tests

NAEVA Geophysics recently finished at the top of its class — posting leading scores in 5 of 8 tests — in a validation of underwater geophysical detection technologies conducted by the U.S. Navy. The test project was a step toward cleanup of the Mare Island Naval Station, California - a center for ordnance manufacture, reworking, storage and transfer from 1857 to 1975. Various types of underwater ordnance populate the site, the result of accidental and intentional discarding from manufacturing areas, ships and piers.

After carefully designing a series of tests, the U.S. Navy invited 5 companies, including NAEVA, to participate in demonstrating and quantifying detection capabilities for underwater ordnance detection systems. NAEVA is a Virginia-based geophysical consulting and services group that specializes in data acquisition, processing, analysis, and interpretation for UXO remediation at sites across the United States.

Specific test objectives were to demonstrate the effectiveness of recording underwater data for subsequent post-processing and to quantify detection capability with a basic goal of achieving 85% probability of detection within a 90% confidence level. Each group was asked to survey both a known reference site and an unknown target area in which a variety of discrete and clustered ordnance was buried in 0.5m to 3.0m of water.

Targets were emplaced by government representatives under low tide conditions. Technology demonstrators surveyed the site from boats during high tide conditions. NAEVA's technology employed electromagnetic methods with data processing and analysis in Geosoft's Oasis montaj and UX-Detect systems.

When the results were released at the UXO Forum in May 2000, NAEVA was pleased to learn that they had scored 98 percent on the probability of detection of ordnance and 100 percent on nonordnance (metallic debris) respectively. Other high marks were received for a low false alarm ratio, accuracy of detection, and classification performance. Navy authors also cited NAEVA and another group for high performance in depth accuracy (detection of depth) and detection limit (detection depth by ordnance type).

From a learning perspective, the Navy results will prove invaluable for understanding the effectiveness of today's technologies for detecting and quantifying underwater ordnance. And for NAEVA, the top performer in the test, we congratulate them on their commitment to excellence and accuracy in a challenging underwater environment.



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