FE48

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. 2044

Office No. FE-48

LOCALITY

State Alaska

General Locality Kodiak Island

Locality Williams Reef

19 44

CHIEF OF PARTY
C.D. Meaney

LIBRARY & ARCHIVES

DATE 1944

☆ 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 materail was previously registered as:

FE No.6 1944

FE48

FE No. 6

1944

Prag. Cht. No. 8556-2 Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. 2044 *Office No.* F.E. No.6,1944

LOCALITY

State Alaska

General locality Kodiak Island

Locality Williams Reef

194 4

CHIEF OF PARTY

C. D. Meaney

LIBRARY & ARCHIVES

DATE

B-1870-1 (1)++

1944

FE No. 6

Form 537
Ed. Dec. 1930

REG. NO.

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.

Field No. 2044

REGISTER NO. H-6970

State ALASKA

General locality KODIAK ISLAND

Locality WILLIAMS REEF

Scale 1:20,000 Date of survey May 6-8, 19 44

Vessel SURVEYOR

Chief of Party C. D. Meaney

Surveyed by C.A. George, J. C. Rose, L. S. Hubbard

Protracted by Betty B. Jones

Soundings penciled by Betty B. Jones

Soundings in fathoms ~~feet~~ Fathoms

Plane of reference MLLW

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated Request of Commandant, N.O.B., Kodiak, 19
May 4, 1944

Remarks: Smooth Sheet and Plotting
by the Seattle Processing Office. } cut to letter size and included with this report.

U. S. GOVERNMENT PRINTING OFFICE

H-6970

Williams Reef

LIST OF CONTENTS

NOTES FOR

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

To Accompany

Hydrographic Survey

Vicinity of Williams Reef - Kodiak Island

Field No. 2044 H-6970

AUTHORITY

On May 4th, 1944 the Commandant, N.O.B. Kodiak, Alaska requested that the SURVEYOR investigate a reported shoal or submerged object in the vicinity of Williams Reef, Latitude: 57°-50'-20" N and Longitude 152°-10'-55" W. The USS PC-601 struck an object in this vicinity on January 28, 1944.

CONTROL

Shore objects used for control were scaled or transferred from Charts 8534 and 8545. Buoys were located by sextant fixes.

TIDAL DATA

A tide staff was established at Kodiak and staff readings recorded during the periods when hydrography was in progress. Tide reducers have been entered in the sounding volume, using a value of 2.2 feet below MLLW for the zero of the tide staff. This value has been verified by the Washington office.

FATHOMETER CORRECTIONS

Fathometer corrections were entered by the field party.

SURVEY METHODS

Standard survey methods were used and the positions of all soundings

were determined by sextant fixes on shore objects or buoys.

DISCREPANCIES

Scaling of the fathogram used in "A" day, May 6, of the ship's work, revealed a time discrepancy in the scaled and recorded intervals between fixes, indicating the 808 Fathometer, No. 52, consistently ran too fast throughout the day so that the recorded soundings were reduced by the indicated factor of 0.93, which was applied to all soundings between positions 6 and 21. The factor for positions 5 to 6 does not check that for the remainder of the day, and it is considered adviseable to reject the three soundings involved. On May 7, 808 Fathometer No. 52 was cleaned and subjected to speed tests, so that it was known to be operating properly on "B" day, May 8.

808 Fathometer No. 59, used in Launch No. 2, was checked for speed at the start of "a" day and found satisfactory, but was noted to be slow at position 23, and the fathometer stopped for repairs. Sounding was then resumed, and another speed check, made after position 41, indicated the fathometer was running too slow by 6%. The application of this factor brings the corrected soundings between positions 25 and 44 in general agreement with adjacent soundings taken by the ship and by Launch No. 4. Soundings between positions 1 and 24 are not in agreement and it is recommended that they be rejected. Rejected

REMARKS

This work was considered to be a reconnaissance investigation. The soundings obtained are in general agreement with the soundings shown on the chart.

A shoal was not found in the vicinity of the reported obstruction.

The can buoy, now marking Williams Reef, is difficult to see. It was recommended that the can buoy be replaced by a lighted, whistle buoy.

Respectfully submitted

C. A. GEORGE
H. & G. Eng., C. & G. S.

Approved & Forwarded

C. D. MEANEY, Chief of Party
Comdg. Ship SURVEYOR

The reports of the field party, chief of party, processing office and verifier have been examined. The smooth sheet has been compared with the recent survey H-5443 (1953) and chart 8534, and is now included at the back of this report.

The present investigation should be classed as a reconnaisance survey, although it is in general agreement with the recent survey.

The 35 fm. depths discredit the existence of the shoal reported at Lat. 57° 50' 20", Long. 152° 10' 55". Two 23fm. soundings in 27 fm depths were found $\frac{3}{4}$ mile ENE of the reported shoal. These soundings coincide with the uncharted 25fm sounding on H-5443., and fall in a split 100 meters wide. However, additional investigation is not expected to.develop any danger to navigation.

The chief of party recommends on page 4 that a resurvey of the area of the chart be made.

George F. Jordan
Review Section

ADDITIONAL REMARKS REGARDING SURVEYS NEAR WILLIAMS REEF

After the U.S.S. PC-601 struck a submerged object in the vicinity of Williams Reef several hydrographic investigations of this area were carried out by naval officers.

These reports indicated that Q.C. contacts were established but no shoal actually found.

The area was swept by Navy mine sweepers and a shoal was not found.

Before beginning the reconnaissance survey, the SURVEYOR proceeded to the vicinity of Williams Reef and stopped, well clear of the reported obstruction. The Q.C. apparatus on the SURVEYOR was lowered and the area sound-ranged. Several apparent contacts were made. It is my opinion, after sounding the area where contacts were established, that these contacts merely indicated that the bottom was irregular and that the Q.C. picked up returns from the bottom at some distance from the ship where there were irregularities and ridges.

The charted soundings seem to indicate that this area and other areas shown on the Coast and Geodetic Survey chart were not completely sounded. In running to and from Williams Reef, several soundings were observed which did not agree with the charted depths. No dangers were found.

It is recommended that a resurvey of the area of this chart be made at some future date.

Williams Reef is a very dangerous hazard to shipping, especially during smooth weather and at high tide. It is very difficult to get an accurate position from shore objects in the vicinity of the reef. A lighted whistle buoy should be established in the vicinity of the reef and all ships should give the reef a wide berth.

C. D. MEANEY
Commanding Officer
U.S.C. & G.S.S. SURVEYOR

READINGS OF TIDE STAFF
Kodiak, Kodiak, Alaska

May 6		May 8	
TIME 135th M.T.	TIDE STAFF	TIME 135th M.T.	TIDE STAFF
8 39	3.5	6 23	1.9
9 07	3.9	6 55	1.2
9 30	4.5	7 30	0.7
10 00	5.5	8 00	0.6
10 30	6.4	8 30	0.8
11 00	7.2	9 00	1.1
11 30	7.8	9 30	1.7
12 00	8.4	10 00	2.5
12 30	8.7	10 30	3.4
1 00	8.85	11 00	4.4
1 30	8.8	11 30	5.4
2 00	8.5	12 00	6.5
2 30	8.00	12 31	7.3
3 00	7.4	12 55	7.9
3 30	6.7		
4 00	5.9		
4 30	5.2		
4 37	5.0		

Note:- Zero tide staff (May 5, 1944) is 2.2 ft. below MLLW, computed from tidal beach mark data: Kodiak, Kodiak Id. BM's No. 8 & 12.

Copy to HCB

COPY 6

34-McC

May 18, 1944

To: The Officer in Charge,
U. S. C. & G. S. Processing Office
1500 Westlake Avenue, North,
Seattle 9, Washington

From: The Director,
U. S. Coast and Geodetic Survey.

Subject: Tidal Data.

Referring to a letter from the Commanding Officer of the U. S. C. & G. S. SURVEYOR of May 9, 1944, addressed to this office, a copy of which was furnished your office, the value of mean lower low water of 2.2 feet above zero of the staff at Kodiak, Alaska, has been checked by this office and found correct.

S/ E. F. Luce

Acting Director

CC: SURVEYOR

COPY/vd

H-6970

LIST OF SIGNALS

ABLE	Vol. 1, pp. 3, 4, 10
CAN	Vol. 1, pp. 7,10; Vol. 2, p. 14
EAST	Topo. Sheet T-6048
LET	Topo. Sheet T-4844
LIGHT	Hanin Rocks Light 1933
LONG	Topo. Sheet T-4844
ONE	Vol. 1, p. 3
SOUTH	Topo. Sheet T-6048
TAN	Topo. Sheet T-4844
WOOD	Topo. Sheet T-4845

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form No. 717
Rev. Dec. 1938

SHEET No. _____

RECORD OF TEMPERATURES, SALINITIES, AND THEORETICAL VELOCITIES

Ship or party SURVEYOR, C. D. Mcaney, Chief of party. May 6, 1944
Locality Kodiak Id. Project — Survey No. ~~2444~~

Date 1944	Time 135 mer.	Latitude and longitude	* Depth	Temp. at Depth		Specific Gravity		At Temp.		† Salinity	Velocity at temp.	Corrections		Velocity (theoretical)	Therm. No.	Hydro. No.	Remarks (weather, bottom, etc.)
				Obs.	Cor.	Obs.	Cor.	Obs.	Cor.			Sal.	Pres.				
	h. m.		Fathoms	°C	°C			°C	°C		M./Sec.	M./Sec.	M./Sec.	M./Sec.			
May 6	17 00	57 51.3	21½B	4.5		1.0254		5.2		32.4					73777	1041	
		152 13.3	2	4.8		1.0252		4.8		32.2							

* If depth recorded is bottom indicate thus: 965 B
† Express in parts /1000. If by titration indicate thus: 34.15 T

U. S. GOVERNMENT PRINTING OFFICE 11—11506

CAG

∞

GRAPH OF WATER TEMPERATURES AND SALINITIES

Degrees Centigrade

2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32

Depth in fathoms

10ø 20ø 30ø 40ø 50ø 60ø 70ø 80ø 90ø 100ø 110ø 120ø

U. S. COAST AND GEODETIC SURVEY

Ship SURVEYOR

C. D. Mearney Com'd'g.

Date May 6, 1944

Locality Kodiak I., Williams Reef.

Position: Lat. 57° 51.3

Long. 152° 13.3

Salinities by: ~~Titration.~~

(Cross out Hydrometer.

ones not used) ~~Both.~~

Thermometer No. 73777

Hydrometer No. 1041

Salinity in Parts per Thousand

30 31 32 33 34 35 36

TENS Depth in ~~Hundreds~~ of Fathoms

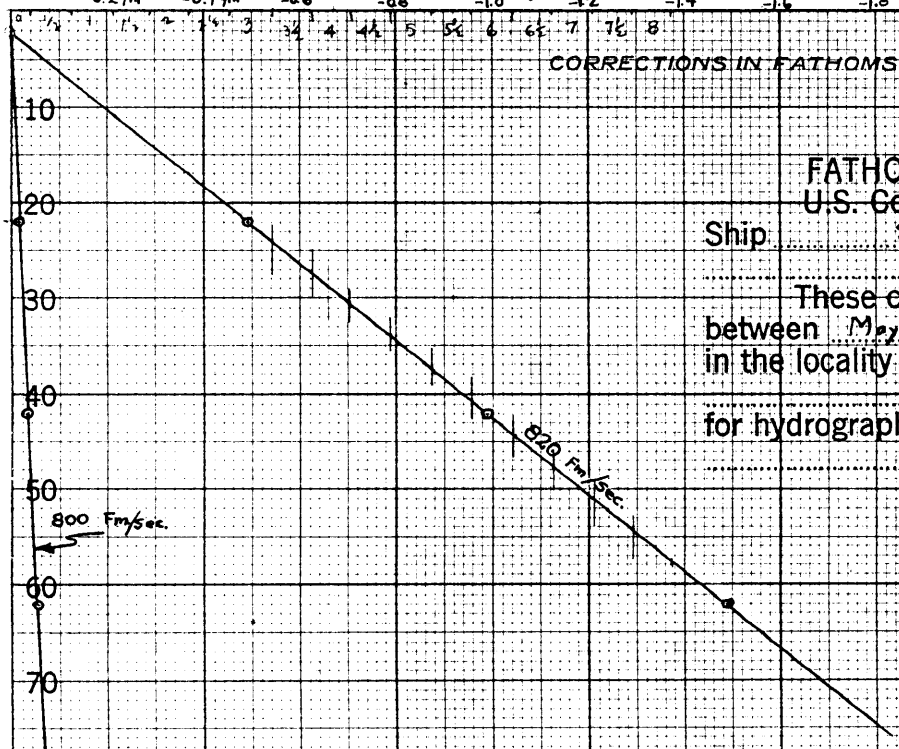
1 2 3 4 5 6 7 8 9 10 11 12

By V.R.S.

V By R.H.R.

(M-146)

(Feel 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)



FATHOMETER CORRECTIONS
U.S. Coast and Geodetic Survey

Ship SURVEYOR

C.D. MEANEY, Comdg.

These corrections are to be used between May 6, 1944 and May 8, 1944 in the locality KODIAK I. – WILLIAMS REEF.

for hydrographic surveys Nos. 2143

DEPTHS IN FATHOMS

(For deep water add a 0 to these figures)

Abstract of Fathometer Corrections

	Ship Dorsey III & 808 fathoms		Launch 808 fathoms	
-3 ft.	21-0	to 24-1	19-0	to 22-1
-3½	24-2	27-2	22-2	25-2
-4	27-3	30-4	25-3	28-4
-4½	30-5	34-1	28-5	32-1
-5	34-2	37-4	32-2	35-4
-5½	37-5	40-4	35-5	38-4
-6	40-5	44-3	38-5	42-3
-6½	44-4	47-4	42-4	45-4
-7	47-5	50-5	45-5	48-5
-7½	51-0	54-3	49-0	52-3
-8	54-4	57-4	52-4	55-4

NMC

0 ft. to 40-0 fm.
-½ ft. to 85 fm.

By R.H.B
Vby RHB

H-6970
(Field No.2044)

Seattle Processing Office Notes

CONTROL-

The most reliable point is Hanin Rock Light located by triangulation, Campbell, 1933.

The tangents SOUTH, EAST, LONG, TAN, LET, and WOOD are taken from topographic sheets T-4844, T-4845, and T-6048. In the directions in which they have been used, good fixes can be plotted. The notes on the boat sheet indiçate that the encircled point does not indicate a fixed signal, but that the tangent may shift along the curve of the shore when seen from different positions and that such shifting tangents are to be used as they appear from each fix. At WOOD on the southeast part of Woody Island the possibility of a considerable shift is indicated.

A sketch on the boat sheet showing the tangent at SOUTH indicates that the foot of the bluff, or H.W.M., is to be used, and that the rocks or islets just off the tangent are excluded from use as signals.

A sketch shows LET as a well defined tangent, which is the foot of a bluff or H.W.M. at the northeast part of a small islet.

Signal ONE, Kodiak Outside Lighted Whistle Buoy #1, was located by sextant angles on a strong fix, with a check angle. See Pos. 2 A, Vol. 1, p. 3.

Signal ABLE, a survey buoy, was located twice on May 6, Pos. 4 A being recorded in Vol. 1, p. 3. On May 8 Pos. 1 B, Vol. 1, p. 10, gives a second position of ABLE 150 meters to southwestward of 4 A. The launches used Pos. 4 A when working in the field, but they replotted the work on an overlay tracing using for ABLE the position 1 B. It is not stated whether the survey buoy was removed. Pos 1B, May 8, used.

Signal CAN, a can buoy, is plotted from Pos. 43 a, Vol. 2, p. 14. The fixes 42a and 44a depend on signal ABLE, a floating object, and were ignored in favor of 43a which seems to be the position preferred by the field party. Pos. 2 B, Vol. 1, p. 10, records an additional fix which plots slightly to the south of 43a.

On page 2 of Vol. 1, the field party indicates by asterisks their preferred positions of signals ONE, ABLE, and CAN, and the Processing Office has accepted these positions.

SHORELINE-

The Kodiak Island shore from Spruce Cape to Miller Point is from T-4844. Long Island is from the same source.

Woody Island and the Kodiak Island shore south of Spruce Cape are from T-4845.

The east end of Spruce Island is from T-6048.

LAUNCH #4 - a Day-

When this boat shifted signals from ABLE-CAN-LET to ONE-CAN-LET a jump in the sounding line occurred. See 14, 17, 30, and 51 "a" day. When the field party replotted the boat sheet, they put these points on line. This has been done on the smooth sheet. It seems that errors in the locations of the buoys plus tidal current changes cause the jumps in the lines.

LAUNCH #2 - a Day-

Soundings not plotted on boat sheet. See "Discrepancies" in report by field party. See plotter's note on smooth sheet. See note by C.A. George Vol 2 P 11

Respectfully submitted,

Edgar E. Smith

Edgar E. Smith
Assoc. Cartographic Engineer

Approved and Forwarded:

F. H. Hardy

F. H. Hardy, Captain, U.S.C. & G.S.
Officer in Charge,
Seattle Processing Office.

Williams Reef

H-6970

STATISTICS-

Date	Day	Vessel	Vol. #	Stat. Miles	Positions
1944					
5/6	A	SURVEYOR	1	5.2	21
5/8	B	SURVEYOR	1	21.4	57
5/8	a	Launch #2	2	12.3	44
5/8	a	Launch #4	3	19.3	103
				58.2	225

Area - Square Statute Miles ------ 2

H-6970

Alaska

Kodiak Island

Williams Reef

TIDAL NOTE

Kodiak Tide Staff

Staff reading of MLLW	*2.2 feet
Latitude	57° 47.1
Longitude	152 24.5

*See Director's letter, 34-McC of 5/18/44, to Officer in Charge, Seattle Processing Office.

Field Examination No. 6, 1944

Paragraph 2, page 2, of the descriptive report states that the stylus of the 808A recorder became visibly slow at position 23a (launch 2, May 8, 1944). This is also explained in some detail in volume 2 opposite fix 23a. Soundings between 1a and 24a average 3 fathoms shoaler than surrounding soundings and are considerably shoaler after 23a where the stylus became visibly slow. The speed count was checked at the beginning of the day, and the paper speed measures correctly throughout the day, yet it is apparent that the soundings do not agree. These soundings were rejected by the verifier because: first, they did not agree with other soundings; second, the speed became visibly slow at 23a and could have been erratic before then; and third, no bar checks were made at any time. One explanation for the fact that the paper speed scaled correctly yet the motor speed and depths were off could be that time was being called from the graph by the fathometer man and was not checked against the clock by the recorder. The verifier has seen this happen. Another explanation could be that the speed was correct up to position 23a and the depth in error throughout the entire run. A datum error of this sort should show up in the initial, however, no bar check was made to entirely prove or disprove the depths recorded.

Corrections to depths were applied on a percentage basis in accord with departures from the standard speed count of the fathometer. No bar checks were taken and lead line comparisons were poor. The corrections have been sustained, however, as they approximate the mean leadline differences, and were borne out by adjacent hydrography.

Control for this sheet consisted of three point fixes observed on signals which were not entirely rigid or definite. Buoys "One", "Can, and "Able" were used as signals and tangent cuts were taken at "Let", "Tan", "Wood", "Long" and "South". Obviously bad fixes were rejected and the remainder plotted surprisingly well, requiring very little shifting for adjustment.

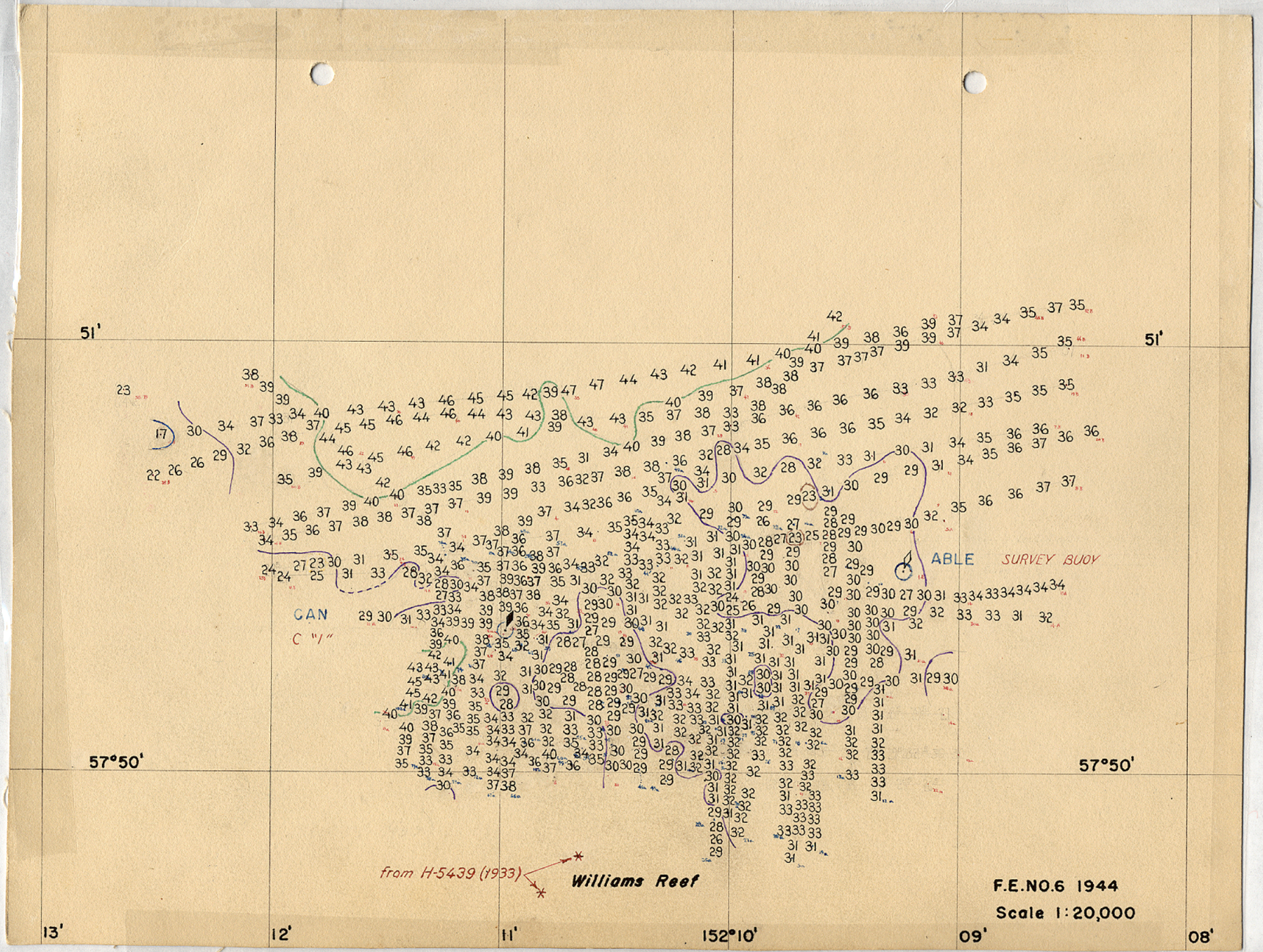
Shoalest soundings recorded were 17 fathoms at 57°50.8', 152°12.5' and 23 fathoms at 57°50.65', 152°09.7'. The 17-fm sounding is not shown on the boat sheet; however, it is clearly evident on the fathometer graph, and falls inside 20fm curve on H-5443 (1933)

Respectfully submitted

A. R. Stirni

A. R. Stirni
Assoc. Carto. Engr.

Washington, DC, Dec.30,1944.


51'
51'
57°50'
57°50'
13'
12'
11'
152°10'
09'
08'
ABLE
SURVEY BUOY
CAN
C "1"
from H-5439 (1933)
Williams Reef
F.E.NO.6 1944
Scale 1:20,000

NAUTICAL CHARTS BRANCH

SURVEY NO. H.E. No. 6 (1944)

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
5-3-46	8534	J.M.A.	~~Before~~ After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.