

CRUISE REPORT

SHIP UTILIZATION DATA

File #

UNCLAS
2/28/73

SHIP NAME <u>OCEANUS</u>	OPERATING INST. <u>WHOI</u>	PARTICIPATING PERSONNEL	
CRUISE (LEG) NO. <u>4</u>	DATES <u>15 April-18 April 1976</u>	CODE	NAME TITLE AFFILIATION
AREA OF OPERATIONS: <u>N. Atlantic Ocean</u> <u>(Woods Hole-Woods Hole)</u>	PORT CALLS:	PLACE	DATES
DAYS AT SEA <u>4</u>	DAYS IN PORT <u>0</u>	1	Dr. Robert Beardsley Assoc. Scientist WHOI
		2	Ms. Marlene Noble Physicist USGS
		3	Mr. Andrew Eliason Tech. Representative Eliason Data Services
		4	Mr. Peter Clay Res. Assistant WHOI
		5	Mr. John Vermersch, Jr. Res. Associate WHOI
		6	Dr. Bradford Butman Oceanographer USGS
(continue on reverse side)			

(15 Apr-18 Apr 76)

PRIMARY PROJECTS (those which govern the principal operations, area and movements of the ship)

PROJECT TITLE AND PRINCIPAL INVESTIGATOR	SPONSORING ACTIVITY	GRANT OR CONTRACT NUMBER	AMOUNT	STARTING DATE	DURATION (MOS)	PARTICIPATING PERSONNEL (AS CODED ABOVE)
"Physical Oceanography of the Outer Mid-Atlantic Bight" Dr. Robert C. Beardsley	NSF	OCE76-01813				1, 5, 6, 7

ANCILLARY PROJECTS (which are accomplished on a not-to-interfere basis and contribute to the overall effectiveness of the cruise)

PROJECT TITLE AND PRINCIPAL INVESTIGATOR	SPONSORING ACTIVITY	GRANT OR CONTRACT NUMBER	AMOUNT	STARTING DATE	DURATION (MOS)	PARTICIPATING PERSONNEL (AS CODED ABOVE)
SEE ATTACHED						

SIGNATURE Robert C. Beardsley DATE June 11, 1976
 Chief ~~Senior~~ Scientist - Robert C. Beardsley

(Continue personnel and project listings on reverse if additional space needed)

ATTACH PAGE SIZE CRUISE TRACK

COST ALLOCATION DATA

DAYS CHARGED	AGENCY OR ACTIVITY CHARGED	GRANT OR CONTRACT NO.
4	National Science Foundation	NSF OCE76-00062

SIGNATURE R. P. Dinsmore DATE 6/8/76
 Institution Official

OCEANUS #4

7. Mr. George Tupper

Research Assistant

WHOI

ANCILLARY PROJECTS

"Joint ONR/NDBO Surface Mooring
Motion Program"
Robert G. Walden
Dr. Earl E. Hays

ONR

N00014-75-C-1064

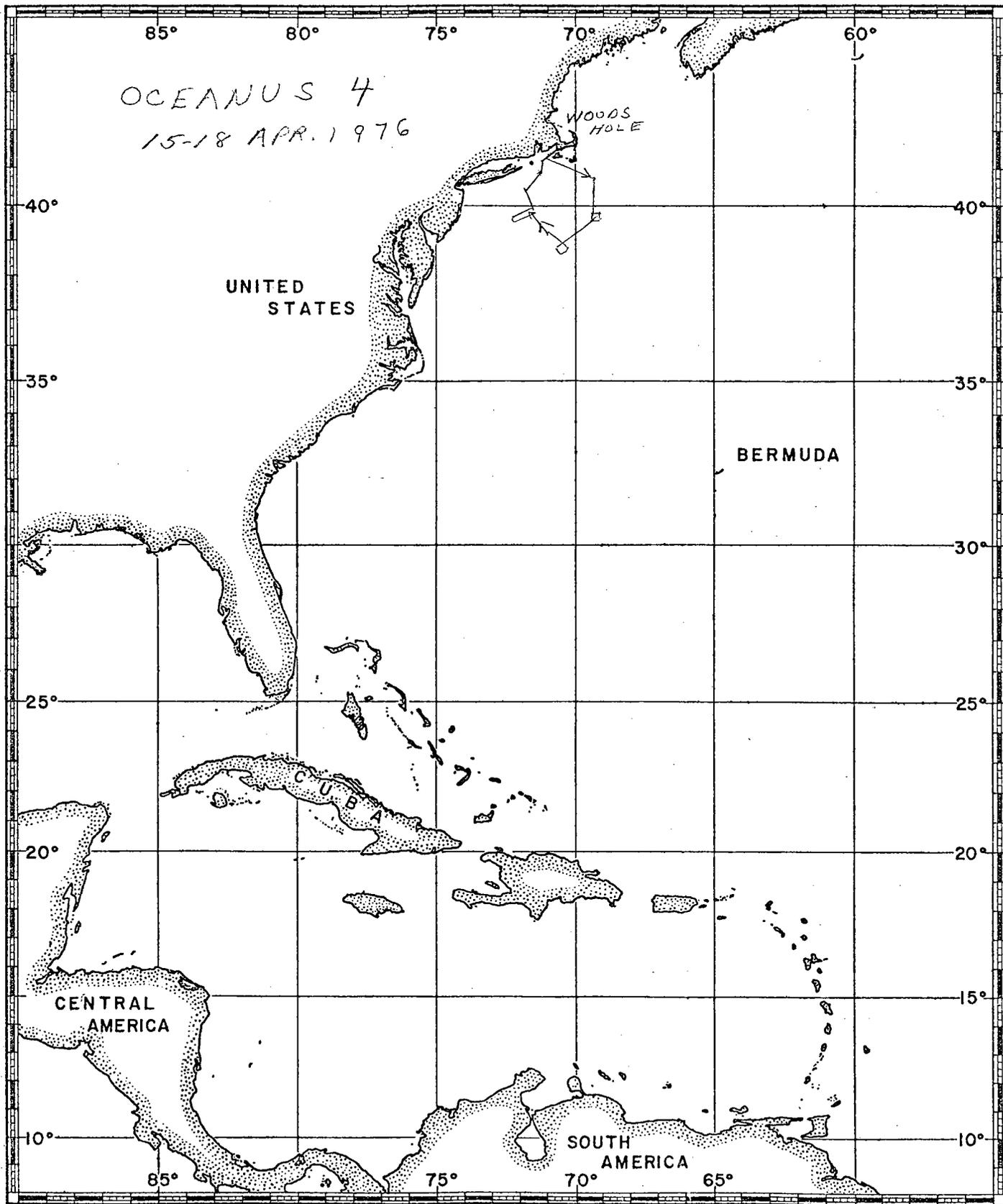
4

"Physical Oceanography of the
Middle Atlantic Bight"
John C. Behrendt

USGS

14-08-0001-15615

2, 3, 5, 6



WOODS HOLE OCEANOGRAPHIC INSTITUTION

WOODS HOLE, MASSACHUSETTS 02543

12 April 1976

Phone (617) 548-1400
TWX 710-346-6601

Captain Michael Palmieri
Research Vessel OCEANUS
Woods Hole, Massachusetts

Dear Captain Palmieri:

On or about 15 April 1976, your vessel being ready for sea and weather permitting, you will depart Woods Hole on Voyage #4. The scientific personnel and program for this leg will be:

Voyage #4
Woods Hole - Woods Hole
15 April - 18 April

Dr. Robert Beardsley, Chief Scientist	Mr. John Vermersch
Ms. Marlene Noble (USGS)	Mr. Bradford Butman (USGS)
Mr. Andrew Eliason (Eliason Data Services)	Mr. George Tupper
Mr. Peter Clay	Mr. David Foiger (USGS)
Mr. J. G. Gillespie (Guest Investigator)	

The objectives of the cruise will be: 1) to recover WHOI Mooring #586, located at 39°47'N, 69°54.3'W; 2) to conduct a topographic survey at five mooring sites; 3) to test the CTD system along the cruise track; and 4) to make an XBT survey en route and underway between the topographic survey sites.

Please advise the Port Office of any changes in personnel prior to departure Woods Hole, maintain twice daily SSB schedules with K1C713 on assigned frequencies and forward twice weekly position reports.

I wish you a pleasant and successful voyage.

Yours very truly,

Robert C Beardsley
Dr. Robert Beardsley, Chief Scientist

Michael Palmieri
Michael Palmieri
Master/OCEANUS

R. S. Edwards
R. S. Edwards
Marine Superintendent

OCEANUS

I. Cruise Objectives

A. Recover WHOI Mooring #586

1. Location: 39°-47.0' N, 69°-54.3' W
2. Equipment Required:
 - a. Ship's crane
 - b. Gasoline powered rehaul winch (supplied by buoy group)
4' x 4' x 4', 3800 lbs.
3. Mooring Gear to be Recovered
 - a. 44" diameter, 550 lb. sphere
 - b. 400 m Kevlar rope
 - c. 32 - 17" glass balls in hardhats
 - d. One VACM and one Acoustic Release

We will provide 3 empty glass ball baskets for storage.
The mooring recovery should take less than 4 hrs.

B. Topographic Survey at Five Mooring Sites

1. Locations:

NE3 : 39°-56.1' N/71°-02.9' W
NE4 : 39°-36.6' N/70°-56.5' W
NE5 : 39°-20.8' N/70°-49.5' W
NE3W: 39°-42.5' N/71°-47.0' W
NE3E: 39°-54.7' N/69°-23.4' W

2. Equipment Required:

- a. Ship's 12 kHz transducer
- b. Gifft depth recorder (buoy group)
- c. LORAN C - either ship's or USGS loan
- d. AMF acoustic deck gear (buoy group, USGS)

I would like to mount the AMF transducer in the hull, and will check the fit as soon as possible.

3. Nature of Topographic Survey:

At each of the five locations, a number of cross-isobath tracks will be made while recording LORAN C and depth. The AMF acoustic gear will provide additional navigation information. Ideally, the parallel tracks would be 1000 yards apart and 5 miles long, to cover a 5 mile x 5 mile area. This would require a total steaming distance of approximately 60 miles at each of the five sites. Of course, wind and sea conditions may make the "ideal" coverage impossible, in which case we would make the grid less dense and just do our best.

C. Test of CTD System

1. Location of CTD Casts:

Along cruise track, specifically at mooring sites NE1, NE2, NE3, NE4, NE5, NE3W, and NE3E, with additional casts to make the total number about 10.

2. Equipment Required:

- a. Ship's davit or A-frame
- b. CTD fish, deck unit, winch (USGS)

Winch requires: 220 VAC single phase 24 amps

East cast will take 1/2 to 1 hr.

D. XBT survey to be made en route and underway between topographic survey sites.

II. Summary of Equipment

A. Ship's Equipment Required

- 1. 12 kHz EDO transducer
- 2. A-frame or davit for CTD wire
- 3. LORAN C (can borrow from USGS)

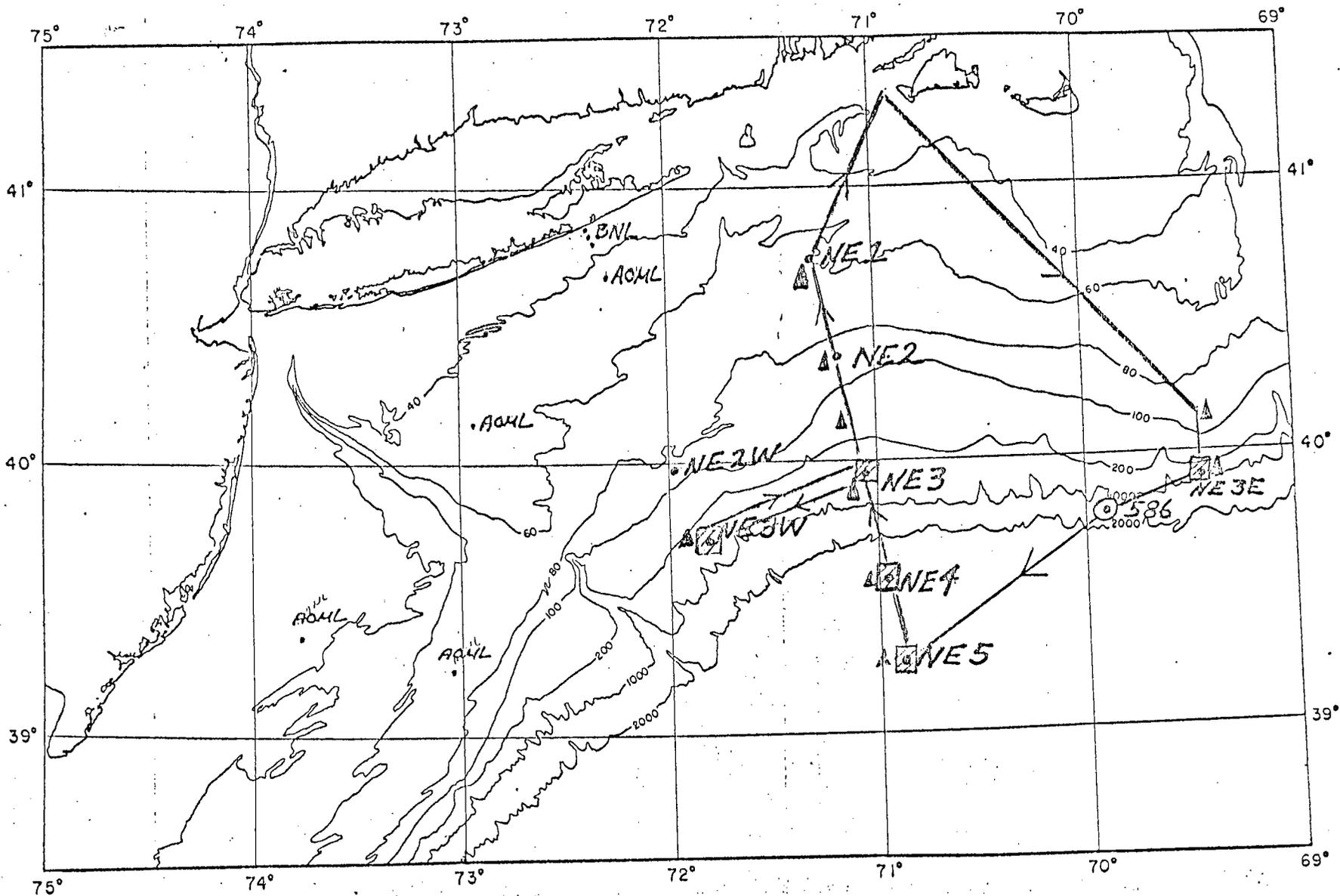
B. Equipment Supplied by Scientific Party:

- 1. CTD system consisting of fish, CTD winch, electronic deck unit in standard racks
- 2. Giff depth recorder
- 3. AMF acoustic gear
- 4. XBT launcher, recorder, probes
- 5. Gasoline powered rehaul winch 4' x 4' x 4', 3800 lbs.
- 6. 3 empty wire baskets 4' x 4' x 4' each.

III. Scientific Personnel

- A. Bob Beardsley - WHOI
- B. John Vermersch - WHOI
- C. Marlene Noble - USGS
- D. Dave Folger - USGS
- E. Andrew Eliason - Eliason Data Services
- F. To be determined
- G. To be determined
- H. To be determined

(8 Scientists total)



- ☐ TOPOGRAPHIC SURVEY
- ▲ CTD CAST
- ⊙ MOORING RECOVERY
- ➔ CRUISE TRACK

PLOTTED POSITIONS ARE APPROXIMATE; ACTUAL LOCATIONS ARE:

NE3E: 39-54.7/69-23.7	NE3W: 39-42.5/71-47.0
586: 39-47.0/69-54.3	NE2: 40-21.7/71-12.0
NE5: 39-20.8/70-49.5	NE1: 40-43.4/71-18.8
NE4: 39-36.6/70-56.5	
NE3: 39-56.1/71-02.9	

Office Memorandum • WOODS HOLE OCEANOGRAPHIC INSTITUTION

TO : Distribution

DATE: 28 April 1976

FROM : Gil Rowe

SUBJECT: OCEANUS Cruise #2

Dates: May 10-22, 1976

Ports: Woods Hole to Woods Hole

Scientific purpose: Deep-Sea Benthic Ecology (20/21278, 20/22339
and renewal of 24/15864)

Tasks:

1. Test sediment trap array.
2. Deploy sediment trap array in Deep Water Dump Site for recovery by ALVIN during NOAA-supported dives, June 21-July 1.
3. Deploy second sediment trap array at DOS #2 for recovery by ALVIN during NSF dives, June 8-17.
4. Photograph bottom along upper margin of brittle star zone on continental slope, 1450-1500 m depth.
5. Photograph bottom in Radioactive Dump Site.
6. Photograph extensively on Hatteras Abyssal Plain with tethered unbaited camera.
7. Photograph extensively on Hatteras Abyssal Plain using baited, tethered camera.
8. Box core at selected sites for pore water nutrients, ETS activity, protein, organic carbon and nitrogen concentrations.
9. Gravity core for turbidite-contourite sequences on continental rise, DOS #2.
10. Take deep water casts at 1500 m, DWD 106, DOS #2 and on abyssal plain for suspended sediment concentration.
11. Incubate box cores from Gay Head to determine N and O₂ fluxes.

Attached is a figure of the arrays to be deployed.

Skeleton of Tentative Schedule:

May 10 - Depart W.H.O.I., first station at Gay Head for box core.

Steam on course for 38°49'N, 72°30'W, stop on continental slope at 1400 m and take bottom camera station and Niskin cast.

Continue to location, on edge of DWD 106, take 2-3 hours conducting topographic survey of 5 x 5 n. mi. area around site, with special attention to relationship between Loran lines and topography; when concluded, deploy array in center of site, then take Niskin cast.

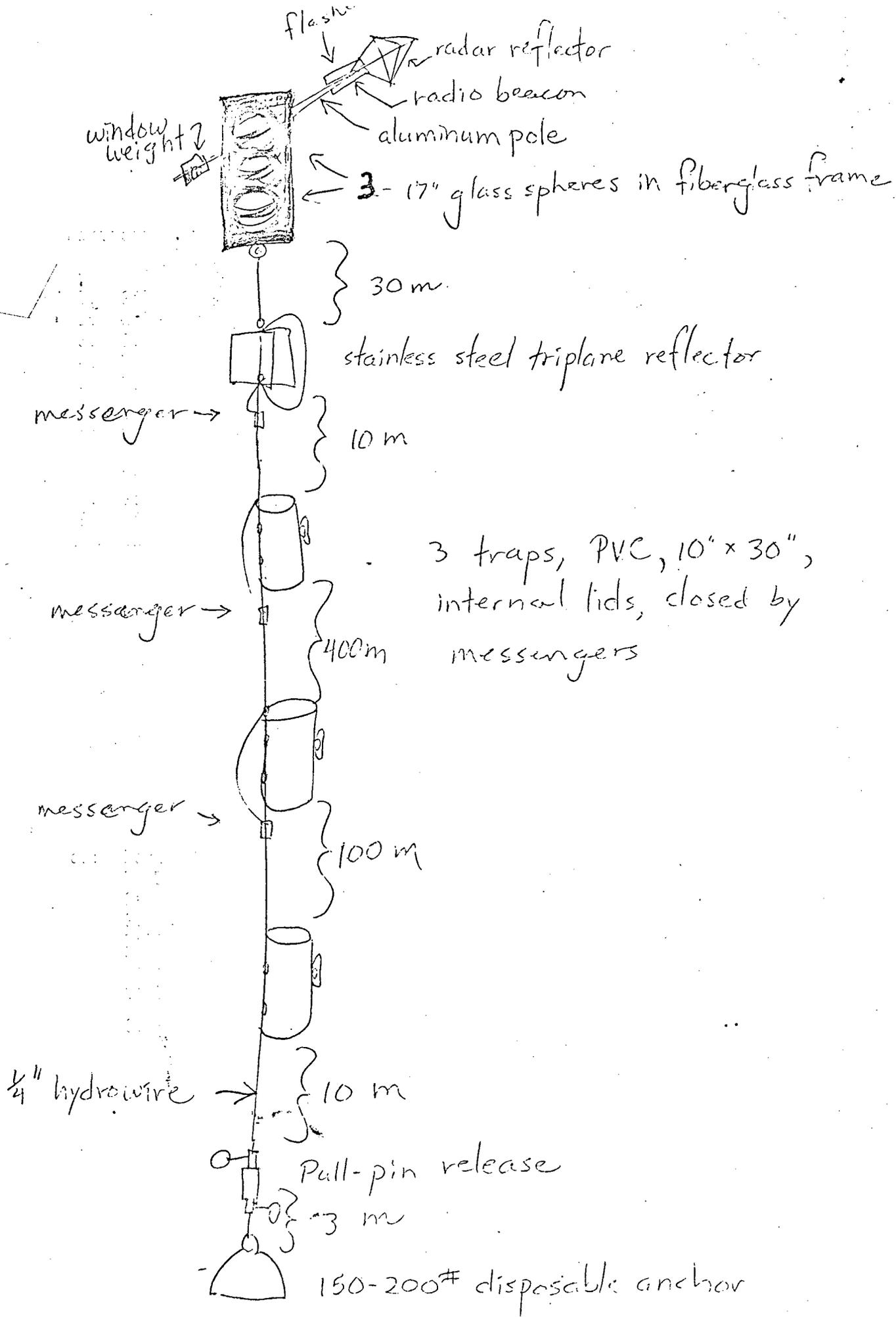
Depart for "Rad site" for camera lowerings, positions to be supplied by EPA. Bottom time or wire time will be about 5-6 hours; end with Niskin cast.

Depart for W.H.O.I. DOS #2, 3600 m, take box core, gravity core and deploy second array, similar to first, make deep water cast with Niskins.

Steam south southeast across Gulf Stream to depth of approximately 4900 m; take box core, gravity core, tethered camera lowerings and Niskin cast. Then make baited camera lowering, allowing ship to drift, to last approximately 8 hours.

Remainder of time to be spent on abyssal plain repeating the above sequence, until time runs out. Stop on return at 1500 m for camera station and box core.

Terminate, 22 May.



Window weight

flasher

radar reflector

radio beacon

aluminum pole

3 - 17" glass spheres in fiberglass frame

30 m

stainless steel triplane reflector

messenger

10 m

messenger

400 m

3 traps, PVC, 10" x 30",
internal lids, closed by
messengers

messenger

100 m

1/4" hydrowire

10 m

Pull-pin release

3 m

150-200# disposable anchor

Participants:

1. Gilbert T. Rowe	Associate Scientist	Chief Scientist, W.H.O.I.
2. Wilford Gardner	Graduate Student	W.H.O.I./M.I.T.
3. C. Hovey Clifford	Research Associate	W.H.O.I.
4. Martha Coneybear	Photographer	Maine Photographic Workshop
5. Ned Goddard	Guest Student Investigator	Choate School
6. John Christensen	Guest Student Investigator	U. Washington
7. Dave Mason	Research Assistant	W.H.O.I.
8. Gerald Jones	INRS (Canada)	
9. Michael Finegold	Guest Investigator	West Falmouth
10. Mary Jo Richardson	Graduate Student	W.H.O.I./M. I. T.

cc: Participants
R. Edwards
Capt. Palmieri
G. Grice
Bill Moye
R. L. Haedrich
H. Jannasch
J. Farrington
C. Hollister
A. J. Williams, III.