



Diver-Maneuvered EM Sled Pinpoints Buried Metal: Munitions, Treasure and Utilities

FACT: A new hybrid system combines Aqua Survey-modified EM-61 high-powered Tx/Rx coils, Aqua Survey underwater monitors and Geonics' EM-61 consoles with precision positioning/tracking equipment. Combining new with proven equipment brings the detection force of state-of-the-art high-powered Geonics equipment to the seafloor. It provides the diver real-time target response data, the ability to follow monitor-displayed survey lanes and the ability to view completed survey lanes.

FACT: A Geonics' EM-61 electromagnetic time domain system is the worldwide standard equipment for detecting buried MEC, utilities, steel drums, treasure and other metal targets of interest.

FACT: The EM Diver Sled™ can be utilized in water depths exceeding 100 feet.

FACT: Communications between the diver and topside technician is through a combination of diver two-way communications equipment, bone phones and video cameras.

FACT: Precision positioning the EM Diver Sled™ in the shallows is accomplished with a mast-mounted GPS antenna. In deeper waters a submersible USBL system is utilized to precisely position the receiver coil. Survey lanes can also be established from the placement of underwater control point monuments and the use of guide lines.

FACT: Monitors allow the diver to observe the same EM-61 computer screens as terrestrial technicians use along with precise survey/navigation/GPS positioning information.



EM Diver Sled™

Patent in Process

FACT: Aqua Survey has extensive experience utilizing EM-61-based EM Diver Sled™ technology on both sand and mud bottoms. Aqua Survey will provide diver-training in the use of the system.

DESIGN AND CAPABILITIES:

The EM Diver Sled™ was designed to be diver-propelled by a single technician. The system is tethered to topside with an electronic cable. The sled is heavy enough to track on the bottom and light enough for a diver to lift it to hover over obstructions such as coral mounds. The system can be used to provide new survey information or to reacquire targets of interest identified with a much larger vessel-towed EM sled.

The diver system can be deployed from a dive boat or from shoreline.

The EM Diver Sled™ operated at 24 volts detects the following targets of interest at the following distances in inches:

<u>Munition</u>	<u>Vertical</u>	<u>Horizontal</u>
20-mm	28	15
40-mm	36	34
80-mm	52	45
105-mm	63	58

<u>Treasure</u>	<u>Horizontal</u>
Piece of Eight Silver Coin	32
75-pound Silver Ingot	80

Detection ranges are based on the signal to noise ratio being approximately 20:1.

CONTACT:

Contact Ken Hayes to learn more about how the EM Diver Sled™ provides greater safety, science, efficiency and savings to your project.

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