6866

Diag'd. on Diag. Ch. No. 9198

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. EX-2245 Office No. 6866

LOCALITY

State Alaska

General locality Attu Island

Locality Abraham and Etienne Bays

1945

CHIEF OF PARTY

Roland D. Horne

LIBRARY & ARCHIVES

DATE AUG 12 1946

B-1870-1 (1)

6866

Form 537
Ed. Dec. 1930

REG. NO. H-6866

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. EX 2245

REGISTER NO. H-6866

State Alaska - Aleutian Islands

General locality Attu Island

Locality Abraham and Etienne Bays

Scale 1:20,000 Date of survey 24 June - 21 July 19 45

Vessel EXPLORER

Chief of Party Roland D. Horne

Surveyed by L.S. Hubbard; E. C. Baum; W. Weidlich; I.R. Rubottom

Protracted by P. M. Fisher and W. M. Martin

Soundings penciled by W. M. Martin

Soundings in fathoms ~~XXXX~~ tenths by Graphic Recorder

Plane of reference MLLW

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated CS 218; Supp. 12 April 1945, Liaison Officer; Supp. 6 June 1945, Liaison Officer, 19

Remarks: Smooth Sheet and Plotting by Seattle Processing Office

U. S. GOVERNMENT PRINTING OFFICE

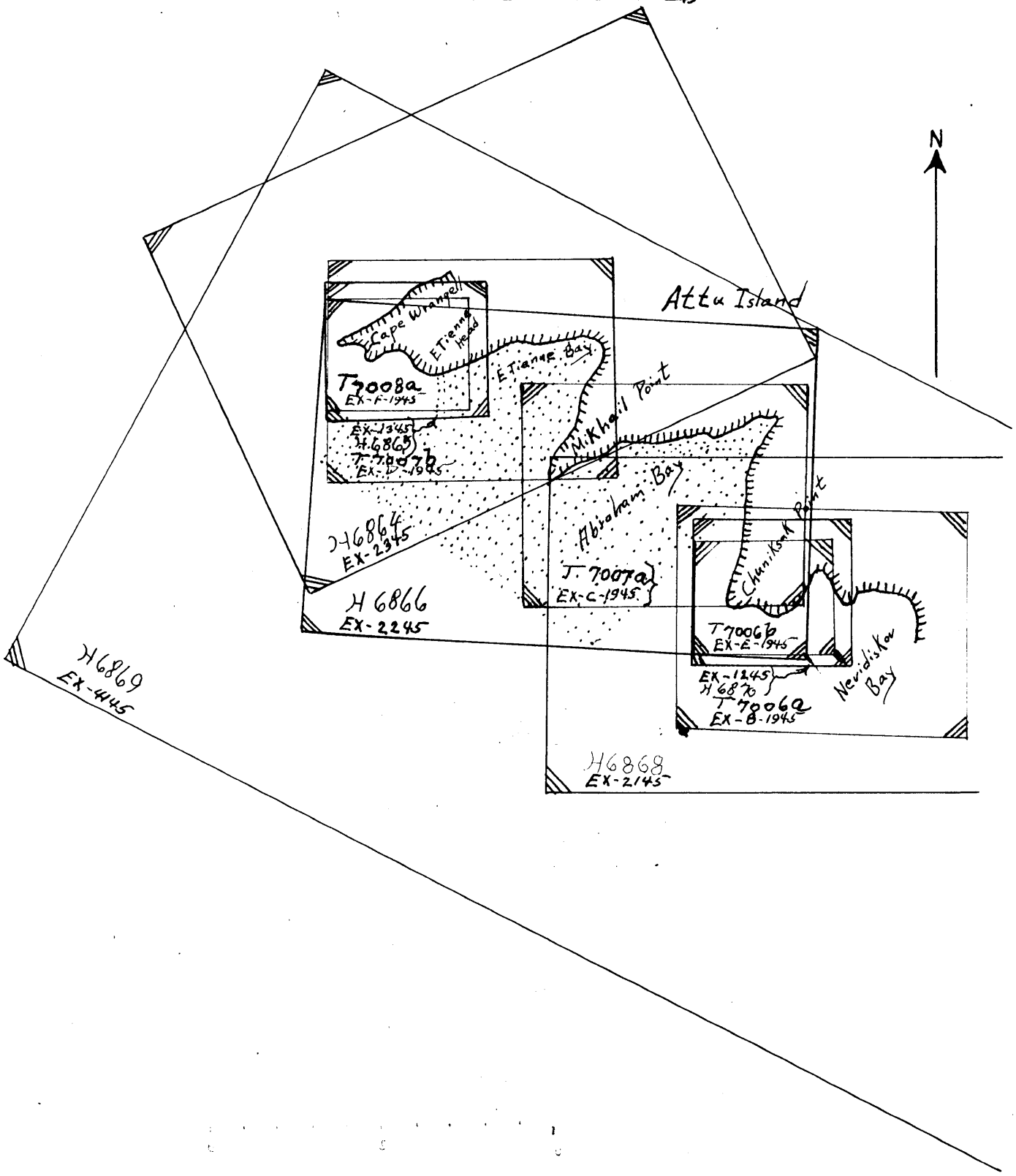
6866

INDEX SHEET

to

Accompany Hydrographic Sheet

Field Number EX-2245



DESCRIPTIVE REPORT

TO

ACCOMPANY HYDROGRAPHIC SURVEY H- 6866

Field No. EX-2245

ABRAHAM AND ETIENNE BAYS, ATTU ISLAND, ALASKA

1945

SCALE 1:20,000 USC&GSS EXPLORER

ROLAND D. HORNE, COMMANDING

SURVEYED BY: L. S. HUBBARD - E. C. BAUM

I. R. RUBOTTOM - W. WEIDLICH

- o -

A. PROJECT:

Instruction project C.S. - 218; Supplemental Instructions 12 April 1945 (sub-project #5) Liaison Officer's; Supplemental Instructions 6 June 1945 (sub-projects #5 and #30) Liaison Officer's.

B. SURVEY LIMITS AND DATES:

Locality - Alaska, Attu Island (south coast). Survey includes western portion of Abraham Bay, all of Etienne Bay to Etienne Head; the offshore limits being defined by a SE-NW line approximately 3½ miles offshore and southwestward of Etienne Head and Mikhail Point respectively.

Hydrography was executed during the period 24 June-21 July 1945.

See index limit sheet for junctures with and scales of contemporary surveys.

Junctures with contemporary hydrographic surveys: to the southeastward with Field No. EX-2145, scale 1:20,000; to the southwestward H 6868(1945)

H6869 (1945)
with Field No. EX-4145, scale 1:40,000; to the northwestward with
H6864 (1945)
Field No. EX-2345 (offshore), scale 1:20,000 and Field No. EX-1345 H6865 (1945)
(inshore), scale 1:10,000.

C. VESSEL AND EQUIPMENT:

The USC&GSS EXPLORER, with hydrographic launches No. 1 and No. 2, operating from the vessel, executed the hydrography. The launches operated offshoreward to a juncture with the ship survey. This juncture is defined in general by a distance offshore, normal to the coastline, of from one to one and one half nautical miles. Launch No. 1 executed the hydrography in the western half of Abraham Bay westward to and including the eastern half of Etienne Bay. The remainder of inshore hydrography was executed by launch No. 2.

The turning radius of the EXPLORER is 275 and 360 meters to port and starboard respectively. The vessel's sounding speed varied between 10 knots on inshore lines to 12½ knots on offshore lines. No appreciable variation in turning radius was observed within the limits of sounding speeds.

The* N.M.C. (U.S. Navy) and 808 (C&GS No. 60) fathometers were used by the EXPLORER. The 808 fathometer was restricted to the inshore areas of survey; changes from 808 to N.M.C. fathometers were made at 150 fathoms depth running offshoreward. On shoreward lines the change from N.M.C. to 808 fathometer occurred at approximately 120 fathoms depth. Launches No's. 1 and 2 used 808 fathometers, USC&GS No's. 50 and 51 respectively, for all depth on the fathom

*This survey under 150 fms. — NMC Recorder not used.

scale, except on occasions while drift sounding over critical depths. Both launches are equipped with graphic recording type fathometers.

D. TIDE STATIONS:

The reduction of tides was based on Etienne Bay, portable tide gage, during period of survey.

E. SMOOTH SHEET:

Function of Processing Office.

F. CONTROL:

Datum, USN GANNET 1934. Local triangulation, Roland D. Horne, 1945. Local topographic control, graphic method, field sheets No's. T7006a T7006b T7007a T7007b T7008a EX-B-45, EX-E-45, EX-C-45, EX-D-45, EX-F-45.

G. *SHORELINE AND TOPOGRAPHY:

The shoreline and topographic details pertaining to this survey were combined from data taken from topographic (graphic control) sheets enumerated (paragraph F) above and air photographs flown during 1945, by the US Navy, Attu Island, Alaska, for control data for current surveys.

Where the low water line was not defined by soundings, due to the rocky and irregular nature of ledge formations, it was delineated by air-photographic inspection. Air-photographic inspection with regard to offlying rocks, elevations above their respective planes of reference were made by the filed inspection party following the hydrographic survey.

The delineated shoreline contiguous to the hydrographic survey was not available during execution of hydrography.

* Final shoreline is now being compiled in Div. of Photogrammetry.

H. SOUNDINGS:

All depths were obtained by fathometer or leadline. Where irregularity of depths indicated further investigation was necessary the following practices were followed: a fan-grid system of sounding lines, radiating from an object ashore, offering the optimum condition for ranges, was developed over the irregular depths.

During the process of development, least depths were noted on fathogram and penciled on boat sheet. The locations of these least depths were simultaneously determined by cross ranges and the critical areas, for further investigation, thereby determined. When required, a buoy was planted adjacent to least depths to further identify the immediate area. The buoy consisted of a leadline with small wiredrag float attached at the desired depth. Drift and slow speed sounding, maneuvering over the critical area, were continued, recording successive least depths until the shoalest sounding was determined. In each instance an attempt was made to verify fathogram least-depth recording by handlead sounding. However, depths were obtained by the fathometer, where verification by handlead sounding was not possible, although the sounding was repeatedly recorded by fathogram. On occassions where a buoy was not planted, the particular area was examined by holding position by cross ranges (mentioned above) recording successive least depths and an occasional depth to verify position of launch during investigation.

I. CONTROL OF HYDROGRAPHY:

Standard sextant-fix practices for position determination were

used in accordance with "Special Publication No. 143, revised 1942."

J. ADEQUACY OF SURVEY:

The survey of this area is adequate.

Ja. BOAT SHEET JUNCTURES:

Boat sheet junctures with current hydrographic surveys are in close agreement, however, the smooth sheet examination when accomplished will govern.

Depth curves can be adequately drawn on the boat sheet at the junctures.

K. CROSSLINES:

Adequate crosslines were run indicating close agreement.

M. COMPARISON WITH CHART:

No previous survey existed.

Respectfully submitted,

L. S. Hubbard

47 L. S. Hubbard,
Lt. Comdr., C&GS.

Edwin C. Baum

E. C. Baum,
106 Lt. Comdr., C&GS.

107 I. R. Rubottom,
Lt. Comdr., C&GS.

W. Weidlich,
Mate, C&GS.

Approved and forwarded:

Roland D. Horne

Roland D. Horne,
Comdr. C&GS.

STATISTICS FOR HYDROGRAPHIC SURVEY H-6886

FIELD NO. EX-2245 U.S.C.& G.S.S. EXPLORER

Survey Unit	Vol.	Day Letter	Date 1945	Number Positions	Sta.Miles Sdg. Lines	Area Sq. Sta.Miles
EXPLORER	1	A	June 24	11	4.2	
EXPLORER	1	B	June 25	18	6.7	
EXPLORER	1	C	July 6	152	34.0	
EXPLORER	1	D	July 7	53	22.5	
EXPLORER	1&2	E	July 8	234	110.7	
EXPLORER	2&3	F	July 9	232	74.3	
EXPLORER	3&4	G	July 10	247	99.5	
EXPLORER	4	H	July 11	125	44.6	
EXPLORER	4	J	July 12	15	6.4	
				1087	402.9	
Lch. #1	5	a	July 6	273	52.2	
Lch. #1	6	b	July 7	275	49.2	
Lch. #1	7	c	July 8	280	41.4	
Lch. #1	8	d	July 9	287	49.1	
Lch. #1	9	e	July 10	288	50.8	
Lch. #1	10	f	July 20	137	19.1	
Lch. #1	10	g	July 21	92	13.0	
				1632	274.8	
Lch. #2	11	A	July 8	180	38.5	
Lch. #2	11&12	b	July 9	234	49.8	
Lch. #2	12&13	c	July 10	262	49.7	
Lch. #2	13	d	July 11	95	20.3	
				771	158.3	
GRAND TOTALS				3490	836.0	

12 July 1965

SHIP

808 fms.			820 fms/sec. fms.
12.0	to	17.0	-0.2
17.0	"	20.0	-0.3
20.1	"	20.2	-0.4
20.3	"	32.0	-0.5
32.0	"	37.5	-0.6
37.0	"	40.5	-0.8
40.5	"	50.5	-1.0
50.6	"	61.0	-1.2
61.0	"	70.5	-1.4
70.4	"	78.4	-1.6
78.5	"	84.5	-1.8
84.3	"	94.5	-2.0
94.3	"	102.2	-2.2
102.5	"	117	-2.5
118	"	136	-3.0
137	"	156	-3.5
157	"	176	-4.0
176	"	196	-4.5

LAUNCHES

808 Fms.			820 fms/sec. fms.
0.0	to	2.5	0.0
2.6	"	10.0	-0.1
10.1	"	16.2	-0.2
16.3	"	21.5	-0.3
21.6	"	26.5	-0.4
26.5	"	31.5	-0.5
31.6	"	36.2	-0.6
36.3	"	44.2	-0.8
44.3	"	52.2	-1.0
52.3	"	60.4	-1.2
60.5	"	68.5	-1.4
68.6	"	76.5	-1.6
76.6	"	84.5	-1.8
84.3	"	92.2	-2.0
92.3	"	100.5	-2.2

NMC fms.			800 fms/sec. fms.
0	to	15	0.0
15.0	"	100	+0.2
101	"	200	0.0

For greater depths see corrections of 17 June 1965.

H-6866

EX 2245

Abraham and Etienne Bays, Attu I.

Tidal Note

Reduction of soundings for Hydrographic Sheet No. H-6866 (Field No. EX 2245) is based on tide data from portable gage No. 187 established on the north shore of Etienne Bay, Attu Island, Alaska. The hourly heights for reduction of records were scaled from marigrams. Plane of reference of MLLW is 3.8 ft. on the tide staff, reference Director's letter dated 10 August 1945, ref. 35-mlh.

All times, for the operation of the tide gage and execution of hydrography, were based on the 150° meridian time.

Etienne Bay Tide Gage

Latitude	52°	55.6	N
Longitude	172	37.05	E

Geo. Datum - USN GANNET 1934.

H-6866

EX 2245

Abraham Bay and Etienne Bay, Attu Island

Seattle Processing Office Notes

Smooth Sheet-

Projection hand made on Paragon (German) paper.

Datum is USN GANNET 1934. ✓

Shoreline and Topography-

(1945) A few rocks and reefs, shown in black ink, are from ~~T-7006a~~, T-7007a, and T-7007b. The penciled shoreline is taken from air photographs. This was done by the field party who* transferred it to Boat Sheets a and c. The field party had photographs on 1:10,000 scale eastward from the head of Etienne Bay. These were inspected. West of the head of Etienne Bay they had smaller scale photographs which they did not inspect, although they recognized the positions of certain control points on them being familiar with the locality.

The hydrographic party also sketched ledges, rocks, etc., and it is often difficult to tell whether an object on the boat sheet originated with the photographs or from sketching by the hydrographic party. Notes have been placed on the smooth sheet at all rocks which are specifically mentioned in the sounding records. Rocks inked

Shoal at Latitude 52° 52!3 Longitude 172° 39!2-

The high spots in the fathogram between positions 67f and 82f, launch No. 1, were rescanned in the Processing Office. The shoal readings were evidently made on kelp. Similar changes were made between 211 and 212 and 184 to 185 c day. The result is to change the shoalest depth from 1.4 fms. to 5.8 fms. ✓

The ledge at Latitude 52° 52!5 Longitude 172° 44!7 is 4 ft. above MHW, per T-7007a. Apparently part of it should be shown as an islet or large rock. (Noted bare 4ft at pos. 21f.)

* Shoreline detail transfered after completion of hydrography (see Desc. Report page 3, last par.)

Crossings-

Latitude	Longitude	Position	Depth	Remarks
52° 47:4	172° 40:2	13B*	67 Fms.	
		67-68C	65	
52 48.7	172 41.6	17-18B*		The line on B day is 2 fathoms deeper than the line on c day.
		57-58c		
		43-44c		
		5-6 c		* Conflicting and deeper soundings ~~of ship~~ were not inked. all ship work
		32-33c		

At Lat. 52° 51.4 Longitude 172° ~~41.5,~~ 38.5' note that the ships work is one to two fathoms depper in depths of 40 to 45 fathoms than soundings by the red launch. This condition is quite general along the junction of the ship's work with the red launch, while the overlap of ship and blue launch work is good. Fathograms were examined without any conclusion. The ship and launches used 808 fathometers. The red launch sounded on the a scale. The ship used both a and b scale in the overlap. Note similar relation between red launch and ship soundings on H-6868. See Review, par. 3

H-6866

Attu Island

List of Geographic Names Penciled on the Smooth Sheet

Attu Island

Pacific Ocean

Cape Wrangell

Etienne Head

Etienne Bay

Mikhail Point

Abraham Bay

Chuniksak Point

, Respectfully submitted,

Edgar E. Smith

Edgar E. Smith
Cartographic Engineer
Seattle Processing Office

HWM

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. June 1937

TIDE NOTE FOR HYDROGRAPHIC SHEET

Division of Hydrography and Topography: October 8, 1946

Division of Charts: H. W. MURRAY

Plane of reference approved in
13 volumes of sounding records for

HYDROGRAPHIC SHEET 6866

Locality - South Coast of Attu Island,
Aleutian Islands, Alaska

Chief of Party: R. D. Horne in 1945
Plane of reference is mean lower low water, reading
3.8 ft. on tide staff at Etienne Bay
9.2 ft. below B. M. 1

Height of mean high water above plane of reference is 3.7 feet.

Condition of records satisfactory except as noted below:

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

U. S. GOVERNMENT PRINTING OFFICE 154337

GEOGRAPHIC NAMES

Survey No. H-6866

Name on Survey	On Chart No. A	On previous survey No. B	On U. S. quadrangle Maps C	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H		
Attu Island									USGB. K	1
Abraham Bay									"	2
Etienne Bay			(location of tide staff.)						"	3
Mikhail Pt									"	4
Etienne Head									"	5
Chunjiksak Pt.									"	6
Cape Wrangell										7
										8
										9
										10
			Names underlined in red approved by Litteck on 11/25/46							11
										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-6866..

Records accompanying survey:

Boat sheets .3..; sounding vols. 13....; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls .4..;

special reports, etc. .....

.....

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

Number of positions on sheet		3490
Number of positions checked		150
Number of positions revised		11
Number of soundings revised (refers to depth only)		20
Number of soundings erroneously spaced		—
Number of signals erroneously plotted or transferred		—
Topographic details	Time	5
Junctions	Time	16
Verification of soundings from graphic record	Time	20

Verification by Roy E. Elkins Total time 164 Date 11-8-46

165

Reviewed by J. F. Jordan Time 25 Date 11-20-46

M-2232-1

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY REGISTRY NO. 6866

FIELD NO. EX-2245

Alaska-Aleutian Islands, Attu Island, Abraham and Etienne Bays
Surveyed in June to July, 1945 Scale 1:20,000
Project No. CS-218

Soundings:

808 Fathometer

Control:

Three-point fixes on shore signals

Chief of Party - R. D. Horne
Surveyed by - L. S. Hubbard, E. C. Baum, I. R. Rubottom and W. Weidlich
Protracted by - P. M. Fisher and W. M. Martin
Soundings plotted by - W. M. Martin
Verified and inked by - R. E. Elkins
Reviewed by - G. F. Jordan, November 20, 1946
Inspected by - H. W. Murray

1. Control and Topographic Detail

The source of signal control, pencilled shoreline and rock detail is described in the Descriptive Report.

*Inked rocks are from the present survey and graphic control surveys listed in the Descriptive Report.

*Complete shoreline detail is now being compiled from air photographs. (*) Applied from T-7007 a,b (1945) - checked 2/20/50, - G.F.J.

2. Bottom Configuration and Depth Curves

Except for a few irregularities in Abraham Bay, the survey covers an area of smooth bottom to within one-half mile of the shoreline. Inshore areas are very irregular except at the heads of the bays.

Depth curves could be satisfactorily drawn.

3. Sounding Line Crossings

Agreement of depths at crosslines is satisfactory except for slight discrepancies of 1 to 2 fms. in 30-to 50-fm. depths which occur in some of the overlapping lines of the ship and launch No. 1.

4. Adjoining Surveys

Satisfactory junctions are effected on the south with H-6869 (1945) and on the west with H-6864 and H-6865 of 1945. The junction on the southeast will be considered in the review of H-6868 (1945).

5. Comparison with Chart 9149 (Print date of Feb. 23, 1946)

a. Hydrography

Charted hydrography originates with advance information of the present survey, Bp. 40248 (1945). In addition to the usual minor corrections necessary in order to conform to verified hydrography, the following charted soundings in particular should be corrected:

2-1/2 fms. on kelp at lat. 52° 54.55', long. 172° 31.57' Deeper area now indicated on Recons. 9149
2-1/2 fms. on kelp at lat. 52° 54.53', long. 172° 31.82'. 6_3 on Recons. 9149
2-1/4 fms. on kelp at lat. 52° 51.94', long. 172° 37.20'. 4_4 on Reconst 9149
1-1/4, 1-1/2, 1-3/4 fms. on kelp at lat. 52° 52.3', long. 172° 39.2'. 5_2 on Reconstr 9149
3/4 fms. on kelp at lat. 52° 52.84', long. 172° 41.58'. Deeper area indicated on Recons 9149
53 fms. at lat. 52° 53.12', long. 172° 29.36', 10-fm. error. over 60 fms indicated on Reconst 9149
50 fms. at lat. 52° 50.54', long. 172° 39.22', 5-fm. error. Deeper area indicated Reconstr 9149
38 fms. at lat. 52° 50.02', long. 172° 42.55', subsequently disproved. 41 & 42 fms on Reconstr 9149
Four rocks at lat. 52° 55.7', long. 172° 38.6', on which soundings were obtained.

b. Aids to Navigation

No aids to navigation are charted within the limits of the present survey.

6. Condition of the Survey

a. The sounding records and Descriptive Report are complete in all detail.

b. Smooth plotting was excellent. However, some revisions were necessary to correct for kelp readings.

7. Compliance with Project Instructions

The survey adequately complies with the project instructions.

8. Additional Field Work Recommended

This is an excellent basic survey and no additional field work is recommended.

Examined and approved:

Chief, Nautical Chart Branch

Chief, Division of Charts

Chief, Section of Hydrography

Chief, Division of Coastal Surveys

NAUTICAL CHARTS BRANCH

SURVEY NO. H-6866

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
3/11/47	9149	F.A. McGann	~~Before~~ After Verification and Review
9-29-50	9192	GtE	~~Before~~ After Verification and Review
9/14/55	9149	A.A.M.	~~Before~~ After Verification and Review
			applied to reconstruction
4-27-63	8865	Ev Grogory	~~Before~~ After Verification and Review EXam
			Partly appd Revised 7 sndgs
			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.