

8225

Diag. Cht. Nos. 8802-3, 8859, & 9302.

Form 504

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. PF--2255 Office No. H-8225

LOCALITY

State Alaska

General locality N. Side Alaska Peninsula

Locality Port Moller

194 55

CHIEF OF PARTY

K. G. Crosby

LIBRARY & ARCHIVES

DATE April 3, 1956

B-1870-1 (1)

8225

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-8225

Field No. PF-2255

State Alaska

General locality North Side Alaska Peninsula

Locality Port Moller

Scale 1:20,000 Date of survey June - August 1955

Instructions dated 20 December 1954

Vessel Launches Nos. 1 and 3

Chief of party K. G. Crosby

Surveyed by J. O. Boyer, M. E. Natto, J. P. Randall, K. E. Taggart

Soundings taken by ~~fathometer~~ graphic recorder, hand lead, wire

Fathograms scaled by Fathometer Operators

Fathograms checked by Ship's Officers

Protracted by M. E. Natto

Soundings penciled by M. E. Natto

Soundings in ~~fathoms~~ feet at ~~MLLW~~ MLLW
and are true depths

REMARKS:

J.H.S.

DESCRIPTIVE REPORT

To Accompany

HYDROGRAPHIC SURVEY H-8225 (Field No. PF 2255)

PORT MOLLER

NORTH SIDE ALASKA PENINSULA

Scale: 1:20,000

1955

USC&GS SHIP PATHFINDER

K. G. CROSBY, COMMANDING

A. PROJECT:

1. Project 1375, North Side Alaska Peninsula
2. Instructions dated 20 December 1954

B. SURVEY LIMITS AND DATES:

1. The general locality of the survey is Port Moller. The area surveyed is bounded on the north by latitude $56^{\circ}00'$ N, on the east by longitude $160^{\circ}21'$ W, on the south by latitude $55^{\circ}51'$ N, and on the west by $160^{\circ}41'$ W.

2. Field work began 14 June 1955 and was completed 4 August 1955.

3. The area covered on hydrographic survey H-3189, 1910, scale of 1:20,000, is covered by the 1955 survey.

4. This survey joins contemporary surveys H-8224, H-8226, and H-8227. ⁽¹⁹⁵⁵⁾ ⁽¹⁹⁵⁵⁾ ⁽¹⁹⁵⁵⁾ Review, #4

5. Progress of the work was satisfactory, considering the adverse weather conditions encountered. Sea and weather were such that frequently the launches could not be lowered and on some days it was necessary to run at reduced speed. The length of the run to and from the working grounds averaged an hour a day.

C. VESSELS AND EQUIPMENT:

1. Hydrography was done with launches 1 and 3 operated from the ship. The survey was done almost entirely with launch 1. Launch 3 was used in the area defined by the following limits: $55^{\circ}55.0'N$ $160^{\circ}39.0'W$, $55^{\circ}57.3'N$ $160^{\circ}45.0'W$, $55^{\circ}53.0'N$ $160^{\circ}42.7'W$, and $55^{\circ}53.0'N$ $160^{\circ}46.5'W$.

2. Turning radii at normal sounding speed are as follows:

Launch 1 - starboard, 16 meters; port, 21 meters.

Launch 3 - starboard, 20 meters; port, 13 meters.

3. Echo sounding equipment consisted of 808 type graphic recording fathometers with keel-mounted units. Fathometer numbers were as follows: Launch 1: #46, ~~#36~~, #61, and #68; Launch 3: #52. Fathometer #52 was used only in the area defined in C-2. Fathometers for Launch 1 were all used throughout the area surveyed.

D. TIDE AND CURRENT STATIONS:

1. Tide records from the standard automatic tide gage at Port Moller Cannery wharf were used for the reduction of soundings. No time or range correction was applied.

2. Current stations Nos. 11 and 12 are on this sheet and were occupied this season. Data on these stations is covered in a separate report.

E. SMOOTH SHEET:

1. The smooth sheet projection was made by hand and verified by the Seattle Processing Office.

2. Shoreline was transferred and verified by the Processing Office from a photogrammetric compilation.

F. CONTROL STATIONS:

1. Hydrography was controlled principally by shoran fixes.

2. Shoran stations were erected on triangulation stations Hague (Sho-Hag) and AS 1147(USIM)(Sho-Mo). These stations were located in 1950 by J. H. Brittain. The ship (Sho-BOAT) was used for control in the base line area in conjunction with MO and HAG.

3. Signals used for visual control were as follows:

LEFT Triang. station LEFT, 1950 (J. H. Brittain)

ART Photo hydro: passpoint on T-9573

BAD Photo hydro: passpoint on T-9573

CAT Photo hydro: located in field by radially plotting field identified object transferred stereoscopically to office photographs.

DOG Topo Station BOLD, 1950 located on T-9573.

G. SHORELINE AND TOPOGRAPHY:

1. The shoreline and topographic details are from photogrammetric sheets T-9573, -11092, -11094 and -11095 of 1950. (*unreviewed advance prints*)

2. The shoreline and topographic details were not proved to be inaccurate but some discrepancies are noted in the relationships of shoran-plotted positions to the shoreline. These are attributed to the shoran corrections. Since the final shoran corrections were not computed until after leaving the working grounds, it was not realized that the discrepancies existed. In the vicinity of Port Moller Cannery the shoran negative correction for Sho-Mo appears too large. This is evident in lines 96-97e and 51 - 53c being too close to the shore. The same effect was noticed on positions 41a and 99b, in regard to the fish trap, although it is possible the trap has been moved because of damage from ice. It is recommended that the lines along the face of the wharf be moved south 40 meters. This will give better orientation in relation to the topography. *Adjusted during verification*

3. Some difficulty was encountered at the eastern limits of the sheet when changing fixes from one shoran and one visual to two shoran. This was most noticeable on 76, 77, 81, and 82v. In this case the negative shoran correction for Sho ~~Mo~~ ^{Flag} appears too small. Since no shoran calibration was done in this area, it is impossible to determine the reason for this discrepancy. The area is of little importance and since no dangers are in question, it is recommended that the soundings be accepted as plotted. *(plotting acceptable)*

H. SOUNDINGS:

1. Depths were measured in feet and fathoms on 808 graphic recorders supplemented by vertical casts with a leadline. The fathometers were calibrated for 800 fms/sec. and bar check corrections applied for all depths.

2. The deep area in the approximate vicinity of Harbor Point was the only part of the survey where the depth was measured in fathoms.

3. Corrections for initial were scaled from the fathograms and an echo correction for each fathometer was obtained from an abstract of bar checks. The fathometer corrections are a part of this report. Further information is included in the special report on fathometer corrections. *(Special Report 1955/131)*

I. CONTROL OF HYDROGRAPHY:

1. Hydrography was controlled almost entirely by shoran fixes. In the area east of signal DOG where a shoran distance to MO was obtainable, the hydrography was controlled by one shoran distance and an angle on visual signals or by visual control entirely. Plotting O.K. *(Shoran Report 1955/132)*

2. The subject of shoran corrections is covered in a separate report. *(1955/132)*

J. ADEQUACY OF SURVEY:

The survey is complete and adequate except that an*adjustment is necessary in the vicinity of the cannery dock at Entrance Point to fit the hydrography to the photogrammetrically-determined features. It is suggested that the photogrammetry be checked to insure no gross error was made. No pricking cards were available to permit this check in the field. It is further recommended that the Radio-Sonic Laboratory personnel appraise the situation and determine whether shoran is accurate for short distances. ** Hydrography adjusted during verification*

such as are encountered here.

In several instances (e. g. Launch 1: 179-180g versus 28-29j; 11-12s versus 155-157e; 85-86w versus 172-173r; 139-140w versus 98-99R; 152-153w versus 64-65u; and 23-24y versus 70-71x) soundings disagree. This is due to strong currents between positions and to steeply sloping bottom where a slight error in position results in a large disagreement in depth. ✓

Junction with contemporary surveys H-8226 to the east; H-8227 to the west; and H-8224 to the northwest is good. No holidays exist and depth curves are continuous with the adjacent surveys' curves. ✓

*Review,
#4*

K. CROSSLINES:

At least ten percent of the sounding lines were crosslines. Crossings were generally good. (See item J). ✓

L. COMPARISON WITH PRIOR SURVEYS:

The prior survey is in the area of this survey. It is H-3189, scale 1:20,000 of 1910. The original survey was not adequate, but the two surveys generally agree. No soundings of the old survey should be retained. ✓

Review, #5

M. COMPARISON WITH CHART:

The only chart of the area is No. 8833, scale 1:79,798, published February 1917, and corrected to 11 June 1954. The chart shows general agreement with the new survey, but none of the charted soundings should be retained. ✓

Review, #6

N. DANGERS AND SHOALS:

There are extensive areas of mud flats and sand bars within the confines of this survey. Since the bottom is mud or sand, the development in all cases consisted of sounding lines run with sufficient proximity to define the shoal. There are no isolated dangers such as rocks awash that were located; however, there are some remote along-shore areas where ledges and boulders exist. It was not considered feasible to spend time making a detailed survey because the photogrammetric survey has clearly shown these areas. A visual inspection of the shore will permit any mariner to make a safe landing. ✓

O. COAST PILOT INFORMATION:

See Coast Pilot Report.

P. AIDS TO NAVIGATION:

There are no navigational aids in this area. ✓

Q. LANDMARKS FOR CHARTS:

There are no landmarks in this area. ✓

R. GEOGRAPHIC NAMES:

The Geographic Names Reports submitted with photogrammetric sheets T-9573, -11092, 11094 and -11095 is complete. ✓
(1950)

S. SILTED AREAS:

No areas of silting were detected. ✓

T. BY-PRODUCT INFORMATION:

Generally the bottom is fine sand, firmly packed. The bottom is characterized by sand waves. Some are as high as ten feet and are likely to have steep slopes. ✓

Because of the nature of the bottom, the positions of channels and sand bars is subject to minor change with the occurrence of heavy seas during storms. ✓

U - W MISCELLANEOUS:

Not applicable. ✓

Z. TABULATION OF APPLICABLE DATA:

1. Coast Pilot Notes - forwarded 13 October 1955
2. Fathometer Correction Report
3. Shoran correction report ✓
4. Tide Records, Port Moller
5. Photogrammetric Descriptions Reports (Proj. PH-40)
6. Photogrammetric Manuscripts Nos. T-9573, -11092, -11094, 11095

Respectfully submitted,
William E. Randall
WILLIAM E. RANDALL
LCDR., USC&GS

by J. O. Boyer

APPROVED AND FORWARDED:
K. G. Crosby
K. G. CROSBY
CAPTAIN, USC&GS

STATISTICS FOR HYDROGRAPHIC SURVEY H-8225

FIELD NO. PF-2255

SHIP PATHFINDER

PROJECT 1375

VOL NUMBER	DAY LETTER	DATE	NO. HANDLEADS	NO. POSITIONS	NO. STAT. MILES
LAUNCH #1					
I	a (blue)	June 14		49	11.6
	b	15		100	22.9
	c	16		147	36.8
II	c	16		77	18.5
	d	17		145	30.0
	e	23		105	19.2
III	e	23		57	13.7
	f	27		143	29.7
	g	July 8		111	27.6
IV	g	8		58	13.9
	h	9		177	39.6
	j	11		52	11.5
V	j	11	9	85	19.1
	k	12	2	162	33.0
	l	14		73	18.3
VI	l	14		108	10.5
	m	15		62	14.3
VII	n	16		206	47.2
	p	20		106	23.9
VIII	p	20		17	10.3
	q	21	15	119	16.8
	r	22		182	37.4
IX	s	23	13	59	9.7
	t	25	1	174	42.3
X	u	26	2	168	38.5
	v	27		120	30.1
XI	v	27		16	4.5
	w	29		168	34.0
	x	30		105	21.5
XII	x	30		28	6.1
	y	Aug 3	18	122	19.4
	z	4	<u>2</u>	<u>2</u>	<u> </u>
Total Launch #1			62	3303	711.9

STATISTICS FOR HYDROGRAPHIC SURVEY H-8225

FIELD NO. PF-2255

(Con't)

SHIP PATHFINDER

PROJECT 1375

VOL. NUMBER	DAY LETTER	DATE	NO. HANDLEADS	NO. POSITIONS	NO. STAT. MILES
LAUNCH #3 XIII	a (red)	July 21		33	6.4
	b	23		140	36.9
	c	25		99	25.0
XIV	c	25		57	13.3
	d	26		153	37.0
	e	27		74	11.5
	e	27		<u>40</u>	<u>6.5</u>
Total Launch #3			0	596	136.6
Sheet Totals			62	3899	848.5
Total Area		58.5 sq. stat. miles			

TIDE NOTE

HYDROGRAPHIC SURVEY H-8225

A standard tide gage was in operation at Entrance Point, Port Moller (latitude $55^{\circ} 59.2'$, longitude $160^{\circ} 34.3'$) throughout the period of this survey. Records from this gage, with no connections for time or height, were used in reducing the soundings to the MLLW datum.

ECHO CORRECTIONS

HYDROGRAPHIC SURVEY H-8225

FATHOMETER
DEPTH

"A" SCALE TO CORRECT

Launch #1

Fathometer #46

0.0 to 10.0 ft
20.0
30.0
40.0
50.0
60.0
69.0
79.0
88.0
98.0
107.0
117.0
127.0
137.0
146.0
156.0
166.0

-1.4 ft
-1.2
-1.0
-0.8
-0.6
-0.4
-0.2
0.0
~~0.2~~
~~0.4~~
~~0.6~~
~~0.8~~
~~1.0~~
~~1.2~~
~~1.4~~
~~1.6~~
~~1.8~~

B Scale: Add 1.4 ft to A Scale corr.
C Scale: Add 0.8 to A.
D Scale: Subtract 0.2 from A.

Launch #1

Fathometer #36

0.0 to 25.0 ft
47.0
71.0
94.0
116.0
138.0
162.0
187.0
212.0
237.0

-1.4 ft
-1.2
-1.0
-0.8
-0.6
-0.4
-0.2
0.0
~~0.2~~
~~0.4~~

B Scale: Subtract 1.6 from A scale corr.
C Scale: Subtract 3.1 from A scale corr.
D Scale: Subtract 2.0 from A scale corr.

ECHO CORRECTIONS

HYDROGRAPHIC SURVEY H-8225

FATHOMETER
DEPTH

"A" SCALE TO CORRECT

Launch #1 Fathometer #61

0.0 to 6.0 ft	-0.8
11.0	-0.6
16.0	-0.4
20.0	-0.2
25.0	0.0
30.0	0.2
36.0	0.4
40.0	0.6
45.0	0.8
50.0	1.0
55.0	1.2
60.0	1.4
65.0	1.6
70.0	1.8
76.0	2.0
80.0	2.2
85.0	2.4
90.0	2.6
95.0	2.8
100.0	3.0
105.0	3.2
110.0	3.4
115.0	3.6
120.0	3.8
125.0	4.0
130.0	4.2
135.0	4.4
140.0	4.6

B Scale: Subtract 0.4 ft from A scale corr.

C Scale: Subtract 2.8 ft from A scale corr.

Launch #1 Fathometer #68

0.0 to 37.0 ft	-1.6
86.0	-1.4
132.0	-1.2
160.0	-1.0

B Scale: Subtract 1.7 ft from A Scale corr.

C Scale: Subtract 2.7 ft from A scale corr.

ECHO CORRECTIONS

HYDROGRAPHIC SURVEY H-8225

FATHOMETER
DEPTH

"A" SCALE TO CORRECT

Launch #3

Fathometer #52

0.0 to 10.5 ft	-1.8 ft
22.5	-1.6
35.0	-1.4
46.5	-1.2
59.0	-1.0
71.0	-0.8
83.0	-0.6
95.5	-0.4
107.5	-0.2
119.5	0.0
132.5	0.2
end,	0.4

B Scale: Same as A Scale corr.

C Scale: Subtract 1.4 ft from A Scale corr.

D Scale: Subtract 3.8 ft from A Scale corr.

LIST OF STATIONS ON H-8225

<u>NAME USED</u>	<u>ORIGIN</u>
ART	T-9573
BAD	T-11095
BOAT (Shoran)	*
CAT	* *
DOG	BOLD, 1950 (T-9573)
HAG	HAGUE, 1950
LEFT	LEFT, 1950
MO (Shoran)	AS 1147 (USLM) 1950

* Shoran station BOAT is the ship's position. This was determined by shoran fixes from MO and HAG.

* * Located in field by radially plotting a field-identified object transferred stereoscopically to the office photograph

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coast and Geodetic Survey~~

20 April 1956

Division of Charts: R. H. Carstens

Plane of reference approved in
15 volumes of sounding records for

HYDROGRAPHIC SHEET

8225

Locality Alaska Peninsula, North Side

Chief of Party: K. G. Crosby in 1955
Plane of reference is mean lower low water, reading
2.4 ft. on tide staff at Port Moller
17.7 ft. below B. M. 1 (1939)

Height of mean high water above plane of reference is 9.8 feet.

Condition of records satisfactory except as noted below:

William Shafro
Branch
Chief, ~~Division of~~ Tides and Currents.

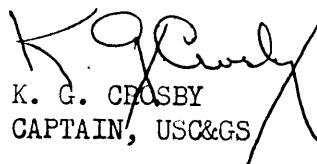
APPROVAL SHEET

HYDROGRAPHIC SURVEY H8225 (PF-2255)

PORT MOLLER, ALASKA

This sheet was done under my close supervision, the boat sheet being inspected daily while soundings were being made.

I consider this survey to be complete and adequate for charting. No additional work is recommended within the area covered.


K. G. CROSBY
CAPTAIN, USC&GS

GEOGRAPHIC NAMES

Survey No. H-3225

Name on Survey											
	A	B	C	D	E	F	G	H	K		
<u>Alaska</u>											1
<u>Alaska Peninsula</u>											2
<u>Port Moller</u>											3
<u>Entrance Point</u> ✓											4
<u>Harbor Point</u> ✓											5
<u>Hot Spring</u> ✓											6
<u>Middle Point</u> ✓											7
<u>Hague Channel</u> ✓											8
EGG ISLAND ✓											9
											10
											11
											12
											13
											14
											15
											16
											17
											18
											19
											20
											21
											22
											23
											24
											25
											26
											27

} for title

BGM

"

(tide station)

(see 8833 for placement)

Names approved
4-16-56 L. Heck

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8225....

Records accompanying survey:

Boat sheets .2...; sounding vols. .15...; wire drag vols.;
 bomb vols.; graphic recorder rolls 15 ~~Envelopes~~
 special reports, etc. 1-Descriptive report, and 1-Smooth sheet with
bottom specimen overlay.....

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

Number of positions on sheet		3894
Number of positions checked		123
Number of positions revised		118
Number of soundings revised (refers to depth only)		121 Rescanning 362 stylus
Number of soundings erroneously spaced, Number of additional sdgs applied from flatlograms		29 59
Number of signals erroneously plotted or transferred	
Topographic details	Time	13 hrs
Junctions	Time	8 hrs
Verification of soundings from graphic record	Time	15 hrs

Verification by E. Thomas..... Total time 364. Date 3/21/57
 Reviewed by J. A. Dismore..... Time 30. Date 5/15/57

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8225

FIELD NO. PF-2255

Alaska, N. Side Alaska Peninsula, Port Moller

Project No. CS-1375

Surveyed - June - August 1955

Scale 1:20,000

Soundings:

Control:

808 Fathometer

Shoran
Sextant fixes on
shore signals

Chief of Party - K. G. Crosby

Surveyed by - J. O. Boyer, M. E. Natto, J. P. Randall and
K. E. Taggart

Protracted by - M. E. Natto

Soundings plotted by - M. E. Natto

Verified and inked by - E. Thomas

Reviewed by - T. A. Dinsmore 15 May 1957

Inspected by - R. H. Carstens

1. Shoreline and Control

The shoreline originates with unreviewed air-photographic surveys T-9573, T-11092, T-11094 and T-11095 of 1950. The bar swash at M.H.W. in lat. $55^{\circ}55.2'$, long. $160^{\circ}45.4'$, originates with present survey information and is therefore shown in a dashed red line.

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

2. Sounding Line Crossings

Depths at crossings are in very good agreement considering the irregularities in the bottom.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated.

The 224-ft. deep falling within 200 meters of the tip end of Harbor Point is probably the most unusual feature in the area. The natural channel into Port Moller is quite constricted in

lat. $55^{\circ}58.15'$, long. $160^{\circ}34.25'$, where the controlling depth of 32 - 34 ft. occurs. The surveyed area is liberally marked by sand bars, scattered shoals and depressions which contribute to the general irregularities in the bottom.

4. Junctions with Contemporary Surveys

The junctions between the present survey and H-8224 (1955) on the north, H-8226 (1955) on the southeast and H-8227 (1955) on the west will be considered in the reviews of those surveys.

5. Comparison with Prior Surveys

H-3189 (1910) 1:20,000

Most of the surveyed area had not been previously surveyed. The above prior survey covers a portion of the present survey in the area lying between Entrance Point and Harbor Point. The widely spaced sounding lines on the early survey do not afford a detailed comparison. Although a few features are in general agreement between the two surveys, the comparison generally reveals that radical bottom changes have taken place. Many of the detached shoals south of Entrance Point have shifted positions appreciably since 1910 and in some instances small shoals appearing on the present survey are not even indicated on the prior survey. One example occurs in lat. $55^{\circ}58'$, long. $160^{\circ}34.4'$, where two small shoals of 4 to 5-ft. depths on the present survey fall in depths of 40-50 ft. on the prior survey. Numerous similar examples are found in the common area. The bottom in the Port Moller area, is regarded as unstable.

The present survey supersedes this early reconnaissance survey.

6. Comparison with Chart 8833 (latest print date 4/30/56)

A. Hydrography

Charted hydrography originates with advance information of the present survey shown on blueprints 52860-61 (boat-sheet copies). Although no major discrepancies are found on the chart, the smooth-sheet soundings generally differ from 1 to 2 ft. with the charted (boat-sheet) soundings.

The present survey entirely supersedes the charted information.

B. Aids to Navigation

No aids to navigation are charted in this area.

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.
- c. In the shoal area south and southwest of Entrance Point approximately 100 positions were revised about .025 miles (40 meters) during verification. These adjustments effected agreement between adjacent sounding lines and improved depths at crossings.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work

The survey is considered to be basic and no additional field work is recommended.

Examined and Approved:

Max G. Ricketts

Max G. Ricketts
Chief, Nautical Chart Branch

Charles A. Schanck

Charles A. Schanck
Chief, Division of Charts

Karl B. Jeffers

Karl B. Jeffers
Chief, Hydrography Branch

Samuel B. Grenell

Samuel B. Grenell
Chief, Division of Coastal Surveys

50'

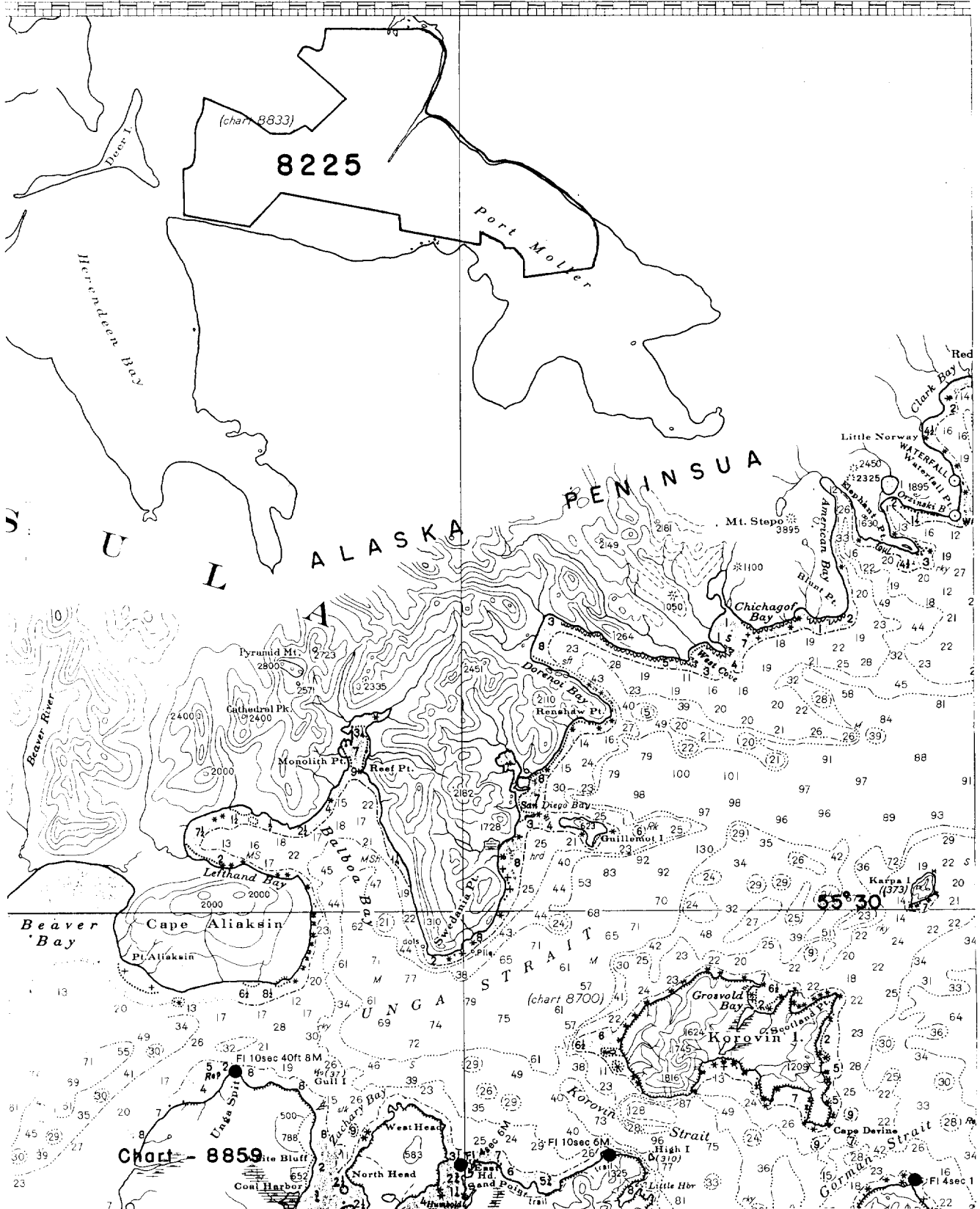
40'

160°30'

20'

10'

16



NAUTICAL CHARTS BRANCH

SURVEY NO. H-8225

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
4-9-56	8833	F.B.E.	Before After Verification and Review
2-25-61	8802	F.M. Albert	Before After Verification and Review
3-2-61	9302	F.M.A.	Before After Verification and Review
5-29-63	8833	J.J. Streifler	Complete application Before After Verification and Review for reconstr. ✓
			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.

8833 Reco. exam & critical corr. app'd 4/9/56 F.B.E. Before V & R.

8 11 0

3 11 0