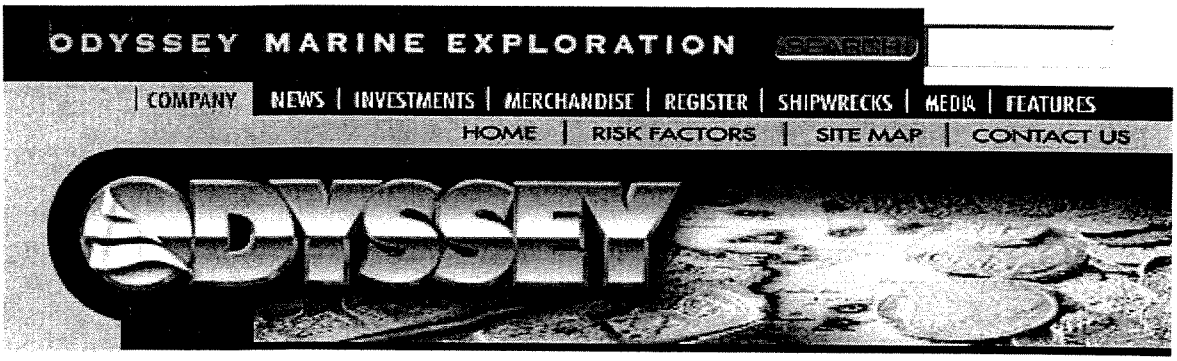
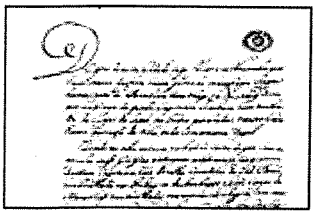
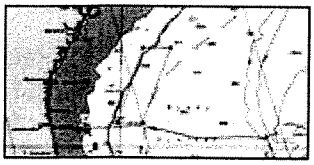


Additional Info

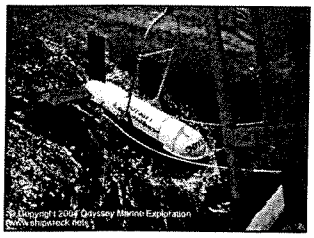
- Industry Overview
- Company Overview
- Marketing Shipwrecks
- Our Projects
- Management Team
- Risk Factors



Contemporary documents are used to help Odyssey researchers determine whether a project meets Odyssey criteria.



Search areas are laid out after thorough research of historical documents, weather, current and tide patterns, survivors accounts, and other factors that lay out the possible and probable location of the target shipwreck.



A sidescan sonar "fish" is lowered into the ocean to begin a survey of the sea

HOW IT'S DONE

Odyssey's efforts in the shipwreck business concentrate on the six major steps necessary for successful projects: research, project development, search, recovery, conservation, and marketing.

RESEARCH

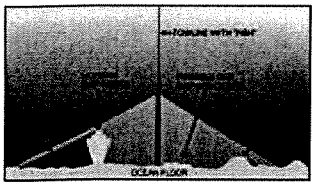
The foundation of any shipwreck search and recovery expedition is research behind the project. Not only is the research necessary to evaluate the potential value, location and viability of finding a shipwreck, but it is also necessary to establish the historical significance and the archaeological requirements of the excavation.

Odyssey hires and maintains relationships with many of the top shipwreck researchers in the world in order to scout out any potentially viable projects. Data from these researchers is brought in and checked against Odyssey's own database and resources, compared with information from other experts, and then reviewed in exhaustive detail before further money is spent on the project.

PROJECT DEVELOPMENT

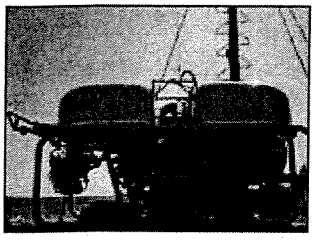
Even after the research has been assembled for any given shipwreck, the data is relatively useless without legal rights to the shipwreck and/or the actual aid and cooperation of the government that has jurisdiction over the shipwreck. In

floor in a shipwreck search.

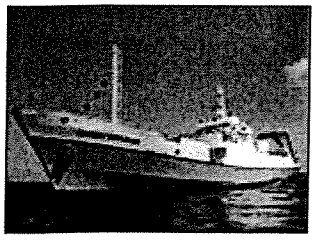


The side-scan sonar "fish" sends out acoustic signals. The echos that return are turned into a visual map of the ocean floor.

The high resolution side-scan image of the SS *Republic* site revealed what appeared to be paddlewheels on both sides. A visual inspection with a Remotely Operated Vehicle (ROV) confirmed the paddlewheels.



Odyssey's MaxRover ROV, nicknamed *CLIO*, is used to inspect targets located with the side scan sonar. It sports a four function manipulator which makes it suitable for light recovery operations.



Odyssey's 251' deep ocean archaeological platform, the *Odyssey Explorer* is used for Odyssey recovery operations. Nearly 40 members of the crew, technical and scientific staff live and work on the ship. Operations continue around

the case of shipwrecks that lie beyond any government's jurisdiction, how and where the artifacts or cargo from the shipwreck is brought ashore could determine whether the cargo may be claimed legally by the salvor.

To further complicate these issues, there have been very few tests of the legal ramifications of ownership of shipwrecks recovered in deep water. Some countries, such as Italy and Greece, prefer to simply avoid the problem by refusing anyone the rights to salvage historically significant shipwrecks in their waters.

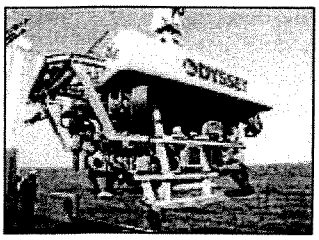
This is especially important since most countries in the world claim control of 12 or 24 miles offshore as their sovereign territory. There are even instances of countries, which do not officially claim the 12 mile limit, interrupting offshore operations beyond their legal right, impounding boats and throwing crews in jail simply because their Navy exercised their "gunboat equity" rights.

Therefore, it is critical to develop a working relationship with the government or company that holds the rights to a given shipwreck. Developing these relationships is often time-consuming and requires tremendous patience. Many foreign governments have had bad experiences with "treasure hunters" in the past, and are wary and skeptical of any mention of commercial salvage.

Odyssey's principals, employees and consultants have developed a great deal of credibility in the archaeological, political and historical community surrounding shipwrecks. In the past they have successfully diminished a government's concerns about their potential embarrassment by failed projects. Odyssey's agreement with the government of the United Kingdom is an example of official relationships that demonstrate the confidence placed in Odyssey's scientific, technical and professional expertise.

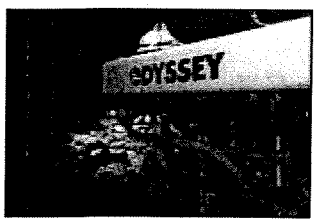
In some cases, other parties may have an interest or ownership claim in a shipwreck or cargo, such as an insurance company.

the clock.

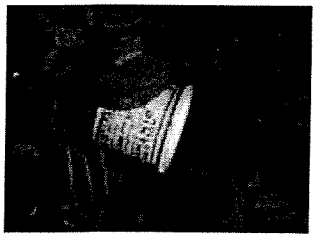


ZEUS, Odyssey's seven ton, 200 horsepower remotely operated vehicle (ROV) being launched for a dive to the SS *Republic* shipwreck site 1700 feet below.

From the on-line electronics control room aboard the *Odyssey Explorer*, technicians record every minute of the archaeological excavation of the SS *Republic* shipwreck site. All operations are recorded on DVD and digital still photographs are also taken.



ZEUS, Odyssey's 200 horsepower remotely operated vehicle (ROV) at work on the seabed nearly 1700 feet deep.



An artifact is delicately recovered from the seabed with a soft silicone limpet.

Odyssey thoroughly researches potential claims and determines a strategy before large expenses for search and recovery are incurred. Odyssey's recent agreement with Atlantic Mutual Insurance allowed the company to obtain the full rights and title to the SS *Republic* shipwreck in a very short amount of time.

SEARCH

The search phase begins with a side-scan sonar survey of the target area. A sonar "fish" is pulled behind a research vessel, sending data back to shipboard computers. The fish has transducers on both the port and starboard sides. These transducers send out pulses of sound or "pings". After the ping is sent out, the fish listens for an echo. Hard objects reflect the sound back - metal is best, but rock, pottery and other relatively hard objects reflect well , and soft materials show up the least.

In some cases, a magnetometer is used in concert with the side scan sonar to identify areas with a high concentration of ferrous metals.

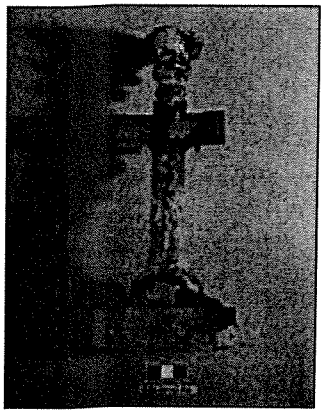
Every anomaly on the ocean floor is recorded, and then analyzed by Odyssey's specialists. The most promising anomalies (based on size, shape, location and other factors) are then considered targets.

The targets are then visually inspected using a remotely operated vehicle (ROV). Controlled from the research vessel, the ROV sends real time video images of the targets to the control room for analysis. In some instances an artifact will be recovered for further identification.

RECOVERY

Recovery operations combine high tech ROVs, robotics, cameras and specialized computer hardware and software to carefully record the location of artifacts in situ and throughout the recovery and conservation process. ROV pilots and archaeologists work in concert aboard the recovery vessel, directing robotic

L to R – Greg Stemm, Odyssey co-founder; Herb Bump, conservator; and Neil Cunningham Dobson, archaeologist, inspecting artifacts just recovered from the shipwreck of the SS *Republic* 1700 feet below.



A religious candlestick recovered from the SS *Republic* is photographed as part of the conservation and documentation process.

Coins from the SS *Republic* project are carefully conserved by specialists at Numismatic Conservation Services.

operations taking place hundreds and sometimes thousands of feet below.

Work generally begins with an archaeological pre-disturbance survey which includes a detailed photomosaic of the site. One complete, the archaeological excavation and recovery of artifacts can begin.

The *Odyssey Explorer*, a 251-foot Class II dynamically positioned (DP) ship and state-of-the-art deep ocean archaeological platform, is used for Odyssey's recovery work. The *ZEUS* remotely operated vehicle (ROV) is the centerpiece of Odyssey's advanced robotic archeology system. . The 200HP vehicle is the size of an SUV and weighs 7 tons. *ZEUS* is rated to operate at depths to 2,500 meters (8,200 ft) and is driven by eight powerful hydraulic thrusters. The ROV has two Schilling seven - function Conan spatial correspondent manipulators which provide for exceptional dexterity and fine control required for delicate archaeological procedures.

The system's cameras feed high-resolution video signals through advanced fiber optic telemetry to the surface.

CONSERVATION AND DOCUMENTATION

Every item recovered from a shipwreck site must go through a conservation process. The conservation process may take weeks, months, or even years, depending on the artifact.

During conservation, the artifacts are also being studied. Photos, archaeologists' descriptions and other data are recorded and documented. Findings are then published and shared with the archaeological community.