

7975

1120, 100

Diag. Cht. Nos. 8863-3 & 9000-1

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. EX-2252 Office No. H-7975

LOCALITY

State Alaska - Aleutian Islands

General locality Delarof Islands

Locality Ilak Island

19 52

CHIEF OF PARTY

George L. Anderson

LIBRARY & ARCHIVES

DATE March 24, 1953

B-1870 1 (1)

7975

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. H-7975

Field No. EX-2252

State Alaska - Aleutian Islands

General locality Delarof
~~Aleutian~~ Islands

Locality Delarof Islands * Ilak Island

Scale 1:20,000 Date of survey 9 Sept. - 12 Sept. 1952

Instructions dated 19 March 1952

Vessel EXPLORER

Chief of party G. L. Anderson

Surveyed by R. Gossett, J. C. Tison, E. F. Hicks, R. F. Lanier

Soundings taken by fathometer, ~~graphic recorder, hand lead, wire~~ 808 No. 60, NMC-2 No. 60
808 No. 72S 808 No. 60

Protracted by D.L. Campbell, R.F. Lanier

Soundings penciled by R.F. Lanier, J.J. Dermody

Soundings in fathoms & tenths at MLLW
and are based on a velocity of sound of 800 fms/sec

REMARKS:

RL

DESCRIPTIVE REPORT
To Accompany
HYDROGRAPHIC SURVEY H-7975
Field No. EX-2252
ALUTIAN ISLANDS, ALASKA
DELAROF ISLANDS
ILAK ISLAND
1952

Scale: 1:20,000

Surveyed by: F. R. Gossett, J. C. Wison, E. F. Hicks, R. F. Lanier
USC & GSS EXPLORER, G. L. Anderson, Commanding

A. PROJECT:

The field work on H-7975 (EX-2252) was executed in accordance with instructions for Project No. CS-218 dated 19 March 1952.

B. SURVEY LIMITS AND DATES:

This survey includes hydrography surrounding Ilak Island. The area covered extends approximately 2 miles south to Lat. $51^{\circ}26'$, 5 miles west to Long. $178^{\circ}27'$, 1.5 mile north to Lat. $51^{\circ}31'$ and 2.5 miles east to Long. $178-11$. Prior to this survey, the area was unsurveyed.

Field work on this survey began 9 September 1952 and was completed on 12 September 1952.

The work on this sheet was joined on all sides except the west by contemporary survey H-7977 (EX-10152), 1952, scale 1:100,000. To the west this survey was joined by survey H-7051 (1944 and 1945), scale 1:40,000.

C. VESSELS AND EQUIPMENT:

All offshore hydrography on this sheet was accomplished with the Ship EXPLORER. The fathometers used were as follows:

<u>Recorder & No.</u>	<u>Approximate Depth Used</u>
808 No. 60	0-150 fms.
NMC-2 No. 60	150-600 fms.

The inshore hydrography was accomplished using Launches Nos. 1 and 2 operating from the EXPLORER. Launch No. 1 was equipped with fathometer 808 No. 50 and Launch No. 2 was equipped with fathometer 808 No. 72S. These fathometers were used in depths less than 150 fathoms.

The Ship EXPLORER's turning radius is 275 meters full left about and 360 meters full right about (values from old descriptive report).

D. TIDE AND CURRENT STATIONS:

A portable tide gage installed on the end of the pier at Lash Bay, Tanaga Island, was used in determining the tide reducers. No time or range corrections were applied to the Lash Bay tidal data. The gage was referred to the old bench marks and the plane of MLLW on the staff was determined to be 1.8 feet. *Beyond limits of this survey

The tide corrections were applied only to soundings less than 200 fathoms.

There was no current station occupied on this sheet.

E. SMOOTH SHEET:

The smooth sheet projection and shoran arcs were made by hand at the Seattle Processing Office. ✓

The triangulation stations were plotted on the smooth sheet by this party. The shoreline and photo-hydro signals are to be transferred when the final manuscripts are received from the Washington Office. The small portion of inshore hydrography that was controlled by sextant fixes on shore signals can then be plotted. (*plotted in Processing Office*) ✓

F. CONTROL STATIONS:

Triangulation station ILAK 1944 was located by E. B. Roberts in 1944 with triangulation station GRAMP, 1952 and intersection station IAC, 1952 being located by this party during the current season. Shoran stations TAN and UGA were located by triangulation during the current season. ✓

The location of triangulation and shoran stations in this area is discussed in the triangulation report, Ship EXPLORER, 1952. ✓

The photo-hydro control was located by this party using photogrammetric methods. See Descriptive Report, Field Photogrammetric Operations, Ilak Island, 1952. The positions of photo-hydro signals will be furnished by the Washington Office after the final office photogrammetric plot is completed. ✓

G. SHORELINE AND TOPOGRAPHY:

The shoreline and topography on the boat sheet was obtained from a preliminary ~~bromide~~ manuscript furnished by the Washington Office. The smooth plot is awaiting final compilation of photogrammetric data in the Washington Office. *T-8027 (1952)* ✓ *Review, par. 1*

The low waterline was not delineated due to a rocky shoreline and heavy kelp. The kelp areas are shown on the boat sheet. *& smooth sheet* ✓

H. SOUNDINGS:

All soundings were measured with standard echo-sounding equipment (listed in Paragraph C). A separate fathometer report contains all the necessary data concerning corrections. *with H-7977* ✓

The corrections applied were index, initial, phase, draft, and squat and settlement. These corrections were in accordance with the instructions for Project CS-218 dated 19 March 1952. (*800 fms. per sec.*) ✓

An abstract of sounding corrections is attached to this report. ✓

I. CONTROL OF HYDROGRAPHY:

Two shoran distances from stations TAN and UGA were used to control all hydrography except a small area south of Ilak Island where the signals could not be received over the island. Sextant fixes on shore signals were used in this small area. ✓

J. ADEQUACY OF SURVEY:

This survey is complete and adequate for charting purposes. There are no prior surveys in this area. ✓

The junctions with adjoining surveys compared very favorably on the boat sheet. The depth curves can be adequately drawn at the junctions. *Review, par. 4.* ✓

K. CROSSLINES:

Approximately eight per cent of the hydrographic lines on this survey are crosslines. The agreement at crossings is in general very good on the boat sheet.

L. COMPARISON WITH PRIOR SURVEYS:

There were no prior surveys of this area. The surrounding surveys, Hydrographic Survey No. 7051 (1944 and 1945), scale 1:40,000 and Hydrographic Survey No. H-7977 (EX-10152), 1952, scale 1:100,000 were in satisfactory agreement. Review, par. 4.

M. COMPARISON WITH CHART:

This area was previously unsurveyed.

N. DANGERS AND SHOALS:

There is a rock awash at MHW in Lat. 51-29.27, Long. 178-21.52 with shoal water (5 to 10 fathoms) extending eastward to the northwest end of Gramp Rock. A shoal sdg. of 5 1/2 fms. lies about 200 m. S.W. of the rk.

A shoal area extends southeastward from Ilak Island. Rocks awash extend out 1/2 mile from shore. The twenty fathom depth curve extends out from Ilak to Lat. 51-27.9, Long. 178-14.9.

The pass between Ilak and Gramp Rock Islands is not navigable except by small boats. On the boatsheet two fathoms could be carried through the pass. Tide rips were observed in the pass. 12 fms. at 51° 28.95', 179° 19.67'

O. COAST PILOT INFORMATION:

The ship did not anchor in this area and there are no recommended anchorages.

The prevailing weather in the area during the course of the survey was rainy and foggy with heavy seas from the south.

There were no current stations in the area, but strong currents were noted setting north or south through the pass between Gramp Rock and Ilak, at the east end of Ilak, and at the west end of Gramp Rock.

For further information refer to Coast Pilot Notes, 1952, Ship EXPLORER.

P. AIDS TO NAVIGATION:

No floating or fixed aids to navigation exist within the limits of this survey.

Q. LANDMARKS FOR CHARTS:

<u>Hydro Name</u>	<u>Description</u>
LAC	Offlying rock north of Ilak ✓
KED	Northwest corner of cabin on north side of Ilak (see T-8027) KED not used as signal

R. GEOGRAPHIC NAMES:

The small island two miles west of Ilak has no assigned name. The name Gramp Rock has been proposed. See Descriptive Report, Field Photogrammetric Operations, 1952, Ship EXPLORER.

Z. SPECIAL REPORTS AND DATA:

Photogrammetric Report forwarded to office

Shoran Report, Ship EXPLORER, 1952, forwarded to office

Fathometer Report, Ship EXPLORER, 1952, forwarded to office

Coast Pilot Notes, Ship EXPLORER, 1952, forwarded to office

Triangulation Report, Ship EXPLORER, 1952, forwarded to office

Library

Respectfully submitted

Donald L. Campbell

Donald L. Campbell
Ensign, USC&GS

H-3977

TIDE NOTE

Tidal reducers were applied to soundings on this sheet using the tide record obtained from the Lash Bay portable tide gage in Lat. 51-40.3 Long. 178-02.6. No time or range correction was applied. The staff was referred to old bench marks. MLLW on the staff was determined to be 1.8 feet. Tidal corrections were not applied to soundings over 200 fathoms.

STATISTICS FOR HYDROGRAPHIC SHEET
H-7975 Field No. EX-2252
USC & GSS EXPLORER

<u>Date</u>	<u>Day</u> <u>Letter</u>	<u>Volume</u>	<u>Statute</u> <u>Miles</u>	<u>Positions</u>	<u>Area</u> <u>Sq. St. Mi.</u>	<u>Vessel</u>
11 Sept.	A	1	110.5	234		EXPLORER
12 Sept.	B	1	26.7	69	32.0	"
9 Sept.	a(blue)	1	39.6	121		Launch 1
10 Sept.	b "	1 & 2	45.8	155		"
11 Sept.	c "	2	34.8	156		"
12 Sept.	d "	2	6.2	47	11.2	"
9 Sept.	a(green)	1	33.4	134		Launch 2
10 Sept.	b "	1 & 2	47.8	215		"
11 Sept.	c "	2	21.6	131	11.0	"
Totals			366.4	1262	54.2	

APPROVAL SHEET

Hydrographic Survey No. H-7975

The boat sheet, sounding volumes, fathograms and descriptive report have been examined and are approved.

George L. Anderson

George L. Anderson
Captain, USC&GS
Comdg. Ship EXPLORER

**FATHOMETER CORRECTIONS
ABSTRACT OF INDEX AND PHASE COMPARISONS**

SHIP Fathometer No. 113 S	LAUNCH No. 1
A Scale Plus 0.2 Fm.	A Scale Plus 0.4 Fm.
B Scale Plus 1.0 Fm.	B Scale Plus 0.8 Fm.
C Scale Plus 0.4 Fm.	C Scale Plus 0.8 Fm.
D Scale Minus 1.0 Fm.	D Scale Plus 0.5 Fm.

SHIP Fathometer No. 60	LAUNCH No. 2 & 3
A Scale 0.0 Fm.	A Scale Plus 0.2 Fm.
B Scale Plus 0.4 Fm.	B Scale Plus 1.2 Fm.
C Scale Plus 1.2 Fm.	C Scale Plus 1.2 Fm.
D Scale Plus 1.0 Fm.	D Scale Plus 1.0 Fm.

SHIP NMC-2 0.0 Fm.
SHIP NMC 0.0 Fm.

DRAFT AND SQUAT CORRECTIONS

Use this table for speeds greater than half speed
Subtract 2.0 Fm. from correction when using 808 Fathometer
Do not use with NMC type Fathometer.

All corrections in this table additive

2.6 Fm. 19 May to 0600 21 May	2.5 Fm. 19 May to 29 May
2.4 Fm. 0601 21 May to 29 May	
2.6 Fm. 3 June to 1200 4 June	2.5 Fm. 3 June to 1000 13 June
2.4 Fm. 1200 4 June to 1500 14 June	2.0 Fm. 1001 13 June to 17 June
2.2 Fm. 1501 14 June to 17 June	
2.6 Fm. 17 June to 1200 20 June	2.5 Fm. 17 June to 0800 29 June
2.4 Fm. 1201 20 June to 1400 30 June	2.0 Fm. 0801 29 June to 2 July
2.2 Fm. 1401 30 June to 2 July	
2.6 Fm. 7 July to 1400 13 July	2.5 Fm. 7 July to 15 July
2.4 Fm. 1401 13 July to 15 July	
2.6 Fm. 16 July to 0000 24 July	2.5 Fm. 16 July to 1200 30 July
2.4 Fm. 0001 24 July to 0800 31 July	2.0 Fm. 1201 30 July to 1 August
2.2 Fm. 0801 31 July to 1 August	
2.6 Fm. 4 August to 2000 6 August	2.5 Fm. 4 August to 0200 13 August
2.4 Fm. 2001 6 August to 0200 14 August	2.0 Fm. 0201 13 August to 19 August
2.2 Fm. 0201 14 August to 19 August	
2.6 Fm. 20 August to 2100 21 August	2.5 Fm. 20 August to 0000 28 August
2.4 Fm. 2100 21 August to 0000 29 Aug.	2.0 Fm. 0001 28 August to 3 Sept.
2.2 Fm. 0001 29 August to 3 Sept.	
2.6 Fm. 7 Sept. to 2000 8 Sept.	2.5 Fm. 7 Sept. to 0200 13 Sept.
2.4 Fm. 2001 8 Sept. to 14 Sept.	2.0 Fm. 0201 13 Sept. to 14 Sept.

Use 0.2 units to 100 Fm.
Use 0.5 units over 100 Fm.

DRAFT CORRECTIONS

Use this table for half speed or less

Subtract 2.0 Fm. from correction when using 808 Fathometer

Do not use with NMC Fathometer

All corrections in this table additive

2.4 Fm. 19 May to 1400 24 May
2.2 Fm. 1401 24 May to 29 May

2.5 Fm. 19 May to 0800 23 May
2.0 Fm. 0801 23 May to 29 May

2.4 Fm. 3 June to 1800 7 June
2.2 Fm. 1801 7 June to 17 June

2.5 Fm. 3 June to 1000 6 June
2.0 Fm. 1001 6 June to 17 June

2.4 Fm. 17 June to 1200 23 June
2.2 Fm. 23 June to 2 July

2.5 Fm. 17 June to 0800 22 June
2.0 Fm. 0801 22 June to 2 July

2.4 Fm. 7 July to 15 July

2.5 Fm. 7 July to 15 July

2.4 Fm. 16 July to 1800 26 July
2.2 Fm. 1801 26 July to 2200 31 July
2.0 Fm. 2201 31 July to 2 August

2.5 Fm. 16 July to 2300 25 July
2.0 Fm. 2301 25 July to 2 August

2.4 Fm. 4 August to 0000 9 August
2.2 Fm. 0001 9 August to 1000 16 August
2.0 Fm. 1001 16 August to 19 August

2.5 Fm. 4 August to 2200 7 August
2.0 Fm. 2201 7 August to 19 August

2.4 Fm. 20 August to 0200 24 August
2.2 Fm. 0201 24 August to 0300 31 August
2.0 Fm. 0301 31 August to 3 Sept.

2.5 Fm. 20 August to 0000 23 August
2.0 Fm. 0001 23 August to 3 Sept.

2.4 Fm. 7 Sept. to 0300 10 Sept.
2.2 Fm. 0301 10 Sept. to 14 Sept.

2.5 Fm. 7 Sept to 1200 9 Sept.
2.0 Fm. 1201 9 Sept. to 14 Sept.

Use 0.2 units to 100 fms.

Use 0.5 units over 100 fms.

Addenda to Descriptive Report
 Register No. H-7975
 Field No. EX-2252

G. Shoreline and Topography

Shoreline and topography was transferred by the tracing paper method from an advance print of topographic manuscript T-8027. Several rocks awash not on topographic manuscript T-8027 appear on the smooth sheet. Positions of other rocks awash are not in agreement on the smooth sheet and T-8027(1952)

Review,
par. 7 b.

K. Crosslines


The following discrepancies at crossings were noted on the smooth sheet.

Position No.	Lat. & Long.	Discrepancy, fms.
1A to 2A	51-30.3	1 to 3 fms.
55 to 56a	178-20.6	
57 to 58a		Launch fathograms indicate
83 to 84a		that fathometer speed varied.
85 to 86a		
109 to 110a		
111 to 112a		
133 to 134a		
38-39B	51-31.3	1
161-162b	178-22.6	
4-5A	51-31.3	1
28-29B	178-22.6	

Discrepancies satisfactorily resolved during verification

The line beginning with position 105C, Launch No. 1, at Lat. 51-28.2, Long. 178-17.4 and ending on position 109C and other positions in that vicinity controlled by sextant angles or by a combination of one shoran arc and one angle indicates a disagreement between the shoran distances and the angle.

The line from position 105c to 109c was adjusted to pass close to the 10-foot rock on which signal HOW is located (see boat sheet) and holding shoran distances. The hydrographer stated that the line passed close to this rock.


 S. B. Grenell
 Commander, C&GS
 Comdg. Ship EXPLORER

ABSTRACT OF EPI CORRECTIONS

STATION TA	06/T8		07/T8	
	A	B	A	B
15 May to 24 May	-5.5	-5.8	-2.9	-3.8
28 May to 6 July	-6.4	-6.6	-6.4	-6.5
7 July to 13 July	-8.0	-8.3	-6.7	-7.1

STATION AM	02/T3		03/T5	02/T5
	A	B	A	A
15 May to 13 July	-6.6	-6.4	-5.5	-6.3

STATION AT	06/T4 06/T4		06/T7
		B	B
19 May to 19 June		-8.5	-9.0
20 June to 13 July		-6.8	-7.0

EPI Corrections for Surveys H-7978 & H-7977

ABSTRACT OF ZERO SETS FOR SHORAN CORRECTIONS

DATES	STATIONS	LUG	CONE
25 July to 1030 29 July		99.799	99.840
1030 29 July to 0812 1 Aug.		99.799	99.811

These corrections for Survey H-7995 (EX 10252)

ABSTRACT OF ZERO SETS FOR SHORAN CORRECTIONS

DATES	Stations	TAN	UGA	NAL	LAN
24 May to 13 July		99.800	99.823	99.825	99.793
6 Aug. to 13 Sept.		99.815	99.834	99.807	

These corrections for Surveys H-7974, H-7975, H-7976, H-7977,
H-7978, & H-7052

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~

8 April 1953

Division of Charts: R. H. Carstens

Plane of reference approved in 5
volumes of sounding records for

HYDROGRAPHIC SHEET 7975

Locality Aleutian Island, Alaska

Chief of Party: G. L. Anderson in 1952
Plane of reference is mean lower low water, reading
1.8 ft. on tide staff at Lash Bay, Tanaga Island
7.7 ft. below B. M. 2 (1944)

Height of mean high water above plane of reference is 4.2 feet.

Condition of records satisfactory except as noted below:

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

GEOGRAPHIC NAMES

Survey No. H-7975

Name on Survey											
	A	B	C	D	E	F	G	H	K		
<u>Alaska</u>											1
<u>Aleutian Islands</u>											2
<u>Delarof Islands</u>											3
<u>Ilak Island</u>											4
											5
											6
											7
											8
											9
											10
											11
<u>Lash Bay</u>											12
<u>Tanaga Island</u>											13
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											24
											25
											26
											27

Names underlined in red are approved
4-6-53 L. Heck

BLN

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7975...

Records accompanying survey:

Boat sheets3; sounding vols.5; wire drag vols.;
 bomb vols.; graphic recorder rolls 3 Env.;
 special reports, etc. .1 Smooth Sheet; 1 Descriptive Report;.....

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

Number of positions on sheet		1262
Number of positions checked		32
Number of positions revised		5
Number of soundings revised (refers to depth only)		*226
Number of soundings erroneously spaced		30
Number of signals erroneously plotted or transferred		-
Topographic details	Time	30 hrs
Junctions	Time	17 hrs
Verification of soundings from graphic record	Time	13 hrs
CR Helmer	128 hrs	10/17/55
E. Thomas	49 hrs	4/5/56
Verification by.....	Total time	Date
Reviewed by..... <i>J. A. Dinsmore</i>	Time 16	Date 20 April 1956

* Mostly due to rescanning fgms. in shoal kelp-infested areas

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7975

FIELD NO. EX-2252

Alaska - Aleutian Islands, Delarof Islands, Ilak Island

Project No. CS-218

Surveyed - September, 1952

Scale 1:20,000

Soundings:

Control:

808 Fathometer
MMC-2 Fathometer

Shoran
Sextant fixes on
shore signals

Chief of Party - G. L. Anderson

Surveyed by - F. R. Gossett, J. C. Tison, E. F. Hicks and
R. F. Lanier

Protracted by - D. L. Campbell and R. F. Lanier

Soundings plotted by - R. F. Lanier and J. J. Dermody

Verified and inked by - C. R. Helmer and E. Thomas

Reviewed by - T. A. Dinsmore 20 April 1956

Inspected by - R. H. Carstens

1. Shoreline and Control

The shoreline originates with reviewed air-photographic survey T-8027 of 1952.

The origin of the control is given in the Descriptive Report.

2. Sounding Line Crossings

Depths at crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated except in the inshore areas where heavy kelp and the foul character of the bottom prohibited development to the low-water line.

Numerous offlying rocks and shoals contribute to the bottom irregularities inside the 20-fm. depth curve. Outside of the 20-fm. curve, the even slope of the island shelf is interrupted by only minor irregularities.

4. Junctions with Contemporary Surveys

An adequate junction was effected with H-7051 (1944-45) on the west. The junction between the present survey and H-7977 (1953) on the north, east and south will be considered in the review of that survey.

5. Comparison with Prior Surveys

There are no prior surveys in the area by this Bureau.

6. Comparison with Chart 8863 (Buff Drawing of April 1956)

A. Hydrography

The charted hydrography originates with the present survey prior to verification and review. No discrepancies are noted in the charted information.

B. Aids to Navigation

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

7. Condition of Survey

(a) The sounding records are complete; the Descriptive Report covers all matters of importance.

(b) The smooth plotting was generally accurate. However, numerous smooth-sheet soundings were revised in depth during verification. Most of these revisions resulted from rescanning the fathograms in kelp-infested areas. Some adjustments were also made to topographic details from the reviewed manuscript of T-8027 during verification in the Washington Office.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work

The survey is considered basic for the area covered, and no additional field work is recommended.

Examined and Approved:

Wallace A. Bruder
Wallace A. Bruder
Asst. Chief, Nautical Chart Branch

E. R. McCarthy
E. R. McCarthy
Chief, Chart Division

J. C. Ball
J. C. Ball
Chief, Hydrography Branch

Earl O. Heaton
Earl O. Heaton
Chief, Division of Coastal Surveys

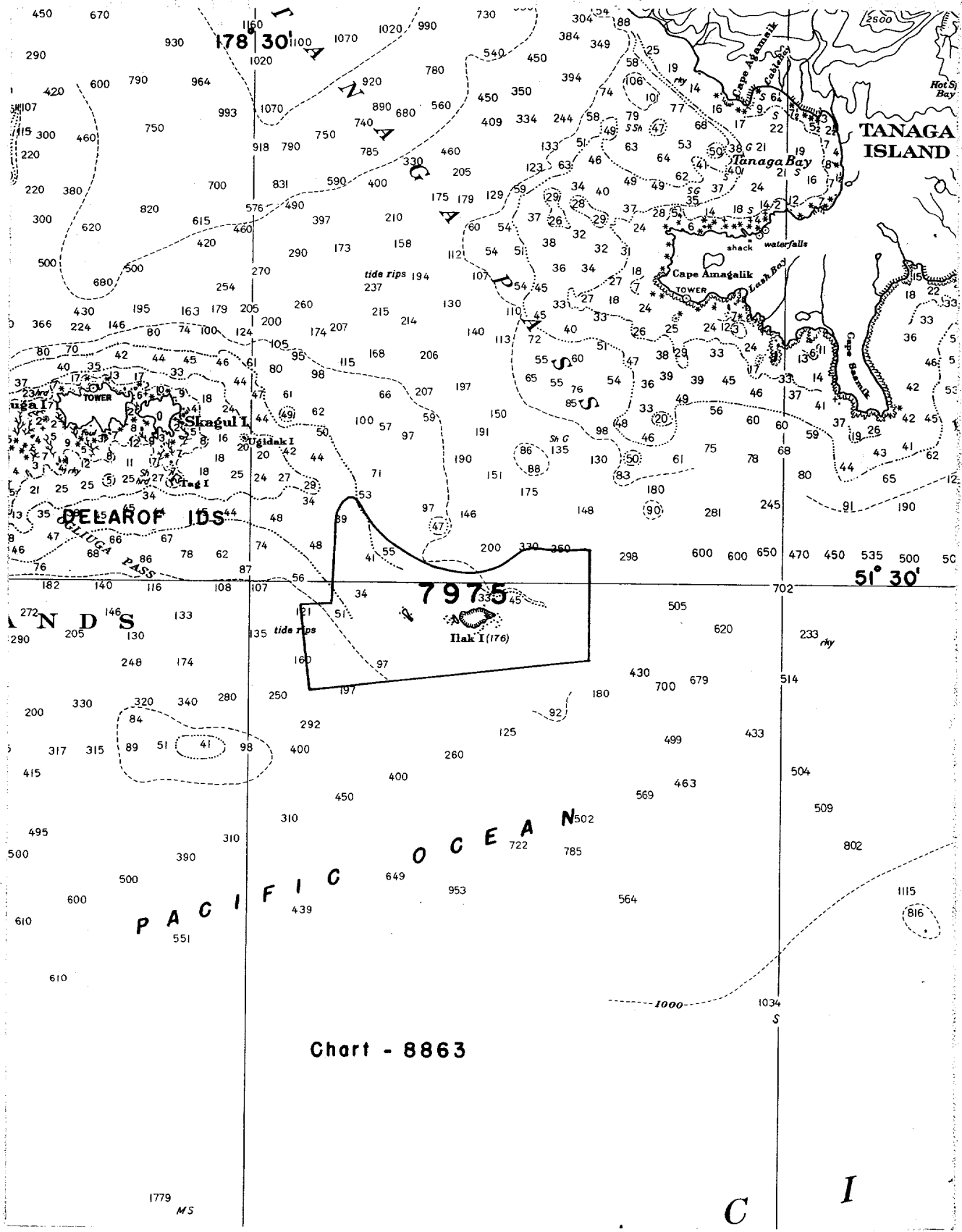


Chart - 8863

1779
MS

C I

NAUTICAL CHARTS BRANCH

SURVEY NO. H-7975

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
4/2/56	8863	H. F. Stegman	Before After Verification and Review <i>Partially.</i>
5/15/57	9102	C. R. Wittman	Before After Verification and Review <i>Completely</i>
7-28-58	8863	C. R. Wittman	Before After Verification and Review <i>Completely.</i>
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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.