75032

Cruise Report

Atlantic Twin

December 10-12, 1975

U.S. Geological Survey

Brad Butman, USGS.

ATLANTIC TWIN 10-12 DEC 75

Ship: R/V ATLANTIC TWIN

Cruise Number: N/A

Area of Operation: Mid Atlantic Bight
(Pt. Pleasant, N.J. - Pt. Pleasant)

Dates of Operation: December 10-12, 1975

Personnel:

Brad Butman	(U.S.G.S., Chief Scientist)
Dave Folger	(U.S.G.S., Chief Scientist)
Phil Shea	(U.S.G.S.)
Paul Cousins	(U.S.G.S.)
Andy Eliason	(Eliason, Data Services)

Purpose:

The objective of the Atlantic Twin cruise was to deploy three bottom instrument packages on the Mid-Atlantic continental shelf to study the frequency, rate and processes of bottom sediment transport. The instrument packages consisted of a 35 mm camera and strobe (Benthos), current meter (EG and G 102), three sediment traps, acoustic release (AMF) and rope canister mounted on a tripod frame. To mark the deployment site and to reduce fishing hazards a lighted surface buoy was deployed near the tripod at two sites.

Narrative:

Dec. 4: Ship tripod frames, surface makers, anchors, chain to Pt. Pleasant, N.J.

Dec. 8: Depart Woods Hole with all additional gear (electronics, sensors, etc.)

Dec. 9: Departure delayed by weather

Load Atlantic Twin

Assemble tripod frames and mount all sensors

Dec. 10:

0945 Depart Pt. Pleasant, N.J.

1600 Arrive deployment site. Seas choppy, 5-10'. Wind 15-25 NW

Deploy surface marker

Deploy tripod CINDY. Some difficulty in launch, apparently hung in starboard screw. Possibly rope canister opened. Tripod on bottom in upright position determined by listening to pinger. Difficulty in launch resulted in tripod deployed approximately 2.5 mi. from surface marker. Seas too rough to reposition either.

2200 Steam back to surface marker.

Slow going into seas.

2315 Depart surface marker for next site.

Dec. 11:

0700 Arrive on station near NDBO EB 41

Await calmer weather for deployment

1300 Deploy tripod DEBBIE. Upright on bottom determined by listening to pinger.

1400 Underway to last deployment site.

1500 Deploy surface marker.

Deploy tripod JERRY. Rope canister opened at surface. One leg of tripod bent while top refastened. Tripod on bottom in upright position determined by listening to pinger.

1600 Underway to Pt. Pleasant, N.J. Extremely rough into seas.

Dec. 12:

0400 Arrive Pt. Pleasant

0800 Unload

1000 Depart for Woods Hole

1700 Arrive Woods Hole and unload

Summary of Instrumentation Deployed*

A. Tripod CINDY:

Surface Marker: Yellow 5' diam. sphere with 6' tower

Lat.	39°25.5'N	Loran C:	39940	X
Long.	73°0.5'W		70242	Z
Depth:	66 m (216', 36F)	Light:	4 sec. white	
Anchor:	2000 lbs.			
Chain:	91.5 m (300')			

Tripod

Lat.	39°23.5'N	Loran C:	39953	X
Long.	72°59.5'W		70256	Z
Depth:	56.7 m (186', 31F)			

Current meter: 489

Camera: 019

*All depths from USGS Chart 1108, 1109 (in fathoms)

Strobe: 008

Battery: 014

Release: 50142 Command 6

Tripod located approximately 2.5 mi. SSE of surface marker and 4.5 SSE of reference pipe. Extremely rough weather made repositioning of either surface marker or tripod too dangerous.

B. Tripod DEBBIE

Deployed near NOAA Meteorological Buoy EB41

Tripod

Lat. 38°42.5' N Loran C: 51801 Y

Long. 73°38.0'W 70425 Z

Depth: 58.5 m (192 ft., 32F)

Current meter: 391

Camera: 018

Strobe: 013

Battery: 013

Release: 501302 Release command 5

C. Tripod JERRY

Surface Marker: Yellow 5' diam. sphere with 6' tower

Lat. 38°32.5'N Loran C: 51842 Y

Long. 73°30.5' W 70496 Z

Depth: 80.5 m (264 ft., 44F) Light: 4 sec. white

Anchor: 2000 lb.

Chain: 122 m (400 ft.)

Tripod

Lat.	38°32.5'N	Loran C:	51845	Y
Long.	73°30.5'W		70497	Z
Depth:	80.5 m (264 ft., 44F)			

Current meter: 380

Camera: 017

Strobe: 009

Battery: 012

Release: 501202 Release command 4

Tabulated Information:

a.	Number of days at sea	2
b.	Number of working days	2
c.	Total ship track	270 nm.
d.	km of continuous data	N/A
e.	Number of stations	N/A
f.	Number of sample type	N/A
g.	Instrumentation deployed	3 Tripods

FIGURES

Figure 1: Location of tripods

Figure 2: Specifications of surface marker deployed near tripods CINDY and JERRY

Figure 3: Tripod plan

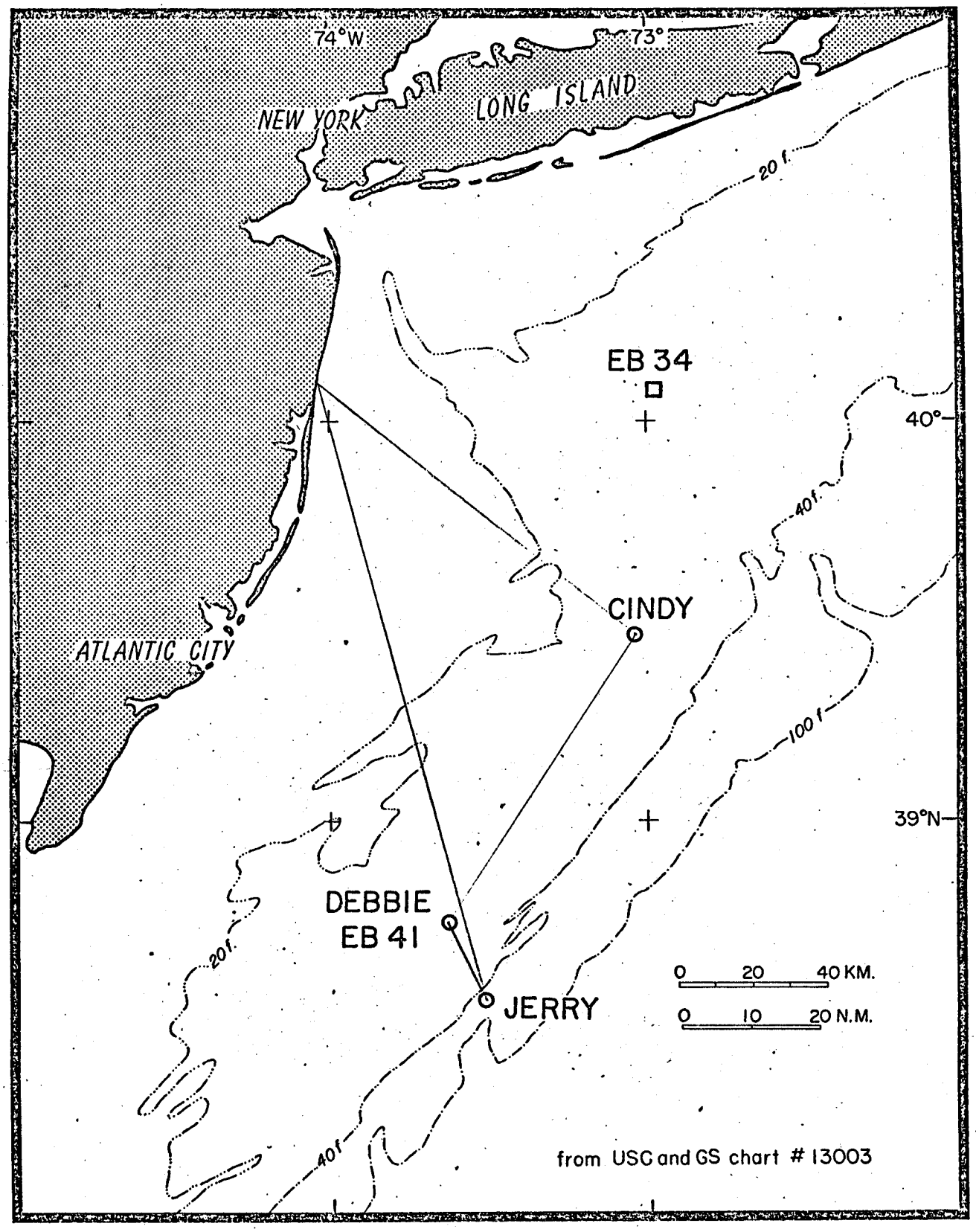

74°W
73°
NEW YORK
LONG ISLAND
20 f.
EB 34
40°
40 f.
CINDY
ATLANTIC CITY
100 f.
39°N
DEBBIE
EB 41
20 f.
JERRY
0 20 40 KM.
0 10 20 N.M.
40 f.
from USC and GS chart # 13003

Figure 3

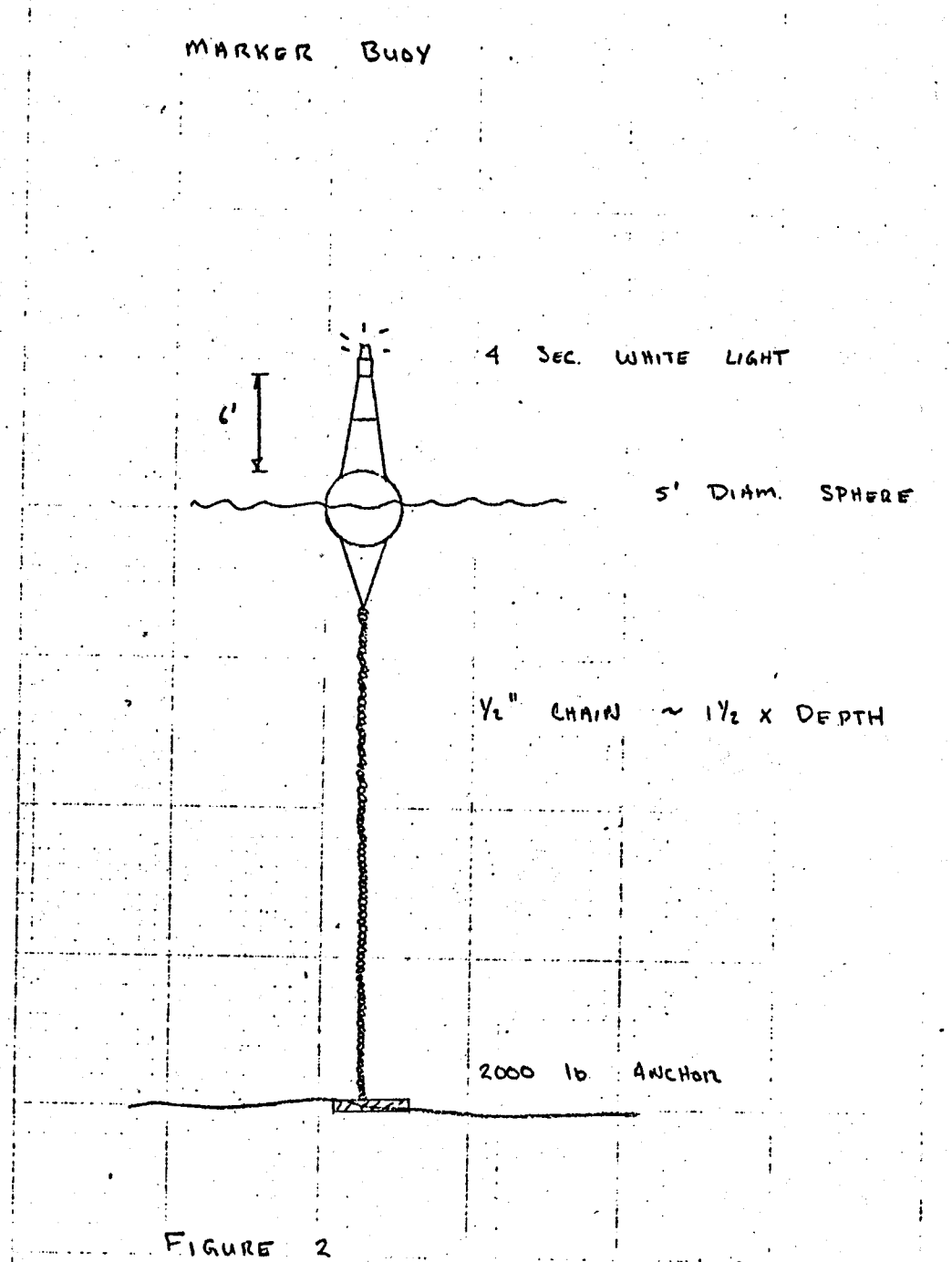
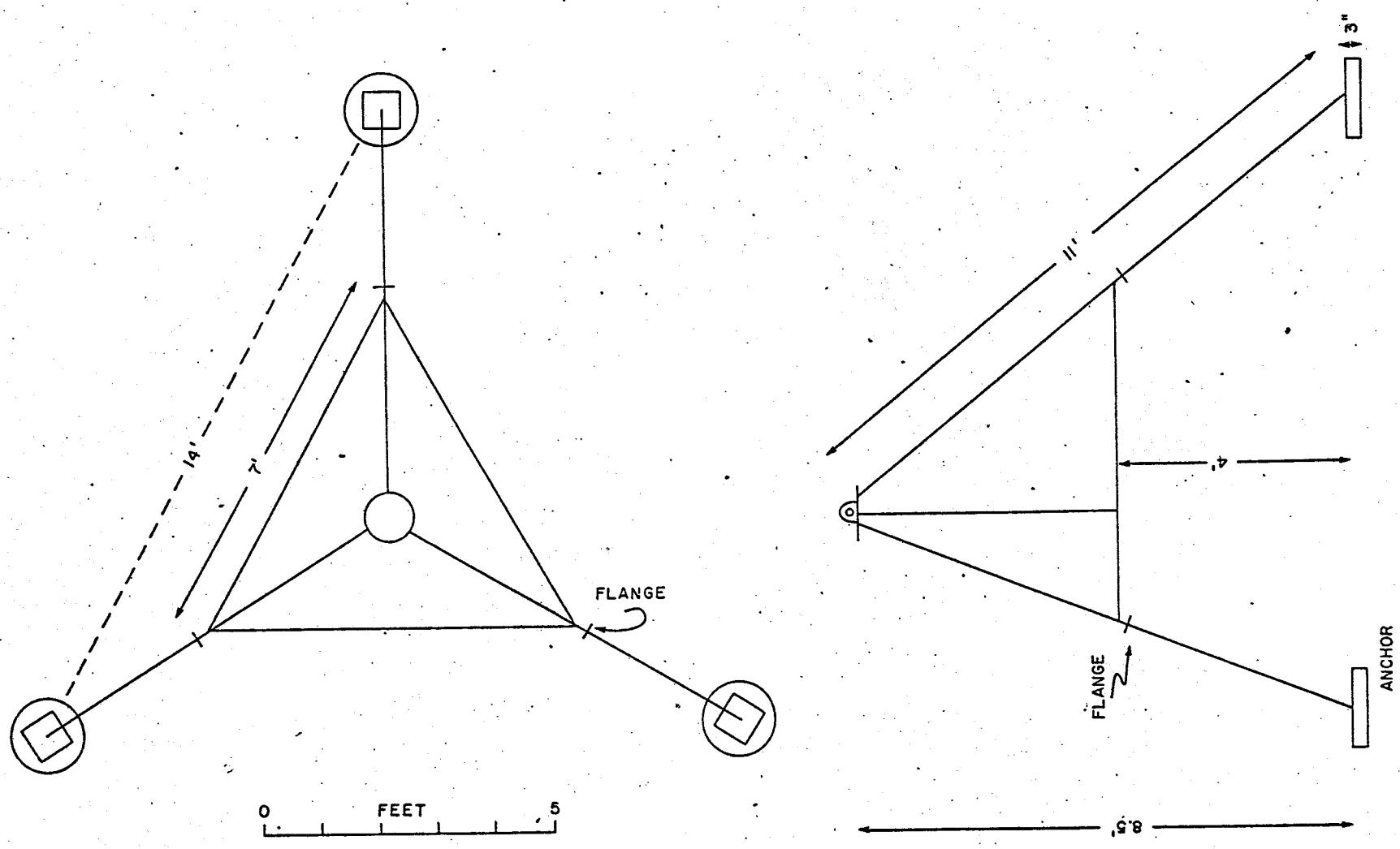
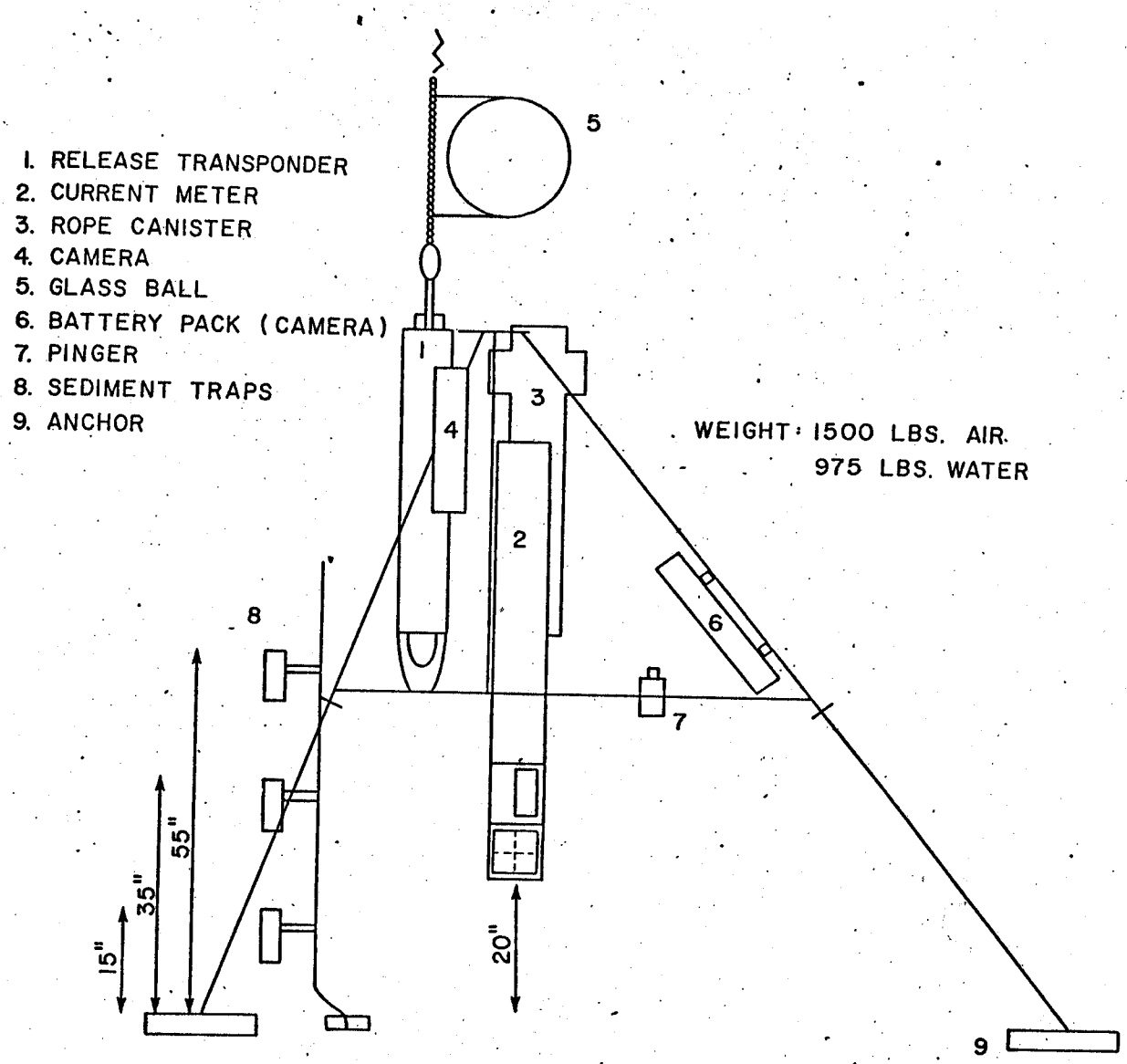
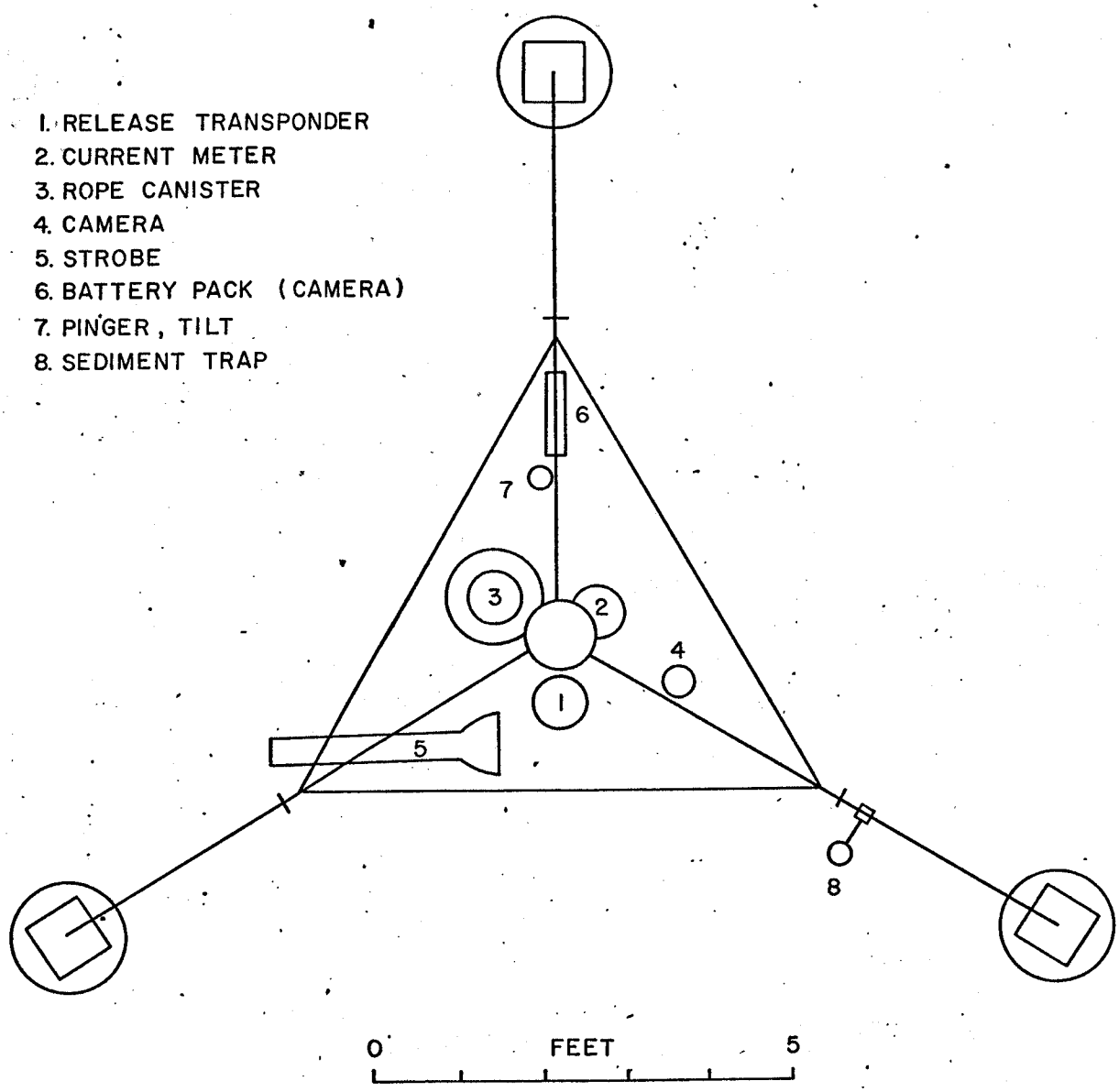


Figure 2: Surface marker



TRIPOD FRAME DIMENSIONS


1. RELEASE TRANSPONDER
2. CURRENT METER
3. ROPE CANISTER
4. CAMERA
5. GLASS BALL
6. BATTERY PACK (CAMERA)
7. PINGER
8. SEDIMENT TRAPS
9. ANCHOR
WEIGHT: 1500 LBS. AIR.
975 LBS. WATER
15"
35"
55"
20"



INSTRUMENT MOUNT DETAIL - TOP