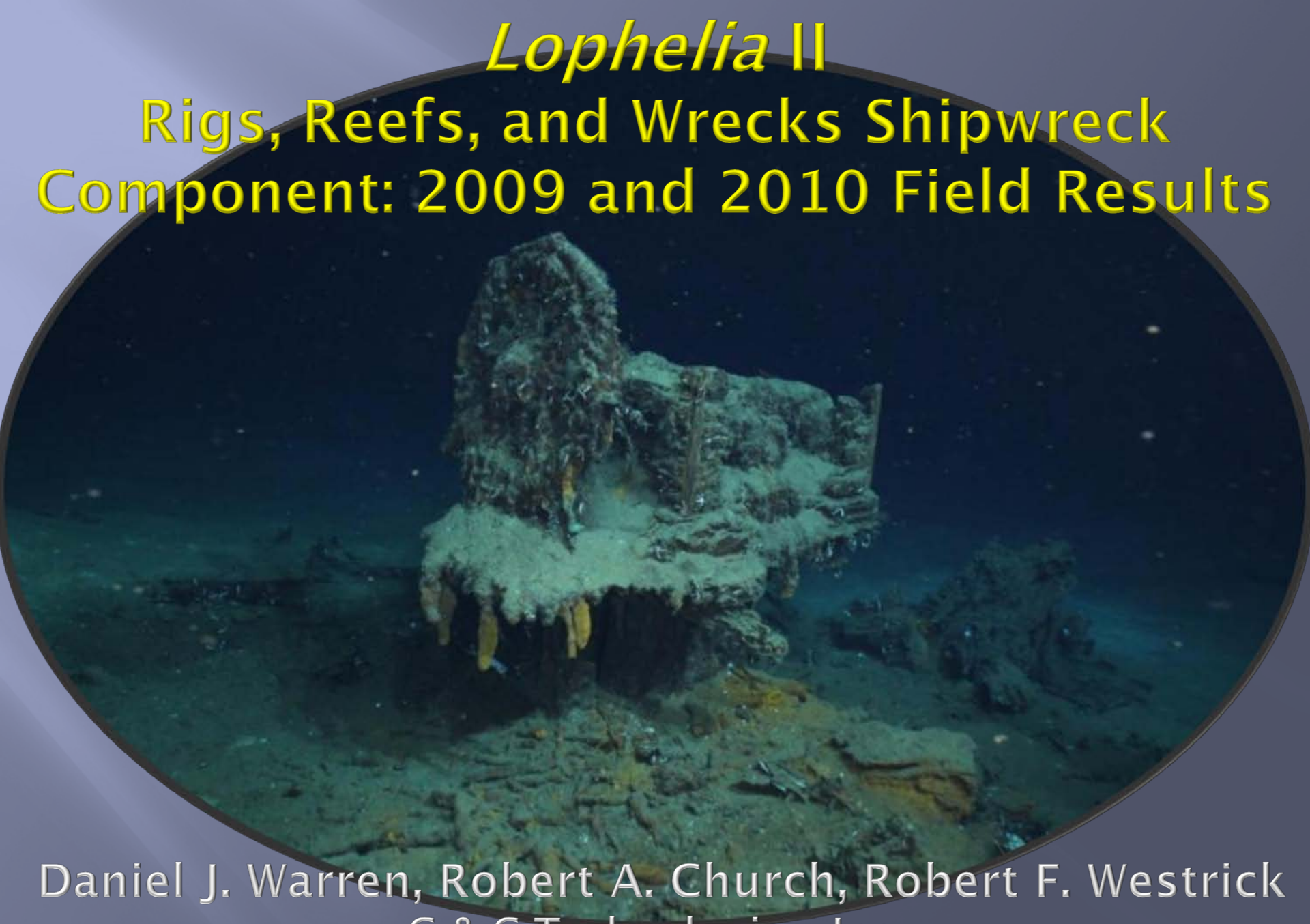
Lophelia II
Rigs, Reefs, and Wrecks Shipwreck Component: 2009 and 2010 Field Results



Daniel J. Warren, Robert A. Church, Robert F. Westrick
C & C Technologies, Inc.

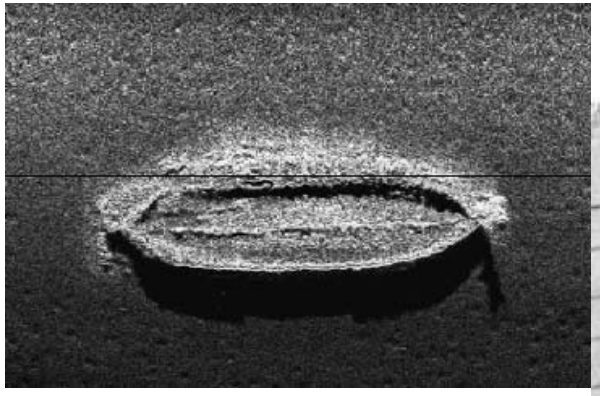
Lophelia II
Shipwreck Component Objectives

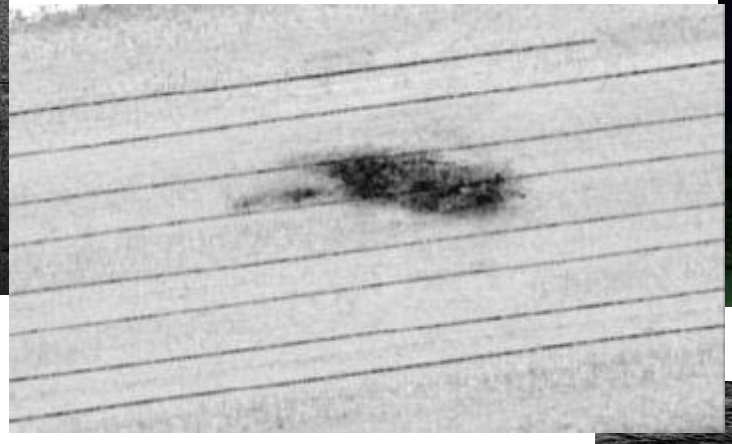
- Investigate and document each site archaeologically & biologically
- Mosaic and map the exposed site
- Assess the condition and state of preservation
- Collect diagnostic artifacts and biological samples

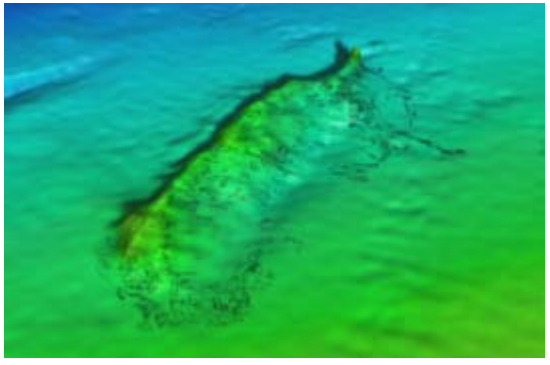
2009 Field Season

Investigated 5 shipwreck sites

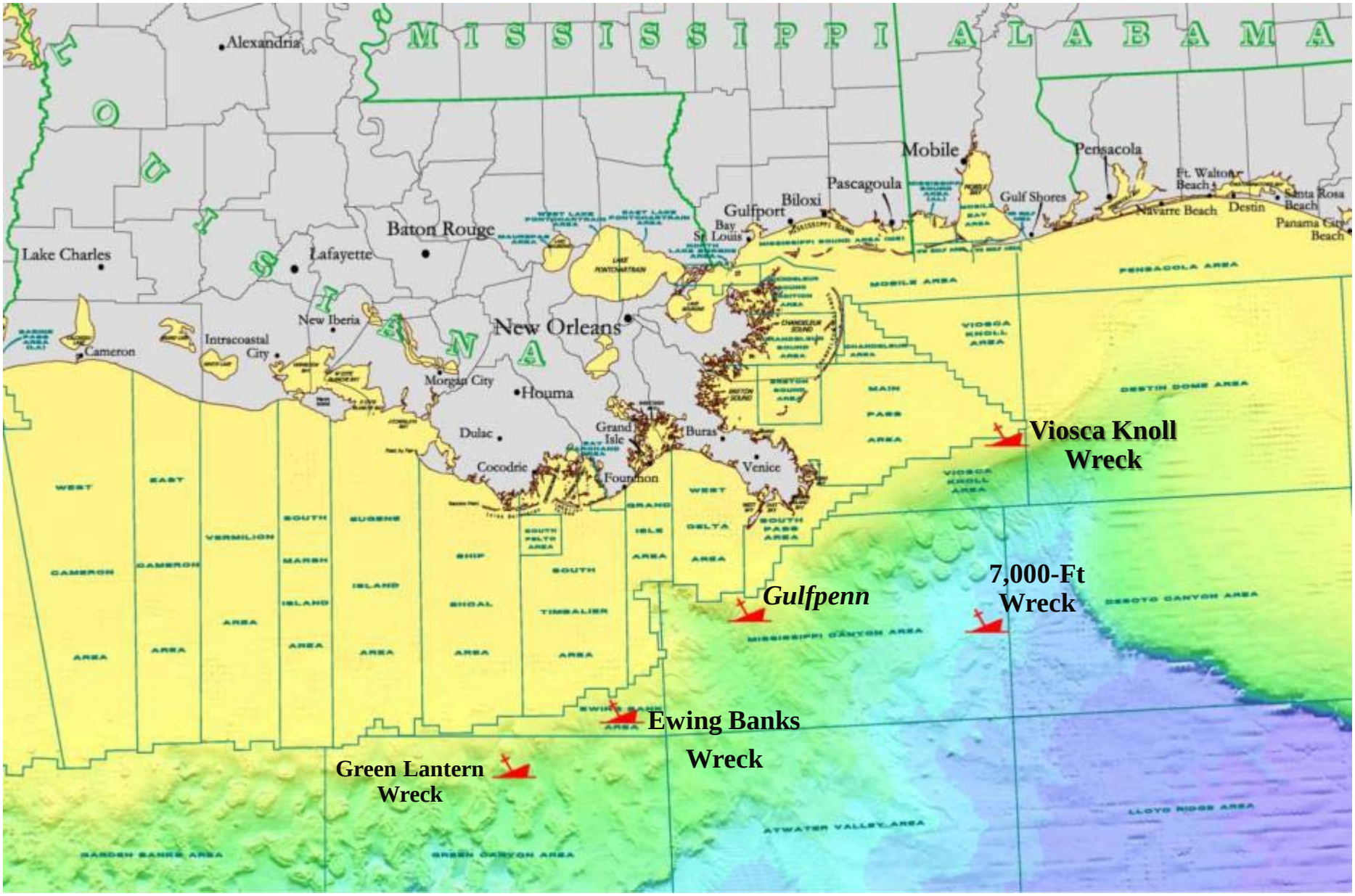
- 4 previously investigated
- 1 exploration site
- 12 – 20 hour dives



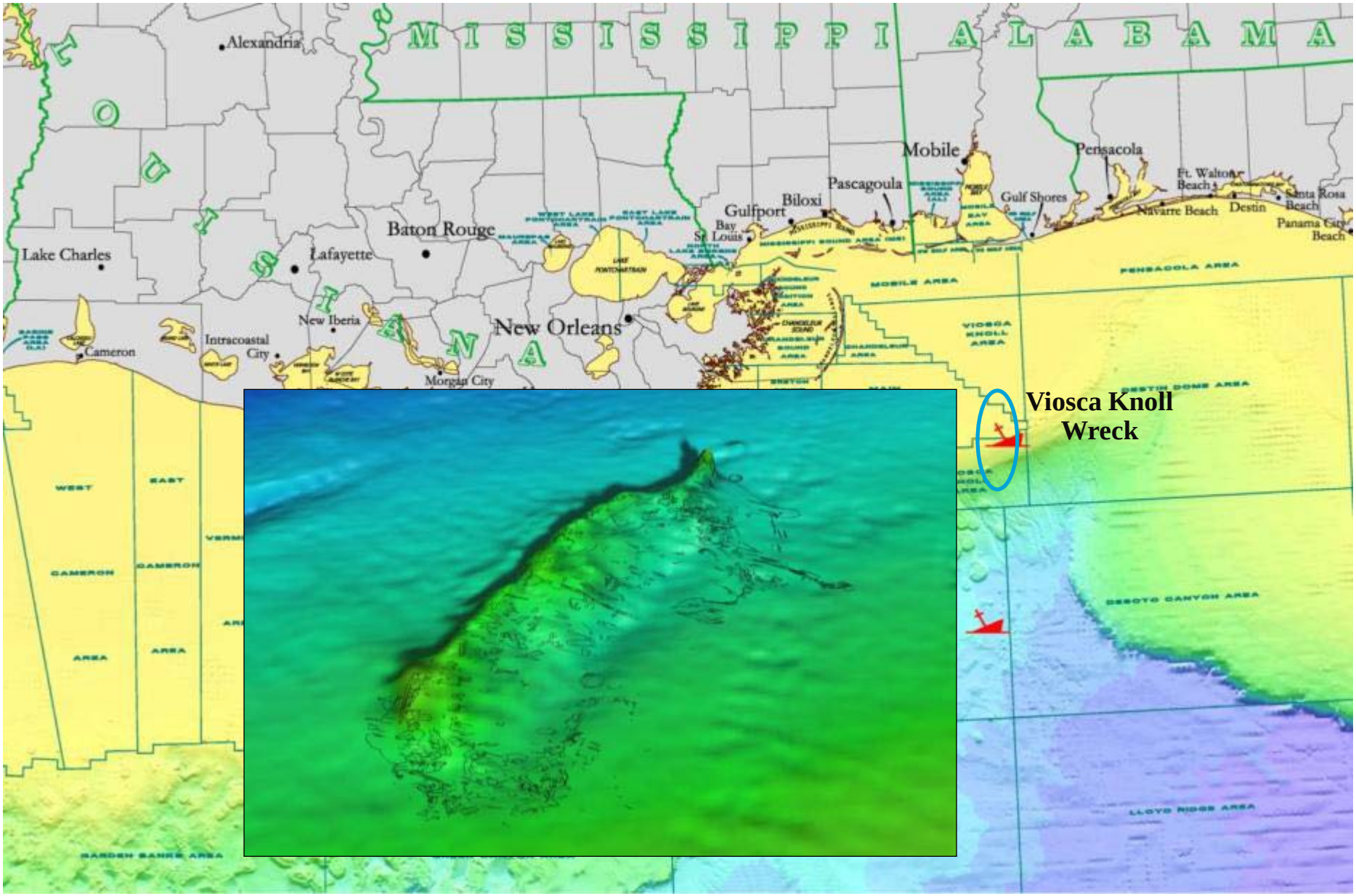




2009 Investigation Sites

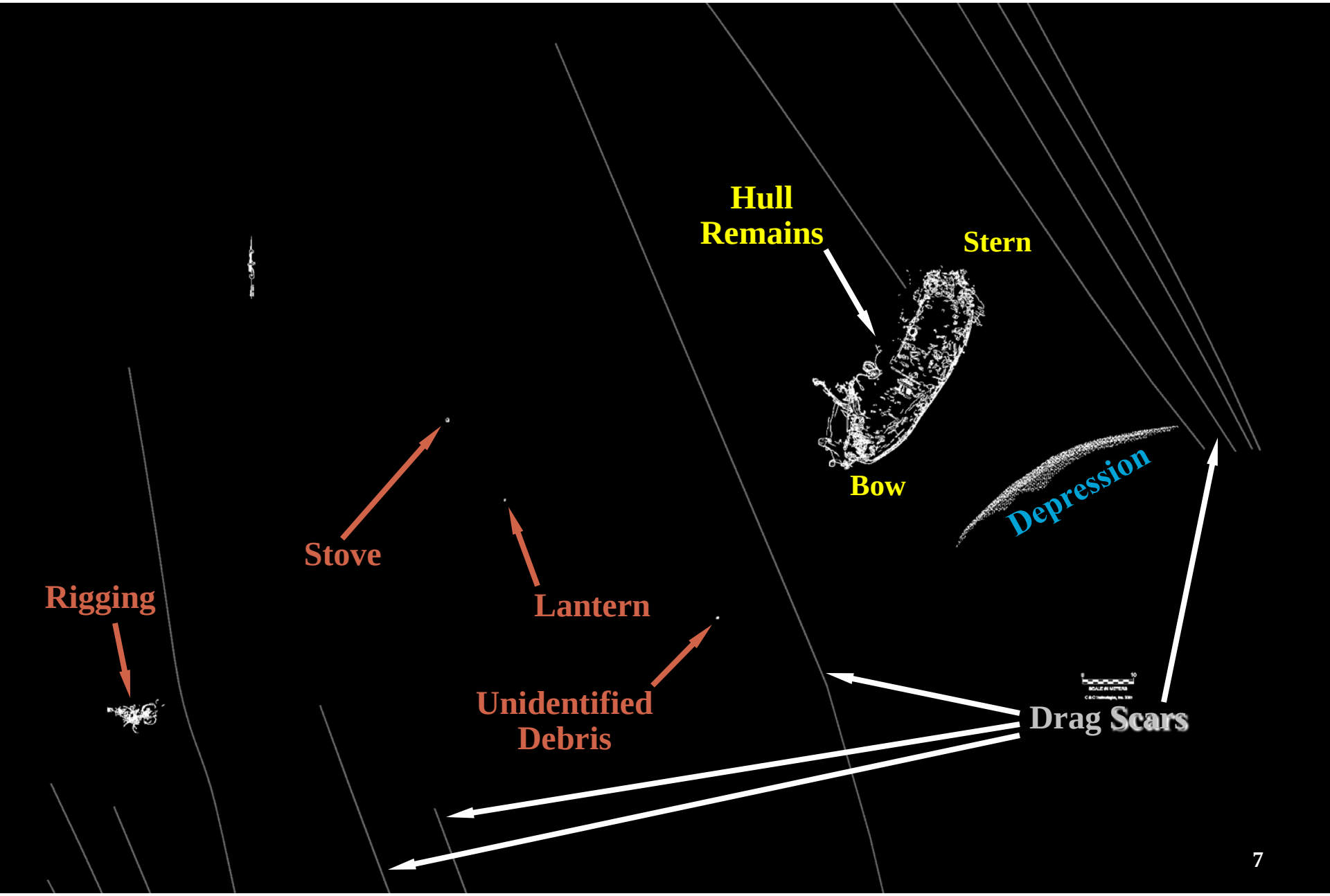


Viosca Knoll Wreck

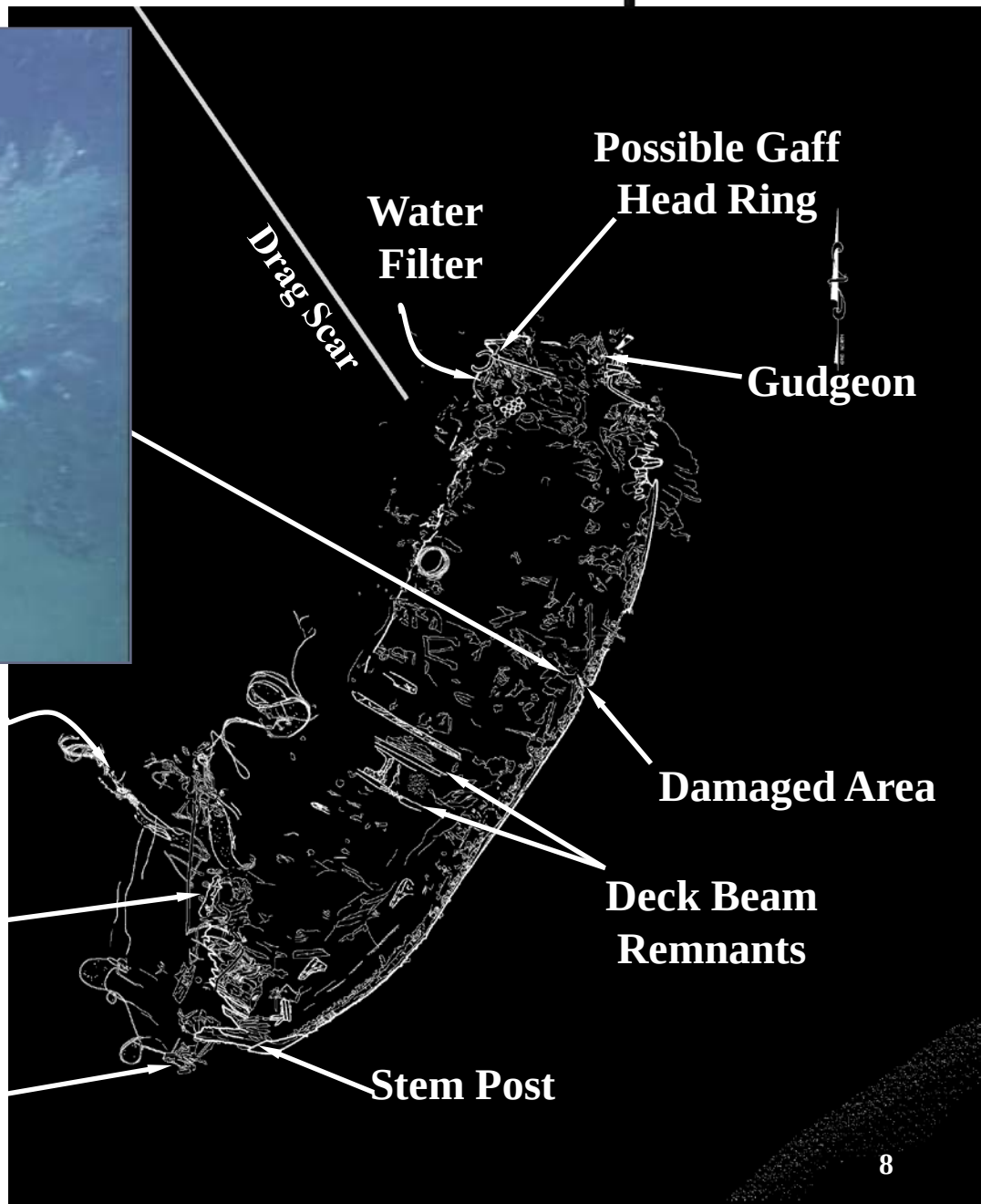


Viosca Knoll Wreck

Viosca Knoll Wreck



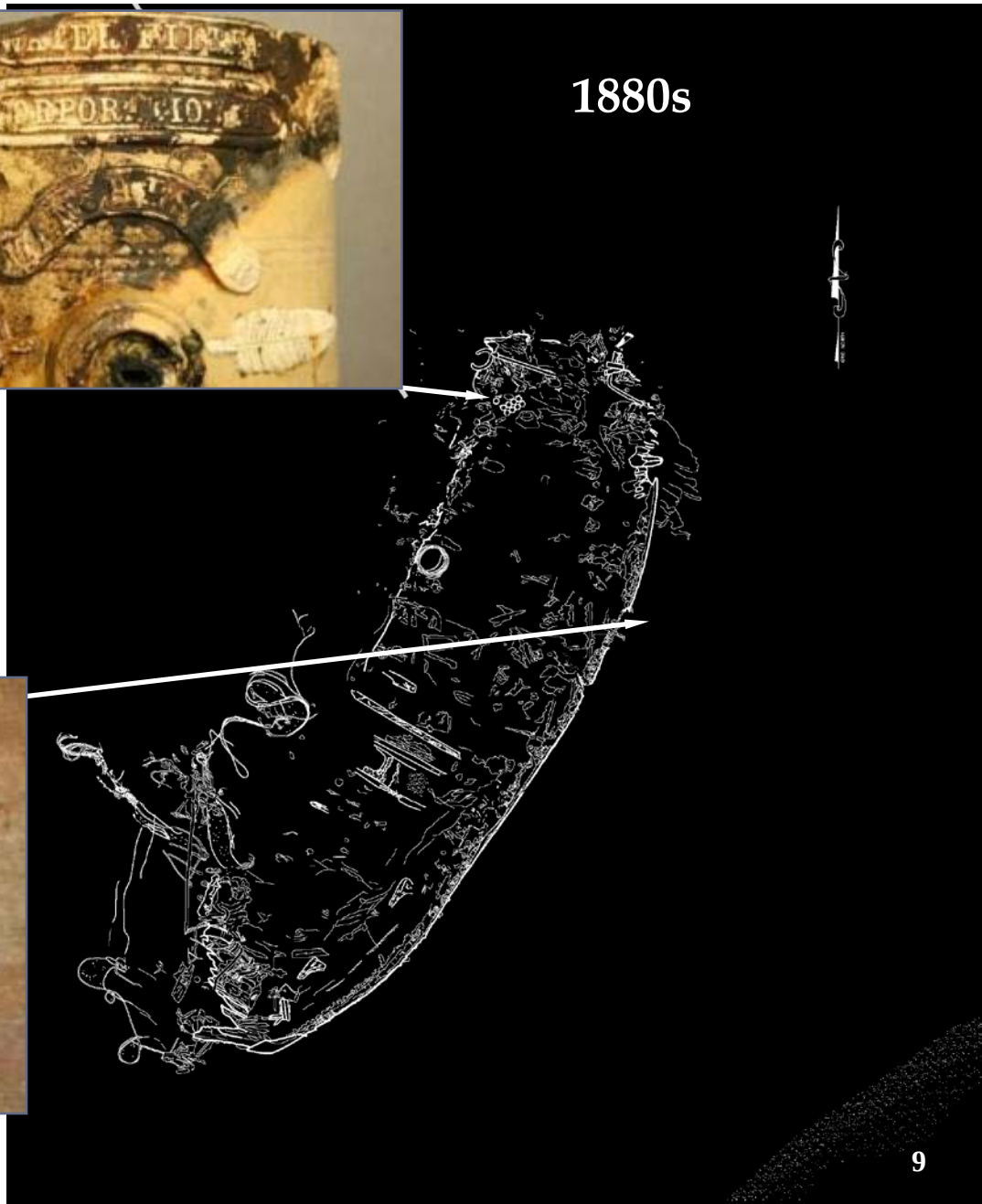
Viosca Knoll Wreck Site Map



Viosca Knoll Wreck

Water Filter

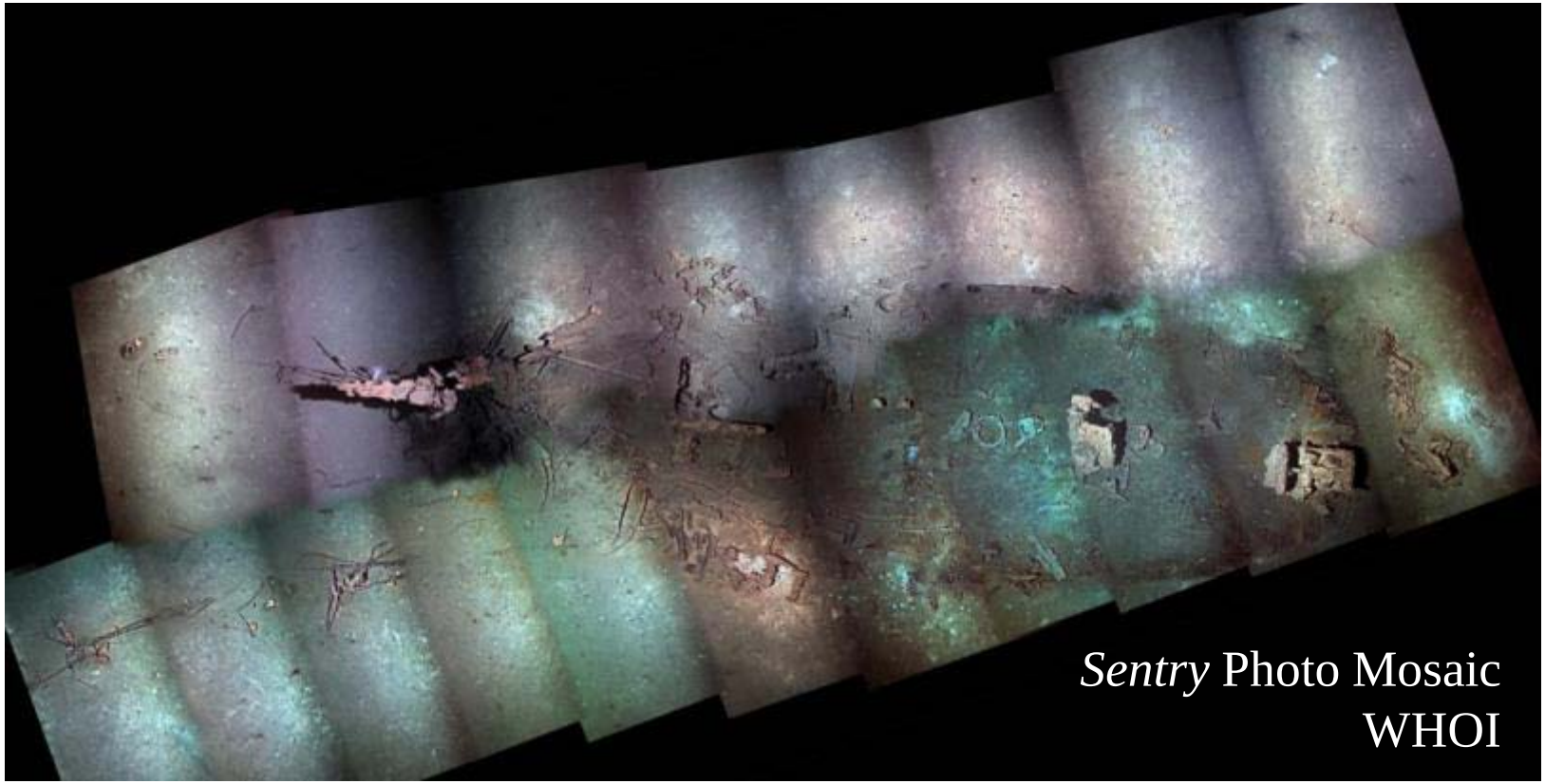
Copper Sheathing



7,000-Foot Wreck

Late 19th Century
Sailing Vessel
Copper Sheathed
Depth 7,450 feet
(2,271 meters)

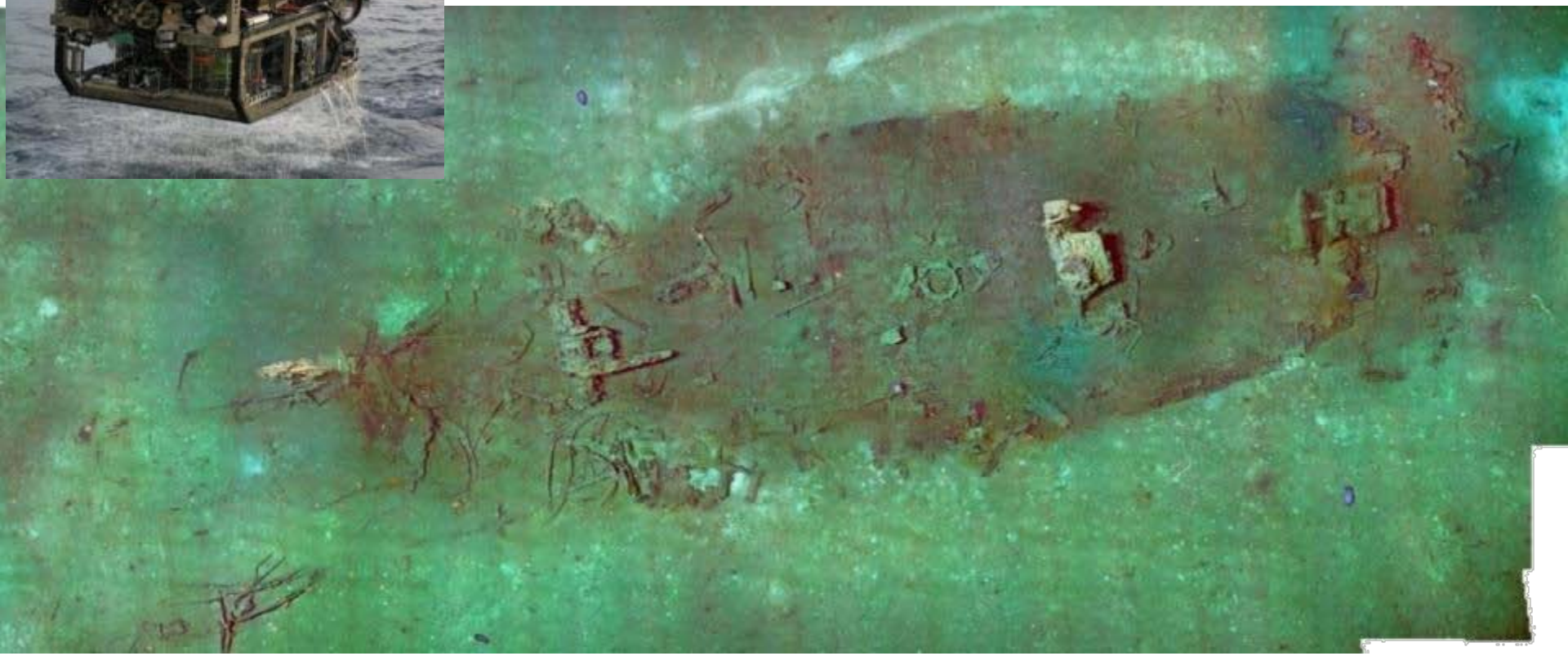
Discovered in 1986
Deep-Tow Survey
AUV Survey 2006
C-Surveyor I
AUV Survey 2009
Sentry



Sentry Photo Mosaic
WHOI

7,000-Foot Wreck

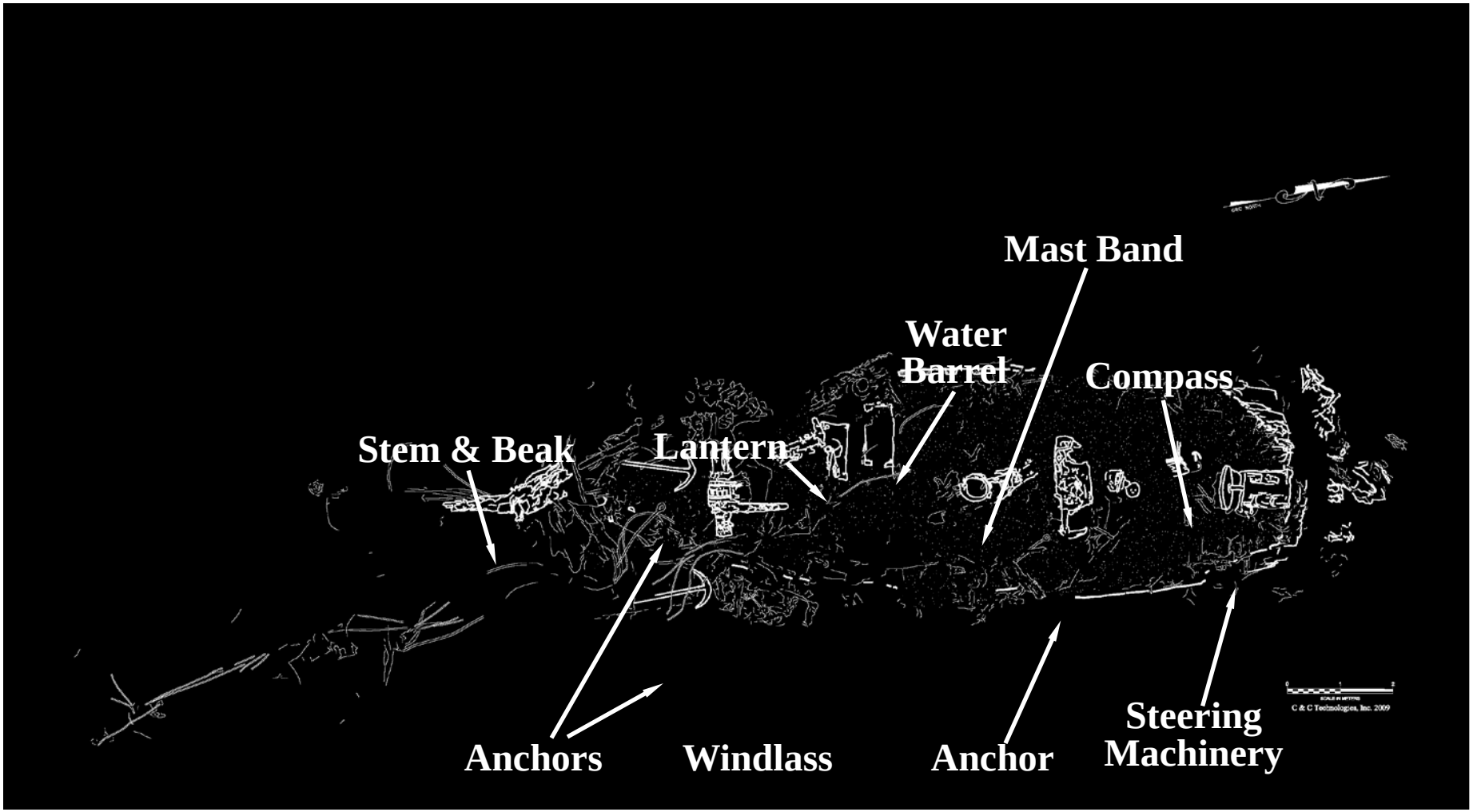
Jason II (WHOI) Photomosaic



Photos by Sheli Smith and Assembled by Stephanie Lessard-Pilon

7,000-Foot Wreck

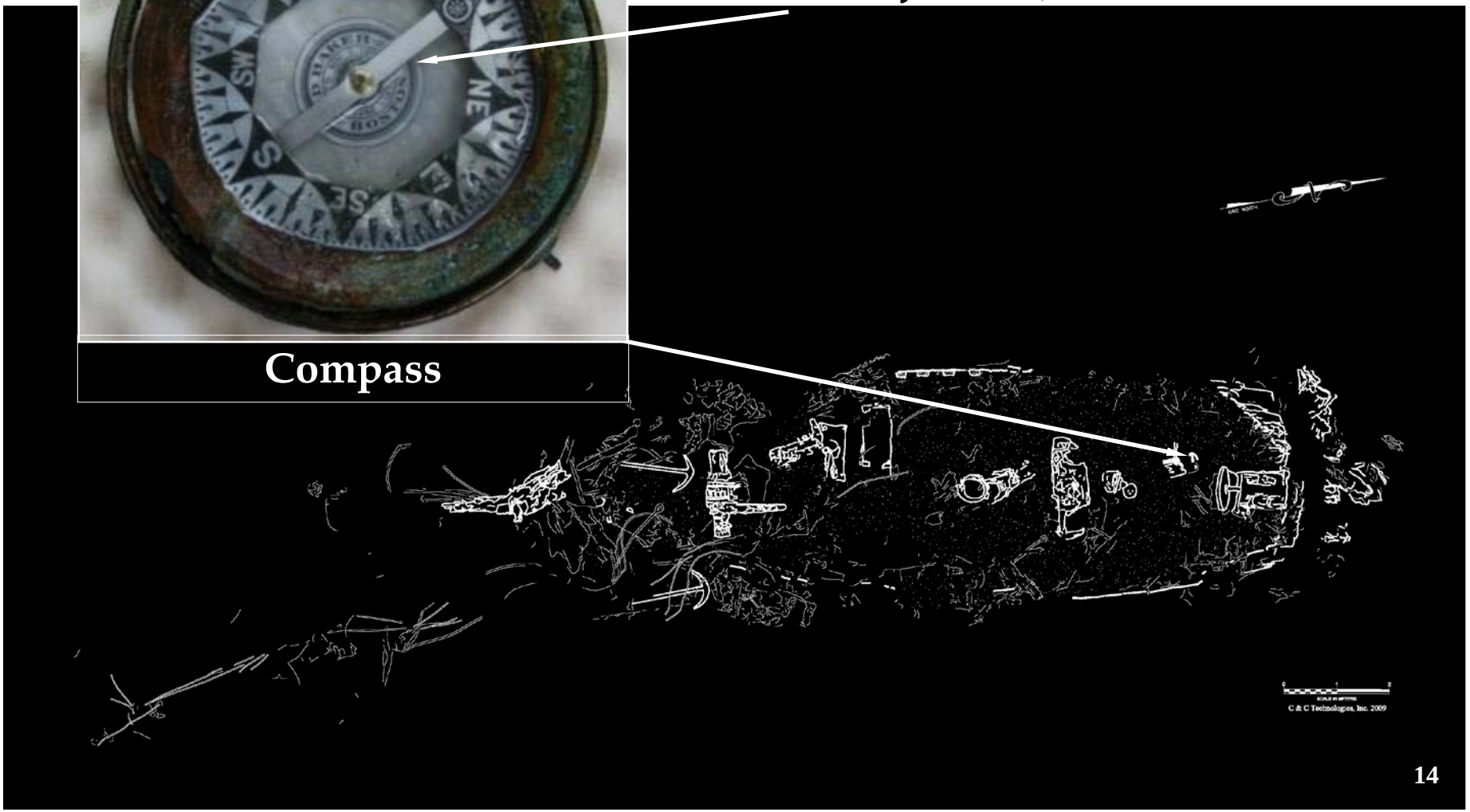
7,000-Foot Wreck



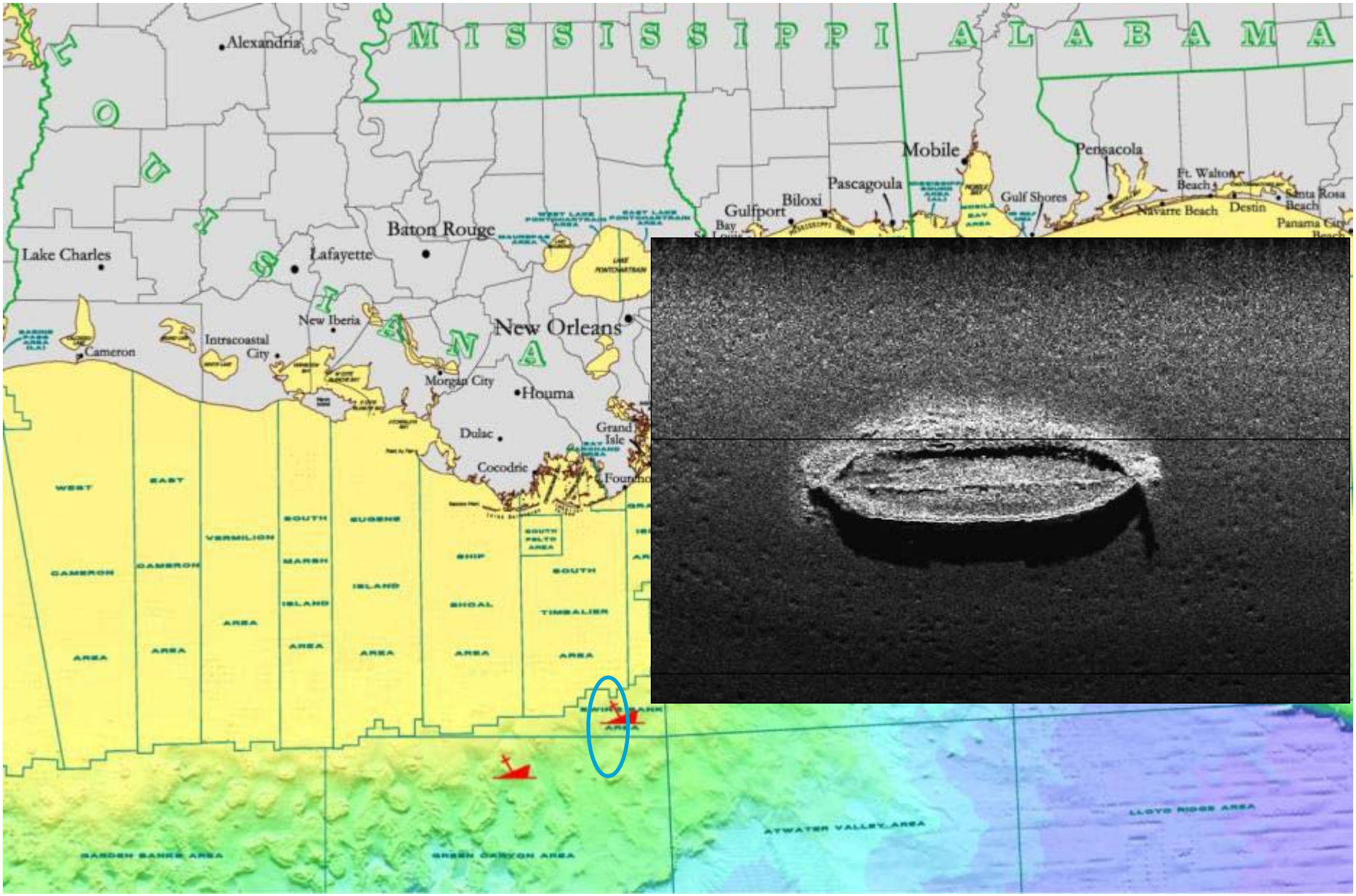
7,000-Foot Wreck

D. BAKER
BOSTON
November 3, 1874
June 1, 1875

Compass



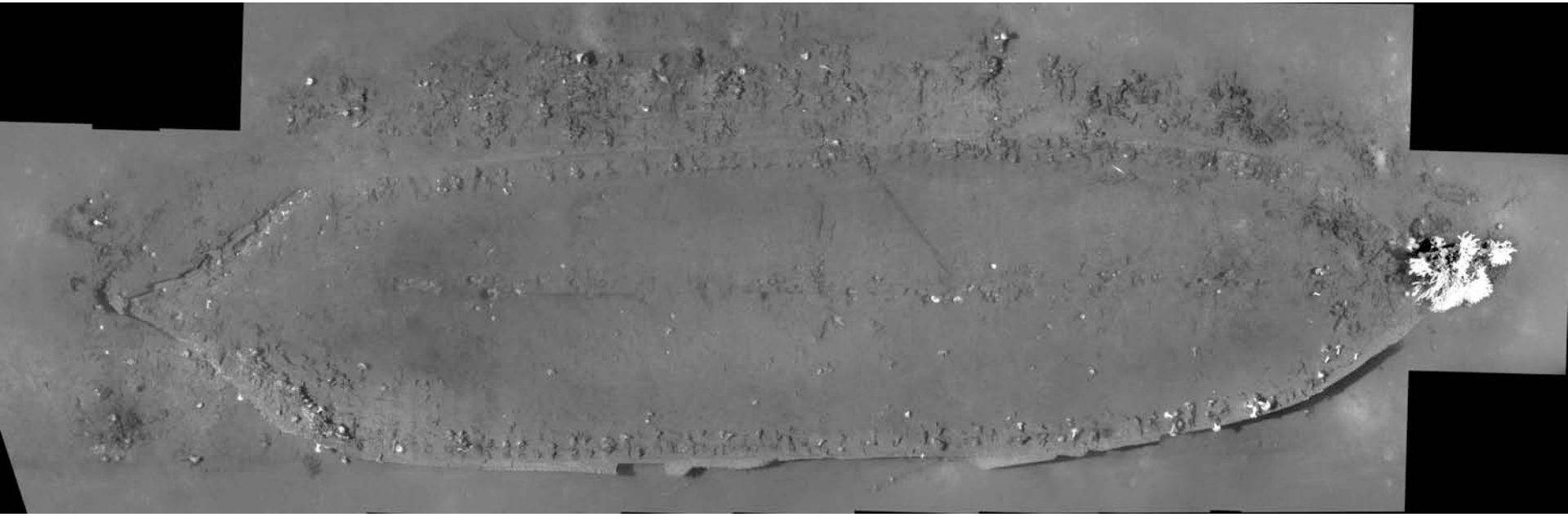
Ewing Banks Wreck



Ewing Banks Wreck AUV Photomosaic

Summer 2009 C-Surveyor III AUV Survey

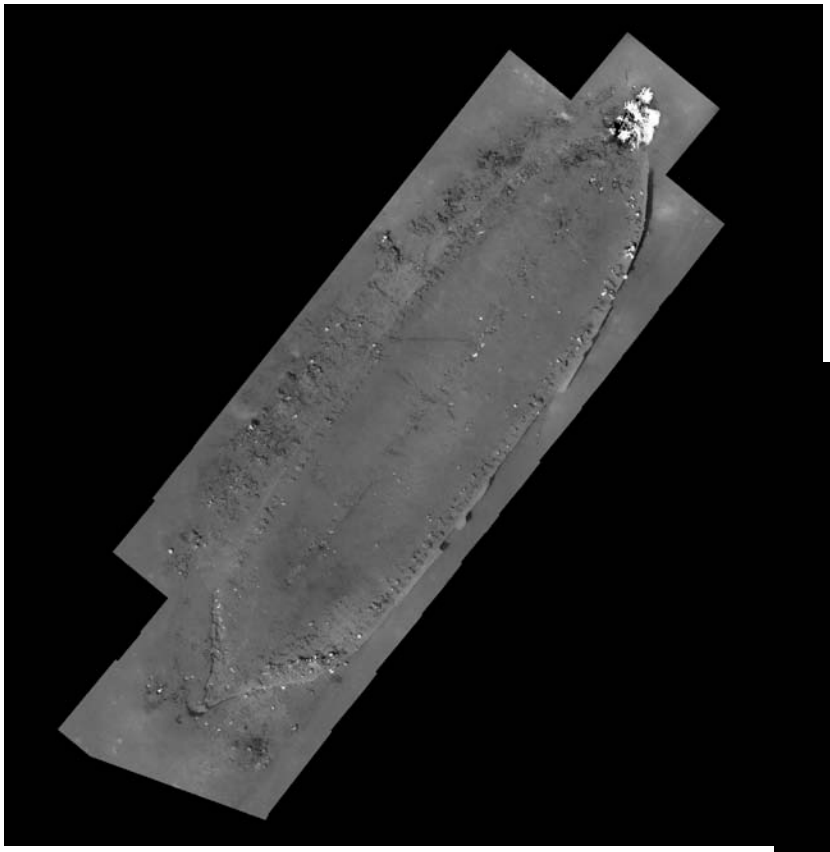
Testing Program for onboard AUV Camera System

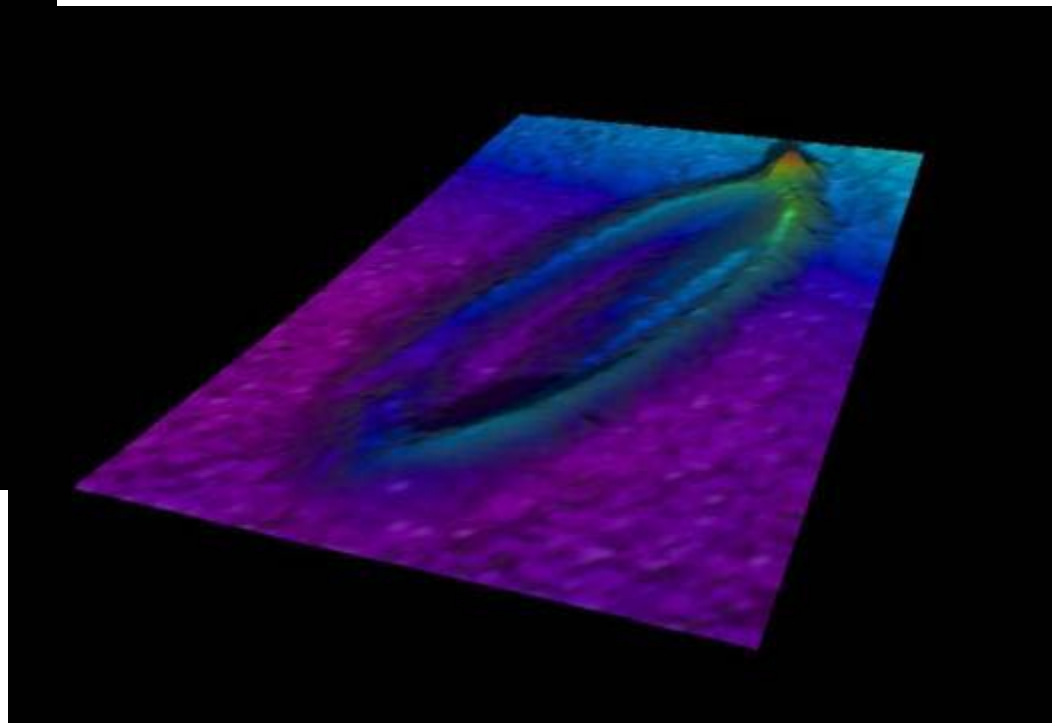


Assembled by Daniel Warren

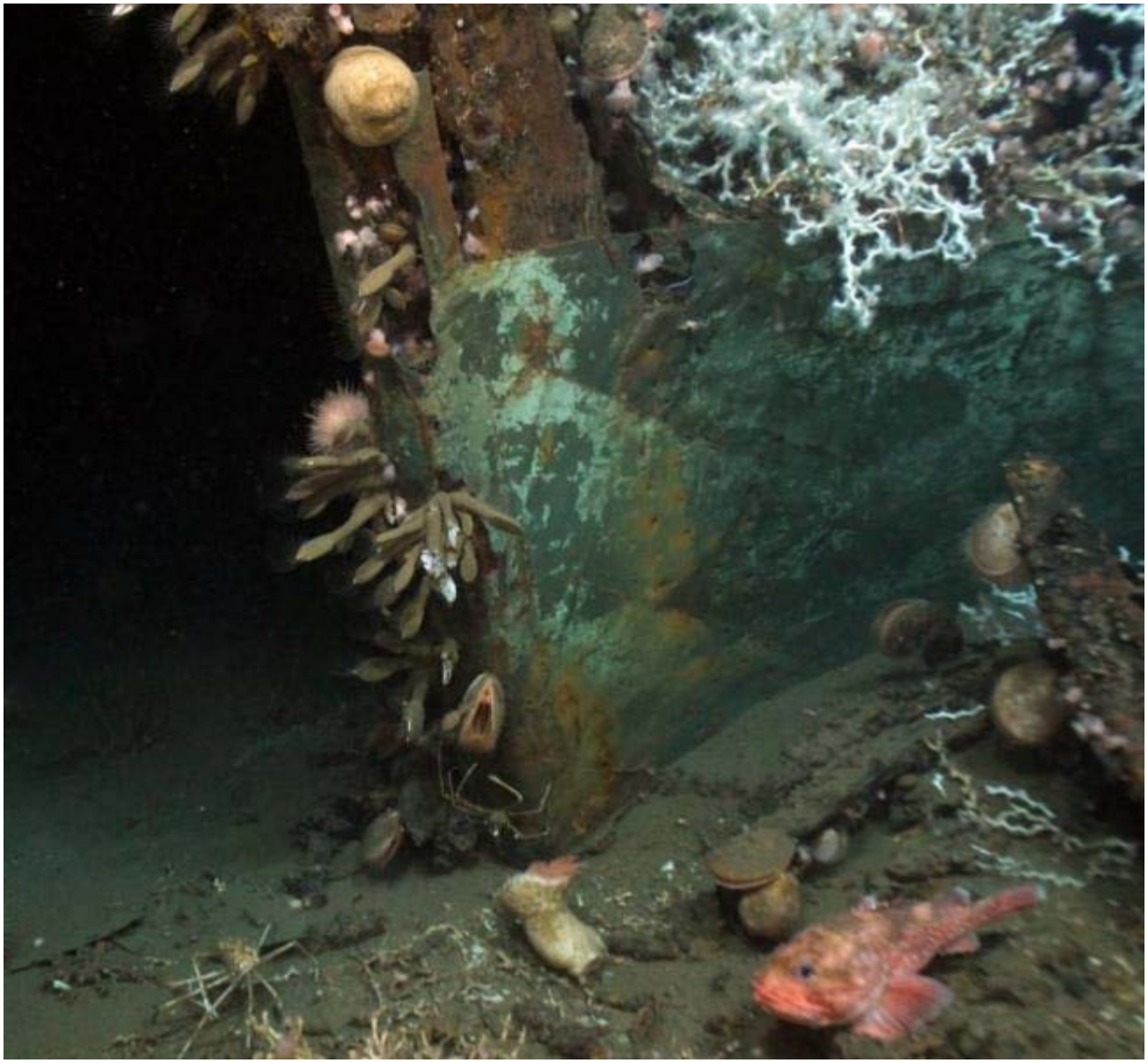
Ewing Banks Wreck

Photomosaic Draped over Bathymetry

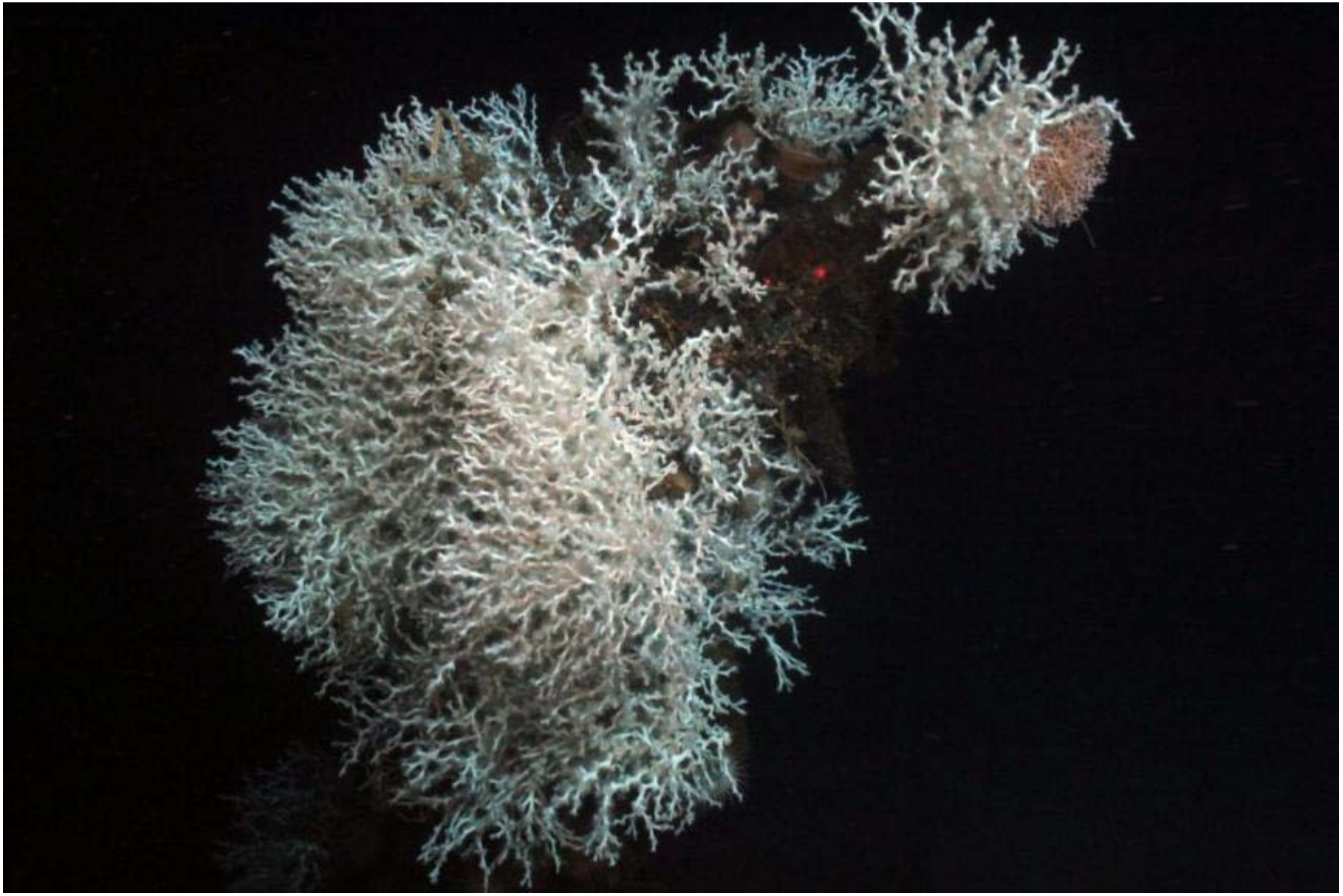




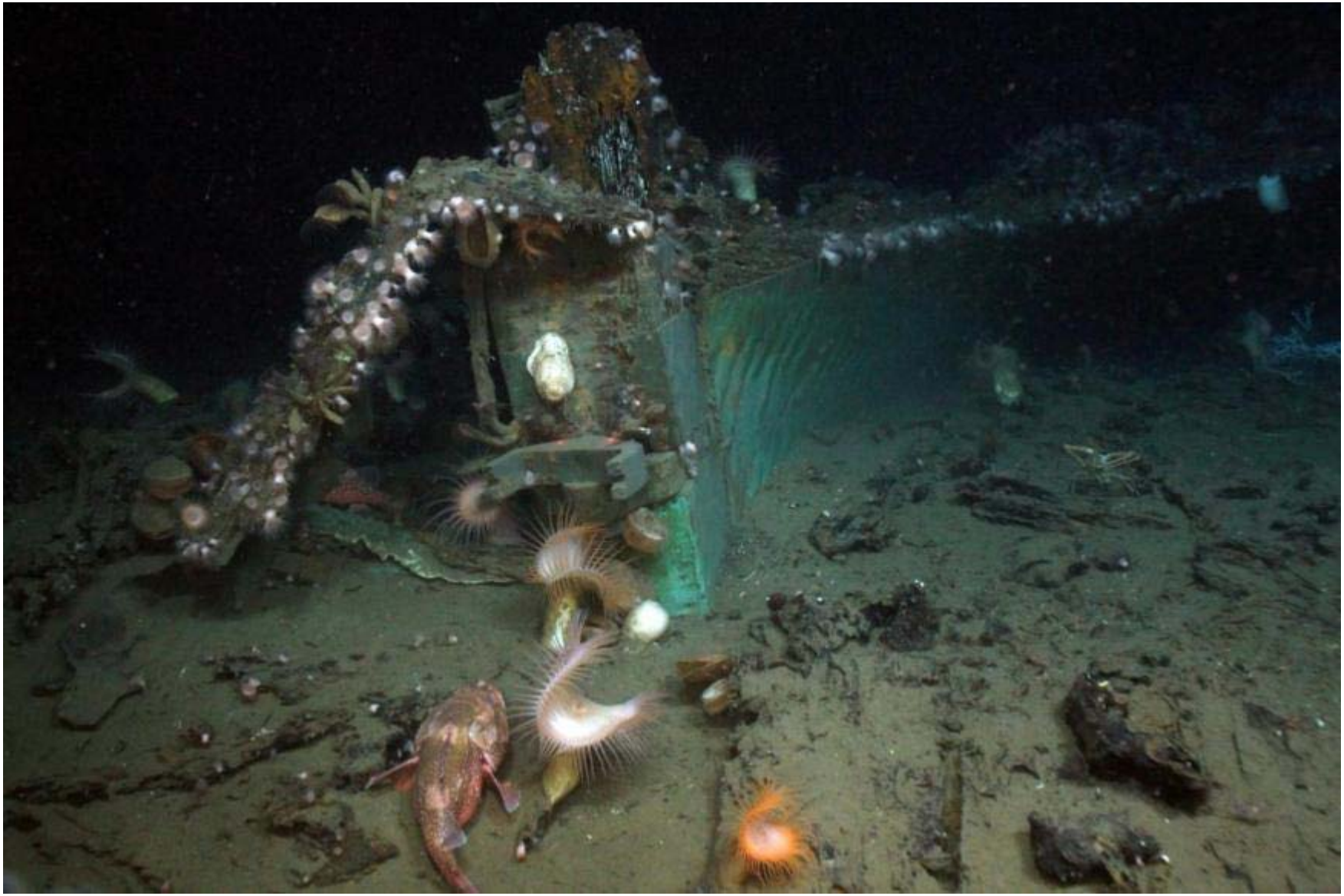
Ewing Banks Wreck Lower Bow



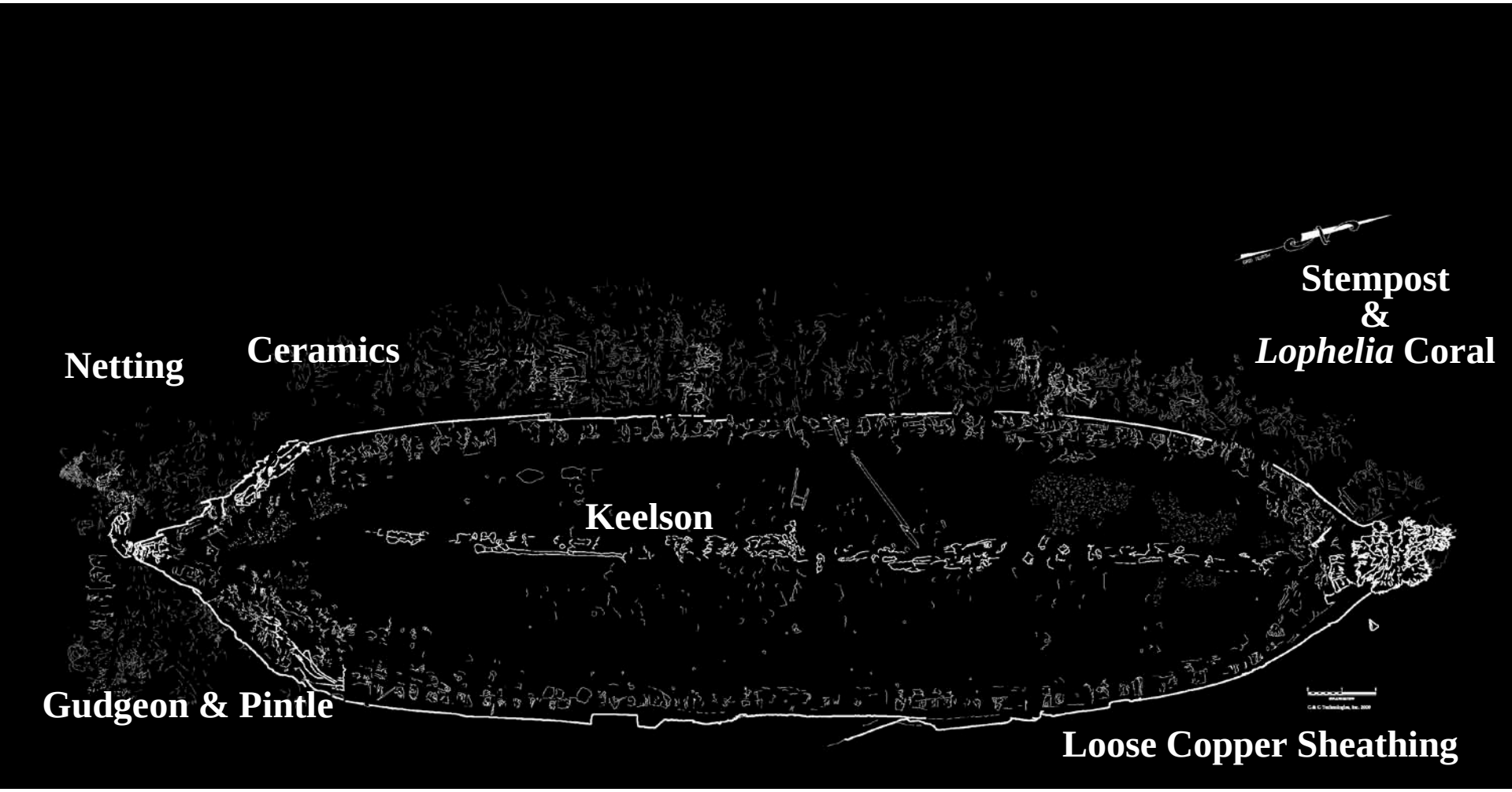
Ewing Banks Wreck Stem



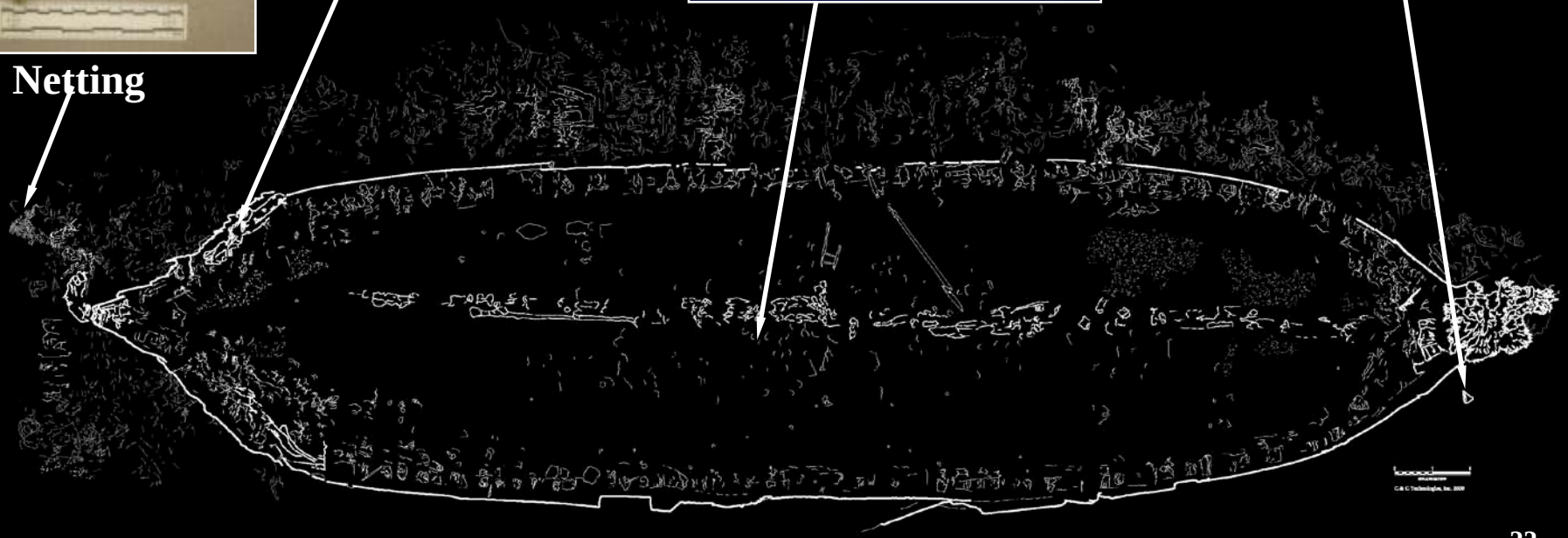
Ewing Banks Wreck Stern



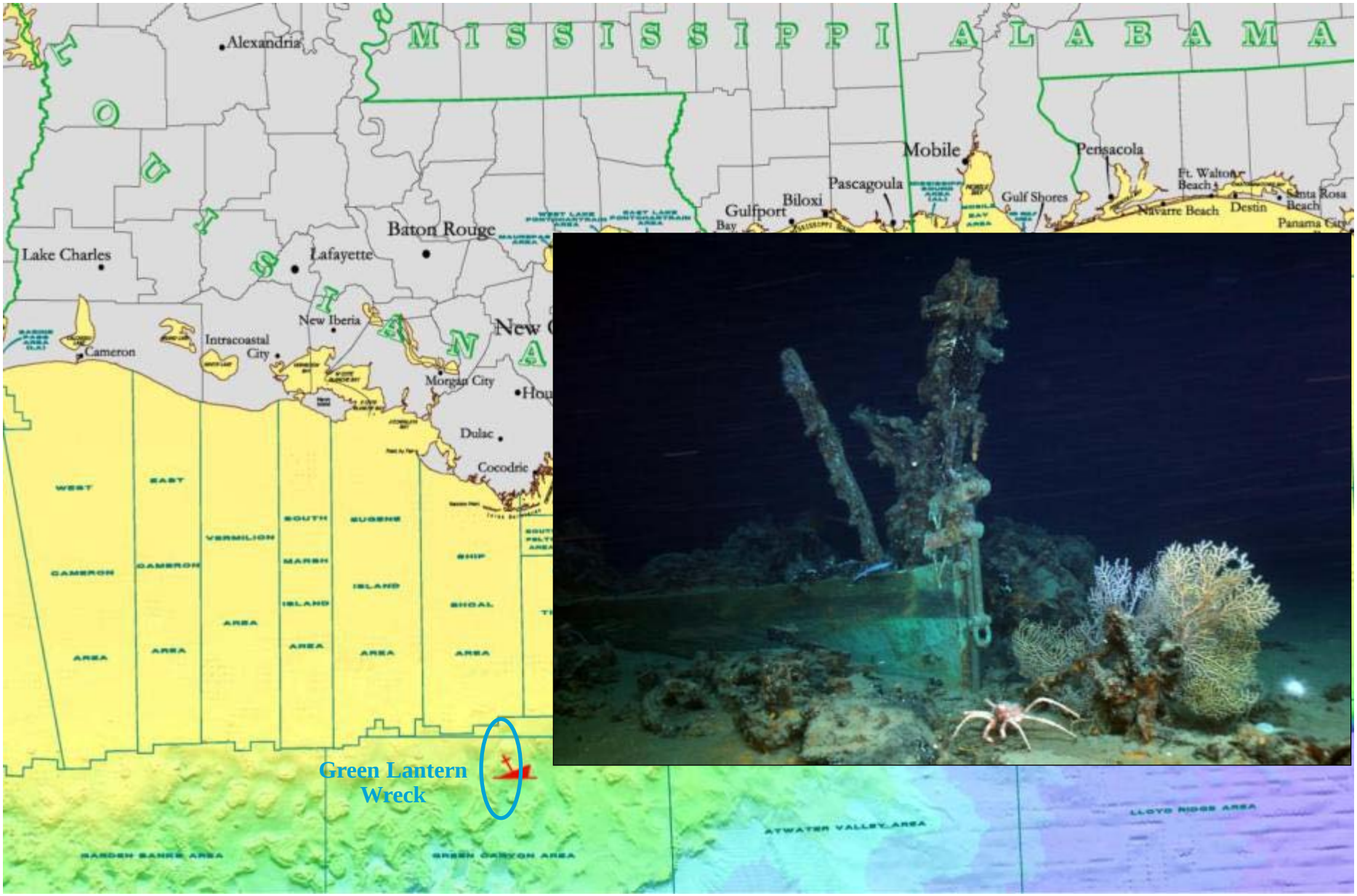
Ewing Banks Wreck Site Map



Ewing Banks Wreck



Green Lantern Wreck



Green Lantern Wreck

Discovered in 1996 Deep-Tow Survey

AUV Survey 2007 *C-Surveyor I*

ROV Investigation 2004 Industry

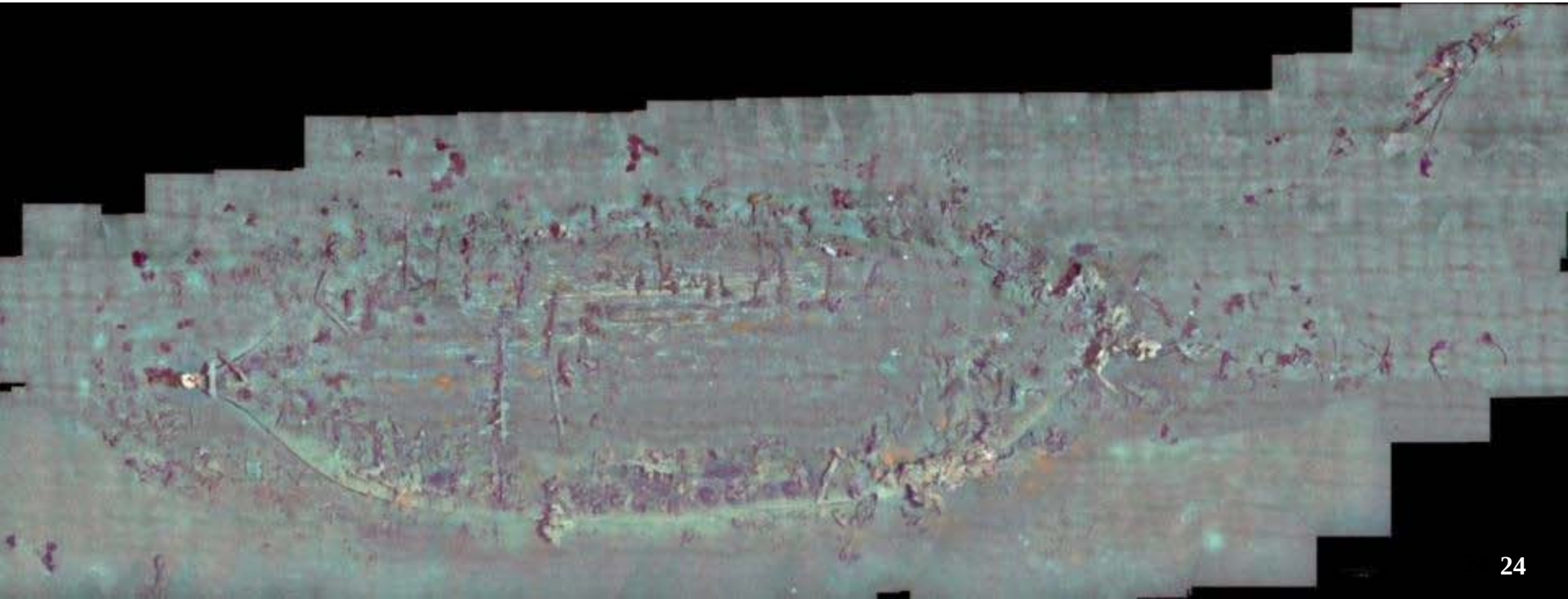
ROV Investigation 2007 Industry

Late 19th Century Sailing Vessel

Copper Sheathed

70 feet long, 22 feet wide, 7 feet of relief

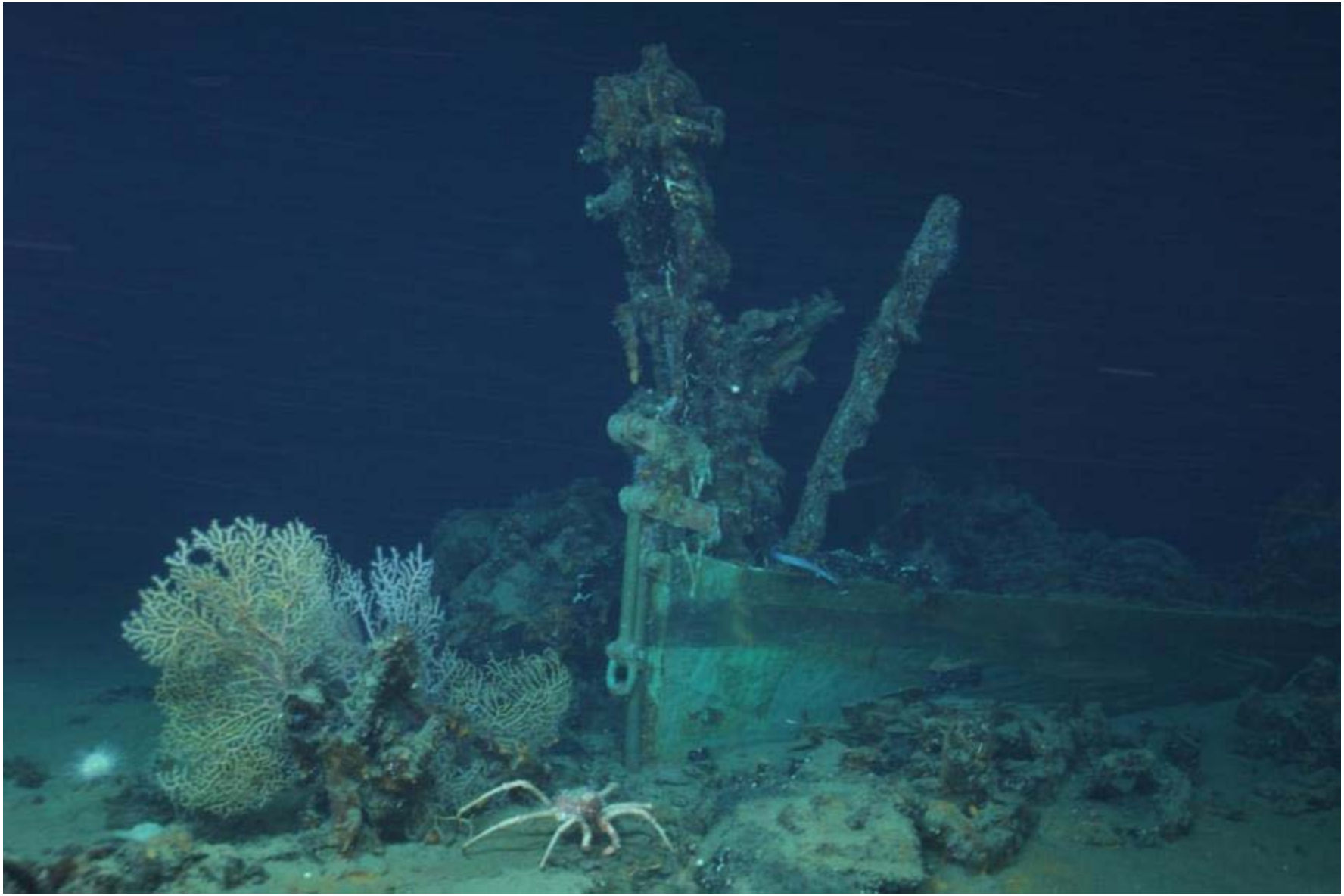
Depth 3,000 feet (915 m)



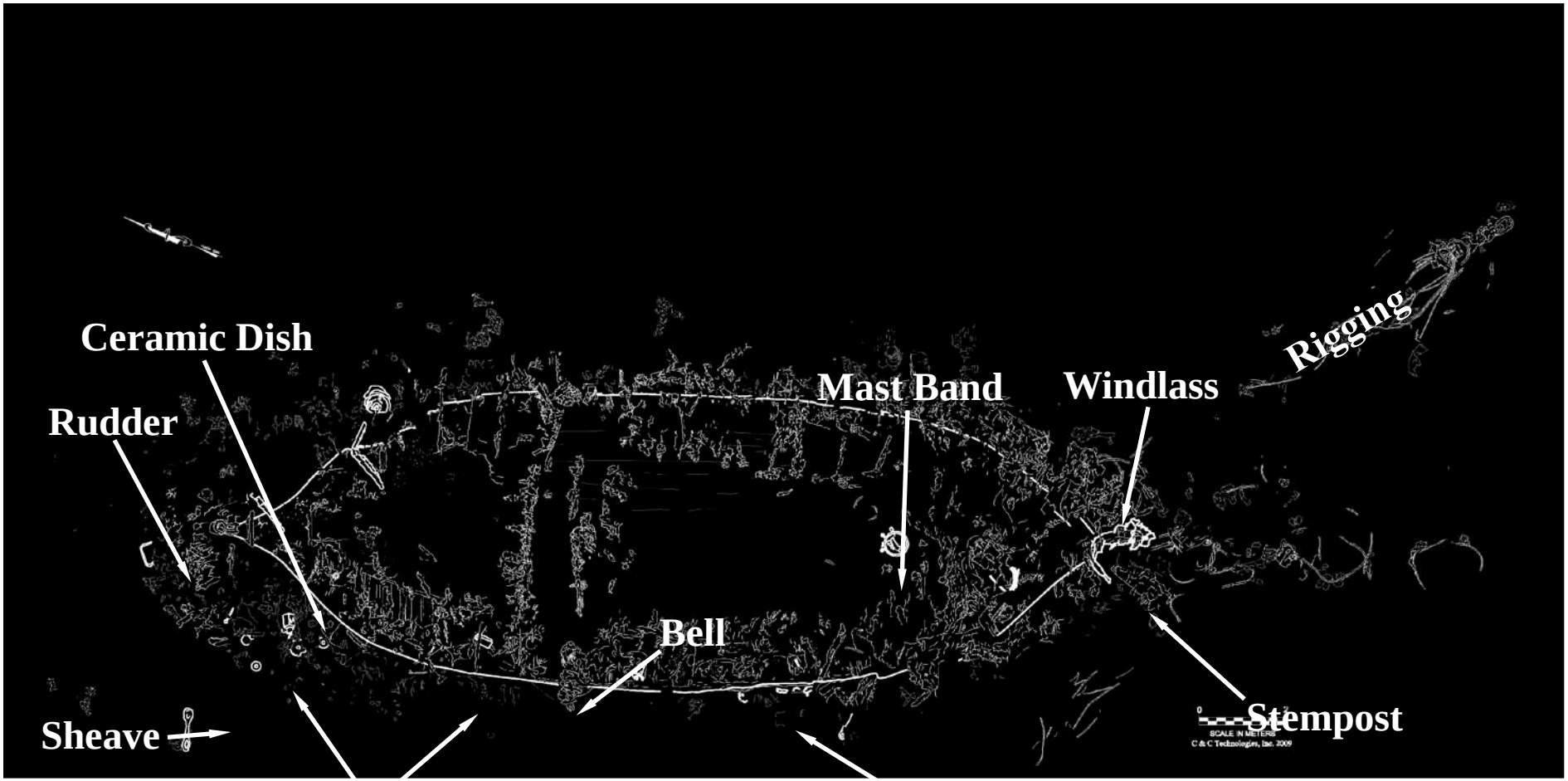
Green Lantern Wreck

Green Lantern Wreck

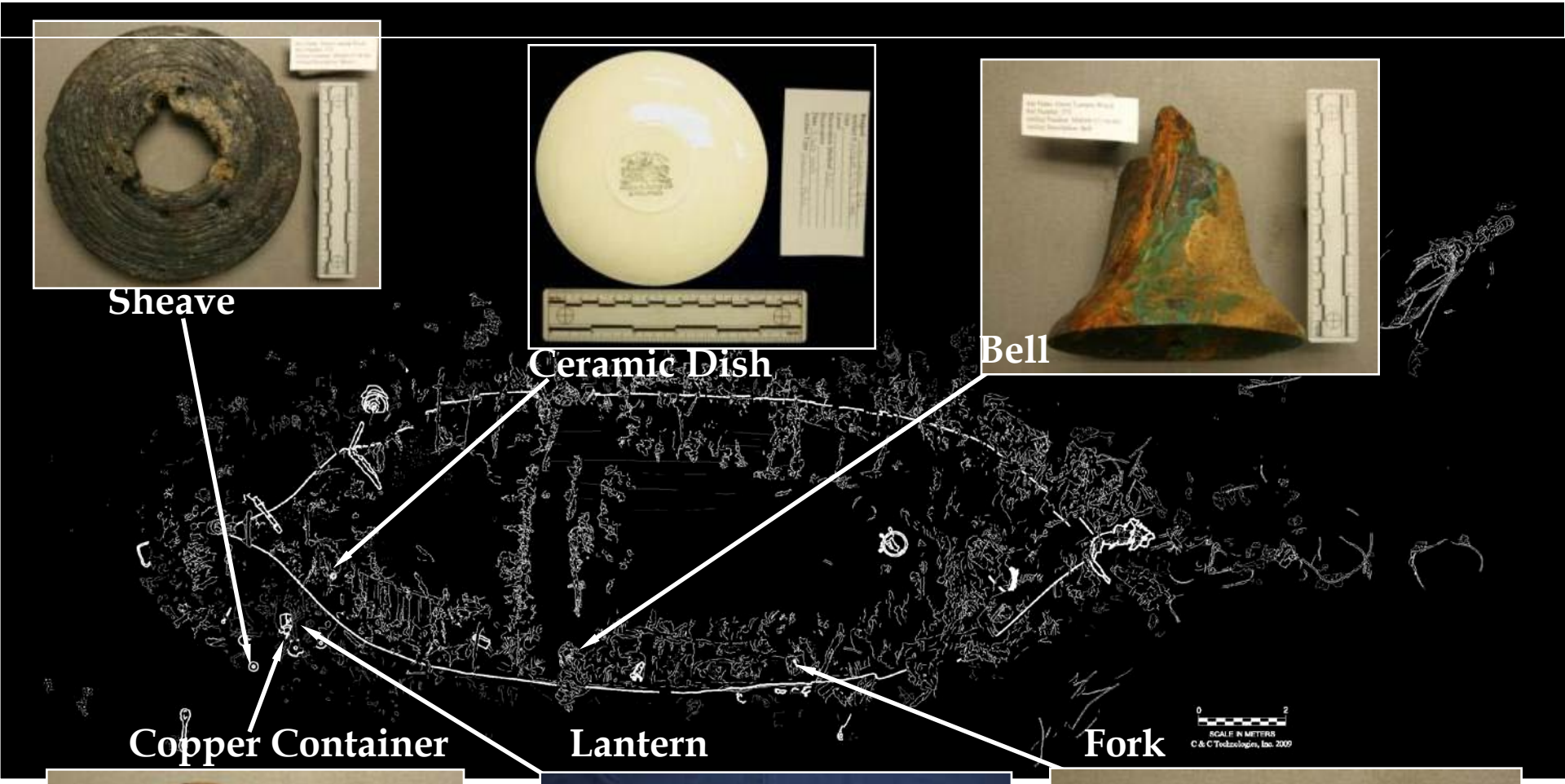
Green Lantern Wreck Bow



Green Lantern Wreck Site Map



Green Lantern Wreck



Green Lantern Wreck

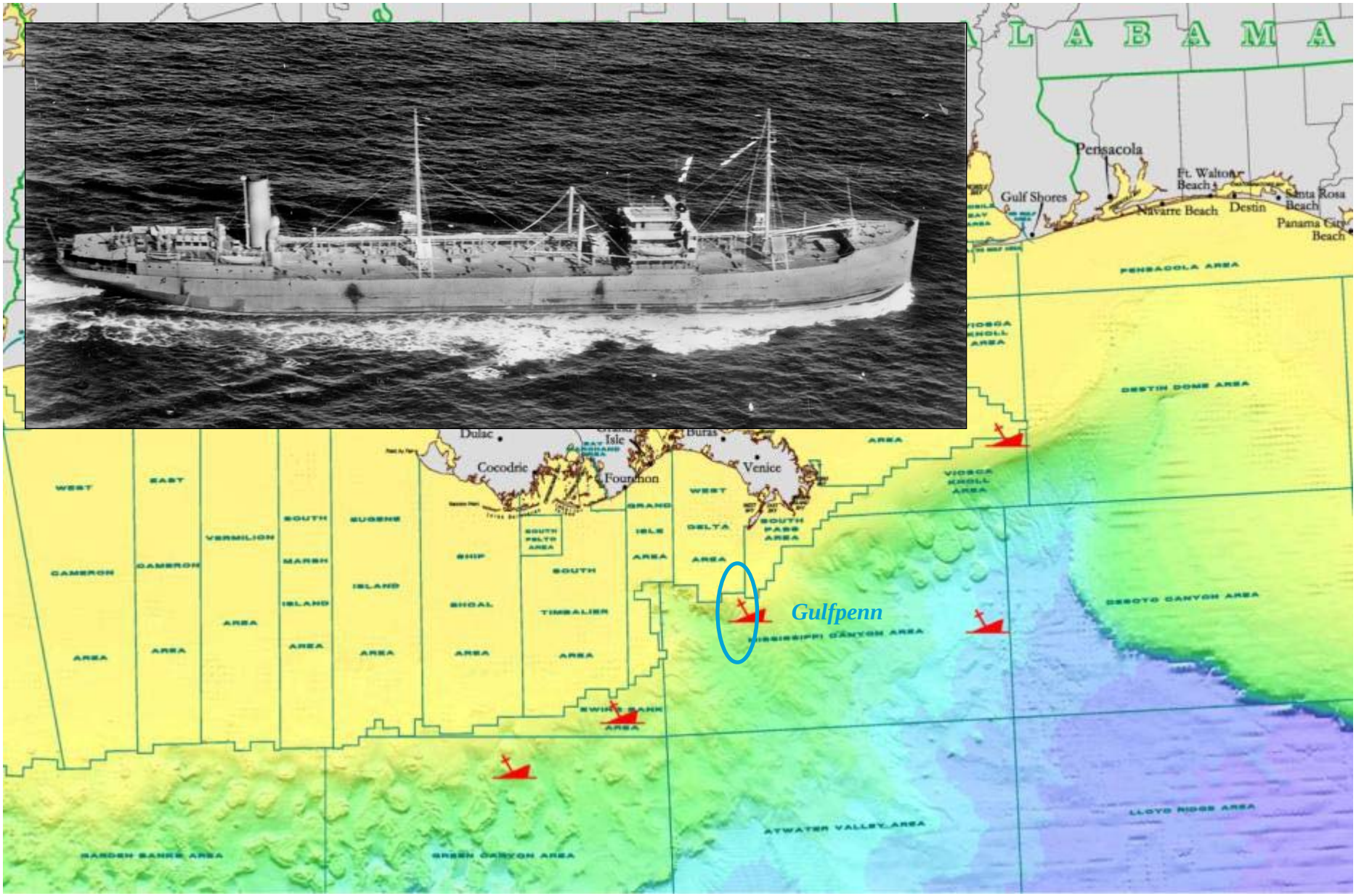
Ceramic Dish

Wood & Son
c. 1905-1916

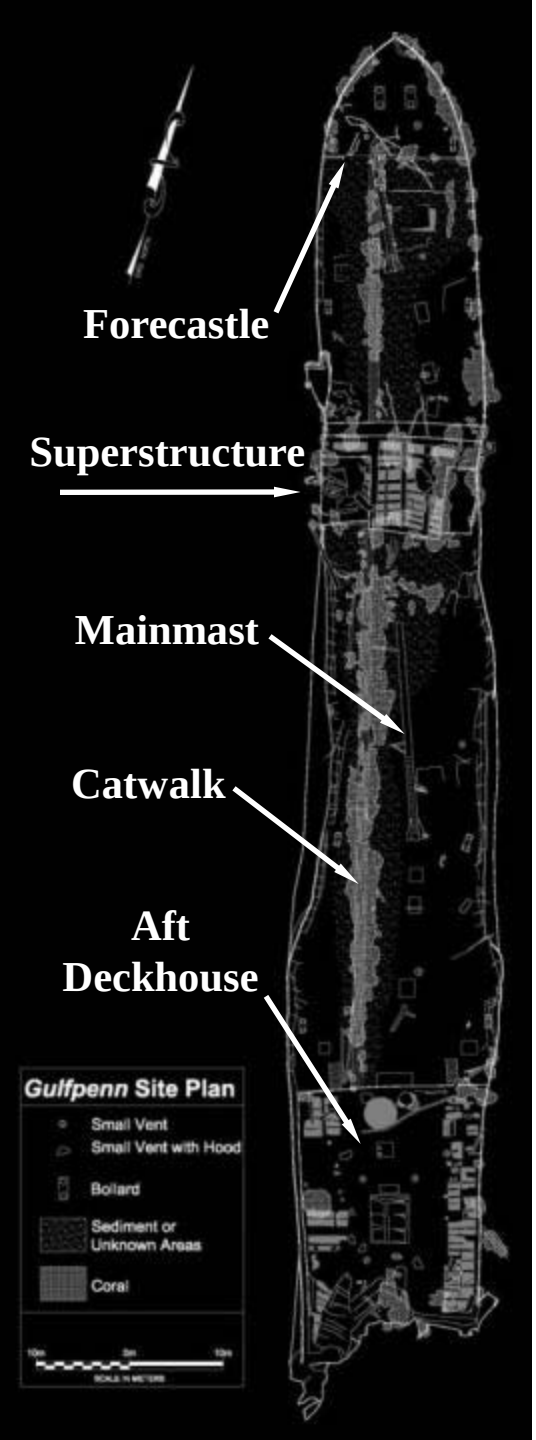
Fork

Simeon L &
George H Rogers Co.
c. 1900–1918

GulfPenn Wreck



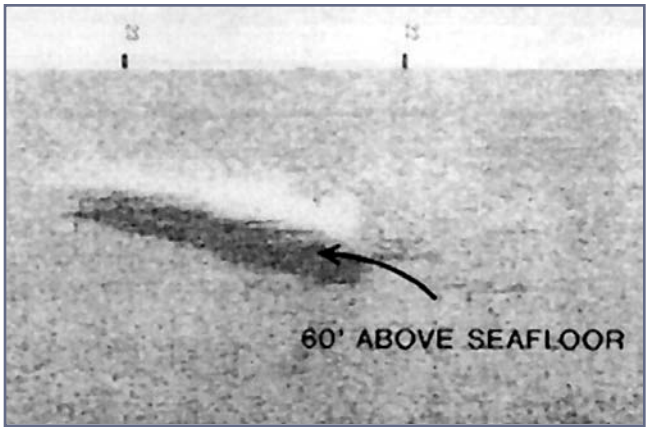
GulfPenn Wreck

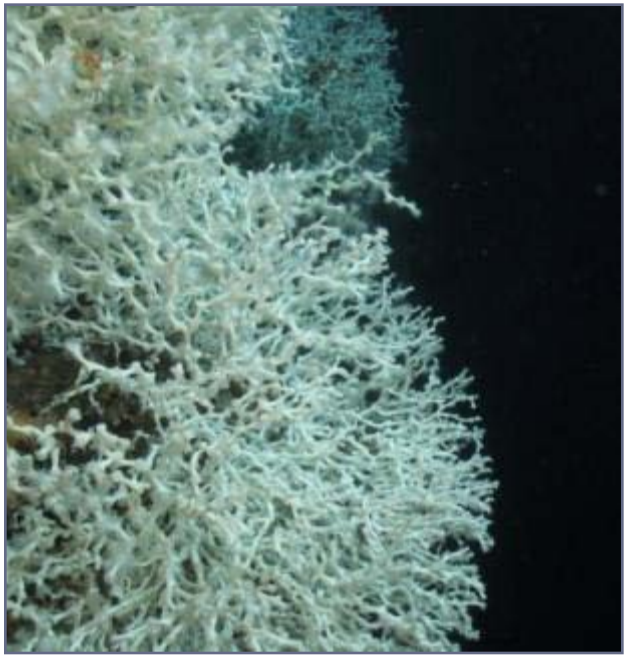


Discovered in 1994
Deep-Tow Survey

ROV Investigation 2004
DeepWrecks Project
(3 dives)

ROV Investigation 2008
Reefs, Rigs, &
Wrecks Project
1st field season
(1 dive)





WW II Tanker

Sank May 13, 1942 (*U-506*)

485 feet long (*480.5 ft. length), 72 feet wide (*66 ft. beam), 60 feet of Relief

Depth = 1,817 feet
(554 m)

2010 Field Season

Only One Shipwreck Investigation Planned

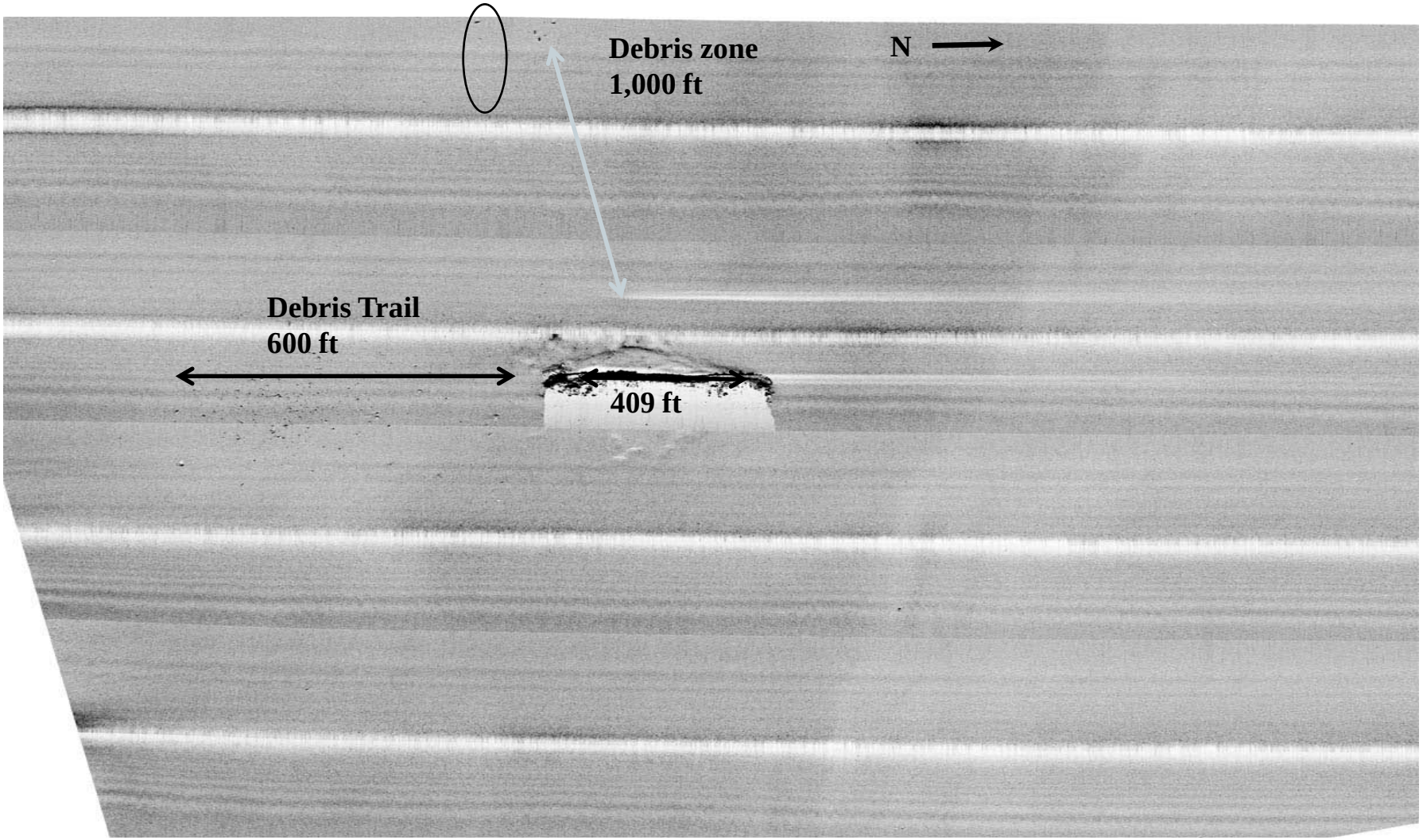
Tanker *GulfOil*

Investigation of Opportunity

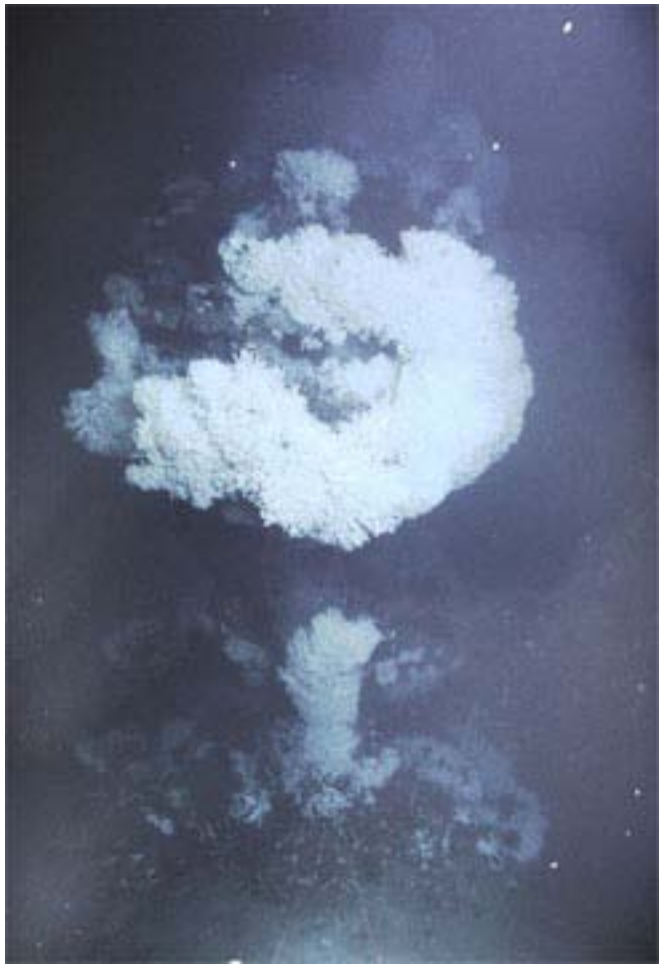
U-166

GulfOil Wreck

2009 *C-Surveyor III* AUV Survey
210-kHz Side Scan Sonar



GulfOil Wreck



HD Video Data

Digital Still Imagery

Overhead Mosaics

Profile Mosaics

U-166 Wreck

U-166 Wreck

Preliminary Findings

Sinking dates modified from last decade of 19th century to first quarter of 20th century

Anthropogenic impacts

Five out of six wrecks have corals

Four out of six wrecks have *Lophelia*

Site assessments ongoing