



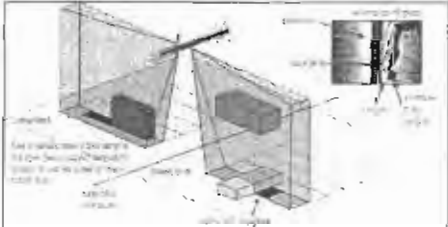

Underwater Investigations and Recovery Operations

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23 JUN 2007

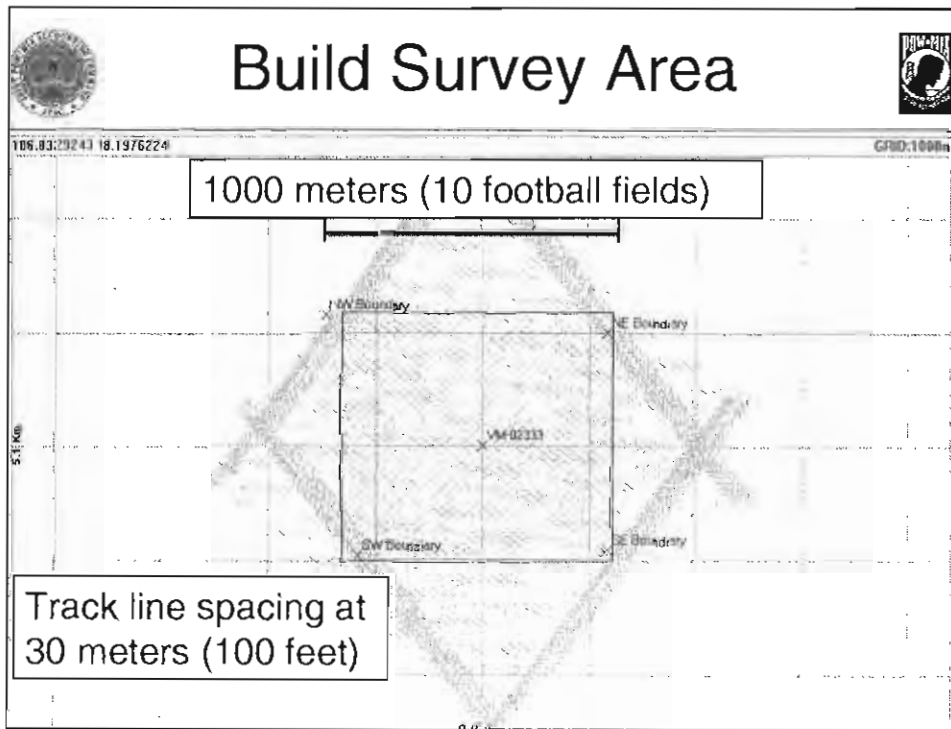
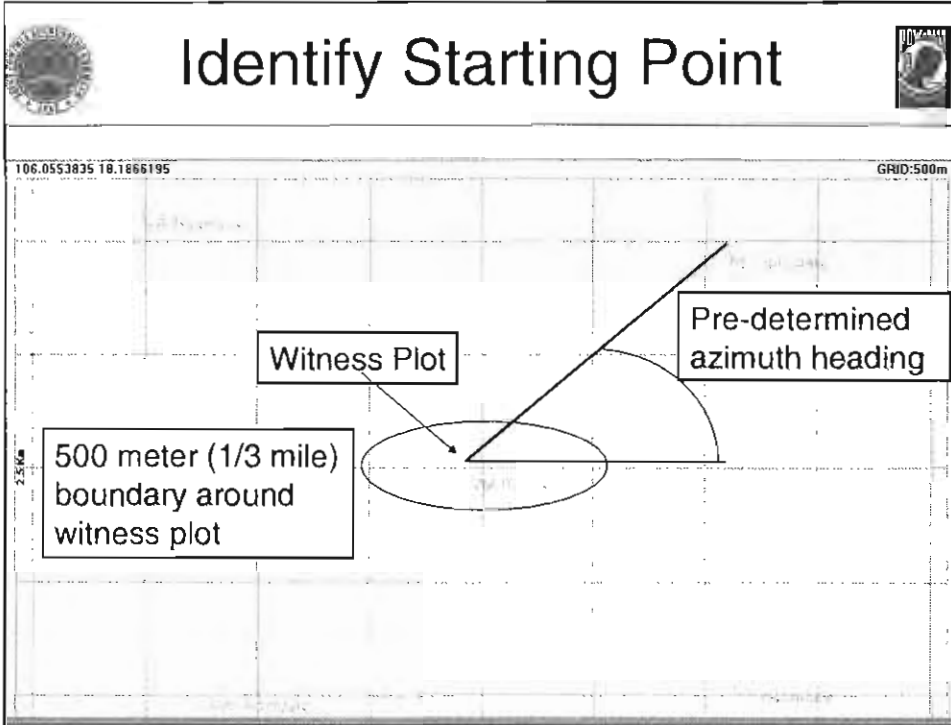


Underwater Investigation Team (UIT) Phase I and II





- Interview witnesses.
- Identify the starting point and build initial survey area box using witness information and background research from the J2.
- Process survey area and identify potential targets.
- Conduct diver recon of targets to determine their significance.
- Probing, testing, and other evaluation techniques may be necessary to acquire the physical evidence that helps correlates sites to incidents.





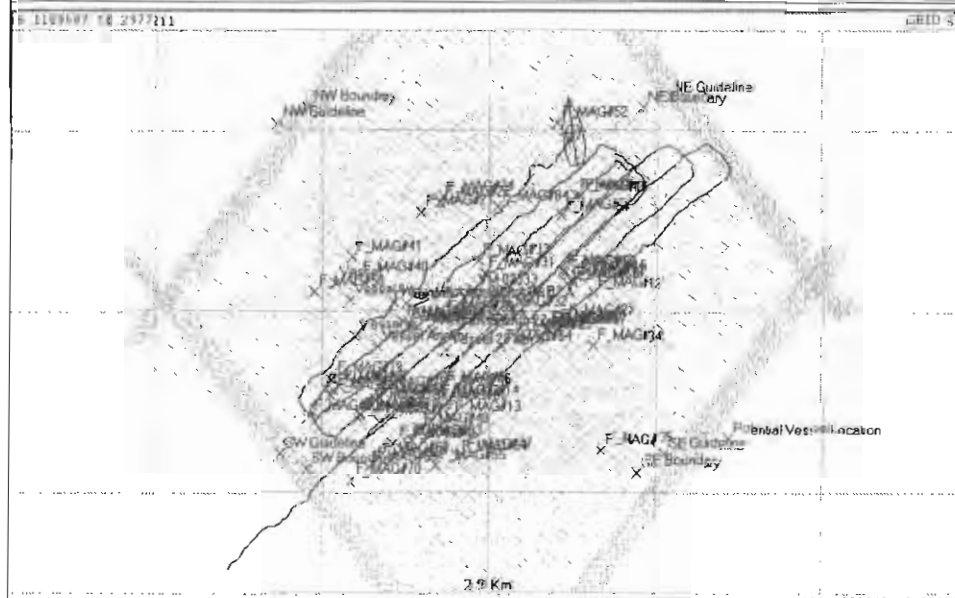
Order of Operations



- Conduct Side-Scan Sonar and Magnetometer Survey Simultaneously
- Process and Interpret the Data Collected
- Identify Potential Targets of Interest
- Conduct Diver Reconnaissance
 - Relocate Targets
 - Visually Inspect Targets
 - Determine Significance (e.g., Wreckage, Human Remains, and Other Material Evidence)

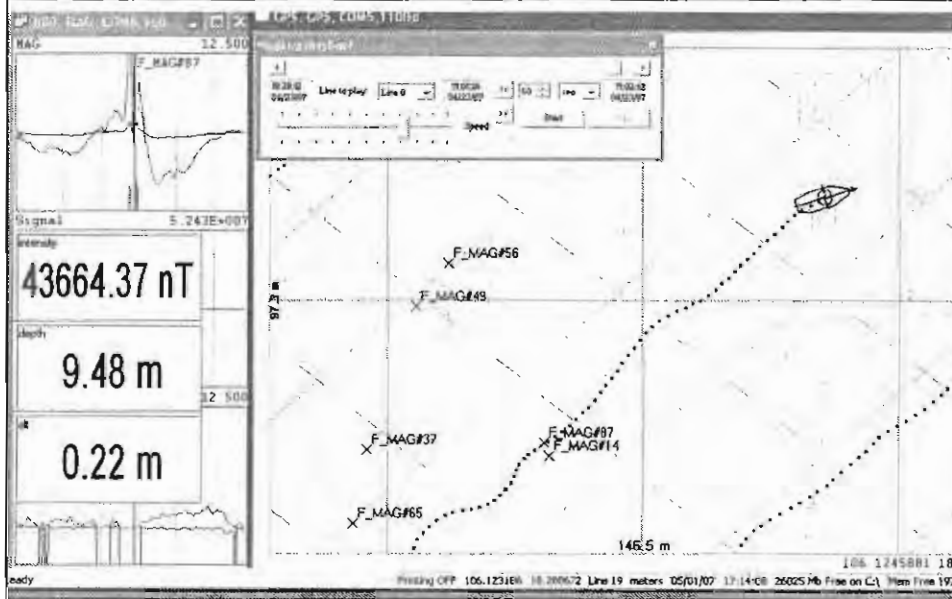


Initial Mag Data

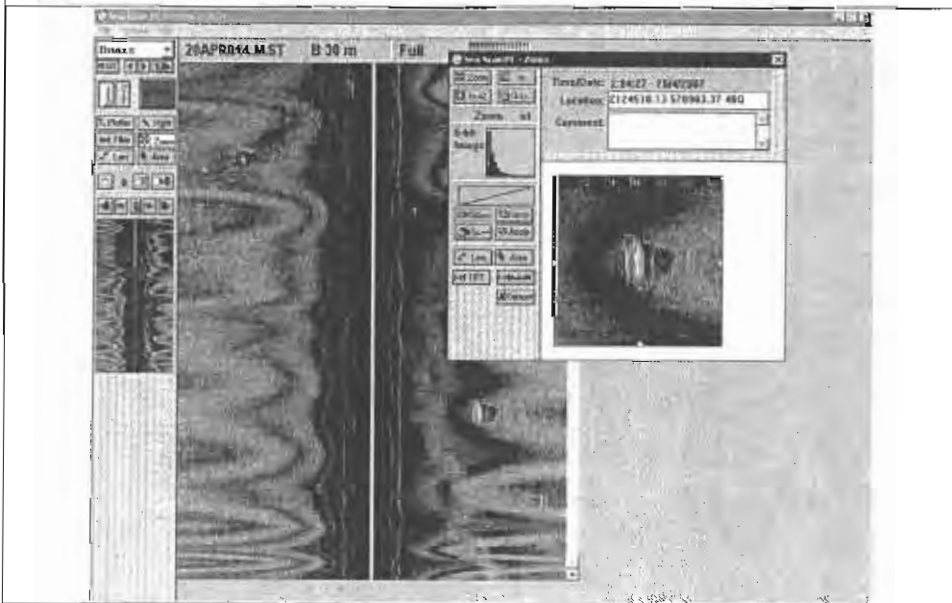


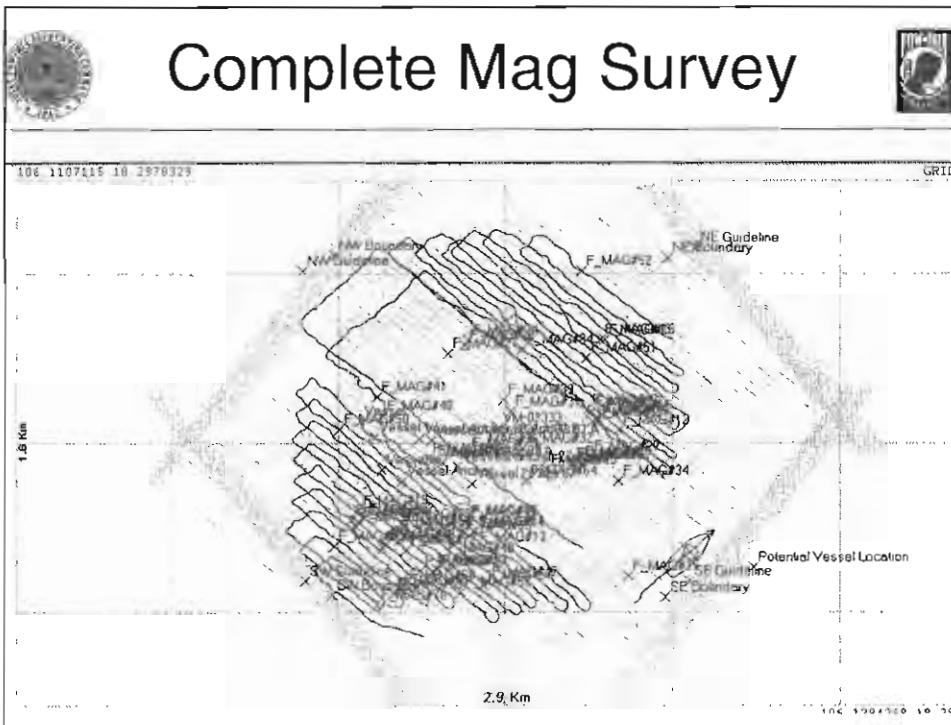
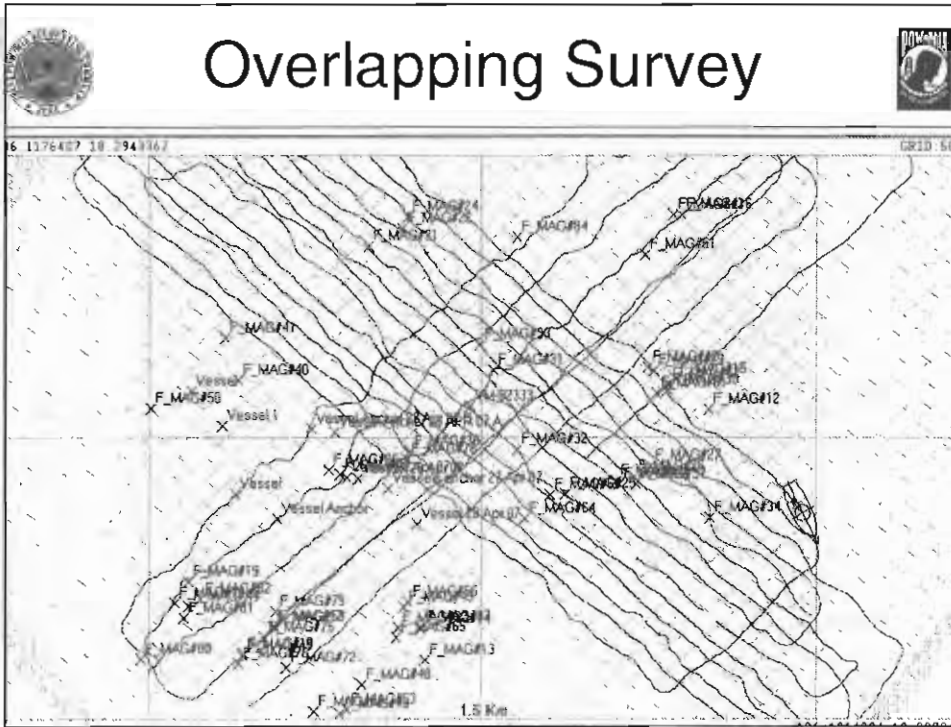


Initial Mag Targets



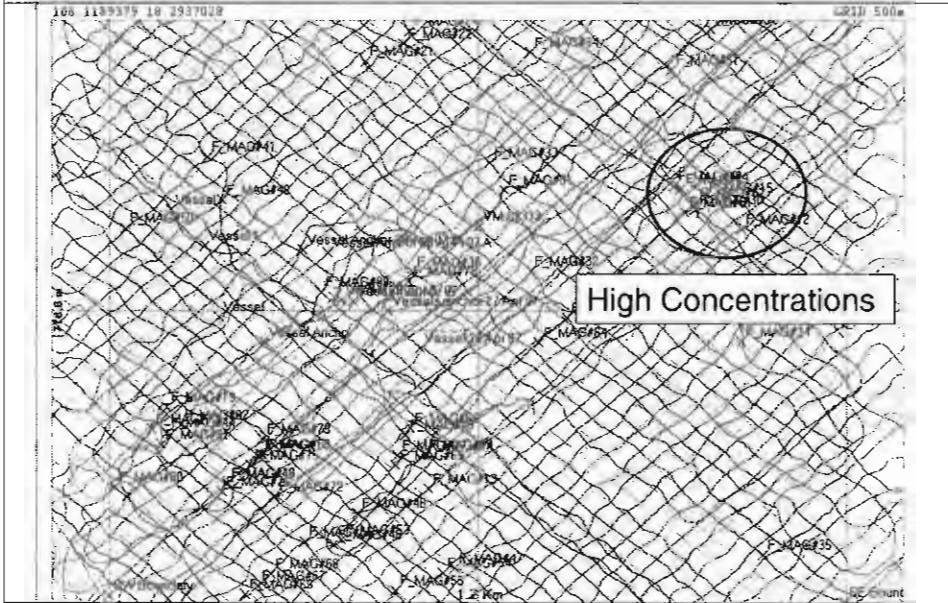
Initial Side Scan Targets



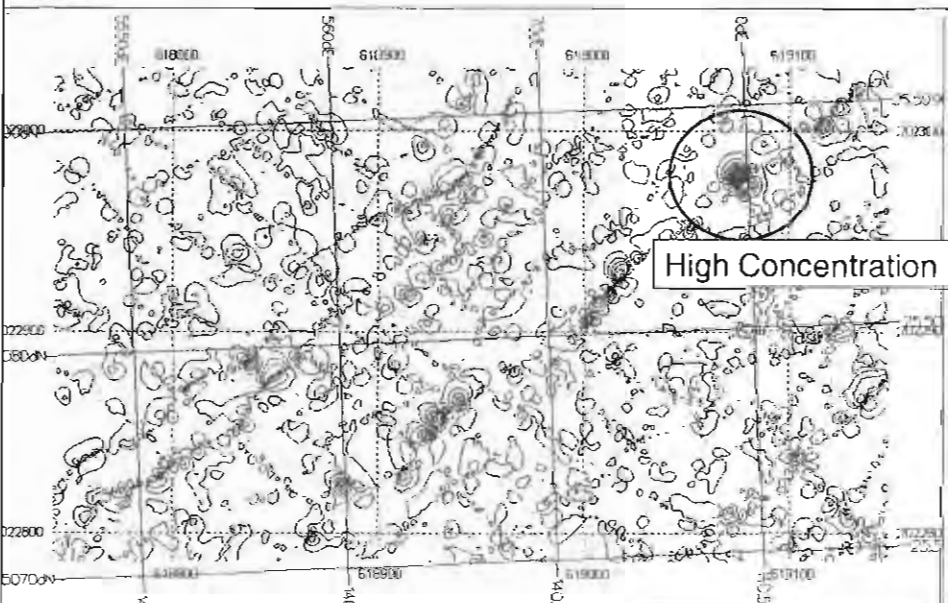


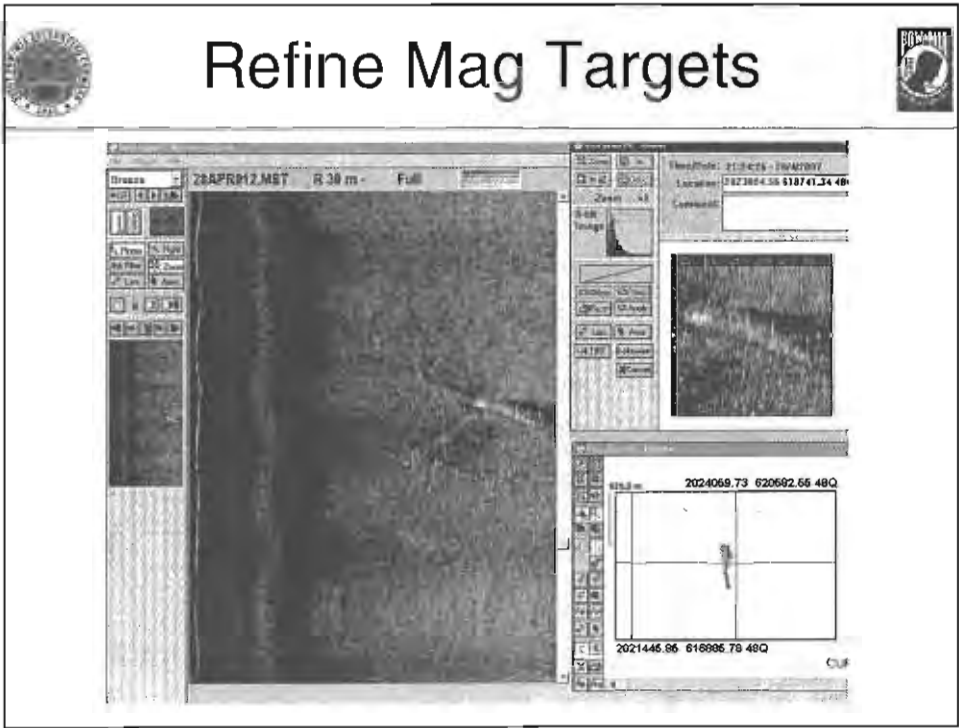


Quantity of Targets



Strength of Targets



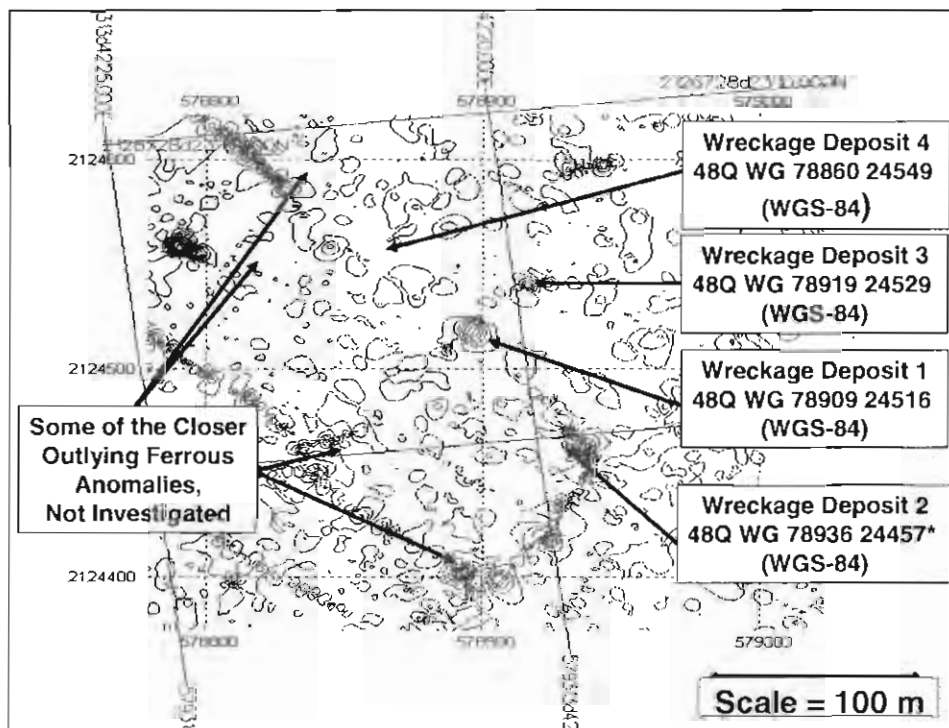




Survey Data Analysis and Recommendations



- Survey Data Analysis:
 - Did the survey area yield any targets of interest?
 - Do any of the targets of interest represent physical evidence that can be correlated to a known loss incident involving an unaccounted-for individual?
 - Is this isolated evidence, or is it contained in a concentration or deposit?
 - What are the approximate horizontal and vertical limits of the deposit?
- Make Recommendations





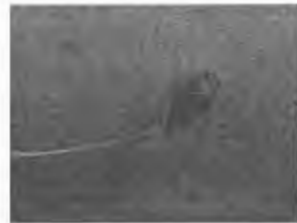
Underwater Recovery Team (URT) Phase III



- Relocate site and mark with surface buoys.
- Outfit and position topside work platform over site.
- Delineate the boundaries of the site and photograph site.
- Conduct risk assessment to identify surface/subsurface hazards (e.g., unexploded ordnance).
- Establish site datum marker and a mapping system.
- Process, map, and document site.
- Recover and stabilize possible human remains and material evidence.

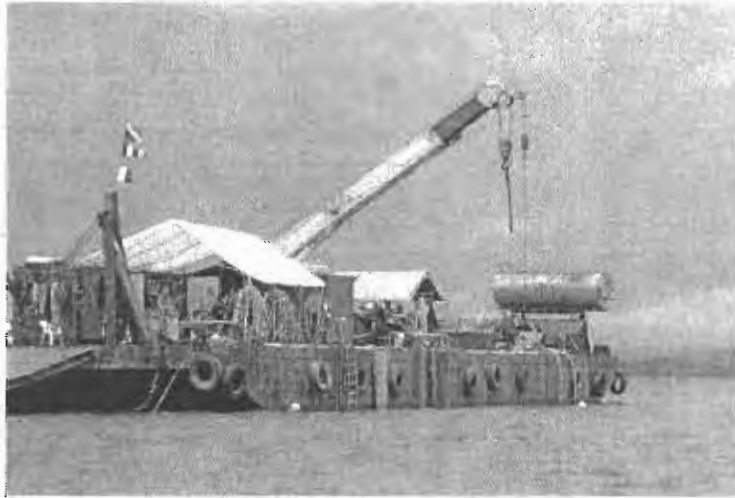


Relocate and Mark Site








Topside Work Platform






Delineate Site Boundaries



 Preliminary Photographs 



 Mitigate Potential Hazards 



Depth, Temperature, Visibility, Bottom Time



Mitigate Potential Hazards



**Unexploded
Ordnance**



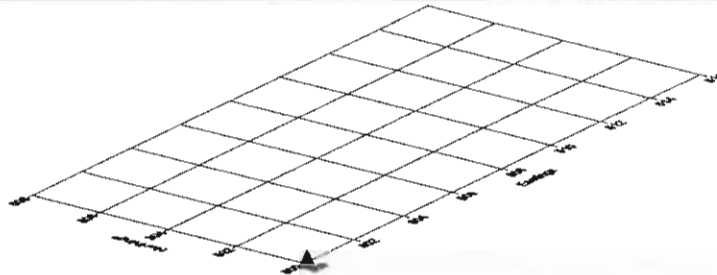
Mitigate Potential Hazards



Wreckage Stabilization



Grid Mapping System



Site Processing



Surface Collection

Excavation

Mapping & Documentation

Human Remains & Material Evidence Recovery



Surface Collection



Excavation





Mapping & Documentation



Before Excavation



After Excavation



Evidence Recovery, On Site





Recovery, In Screens



Human Remains



- Key Factors Affecting Preservation of Human Remains from Underwater Archaeological Environments:
 - Circumstances of the Loss Incident
 - Saltwater vs. Freshwater
 - Water Temperature
 - Exposure to Sunlight
 - Oxygen Rich vs. Low Oxygen (Anoxic) Sediments
 - Nobility of Metals
 - Other Disturbances from Time of Loss to Time of Recovery



Deep Water Shipwreck



USS Monitor Turret, Human Biological Remains (240fsw; North Atlantic)



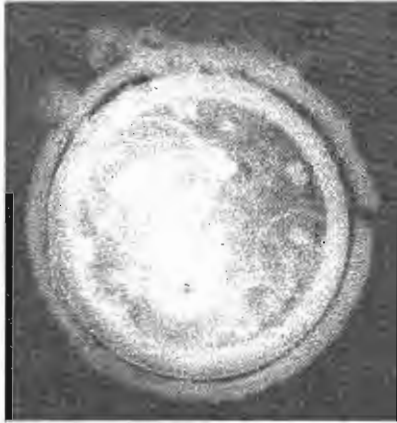
Aircraft Crash



Site PS-00023, Fragmented Human Biological Remains (75fsw; South Pacific)



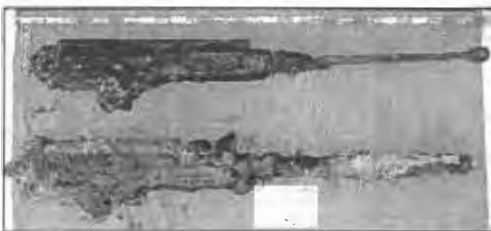
Saltwater vs. Freshwater



- Material evidence is likely to be in a “concreted” state upon removal from an saltwater site.
- Presents quality control issue.
- An amorphous concretion recovered may in fact contain an important artifact inside.
- Therefore, select concretions are broken open and inspected before being discarded.
- Generally speaking, any concretion exhibiting a general form or shape that appears consistent with a human-made object are inspected.



Nobility of Metals



Site PS-00023, Weaponry,
Ferrous Based Artifact (75fsw;
South Pacific)



USS Monitor Turret, Gold Ring
(240fsw; North Atlantic)



Questions

