

9084

Daig. Cht. No. 8102-3.

FORM C&GS-504	
U.S. DEPARTMENT OF COMMERCE ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION COAST AND GEODETIC SURVEY	
DESCRIPTIVE REPORT	
Type of Survey	Hydrographic
Field No. DA-10-6-69	Office No. H-9084
LOCALITY	
State	Alaska
General locality	Clarence Strait
Locality	Thorne Bay
1969	
CHIEF OF PARTY	
R. E. Moses	
LIBRARY & ARCHIVES	
DATE	1-19-72

9084

HYDROGRAPHIC TITLE SHEET

H-9084

INSTRUCTIONS - 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.

DA-10-6-69

State Alaska

General locality Southeast Alaska Clarence Strait

Locality Thorne Bay

Scale 1:10,000 Date of survey 22 Sept to 10 Oct 1969

Instructions dated 26 August 1969 Project No. OPR-465

Vessel Launch I (DA-1), RAINIER #4, 17' Whaler

Chief of party CDR Ray E. Moses

Surveyed by R.L. Baker, G.H. Endrud, B.W. Fisher, D.L. Suloff, W.K. Taguchi,

G.F. Tornberg

Soundings taken by echo sounder, ^{handlead} ~~hand lead~~ Raytheon DE-723: #214, 553, 1276, 1284

Graphic record scaled by Ship's Personnel

Graphic record checked by Ship's Personnel

Positions verified by ~~XXXXXX~~ C.A.J. Pauw Automated plot by PMC
verified

Soundings ~~XXXX~~ by C.A.J. Pauw

Soundings in fathoms ~~XXXX~~ at ~~XXXX~~ MLLW

REMARKS:

A. PROJECT

This survey was accomplished according to Project Instructions: OPR-465, ✓
CLARENCE STRAIT, SOUTHEAST ALASKA, dated 26 August 1969.

B. AREA SURVEYED

The survey covers all of the area of Thorne Bay, Snug Anchorage, and ✓
Forss Cove. Work was accomplished between 22 September to 10 October
1969. The survey junctions with contemporary surveys DA-10-7-69(H-9085)
and FA-20-4-69. (1969)
H. 9092 (1969)

C. SOUNDING VESSEL

The following vessels were used to obtain soundings on this survey: ✓

Launch I(DA-1)	Red
RA-4	Green
17' Whaler	Blue

Launch RA-4 was on loan from the Ship RAINIER for the season. A summary
of each vessel's work by position numbers is attached. Bottom samples
were taken by Launch I which are shown in blue.

D. SOUNDING EQUIPMENT

Raytheon DE-723 fathometers were used: ✓

Launch I	#1276
RA-4	#214
17' Whaler	#553, #1284

Echo sounder corrections were determined from bar checks taken daily by ✓
the launches. Echo sounder corrections for depths greater than nine
fathoms were supplied by the Ship FAIRWEATHER. All fathometers were
initialed at zero, requiring draft corrections for their soundings.
Draft corrections are included with velocity corrections in the Modified
Velocity Correction tape. Differences between actual and assumed initial
values are compensated by initial corrections(TC/TI tape). All soundings
are in fathoms.

Abstracts of Modified Velocity Corrections and Initial Corrections are ✓
attached.

E. SMOOTH SHEET

The smooth sheet will be constructed and plotted by the Processing Division, Pacific Marine Center, Seattle, Washington. ✓

F. CONTROL

Visual three-point fixes were used for control in this survey. There were three types of visual signals used: triangulation signals, photogrammetric signals, and hydrographic signals. Triangulation signals were hand plotted from office geographic positions; Photogrammetric signals were located by three-ray radial plot from the office photographs; Hydrographic signals were cut in with sextant angles. An abstract of signals and manuscripts is included in the appendix. ✓

G. SHORELINE

Shoreline and shoal area outlines were traced onto the boat sheet from the photo manuscripts (See appendix) by ship's officers. Manuscript field edit was done by ship's officers and is covered by "Field Edit Report OPR-465, Clarence Strait, Southeast Alaska, 1969." Compilation of the manuscripts is good. ✓

H. CROSSLINES

The percentage of crosslines run was 5.8% (7.7 miles). Agreement at crossing is good. ✓

I. JUNCTIONS

Junction is made with contemporary surveys DA-10-7-69 (H-9085) and FA-20-4-69. There is good agreement at the junctions. ✓

11-9092

J. COMPARISON WITH PRIOR SURVEYS

There are no prior surveys or pre-survey review. There has been only a reconnaissance survey of the area for which we have no information. ✓

K. COMPARISON WITH THE CHART

The entire area of Thorne Bay is shown on chart C&GS #8102, 10th edition, May 26, 1969 and portions of the entrance to the bay are shown on C&GS #8124, 7th Edition, September 2, 1968. There are only a few isolated ✓

reconnaissance soundings shown on these charts. Considering the small scale of these charts, the comparison of these soundings to this survey is fair. The major discrepancies between the charts and this survey appear in (1) shoreline delineation and (2) the location of the bay in reference to latitude and longitude.

Several areas on this survey were developed in detail and are briefly outlined below: (* Smooth sheet corrections have been applied)

Positions approximate

- (1) $55^{\circ}40.83'N$, $132^{\circ}31.8'W$
This shoal area, located directly offshore of the logging camp in center of bay, has a least depth of 1.0 fathoms.*
- (2) $55^{\circ}39.95'N$, $132^{\circ}29.40'W$
This shoal runs north from shore out into the center of the entrance to Thorne Bay. Least depth on the end of this shoal is 3.3 fathoms; Near the end of this shoal, however, there is a 3.0* fathom reduced sounding.
- (3) $55^{\circ}40.8'N$, $132^{\circ}28.0'W$
This shoal runs south from shore out into the entrance to Thorne Bay. There is a ~~1/2~~ ft* reduced sounding on the end of this shoal. _{0.8 fm}
- (4) $55^{\circ}40.7'N$, $132^{\circ}28.1'W$
This shoal area in the center of the entrance channel has a least depth of 4.0* fathoms.
- (5) $55^{\circ}40.1'N$, $132^{\circ}27.45'W$
The high point of this shoal is a rock which is ¹/₂ foot* above MLLW. A thick kelp bed covers this shoal area.

L. ADEQUACY OF SURVEY

This survey is complete and adequate to supersede prior surveys.

M. AIDS TO NAVIGATION

There are no fixed aids to navigation in the area covered by this survey. Two "A" frame booms for handling logs were selected for use as landmarks. For further information, refer to "Landmarks Report, OPR-465, Clarence Strait, Southeast Alaska."

N. STATISTICS

	<u>No. Positions</u>	<u>Nautical Miles Sounding Lines</u>	<u>Bottom Samples</u>
Launch I	1383	83.7	29
Rainier 4	254	19.4	0
17' Whaler	659	29.1	0
Field Edit	226	0	0

The total area surveyed is 4.3 square nautical miles. There are fourteen (14) volumes with this survey. Signal cuts and bottom samples are included in Volume V. There is one development overlay with this survey.

One tide gage was installed and maintained at Thorne Head (THORNE) for reduction of soundings to MLLW on the smooth sheet. A second gage was installed and maintained in Thorne Bay (SANDY) for comparison of tides in the bay to those at Thorne Head. It was found that the differences in tides at the two tide stations were insignificant and, therefore, did not warrant using station SANDY data for the smooth plot. Refer to the Special Report: Tides, OPR-465 for further information.

Soundings on the boat sheet are reduced to MLLW with predicted tides based on Lyman Anchorage, Alaska. Time meridian 105°W was used for the entire survey. For further information refer to the attached tide note.

O. LOGGING

The HUB (BCD Code)/Friden Flexowriter logging system was used with this survey. A "dual indicator" format is used which combines both the sounding tape and position tape into one "position and sounding tape." An example and explanation of this format are included in the appendix.

P. RECOMMENDATIONS

There are no recommendations for this survey.

Q. REFERENCES TO REPORTS

Corrections to Echo Soundings OPR-465
(To be forwarded with this report)

Landmarks Report OPR-465
(To be forwarded with report)

Field Edit Report OPR-465
(Forwarded to CFS3, 19 November 1969, DA-97-69)

Geographic Names Report OPR-465
(To be forwarded with report)

Respectfully submitted

Bruce W. Fisher

Bruce W. Fisher
LTJG USESSA

ATTACHMENTS:

Tide Notes
Geographic Name List
Modified Velocity Corrections
Initial Corrections
Boat Sheet Layout
Form #1 - Parameters for Digital Computing
Copies of Development Overlays
List of Stations on DA-10-6-69
List of Obstructions
List of Manuscripts
Abstract of Positions
Position-Sounding Tape
Approval Sheet

APPROVAL SHEET

OPR 465

DA-10-6-69

Thorne Bay
Southeast Alaska

The field work on this survey was accomplished under my supervision. Frequent inspections were made of the boat sheet and other records.



Ray E. Moses
CDR USESSA
Commanding Officer
USC&GSS DAVIDSON

LIST OF STATIONS ON DA-10-6-69

<u>Name used in Hydrographic Survey</u>	<u>Origin of Station</u>
601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617	.T-12380
618	.SLIP 1966
619, 620, 621, 622, 623, 624	.T-12380
625, 626	.Vol IV, p.13-15
627, 628, 629, 630	.T-12380
631, 632	.Vol IV, p.13-15
633, 634	.T-12380
635, 636, 637, 638, 639, 640, 641, 642, 643	.T-12379
644	.Vol V, p. 13-14
645, 646, 647, 648, 649, 650, 651, 652	.T-12379
653	.Vol V, p.1 3,15
654	.T-12379
655, 656	.Vol V, p.13-15
657, 658	.T-12379
659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671	.T-12380
672	.KINK 1966
673, 674, 675, 676, 677	.T-12380
678	.See DA-10-7-69
679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696	.T-12376
801, 802, 803, 804	.T-12380
805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826	.T-12376

MODIFIED VELOCITY CORRECTIONS

OPR-465

There are three(3) tables of velocity corrections: Table #1 corrections are to be applied to Launch I soundings; Table #2 corrections to Launch RA-4; And Table #3 corrections to the 17-ft whaler soundings. Refer to the Report on Corrections to Echo Soundings: OPR-465 which will be forwarded with this report.

Table 1 Launch I		Table 2 RA-4		Table 3 17' Whaler	
<u>Depth*</u>	<u>Corr'n</u>	<u>Depth*</u>	<u>Corr'n</u>	<u>Depth*</u>	<u>Corr'n</u>
4.2	+0.2	2.8	+0.2	0.9	+0.2
8.7	0.3	5.3	0.3	3.6	0.3
21.0	0.4	7.7	0.4	6.0	0.4
38.0	0.5	11.0	0.5	8.0	0.5
56.0	0.6	28.0	0.6	10.0	0.6
74.0	0.7	46.0	0.7	27.0	0.7
90.0	0.8	63.0	0.8	44.0	0.8
104.0	0.9	80.0	0.9	61.0	0.9
118.0	1.0	95.0	1.0	78.0	1.0
132.0	1.1	106.0	1.1	91.0	1.1
146.0	1.2	122.0	1.2	105.0	1.2
160.0	1.3	136.0	1.3	119.0	1.3
174.0	1.4	150.0	1.4	133.0	1.4
188.0	1.5	164.0	1.5	146.0	1.5
202.0	1.6	178.0	1.6	160.0	1.6
400.0	1.7	192.0	1.7	174.0	1.7
		400.0	1.8	188.0	1.8
				202.0	1.9

* Depth refers to the deepest depth to which the corrections are applied.

TIDE NOTE

One tide station was installed and maintained on Thorne Head (THORNE). The tide height data were corrected for differences in time and height.

Tide Station	THORNE(Thorne Head) 55°40'58" 132°27'38"
Plane of Reference	MLLW(4.8 ft on the staff) After Oct 12 MLLW is 2.1 ft below staff "0"
Time Meridian	105°West

Tide gage is a portable bubble gage installed on the west shore of Thorne Head.

A second tide station was installed and maintained in Thorne Bay for comparison of tides in the bay to those at the Thorne Head station.

Tide Station	SANDY(Thorne Bay) 55°40'20" 132°31'15"
Plane of Reference	MLLW(4.5 ft on the staff)
Time Meridian	105°West

Tide gage is a portable bubble gage installed on the west shore of Thorne Bay across from the logging camp.

Soundings on the boat sheet are reduced to MLLW with predicted tides based on Lyman Anchorage, Alaska.

TIDE NOTE FOR HYDROGRAPHIC SHEET

January 27, 1970

~~Nautical Chart Division~~ Pacific Marine Center

Plane of reference approved ~~in~~
~~volumes of sounding records for~~ Tide tape printout

HYDROGRAPHIC SHEET 9084

Locality: ~~Kela~~ ^{Clarence} Strait, S.E. Alaska

~~Chief of Party:~~ Year: 1969

Plane of reference is mean lower low water

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

Thorne, Thorne Bay, ^{Clarence} ~~Kela~~ Strait

Height of Mean High Water above Plane of Reference is as follows:

14.6 feet

Remarks Tide reducers for day 268 revised and verified.


Chief, Tides and Currents Branch

GEOGRAPHIC NAMES
Survey No. *H-9084*

Name on Survey	Source of Name											
	A	B	C	D	E	F	G	H	K			
<i>FORSY COVE</i>												1
<i>PRINCE OF WALES ISLAND</i>												2
<i>SNUG ANCHORAGE</i>												3
<i>THORNE ARM</i> <i>GEN 14/1/73</i>												4
<i>THORNE BAY</i>												5
<i>THORNE HEAD</i>												6
<i>THORNE RIVER</i>												7
<i>CLARENCE STRAIT</i>												8
<i>11/11 12/12/73</i>												9
												10
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												27

PREPARED BY

Frank W. Robert
CARTOGRAPHIC TECHNICIAN


A. Joseph Wraight
APPROVED BY

CHIEF GEOGRAPHER

APPROVAL SHEET

The smooth sheet has been inspected, is complete, and meets the requirements of the General Instructions for automated surveys and the Hydrographic Manual. (Note: All exceptions are listed in the Verifiers report.)

Approved and forwarded


William M. Martin
Acting Chief, Processing Division, PMC

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-9084 (DA-10-6-69)

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET & PNO	1	BOAT SHEETS	1
DESCRIPTIVE REPORT	1	OVERLAYS	9 9 problems

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	1					
VOLUMES	XIV					
BOXES			1			

T-SHEET PRINTS (List)

~~T-12375, T-12376, T-12379 & T-12380~~

SPECIAL REPORTS (List)

1-Position Overlay ; 1-encagement Forss Cove

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				2522
POSITIONS CHECKED		about 40%		
POSITIONS REVISED		112		
DEPTH SOUNDINGS REVISED		68		
DEPTH SOUNDINGS ERRONEOUSLY SPACED				
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		3		
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		56	45	101
JUNCTIONS		0		
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		24	15	39
SPECIAL ADJUSTMENTS		32	20	52
ALL OTHER WORK		570	5	575
TOTALS		682	75	
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
VERIFICATION BY <i>Cornelius A. J. Bauer</i>	December 30, 1970		Dec 29, 1971	
REVIEW BY <i>J. Hagedorn</i>	4/10/73		12/6/73	

Insp by R.W. Derkatz

12/19/77 138 hrs. *Cornelius A. J. Bauer*

Reg. No. H-9084

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey the following shall be completed:

CARDS CORRECTED

DATE _____ TIME REQ'D _____ INITIALS _____

REMARKS:

H-9084

Items for Future Presurvey Reviews

This survey covers areas in Thorne Bay, Snug Anchorage, and Forss Cove in Southeast Alaska. No noteworthy differences exist between prior and present depths in the area since 1885. Lease depths should be investigated on features listed in item 2 of the review.

<u>Position Index</u>		<u>Bottom Change</u>	<u>Use</u>	<u>Resurvey</u>
<u>Lat.</u>	<u>Long.</u>	<u>Index</u>	<u>Index</u>	<u>Cycle</u>
553	1323	1	1	50 years
554	1323	1	1	50 years
554	1324	1	1	50 years

OFFICE OF MARINE SURVEYS AND MAPS

MARINE SURVEYS DIVISION

MODIFIED HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-9084

FIELD NO. DA-10-6-69

Alaska, Clarence Strait, Thorne Bay

SURVEYED: September 22 - October 10, 1969

SCALE: 1:10,000

PROJECT NO.: OPR-465

SOUNDINGS: DE-723 Echo Sounder
Hand Lead

CONTROL: Sextant Fixes on
Shore Signals

Chief of Party	R. E. Moses
Surveyed by	R. L. Baker
.....	G. H. Endruch
.....	B. W. Fisher
.....	D. L. Suloff
.....	G. F. Tornberg
.....	W. K. Taguchi
Automated Plot by	Gerber Digital Plotter
Verified by	C. A. J. Pauw
Reviewed by	G. K. Myers
	Date: December 6, 1973
Inspected by	R. W. DerKazarian

1. Control and Shoreline

The source of control is adequately described in the Descriptive Report. The shoreline originates with unreviewed advance photogrammetric manuscripts T-12375, T-12376, T-12379, and T-12380 (1963-69).

The mean high water line is shown for guidance only; the true position is shown on the topographic surveys mentioned above.

2. Hydrography

Depths at crossings are in good agreement considering the nature of the bottom. The usual depth curves are adequately delineated. In some cases, brown curves were drawn by the reviewer to emphasize lesser depths in areas of deeper soundings.

The development of the bottom configuration and determination of least depths are considered adequate. However, specific development and use

of hand lead for verification of critical depths were not accomplished, and would have been desirable on the following features:

<u>Soundings (fathoms)</u>	<u>Latitude</u>	<u>Longitude</u>
3	55°39.94'	132°29.39'
2.3	55°40.30'	132°28.67'
0.6	55°39.50'	132°29.84'
1.0	55°40.84'	132°31.77'
2.0	55°40.91'	132°31.74'
3.4	55°42.55'	132°28.70'
4.0	55°40.73'	132°28.12'
0.5	55°40.67'	132°28.42'
5.3	55°40.52'	132°28.52'
5.1	55°40.47'	132°28.42'

3. Condition of Survey

The plotting, sounding records, Descriptive Report, and various sounding printouts are adequate and conform to the requirements of the Hydrographic Manual supplemented by the Instruction Manual - Automated Hydrographic Surveys except as follows:

a. The verification of foreshore features and the quality of the presentation of data sometimes was substandard. For example, rock elevations were improperly reduced, ledges and reefs were not shown in accordance with boat sheet information or in agreement with the topographic manuscripts.

b. Signals falling offshore were not described in the field.

4. Junctions

Adequate junctions were effected with H-9092 (1969) and H-9085 (1969) at the time of review. A noticeably poor junction was made with H-9085; soundings and curves were out of position and poorly drafted. A 12-fathom sounding was transferred as 2.1 fathoms, and a 8.8 as 9.8, etc.; several others were several tenths in error. These corrections have been made at the time of review.

5. Comparison with Prior Surveys

H-1649b (1885) 1:80,000

The reconnaissance nature of the smaller scale survey provides only general information of this area. No noteworthy differences exist between prior and present depths. The present survey reveals the delineation of the bottom in much greater detail and is adequate to supersede the prior survey in the common area.

6. Comparison with Chart 8124 (Latest print date November 4, 1972)

a. Hydrography

The charted hydrography originates with depths from the boat sheet (Bp-77733) and the verified smooth sheet of the present survey.

The rock awash charted at latitude 55°40.13', longitude 132°27.33' was erroneously plotted and should be deleted from the chart.

The 4 1/4 charted in latitude 55°40.8', longitude 132°31.6' was revised during review and should be deleted from the chart.

The RK charted at latitude 55°40.2', longitude 132°28.66' from the boat sheet is erroneous and should be deleted from the chart.

The islet charted in latitude 55°42.03', longitude 132°26.80' should be revised to agree with the present smooth sheet.

The ledges in the vicinity of latitude 55°41.65', longitude 132°26.55' should be revised to agree with the present smooth sheet.

The present survey is adequate to supersede the charted information in the common area.

b. Aids to Navigation

There are no aids to navigation in the area of the present survey.


7. Compliance with Instructions

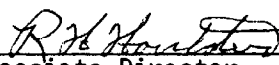
This survey adequately complies with the project instructions.

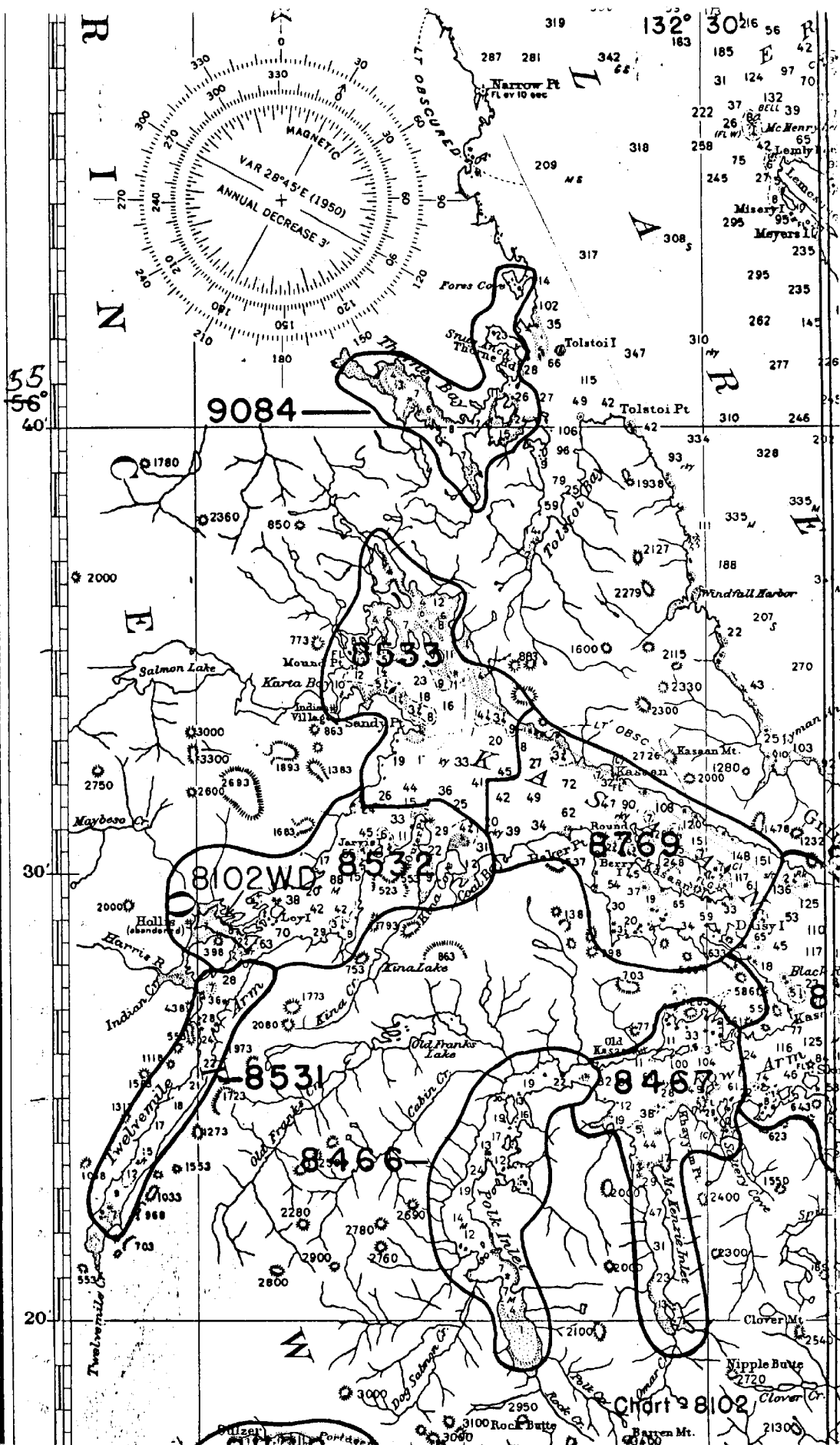
8. Additional Field Work

This survey is considered basic for charting. Investigation of several shoal features listed in paragraph 2 was not accomplished during the survey but would be desirable at an opportune time.

Examined and Approved:


Chief
Marine Surveys Division


Associate Director
Office of Marine Surveys
and Maps



55
56
40

9084

8102WD

8531

8466

8469

8467

Chart 8102

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8084

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
8124	5/9/72	E. Frey	Full Part Before After Verification ^{before} Review Inspection Signed Via Drawing No.
8102	5/72		<i>Appd to 8124 for chartlet</i>
8102	5/72	C. Misfeldt	Full Part Before After Verification ^{Part} Review Inspection Signed Via Drawing No.
8102	5/1/74	E. Frey	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>Exam'd review only for critical corr's Most of hydro is cleared on chit 8102</i>
8124	11/8/76	H. J. Borawski	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>Added - Revised Ledges, Soundings, 3rd Course, 2nd Rocks Awash As Necessary! Added Kelp Symbol</i>
17423	8/26/80	Raitor	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>9 Vertical corr's only.</i>
			Full Part Before After Verification Review Inspection Signed Via Drawing No.
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