

MEMORANDUM

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In ADCRSM  
87003

Date: February 4, 1987  
To: B. Halley, H. Kneble, G. Hill, T. Aldrich, S. Barton,  
J. Newwell, T. O'Brien, G. Sexton, N. Soderberg,  
B. Henry (DMA), T. Cooke (State Dept.)  
From: B. Irwin  
Subject: Cruise Report M/V Starella

Vessel: M/V Starella

Cruise No. : ~~87 Test~~ 87-2

Parent Project: Defense Mapping Agency Gravity

Funding Agency: Defence Mapping Agency

Funding Amount:

Contract No.:

Contract Start/End Dates: October 1, 1986 - open

Area of Operation: Eastern Caribbean

Cruise Start/End Dates; Ports: 21 Jan 1987 - Kingston, Jamaica  
29 Jan 1987 - Roosevelt Roads, P.R.

Chief Scientist: Barry Irwin

Cruise Data Curator: Barry Irwin

Scientific Party; Affiliation:	Barry Irwin	USGS-AMG
	Kenneth Parolski	USGS-AMG
	Janet Fredericks	USGS-AMG
consultants:	Jim McCullough	WHOI
	Dave Caufield	Caufield Eng.
	Bill Bookheimer	General Electric

Ships Captain: John Cannon

Purpose: The cruise was a transit from Kingston, Jamaica to the Cape Verde Islands via Roosevelt Roads, Puerto Rico during which extensive testing of new navigation sonar equipment was conducted.

Navigation Techniques: Starfix commercial satellite system.

Equipment used: Caufield Engineering towed correlation sonar fish  
Magnavox 610 Doppler Sonar  
General Electric 810 Correlation Sonar

Tabulated Information:

Days at sea: 7

Kilometers surveyed:

Narrative:

Mobilization of the Caufield Engineering towed fish and the Magnavox 610 Doppler Sonar was accomplished 19 to 21 January, 1987, in Kingston, Jamaica. The General Electric 810 Correlation Sonar was mobilized 27 January, 1987, in Roosevelt Roads, Puerto Rico.

1. The Caufield towed correlation sonar fish was deployed periodically during the transit in various water depths and data was collected for post-cruise processing and evaluation.

2. The Magnavox 610 Doppler Sonar was operated continuously. Because most of the transit was in deep water no bottom lock data was collected during the majority of the transit. Visual observation comparing the velocities on the System 5000 video displays between Starfix and the 610D showed a couple tenths of a knot difference in the water track mode. A program was written to collect and log simultaneous Starfix and 610D velocities. Four hours of bottom lock data were collected in 400ft of water near R.R. before going in to port. One run was processed and showed a 3.4% difference in 4.6 kilometers measured by Starfix. The rest of these data will post-processed and evaluated.

3. The General Electric 810 Correlation Sonar was tested for a day and a half on and off the shelf to 3000 meters of water. A program was written to compare realtime distance run and log data from both Starfix and the 810. Various reciprocal and orthogonal course patterns were run in varying water depths yielding errors of about 2.5% overall. More post-processing will be required for final analysis.