

FE83

FE83

Diagram No. 1207-2

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT (HYDROGRAPHIC)

Type of Survey Field Examination.....
Field No. GI-025150.....
Office No..... FE-83.....

LOCALITY

State Massachusetts.....
General Locality ... Gloucester Inner Harbor.....
Locality Harbor Cove.....

19 50

CHIEF OF PARTY
W.F. Malnate

LIBRARY & ARCHIVES

DATE May 31, 1950.....

☆ 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.1 1950

FE No. 1 1950

FE-83

Diag. Cht. No. 1207-2

Form 504

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC
Field No. G1-025150 Office No. F.E. #1 (1950)

LOCALITY

State MASSACHUSETTS
General locality GLOUCESTER INNER HARBOR
Locality HARBOR COVE

19~~4~~ 50

CHIEF OF PARTY

W.F. MALNATE

LIBRARY & ARCHIVES

DATE MAY 31 1950

B-1870-1 (1)

FE No. 1
1950

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

REGISTER NO.

Field No. F.E. Gi-025150

State MASSACHUSETTS

General locality GLOUCESTER INNER HARBOR

Locality HARBOR COVE

Scale 1:2500 Date of survey 21 to 25 Apr. 1950

Instructions dated

Vessel SHIP GILBERT

Chief of party W.F. MALNATE

Surveyed by LORIN F. WOODCOCK

Soundings taken by ~~hydrographic~~ hydrographic recorder, hand lead, ~~etc~~

Fathograms scaled by FIELD PERSONNEL

Fathograms checked by A.G. ATWILL

Protracted by A.G. ATWILL

Soundings penciled by A.G. ATWILL

Soundings in ~~30000~~ feet at MLW ~~MLW~~

REMARKS:

.....
.....
.....
.....
.....

DESCRIPTIVE REPORT (By Norfolk Processing Office)

To Accompany

FIELD EXAMINATION Gi-625150

Harbor Cove, Gloucester Inner Harbor, Mass.

Scale 1:2500

Ship Gilbert

W.F. Malnate, Comdg.

Surveyed By Lorin F. Woodcock

- A. PROJECT Special Field Examination
- B. SURVEY LIMITS AND DATES This survey is located in Gloucester Inner Harbor, Mass. and was made primarily to investigate a reported eight foot obstruction. Field work was started on 21 Apr. and ended on 25 Apr. 1950. (chart Letter 41(1950))
- C. VESSEL AND EQUIPMENT. The hydrography was done with a catamaran operating from Ship Gilbert. Soundings were taken with an 808 fathometer no. 53 and with a leadline.
- D. TIDE AND CURRENT STATIONS., Tide corrections are based on observed tides at Boston Harbor. The heights have been referred directly to MLW and necessary time and range differences have been applied by the Washington Office.
- E. SMOOTH SHEET. The projection was made by hand at the Norfolk Processing Office. The shoreline and topographic detail has been verified in accordance with paragraph 757.
- F. CONTROL STATIONS. Geographic Positions of triangulation stations were furnished by the Washington Office and the necessary datum corrections were applied by the Norfolk Processing Office. Topographic stations NEK, SPY, BAL and KEG were transferred directly from T-4393. Signals BAG, CAB, DEB, ~~EAR~~, ~~EAT~~, ~~EGEM~~ and HAG are corners of piers and were pricked directly from T-4393. Signals COR, TAN and ABE were located by sextant angles.

- G. SHORELINE AND TOPOGRAPHY. Shoreline and topographic detail was transferred directly from T-4393(1928). The necessary datum corrections were applied by the Norfolk Processing Office. Apparent shoreline changes were noted at Lat. 42-36-37.3 Long. 70-39-32.0 (See letter to The Director dated 25 Apr. 1950) and also at signal ABE.
- H. SOUNDINGS. Soundings were taken with 808 fathometer no. 53 and some detached soundings were taken with a leadline. Bar checks were taken in the conventional manner and velocity corrections are not applicable at the depths encountered.
- M. COMPARISON WITH CHART. A comparison was made with chart No. 233. The agreement is very good except as noted on form no. 786.

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~

6 June 1950

Division of Charts: R. H. Carstens

Plane of reference approved in
2 volumes of sounding records for

F.E. No. 1 1950

~~HYDROGRAPHIC SHEET~~

Locality Gloucester Harbor, Massachusetts

Chief of Party: W. F. Malnate in 1950
Plane of reference is mean low water, reading
3.3 ft. on tide staff at Boston (Appraisers Wharf)
16.3 ft. below B. M. 13 (1939)

Height of mean high water above plane of reference is **8.7** feet.

NOTE: These tide reducers were verified by means of Boston observations using the following allowances at the working grounds.

<u>Time of Tide</u>	<u>Height of high water</u>
-0 hr. 05 min.	-0.3 ft.

Condition of records satisfactory except as noted below:

E.C. McKay
Section
Chief, ~~Division of Tides and Currents.~~

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. F.E. #1 (1950)

Records accompanying survey:

Boat sheets ¹....; sounding vols. ²....; wire drag vols.;
 bomb vols.; graphic recorder rolls ¹ envel.
 special reports, etc. ~~1 Overlay tracing & 1 envel. containing correspondence~~
Smooth Sheet was cut to size and filed with this Desc. Report - G.F.J.

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

Number of positions on sheet		345	
Number of positions checked		6	
Number of positions revised		—	
Number of soundings revised (refers to depth only)		—	
Number of soundings erroneously spaced		—	
Number of signals erroneously plotted or transferred		—	
Topographic details	Time	—	
Junctions	Time	—	
Verification of soundings from graphic record	Time	2	
Verification by <i>E. Beaulieu</i>	Total time	44	Date <i>Jan. 23, 1951</i>
Reviewed by <i>G. F. Jordan</i>	Time	12	Date <i>Mar. 21, 1951</i>

REVIEW OF FIELD EXAMINATION NO.1, 1950

This field examination was made to investigate an 8-ft. shoal reported in Chart Letter No. 41 (1950). A fishing schooner reported striking the shoal which was subsequently reported by the Coast Guard to lie in lat. $42^{\circ} 36' 32''$, long. $70^{\circ} 39' 35''$. A later report by the Coast Guard revealed that the shoal was not found at the reported position and that 12 ft. was found in lat. $42^{\circ} 36' 33''$, long. $70^{\circ} 39' 38''$, on the course claimed by the schooner (see soundings on tracing attached to the chart letter). A 12-ft. depth at the latter position also appears on a 1912 survey by the Massachusetts Harbor and Land Commissioners Office (Bp. 15429).

No investigation was made on the present examination at the position first reported for the 8 ft. depth where smooth bottom depths are 23 ft.

Numerous lines of soundings were run over and in the vicinity of the second position reported. Some drift sounding was done southwest of that position, but none was accomplished over the 14-ft. sounding found less than 10 meters southward. Furthermore, there is a 10-meter gap in the sounding lines immediately northward from the reported position.

It is recommended that 12 ft. be charted from Chart Letter No. 41 (1950) in lat. $42^{\circ} 36' 33''$, long. $70^{\circ} 39' 38''$. It is considered that reports of 8-ft. depth should be disregarded.

A comparison with Chart 233 and with prior surveys reveals no bottom changes except in the dredged areas. Several 13-ft. soundings were obtained in Harbor Cove and Inner Harbor where the chart now shows 14-ft. depths.

March 21, 1951

G. F. Jordan

Approved by: R. H. Carstens
Chief, Hydrographic Section
Nautical Chart Branch

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Ship GILBERT
Gloucester, Mass.

Previously reported
8' sdg called for
Deletion in
N to H 20(1950)

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

25 April 1950

To: The Director
U.S. Coast and Geodetic Survey
Washington 25, D. C.

Subject: Investigation of reported rock in Gloucester Harbor, Mass.

In accordance with your letter 22/MEK, S-1-GI of 24 March 1950, the Ship GILBERT stopped at Gloucester Harbor, Mass. enroute to Rockland, Maine, and completed the requested investigation. Additional reports of shoals as stated in letter of 30 March 1950 from the Supervisor Northeastern District to the Director were also investigated.

The investigation was conducted on a scale of 1:2500, using fathometer and lead-line, from a catamaran consisting of two 16 foot dinghys secured side by side.

The following triangulation stations were used as control:

Gloucester Universalist Church, 1849.
Gloucester City Hall, 1902.
Pyr, 1928
Gas, 1928
Tarr, 1928
Ten Pound Island Lighthouse, 1902.

Locations of topographic signals Nek, Spy and Bal were obtained from T-4393. Hydrographic signals Cor, Tan and Abe were located by sextant fixes. Hydrographic signals Bag, Cob, Deb, Ear, Fat, Gem and Hag were established on corners of piers and their locations obtained from T-4393.

Numerous doubtful sheal soundings appeared on the fathogram during the first day's work. Subsequent investigation disproved these doubtful returns. They are attributed to a large amount of debris present in the area on that day.

Various local authorities were contacted regarding groundings in Gloucester Harbor. Capt. Bradford Amirault, who originally reported striking a rock, was contacted. It appears that many fisherman in this area are ignorant of the existence of a harbor chart for Gloucester Harbor, and they enter the harbor with vessels drawing as much as 14', with very little attention to the stage of tide or the

occasional occurrence of minus tides. An intensive development in the area where the Sch. Catherine Amirault struck failed to show anything approaching the reported 8'. The nearest critical soundings were a 14 ft. high spot on ledge, latitude 42°36'33.9", longitude 70°39'35.9", and a 13 ft. high spot, latitude 42°36'34.5", longitude 70°39'40.6".

See Review

Other local people contacted include Mr. Charles F. Pearce, Vessels Manager of Gorton-Pew Fisheries Co., Ltd., Mr. Frederick Wise Jr., harbor master and pilot, Capt. Frank Favarella of Harbor Cove Fisheries, and Mr. Joseph Martell, diver.

Other dangers recommended for charting are listed on the enclosed Form 786, "Advance Report of Dangers to be Charted". Also given on this form are recommendations regarding buoys and cancellation of appropriate Notices to Mariners regarding reported 8 ft. depth.

Some of the piers in this area have been rebuilt and changed. It is recommended that an investigation of these changes be made. A rock awash, latitude 42°36'37.3", longitude 70°39'32.0", was formerly beneath a pier, but due to rebuilding and changing of piers, is now in a slip between piers. It appears on the boat sheet as being under a pier.

Predicted tides, using Boston as the reference station, were used in reducing soundings for the boat sheet. Bar checks show that no velocity corrections will be required in the depths encountered.

Two copies of the enclosed Form 786 "Advance Report of Dangers to be Charted" have been forwarded to the Supervisor Northeastern District, one for his information and one for delivery to the Commander, U.S. Coast Guard, 1st District, Boston, Mass.

The boat sheet and records will be forwarded to the office as soon as preliminary processing is completed.

W. F. Malnate
W. F. Malnate,
Comdr., USC&GS,
Comdg. Ship GILBERT

c/c Sup. NED.

83.
Did C.P. field examination 1949 include this?
NED.

83

ADVANCE REPORT OF DANGERS TO BE CHARTED

Gleoucester Harbor

Survey (Sheet) ~~NK 1:2500~~ Datum ~~NA 1927~~ Locality ~~Gleoucester Harbor~~ State ~~Massachusetts~~ Date ~~25 April 1950~~

I recommend that the following dangers to navigation be charted. The positions given have been checked after listing. Checked by L.F. Needham

W. F. Malmate

Chief of Party.

TYPE OF DANGER	DEPTH (FEET) *		LATITUDE AND LONGITUDE		FROM CHARTED OBJECT OR NATURAL FEATURE †			CHART USED ‡		DATE OF LOCATION	REMARKS
	FATHOMETER	LEAD-LINE		SECONDS (ARC-METERS)	TRUE BEARING	DISTANCE (METERS)	OBJECT OR FEATURE	No.	PRINT DATE		
Rock awash			42 36 70 39	37.3 32.0	137½°	544	Gleouc. City Hall	Boat Sheet		25 Apr.	Rock approx. 4 meters in dia. Uncovers 7' NK 1:2500 (1003)
Rock	-	6	42 36 70 39	38.5 52.9	196½°	380	do	"	"	24 Apr.	5' boulder Pos. 44"e"
Shoal	13	-	42 36 70 39	34.5 40.6	160½°	517	do	"	"	"	Pos. 13 - 14"e" and 28"e"
Shoal	14	-	42 36 70 39	33.9 35.9	151°	576	do	"	"	21, 22 & 24 Apr.	High spot on ledge approx. 20 m. dia. Pos. 99e & 104-105e.
Shoal	13	-	42 36 70 39	41.2 27.4	121°	551	do	"	"	24 Apr.	High spot on ledge approx. 10 m. dia.

It is recommended that spar buoys be located at the last two listed positions and that ~~NK5-150 (651)~~ and ~~NK7-150 (1003)~~ be cancelled.

See Review

* Record least depth over danger reduced to plane of reference of charted soundings, using observed tides, if available.

† Record location both by geographic position and by true bearing with distance from object or natural feature shown on chart.

‡ Use largest-scale chart and note print date given in lower left corner of chart.

NOTE.—This form to be used during the season for prompt reports of uncharted dangers. If reports have been sent by wire, fill out this form and mail with confirmations. Enter dates of wires under "Remarks." Copies of reports on this form should be retained and submitted with the descriptive report.

ADVANCE REPORT OF DANGERS TO BE CHARTED

Survey (Sheet) No. G1-025150 Datum 1927 Locality Gloucester Inner Harbor State Mass. Date 5-25-50

I recommend that the following dangers to navigation be charted. The positions given have been checked after listing. Checked by A.G.A.

Earl O. Heaton
Chief of Party.

TYPE OF DANGER	DEPTH (FEET) *		LATITUDE AND LONGITUDE		FROM CHARTED OBJECT OR NATURAL FEATURE †			CHART USED ‡		DATE OF LOCATION	REMARKS
	FATHO-METER	LEAD-LINE		SECONDS (IN METERS)	TRUE BEARING	DISTANCE (METERS)	OBJECT OR FEATURE	NO.	PRINT DATE		
Rock awash			42-36 70-39	1151.7 732.3	-	-	-	G1-025150		4/25/50	Rk. approx. 4 meters in dia. Bares 7 ft. at M.L.W. 1&2d
Subm'gd Rock		6	42-36 70-39	1191.7 1209.7	-	-	-	" "		4/24/50	5 ft. boulder Pos. 44 c
Shoal	13		42-36 70-39	1072.7 920.0	-	-	-	" "		"	Pos. 13 to 14 c
Shoal	14		42-36 70-39	1045.7 831.3	-	-	-	" "		"	High spot on ledge 20 m. in dia. 126 to 127 c
Shoal	13		42-36 70-39	1274.7 626.4	-	-	-	" "		"	High spot on ledge Approx. 10 m. in dia. 104 to 105 c
<i>See Review</i>											

* Record least depth over danger reduced to plane of reference of charted soundings, using observed tides, if available.
† Record location both by geographic position and by true bearing with distance from object or natural feature shown on chart.
‡ Use largest-scale chart and note print date given in lower left corner of chart.

NOTE.—This form to be used during the season for prompt reports of uncharted dangers. If reports have been sent by wire, fill out this form and mail with confirmations. Enter dates of wires under "Remarks." Copies of reports on this form should be retained and submitted with the descriptive report.

LIST OF SIGNALS

To Accompany

FIELD EXAMINATION Gi-025150

TRIANGULATION STATIONS

GLOUCESTER, CITY HALL, 1902-39 ✓

GLOUCESTER, GAS & ELECTRIC CO., CHY., 1928 ✓

GLOUCESTER, UNIVERSALIST CHURCH, 1849 ✓

PYRAMID CHURCH SPIRE, 1928 ✓

TARR & WONSONS STACK, 1928 ✓

TEN POUND ISLAND L.H., 1902 ✓

TOPOGRAPHIC STATIONS (SOURCE T-4393)

BAL KEG NEK SPY

CORNERS OF PIERS PRICKED FROM T-4393

BAG CAB DEB EAR FAT GEM HAG

HYDROGRAPHIC STATIONS

ABE (Vol. 1, pg. 61)

COR (Vol. 1, pg. 4)

TAN (Vol. 1, pg. 4)

STATISTICS
To Accompany

FIELD EXAMINATION G1- 025150

DAY LETTER	POSITIONS	VOL. NO.	TOTAL POS.	SOUNDINGS	STAT. MI.	VESSEL
a	1 to 115	1	115	-	4.9	Catamaran
b	1 to 101	1	101	1	3.7	"
c	1 to 32 33 to 127	1 2	127	13	14.9	"
d	1 to 2	2	2	-	-	"
TOTALS			345	14	23.5	

SQUARE STATUTE MILES OF HYDROGRAPHY 0.1

ADDENDUM

To Accompany

FIELD EXAMINATION G1-025150

Numerous strays obtained on a-day appear to be adequately developed and disproved. However, apparent strays obtained between positions 41 to 42 b, 84 to 85a and 90 to 91a as shown on overlay template, should be given further consideration. *Accepted as strays RAC ✓*

It will be noted that the original reported position of the eight foot obstruction was not developed. ✓

Respectfully submitted,

Hugh L. Proffitt
Hugh L. Proffitt
Cartographer

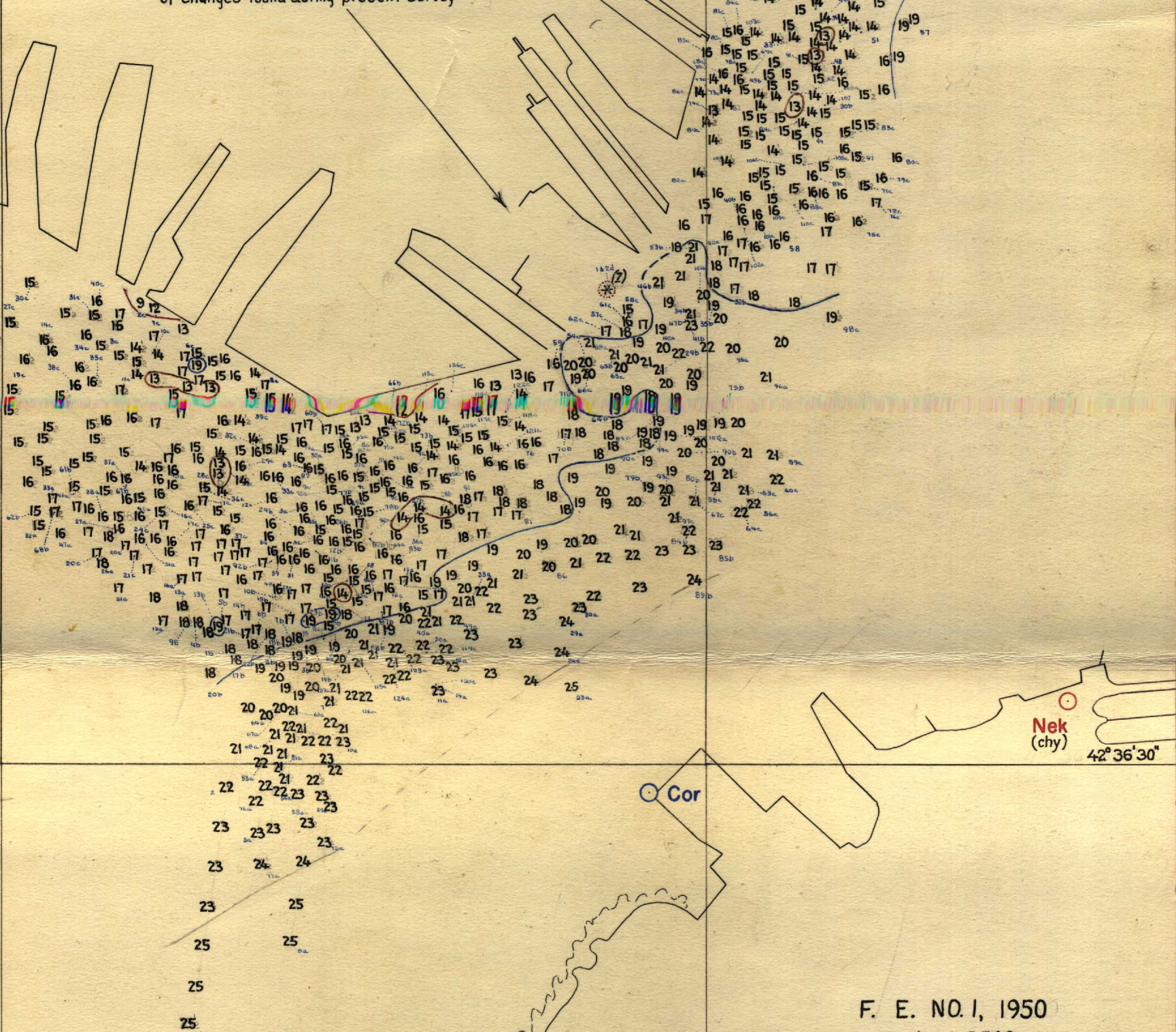
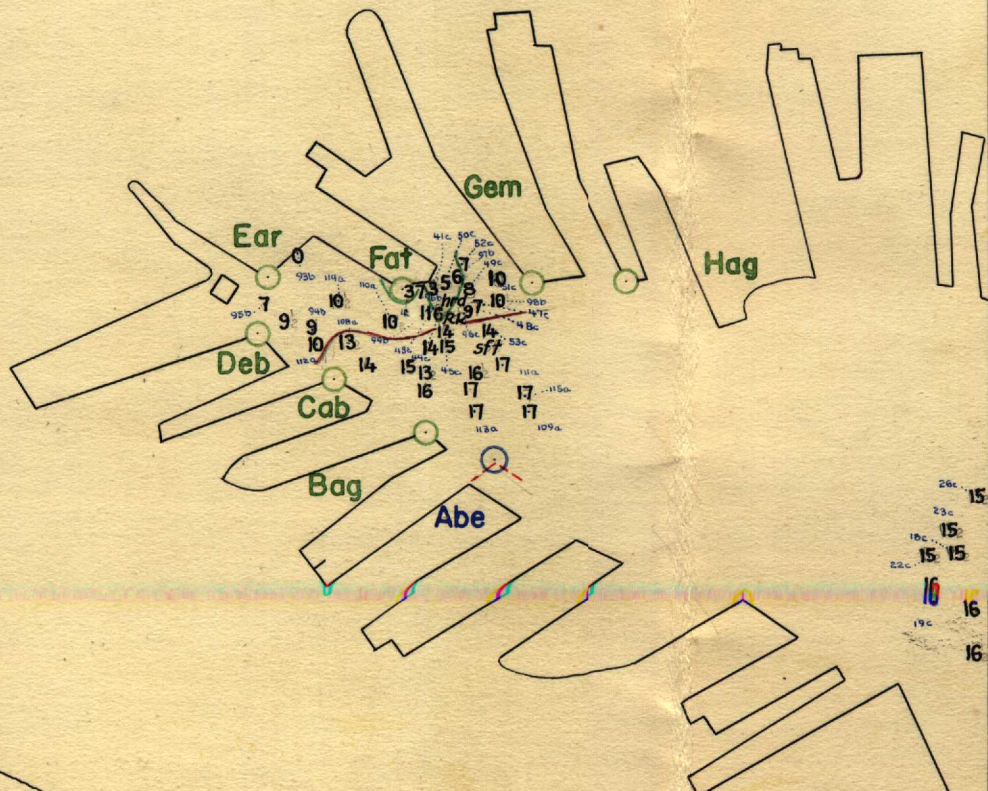
Norfolk, Va.
25 May 1950

Approved & forwarded:

Earl O. Heaton
Earl O. Heaton
Supervisor, S.E. District.

36° 36' 45"

Shoreline is from T-4393(1928).
Note break in wharf delineation because
of changes found during present survey



42° 36' 30"

Nek (chy)

42° 36' 30"

Cor

F. E. NO. 1, 1950
Scale 1: 2500

*sdgs in feet at
MLW
April 1950*

△ TARR & WONSON'S STACK, 1928

○ Keg (bn)

39° 45"

70° 39' 30"

