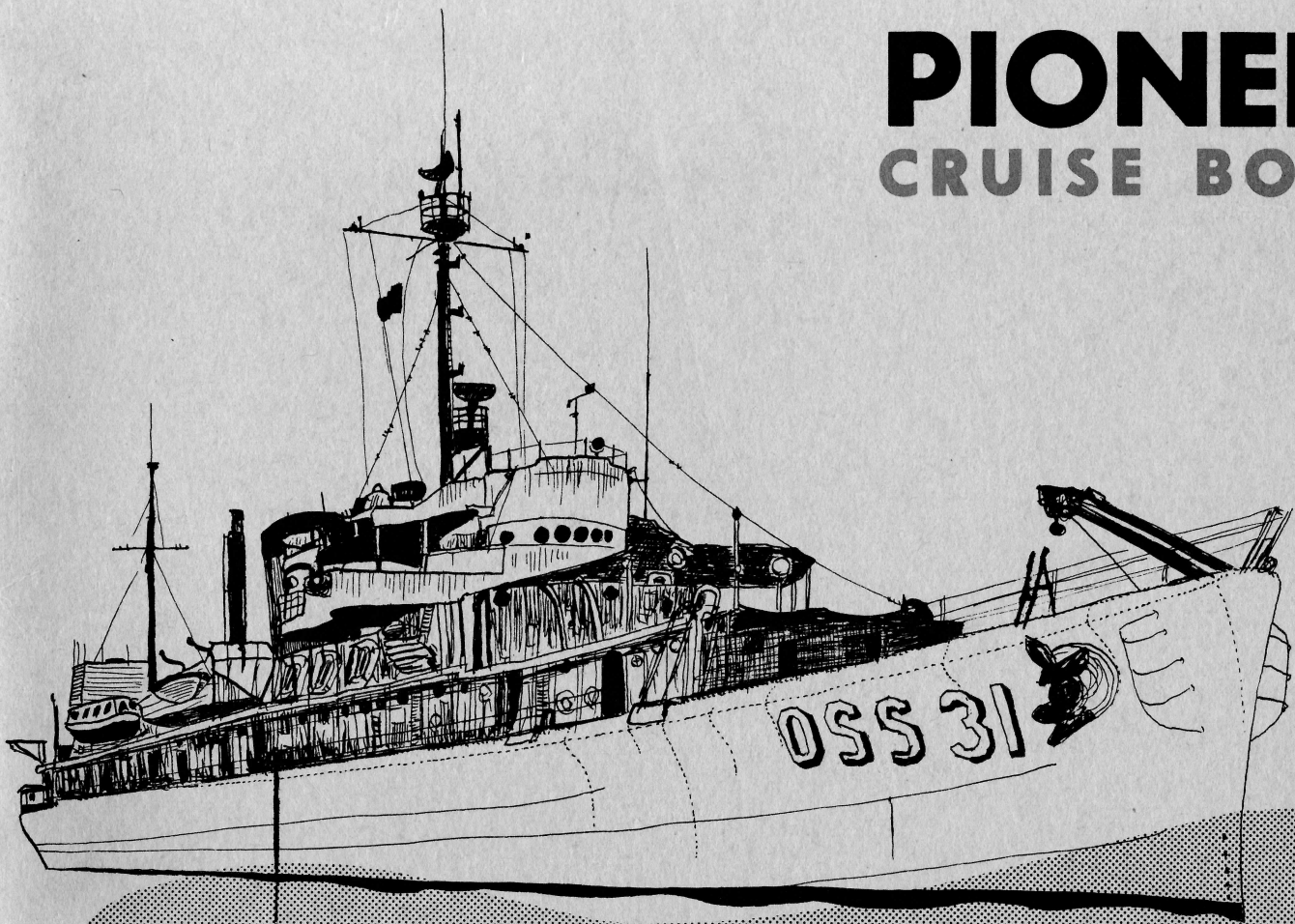


# PIONEER

## CRUISE BOOK

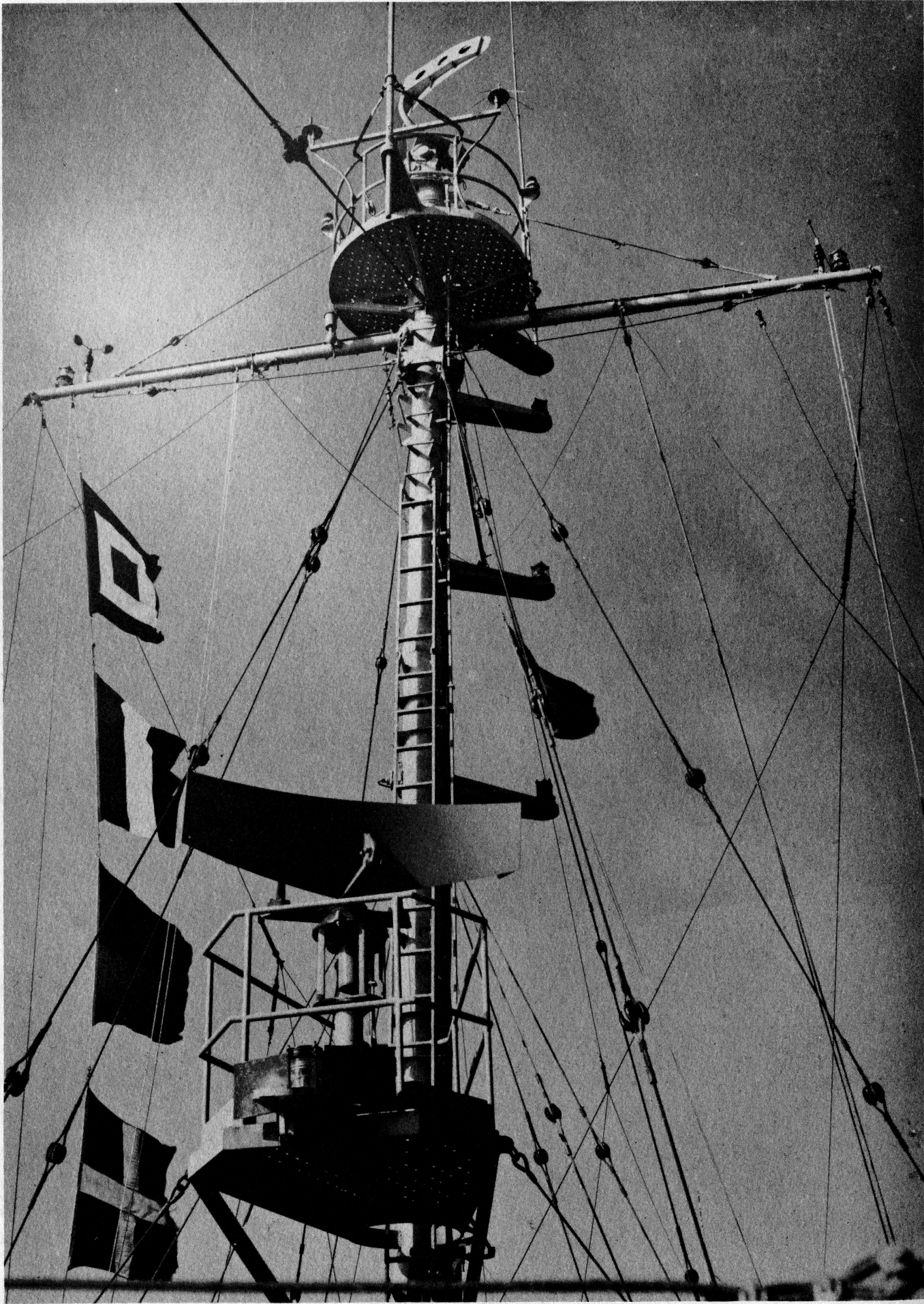


# INDIAN OCEAN

## *EXPEDITION*

Ref  
GC  
721  
I554  
1964  
c.3







Ref  
GC  
721

I 554  
1964  

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c.3

*Ocean Survey Ship 31/USC&GSS Pioneer*

# INTERNATIONAL INDIAN OCEAN EXPEDITION 1964

United States of America

DEPARTMENT OF COMMERCE

Luther H. Hodges, *Secretary*

Coast and Geodetic Survey

Rear Admiral H. Arnold Karo, *Director*

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Miami, Florida 33149



## THE SHIP

The United States Coast and Geodetic Survey Ship PIONEER began her career as a U. S. Navy torpedo boat tender. Built in 1943 and originally christened the U. S. S. MOBJACK, AVP-27, she honorably served in the South Pacific during World War II. In 1946 she was transferred to service with the U. S. C. & G. S., which converted her to an oceanographic ship and changed her name to PIONEER, Ocean Survey Ship Number Thirty-One (OSS-31). She became one of several "floating laboratories" used by the Coast Survey to do broad research in the field of oceanography — the study of the sea.

The PIONEER operated most of the time in the Pacific Ocean and made many cruises to Hawaii, Alaska, and along the west coast of the United States. The PIONEER is the longest (312 feet) ship in the Survey as well as one of the best equipped, and therefore, it was no surprise that she was chosen to participate in the 1964 International Indian Ocean Expedition (IIOE).

One of the PIONEER's most important functions, as her name implies, is the testing of new equipment and methods for future use on other oceanographic vessels. Her magnetic surveys and gravity surveys were the first of their kind to be made over great ocean areas. In a similar manner, the recently-installed "GEP" (Geological Echo Profiler) enabled the PIONEER to make the first survey of the bottom of certain sections of the Indian Ocean and the layers beneath. The operating characteristics and main equipment of the PIONEER are listed below.

|                           |  |
|---------------------------|--|
| Name of ship.....         | U.S.C.&G.S.S. PIONEER, OSS-31  |
| Year built.....           | 1943   |
| Length.....               | 311.6 feet   |
| Beam.....                 | 41.0 feet  |
| Displacement.....         | 2500 tons  |
| Draft.....                | 13.8 feet  |
| Speed.....                | Cruising, 16 knots — Maximum, 18 knots                                       |
| Range.....                | 10,000 miles   |
| Endurance.....            | 30 days  |
| Normal Complement.....    | 118 officers, crew, and technicians/scientists                               |
| Propulsion.....           | Twin screws, each driven by two Fairbank-Morse opposed-piston Diesel engines |
| Engine Rating.....        | Four engines, 1600 HP each   |
| Total Horsepower.....     | 6400 HP  |
| Fuel Capacity.....        | 150,000 gallons of diesel oil  |
| Electric Power.....       | Four generators capable of producing 600 kilowatts of electricity            |
| Steam Boilers.....        | Two boilers (53.6 HP each) capable of producing 1,500,000 BTU per hour       |
| Water Production.....     | Evaporators capable of distilling 10,000 gallons of fresh water daily.       |
| Fresh Water Capacity..... | 42,000 gallons   |
| Food Storage.....         | Storage space sufficient for six-month's supply                              |



## EQUIPMENT ABOARD THE PIONEER

|                               |  |
|-------------------------------|--|
| Navigation Equipment.....     | Two surface-search radars, gyrocompass, Loran A, Loran C, pitometer log for distance measurements, revolution counters to supplement log, magnetic compass, shoran, sextants   |
| Echo-Sounders.....            | Two deep-water EDO type 185 (Navy UQN-1, one Raytheon DE-723, two Timefax PDR (precision depth recorders) which operate in conjunction with EDO. Rayflex GEP (Geological Echo Profiler)  |
| Communications Equipment..... | Two RCA 1000-Watt CW transmitters (LF & HF), one Collins KWT-6 CW/AM/SSB 500-Watt transmitter, one Northern 100-Watt, one Navy TCS-6, One Johnson Viking transmitters for ship-to-shore and standby use. Collins, Mackay, and Hammarlund receivers tunable from 85 KC to 30 MC. Radio-teletype and several small portable units for shore parties and launches |
| Laboratories.....             | One dry oceanographic laboratory for salinity, dissolved oxygen and other salt-water analyses, one wet laboratory for Nansen casts   |
| Hydrographic Winches.....     | One Western Gear Corporation deep-sea winch with 45,000 feet of $\frac{3}{8}$ -inch to $\frac{3}{4}$ -inch tapered cable used for coring. One Wheeler Oceanographic Winch for Nansen casts. Two 3-HP Bathythermograph winches  |
| Other Equipment.....          | Varian Magnetometer, Dymec Automatic Data Logger, Lacoste & Romberg gravity meter, Roberts radio current meters, Meteorological Digital Data Logging System, Radiosonde receiving-recording system   |
| Types of Observations.....    | Continuous bottom and beneath-bottom profiler, bottom photography, bottom samples (snapper, coring, and dredging), bathythermograph current observations, nansen casts, plankton tows, sea and swell observation, biological and hydrographic phenomena, magnetic, gravity, solar radiation, and weather observations  |





**Commander Howard S. Cole**  
**Executive Officer, USC&GSS Pioneer**

Commander Howard S. Cole, Executive Officer of the PIONEER, graduated from George Washington University in 1932 with a B.S. degree in Civil Engineering. While attending college, and for three years after graduation, he worked part time for the Coast and Geodetic Survey on various field assignments. In 1937 he returned to the Coast and Geodetic Survey as a magnetic observer doing repeat work in various parts of the United States.

In 1940 he became a deck officer and was assigned to a wire drag party on the U.S.C.&G.S. ship OCEANOGRAPHER. Later that year, he joined the ship HYDROGRAPHER in Cuba to do special surveys in the British West Indies.

In 1941, while enroute to Alaska on the ship EXPLORER, Commander Cole received his commission as an Ensign in the Coast and Geodetic Survey. During World War II he served on various Coast Survey Ships in Alaskan waters.

In 1945 he studied advanced electronics at the U. S. Naval Officers Radar Schools at Bowdoin College, Maine, and at the Massachusetts Institute of Technology. After graduating from these schools, he served aboard the ship PATHFINDER as Electronics Officer and accompanied the Navy Barex 50 Expedition to the Arctic Ocean serving as Shoran expert. In 1951, as a technical instructor, he taught U. S. Naval personnel the maintenance and operation of Shoran equipment.

In 1952 Commander Cole was chief of a triangulation party operating in Texas, Oregon, and Alaska.

He served aboard the PIONEER first in 1955 as electronics officer and then in 1963 as Executive Officer, the position he now holds.

During the intervening years he gained valuable experience as Chief of the East Coast Field Party and as Electronics Officer with the New Ship's Staff.

Commander Cole plays the organ and provides the religious music at the shipboard Sunday morning church services. His hobby is gardening and he is the proud owner of a 300-acre ranch in the state of Washington.

## COMMISSIONED OFFICERS



**Cdr. Ralph E. Uhrich**  
Chief Engineer, Deputy  
Safety



**Lcdr. William D. Barbee**  
Operations & Navigation Officer  
(First part of cruise)



**Lt. Ray E. Moses**  
Operations & Navigation Officer  
(Last part of cruise)



**Lt. Edward L. Spencer**  
USPHS, Medical Officer,  
Morale & Recreation



**Lt. Seymour R. Kotler**  
Electronics, Gravity &  
Gunnery Officer



**Lt.(jg) Stephen Z. Bezuk**  
Protocol Officer  
Statistics



**Lt.(jg) Edward R. Dohrman**  
Asst. Navigation Officer  
Gyro, Classified Material



**Lt.(jg) Gerald R. Schimke**  
Asst. Operations  
Officer



**Ens. Paul W. Larsen**  
Supply, Inventory,  
Classified Diving

COMMISSIONED OFFICERS  
FULL-TIME SCIENTISTS AND TECHNICIANS



**Ens. John B. Jones**  
Accounting Officer



**Ens. Joseph M. Lushene**  
Magnetics Officer



**Ens. Danford A. Moore**  
Movies, Educational &  
Public Relations Officer



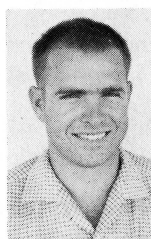
**Ens. Woodrow E. Bliss, Jr.**  
Ships Service, Clothing &  
Small Stores Officer



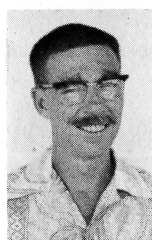
**Ens. David L. Hough**  
Transportation Officer



**Harris B. Stewart, Jr.**  
Oceanographer  
Coast and Geodetic Survey



**Quentin Stephen-Hassard**  
Biologist  
University of Hawaii



**Melvin L. Fields**  
Meteorologist  
U. S. Weather Bureau



**James B. Soileau**  
Meteorologist  
U. S. Weather Bureau



## SCIENTISTS/TECHNICIANS

**Dr. J. B. Alexander,**  
Head, Malaysian Geological Survey

**Vicente B. Alvarez,**  
Biologist, University of Hawaii

**William Borglund,**  
Photographer, United Nations

**Dr. Robert E. Burns,**  
Oceanographer, USC&GS

**Sam A. Bush,**  
Geophysicist, USC&GS

**Wesley Butler,**  
Engineering Division, USC&GS

**Gilbert Corwin,**  
Geologist, USGS

**Eugene A. Danielson,**  
Electronics Facility, Seattle Base, USC&GS

**Omar E. De Wald,**  
Geophysicist, USC&GS

**Dr. Robert S. Dietz,**  
Marine Geologist, USC&GS

**Melvin L. Fields,**  
U. S. Weather Bureau

**Byron Hale,**  
Photographer, USC&GS

**Reginald Harbison,**  
Geophysicist, USC&GS

**A. C. Hill,**  
Engineer, Rayflex Corp.

**J. Richard Jadamec,**  
National Oceanographic Data Center

**Everet C. Jones,**  
Biologist

**Reginald B. Jones,**  
Oceanographer, USC&GS

**George Keller,**  
Navy Oceanographic Office

**Col. K. L. Khosla,**  
Survey of India

**John W. Kofoed,**  
Geological Oceanographer, USC&GS

**Manuel Llorca,**  
Philippine Fisheries Department

**John Lindberg,**  
Engineer, Rayflex Corporation

**Richard J. Malloy,**  
Geophysicist, USC&GS

**Mario Manasala,**  
Philippine Coast & Geodetic Survey

**Aubrey B. McCollum**  
Geophysicist, USC&GS

**Anugerah Nontji,**  
Marine Scientist, Indonesia

**Kah Sin Ong,**  
Fisheries Division, Malaysia

**George Peter,**  
Geophysicist, USC&GS

**Richard B. Perry,**  
Geological Oceanographer, USC&GS

**Sarma Remakantha,**  
Movie Director, United Nations

**Ronald K. Reed,**  
Physical Oceanographer, USC&GS

**Kevin S. Rodolfo,**  
Marine Geologist,  
University of Southern California

**Dr. Francis P. Shepard,**  
Marine Geologist,  
Scripps Institute of Oceanography

**James B. Soileau,**  
U. S. Weather Bureau

**Quentin "Dick" Stephen-Hassard**  
Biologist, University of Hawaii

**Dr. Harris B. Stewart, Jr.,**  
Deputy Assistant Director,  
Office of Oceanography, USC&GS

**Dr. Joshua I. Tracy,**  
Geologist, USGS

**Austin Weeks,**  
Geophysicist, USC&GS

# CHIEF PETTY OFFICERS



**R. T. Abueg**  
Chief Steward  
Alameda, California



**V. D. Arruiza**  
Chief Steward  
Daly City, California



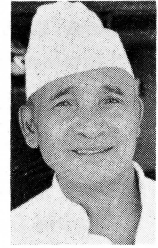
**O. S. Bonderud**  
Chief Yeoman  
San Francisco, California



**D. L. Chase**  
Chief Boatswain Mate  
Portland, Oregon



**C. T. Cook**  
Chief Machinist Mate 3/C  
Oakland, California



**S. M. Espeleta**  
Chief Steward  
Oakland, California



**J. K. Fujio**  
Chief Machinist Mate  
Pahoa, Hawaii



**A. M. Greenberg**  
Chief Quartermaster  
San Francisco, California



**R. C. Johnson, Jr.**  
Chief Machinist  
St. Petersburg, Florida



**S. E. Linn**  
Chief Electronics Mate  
Alameda, California



**W. Y. Lavery**  
Chief Boatswain  
Aldersort Manor, Washington



**H. E. Mowbray**  
Chief Yeoman  
Gulfport, Florida

# CHIEF PETTY OFFICERS



**H. E. Parsley**  
Chief Electronics Technician  
Daisetta, Texas



**A. B. Parton**  
Chief Machinist Mate  
Castro Valley, California



**W. O. Peaslee**  
Chief Machinist Mate  
Oakland, California



**E. Pykosz**  
Chief Boatswain  
Woonsocket, Rhode Island



**A. M. Raker**  
Chief Electronics Mate  
El Cerrito, California

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**E. Roberts, Jr.**  
Chief Electronics Technician  
Mountlake Terrace, Washington

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**G. G. Sellers**  
Chief Machinist  
Baxley, Georgia



**J. E. Shapter**  
Chief Machinist Mate  
Oakland, California

**H. M. Schildmuller**  
Chief Boatswain Mate  
Middletown, New Jersey



**R. G. Turner**  
Chief Machinist  
Alameda, California



**J. Velasquez**  
Chief Machinist  
San Antonio, Texas



**L. C. Work**  
Chief Electronics Technician  
Hayward, California

## SHIP'S COMPLEMENT



**G. M. Abellera**  
Stewardsman  
Oakland, California



**R. O. Alesna**  
Fireman Apprentice  
San Francisco, California



**H. H. Amadeo, Jr.**  
Seaman  
Honolulu, Hawaii



**D. F. Amor**  
Stewardsman  
San Francisco, California



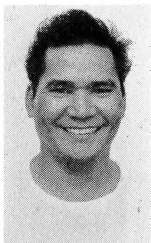
**E. R. Askey**  
Machinist Mate  
San Pablo, California



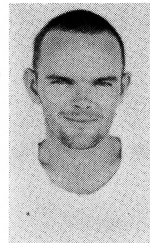
**E. R. Bachar**  
Steward Recruit  
Mountain View, California



**D. P. Bahilot**  
Stewardsman  
Honolulu, Hawaii



**J. M. Baleto**  
Fireman Apprentice  
Alameda, California



**R. W. Bradshaw**  
Stewardsman  
Oakland, California



**G. W. Breckbill  
Jr.** Electronics Technician  
Weiser, Idaho



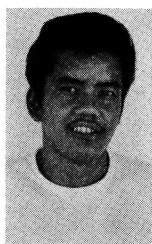
**M. D. Brodit**  
Stewardsman  
San Francisco, California



**W. T. Burchett**  
Fireman  
Oakland, California



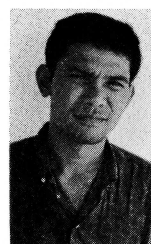
# SHIP'S COMPLEMENT



**B. A. Casuga**  
Fireman Apprentice  
Oakland, California



**P. B. Corpuz**  
Steward  
Honolulu, Hawaii



**V. N. Delapina**  
Fireman Recruit  
San Francisco, California



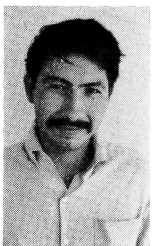
**A. M. Duggan**  
Seaman  
San Leandro, California



**J. T. Dumaguig**  
Steward  
Honolulu, Hawaii



**J. M. Espeleta**  
Stewardsman  
Oakland, California



**G. A. Garcia**  
Fireman Recruit  
Gardena, California



**B. S. Gealon**  
Seaman  
Honolulu, Hawaii

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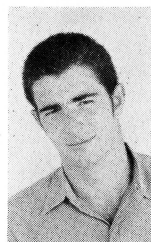
**S. A. Gomes**  
Seaman  
Hayward, California



**A. R. Gonzales**  
Fireman Apprentice  
Carpinteria, California



**H. A. Gorham**  
Quartermaster  
Bremerton, Washington

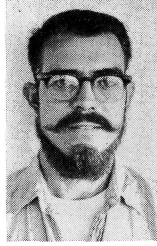


**R. J. Grinnell**  
Quartermaster  
Seattle, Washington

## SHIP'S COMPLEMENT



**W. J. Halama**  
Seaman  
Oakland, California



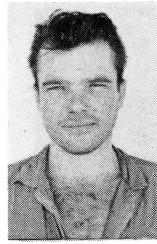
**D. L. Hawthorne**  
Machinist Mate  
Oakland, California



**R. R. Houser**  
Seaman Apprentice  
Berkeley, California



**J. T. Ilogon**  
Stewardsman  
Oakland, California



**J. A. Jefferis**  
Fireman Apprentice  
St. Petersburg, Florida



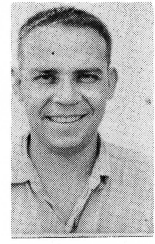
**R. D. Johnson**  
Boatswain Mate  
Oakland, California



**R. W. Johnson**  
Fireman Apprentice  
San Francisco, California



**G. Kanamu, Jr.**  
Seaman  
Honolulu, Hawaii



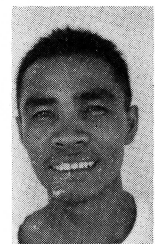
**R. J. Kenneth**  
Quartermaster/Surveyor  
San Francisco, California



**L. A. Knutson**  
Quartermaster/Surveyor  
Seattle, Washington



**R. J. Lance**  
Quartermaster/Surveyor  
Baltimore, Maryland



**L. C. Mahinan**  
Seaman  
Honolulu, Hawaii

SHIP'S COMPLEMENT



**R. B. Malabed**  
Stewardsman  
San Francisco, California



**F. A. Matabirde**  
Stewardsman  
Honolulu, Hawaii

PICTURE NOT AVAILABLE

**A. E. Mendiola**  
Quartermaster  
Berkeley, California



**A. B. Metcalfe**  
Yeoman  
Honolulu, Hawaii



**M. J. Needham**  
Radioman  
Portland, Oregon



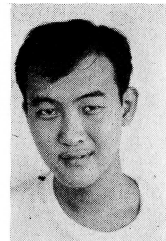
**L. S. Nillo**  
Steward  
San Francisco, California



**D. T. O'Donnell**



**A. G. Olamit**  
Steward Recruit  
Stockton, California



**J. N. Ono**  
Fireman Apprentice  
San Francisco, California



**H. Padilla**  
Seaman Apprentice  
Oakland, California

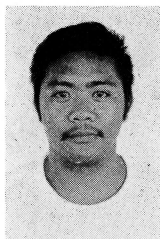


**S. T. Peralta**  
Steward Apprentice  
San Francisco, California



**P. R. Pomaras**  
Stewardsman  
Oakland, California

# SHIP'S COMPLEMENT



**E. O. Ramos**  
Seaman  
Honolulu, Hawaii



**R. R. Rasmussen**  
Fireman Apprentice  
Raymond, Washington



**C. A. Reitberger**  
Seaman  
Hutchinson, Kansas



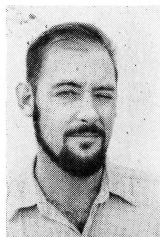
**A. R. Ribaya**  
Steward  
Oakland, California

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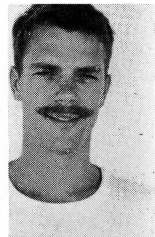
**R. P. Rogers**  
Quartermaster/Surveyor  
Washington, D. C.

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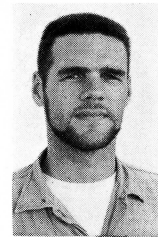
**D. E. Ross**



**J. A. Ryan**  
Seaman  
San Francisco, California



**T. S. Sanford**  
Seaman  
Palo Alto, California



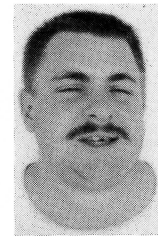
**K. M. Saum**  
Seaman Apprentice  
Berkeley, California



**J. A. Serber**  
Quartermaster/Surveyor  
Falmouth, Maine



**R. D. Shaw**  
Machinist Mate  
San Francisco, California



**J. M. Shinn**  
Jr. Electronics Technician  
San Mateo, California

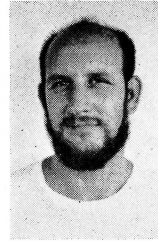
## SHIP'S COMPLEMENT



**R. K. Stankey**  
Fireman Recruit  
San Francisco, California



**D. H. Stokes**  
Quartermaster/Surveyor  
Baltimore, Maryland



**J. D. Sullivan**  
Fireman Apprentice  
Oakland, California



**C. D. Sweatt**  
Seaman  
Palo Alto, California



**E. P. Tabajunda**  
Fireman  
Honolulu, Hawaii



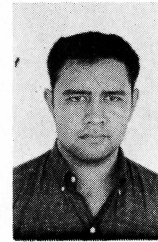
**B. W. Tiger**  
Fireman  
Oakland, California



**P. L. Wolf**  
Radioman  
Los Altos, California



**E. L. Woods**  
Quartermaster/Surveyor  
Washington, D.C.



**C. K. Yorkman**  
Seaman  
Honolulu, Hawaii







**ADMINISTRATION**



**Ens. Jones      Chief Bonderud**  
**Accounting Office**

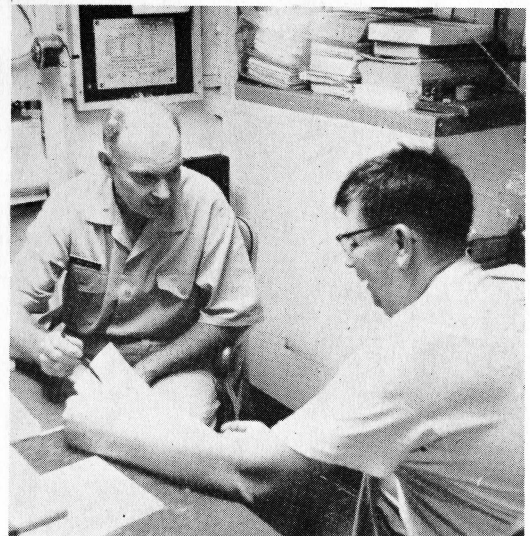


**LCDR. Barbee   Sarma Remankantha   Harris Stewart**  
**Kelvin Rodolfo**

**Coordinating scientific plans with the ship's route**



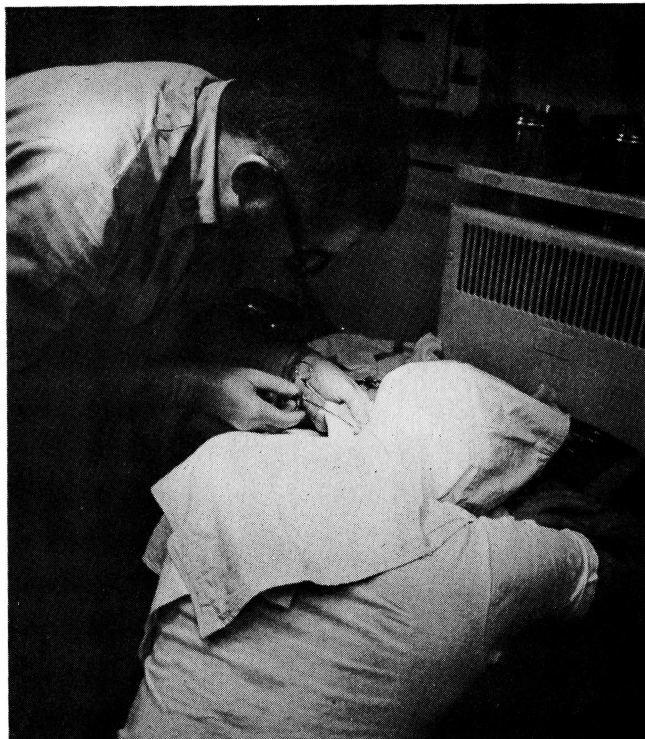
**Capt. Brown      Lt. Moses      Cdr. Cole**  
**Planning the day ahead in the Captain's cabin**



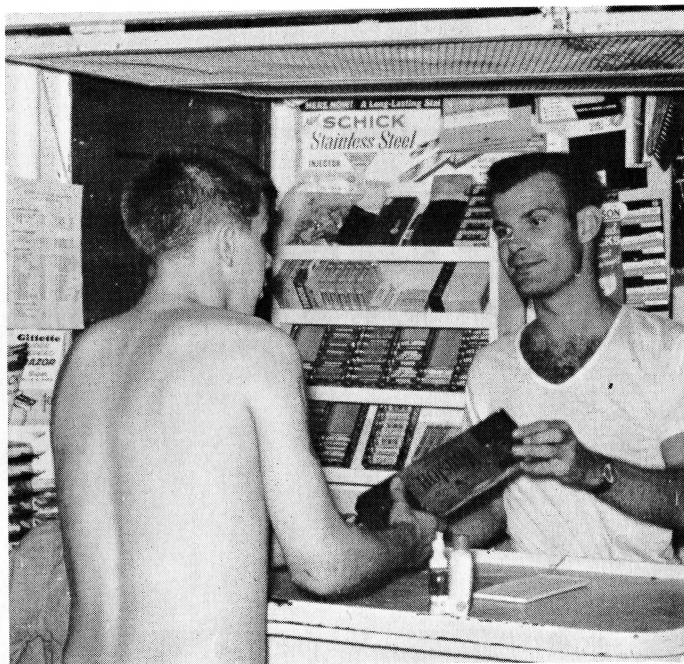
**Cdr. Cole      Chief Mowbray**

**The exec's office**

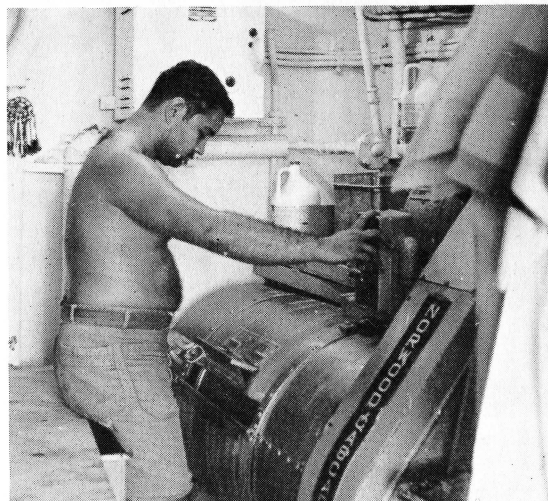
## SICK CALL, SHIP'S STORE, LAUNDRY



**Lt. Spencer sews up the wounded**



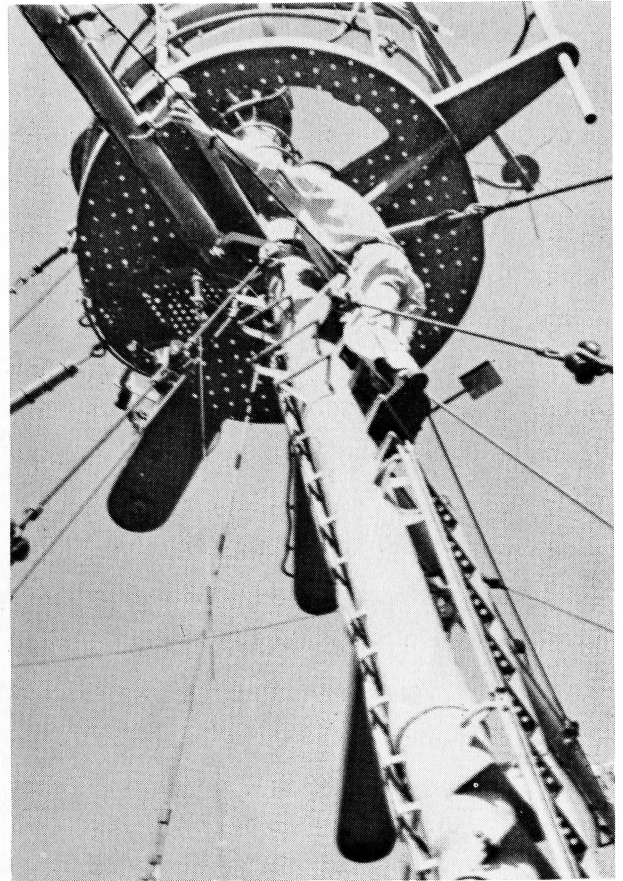
**Rasmussen                      Metcalf**  
**The ship's store, source of many of life's necessities, from razor blades to cigarettes**



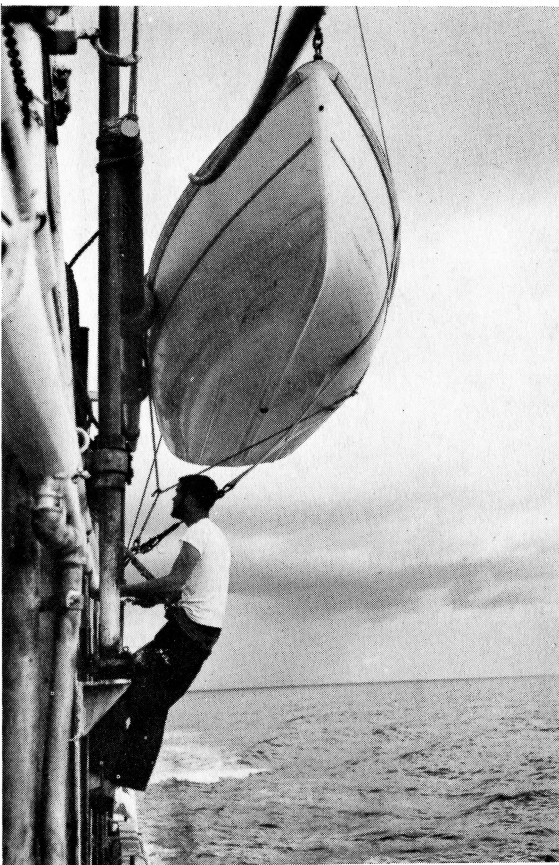
**Yorkman handles the ship's laundry**



DECK WORK



Person unknown



Saum



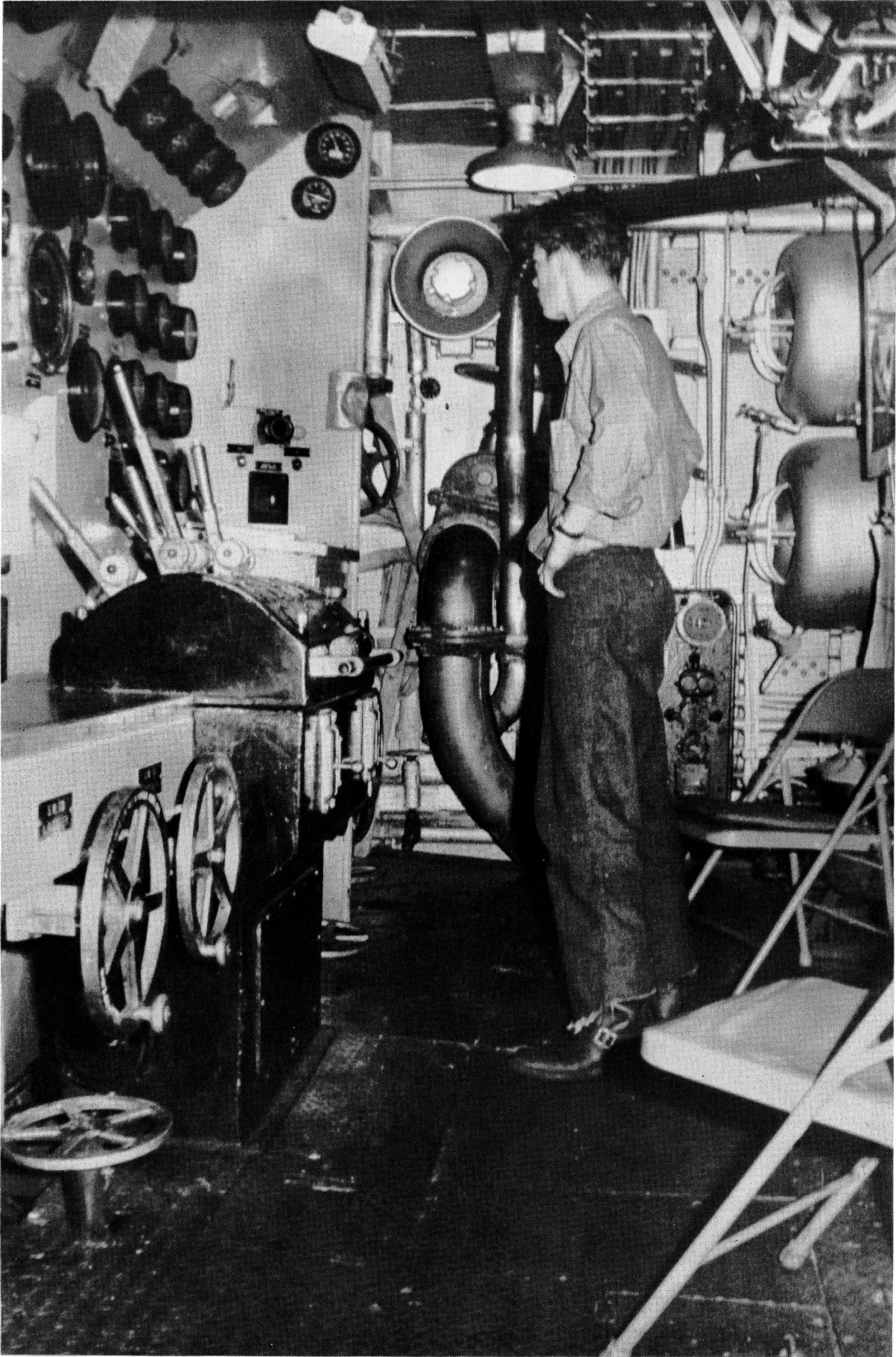
Duggan

Chief Chase

The deck force was in charge of maintaining the ship.  
Deck men were often to be seen painting, splicing lines . . .



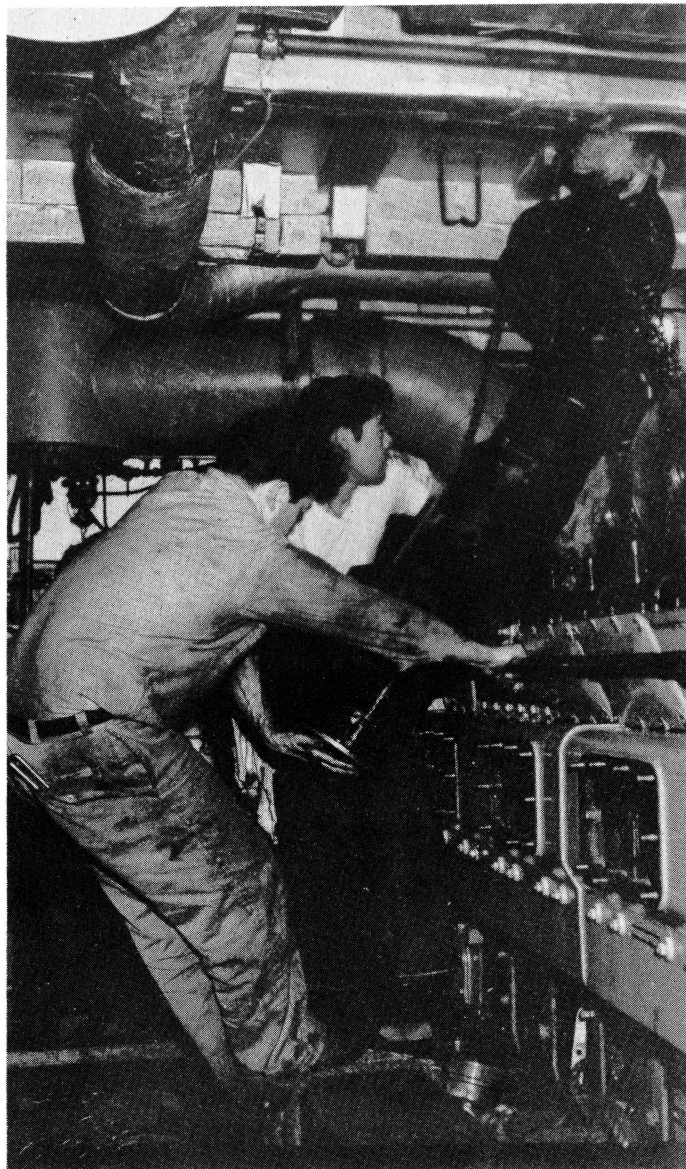
ENGINE ROOM



Shaw

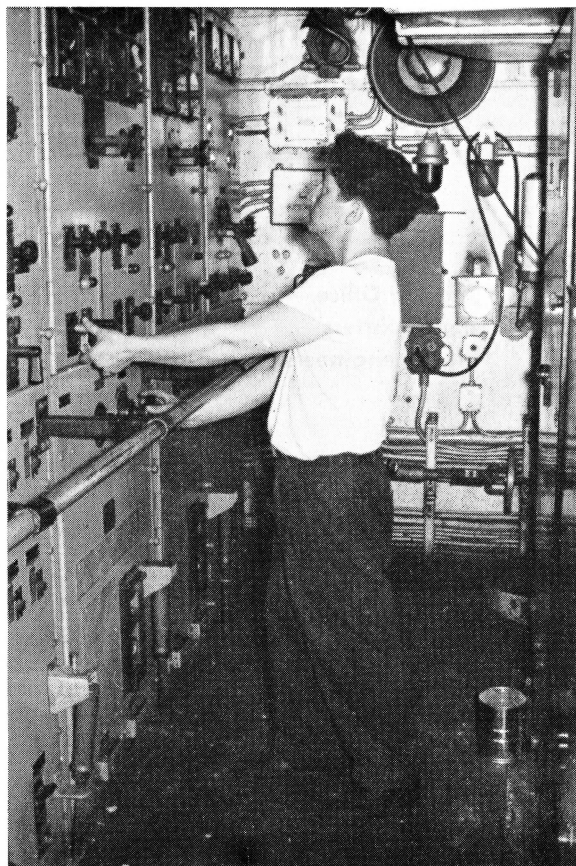
## ENGINE ROOM

The "Black Gang" in the engine room had the responsibility to keep the engines and other machinery functioning smoothly

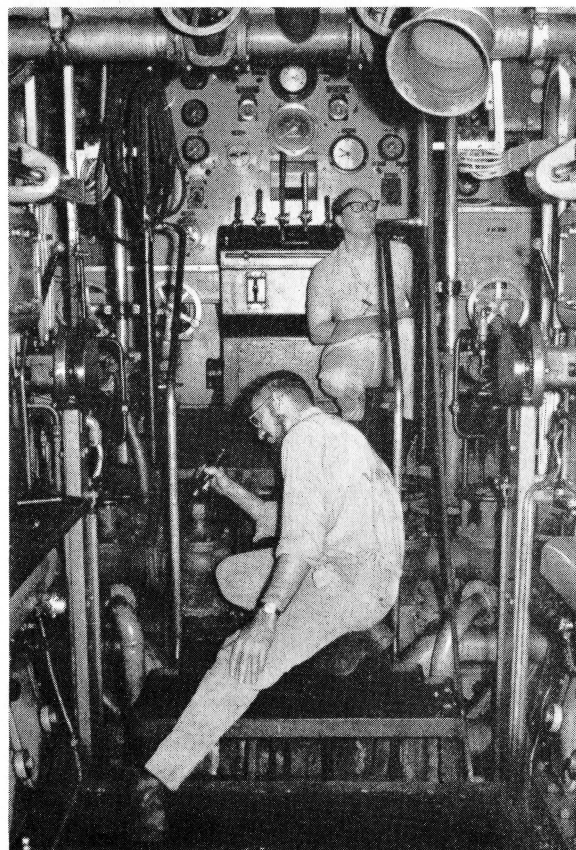


Gonzales Chief Fujio

S.O.P. "Minor" maintenance problems handled with ease by the Pioneer's Black Gang



Gonzales

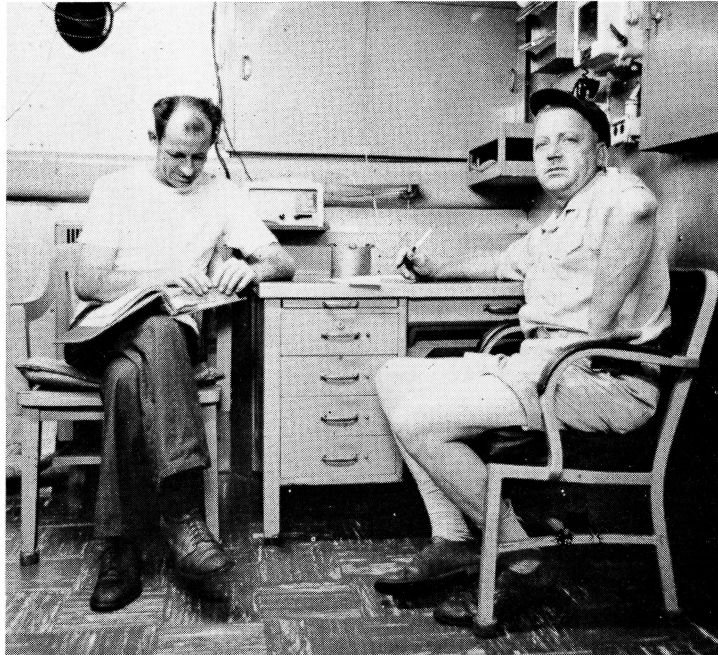


Hawthorne Chief Shapter



# ENGINE ROOM

**The Log Office —  
Headquarters  
for the engineers**

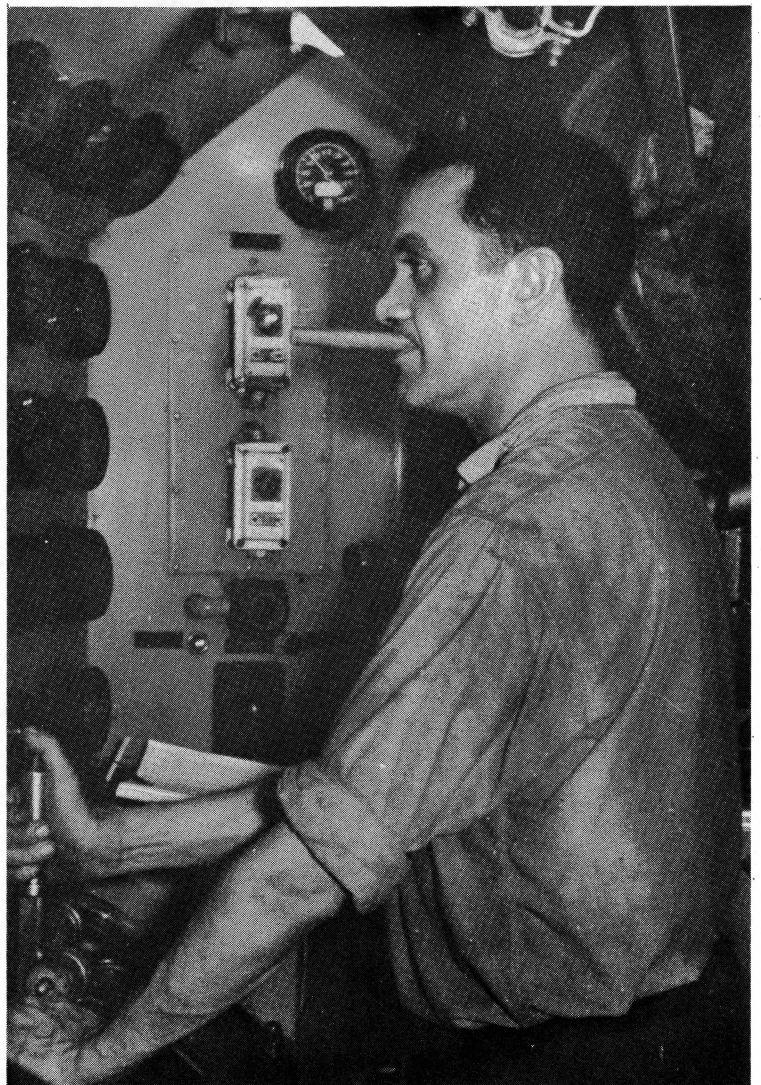


**Chief Linn**

**Cdr. Uhrich**

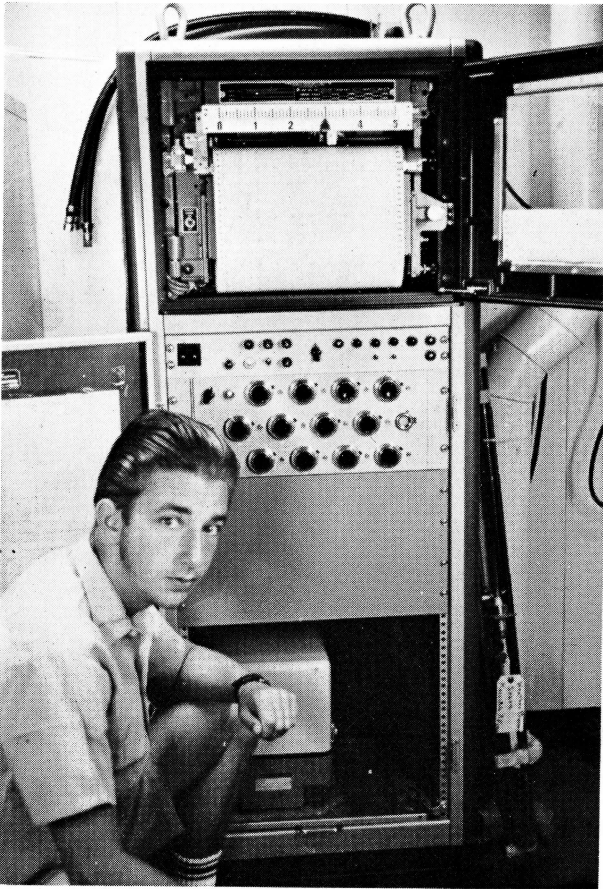


**Chief Linn**

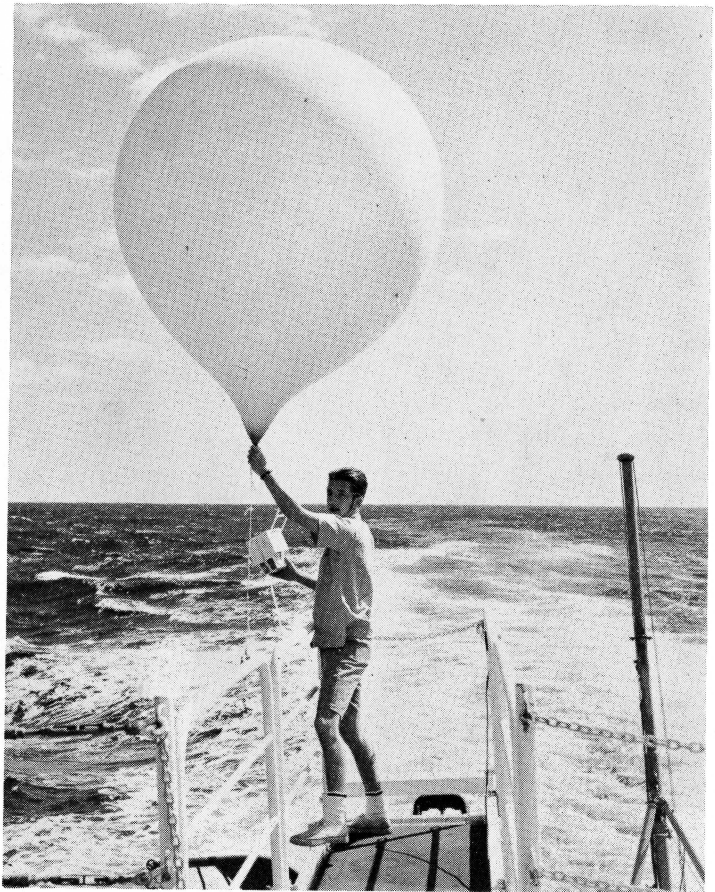


**Chief Peaslee**

# THE METEOROLOGISTS



**Bert Soileau**



**Bert Soileau**

**The weather birds were busy at all hours, entering navigational data on the automatic weather recorder, releasing radiosondes, and observing surface weather**

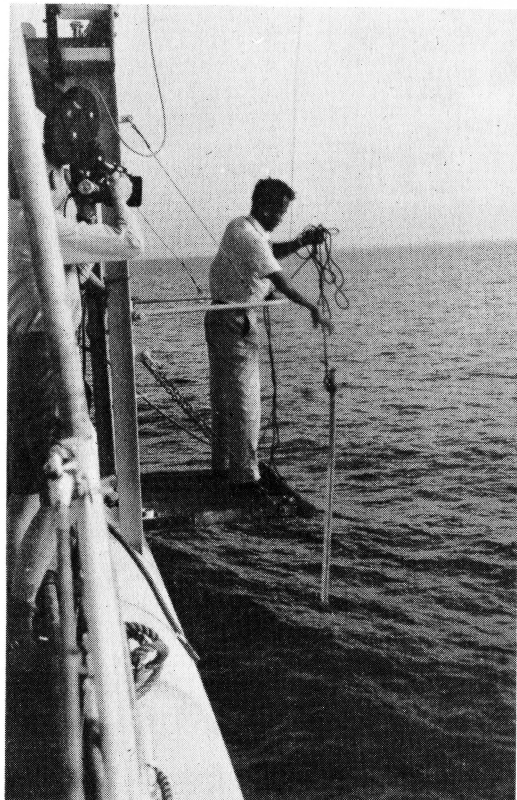


**Bert Soileau**

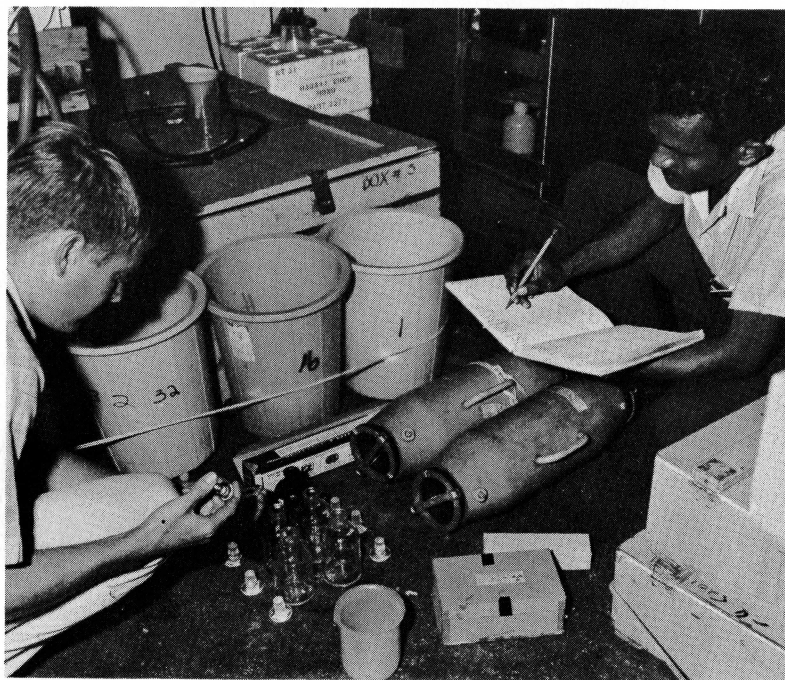
**Melvin Fields**



# THE BIOLOGISTS



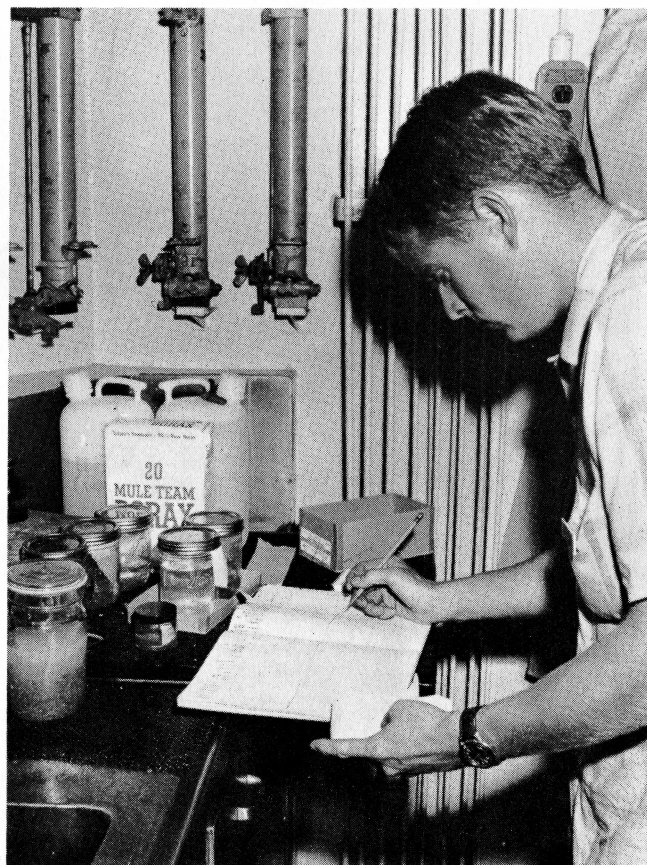
**Bill Borgland    Vic Alvarez**  
Obtaining a surface sample for the  
primary productivity program



**Stephen-Hassard                      Vic Alvarez**  
Inoculating the water samples

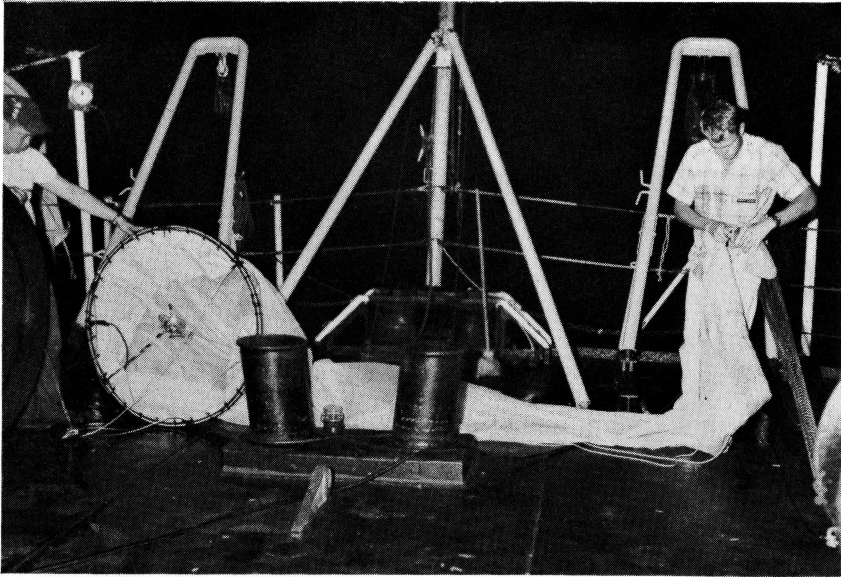


**Dick Stephen-Hassard**  
Keeps a careful record

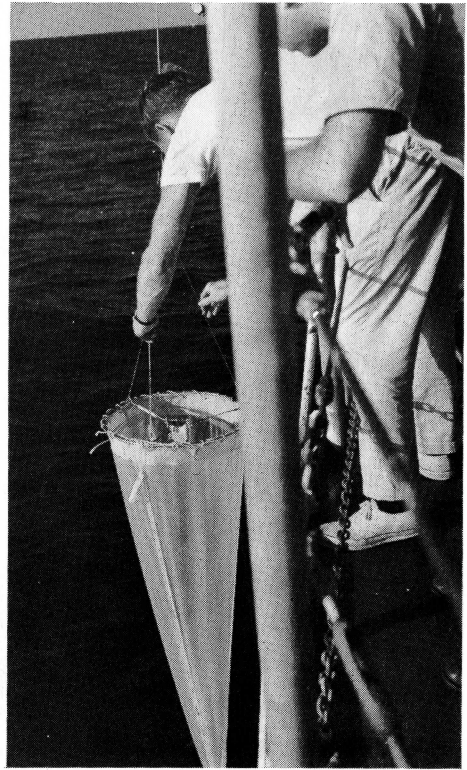


**Vic Alvarez**  
filters the samples

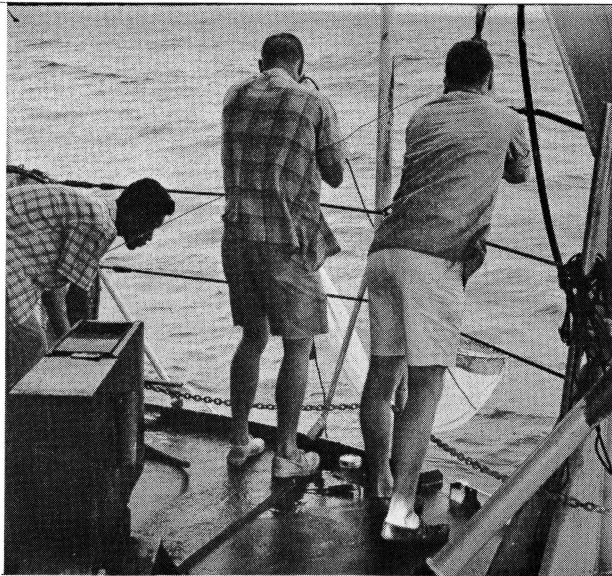
**THE BIOLOGISTS**



**Dick Stephen-Hassard**



**The biologists maintained an active plankton sampling program**



**Anugerah Nontji Dick Stephen-Hassard Saum  
(Indonesia)**



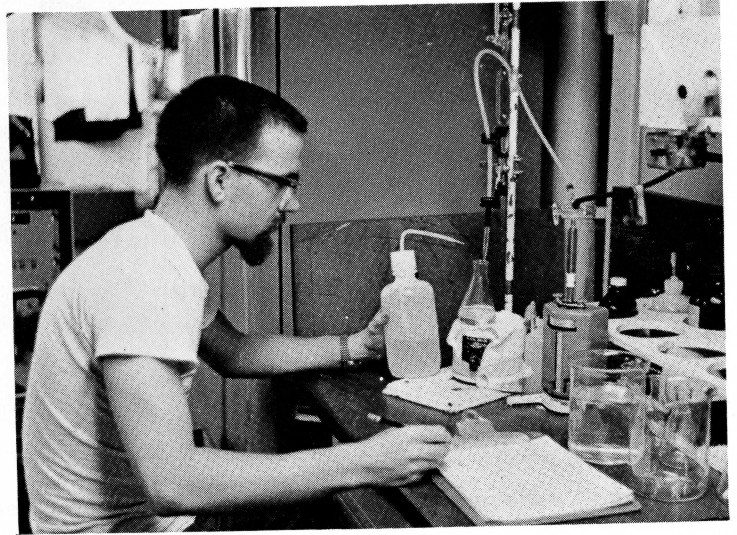
**Capt. Brown Kanamu Vic Alvarez  
Dick Stephen-Hassard**



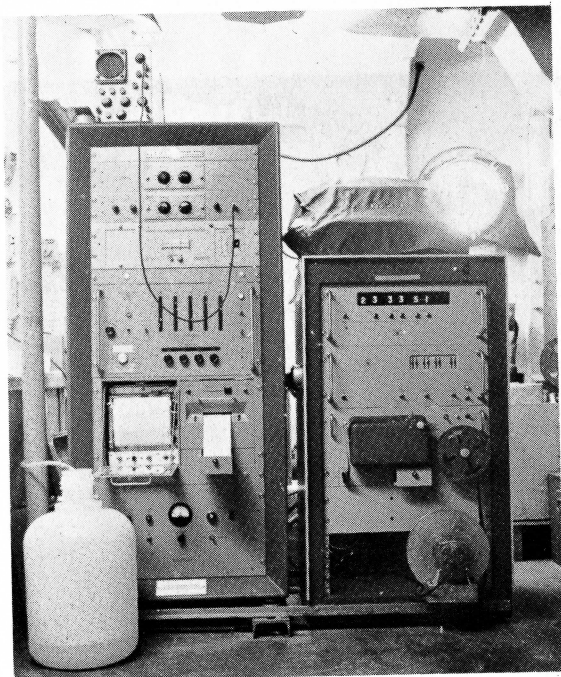
## LABORATORY WORK



**Raymond Wilcove watches Rodgers running a salinity analysis**



**Knutson analysing seawater for oxygen content**



**The magnetometer console**



**Knutson  
Operations in the gravity room**

**Wardroom seminars**

**LABORATORY WORK AND SEMINARS**



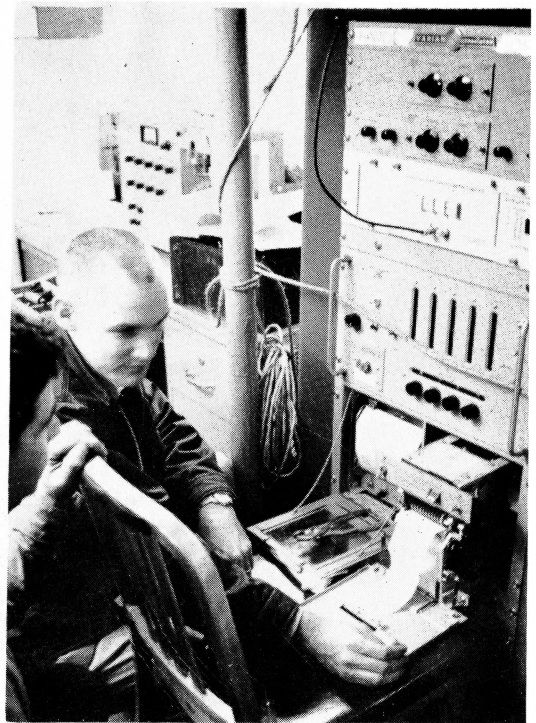
**Ens. Bliss**

**Ens. Jones**

**Ens. Larsen**

**Austin Weeks**

**Lt.(jg) Schimke**

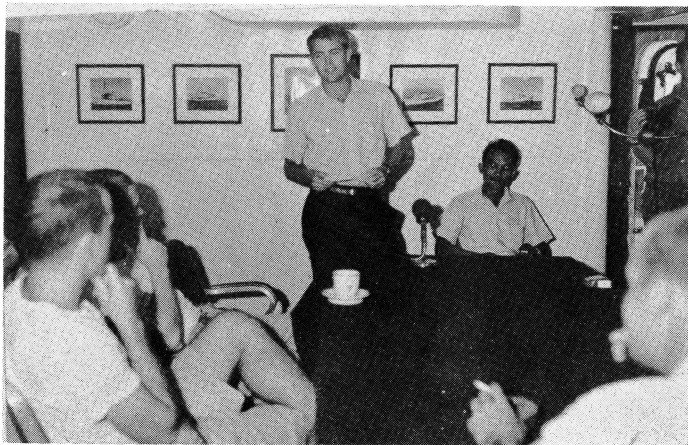


**Grinnell**

**Ens. Lushene**

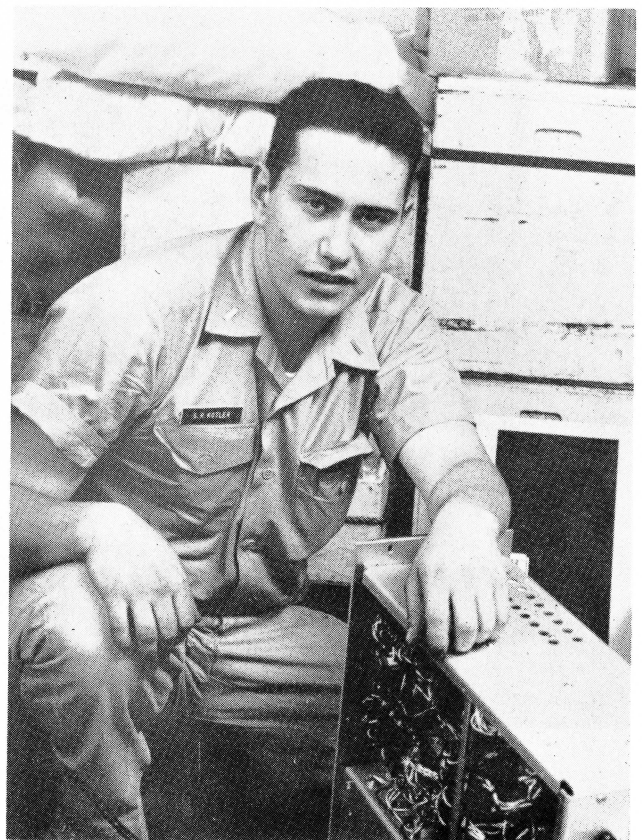
**Magnetics computations**

**A stimulating program of wardroom seminars  
was maintained throughout the cruise**



**Dick Stephen-Hassard and Vic Alvarez**

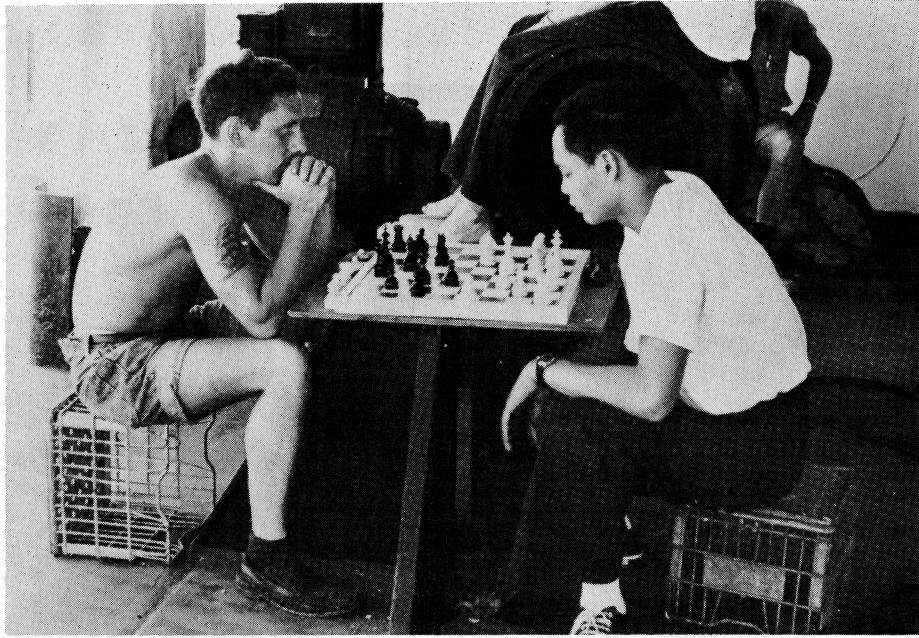
**giving Wardroom Seminar**



**Lt. Kotler, the electronics officer, had his  
hands full during the cruise**



RECREATION



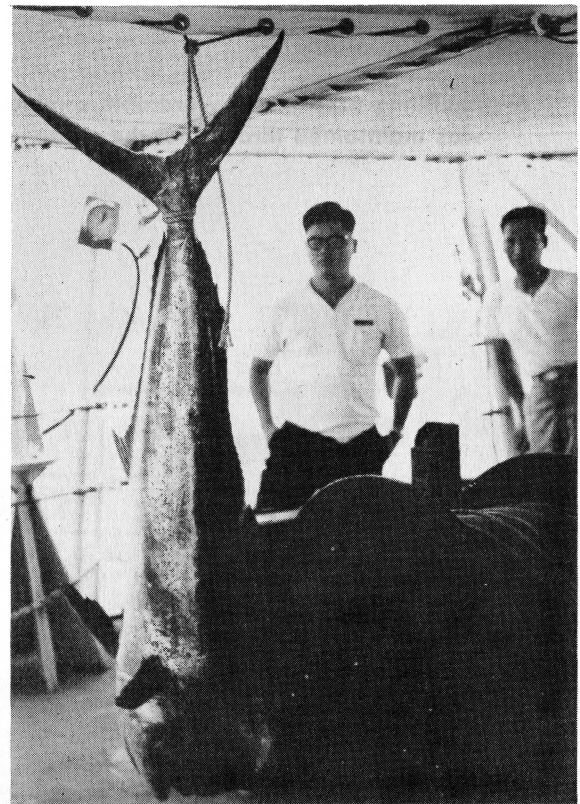
Chief Chase and Olamit match wits on the chess battlefield



Sweatt

Duggan

Sweatt says he's  
Mr. America?



Kah Sin Ong  
(Malaysia)

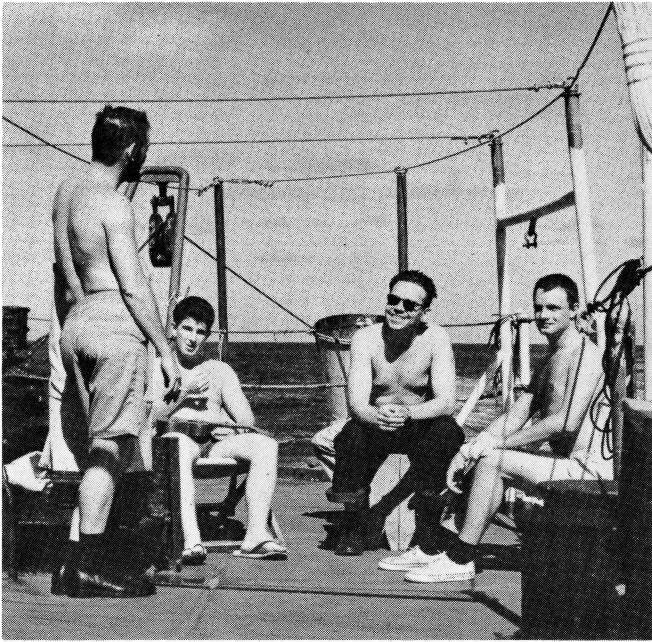
Chief Abueg

This one got caught

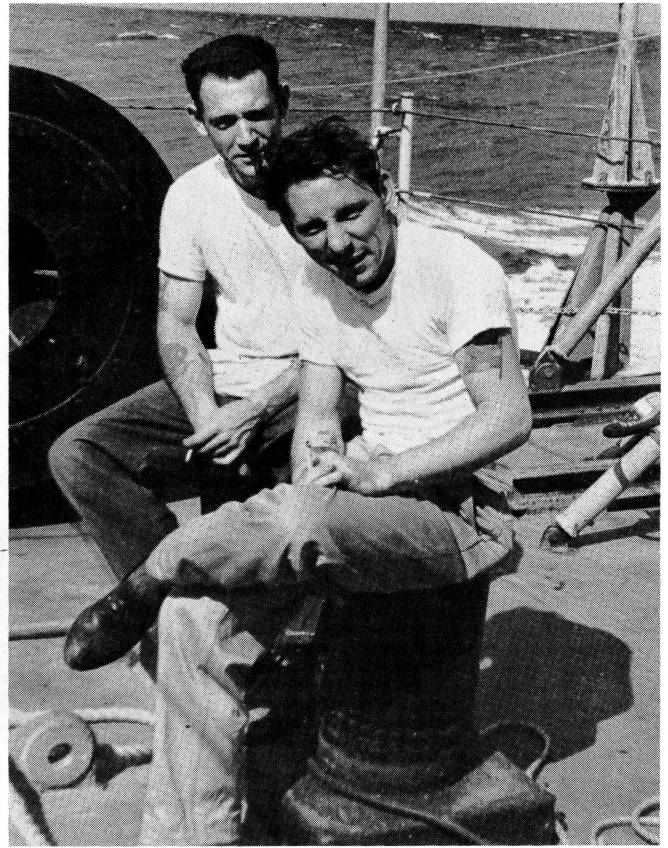




**RECREATION**

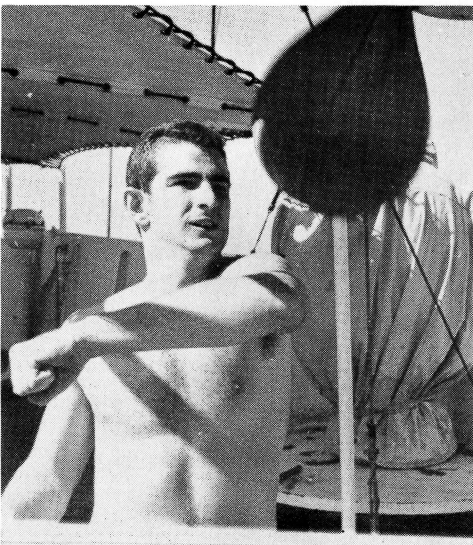


**Ryan Grinnell Kenneth Serber**



**R. D. Johnson Chief Chase**

**A bit of relaxation on the fantail**



**Grinnell**

**Training for the Olympics?**



**Ramos Bacher**

**Stokes**

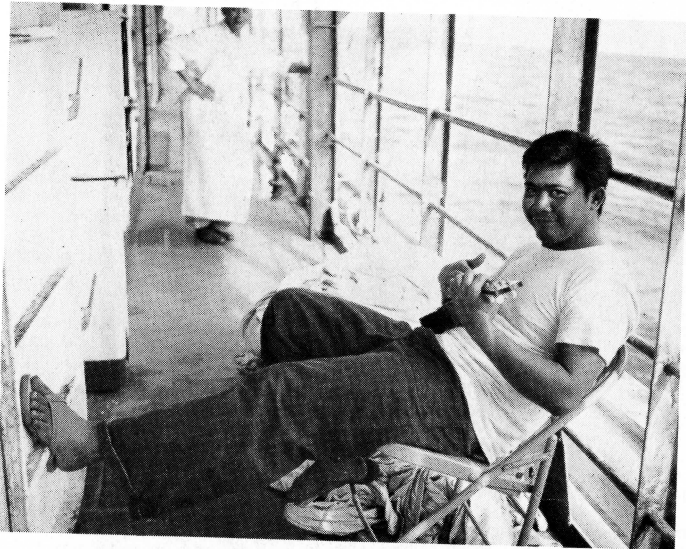
**Padilla**

**Saum Burchett**

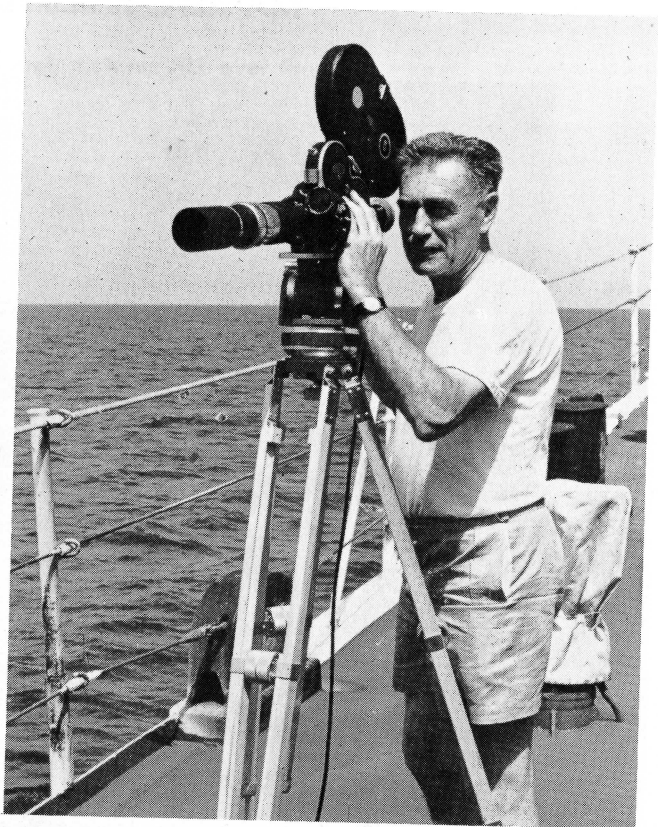
**Chief Velasquez Yorkman Gealon**

**Watching the movies**

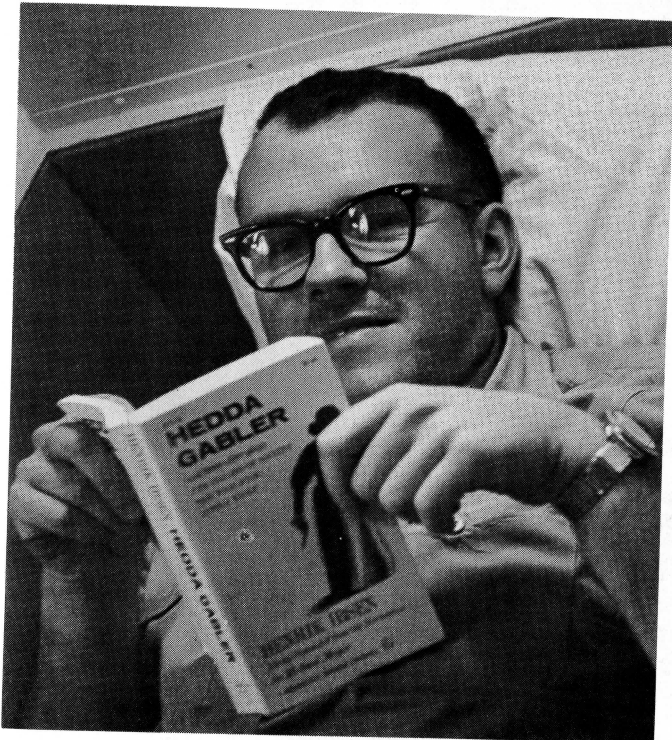
RECREATION



Ramos and  
ukelele



Byron Hale, Official Photographer



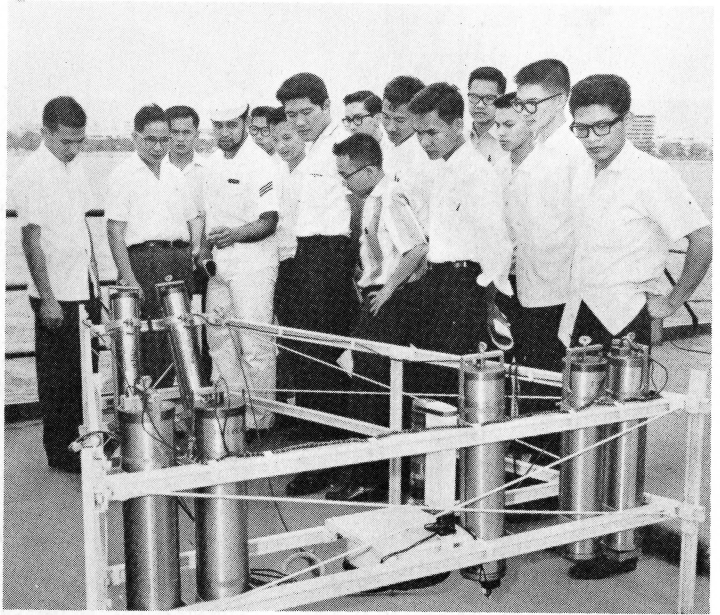
Lt. Spencer



Cmdr. Cole  
Practicing for Chapel services



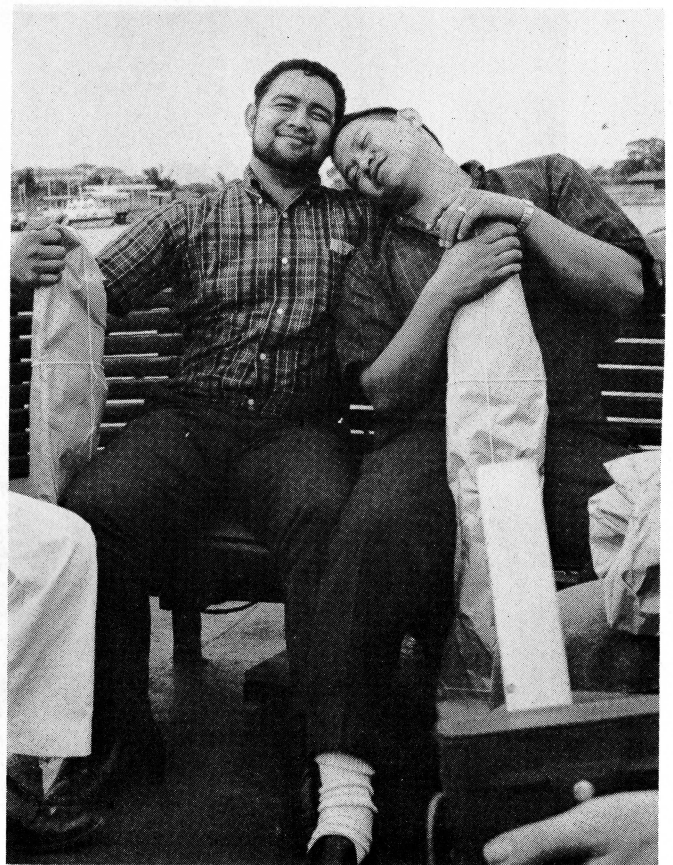
MANILA, PHILIPPINE ISLANDS



**Yorkman**  
Philippine students at Open House  
see the Pioneer's deep-sea camera

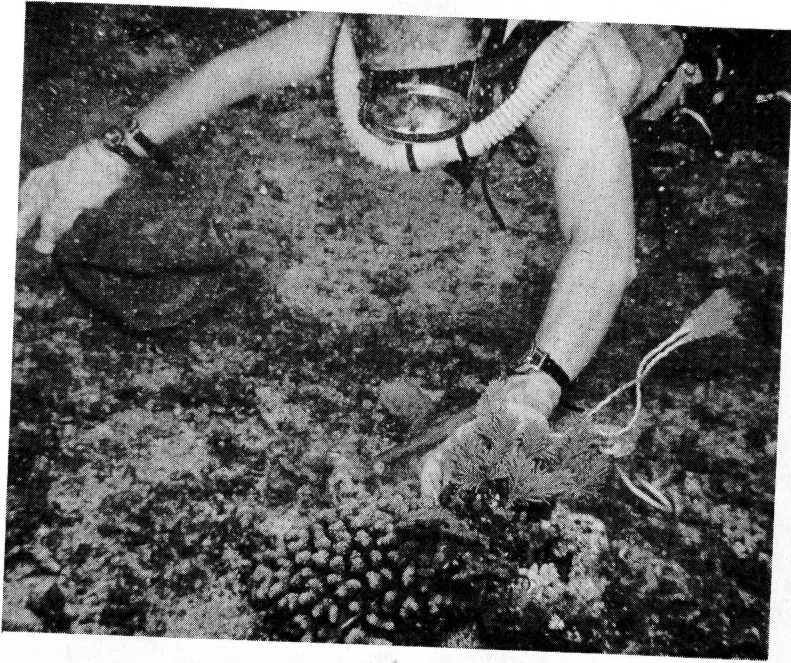


**Vic Alvarez**  
Open House at Manila



**Yorkman and Kanamu** after  
a hard day's shopping in Manila

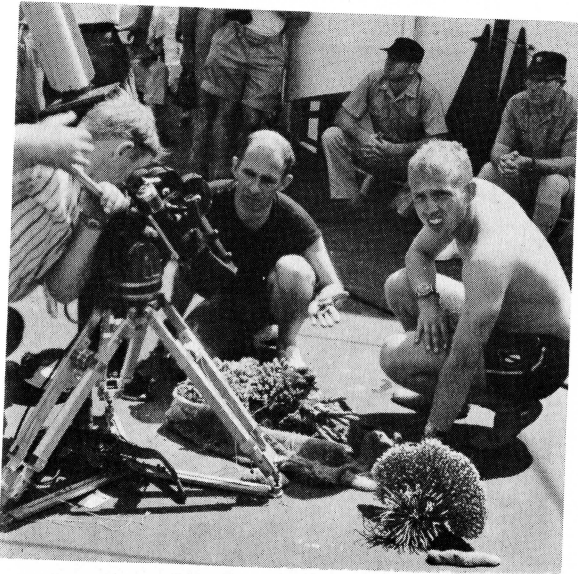
SCUBA DIVERS INVESTIGATE THE OCEAN BOTTOM AT  
SEA HORSE SHOALS, NORTHWEST OF NORTH BORNEO



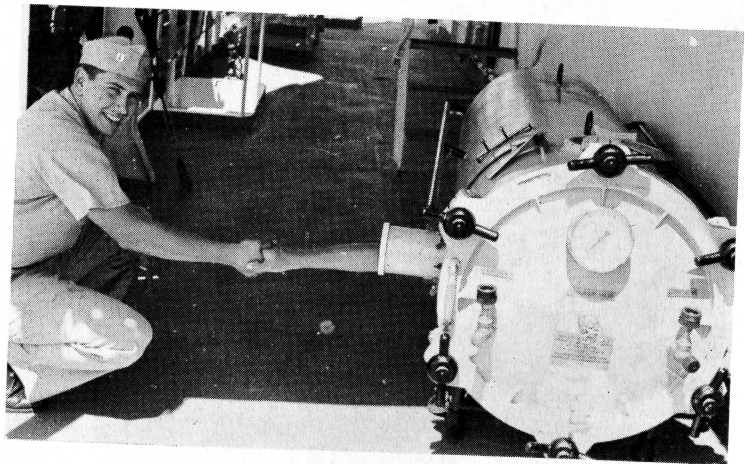
Ens. Larsen



Ens. Larsen Harris Stewart



Harris Stewart Ens. Hough  
Ens. Larsen Capt. Brown

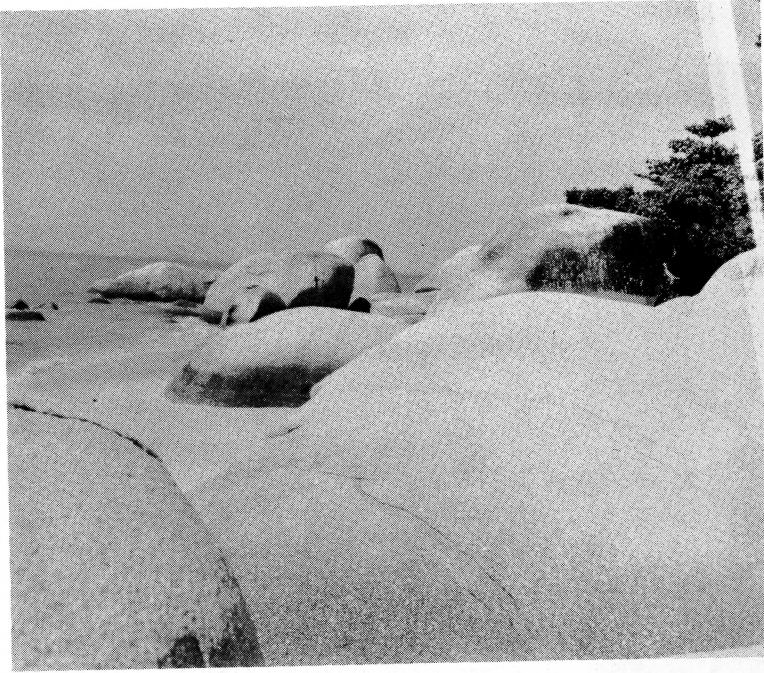


Lt. Kotler

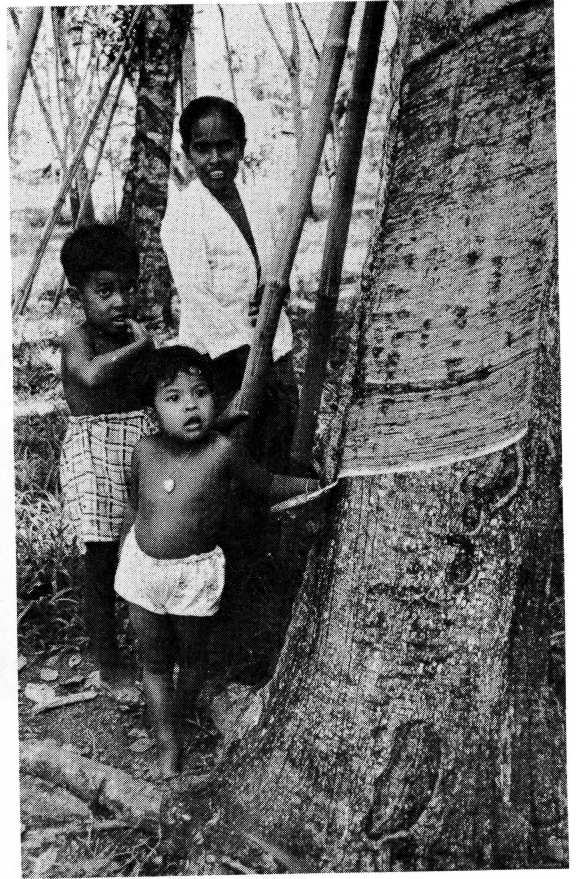
Ens. Larsen  
in the new  
recompression  
chamber



# PENANG, FEDERATION OF MALAYA



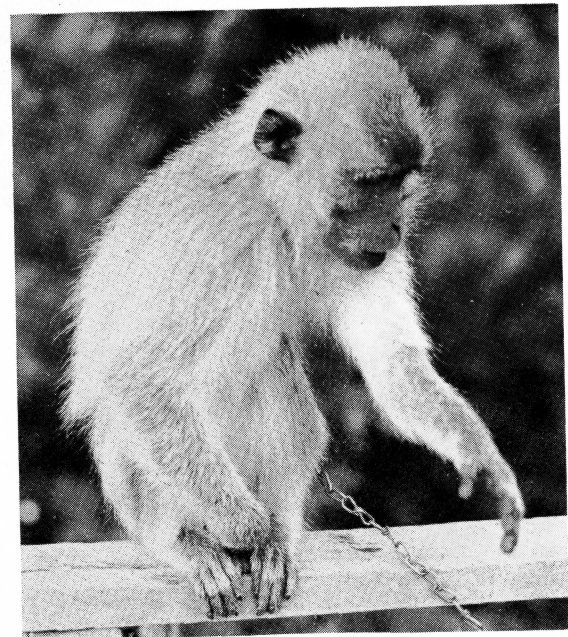
**Beach on the west coast of Penang Island**



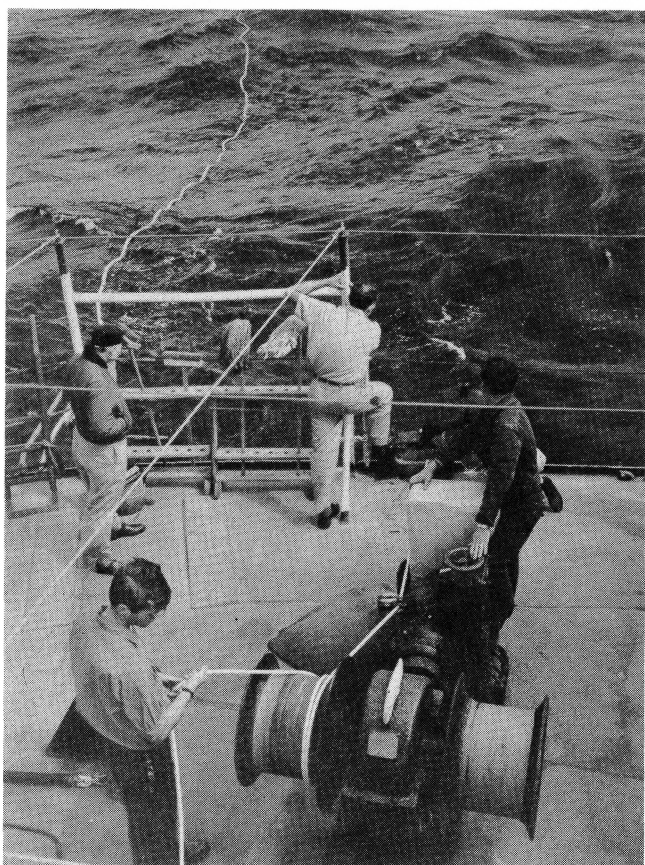
**Natives on a rubber plantation**



**A temple in Georgetown**



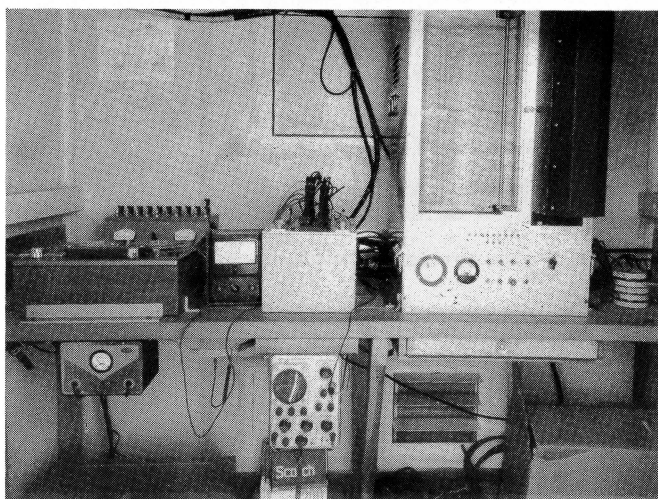
**GEOLOGICAL ECHO PROFILER PROGRAM,  
ANDAMAN SEA**



**Cdr. Cole  
Sanford**      **Maloy**      **Chief Chase**



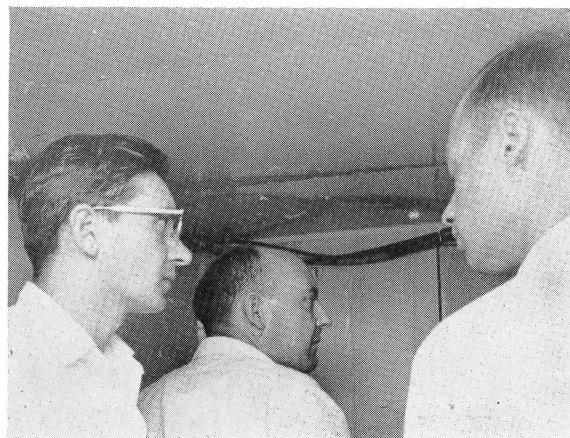
**Amadeo**      **Chief Lavery**      **Reitberger**



**Inside The GEP Shack**



**Ens. Lushene**      **Sweatt**      **Reginald Harbison**  
**John Lindberg**           **Chief Pykosz**

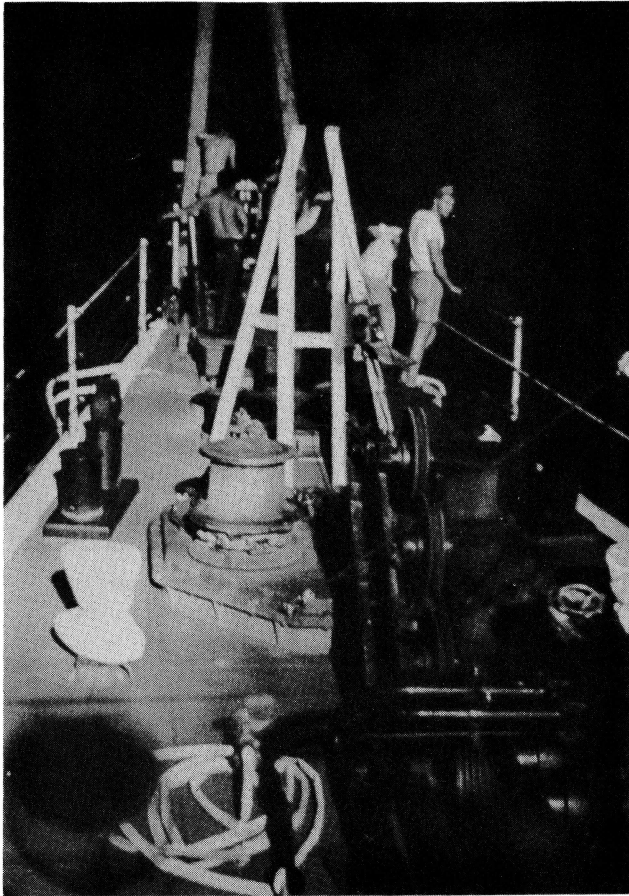


**George Peter**

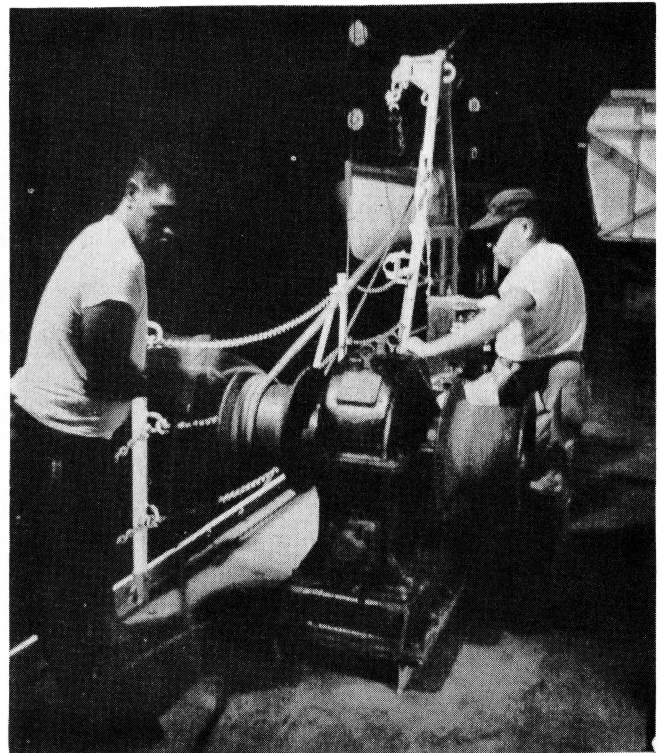
**Reginald Harbison**      **Austin Weeks**



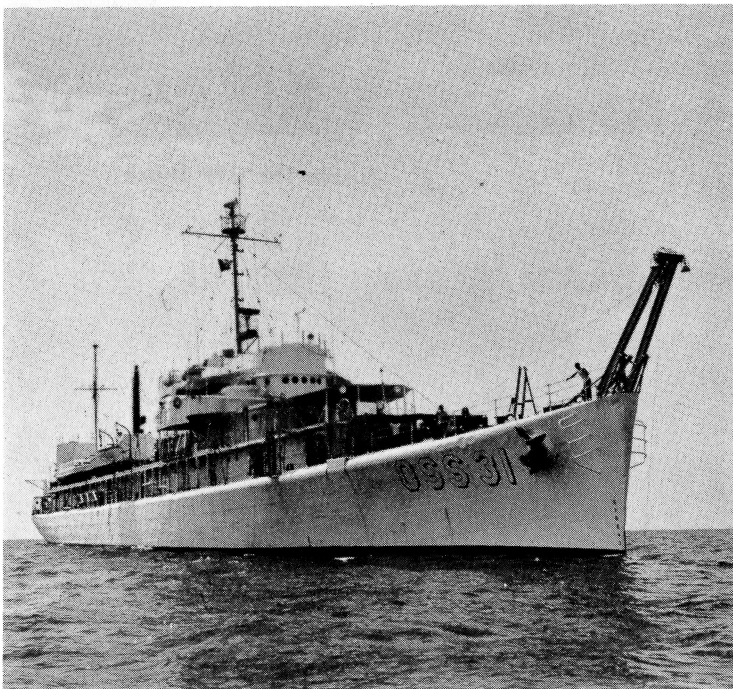
# CORING STATIONS, BAY OF BENGAL



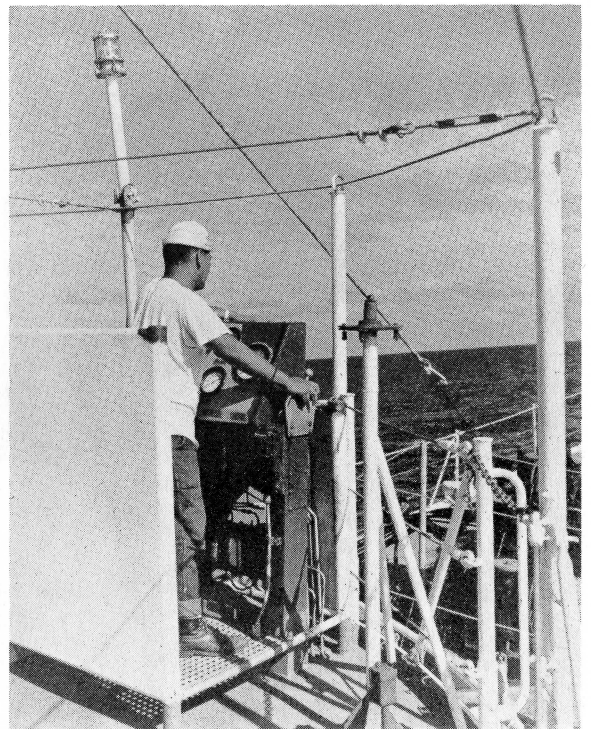
**Lt. Moses oversees a night coring station**



**Padilla and Schildmuller man the whip**

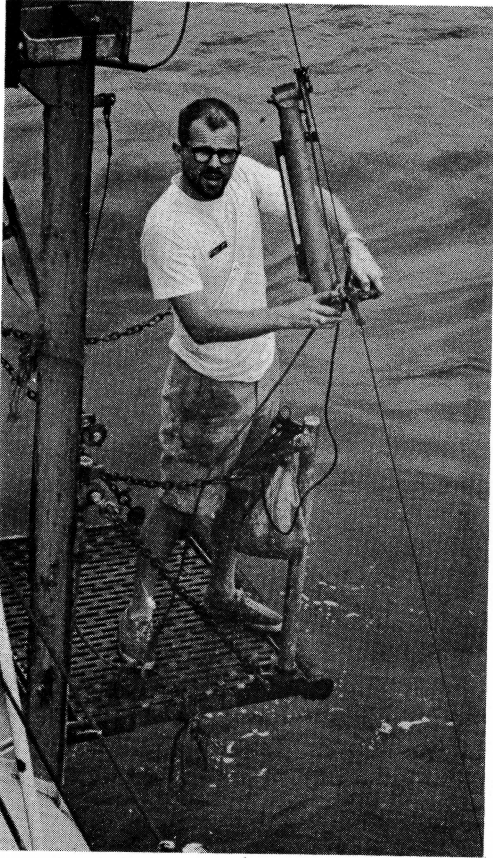


**Sometimes it's a long wait  
while the corer goes to the bottom**

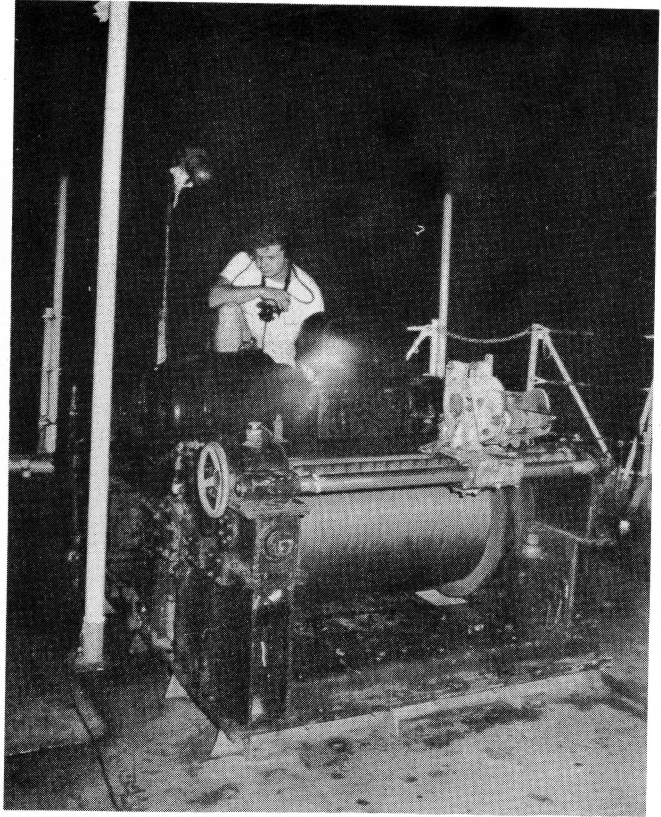


**Halama  
Winch console**

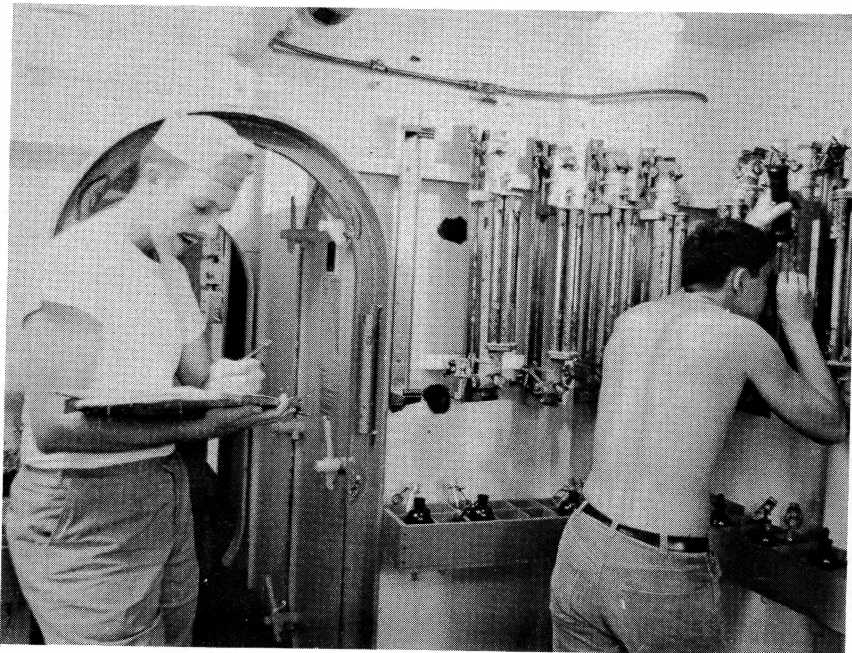
**NANSEN CASTS**



**Reginald Jones attaches a nansen bottle to the wire**



**Sweatt  
"Going down . . ."**



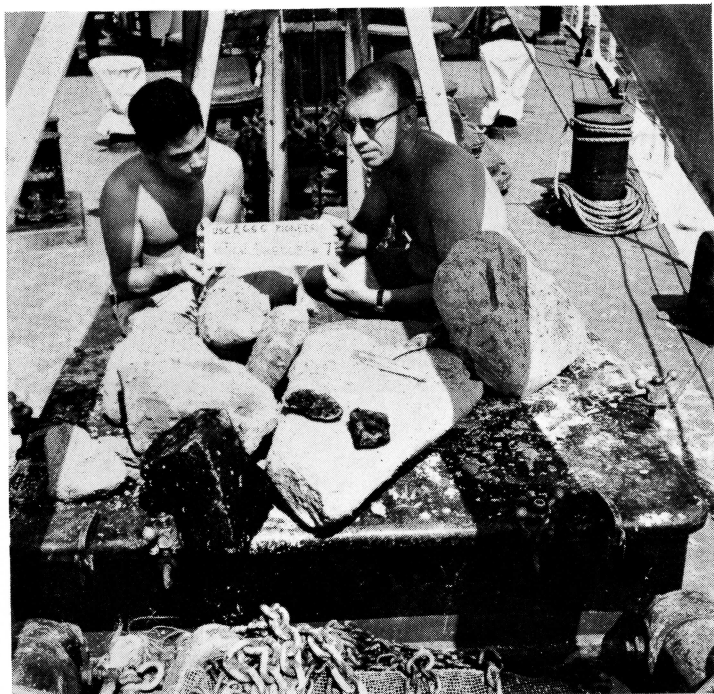
**Ens. Moore**

**"check . . ."**

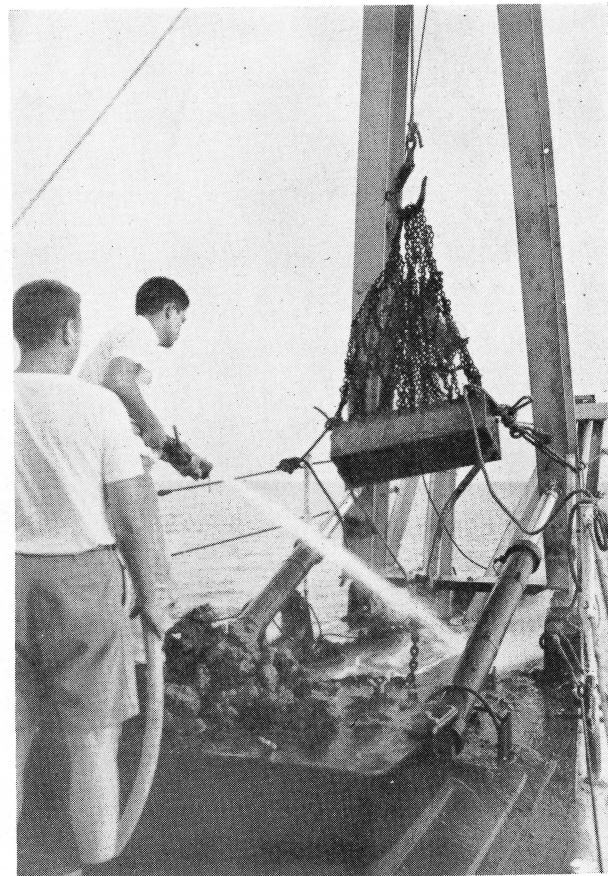
**Kevin Rodolfo**



**BOTTOM-SAMPLING PROGRAM, MALACCA STRAITS**

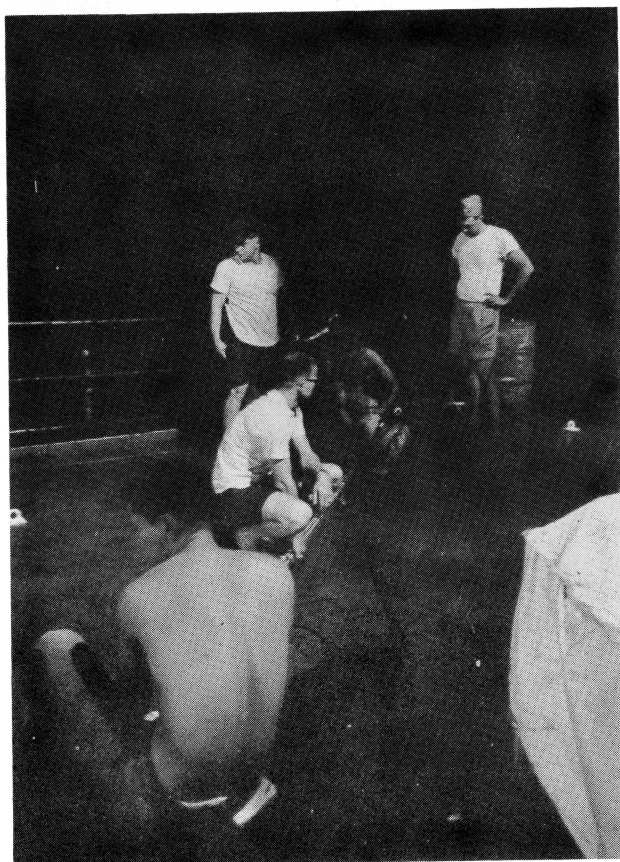


**Kevin Rodolfo      George Keller**



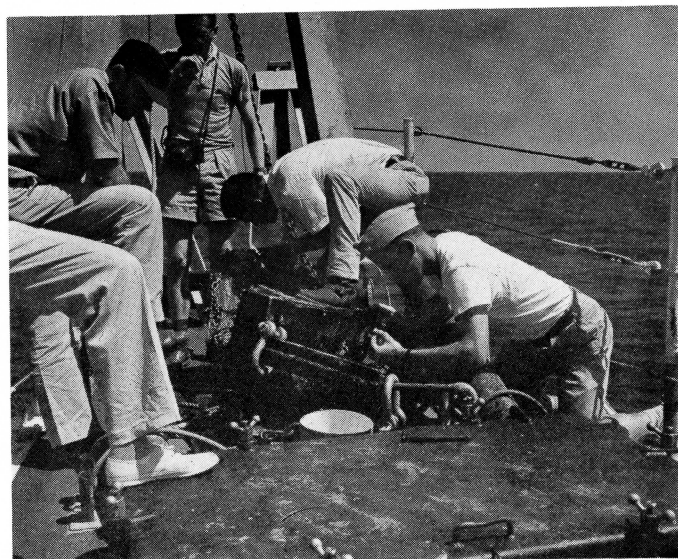
**The Thermoprobe comes up at night**

**George Keller      Kevin Rodolfo**



**Sweatt  
Reginald Jones  
Kevin Rodolfo**

**Lt. Moses**



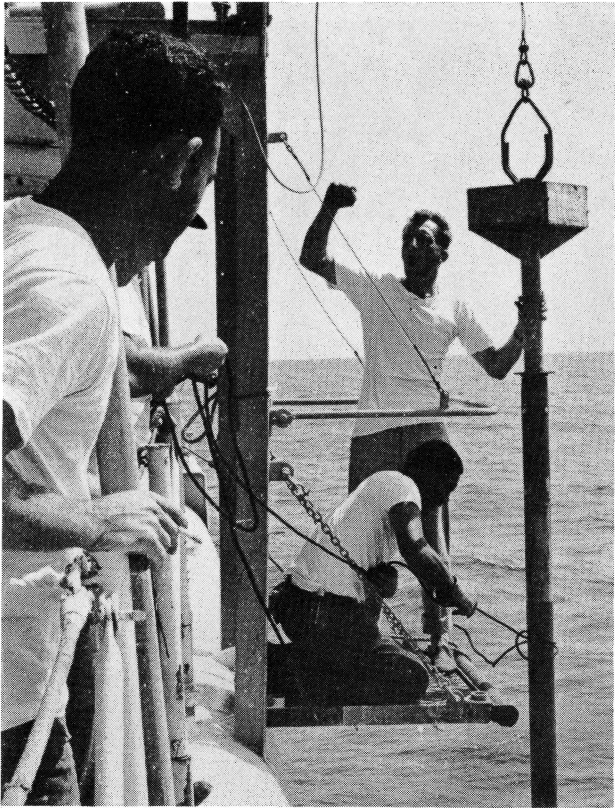
**Ens. Hough**

**George Peter  
Kevin Rodolfo**

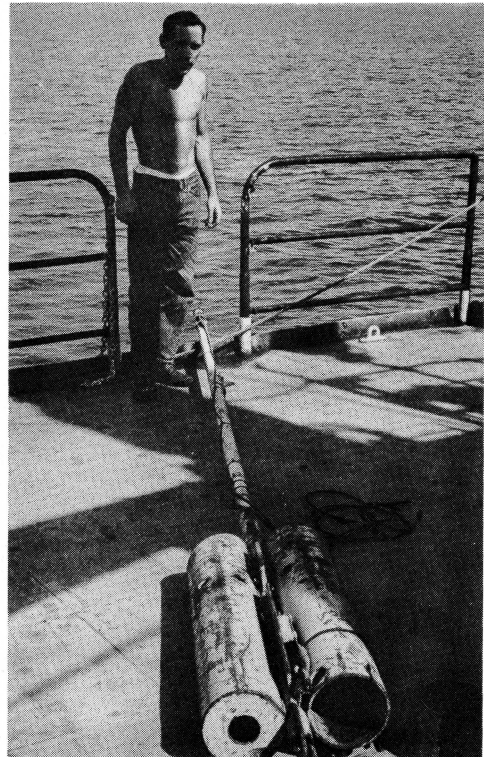
**Lt.(jg) Schimke**

**You never know what a dredge will bring up**

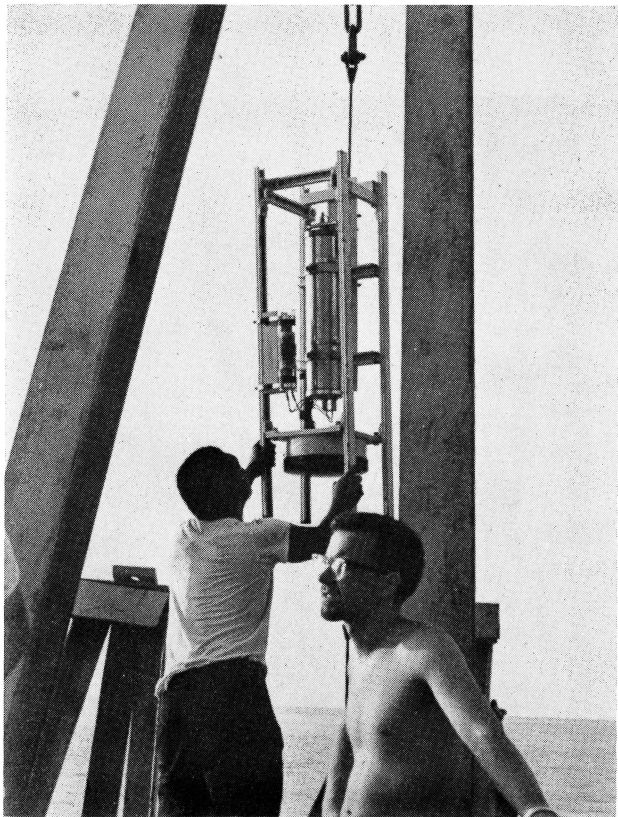




**Chief Pykosz and Padilla put over the small corer**

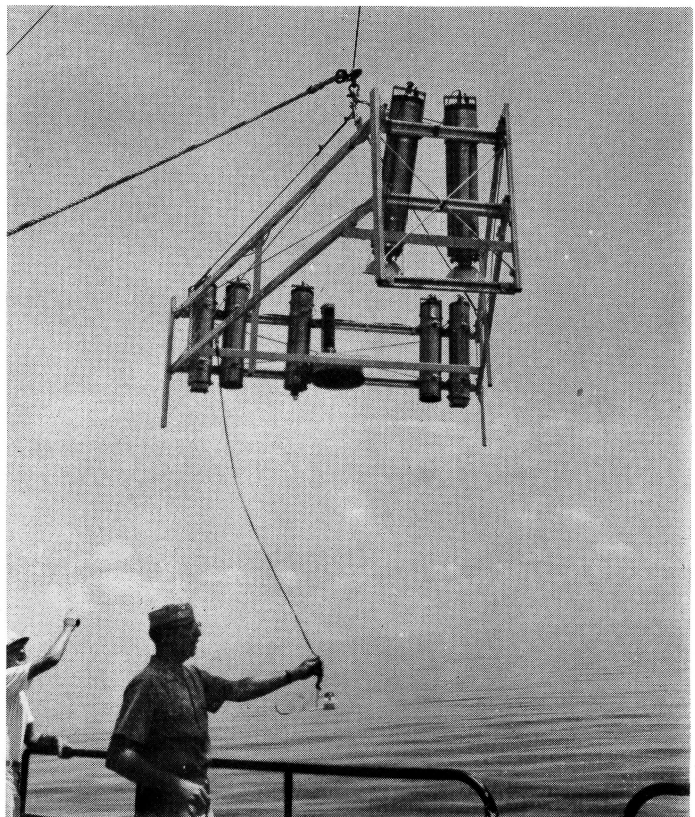


**Chief Chase with the thermoprobe**



**Padilla      Knutson**

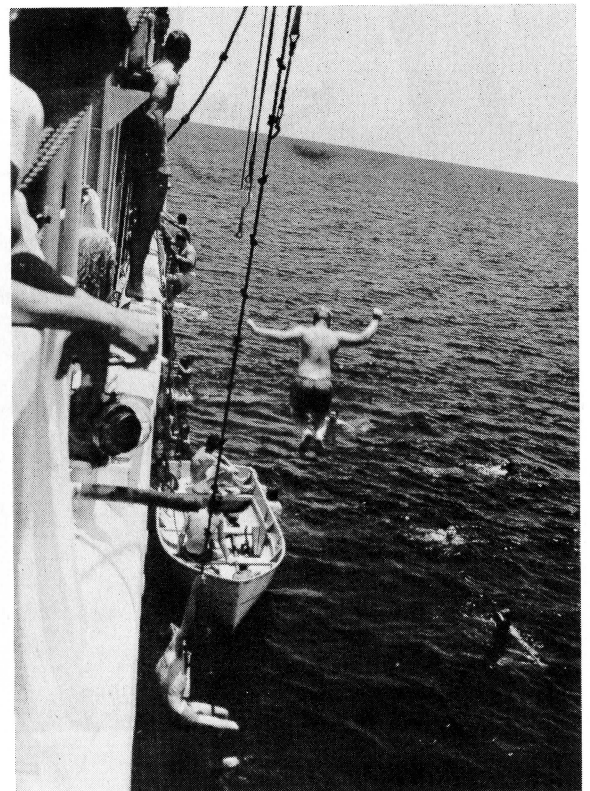
**The "pinger" goes down with the corer**



**Chief Lavery      LCDR. Barbee**

**The deep-sea camera goes over the side**

# SWIM CALL ON THE EQUATOR



**Dick Stephen-Hassard**



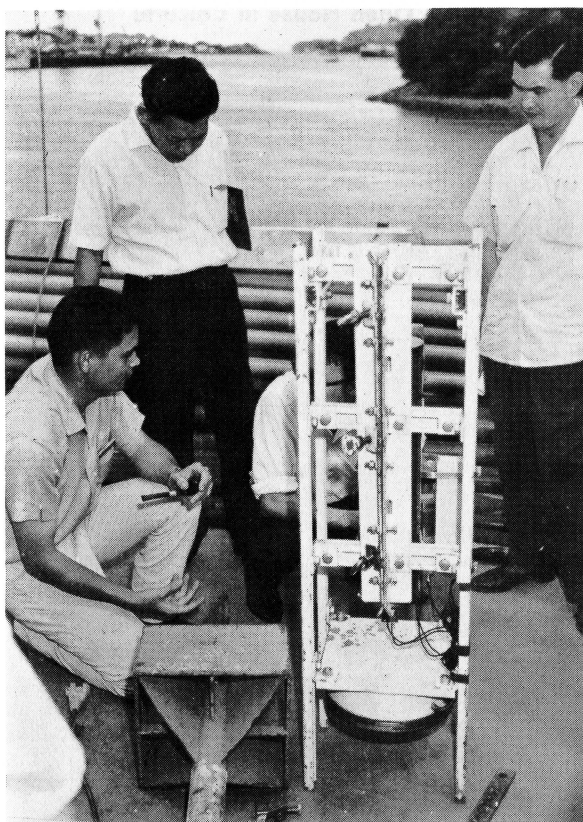
# SINGAPORE



Visitors to the Open House



Lt.(jg) Schimke and Lt. Moses  
at the Tiger Balm Gardens



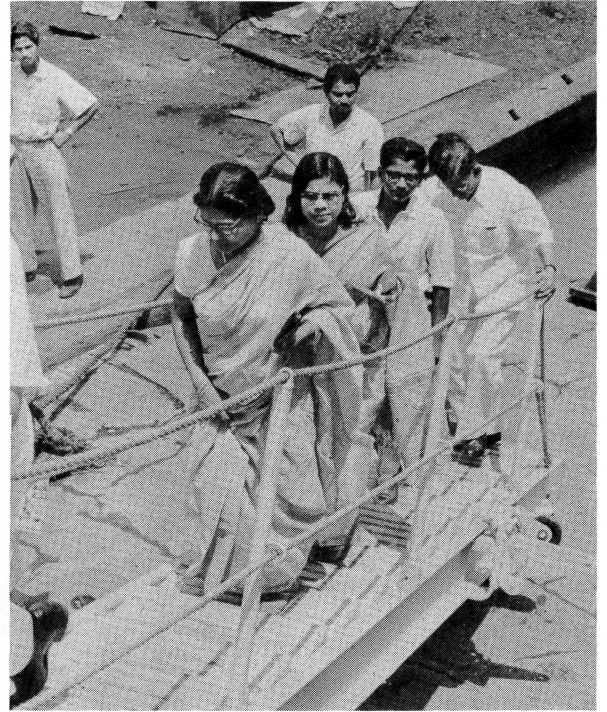
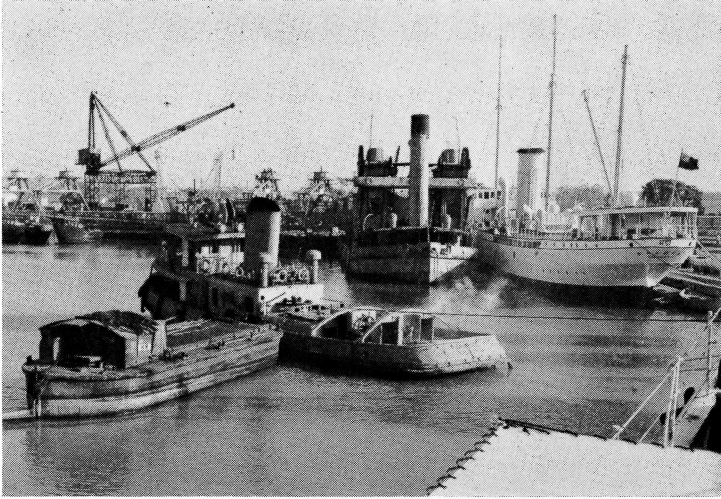
Kelvin Rodolfo shows visitors the "pinger"



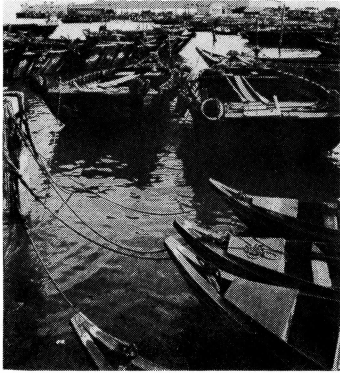
Kelvin Rodolfo shows visitors the grab sampler



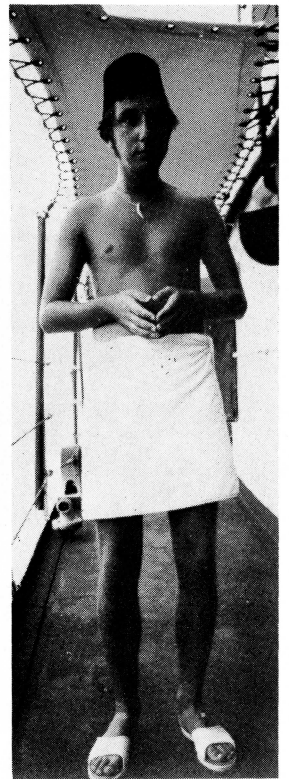
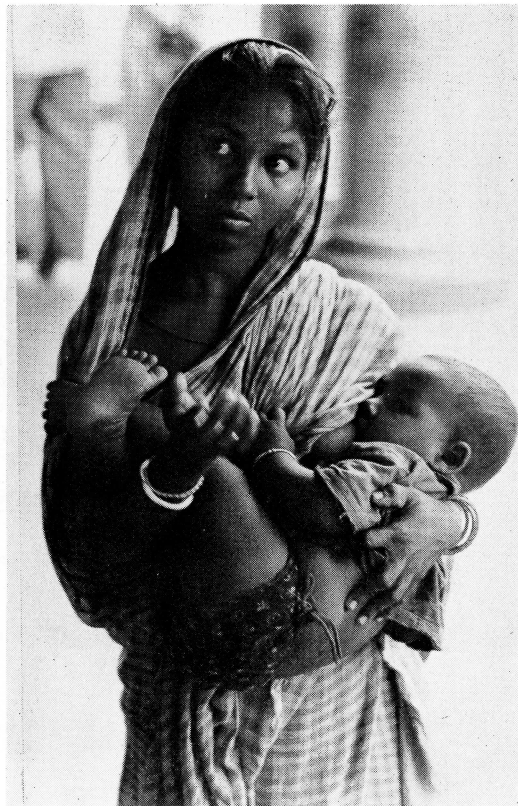
# CALCUTTA, INDIA



**Open House in Calcutta**



**King George Harbor**



**Bert Soileau  
The effects of Calcutta**

**Typical scenes of Calcutta**

# CEYLON, INDIA



Typical scenes of Ceylon



Mohammedan Mosque Colombo



Captain Brown gives a press conference



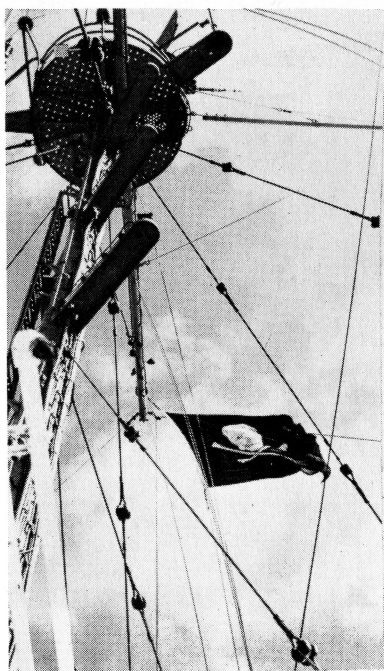
## CROSSING THE EQUATOR CEREMONIES

The ceremonies of Crossing the Line are almost as old as sea voyages. The Vikings, however, probably began such carryings-on and their customs were passed on to the Anglo-Saxons and Normans.

Those who have crossed the equator and suffered the ordeal set down by Davy Jones gain the honor of being called Shellbacks, and they are considered bona fide sons of Neptune. The oldest and most dignified senior Shellback of the crew is customarily selected as Neptunus Rex; his first assistant is Davy Jones; and King Neptune's court is usually made up of the Royal Judge, the Royal Doctor, the Devil and others that suit the fancy of the "King of the Seven Seas."

The morning of the day the ship makes the journey across the equator, Davy Jones appears on board with a message to the captain from His Majesty Neptunus Rex stating the hour the ship is to hove to for the reception of the Royal Party. At the same time all Pollywogs (those who have not crossed the equator before) are notified that because of their injustice to King Neptune they are to appear before him later that day.

During the ceremonies aboard the PIONEER, King Neptune found all those who were called before him guilty without a trial and sentenced each to sit in the electric chair and then be hosed with the fire hose. After they had satisfied King Neptune, Captain Brown handed out the Shellback certificates.

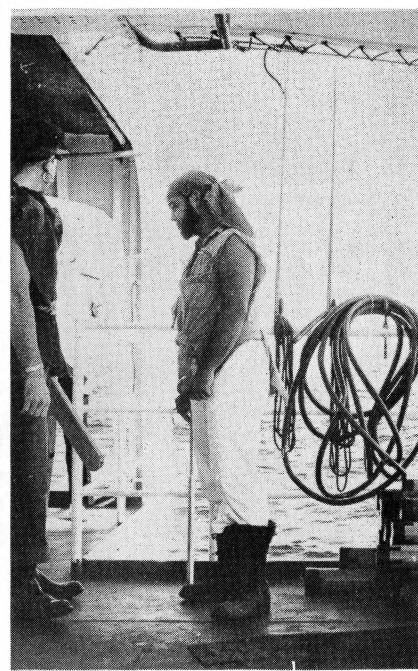


The Jolly Roger



Lt. Spencer  
The Royal Doctor

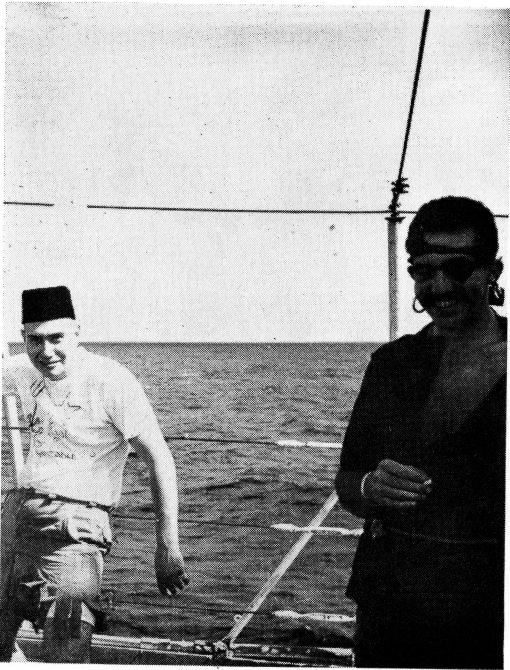
Sullivan



Chief Parsley   Yorkman  
Members of the Royal Court

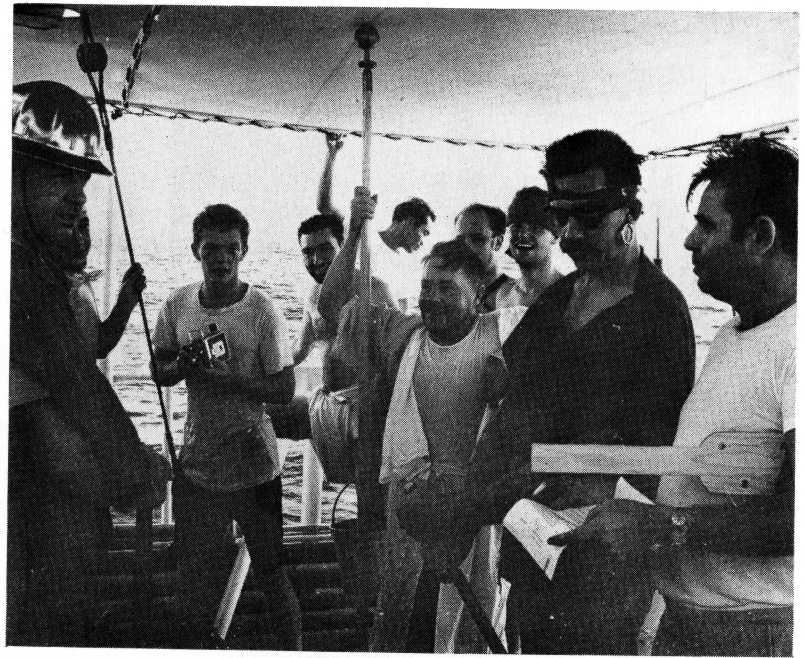


# CROSSING THE EQUATOR CEREMONIES



**Lt. Kotler**

**Chief Parsley**



**Cdr. Uhrich**

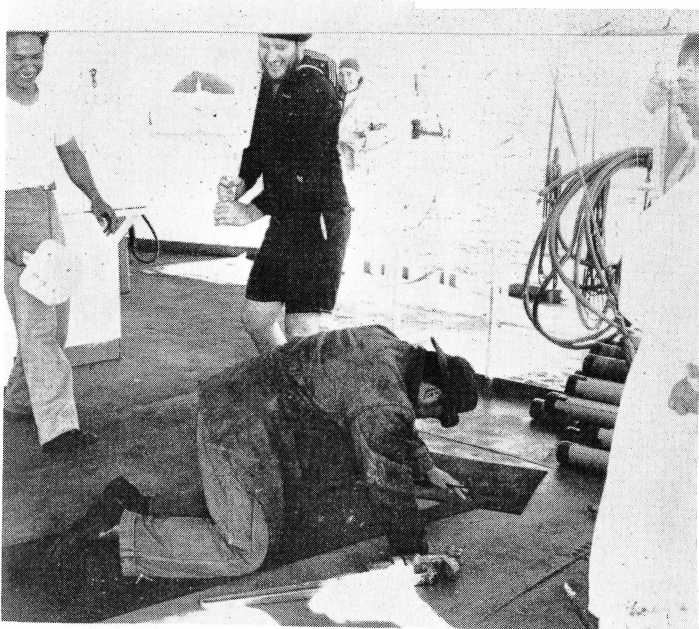
**Shaw**

**Burchett**

**Woods**

**Chief Greenberg**  
**Chief Parsley**

**Chief Schildmuller**

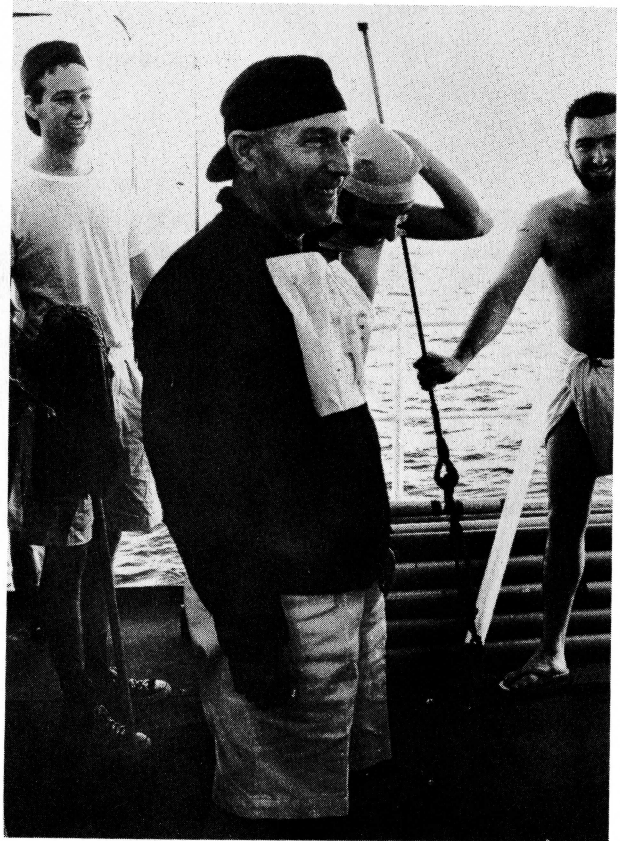


**Chief Abueg**

**Sullivan**

**Chief Schildmuller**

**A Nameless Pollywog**

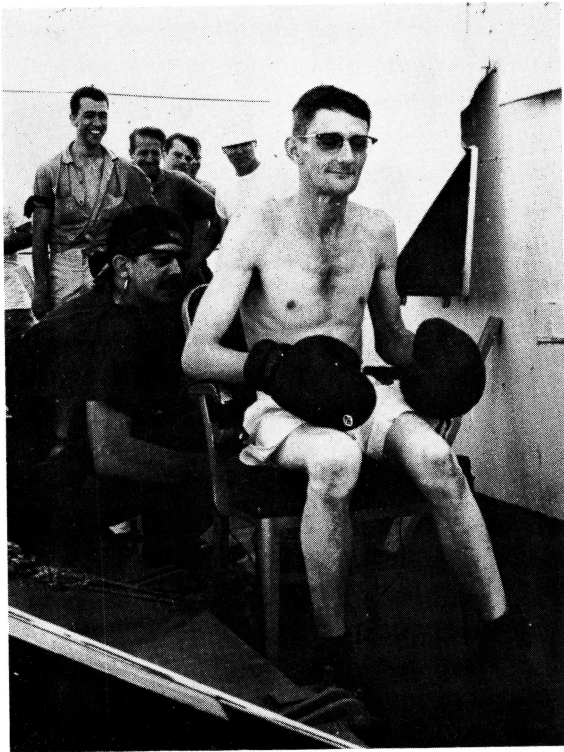


**Ens. Jones**

**Bert Soileau**  
**Capt. Brown**

**Burchett**

# CROSSING THE EQUATOR CEREMONIES



**Ronald Reed**  
**Chief Parsley**



**Breckbill**

**Chief Parsley**

**Saum**

**Breckbill and Saum "get the electric chair."**



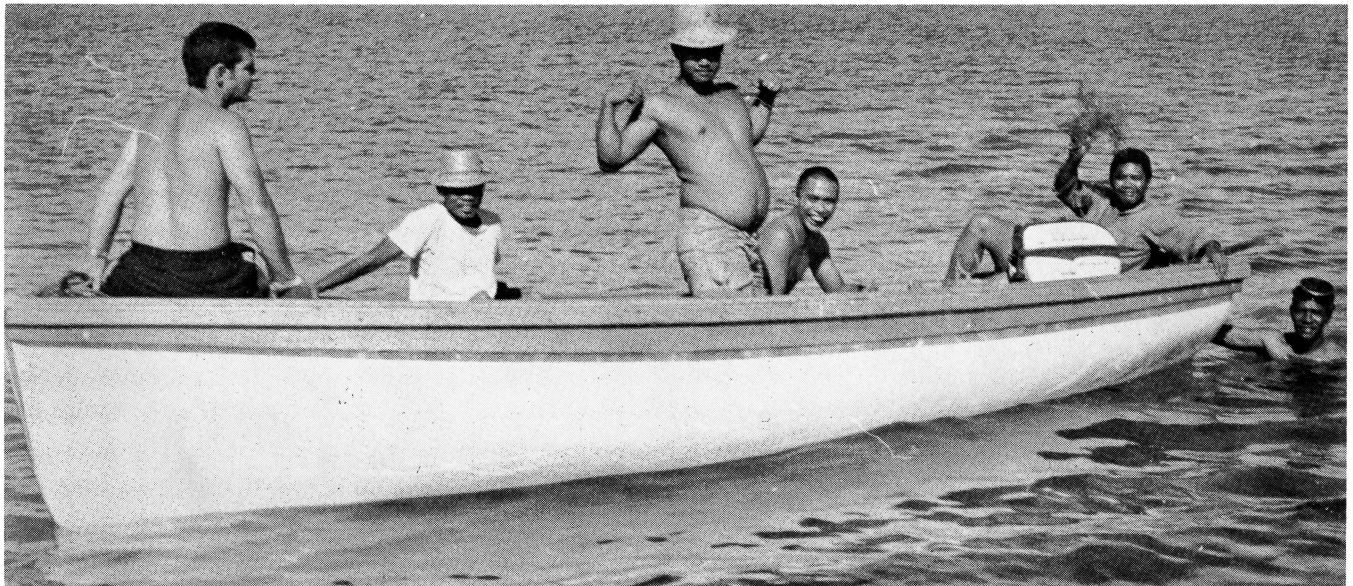
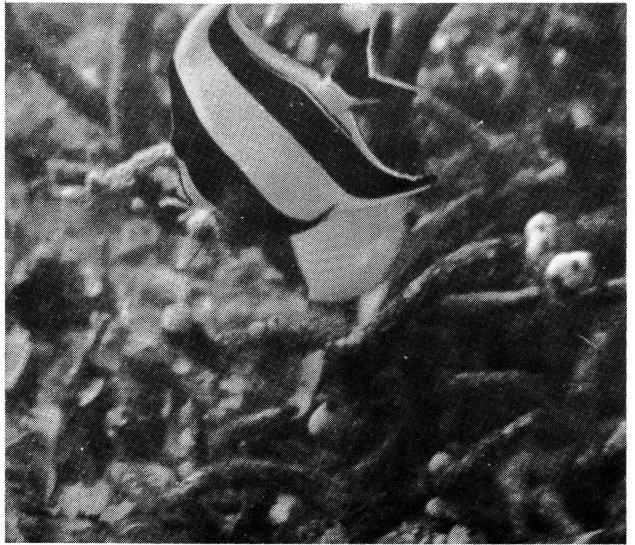
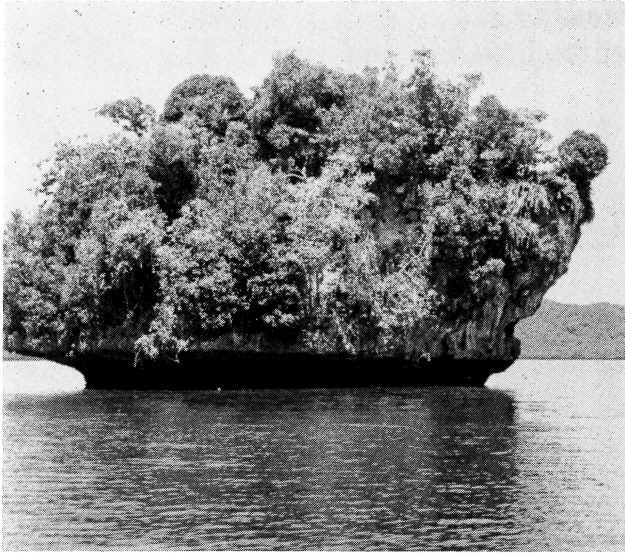
**Capt. Brown**                      **Sweatt**  
**Captain Brown awards the Shellback certificates**



**A Pollywog gets hosed down**



# KOROR, PALAU ISLANDS



Grinnell

Mahinan

Kanamu

Bachar

Ramos

Padilla

Kanamu demonstrates phenomenal muscle tone





**THE END**

OF THE BOOK ABOUT A  
NEAR PERFECT CRUISE

