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FE206

WIRE DRAG

Diagram No. 1207-2

FE206

WIRE DRAG

NOAA FORM 76-35A	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
DESCRIPTIVE REPORT (HYDROGRAPHIC)	
Type of Survey	Wire Drag
Field No.	OPR-466
Office No.....	FE-206WD (1966)
LOCALITY	
State	Massachusetts
General Locality	Cape Ann to Boston
Locality	
1966	
CHIEF OF PARTY C. H. Nixon	
LIBRARY & ARCHIVES	
DATE	June 20, 1967

☆ U.S. GOV. PRINTING OFFICE: 1976-669-441

NOTE: A new system for registering Field Examinations (FE's) was established in 1980. All FE's are now consecutively numbered as shown hereon. The date shown in the new format is the actual date of survey. This material was previously registered as;

FE No.2 1967WD

F E No. 2 1967 WIRE DRAG

Diag. Cht. No. 1207-2.

FORM C&GS-504	
U.S. DEPARTMENT OF COMMERCE ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION COAST AND GEODETIC SURVEY	
DESCRIPTIVE REPORT	
Type of Survey	Wire Drag
Field No. OPR-466	Office No. F.E.No. 2 (1967) W.D.
LOCALITY	
State	Massachusetts
General locality	Cape Ann to Boston
Locality	
1966	
CHIEF OF PARTY	
C. H. Nixon	
LIBRARY & ARCHIVES	
DATE	June 20, 1967

USCOMM-DC 37022-P66

Note:

Three sections of
chart accompany
this report.

F E No. 2 1967
WIRE DRAG

D E S C R I P T I V E R E P O R T

WIRE DRAG INVESTIGATIONS

F. E. No. 2, 1967 W.D. ✓

PROJECT OPR-466

CAPE ANN TO BOSTON, MASS.

1966

CHARLES H. NIXON - CHIEF OF PARTY

A. AUTHORITY:

Instructions dated January 12, 1966 and Additional Items dated June 10, 1966. ✓

B. CHARACTER AND LIMITS OF THE WORK:

Investigation of certain shoals, obstructions and wrecks charted (C&GS charts 240 & 246) from the vicinity of Cape Ann to Boston, Massachusetts for chart revision purposes. ✓

C. CONTROL AND SHORELINE:

The investigations were carried out on the largest scale charts in the area. ✓

All control was visual, utilizing charted objects as signals.

D. DATES OF SURVEY:

Field work began on 27 April 1966 and terminated on 30 June 1966. ✓

E. VESSELS AND EQUIPMENT:

The wire drag vessels WAINWRIGHT & HILGARD acted as guide and end launch respectively. HILGARD's skiff was used as tender. ✓

J.J.G.

LIST OF INVESTIGATIONS

OPR-466 Cape Ann to Boston, Mass.

Item #12: *cht. 240*

The 36 ft. obstruction (not charted) in Lat. $42^{\circ}27.54'$, Long. $70^{\circ}47.75'$ was not found. The major part of a one mile diameter circle was investigated on "U" day (May 31, 1966) at an effective depth of 105 feet. The northeast and southwest edges of the circle were investigated on "DA" day (June 21, 1966) at effective depths of 89 and 86 feet respectively. The existence of the 36 ft. sounding in the vicinity of the above position has been disproven and it is recommended that it not be charted.

CONCUR.

DW

Item #13: *cht. 240*

The 50 ft. obstruction (not charted) ^{38"} in Lat. $42^{\circ}27.65'$, Long. $70^{\circ}49.50'$ was found at Lat. $42^{\circ}27'37.3''$, Long. $70^{\circ}49'22.8''$. Its least depth as determined by fathometer was ~~54.5~~ ^{56.0} feet (pos. 10V). * This obstruction was cleared from two directions with an effective depth of 52.0 and 53.5 feet.

Five other obstructions were hung during this investigation. The general area is very rocky (as charted). All hangs are considered rocks and should be charted as such. All data concerning these hangs may be found in the Hang and Clear Data. (Attachment No. 4).
(ALSO SEE A & D SHEET)

It is recommended the obstruction be charted as a pinnacle rock at the above position and shown as cleared by ~~52~~ ⁵³ feet.

CONCUR.
SEE REVIEW

DW

Item #14: *cht. 240*

The submerged-wreck PA charted in Lat. $42^{\circ}27.50'$, Long. $70^{\circ}54.41'$ was not found. The wreck symbol was cleared with an effective depth of 26.0 feet going west and 23.5 feet going south. The area 1 mile south, southeast and southwest of the wreck symbol was investigated generally at depths from 5 to 10 feet off the bottom. The only trace of a wreck found was a piece of plywood which was picked up in the drag. It was impossible to tell where the section of the wreck was originally encountered. The wreck does exist but the opinion is that it is so broken up that it is no longer a hazard to navigation.

Three uncharted soundings were located during this investigation. Least depths were determined by divers and checked with hand lead soundings. The first was at Lat. $42^{\circ}27'35''$, Long. $70^{\circ}54'27''$ at a least depth of 16.5 feet. The second was at Lat. $42^{\circ}27'29''$, Long. $70^{\circ}54'45''$ at a least depth of 18.5 feet as determined by fathometer.*

*NM 36/66
Nov 16*

*Fathogram attached

Rock (per chart letter #953/66)

Accept fath.
sdg. on
preceding
page

Item #14 (cont.): *cht. 240*

Divers searched the area near the fathometer sounding and determined a 23.5 foot sounding on a rock which was checked by a hand lead sounding. There was two to three feet of thick kelp on the rock. The shoaler sounding by fathometer is probably the result of the thick kelp growing on top of the rock. It is estimated that the controlling depth is 20 feet. The area around this sounding could not be cleared because of lobster pots in and around the sounding. The third (29EA) is located at Lat. 42°27'24" Long. 70°54'05" at a least depth of 26.5 feet.* It was identified by divers to be a large boulder.

← NO! CHART [26] Wk at reported position of wreck.

It is recommended that the wreck symbol be removed from the chart and the isolated soundings obtained be charted as such. SEE REVIEW

Item #16: *cht. 246 & 240*

The wreck cleared by 45 ft. charted in Lat. 42°23.36', Long 70°55.19' was hung on "S" day (May 26, 1966) at the charted position. Using the fathometer, the least depth was determined to be 47.0 feet.*

The wreck was cleared on the same day with a drag from north to south at an effective depth of 45.5 feet. Divers stated that a drag from south to north would probably slide over the smooth surface of the wreck.

It is recommended that no change be made in the existing charts.
→ CHART [45] Wreck in position shown on field examination. CONCUR. *Dew*

Item #17: *chts. 240 & 246*

The 41 ft wreck PD charted in Lat. 42°23.78', Long. 70°51.76' was located at Lat. 42°23'41" Long. 70°51'52" at a least depth of 55 feet (Divers L.L.).

The wreck was subsequently cleared by 57.5 and 54.5 feet from opposite directions.

It is recommended the wreck be charted at the above position and shown as cleared by 53 feet.*
54 CONCUR. *Dew*

Item #18: *cht. 246*

The submerged wreck PA charted in Lat. 42°21.03', Long. 70°56.00' was not located. The wreck symbol was cleared in two directions at effective depths of 37.5 and 36.5 feet. The North Channel between buoys R "2" and "11" was extensively investigated at depths ranging from 33 to 41 feet.

Several obstructions were found on the first investigation of this area at depths from 34 to 36 feet. The Army Corps of Engineers were

* Fathogram attached

Item #18 (cont.):

N.M. #36/66

informed of these obstructions and subsequently removed a number of boulders from the eastern side of the North Channel to President Roads between buoys "5" and "7". The Corps of Engineers now claims a controlling depth of 38 feet for the eastern side of the channel. The eastern side was cleared with wire drag in two directions with 36.5 and 37.0 feet. An attempt to drag at 37' effective depth resulted in a hang (See Strip 1-13C, hang 13C same as 26KA).
(ALSO SEE HANG & CLEAR DATA)

No boulders were removed from the western side and it has only been cleared with 33' feet from two directions.

The data concerning the ten obstructions located in the second investigation of North Channel may be found in the Hang and Clear Data.

As of June 29, 1966, it is recommended the eastern side of the channel be shown as having 36.5 feet controlling depth. In addition, the wreck symbol should be removed from the charts.

BOSTON NORTH CHANNEL TABULATION NOW SHOWS APPROPRIATE WIRE-DRAG CLEARANCES FOR CHANNEL (CHART 246, 32ND ED. FEB. 26, 1965). CONCUR. DEW

Item #19: *cht. 246*

The 19 ft. sounding (not charted) at Lat. 42°20.20', Long 70°56.26' was not found. The reported location of the 19 ft. sounding and the charted 20 ft. sounding 450 feet south of the 19 ft. were both cleared in two directions by 25.0 and 25.8 feet.

One hang was encountered in this investigation at Lat. 42°20'10", Long. 70°56'23". It was hung at an effective depth of 28.0 feet and later cleared in two directions by 27.0 and 27.5 feet. KNOWN SHOAL

On E day a pinnacle rock was located with fathometer near Item #19 and Buoy C#13", A least depth of 14.5 was determined at Lat. 42°20'18", Long. 70°55'59". Fathogram is attached.

The 19 ft. sounding has been disproven and should not be charted. In addition, the non-existence of the 20 ft. charted sounding indicates an inadequacy of the hydrography in the area and it is recommended that this area be incorporated in any future hydrographic survey.

20 ft NOT FROM MOST RECENT SURVEY SEE REVIEW

Item #20:

The 24 ft. sounding (not charted) in Lat. 42°19.34', Long. 70°55.35' was not found. Its reported location was cleared in one direction with a 23.8 feet drag on "N" day (May 20, 1966).

Because of unfavorable drag conditions (narrow channel, strong current and the bottom contour), deeper drags would have resulted in hangs. The 24 ft. sounding was cleared by 23.5 feet.

The 24-ft. from H-7719 W.D. is considered to no longer be in existence. Hydro in area has been superseded by CofE. BP-70934-35 18 Aug. 1966. Do not chart. DEW

Item AD-1:

The ^{13"}reported obstruction in the area of 3½ Fathom Ledge, Lat. 42° 21'15", Long. 70°50'45" was not found. An extensive area ranging from 1 mi. N and 1 mi S of the ledge was covered with strips ranging from 40' to 65 feet effective depth. The least depth at 3½ Fathom Ledge was found to be 21.8 feet (pos. 2T).* The area around the ledge was cleared by wrapping the buoy with drags set at 18.8 and 21.8 feet.

Some hangs were encountered but all ^{except one}were on known soundings. The data concerning ~~these~~ ^{21.8'} may be found in Attachment No. 4 (Hang and Clear Data). There is some doubt on the position of hang 39L.. At the time of the hang it was noted that the hang was on a known 65' sounding. However, in smooth plotting the buoy cuts indicate a hang in 90 feet of water. It is believed that the hang was on a known shoal and that some error was made in recording. Both the shoal and indicated hang were cleared by 57.8 feet.

HANG REEVALUATED AND FOUND TO FALL ON KNOWN 65' SOUNDING.

The reported obstruction has been disproven and should not be charted.

CONCUR.

DW

* Fathogram attached

The wrecks of two barges were located on Chart 246 south of Gallops Island in the vicinity of Lat. 42°19'27" Long. 70°56'20"

A visible wreck, a rock awash, and a row of piling were located on Chart 246 east of Squantum in the vicinity of Lat. 42°17'57", Long. 71°00'05".

TIDE NOTE FOR HYDROGRAPHIC SHEET

November 27, 1967

Nautical Chart Division: R.H. Carstens

Plane of reference approved in
17 volumes of sounding records for Wire Drag FE NO. 2, 1967

HYDROGRAPHIC SHEET

Locality: Cape Anne to Boston, Massachusetts

Chief of Party: C.H. Nixon (1966)

Plane of reference is mean low water

Tide Station Used (Form C&GS-681):
Boston, Massachusetts

at the working grounds
Height of Mean High Water above Plane of Reference is as follows:
9.0 feet

Remarks Tide reducers for the following positions have been revised in red and verified.

<u>Vol.</u>	<u>Positions</u>
7	FA1-FA22 ✓


Chief, Tides and Currents Branch

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. F.E.No.1-1967 W.D.

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		2	BOAT SHEETS		5	
DESCRIPTIVE REPORT			OVERLAYS (Miscellaneous)		1-Envelope	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES	1					
CAHIERS						
VOLUMES	17					
BOXES						
T-SHEET PRINTS (List)						
SPECIAL REPORTS (List)						

OFFICE PROCESSING ACTIVITIES

The following statistics will be submitted with the cartographer's report on the survey

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				930
POSITIONS CHECKED		313		
POSITIONS REVISED		3		
DEPTH SOUNDINGS REVISED	<i>Several effective drag depths revised.</i>			
DEPTH SOUNDINGS ERRONEOUSLY SPACED				
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED				
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS				
JUNCTIONS				
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		1 hr.		
SPECIAL ADJUSTMENTS	<i>numerous strips were not plotted during smooth plot.</i>			
ALL OTHER WORK		126 hrs.	36 hrs.	
TOTALS		165 hrs.	36 hrs.	
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
VERIFICATION BY <i>Dale E. Westbrook</i>	4/1/68		5/3/68	
REVIEW BY <i>Dale E. Westbrook</i>	5/6/68		5/13/68	

HANG AND CLEAR DATA

Presurvey Review Item	Chart No.	Position & Day Letter	Latitude Longitude	Grounded-Effective Depth	Sounding	Cleared Effective Depth	Remarks
13	240	10V	42°27'42.8" 70°49'56.4"	60.8' ⁰	-	52.0'	Obstruction
13	240	16V	42°28'15.3" 70°49'49.0"	60.8' ⁰	56.0'	58.0' 55.0'	Boulder
13	240	16V	42°28'13.5" 70°49'39.8"	62.0' ⁰	58.0'	58.0' 56.0'	Obstruction
13	240	7FA	42°27'57.2" 70°49'32.8"	58.0' 55.5'	58.0' 56.0'	57.0' 56.5'	Chart at 55.5' obstruction
13	240	8W	42°27'50.6" 70°49'24.0"	58.0' ³	54.0'	52.0'	Obstruction
18	246	8GA	42°20'57" 70°56'03"	38.0'	42.0'	38.0' 37.0' 36.5'	Obstruction
18	246	26A 248A	42°21'01" 70°56'02"	38.8'	43	38.0' 37.0' 36.5'	Obstruction
18	246	6HA	42°21'01" 70°56'02"	38.8'	-	38.0' 37.0' 36.5'	Obstruction
18	246	12HA	42°20'58" 70°56'04.5"	38.8'	-	38.0' 37.0' 36.5'	Obstruction
18	246	6G 26HA	42°21'00" 70°56'08"	35.0' 36.5'	34.0'	34.0' 32.0' 33.5'	Rock Obstruction
18	246	27HA	42°21'02" 70°56'00"	38.8'	-	38.0' 37.0' 36.5'	Obstruction
18	246	27JA	42°21'12" 70°56'01"	34.8'	35.0' 1-8" day tender	33.5' 33.5'	Rock Obstruction

Attachment 4

HANG AND CLEAR DATA

Presurvey Review Item	Chart No.	Position & Day Letter	Latitude Longitude	Grounded-Effective Depth	Sounding	Cleared Effective Depth	Remarks
16	246	22S	42°23'21" ^{30.5"} 70°55'28" ^{09"}	55.0' ✓	47.0' **	45' ✓	ARCO wreck
17	246	21H 56FA	42°23'41" 70°51'52"	57.8' ✓	55.8'	54.8' 53.5'	ROMANCE wreck
19	246	7J	42°20'10" 70°56'23"	28.0' ✓	-	27.0' 27.5'	Grounding KNOWN SHARK
AD-1	246	24K	42°21'28" ⁵ 70°50'58"	44.8' ✓	-	44.0' ✓	Grounding ✓
AD-1	246	24K	42°21'14" 70°50'38"	44.5' ✓	-	22.5' ✓	Grounding KNOWN SHARK
AD-1	246	29E	42°20'31" 70°49'46"	64.5' ✓	-	57.0' ✓	Position not definite, Grounding KNOWN SHARK
AD-1	246	10P	42°21'09" 70°51'00"	43.0' ✓	-	26.5' 26.0'	Grounding KNOWN SHARK
AD-1	246	20P	42°21'03" 70°51'00"	40.5' ✓	-	26.5' 26.0'	Grounding KNOWN SHARK
AD-1	246	20Q	42°21'16" 70°50'47"	44.0' ✓	-	22.5' ✓	Grounding KNOWN SHARK
AD-1	246	29Q	42°21'12" 70°50'39"	25.0' ✓	-	22.5' ✓	Grounding KNOWN SHARK
AD-1	246	9R	42°21'13" 70°50'49"	34.0' ✓	-	18.5' ✓	Grounding KNOWN SHARK
13	240	10V 10	42°27'37" ^{38"} 70°49'27" ^{18"}	60.8' ✓	54.5' 56'	53.8' 52.0'	Rock ✓

** Pathogram attached

6
HAND AND CLEAR DATA

<u>Presurvey Review Item</u>	<u>Chart No.</u>	<u>Position & Day Letter</u>	<u>Latitude Longitude</u>	<u>Grounded- Effective Depth</u>	<u>Sounding</u>	<u>Cleared Effective Depth</u>	<u>Remarks</u>
18 ✓	246	5KA 6KA	42°22'02" ³ 70°55'29" ²²	38.5'	--	37.0' 38.0'	Obstruction
18 ✓	246	23KA 1KA	42°21'18" ⁷ 70°55'53" ³	37.0' 36.0'	-	37.0' 33.5' 33.5'	Obstruction
18 ✓	246	26KA	42°21'12" ³ 70°55'57" ⁰	37.0'	-	37.0' 37.0'	Obstruction
18 ✓	246	18A	42°21'52" ³ 70°55'30"	38.0	38'	38'	ROCK
14 ✓	240	14BA 29EA	42°27'25" ³ 70°54'05"	26.0	26.0	24'	BOULDER

REVIEW
FIELD EXAMINATION NO. 2, 1967 W.D.
WIRE-DRAG INVESTIGATIONS
CAPE ANN TO BOSTON, MASS.

1. This wire-drag field investigation was made in compliance with instructions for Project OPR-466.
2. The purpose of the examination was to investigate and verify or disprove numerous reported wrecks and obstructions described in the Pre-Survey Review for Project OPR-466. A reported obstruction in the vicinity of Three and One-half Fathom Shoal was added for investigation by instructions dated June 10, 1966.
3. The results of the several investigations are shown on the accompanying sections of Charts 240 and 246. These chart sections are supplemented by six tracing cloth overlays inserted in the Descriptive Report.
4. A comparison between the field examination and the charts of the areas in which work was done indicates that advance information was used for charting in several instances. Certain revisions to the charts are necessary to reflect the final results of this field examination.

Attention is directed to the following:

CHART 240 - 9th ED., Jan. 22, 1968

P.R. Item No. 12 - Correctly charted.

P.R. Item No. 13 -

- A. The cleared by 51 ft. presently charted in lat. $42^{\circ}27'38''$, long. $70^{\circ}49'28''$ should be changed to a cleared by 53 ft.
 - B. The 52-ft. sounding presently charted in lat. $42^{\circ}27'43''$, long. $70^{\circ}49'55''$ should be changed to a 60-ft. sounding.
 - C. The cleared by 52-ft. presently charted in lat. $42^{\circ}27'51''$, long. $70^{\circ}49'23''$ should be changed to a cleared by 51-ft. in lat. $42^{\circ}27'52''$, long. $70^{\circ}49'23''$ (about 30 meters due north).
-

- D. The cleared by 57-ft. presently charted in lat. $42^{\circ}27'56''$, long. $70^{\circ}49'32''$ should be moved in position to lat. $42^{\circ}27'57''$, long. $70^{\circ}49'32''$ (about 30 meters due north).
- E. The cleared by 56-ft. presently charted in lat. $42^{\circ}28'15''$, long. $70^{\circ}49'48''$ should be shown as a cleared by 57-foot RK.
- F. The cleared by 57-ft. presently charted in lat. $42^{\circ}28'13''$, long. $70^{\circ}49'40''$ should be changed to a cleared by 58-ft.

P.R. Item No. 14 -

- A. The 20-ft. sounding RK presently charted in lat. $42^{\circ}27'30''$, long. $70^{\circ}54'44''$ should be changed to an 18-ft. sounding RK in lat. $42^{\circ}27'29''$, long. $70^{\circ}54'45''$.
- B. The cleared by 25-ft. WK presently charted in lat. $42^{\circ}27'30''$, long. $70^{\circ}54'25''$ should be changed to a cleared by 26-ft. WK.
- C. The 27-ft. sounding presently charted in lat. $42^{\circ}27'25''$, long. $70^{\circ}54'05''$ should be changed to a cleared by 24-ft RK.

NM 33/68

JSS

NM 33/68

JSS

CHART 246 - 32nd ED., Feb. 26, 1968

P.R. Item No. 16 -

- A. The cleared by 46-ft. Wreck presently charted in lat. $42^{\circ}23'22''$, long. $70^{\circ}55'11''$ should be changed to a cleared by 45-ft. Wreck in lat. $42^{\circ}23'22''$, long. $70^{\circ}55'09''$ (about 40 meters eastward).

P.R. Item No. 17 -

- A. The cleared by 53-ft Wreck presently charted in lat. $42^{\circ}23'41''$, long. $70^{\circ}51'52''$ should be changed to a cleared by 54-ft. Wreck.

P.R. ITEM NO. 18

A. The first investigation of North Channel took place between April 27 and May 11, 1966. This investigation yielded eight groundings on rocks and obstructions. (A&D Sheet showing results of 1st investigation filed with records.)

N. to M. No. 36 of 1966 reported that the Corps of Engineers had removed the boulders in the East part of the Channel.

The second investigation of North Channel took place between June 7 and June 26, 1966. This investigation confirmed the removal of five boulders found during the first investigation, but shows nine other obstructions, some of which were located during the previous investigation. (A&D Sheet showing results of 2nd investigation filed with records.)

In all, ten obstructions remain in the channel. These obstructions have been plotted on a Combined A&D Sheet, filed in the Descriptive Report which shows the final results of the wire-drag operations in North Channel.

A Corps of Engineers survey of July 1966 (BP-70415), although it contains indications of most of the remaining obstructions, shows depths over them from 1-3 feet deeper than does this field examination. The tabulated controlling depths for North Channel now charted from this C. of E. survey conflict in part with depths shown on this field examination. However, the maximum wire-drag effective cleared depths obtained during this investigation have been charted as footnotes to the channel tabulation and are substantially correct.

A letter, with an overlay enclosed, showing the remaining critical obstructions has been sent to the Corps of Engineers (dated May 10, 1968) asking for additional information on these features. Until subsequent information is received, the charted footnote is believed to adequately portray the results of the investigation of North Channel.

The sunken wreck previously charted in the channel (the original subject of the investigation) is considered disproved and should not be charted.

P.R. ITEM NO. 19

A. The 14-ft. sounding presently charted in lat. 42°20'18", long. 70°55'59" is a pinnacle rock and should have the note Rk charted nearby.

— NM33/68
JSS

B. The 20-ft. sounding presently charted in lat. 42°20'07", long. 70°56'17" is from H-2146 (1892). It was brought forward to H-6643 (1940), and although that survey showed depths of 26-ft. in the vicinity, the 20-ft. sounding was not considered disproved.

The present field examination cleared the 20-ft. by a drag strip of 26-ft. thereby showing the prior sounding to have been faulty. The 20-ft. sounding should be deleted from the chart.

P.R. ITEM NO. 20

Correctly charted.

ADDITIONAL ITEM NO. 1

A. The cleared by 44-ft. presently charted in lat. 42°21'26", long. 70°50'55" should be moved to lat. 42°21'26", long. 70°50'53".

B. The 37-ft. sounding presently charted in lat. 42°21'02", long. 70°50'58" should be charted as having been cleared by 36-ft.

C. The 20-ft. sounding presently charted on Three and One-half Fathom Ledge in lat. 42°21'13", long. 70°50'45" should be charted as having been cleared by 18-ft.

— NM33/68
JSS

D. The 50-ft. sounding Rk shown on the present field examination in lat. 42°20'51", long. 70°51'15" should be added to the chart.

ITEMS FOUND BY FIELD PARTY

A. The note PA referring to the two wrecks charted near lat. 42°19'27", long. 70°56'21" should be deleted from the chart since the wrecks have been accurately located.

B. The visible wreck, row of piling, and rock awash ✓
charted in the vicinity of lat. 42°17'56", long.
71°00'08" should be revised in position to agree with
the positions shown on the field examination.

5. All Pre-Survey Review Items investigated were
satisfactorily accomplished.

6. In smooth plotting this field examination, the
field party omitted plotting several drag strips that
were considered unnecessary. It was difficult for
the verifier to check this without first plotting the
strips. Once plotted, however, some strips did con-
tribute to the maximum effective cleared depth, and
thus were retained.

7. In an area being investigated with many over-
lapping drag strips, an A&D sheet should be made show-
ing the complete results of the investigation. The
field party neglected to do this in three instances,
causing additional work during verification.

8. The Descriptive Report adequately covers all
other matters pertaining to this examination. No
further discussion is considered necessary.

Reviewed by: Dale E. Westbrook 5/13/68

Inspected by: R.H. Carstens 5/21/68

R.H. Carstens

Approved by:

John O. Boyer
John O. Boyer
Chief, Marine Chart Division

checked for land correction
F. J. G.
8-5-68



APPROVAL SHEET

The attached report, related wire
drag records and plotting sheets have
been inspected by me and are approved.

Charles H. Nixon
Charles H. Nixon
Lt. Commander, C&GS
Commanding, WAINWRIGHT
& HILGARD

L I S T O F S I G N A L S

<u>Signal Name</u>	<u>Source</u>
ALL	Pt. Alleston, Tower
AND	Deer Island Lighthouse
AMP	Swampscott, Standpipe
BAK	Bakers Island light, Alt. Fl W&R 15 sec, 111 ft. 17M HORN
CUP	Deer Island, Black Cupola
EAT	Great Faun, Stone Beacon
EGG	Egg Rock, 42°26'03", 70°53'49"
HAN	Nahant, church cupola
HIL	Great Quincy, (Moonhead) Tank
JAC	Jack Pt. light, F G 130 ft. 15M
KEN	Hull, Radio Station, WBZ, E. Mast
KIN	Lynn, Stack, 42°28'15", 70°55'41"
LED	Dread Ledge, Beacon, 42°27'22", 70°53'43"
LEG	Marblehead Rock, tower
LIT	Boston Lighthouse
LON	Long Island Head Lighthouse (1902) F 120 ft. 17M
MAR	Marblehead, tower
MIN	Minots Ledge Lighthouse (1915)
MOS	Moses Hill, standpipe
NAN	Nantasket, Telegraph Hill, tower
NIX	Nixes Mate, BW Beacon
NUT	Quincy, Nut Island, Stack
PIP	Winthrop Head, standpipe
PIR	Swampscott, spire
RAV	The Graves Lighthouse
RAW	Hull, Strawberry Hill, tank
ROW	Narrows, Lighthouse
SEA	Chelsea, tank, 42°24'03", 71°01'51"
TOR	Lynn, High Rock Observatory
TUM	Squantum, tank
WAM	Swampscott, cupola
WER	Lynn Beach, N. tower, 42°27'20", 70°56'15"
WES	Long Island, stack

S T A T I S T I C S

<u>Volume Number</u>	<u>Day- Letter</u>	<u>Date 1966</u>	<u>Number of Positions</u>	<u>Statute Miles</u>	<u>Square N. Mi.</u>
1	A	4/27	27	2.2	0.38
1	B	4/29	27	2.5	0.44
1	C	5/2	13	1.4	0.24
1	D	5/3	16	1.5	0.13
1	E	5/5	19	2.2	0.19
1	F	5/6	17	0.9	0.08
2	G	5/11	39	3.8	0.82
2	H	5/12	36	3.1	1.23
2	J	5/13	23	1.7	0.08
2	K	5/16	52	4.2	3.40
3	L	5/18	39	2.6	1.95
3	M	5/19	REJECTED		
3	N	5/20	9	0.3	0.21
3	P	5/23	30	1.7	0.71
3	Q	5/24	35	2.9	0.78
4	R	5/25	22	1.7	0.54
4	S	5/26	24	1.6	0.21
4	T	5/27	9	0.9	0.15
4	U	5/31	20	2.2	1.67
4	V	6/2	28	2.6	0.72
4 & 5	W	6/3	28	3.0	0.23
5	X	6/6	11	0.7	0.12
5	Y	6/7	27	2.0	0.18
5	Z	6/14	31	2.1	0.35
5	AA	6/15	47	4.3	0.67
6	BA	6/16	28	1.6	0.41
6	CA	6/20	38	2.9	0.72
6	DA	6/21	28	2.9	1.52
6	EA	6/22	32	2.1	0.53
7	FA	6/23	56	2.6	0.84
7	GA	6/24	28	1.7	0.18
7	HA	6/27	23	1.4	0.30
8	JA	6/28	37	4.3	0.52
8	KA	6/29	26	2.7	0.23
8	LA	6/30	5	-	-
		TOTALS	930	74.3	20.73

T I D E N O T E

Tidal data was furnished by the Washington Science Center for the standard tide gage at Boston, Massachusetts.

The following corrections were taken from Table 2 of the Tide Tables and applied to the indicated investigations:

1. Marblehead, Mass.: HW -02m -0.4; LW -06m 0.0 - Items 12,13
2. Broad Sound, Nahant,
Mass.: HW -01m -0.5; LW -02m 0.0 - Items 13,14,
16,17,18,19
3. Boston Light, Mass: HW 00m -0.5; LW +01m 0.0 - Item AD-1
4. Lowell Island,
The Narrows: HW +02m -0.4; LW +01m 0.0 - Items 18,20

F. TIDE STATIONS:

Tidal information was furnished by the Washington Office for the standard tide gage at Boston, Massachusetts. Tide reducers were computed using corrections taken from Table 2 of the Tide Tables. ✓

See Attachment No. 2 for List of Corrections. ✓

All soundings and effective depths are in feet at Mean Low Water.

G. DRAG TEST:

Test of the drag followed the method outlined in the manual. ✓

H. CONTROL OF WIRE DRAG:

Standard dual control methods were used. Cuts to the end buoy and to the opposite vessel were taken immediately after the fix. The cuts were labeled plus (+) if the object was to the right of the signal used, and minus (-) if to the left. Length of towline was from the center of the wheelhouse to the end buoy in each case. ✓

J. ADEQUACY OF THE SURVEY:

This survey is considered adequate within the limits of the investigated items. All items assigned to the drag vessels on this project were investigated. ✓

The survey was aided by the use of SCUBA divers to investigate hangs and to obtain leadline soundings of least depths over obstructions. The survey was handicapped by not having a larger, radio-telephone equipped launch for use as SCUBA and wire drag tender. ✓

K. COMPARISON WITH CHART:

See Attachment No. 4 for List of Hangs and Clears. ✓

L. TIME:

Seventy-fifth (75th) meridian time was used throughout the survey. ✓

M. LIST OF ATTACHMENTS:

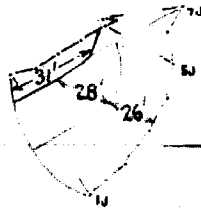
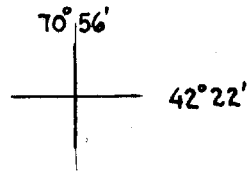
1. Statistics ✓
2. Tide Note

3. List of Signals
4. Hang and Clear Data ✓
5. List of Investigations
6. ~~Five~~ (~~4~~) overlays for Items #13, #14,
~~SIX~~ #18, ^{19,} and AD #1.

Respectively submitted,

Carroll D. North, Jr.

Carroll D. North, ENS, C&GS



F.E. NO. 2, 1967

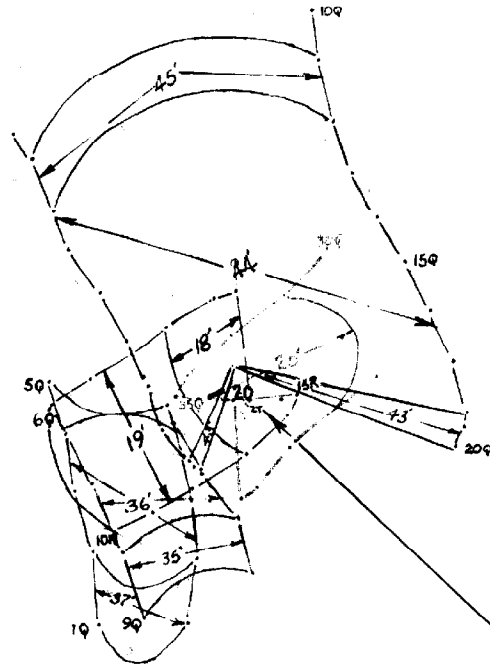
P.R. Item No. 19
Chart 246

SHIPS WAINWRIGHT & HILGARD
OPR - 466 ITEM AD-1
CHART 246 SCALE 1:25,000
OVERLAY 1 of 1

70°
52'

70°
50'

42°
22'



Least depth on $3\frac{1}{2}$ Fathom Ledge 20 ft.
Cleared by 18 ft.

42°
20'

SHIPS WAINWRIGHT / HILGARD
OPR 466 ITEM 14
CHART 240
OVERLAY 1-1

70° 56'

70° 54'

42° 28'

42° 26'

KIN

WAM

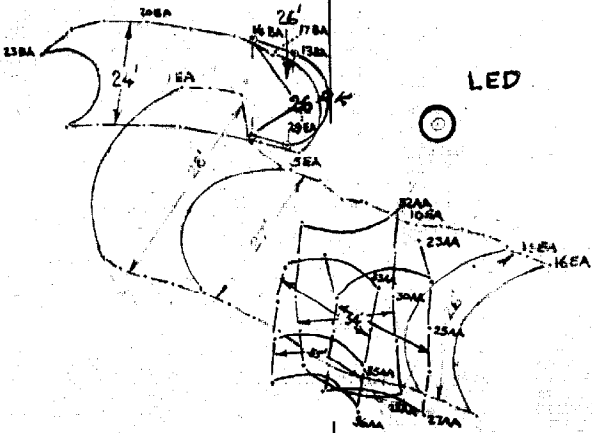
PIR

WER

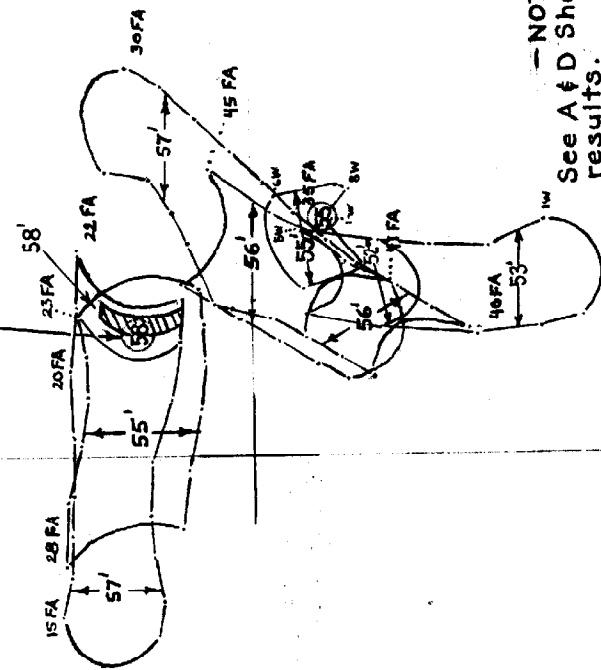
LED

E66

HAN

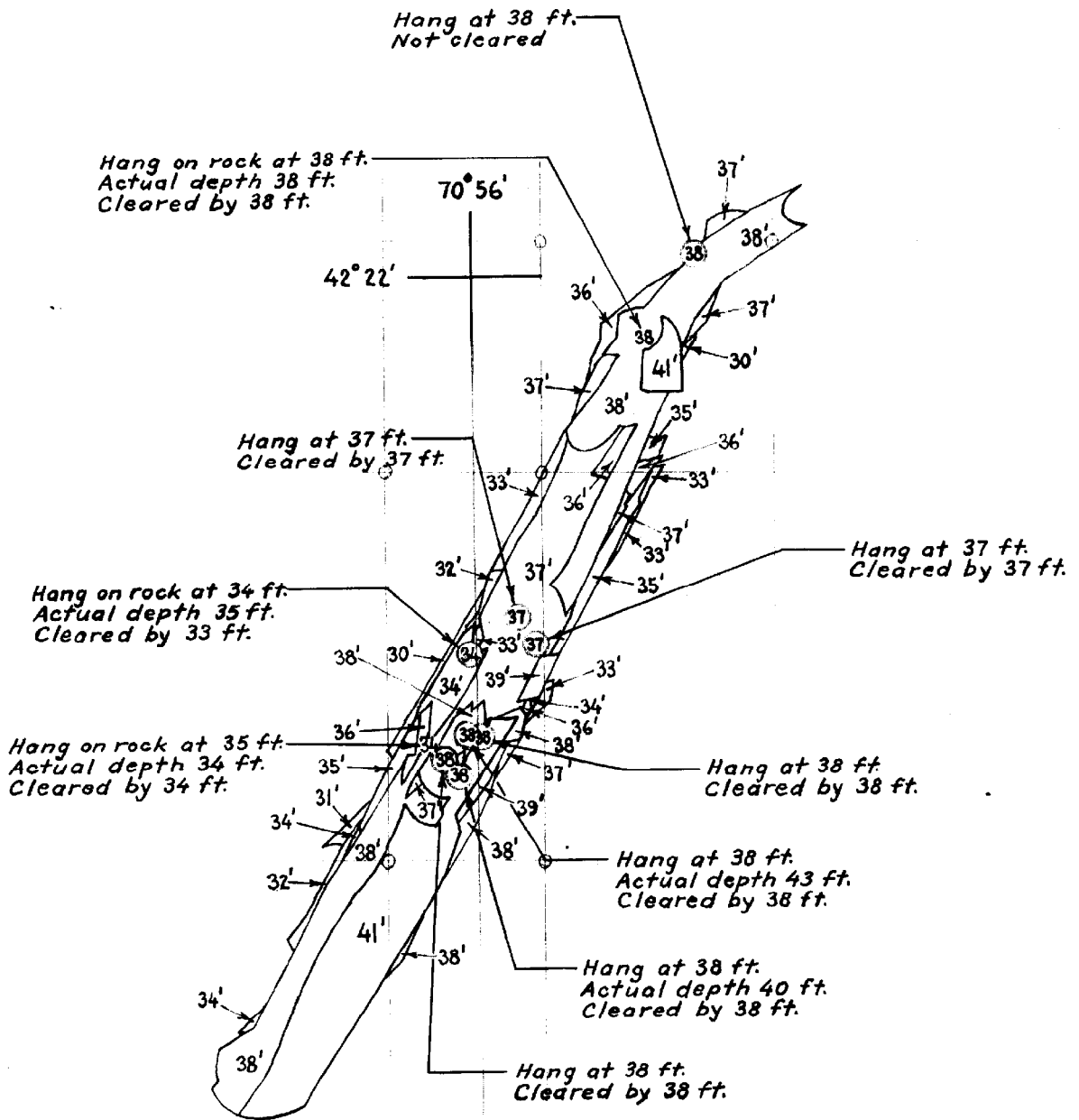


Use position as shown
on A & D Sheet.

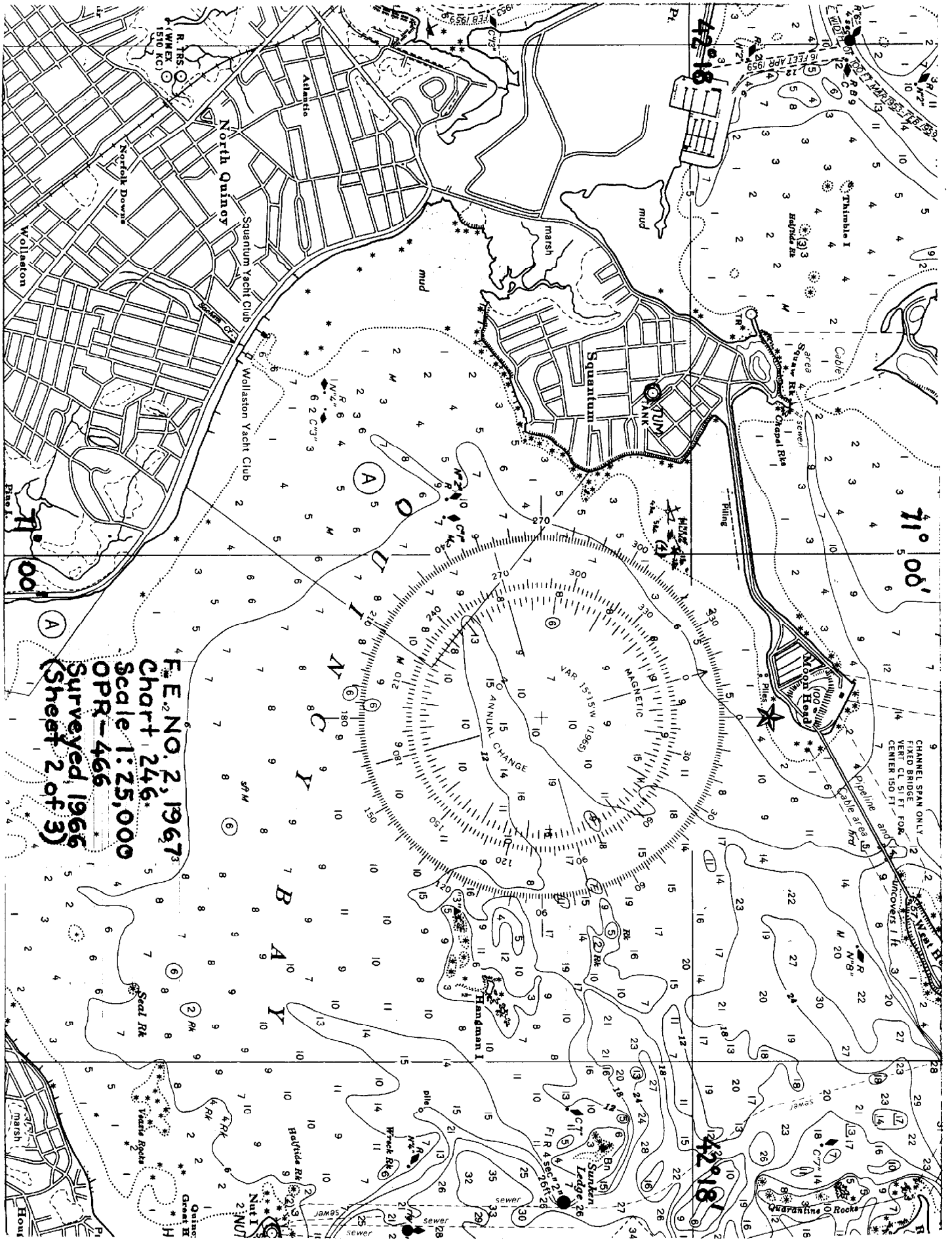


NOTE -
See A & D Sheet for complete
results.

OPR 466
Item 13
Chart 240



F.E. NO. 2, 1967
 BOSTON - NORTH CHANNEL
 COMBINED A & D SHEET
 Showing final results of
 investigation of P.R. Item #18
 Chart 246



RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. F.E.No.1-1967 W.D.

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
240	11-9-67	Deanis Remsburg	Part Before After Verification Review Inspection Signed Via Drawing No.
246	11-13-67	Fannie Power	Part Before After Verification Review Inspection Signed Via Drawing No.
1106	12-7-67	W H Hall	Part Before After Verification Review Inspection Signed Via Drawing No.
1107	12-18-67	W H Hall	Part Before After Verification Review Inspection Signed Via Drawing No. <i>applied thru 1106</i>
240	6/26/68	Harold V. Howard	Full Part Before After Verification Review Inspection Signed Via Drawing No. 19
246	6/26/68	Harold V. Howard	Full Part Before After Verification Review Inspection Signed Via Drawing No. 44
1207	7/11/68	Harold V. Howard	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>Applied thru Charts 240 #19 and 246 #44</i>
70	8/68	Elaine Misfeldt	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>revised 3/4 to 3 on 3/2 fathom ledge</i>
71	9/68	C. Misfeldt	Full Part Before After Verification Review Inspection Signed Via Drawing No.
1106	12-8-72	J. Bailey	Full Part Before After Verification Review Inspection Signed Via Drawing No. 28 <i>Fully Applied</i>
1107	12-14-72	J. Bailey	FULL AFTER VERIFICATION REVIEW INSPECT. FULLY APPLIED
71	3-12-73	G. Nealey	FULLY APPD AFTER VERIFICATION REVIEW AND INSPECTION