Exploring Titanic at 12,600 Feet - NOAA Mission

In June of 2004, Dr. Robert Ballard and members of the National Oceanic and Atmospheric Administration (NOAA), Office of Ocean Exploration, explored the remains of the R.M.S. [Royal Mail Steamer] *Titanic*.

Their mission was to examine part of the remains, then assess why the ship is deteriorating so rapidly. [**NOTE**: Audio narration, initially too soft, is back to normal after the first thirty seconds, or so.]

According to NOAA:

> *The R.M.S. Titanic team worked aboard the NOAA Ship Ronald H. Brown from May 30 through June 9 spending 11 days at the wreck site, mapping the ship and conducting scientific analysis of its deterioration. Using the Institute for Exploration (IFE) remotely operated vehicles (ROV's) Hercules and Argus, they were able to conduct a sophisticated documentation of the state of Titanic not possible in the 1980s.*
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> *This "Look, don't touch" mission utilized high-definition video and stereoscopic still images to provide an updated assessment of the wreck site at an enormous depth of 3,840 meters (12,600 feet).*
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> *As the nation's ocean agency, NOAA has a vested interest in the scientific and cultural aspects of the Titanic, and in its appropriate treatment and preservation. NOAA's focus is to build a baseline of scientific information from which we can measure the shipwreck's processes and deterioration, and then apply the knowledge we gain to other deep-water shipwrecks and submerged cultural resources.*

What did expedition members learn about the deterioration of *Titanic*? And ... what are those icicle-appearing formations we see on the ship's remains? According to NOAA:

> *In addition to mapping Titanic, expedition goals included the microbial research of scientist Roy Cullimore, who studied the natural deterioration of the ship's hull. Tiny microbes that feed on iron and create icicle-shaped formations known as rusticles are responsible for this deterioration. While rusticles have been observed for many years, little is known about them.*

One thing which NOAA's researchers discovered, during their 2004 exploration, is that *Titanic*'s rusticles at the stern of the ship are causing much-faster deterioration than those at the bow. Calculations show stern-deterioration is about forty years ahead of bow deterioration:

> *Further observations were made on the deterioration of the bow and stern sections of Titanic. From these observations it appears that the stern section of the ship is deteriorating at a faster rate than the bow section, and has been calculated to be about 40 yrs ahead of the forward section.*
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> *This was determined due to the state of the steel at the stern, which was severely embrittled and distorted, providing better "habitat" for rusticle formation. Also, because food was stored on Titanic primarily in the stern section of the ship, it supplied the initial nutrients for rusticle growth. Lastly, surfaces within the hull that had been torn apart served as a staging ground for rusticle growth.*

See, also:

Video: Recreation of *Titanic* Sinking

Videos: Deep Inside the *Titanic* (Parts 1 through 5)

Video: *Titanic*'s Last Survivor

Credits:

Video, courtesy the R.M.S. *Titanic* Expedition Team 2004, ROI, IFE, NOAA-OE. Online, courtesy NOAA.

Quoted passages from NOAA's website, as linked above.

See Alignments to State and Common Core standards for this story online at:
http://www.awesomestories.com/asset/AcademicAlignment/Exploring-Titanic-at-12-600-Feet-NOAA-Mission

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http://www.awesomestories.com/asset/AcademicActivities/Exploring-Titanic-at-12-600-Feet-NOAA-Mission