

8488

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

Form 504

U. S. DEPARTMENT OF COMMERCE  
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. PF-6159 Office No. H-8488

LOCALITY

State Alaska

General locality North Side of Alaska  
Peninsula - Bristol Bay  
Locality Offshore - Port Moller

1959

CHIEF OF PARTY

I. R. Rubottom

LIBRARY & ARCHIVES

DATE February 3, 1960

USCOMM-DC 5087

8488

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-8488

Field No. PF-6159

State ALASKA

General locality NORTH SIDE OF ALASKA PENINSULA - BRISTOL BAY

Locality OFFSHORE - ~~GATE LIESKOFF TO LAGOON POINT~~ PORT MOLLER

Scale 1:60,000 Date of survey 27 June - 1 Sept. 1959

Instructions dated 30 October 1958; Supplemental Instructions 12 Feb. 1959

Vessel USC&GS SHIP PATHFINDER

Chief of party IRA R. RUBOTTOM

Surveyed by Personnel, SHIP PATHFINDER

Soundings taken by fathometer, graphic recorder, ~~hand lead, wire~~ No. 130-3; No. 57-23

Fathograms scaled by Personnel, SHIP PATHFINDER

Fathograms checked by Ship's Officers, SHIP PATHFINDER

Protracted by CHARLES A. BURROUGHS

Soundings penciled by CHARLES A. BURROUGHS

Soundings in fathoms ~~at~~ at MLLW MLLW

REMARKS:

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.....

*[Handwritten mark]*

DESCRIPTIVE REPORT TO ACCOMPANY  
HYDROGRAPHIC SURVEY NO. H-8488 (PF-6159)  
NORTH SIDE OF ALASKA PENINSULA, ALASKA

Scale: 1:60,000  
USC&GSS PATHFINDER

Date: 27 June 1959 to  
1 September 1959  
Ira R. Rubottom, Cmdg.

A. PROJECT

This sheet is a portion of Project CS-375. The original instructions are dated 20 December 1954. Revised Instructions were forwarded 30 October 1958 which cancelled all previous instructions. Supplemental Instructions dated 12 February 1959 were forwarded which modified said Revised Instructions. ✓

B. SURVEY LIMITS AND DATES

The general locality of this survey is on the North Side of the Alaska Peninsula. The survey comprises the area enclosed by the following points: ✓

Lat. 55° 50.0' ✓    56° 04.0' ✓    56° 26.0' ✓    56° 12.0' ✓  
Long. 162° 10.0' ✓    161° 10.0' ✓    161° 10.0' ✓    162° 10.0' ✓

Lat. 56° 04.0' ✓  
Long. 162° 24.0' ✓

Hydrography commenced on 27 June 1959 and ended on 1 September 1959. ✓

This survey is further described by the following prior surveys: ✓  
On the West by H-8434 (PF-6158); East by H-82231 (PF-4155).  
(1958) (1955)

C. VESSEL AND EQUIPMENT

All hydrography was performed by the Ship PATHFINDER. A type 808 Fathometer (#130-S) was used for most of the survey with the exception of the installation of 808 Fathometer (#57-23) on 29 August 1959 on Position 132Q until the end of the survey. A scoopfish bottom sampler was primarily used for determining bottom characteristics. ✓

D. TIDE AND CURRENT STATIONS

The Tide Station used for this survey was a Standard Gage at Port Moller, Alaska (Pacific American Cannery Pier, Latitude 55° 59.43' - Longitude 160° 33.65') ✓

*off survey sheet*

Tide Zones "B" and "C" were arrived at by the Washington Office along with the corresponding time and range corrections. Reference is hereby made to the accompanying TIDE NOTE.

E. SMOOTH SHEET

The projection was constructed by hand and checked aboard the Ship PATHFINDER during the field season. There is no shoreline shown on the sheet, in accordance with Paragraph 751, Hydrographic Manual.

F. CONTROL STATIONS

Shoran station "CAS" (Lat.  $55^{\circ} 46' 24.14''$  - Long.  $162^{\circ} 04' 37.55''$ ) was located in 1958 by a second order traverse.

Shoran station "MARK R. M. 2, 1950-1959" (Lat.  $55^{\circ} 53' 31.26''$  Long.  $161^{\circ} 48' 23.98''$ ) was located in 1959 by a second order traverse and it is marked by a standard bronze reference mark disc brazed to a 1 inch copper pipe. The disc was stamped MARK R. M. 2, 1950.

Shoran station "NEL" (Lat.  $56^{\circ} 00' 40.27''$  - Long.  $161^{\circ} 07' 50.64''$ ) was located in 1959 by a sextant angle and a taped distance from triangulation station NELSON, 1950.

H. SOUNDINGS

Soundings taken by the Ship were made with an 808 Fathometer, operating at 800 fathoms per second calibrated velocity. In accordance with Section 822 (Revised) of the Hydrographic Manual, no velocity corrections were computed. Initial setting was maintained at 2 fathoms, however occasional errors were found, and corrections were entered as separate items in the Sounding Records. Basic depth recorder corrections were obtained by vertical casts taken under good conditions. All vertical cast comparison were reduced to a common draft of 14.5 feet for tabulation purposes and then meaned. Corrections for variation from this draft were algebraically combined with the basic correction before being entered in the Sounding Record. RPM checks were made daily, and reed tachometers were carefully watched to insure proper calibration speed. Paper travel tests were also run to verify the calibration. All stylus arm lengths were checked by comparison of the fix marks with a standard template.

I. CONTROL OF HYDROGRAPHY

Shoran was used to control all hydrography. Three shoran stations were incorporated in the survey: "CAS", "MAR", and "NEL" as described under CONTROL STATIONS. "CAS" and "MAR" were first used to control the western portion of the survey after which the former station was removed and "MAR" and "NEL" were used to complete the survey.

Shoran arcs were inked on the smooth sheet at five (5) ✓  
mile intervals and were properly checked for accuracy of position.

J. ADEQUACY OF SURVEY

The survey of the area is complete and adequate for charting ✓  
purposes.

Junctions with adjoining surveys are satisfactory and depth ✓  
curves can be adequately drawn at the junction.

K. CROSSLINES

The percentage of crosslines run was 13.4. Crossings were ✓  
satisfactory with less than 10% of the crossing soundings 1 fathom  
or less shoaler in a depth of 30 fathoms than the main scheme  
hydrography. Careful inspection of the fathograms involved indi- ✓  
cated that rough seas could have caused these discrepancies.

L. COMPARISON WITH PRIOR SURVEYS

There are no prior surveys of this area except for the  
scattered soundings which appear on C&GS Chart 8802. *See Review Item 5*

As mentioned in the Preliminary Review Project CS-375 Chart  
8802 dated January 1955, the 12 fathom sounding listed as item 3 ✓  
was disproved as a result of an extensive development in that  
area (Lat. 56° 08' - Long. 162° 05'). Also the 6½ fathom sounding ✓  
which shows on C&GS Chart 8802 (Lat. 56° 05' - Long. 161° 42')  
was found to be in error. No indication of shoaling was found in  
that area.

<sup>(1953)</sup> Comparisons with prior surveys on the east and west sides ✓  
H-8223 (PF-4155) and H-8434<sup>(1958)</sup> (PF-6158) indicated good junctions  
showing that depth curves can be drawn satisfactorily. *CONCUR*

<sup>(1954)</sup> Comparison with the current year's hydrography to the south; ✓  
H-8485, H-8486<sup>(1958)</sup>, and H-8487<sup>(1958)</sup> was also made and indicated good  
agreement of soundings and depth curves. *CONCUR*

M. COMPARISON WITH CHART

The largest scale chart of the area is C&GS Chart 8802 ✓  
(Revised 29 September 1958).

In general, the soundings appearing on the chart are of *not enough sdgs*  
greater depth on the west portion of this survey and shoaler on *on chart to make*  
the east side of this survey. Thus the 20 fathom curve appears *this statement.*  
to be too far offshore over most of this survey. It is recommended  
that the chart be revised using the results of this survey. ✓

N. DANGERS AND SHOALS

No dangers or shoals were found within the area of the ✓  
survey.

O. COAST PILOT INFORMATION

There are no changes or additions to the Coast Pilot as a result of this survey.

P. AIDS TO NAVIGATION

None

Q. LANDMARKS FOR CHARTS

None

R. GEOGRAPHIC NAMES

The geographic names investigation made by the photo party is considered adequate and no further study was made in the area. Names shown on the smooth sheet were obtained from the shoreline Manuscripts.

S. SILTED AREAS

None

T. BY PRODUCT INFORMATIONS - OCEANOGRAPHIC STATIONS

Fifteen Oceanographic Stations were occupied and are designated on the smooth sheet as 1" circles. Each station was occupied twice and their location data was properly recorded in the Sounding Record. A special oceanographic report is being forwarded.

Z. TABULATION OF APPLICABLE DATA

1. One copy of Boat Sheet PF-6159 - To be forwarded.
2. Fathograms - "A" day thru "S" day - Ship PATHFINDER - To be forwarded.
3. Special Report on Shoran Operations - 1959 Field Season - To be forwarded.
4. Oceanographic Report - To be forwarded.
5. Tide Station Report and level records for installation and removal of Port Moller tide gage - Mailed 1 July 1959 and 9 September 1959.
6. Photogrammetric Field Edit Report - Mailed 23 September 1959.

Respectfully submitted,

*Charles A. Burroughs*  
Charles A. Burroughs  
ENS, C&GS

STATISTICS TO ACCOMPANY  
HYDROGRAPHIC SURVEY H-8488

Ship PATHFINDER (day letters in blue-capital)

Day Letter	Volume	Date	Positions	Nautical Miles	Oceanographic Stations
A	1	27 June	5	0.0	5
B	1	29 June	10	0.0	10
C	1	13 July	74	60.2	-
D	1	15 July	218	161.5	-
E	2	16 July	156	111.6	-
F	2	22 July	144	116.3	-
G	2	23 July	126	94.8	-
H	2	29 July	81	64.3	-
J	3	30 July	130	102.0	-
K	3	5 Aug.	183	153.0	-
L	3	18 Aug.	59	47.4	-
M	3	25 Aug.	33	28.0	-
N	384	27 Aug.	213	159.2	-
P	4	28 Aug.	175	138.0	-
Q	4	29 Aug.	236	181.5	-
R	485	30 Aug.	193	151.8	5
S	5	1 Sept.	10	0.0	10
Total -			2046	1569.6	30

Total Area covered by Ship PATHFINDER = 587.2 square miles

FATHOMETER CORRECTIONS

SHIP PATHFINDER

Fathometer No. 130-S and No. 57-23

Correction is +0.4 fathoms for all depths at a Ship draft of 14.5 feet midship.



TIDE NOTE

PROJECT CS-375  
USC&S SHIP PATHFINDER

NORTH SIDE OF ALASKA PENINSULA  
1959 FIELD SEASON

Hydrographic Surveys PF-2259 (H-8485), PF-2359 (H-8486), PF-2459 (H-8487), and PF-6159 (H-8488)

Tide reducers for all work done during the 1959 field season on Project CS-375 were obtained from a standard tide gage at Port Moller (Latitude 55° 59.43' Longitude 160° 33.65'). Hourly heights were furnished by the Washington Office. 5.4 feet on the tide staff corresponded to MLLW. ✓

The area surveyed was divided into two zones designated as zone "B" and zone "C", zone "B" lying to the west of longitude 161° 27.2'W, including PF-2259, PF-2359, and the westerly portion of PF-6159 and zone "C" lying to the east of longitude 161° 27.2'W including PF-2459 and the easterly portion of PF-6159. Time and height corrections to be applied to Port Moller tides were furnished for these zones by the Tides and Currents Division (letter dated 31 July 1958, File No. 36-279-982 pat and letter dated 13 August 1959, File No. 36-300-982 pat). Corrections for tide zone "B" were minus (-) one hour time and 1.2/1.4 range and for zone "C", zero time and zero range. ✓

Crossings were found to be consistently bad in tide zone "C" when using the above mentioned corrections. It was found that by using a minus (-) one hour time correction and zero range correction in this area that most of the crossing discrepancies were resolved. Permission was received from the Chief, Tides and Currents Division to use the latter correction for zone "C" in order to improve the crossings (letter dated 7 December 1959, File No. 36-466-982 pat). ✓

APPROVAL SHEET

REG. NO. H-8488 (PF-6159)

This survey was carried on under the direct personal supervision of the Chief of Party and the boat sheet was examined daily. The survey is complete and adequate for charting purposes, and no additional work is recommended. ✓

The smooth sheet and records have been examined and are approved. ✓



Ira R. Rubottom,  
Captain, C&GS  
Comdg., Ship PATHFINDER

GEOGRAPHIC NAMES

Survey No. H-8488

Name on Survey	<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">On Chart No. 8802</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">On previous survey</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">On U. S. quadrangle Maps</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">From local information</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">On local Maps</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">P. O. Guide or Map</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Rand McNally Atlas</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">U. S. Light List</div> </div>										1
	A	B	C	D	E	F	G	H	K		
Alaska Peninsula	x									x	1
Bristol Bay	x									x	2
Cape Lieskoff											3
Lagoon Point	x										4
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TIDE STA. Port Moller	x									x	6
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*George M. Bree*  
GEOGRAPHIC NAMES SECTION  
7 MARCH 1960

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~

March 29, 1960

Division of Charts: R. H. Carstens

Plane of reference approved in  
5 volumes of sounding records for

HYDROGRAPHIC SHEET 8488

Locality Bristol Bay, Alaska

Chief of Party: I. R. Rubottom in 1959  
Plane of reference is mean lower low water, reading  
5.4 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 Shefno*  
\_\_\_\_\_  
Chief, Tides Branch

~~Chief, Division of Tides and Currents~~

OFFICE OF CARTOGRAPHY

REVIEW SECTION -- NAUTICAL CHART DIVISION

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8488

FIELD NO. PF-6159

Alaska - Bristol Bay - Offshore Port Moller

SURVEYED: June 27 - Sept. 1, 1959

SCALE 1:60,000

PROJECT NO. CS-375

SOUNDINGS: 808 Depth Recorder

CONTROL: Shoran

Chief of Party ----- Ira R. Rubottom  
Surveyed by ----- Personnel, Ship Pathfinder  
Protracted by ----- Charles A. Burroughs  
Soundings plotted by ----- Charles A. Burroughs  
Preliminary Verification by ---- H. W. Burgoyne  
Verified and inked by -----  
Reviewed by ----- H. W. Burgoyne  
Inspected by ----- R. H. Carstens

DATE 9/2/60

1. Shoreline and Control

This sheet is offshore and no shoreline is shown.

This survey is shoran controlled from stations given in the Descriptive Report.

2. Sounding Line Crossings

The depths at sounding line crossings are in good agreement. The maximum error at sounding line crossings was 1 fathom in depths greater than 30 fathoms.

3. Depth Curve and Bottom Configuration

The standard depth curves are adequately delineated. The bottom ranges from smooth to undulating interspersed with sand ridges.

4. Junctions with Contemporary Surveys

Unverified junctional depths on surveys H-8434 (1958) on the west, H-8223 (1955) on the east, H-8485 (1959) on the southwest, H-8486 (1959) on the south, and H-8487 (1959) on the southeast, were examined and found to be adequate agreement with present survey depths. The maximum junctional error prior to verification was 1 fathom.

6 ft. (too much)

5. Comparison with Prior Surveys

FE 5 (1947)  
FE 10 (1948)

The field examinations listed above were plotted on Chart 8802 (Scale 1,023,188) and covers the area of the present survey. The field examinations were merely reconnaissance lines and depths differ by as much as 4 fathoms with present depths in some places.

The present survey is adequate to supersede the field examinations in the common area.

6. Comparison with Chart 8802 - print date 12/21/59

A. Hydrography

The hydrography on Chart 8802 originated with the two prior surveys, FE 5 (1947), and FE 10 (1948). The origin of 4 soundings charted prior to the year 1909 is unknown.

The charted 12 fathom "reported" sounding at Lat.  $56^{\circ}08'$ , Long.  $162^{\circ}05'$  originated with chart letter 282 (1928) and falls in present survey depths of 32-39 fathoms. This sounding is considered disproved and should be removed from the chart.

The origin of a charted  $6\frac{1}{2}$  fathom sounding at Lat.  $56^{\circ}05'$ , Long.  $161^{\circ}42'$  is unknown but the sounding was apparently reported about 1941. The sounding falls in present survey depths of 25-28 fathoms and is considered disproved. This sounding should be removed from the chart.

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

B. Aids to Navigation

There are no aids to navigation within the limits of this survey.

7. Condition of Survey

- a. The sounding records and Descriptive Report are complete and comprehensive.
- b. The smooth plotting was done accurately and neatly.

8. Compliance with Project Instructions

The survey adequately complies with project instructions.

9. Additional Field Work Recommended

This is a good basic survey and no additional field work is recommended.

Examined and Approved:

Chief,  
Nautical Chart Division

*J. E. Waugh*

12/14/60

*Thomas B. Luning*

Assistant Director,  
Office of Cartography

Projects Officer,  
Operations Division

*Louis F. Woodcock*

*K. Crosby*

Assistant Director,  
Office of Oceanography

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8488....

Records accompanying survey: <sup>5/7/70</sup> Destroyed Smooth sheets ...1...;  
 boat sheets ...1...; sounding vols. ...5...; wire drag vols. ....;  
 Descriptive Reports .1...; graphic recorder envelopes .4...;  
 special reports, etc. .2... Boat sheet overlays.....  
 .....

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

Number of positions on sheet	.....
Number of positions checked	.....
Number of positions revised	.....
Number of soundings revised (refers to depth only)	.....
Number of soundings erroneously spaced	.....
Number of signals erroneously plotted or transferred	.....
Topographic details	Time .....
Junctions	Time .....
Verification of soundings from graphic record	Time .....
Special adjustments	Time .....

*Preliminary*  
 Verification by H.W. Burgoyne... Total time ..18... Date 8/29/60..

*Preliminary*  
 Reviewed by H.W. Burgoyne..... Time ...8... Date 9/2/60..



VERIFIER'S REPORT OF HYDROGRAPHIC SURVEY NO. H- 8488

The verifier should deal with the present hydrographic survey only, as the reviewer considers its relation to previous surveys and published charts. He should be thoroughly familiar with Chapters 3, 7 and 9 of the Hydrographic Manual.

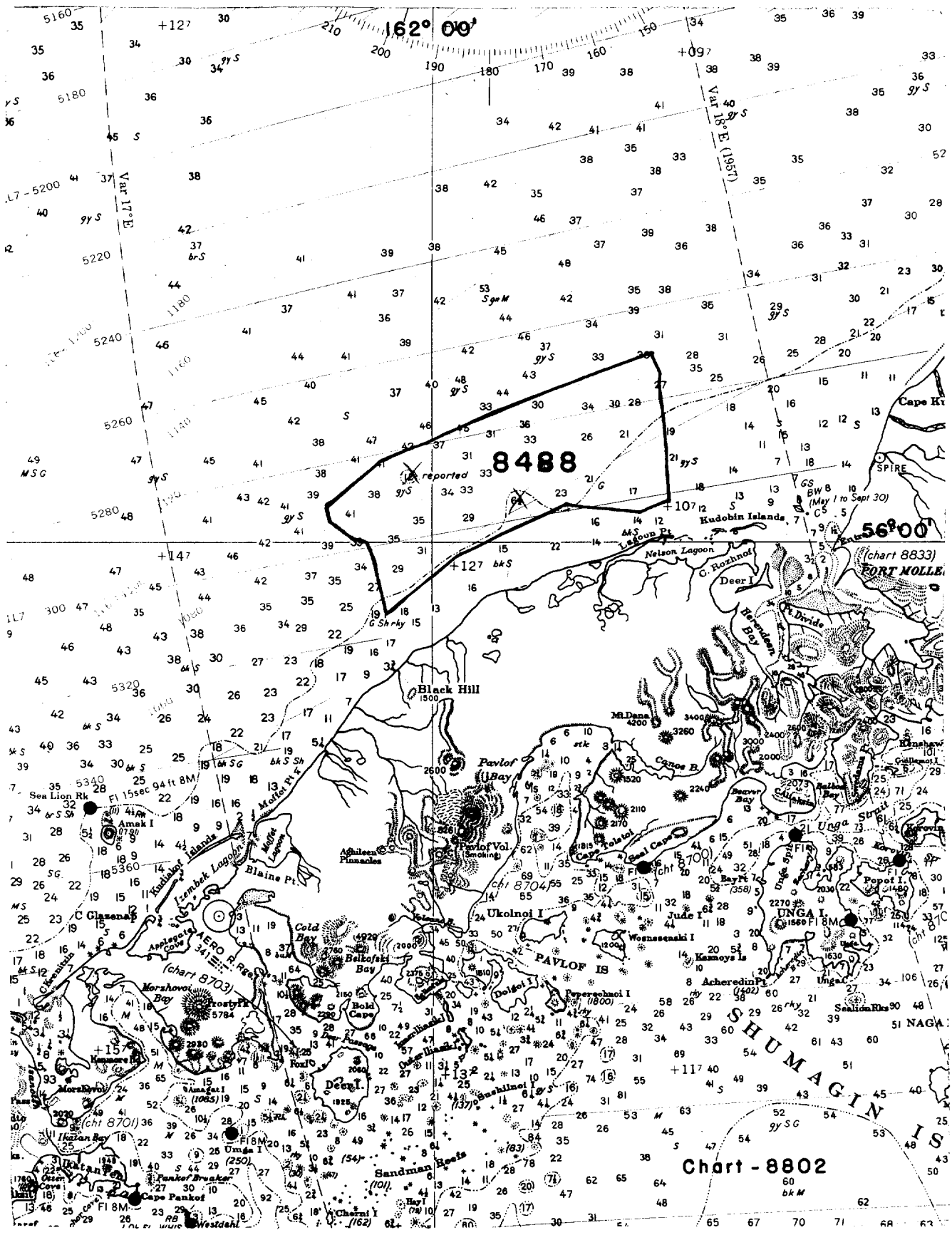
1. The descriptive report was consulted and appropriate notes were made in soft pencil regarding action taken.
2. Soundings originating with the survey and mentioned in the descriptive report have been verified, including latitude and longitude.
3. All reference to survey sheets mentioned in the descriptive report include the registry number and year.
4. Geographic names of hydrographic features if on sheet are in slanting lettering and of topographic features in vertical lettering.
5. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken.
6. All positions verified instrumentally were check marked in the sounding records.
7. All critical soundings are clear and legible and are a little larger than the adjacent soundings.
8. The metal protractor has been checked within the last three months.
9. The protracting and plotting of all bad crossings were verified.
10. All detached positions locating critical soundings, rocks or buoys were verified.
11. The boat sheet was compared with the smooth sheet.

12. The spacing of soundings as recorded in the records was closely followed.
13. The bottom characteristics were shown on outstanding shoals.
14. The reduction and plotting of doubtful soundings were checked.
15. The transfer of contemporary topographic information was carefully examined.
16. All junctions were transferred and overlapping curves made identical.
17. The notation "JOINS H- (19--)" was added in ink for all contemporary adjoining or overlapping sheets now registered. Those not verified are shown in pencil.
18. The depth curves have been inspected before inking.
19. All triangulation stations and transfer of topographic and hydrographic signals were checked.
20. Heights of rocks were checked against range of tide.
21. Rocks transferred from topographic surveys have a dotted curve where shown thereon. Rocks located accurately by hydrographer are encircled by dotted red curve.
22. Unnecessary pencil notes have been removed.
23. Objects on which signals are located and which fall outside of the low water line have been described on the sheet.
24. The low water line and delineation of shoal areas have been properly shown.
25. Degree and minutes values and symbols have been checked.
26. Questionable soundings have been checked on the fathograms.

27. Source of shoreline and signals (when not given in report).
28. All notes on sheet are in accordance with figure 171 in the Hydrographic Manual.
29. All aids located, with those on contemporary topographic sheets, have been shown on survey.
30. Depth curves were satisfactory except as follows:
31. Sounding line crossings were satisfactory except as follows:
32. Junctions with contemporary surveys were satisfactory except as follows:
33. Condition of sounding records was satisfactory except as follows:
34. The protracting was satisfactory except as follows:
35. The field plotting of soundings was satisfactory except as follows:
36. Notes to reviewer:

Verified by

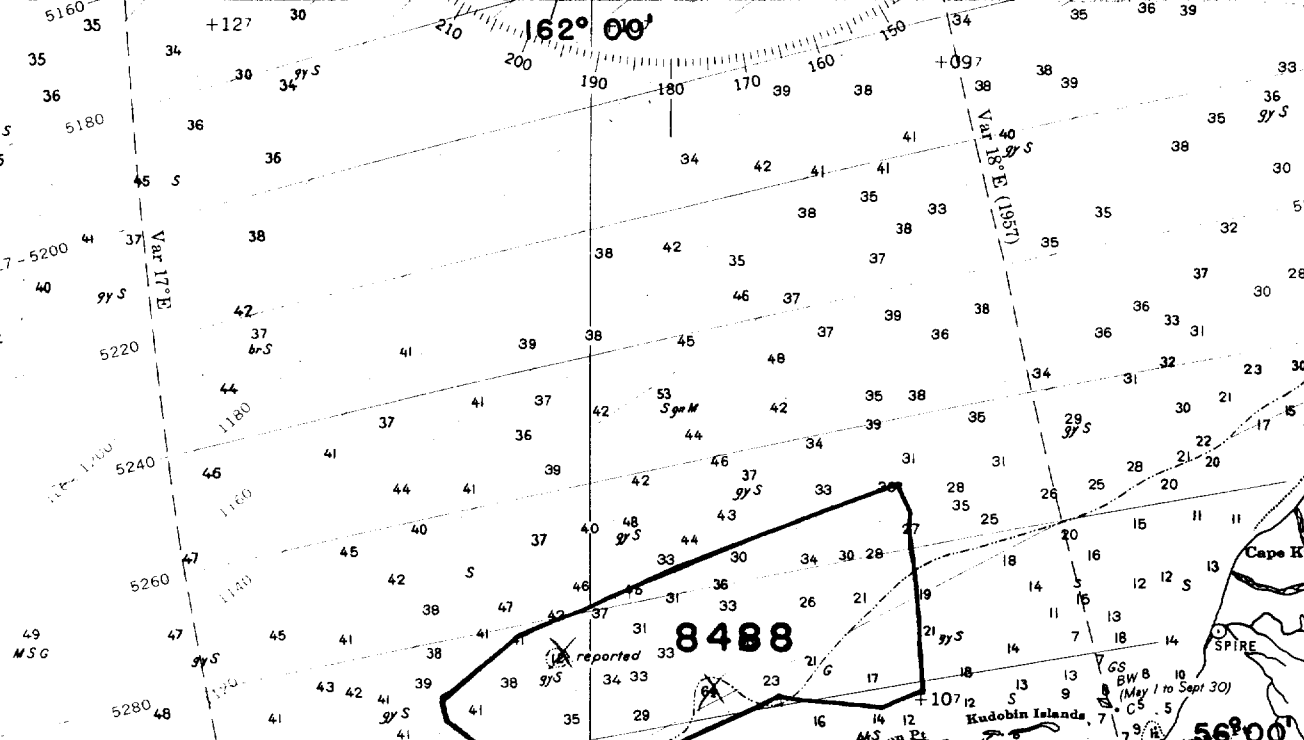
Date



8488

Chart - 8802

PORT MOLLE (chart 8833)



56° 00'

Var 17° E  
17-5200  
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97 S

117-1200  
5240  
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1180

5260  
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