

Report of Leo II Cruise 18

The Cruise left Narragansett on 13 July 1964 and returned 26 July 1964.

The following persons participated in the cruise:

Scientific Party

David Schink (in charge)
Peter Wangersky
James Schwartz
Kenneth Wunschel
Robert Fournier
Benjamin Buglio
Bernard McAlice
James Frey
Wing Grist
Gary Cohen

Ship's Personnel

Master	Robert Hempstead
Chief Mate	John Schmouth
2nd Mate	Michael Fanning
Radio Operator	Willard James
Bos'n	Ernest Bean
AB	Henry Martin
AB	Fourtin Powell
Ord. Seaman	Paul G. Ouelette
Ord. Seaman	Joseph Costa
Ord. Seaman	Alfred Howes
Ord. Seaman	William Fields
Steward/Cook	George Barros
Ass't Ste/Cook	Priscilo Neves
Chief Engineer	John Symonds
1st Ass't Eng.	George Avery
2nd Ass't Eng.	Theodore Denstore
Electrician	LeRoy Laughead
Oiler-Welder	Edmund Martinez
Oiler	George Alves
Oiler	Earl Mason

Two attempts were made to operate the bag water sampler. The second attempt resulted in a sample from 470 meters of 3.7×10^4 liters (37 tons). In addition a sample of 3.8×10^5 liters of surface water was processed for silica extraction. Smaller samples (200 liters) were taken from 0, 500, 1000, 1750, and 2500 meters for Carbon 14 and Strontium 90 analysis in collaboration with Lamont Geological Observatory. The samples were taken from a station at 39-50N, 67-27W.

Peter Wangersky of Bingham Oceanographic Laboratories took a number of Niskin bottle samples for particulate and dissolved organic analyses, and

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Robert F^Uornier collected a number of water samples to test the feasibility of research into the micro plankton. Kenneth Wunschel took four sea water samples for trace metal analysis using a plastic sampler and plastic coated wire.

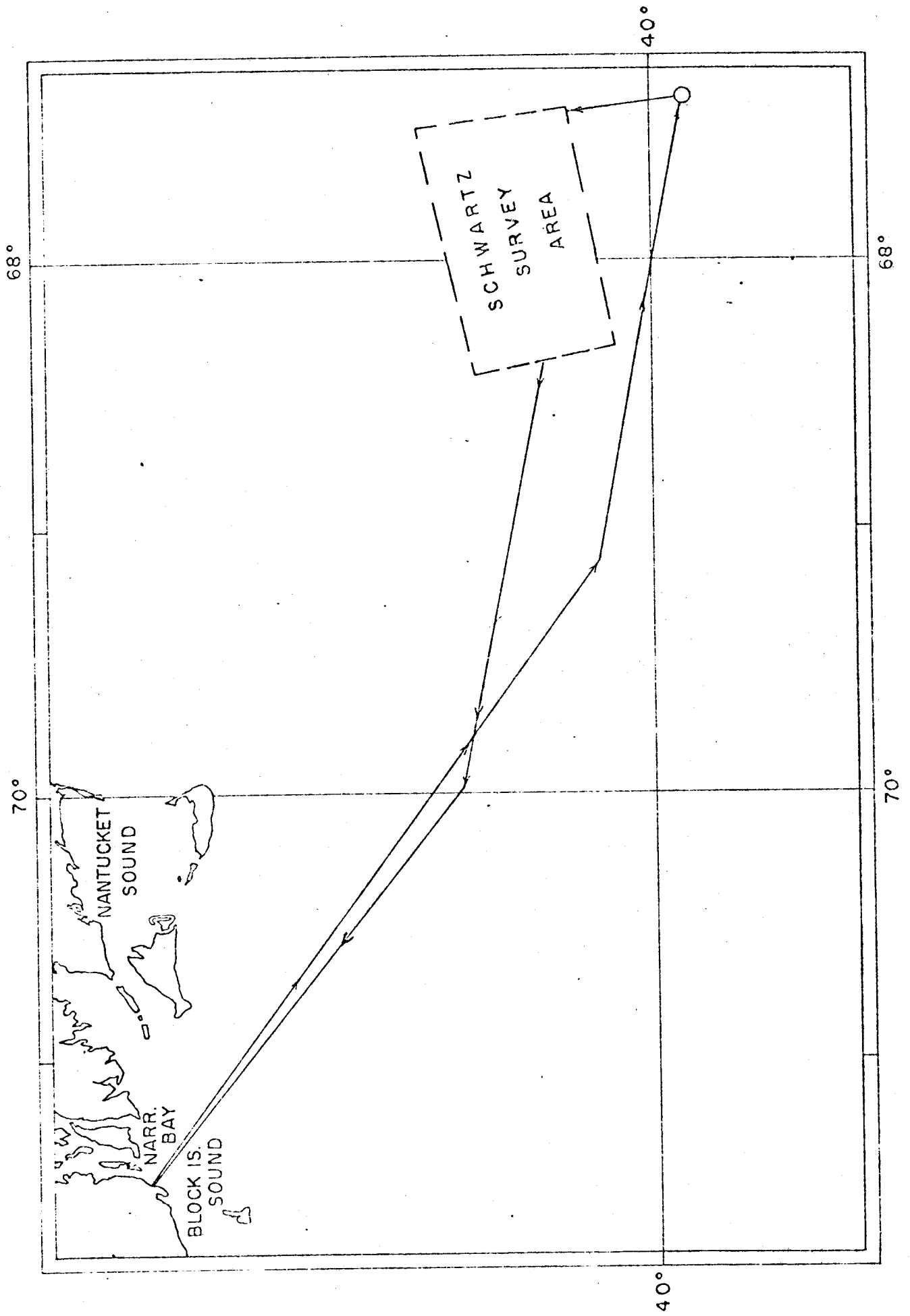
James Schwartz conducted a survey of the slope area cut by Lydonia, Oceanographer and Gilbert canyon. This included a complete bathymetric survey, a series of sub-bottom profiles and a partial magnetic survey. Forty-five grab samples and gravity cores were taken from various types of bottom in this region. A track chart of the work in this area accompanies this report.

Although the sampling programs of Wangersky, F^Uornier, and Wunschel were completed satisfactorily, the larger programs of Schink and Schwartz were only about 40% successful. Considerable difficulty was encountered with breakdowns both of ship and scientific equipment. The following is a partial list of equipment which failed at one time or another:

<u>Ship's</u>	<u>Scientific</u>
Diesel Winch Level-wind	Large Motor (7½ H.P.)
A-Frame Piston	Oberdorfer Pump
Boston Whaler Controls	Spare Oberdorfer Pump
Boat-Lift Winch	Pinger Timer Cam Follower
Remote Engine Controls	Finger Tube Socket Insulation
Starboard Engine	Pinger Battery Plug
Loran	Pinger H.V. Lead Insulation
Bridge Fathometer	Pinger Diaphragm
Mackay Radio	Schink Explosive Release
	Sampler Timer Circuit
	Explosive Cable Cutter Wires
	Sampler Retrieving Line
	Sparker Insulation
	PESR
	Edo Fathometer
	Cary Recording Spectrophotometer
	Gravity Corer
	Ion Exchange Tank

In addition the Van Veem grab sampler and two diver's weight belts were lost at sea. The Sparker is unsafe as presently constituted and should not be taken to sea again without extensive modification. Other items which require attention are: Boston Whaler Controls; A-Frame; Level-wind; Remote engine controls; PESR and Edo. It is my impression that these have all been corrected at this time.

Although this cruise was somewhat disappointing scientifically, it is very encouraging to note the marked improvement in living conditions and in cooperation from the crew since Mr. Hempstead became master. His desire to assist the scientific party is in marked contrast to the previously unsatisfactory conditions. Mention should also be made of John Symonds, Chief Engineer and Willard James who worked many extra hours repairing broken equipment or improvising parts to keep things going. We were fortunate to have them aboard.



THIS IS CORRECT

