

8122

Diag. Cht. No. 9302

CS-343

Form 504

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. PF-2354 Office No. H-8122

LOCALITY

State Alaska

General locality Bering Sea

Locality St. Lawrence Island

19A 54

CHIEF OF PARTY

K. G. Crosby

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DATE MARCH 3, 1955

8-1870-1 (1)

8122

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-8122

Field No. PF-2354

State Alaska

General locality Bering Sea

Locality St. Lawrence Island

Scale 1:20,000 Date of survey July-Sept. 1954

Instructions dated 6 March 1951 and 14 December 1953

Vessel PATHFINDER, Launches 1, 2, 3 and 4

Chief of party K. G. Crosby

Surveyed by P. Taylor, H. P. Demuth and F. J. Tucker, Jr.

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

Fathograms scaled by Fathometer operators

Fathograms checked by Ship's officers

Protracted by H. J. Weese

Soundings penciled by P. A. Weber, H. J. Weese, P. Taylor

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

REMARKS:

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782

DESCRIPTIVE REPORT

To Accompany

HYDROGRAPHIC SURVEY H-8122 (Field No. PF-2354)

ST. LAWRENCE ISLAND

ALASKA

SCALE 1:20,000

1954

USC&GSS PATHFINDER

Capt. K. G. Crosby, Comdg.

Hydrographers: Comdr. P. Taylor
Lt. (jg) H. P. Demuth
Ens. F. J. Tucker, Jr.

A. PROJECT

1. Project CS-343, Bering Sea, Alaska.
2. Instructions dated 6 March 1951 and many supplemental instructions all now superseded.
3. Supplemental Instructions dated 14 December 1953 which supersede all others.

B. SURVEY LIMITS AND DATES

1. This survey covers the area immediately southeast of St. Lawrence Island. The survey limits are as follows: on the north - St. Lawrence Island, on the south - latitude $63^{\circ} 03' N$, on the east - longitude $168^{\circ} 48' W$, and on the west - longitude $169^{\circ} 22' W$.

2. Field work began on 14 July 1954 and ended on 11 September 1954.

3. Prior survey H-7950 ⁽¹⁹⁵¹⁻⁵³⁾ is south of this area and a few soundings from H-7950 fall within the area limits. Survey H-7950 was made on scale 1:500,000 in 1951.

4. This survey joins contemporary survey H-8124 ⁽¹⁹⁵⁴⁾ on the south and contemporary survey H-8123 ⁽¹⁹⁵⁴⁾ on the west.

C. VESSELS AND EQUIPMENT

1. Hydrography was done with Launches 1, 2, 3 and 4 operated from the ship. The various parties used leap frog tactics and their specific areas are difficult to define. Launch 4 was used as a spare launch and was

substituted for short periods when other launches were disabled.

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

- Launch 1 - starboard, 16 meters; port, 21 meters
- Launch 2 - starboard, 20 meters; port, 13 meters
- Launch 3 - approximately 20 meters starboard and port
- Launch 4 - unknown

3. Echo sounding equipment consisted of 808 type graphic recording fathometers with keel-mounted acoustic units. Fathometer numbers were as follows: Launch 1, No. 61; Launch 2, No. 74S; Launch 3, No. 52; Launch 4, No. 46.^a

4. Shore stations were established at SHO-CYN, on south side of St. Lawrence Island west of entrance to Lake Cynthia, and at SHO-PUN in the Pujuk Islands. These land stations were supplemented by the use of the ship as a floating station in various localities.

*Get decision =
MAY 11 1952*

SHO-BORT

D. TIDE AND CURRENT STATIONS

1. Tide records from a portable automatic tide gage established on the south shore of St. Lawrence Island 1.5 miles southwesterly from Lake Cynthia entrance were used throughout. No time and range corrections were applied.

2. A portable automatic gage was established on the south shore of Pujuk Island (Lat. $63^{\circ} 04.77'$ Long. $168^{\circ} 48.7'$). After about five days observation a storm destroyed the gage. Another gage and staff was established and after another series of observations of approximately five days another storm destroyed this installation. For purposes of obtaining tide reducers for the area, only the tide station at SHO-CYN were used.

3. Two current stations were occupied in the area covered by this sheet.

a. Station No. 4, Lat. $63^{\circ} 03.8'N$ Long. $168^{\circ} 47.3'W$ current pole used.

b. Station No. 6, Lat. $63^{\circ} 07.1'N$ Long. $168^{\circ} 55.5'W$ current pole used.

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; this compilation was made from field work done in 1950 and 1951 by F. A. Riddell. *Review*

3. Soundings were pencilled in fathoms and tenths from 0 to 11 fathoms and in integral fathoms at greater depths.

F. CONTROL STATIONS

1. Triangulation stations on this survey were recovered from among those established by J. C. Ellerbe in 1951. One new station, OZARK, was established during the present survey.

2. Shoran station SHO-PUN was located from nearby triangulation stations established this year and in 1951.

3. Shoran station SHO-CYN was pricked on an air photograph and transferred to a photogrammetric compilation for scaling.

4. Ship shoran stations were fixed by shoran from SHO-CYN and SHO-PUN.

G. SHORELINE AND TOPOGRAPHY

1. Shoreline and other topographic details as shown were transferred from a photogrammetric compilation by the Processing Office. There are discrepancies in the shoreline as shown at several places on St. Lawrence Island and from station OZARK on PUNUK Islands. Distances were measured to the H.W.L. as follows:

a. At MAKNEK A 1951: 74° left from MAKNEK WB 1951 to HWL 102m.; to scarp 92m.

b. At MAKNEK B 1951: $108\frac{1}{2}^{\circ}$ left from MAKNEK A 1951 to HWL 67m.; to scarp 52m.

c. At MAKNEK E BASE 1951: 102° left from MAKNEK B 1951 to H.W.L. 27m.; to scarp 13m.

d. At OZARK 1954: OZARK and PUNUK 1951 on range 180° to HWL 91m.; to grass line 28m. OZARK and SHO-PUN on range 180° to HWL 152m.; to grass line 29m. OZARK and SHAG 1951 on range 180° to HWL 99m.; to grass line 35m.

e. Also from distances given from various positions on sounding lines it is conclusive that the shoreline is out. The beach is steep in most places and has a high scarp which is evidence of erosion due to ice and storm waves. In light of the above it is recommended that the air photo be reexamined to determine if possible the true position of the shoreline.

*Adjusted on RS 568 (1955)
CH 44 657(1955)
2 bp 52708*

H. SOUNDINGS

1. Soundings were measured in fathoms with 808 graphic recording fathometers calibrated for a velocity of 800 fms/sec.

2. Corrections for initial were scaled from the fathograms and an echo correction for each fathometer was obtained from an abstract of the daily

bar checks. See Fathometer Corrections Descriptive Report, 1954.

in Library

I. CONTROL

1. Hydrography was controlled by shoran fixes except for a minute portion where sextant fixes on triangulation stations were employed. This visual hydrography was about 1 mile west of the Pujuk Islands.

2. The shoran control for hydrography in the St. Lawrence Island area was adjusted for three different types of error; they were (a) a zero set error (constant for each shore station), (b) a variable distance error (found only on SHO-CYN), and (c) a slope error used only for Launch 1 on SHO-PUN.

a. The zero set correction was obtained from a series of calibrations taken during the season and applied to the sounding volumes during processing. The standard method was used to determine these corrections, that of obtaining a three-point fix using the ship or a launch equipped with shoran and comparing the scaled distance from the launch or ship position to the shoran station with the observed shoran distance taken simultaneously with the three-point fix. Each shore station was so calibrated; this procedure is outlined in detail in the "Shoran Correction Descriptive Report, 1954" submitted as a separate report. The zero set correction values are to be found appended to this report.

*Spec. Report
file in
Library*

b. In addition to the calibration or zero set correction it was found that for certain phases of the work a variable error was encountered; this was dependent upon the distance between the mobile unit and SHO-CYN. In order to correct for this error a series of positions were determined visually to a launch, (Vol. 31, pgs. 15-19) each position being at a different distance from SHO-CYN. Shoran readings were taken at the same time. The difference between these shoran readings and the true distance to the station was used to determine a correction that varied as a function of the distance. In addition to the information obtained in this manner, it was found that other such variable-distance calibrations could be used, namely calibrations that were obtained during the winter of 1951 in Lake Washington, Seattle. The detailed description of this variable distance error is to be found in the "Shoran Correction Descriptive Report, 1954" along with the curves showing the actual value of the error that was applied to the recorded positions during processing.

c. The slope correction was applied to certain portions of the launch hydrography near station SHO-PUN. This correction was found necessary because the difference between the slope distance from the launch to the SHO-PUN shoran antenna and the true ground distance was appreciable. In the appended tabulations of corrections this slope error will be found. The values were obtained as described in the "Shoran Corrections Descriptive Report, 1954" mentioned before.

J. ADEQUACY OF SURVEY

1. This survey is considered complete and should supersede prior surveys for charting.

2. Junctions with H-8123 and H-8124 are satisfactory and no holidays or excessive differences exist. Depth curves can be adequately drawn at junctions. *Displacements on H-8124 will be adjusted during verification*

3. Some slight discrepancies were noted where several launches ran close lines near the shore of St. Lawrence Island but such differences were not considered important as this is an area of change due to ice conditions. *adjusted during verification*

4. In the area centered 0.7m. west of OZARK there are some discrepancies noted due to two types of control. Main lines of the survey used shoran control and development used visual control. The area concerned is very irregular and close in to the Penuk Islands and therefore the discrepancies are unimportant. *Visual control favored.*

5. On positions 4, 5, 10, 11 k (red) west of station OZARK it was necessary to reject the distance to SHO-PUN in order to plot these positions off the island. The shoran scope shows a number of "pips" when the launch is close to the station and it is difficult or impossible to get a correct distance.

6. Numerous rocks are listed in the record books. These have not been indicated on the sheet as they are around the Penuk Islands in foul area close to shore and not a hazard to navigation. Some distances to rocks are not considered reliable estimates and have been questioned in the record books. *Only definite locations were plotted.*

7. During the progress of the field work the ship was used as a floating shoran station and three launches sounded in the area. At times work was done at or near the baseline between stations, consequently fixes were not always as strong as desired; and where this condition existed distances between fixes varied for same time, and for speed of launch. The positions as plotted are considered to be in the best possible location. *Adjusted by application of shoran correction*

K. CROSSLINES

1. Approximately 7% crosslines were run.

2. The crossings agree well, some discrepancies are caused by the break point for plotting soundings. *see § 7b, 7c of review*

3. The crossline from position 33-37p (purple) launch 3 along latitude $63^{\circ} 07'13$ from longitude $168^{\circ} 57.5$ to $168^{\circ} 55.2$ crosses work done by launch 2 and shows generally deeper depths. Throughout this sheet launch 2 has consistently given shoaler depths than any other launch. The average discrepancy in the area above is about $1/2$ fathom. *7p-top deleted during verification*

L. COMPARISON WITH PRIOR SURVEYS

Only one prior survey, H-7950, (1:500,000) is in existence and the comparison with it is tabulated as follows:

LOCATION				SOUNDINGS (FATHOMS)	
LAT.	LONG.			H-7950	H-8122
63° 03.5'	169° 20.0'			13	12
63 03.3	169 16.2			14.5	14
63 04.3	169 16.2			13.3	13
63 05.3	169 16.1			13	13
63 06.2	169 16.1			12	12
63 07.0	169 17.0			12	11
63 07.9	169 17.2			10.1	9.3
63 08.2	169 17.0			9.3	9.1
63 03.2	169 14.3			15	14
63 07.1	169 16.0			11.5	11
63 06.3	169 14.8			12.5	12
63 05.7	169 13.0			13.5	13
63 04.9	169 11.5			14.5	14
63 04.3	169 09.1			14.5	14
63 04.0	169 09.8			15	15
63 03.6	169 07.7			14.5	15
63 03.2	169 08.0			15	15
63 07.0	169 13.8			12	12
63 09.0	169 13.0			9.8	9.3
63 08.0	169 12.0			11.5	11
63 07.4	169 10.1			12	12
63 06.9	169 08.9			13	12
63 05.7	169 07.0			14	14
63 05.1	169 06.0			13.5	14
63 04.8	169 04.0			13.5	14
63 04.0	169 02.1			14	15
63 03.4	169 00.2			13.5	15

All the above soundings are in good agreement, however it is recommended that this survey supersede all others for charting.

M. COMPARISON WITH CHART

The tabulated comparison with prior surveys adequately covers charted soundings since the latter were taken from H-7950. *soundings are from Sp 5000-100 U.S. of N-8122*

N. DANGERS AND SHOALS

1. The only shoal of any consequence is located at lat. 63°-02.5 long. 168°-50.4 with a least depth of 4.3 fms. The hydrographer spent 1 hour 15 minutes drifting in the area trying to get a hand lead sounding but due to currents and depth no handlead sounding was obtained so the least depth was taken from fathogram.

O. COAST PILOT INFORMATION

Information for the Coast Pilot was submitted in Coast Pilot Notes, 1954.

P. AIDS TO NAVIGATION

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

Q. LANDMARKS FOR CHARTS

See report on Form 567, LANDMARKS FOR CHARTS.

R. GEOGRAPHIC NAMES

All geographic names in this survey area are as presently charted. No changes or additions are recommended. See Geographic Name List of this report.

S. - Y. Not applicable

Z. TABULATION OF APPLICABLE DATA

NAME	<i>Spec Report 91/1954 K.G. Crosby</i>	DATE FORWARDED
1. Fathometer Corrections Descriptive Report		19 Oct 1954
2. Shore Corrections Descriptive Report		13 Oct 1954
3. Coast Pilot Notes		23 Nov 1954
4. Triangulation Records, St. Lawrence Island		12 Oct 1954
5. Current Observation Records, St. Lawrence Island		5 Oct 1954
6. Tide Observation Records, St. Lawrence Island		4 Oct 1954
7. Landmarks for Charts, 1954		8 Oct 1954

Respectfully submitted,

Philip A. Weber

PHILIP A. WEBER
Commander, USC&GS

Approved and forwarded:

K. G. Crosby
K. G. CROSBY
Captain, USC&GS
C.O., Ship PATHFINDER

TIDE NOTE

HYDROGRAPHIC SURVEY H-8122

Records from the portable automatic tide gage installed on St. Lawrence Island 1.5 miles southwest of the entrance to Lake Cynthia (Latitude $63^{\circ} 07.7'N$, Longitude $169^{\circ} 23.8'W$) were used for the reduction of soundings.

Mathias
Lagum
B. H. Dec 1910

The reading on the staff for mean lower low water was 2.6 feet.

No corrections for time and range were applied.

GEOGRAPHIC NAME LIST

HYDROGRAPHIC SURVEY H-8122

BERING SEA

~~EAST CAPE~~

Aparawook Cape*

~~LAKE CYNTHIA~~

Maknik Lagoon*

PUNUK ISLANDS

ST. LAWRENCE ISLAND

* = B. F. N. decisions in 1950/51.

LIST OF STATIONS USED ON H-8122

NAME USED IN
HYDROGRAPHIC SURVEY

ORIGIN OF STATION

MAKNEK A
MAKNEK B
MAKNEK EAST BASE
MAKNEK WEST BASE
PUNUK
PUN
SHAG
SHO-CYN

MAKNEK A, 1951
MAKNEK B, 1951
MAKNEK EAST BASE, 1951
MAKNEK WEST BASE, 1951
PUNUK, 1951
SHO-PUN, 1954
SHAG, 1951
Photogrammetric
Compilation

FATHOMETER ECHO CORRECTIONS

INDEX

HYDROGRAPHIC SURVEY H-8122

<u>FATHOMETER NUMBER</u>	<u>LAUNCH NUMBER</u>	<u>CORRECTION (FATHOMS)</u>
61	1	+0.1
74S	2	+0.2
52	3	+0.2
46	4	0.00
68	4	

SHORAN CORRECTIONS
FOR
ZERO SET

HYDROGRAPHIC SURVEY H-8122

DAY	FROM	TO	CORRECTION		BOAT	REMARKS
			CYN	PUN		
<u>LAUNCH 1</u>						
a (red)		All day	-0.010	-0.016		
b (red)	Pos. 1	Pos. 6	-0.007	-0.008		
	Pos. 7	End	+0.001	+0.001		
c (red)		All day	0.000	-0.006		
d (red)		All day	0.000	-0.006		
e (red)		All day	+0.004	-0.002		
f (red)		All day		-0.003	+0.026	
g (red)		All day		-0.001	+0.027	
h (red)		All day		-0.004	+0.021	
j (red)		All day		-0.008	+0.029	Apply slope corr.
k (red)	Pos. 1	Pos. 73		-0.011	+0.029	Launch 1
	Pos. 74	End		-0.005	+0.017	Launch 4
l (red)		All day		-0.006	+0.025	Apply slope corr.
m (red)		All day		-0.008	+0.013	
n (red)	No shoran used this date					
<u>LAUNCH 2</u>						
a (blue)		All day	-0.014	-0.021		
b (blue)		All day	-0.001	-0.004		
c (blue)		All day	0.000	-0.004		
d (blue)		All day	0.000	-0.003		
e (blue)		All day	+0.001	-0.002		
f (blue)		All day	+0.001	-0.002		
g (blue)		All day	+0.005		+0.016	
h (blue)		All day	+0.005		+0.015	
j (blue)		All day		-0.005	+0.016	
k (blue)		All day		-0.007	+0.018	
l (blue)		All day		-0.006	+0.016	
m (blue)		All day		-0.007	+0.017	
n (blue)	Pos. 1	Pos. 2		-0.006	+0.017	
	Pos. 3	Pos. 30	+0.003		+0.017	
	Pos. 31	End		-0.006	+0.017	
p (blue)		All day	+0.005		+0.018	
q (blue)	Pos. 1	Pos. 6	-0.003	-0.006		
	Pos. 7	End	+0.003		+0.014	

SHORAN CORRECTIONS

FOR

ZERO SET (CONTD.)

HYDROGRAPHIC SURVEY H-8122

DAY	FROM	TO	CORRECTION			REMARKS
			CYN	PUN	BOAT	
<u>LAUNCH 3</u>						
a (violet)	All day		-0.018	-0.020		
b (violet)	All day		-0.003	0.000		
c (violet)	All day		-0.002	0.000		
d (violet)	All day		-0.003	+0.002		
e (violet)	All day		-0.002	+0.001		
f (violet)	All day		-0.002	+0.001		
g (violet)	All day		-0.002	-0.001		
h (violet)	All day		+0.006		+0.012	
j (violet)	All day		+0.008		+0.014	
k (violet)	Pos. 1 - Pos. 28		+0.007		+0.012	
	Pos. 29 - End			+0.007	+0.012	
l (violet)	All day			-0.001	+0.015	
m (violet)	All day			-0.003	+0.014	
n (violet)	All day			-0.001	+0.016	
p (violet)	All day			-0.001	+0.015	
q (violet)	All day		+0.009		+0.016	
r (violet)	Pos. 1 - Pos. 56		-0.001	-0.005		
	Pos. 57 - End		-0.001		+0.021	
s (violet)	No shoran used for hydrography					

SHIP SHORAN STATION SHO-BOAT 1, ST. LAWRENCE ISLAND, ALASKA

11 AUGUST

TIME	ZERO CHECK		POSITION OF ANTENNA			
	SHO-PUN	SHO-CYN	SHO-PUN		SHO-CYN	
			Read.	Corr.	Read.	Corr.
1448	99.785	99.785	8.585	8.574	11.265	11.263
1500	.785	.785	.585	.574	.248	.246
1530	.785	.785	.585	.574	.250	.248
1600	.785	.785	.585	.574	.250	.248
1630	.785	.785	.580	.569	.255	.253
1700	.785	.785	.570	.559	.280	.278
Mean	<u>99.785</u>	<u>99.785</u>				
Corr.	-0.011	-0.002				

974 783

Jan 1 800

SHIP SHORAN STATION SHO-BOAT 1, ST. LAWRENCE ISLAND, ALASKA

12 AUGUST

TIME	ZERO CHECK		POSITION OF ANTENNA			
	Sho-Pun	Sho-Cyn	SHO-PUN		SHO-CYN	
			Read.	Corr.	Read.	Corr.
0745	99.775	99.778	8.565	8.562	11.275	11.277
0800	.776	.777	.559	.556	.275	.277
0830	.775	.779	.575	.572	.266	.268
0900	.775	.784	.568	.565	.275	.277
0930	.775	.779	.566	.563	.275	.277
1000	.775	.778	.565	.562	.274	.276
1030	.775	.775	.570	.567	.273	.275
1100	.775	.775	.575	.572	.273	.275
1130	.780	.778	.576	.573	.275	.277
1200	.778	.778	.575	.572	.277	.279
1230	.780	.780	.580	.577	.277	.279
1300	.778	.776	.575	.572	.276	.278
1330	.778	.785	.580	.577	.275	.277
1400	.777	.785	.584	.581	.277	.279
1430	.778	.780	.585	.582	.280	.282
1500	.778	.785	.575	.572	.285	.287
1530	.777	.785	.563	.560	.285	.287
1600	.777	.785	.563	.560	.285	.287
1630	.777	.785	.565	.562	.275	.277
1700	.775	.785	.565	.562	.277	.279
Mean	<u>99.777</u>	<u>99.781</u>				
Corr.	-0.003	+0.002				

SHIP SHORAN STATION SHO-BOAT 1, ST. LAWRENCE ISLAND, ALASKA

13 AUGUST

TIME	ZERO CHECK		POSITION OF ANTENNA			
	SHO-PUN	SHO-CYN	SHO-PUN		SHO-CYN	
			Read.	Corr.	Read.	Corr.
0745	99.775	99.777	8.528	8.535	11.294	11.300
0800	.784	.778	.537	.534	.298	.304
0830	.778	.778	.529	.526	.295	.301
0900	.778	.778	.529	.526	.308	.314
0930	.778	.778	.529	.526	.297	.303
1000	.778	.778	.530	.527	.295	.301
1030	.778	.778	.535	.532	.290	.296
1100	.778	.778	.545	.542	.288	.294
1130	.777	.777	.535	.532	.286	.292
1200	.777	.778	.531	.528	.285	.291
1230	.777	.778	.535	.532	.290	.296
1300	.777	.778	.535	.532	.292	.298
1330	.777	.777	.535	.532	.298	.304
1400	.775	.775	.555	.552	.260	.266
1430	.775	.777	.555	.552	.260	.266
1500	.775	.777	.554	.551	.254	.260
1530	.775	.775	.543	.540	.268	.274
1600	.775	.775	.555	.552	.268	.274
1630	.775	.775	.545	.542	.275	.281
1700	.775	.775	.540	.537	.283	.289
Mean	99.777	99.777				
Corr.	-0.003	+0.006				

SHIP SHORAN STATION SHO-BOAT 1, ST. LAWRENCE ISLAND, ALASKA

14 AUGUST 1955

TIME	ZERO CHECK		POSITION OF ANTENNA			
	SHO-PUN	SHO-CYN	SHO-PUN		SHO-CYN	
			READ.	CORR.	READ.	CORR.
0745	99.775	99.785	8.540	8.538	11.285	11.290
0800	.775	.780	.538	.536	.295	.300
0830	.775	.775	.535	.533	.290	.295
0900	.778	.778	.555	.553	.290	.295
0930	.778	.778	.545	.543	.300	.305
1000	.775	.775	.542	.540	.296	.301
1030	.778	.780	.550	.548	.300	.305
1100	.778	.780	.560	.558	.298	.303
1130	.775	.780	.568	.566	.285	.290
1200	.775	.780	.570	.568	.275	.280
1230	.775	.780	.585	.583	.275	.280
1300	.775	.775	.580	.578	.269	.274
1330	.775	.778	.580	.578	.270	.275
1400	.775	.775	.590	.588	.270	.275
1430	.775	.780	.590	.588	.267	.272
1500	.777	.777	.587	.585	.265	.270
1530	.777	.775	.585	.583	.271	.276
1600	.777	.778	.622	.620	.218	.223
1610	.777	.776	.612	.610	.207	.212
1620	.778	.780	.603	.601	.215	.220
1630	.777	.777	.605	.603	.212	.217
1640	.776	.775	.610	.608	.215	.220
1650	.777	.775	.606	.604	.225	.230
1700	.777	.776	.595	.593	.233	.238
1710	.777	.780	.598	.596	.221	.226
1720	.777	.778	.586	.584	.234	.239
1730	.776	.778	.582	.580	.236	.241
MEAN	99.776	99.778				
CORR.	-0.002	+0.005				

SHIP SHORAN STATION SHO-BOAT 2, ST. LAWRENCE ISLAND, ALASKA

16 AUGUST 1954

TIME	ZERO CHECK		POSITION OF ANTENNA			
	SHO-PUN	SHO-CYN	SHO-PUN		SHO-CYN	
			READ.	CORR.	READ.	CORR.
0800	99.775	99.778	4.433	4.432	14.815	14.821
0830	.775	.780	.445	.444	.815	.821
0900	.775	.778	.445	.444	.810	.816
0930	.775	.778	.445	.444	.810	.816
1000	.775	.778	.435	.434	.805	.811
1030	.775	.778	.445	.444	.800	.806
1100	.775	.778	.450	.449	.820	.826
1130	.775	.778	.425	.424	.800	.806
1200	.775	.778	.425	.424	.805	.811
1230	.775	.780	.434	.433	.800	.806
1300	.775	.775	.455	.454	.800	.806
1330	.775	.775	.462	.461	.800	.806
1400	.775	.775	.460	.459	.800	.806
1430	.775	.775	.460	.459	.800	.806
1500	.775	.775	.445	.444	.795	.801
1530	.774	.775	.445	.444	.800	.806
1600	.775	.775	.444	.443	.800	.806
1630	.775	.775	.445	.444	.800	.806
1700	.775	.775	.445	.444	.800	.806
MEAN	99.775	99.777				
CORR.	-0.001	+0.006				

SHIP SHORAN STATION SHO-BOAT 2, ST. LAWRENCE ISLAND, ALASKA

19 AUGUST 1954

TIME	ZERO CHECK		POSITION OF ANTENNA			
	SHO-PUN	SHO-CYN	SHO-PUN		SHO-CYN	
			READ.	CORR.	READ.	CORR.
0800	99.775	99.775	4.445	4.444	14.835	14.842
0830	.775	.775	.440	.439	.835	.842
0900	.775	.775	.430	.429	.835	.842
0930	.775	.775	.438	.437	.838	.845
1000	.775	.775	.422	.421	.845	.852
1030	.775	.780	.422	.421	.845	.852
1100	.775	.780	.418	.417	.845	.852
1130	.775	.780	.425	.424	.845	.852
1200	.775	.775	.425	.424	.845	.852
1230	.775	.775	.425	.424	.850	.857
1300	.775	.775	.425	.424	.850	.857
1330	.775	.775	.425	.424	.850	.857
1400	.775	.775	.420	.419	.855	.862
1430	.775	.775	.420	.419	.855	.862
1500	.775	.775	.395	.394	.865	.872
1530	.775	.775	.415	.414	.875	.882
1600	<u>.775</u>	<u>.775</u>	.420	.419	.860	.867
MEAN	99.775	99.776				
CORR.	-0.001	+0.007				

SHIP SHORAN STATION SHO-BOAT 2, ST. LAWRENCE ISLAND, ALASKA

20 AUGUST 1954

TIME	ZERO CHECK		POSITION OF ANTENNA			
	SHO-PUN	SHO-CYN	SHO-PUN		SHO-CYN	
			READ.	CORR.	READ.	CORR.
0800	99.775	99.775	4.390	4.389	14.905	14.913
0830	.775	.775	.395	.394	.905	.913
0900	.775	.775	.390	.389	.910	.918
0930	.775	.775	.395	.394	.910	.918
1000	.775	.775	.390	.389	.905	.913
1030	.775	.775	.390	.389	.905	.913
1100	.775	.775	.400	.399	.900	.908
1130	.775	.775	.395	.394	.905	.913
1200	.775	.775	.400	.399	.905	.913
1230	.775	.775	.395	.394	.905	.913
1300	.775	.775	.395	.394	.905	.913
1330	.775	.775	.395	.394	.905	.913
1400	.775	.775	.395	.394	.905	.913
1430	.772	.775	.390	.389	.905	.913
1445	.775	.775	.395	.394	.905	.913
MEAN	99.775	99.775				
CORR.	-0.001	+0.008				

SHIP SHORAN STATION SHO-BOAT 3, ST. LAWRENCE ISLAND, ALASKA

21 AUGUST 1954

TIME	ZERO CHECK		POSITION OF ANTENNA			
	SHO-PUN	SHO-CYN	SHO-PUN		SHO-CYN	
	SHO-PUN	SHO-CYN	READ.	CORR.	READ.	CORR.
1 0800	99.776	99.775	17.110	17.105	4.440	4.448
2 0830	.780	.775	.110	.105	.430	.438
3 0900	.776	.775	.115	.110	.440	.448
4 0930	.780	.775	.110	.105	.450	.458
5 1000	.780	.770	.125	.120	.430	.438
6 1030	.780	.775	.100	.095	.450	.458
1100	.777	.775	.120	.115	.430	.438
1130	.780	.775	.115	.110	.445	.453
1200	.780	.775	.118	.113	.440	.448
1230	.780	.775	.110	.105	.440	.448
1300	.780	.775	.115	.110	.432	.440
1345*	.780	.775	.125	.120	.350	.358
1400*	.780	.775	.100	.095	.465	.473
1430	.780	.775	.095	.090	.455	.463
MEAN	99.779	99.775				
CORR.	-0.005	+0.008				

*Ship swinging at these times to five lee for launch pick-up.

SHIP SHORAN STATION SHO-BOAT 4, ST. LAWRENCE ISLAND, ALASKA

26 AUGUST 1954

TIME	ZERO CHECK		POSITION OF ANTENNA			
	SHO-PUN	SHO-CYN	SHO-PUN		SHO-CYN	
			READ.	CORR.	READ.	CORR.
1015	99.780	99.775	17.215	17.210	4.335	4.343
1030	.775	.775	.220	.215	.330	.338
1100	.780	.775	.220	.215	.330	.338
1130	.778	.775	.225	.220	.338	.346
1200	.780	.775	.215	.210	.340	.348
1230	.778	.775	.218	.213	.325	.333
1300	.780	.775	.220	.215	.325	.333
1330	.780	.775	.225	.220	.325	.333
1400	.780	.775	.220	.215	.333	.341
1430	.780	.775	.215	.210	.325	.333
1500	.780	.775	.225	.220	.335	.343
1530	.780	.775	.225	.220	.324	.332
1600	.780	.775	.235	.230	.330	.338
MEAN	99.779	99.775				
CORR.	-0.005	+0.008				

SHIP SHORAN STATION SHO-BOAT 5, ST. LAWRENCE ISLAND, ALASKA

5 SEPTEMBER 1954

TIME	ZERO CHECK		POSITION OF ANTENNA			
	SHO-PUN	SHO-CYN	SHO-PUN		SHO-CYN	
			READ.	CORR.	READ.	CORR.
0800	99.780	99.775	16.700	16.694	3.585	3.593
0830	.780	.775	.700	.694	.585	.593
0900	.780	.775	.715	.709	.565	.573
0930	.780	.775	.715	.709	.558	.566
1000	.780	.775	.720	.714	.570	.578
1030	.780	.775	.705	.699	.570	.578
1100	.780	.775	.715	.709	.550	.558
1130	.780	.775	.705	.699	.550	.558
1200	.780	.775	.705	.699	.550	.558
1230	.780	.775	.685	.679	.545	.553
1300	.780	.775	.685	.679	.555	.563
1330	.780	.775	.685	.679	.555	.563
1400	.780	.775	.690	.684	.565	.573
1430	.780	.775	.680	.674	.570	.578
1500	.780	.775	.675	.669	.570	.578
1530	.780	.775	.685	.679	.572	.580
1600	.780	.775	.690	.684	.572	.580
1630	.780	.775	.690	.684	.570	.578
1700	.780	.775	.685	.679	.580	.588
1715	.780	.775	.685	.679	.575	.583
MEAN	99.780	99.775				
CORR.	-0.006	+0.008				

STATISTICS FOR HYDROGRAPHIC SURVEY H-8122

<u>VOL. NO.</u>	<u>DAY LETTER</u>	<u>DATE</u>	<u>POSITIONS</u>	<u>STATUTE MILES OF SOUNDING</u>
<u>LAUNCH 1</u>				
11	a (red)	7/15/54	98	36.6
11-12	b (red)	7/16/54	110	38.0
12-13	c (red)	7/22/54	155	60.5
13-14	d (red)	7/23/54	69	25.4
14-15	e (red)	8/ 6/54	156	61.8
15	f (red)	8/11/54	35	13.3
15-16	g (red)	8/12/54	157	56.0
16-17	h (red)	8/13/54	176	73.4
17-18	j (red)	8/14/54	221	69.7
18	k (red)	8/16/54	73	17.0
19	l (red)	8/19/54	153	27.0
20	m (red)	8/20/54	65	15.6
20	n (red)	9/11/54	<u>61</u>	<u>10.7</u>
TOTALS FOR LAUNCH 1			1529	505.0

<u>LAUNCH 2</u>				
1	a (blue)	7/14/54	114	40.8
1-2	b (blue)	7/16/54	94	31.7
2	c (blue)	7/17/54	133	46.1
3	d (blue)	7/21/54	147	53.3
3-4	e (blue)	7/22/54	159	55.0
4-5	f (blue)	7/23/54	73	26.7
5	g (blue)	8/11/54	35	12.9
5-6	h (blue)	8/12/54	149	59.6
6-7	j (blue)	8/13/54	163	65.7
7-8	k (blue)	8/14/54	151	58.7
8-9	l (blue)	8/16/54	188	51.6
9	m (blue)	8/19/54	68	15.8
9	n (blue)	8/20/54	34	6.6
9	p (blue)	8/21/54	75	24.0
10	q (blue)	8/26/54	<u>96</u>	<u>28.8</u>
TOTALS FOR LAUNCH 2			1679	557.3


STATISTICS FOR HYDROGRAPHIC SURVEY H-8122 (Contd)

<u>VOL. NO.</u>	<u>DAY LETTER</u>	<u>DATE</u>	<u>POSITIONS</u>	<u>STATUTE MI. OF SOUNDING</u>
<u>LAUNCH 3</u>				
21	a (violet)	7/14/54	129	37.1
21-22	b (violet)	7/16/54	91	34.8
22	c (violet)	7/17/54	107	45.3
23	d (violet)	7/21/54	132	46.3
23-24	e (violet)	7/22/54	113	37.5
24-25	f (violet)	7/23/54	74	26.2
25	g (violet)	8/ 6/54	128	46.4
26	h (violet)	8/11/54	35	12.5
26-27	j (violet)	8/12/54	163	60.6
27	k (violet)	8/13/54	98	27.9
27-28	l (violet)	8/14/54	167	56.0
28-29	m (violet)	8/16/54	157	45.0
29-30	n (violet)	8/19/54	121	34.2
30	p (violet)	8/20/54	52	12.4
30	q (violet)	8/21/54	75	20.4
31	r (violet)	8/26/54	105	30.0
31	s (violet)	9/ 5/54	5	0.0
TOTALS FOR LAUNCH 3			1752	572.6
<u>LAUNCH 4</u>				
18-19	k (red)	8/16/54	77	17.8
TOTALS FOR LAUNCH 4			77	17.8
TOTALS FOR ALL LAUNCHES			5037	1652.7

APPROVAL SHEET
HYDROGRAPHIC SURVEY H-8122
ST. LAWRENCE ISLAND
ALASKA

This survey was inspected daily while hydrography was in progress. The smooth sheet was inspected at frequent intervals during the time it was being protracted and while the soundings were being pencilled. It was again examined in conjunction with the descriptive report.

I consider this survey to be complete and adequate. No additional work is required or recommended within the limits of the survey.


K. G. CROSEY
Captain, USC&GS
C.O., Ship PATHFINDER

GEOGRAPHIC NAMES

Survey No. H-8122

Name on Survey	Source									
	A	B	C	D	E	F	G	H	K	
	On Chart No.	On previous survey No.	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List		
<u>Alaska</u>										1
<u>Bering Sea</u>									BGN	2
<u>St. Lawrence Island</u>									BGN	3
<u>Maknik Lagoon</u>				(not Lake Cynthia)					"	4
<u>Apavawook Cape</u>				(not East Cape)					"	5
<u>Kilokmak Lagoon</u>									"	6
<u>Punuk Islands</u>									"	7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

Names approved 3-9-55
L. Beck
r. h.

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8122.....

Records accompanying survey:

Boat sheets ..3..; sounding vols. .31...; wire drag vols.; bomb vols.; graphic recorder rolls 7 spv.; special reports, etc. .1. Overlay for Sheet H-8122, & 1. Smooth Sheet...
.....

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

	Totals	Prel. Verif.	Final Verif.
Number of positions on sheet	5037		5037
Number of positions checked	.....	90	461
Number of positions revised	.....	111	4
Number of soundings revised (refers to depth only)	.....	1678*	✓
Number of soundings erroneously spaced	.....	0	56
Number of signals erroneously plotted or transferred	.....	0	✓
Topographic details	Time	14 hrs	✓
Junctions	Time	22 hrs	
Verification of soundings from graphic record	Time	16 hrs	16 hrs
Prel. Verification: Ernest Thomas		166 hrs	
A.R. Stirmi		44 hrs	
Verification by <i>J. L. Chamberlain</i>	Total time	252 hrs	Date 12/1/56

Reviewed by... *A.R. STIRMI* Time 36 hrs Date 10/1/55

Addendum to Review by *F.J. Pavlat* 56 hrs 7/15/65

* approx 80% of these were due to paper alignment and created a minor difference not greater than .4 fathoms.
Entire Corrections applied were minor: To improve Crossings discrepancies and Curves.

Put back in Report

VERIFIER'S REPORT OF HYDROGRAPHIC SURVEY NO. H-8122

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. *not completed.*
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. *odessey*
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 ³boat sheets was compared with the smooth sheet. ✓

12. The spacing of soundings as recorded in the records was closely followed. where inked. ✓
13. The bottom characteristics were shown on outstanding shoals. ✓
bottom characteristics not verified at this time.
14. The reduction and plotting of doubtful soundings were checked. ✓
15. The transfer of contemporary topographic information was carefully examined. T-9613
16. All junctions were transferred and overlapping curves made identical.
*Photos. 1948
Field Sur. 1951* *Notes corr. to Proj for 1927 DATUM.*
17. The notation "JOINS H- (19--)" was added in ^{pencil} ~~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.
excluding foul area in Point Is.
21. Rocks transferred from topographic surveys have a dotted curve where shown thereon. Rocks located accurately by hydrographer are encircled by dotted red curve. *NONE*
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. *NONE*
24. The low water line and delineation of shoal areas have been properly shown. *LWL not developed.*
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):
RS 508 (BP 52708 - ch't L. 657-1955) corrections by Photo grammetry
to T-9613-19 T-Station to be corrected to N.A. 1927 Datum.
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. None
30. Depth curves were satisfactory except as follows: ✓
31. Sounding line crossings were satisfactory except as follows:
Minor discrepancies of variable, but less than 5 fathoms existed thru-out entire
survey.
32. Junctions with contemporary surveys were satisfactory
except as follows: Positioning of K day ~~from~~ H-8124 should be replotted
and held to this survey. (work apparently erroneously smooth plotted.)
H-8123 satisfactory See D.R. H-8124 p. 5
33. Condition of sounding records was satisfactory except as
follows: ✓ Arbitrary changing of .1 fathoms to improve curve not necessarily
revised in records by Verifier. Also Corr to depths not completely rewritten
in records, merely noted what Corr applied, in some instances processing is
complete.
34. The protracting was satisfactory except as follows:
Incorrect day letters applied to position noticeably throughout sheet
creating annoying rundown for proper identification.
Numerous discrepancies were noted in field plotting ~~position~~ of recorded values and
displacement in positioning from movable station Sho BOAT.
35. The field plotting of soundings was satisfactory except
as follows: M day (red) launch 1. replotted entire day its being into agreement
with hydro development NW of Point Is. Held pos. to date from and held to
time and adjacent hydro and several small features. Inspection of pos
after plotting revealed a steady correction of about .1 mile to 1/2 the boat.
Aug 20
work → (P day purple) and (N day blue) were suspected & allow for this, but
application apparently limited to launch 1 work.
36. Notes to reviewer: for a discussion of the arbitrary
adjustment see Verification Problems 19 Aug 1955.
pattern followed by launches revealed overlap discrepancies greater
than 1% in 11 fathoms. All sds were not corrected - only those showing conflicts.

Prel. Verif. E. Higgins
Verified by P. Storm

Date

3. (P. day) Launch #3

pos 7-49

pos 7-40 rejected and deleted from smooth sheet.

pos 40-49 retained.

pos 7-40 Horizontal Control: is poor and displacement would still not be satisfactory.

Vertical Control: a speed correction of from 4-8% is in evidence as noted by field; however application to the entire line is not satisfactory, either where plotted - nor in an adjusted position. This cast doubt on credibility of correction.

Since crosslines are intended to be a strong check on development and this line lacks strong fixes and except pos 40-49 and questionable bathograms it is the decision of RHC to drop pos 7-40. E.E.J.

(~~Friday~~) Launch #3

Alignment of stylus to paper caused upward movement of center of rotation of .5 fathom - Correction of .2 fathom from Comp. of Cmdr Whipp (808 fath. Errors) applied ~~entire day's work~~

Revised ~~1180~~ soundings. (80% of Corr to depths on Launch 3 work.)

Launch #2
alignment

alignment of stylus to paper caused downward movement of center of rotation of approx .5 fathom - Corr of +.2 fathom only several days work effected.

In both cases corrections were applied at approx 8 fath depths to 11 fathoms to satisfy crossings. however, correction to remainder of days work not considered important to reuse.

H-8122 (1954)

H-8123 (1954)

Locality - Bering Sea, St. Lawrence Island

Chief of Party - K. G. Crosby

Verifier - E. E. Thomas

Verification Problems

19 Aug 1955

Crossing Discrepancies

Differences on the smooth sheet of 0.5 fm. between the launches and between the launches and the ship work in depths of 2 to 14 fathoms will be arbitrarily adjusted by the verifier.

With no information to establish the relative reliability of the soundings obtained by the various launches, an arbitrary adjustment will be made on a local basis. Crosslines extending into an area developed by another launch will be revised to agree with development lines. Although this method creates several planes of reference in the area of one smooth sheet, the possibility of adjusting correct depths to the plane of less accurate depths is eliminated.

This problem was considered by several members of the Hydrographic Section and clarification of the method of determining the reducers was requested by the field party, because of scanty information in the Fathometer Report. On receipt of this additional information, the reducers were redetermined and although some were slightly different than those applied by the field party, these new reducers do not eliminate the conflicts on the smooth sheet.

The crossing differences may indicate the limits of accuracy to be expected of instrumental corrections determined by substituting a separate oscillator unit for the usual bar; however, a sufficient number of simultaneous handled comparisons would have assisted in strengthening the reducers and the elimination of this conflict.

A total of about ten days verification time has been expended in the study of this problem.

See amended memo

REF

R. H. Carstens
Chief, Hydrographic Section

35. "A" day (red, launch 1.)

② Visual fix work which was plotted on overlay, was only partially applied to S.S. however, since much of the work was shoaler and contains critical development in 2 fathom shoal, the entire day was carried. Shoran positioning in area was weak (base-line area of Sho-PUN - Sho-BOAT, Verifier held to visual fix work. and made acceptable selection from Shoran runs.

①a) g (Launch 3)

area of Sho CYN - Sho BOAT
approx 63°07' 169°28'19"

discrepancies existed between launch 1 & 3. Launch 1 used Cyn-Pun
Launch 3 - used Sho-BOAT - Sho-Cyn. Although Sho Cyn-Pun is weak in this area - no adjustment would be justifiable to Launch 1 positions. Application of 0.1 statute mile used on H-8/23 (see D.R. of that Survey) seem to great, but by pro-rating correction via distance from Sho-BOAT agreement was made. Corr of 0.04 to 0.1 mile applied ~~as a~~

Break down of corrections:

Horiz.

Corr to	T&C Value	launch 2	-1	-3	
		42	3	4	(constant plotting errors) 1/10 mi
		6	48	17	(at least 1/10 mi)
	replot same fix	15	5	1	(Shoran plotting error) 1/2 mi
		33	56	22	Total 111

Vert.

	1	-2	-3
initial alignment	26	30	94
	-	170	1017
wave	-	62	9
rescanning's arbitrary	28	34	49
	-	40	10
	56	436	1179
			436
			56
			1671

Page 3 of the report on verification problems, August 15, 19, 1955, concerning H-8122 and H-8123 is amended as follows:

H-8122 (1954)

Locality - Bering Sea, St. Lawrence Island

Chief of Party - K. G. Crosby

Surveyed by - P. Taylor, H. P. Demuth, F. J. Tucker, Jr.

Smooth plotting by - H. J. Weese, P. A. Weber, P. Taylor

Verification by - E. Thomas

*Verification Problems
3-7 Oct 1955*

REDUCERS

Differences on the smooth sheet amounting to 0.5 fm. between the soundings of the launches in 2 to 14 fm. depths were rectified during verification by applying several types of correctors.

At the outset of the examination this problem was considered by several members of the Hydrographic Section and clarification of the method of determining the reducers was requested of the field party because of scanty information in the Fathometer Report. On receipt of this additional information, the reducers were re-determined and although some were slightly different than those applied by the field party, these new reducers did not eliminate the conflicts on the smooth sheet.

A detailed examination of conflicting sounding lines revealed that the discrepancies were caused by inaccuracies of several types such as: Fathogram paper alignment, initial adjustment, fathogram scanning, plotting of sextant fixes, and shoran ~~attenuation~~ *corrections*

H. H. Carstens
Chief, Hydrographic Section

As so much on the potentiometer bar correction
were thought to be the cause of 0.5 fm
differences on the smooth sheet, the writer
made a redetermination of the bar check
reduces. The reduces so determined do not
eliminate the conflicts on the smooth sheet and
are substantially the same as reduces applied
by the field party.

See Verification Problems for ~~the~~ by adjustments
made on the smooth sheet

R. E. Klein

8-5-55

H-8/22
H-8/23

H-8122 Launch 2 Blue day Bottom
Fathometer 74

$d = +0.825 \text{ fm (4.95 ft)}$
2.26 ft

H-8122
July 14 15 16 17 18 19 20
a b c d e f

KT	F	TTC	DTT
3.0	670	4.9	-1.1
4.8	86		

Report on Sounding Column 102 fm (410 ft)
Warning that there is distance from
purpose to receive not additional
corrections to bottom.

~~If there is distance from transmission
to receiver then all fathometer depths
must be corrected for depth (0.5 fm)
then the correction would be +0.5 fm (1.6 ft)~~

$PR = 10.6 \text{ ft}$
 -0.1



H-8122 Launch 2 Blue day Bottom
Fathometer 74

H-8122 Launch 2 Blue day return
 Fathometer 74
 A =
 C = +0.823 fm (4.95 ft)

2.26 ft

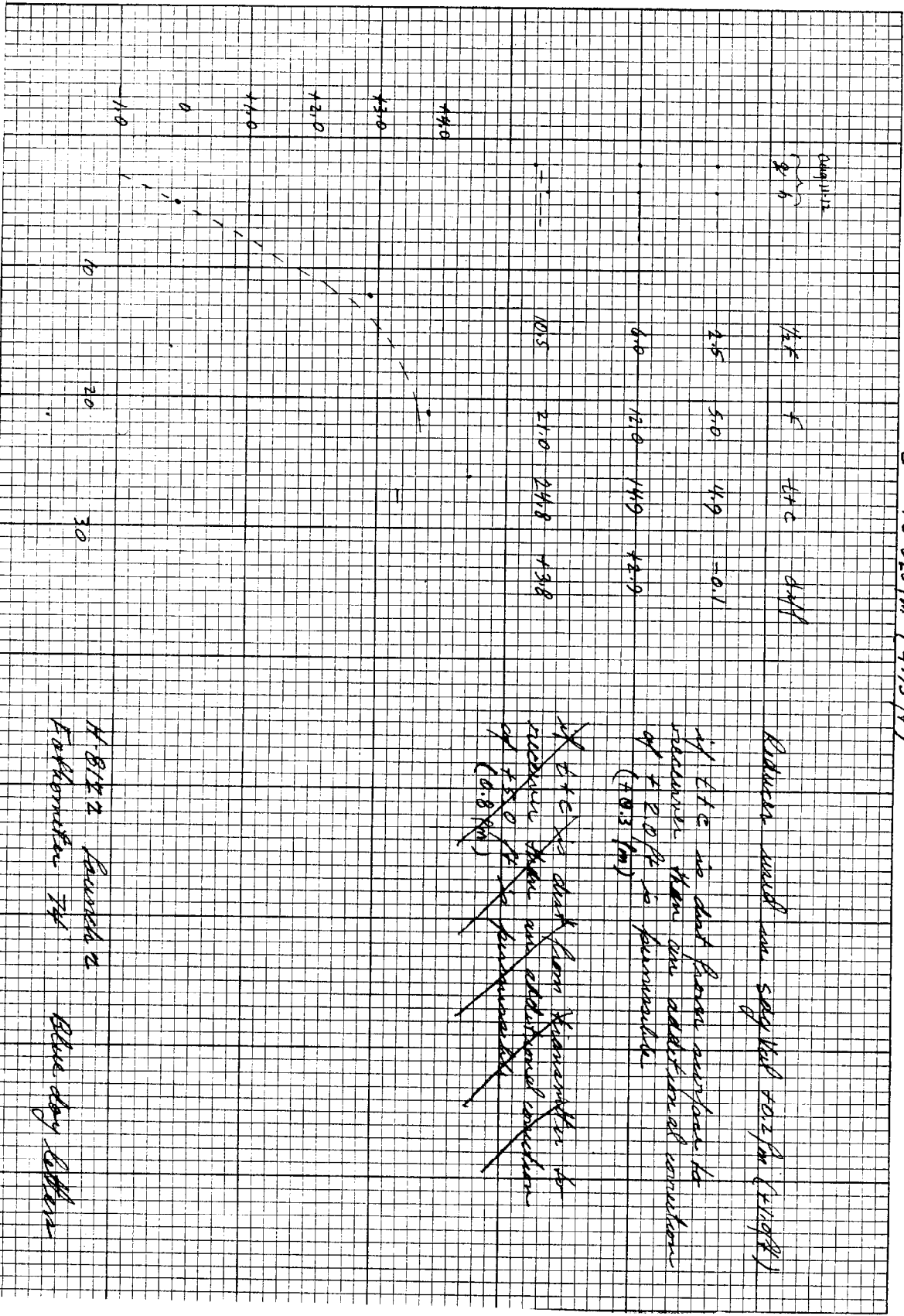
04491112
 8 6

1/25 f t+c d+H

25 50 49 -0.1

60 120 149 43.9

105 210 248 43.8



Return would be say 10 to 15 ft (1.10 ft)

if t+c is not from surface to
 receiver then an addition of correction
 of ± 20 ft is permissible
 (± 0.3 fm)

~~t+c is not from transmitter to
 receiver there an additional correction
 of ± 20 ft is permissible
 (± 0.3 fm)~~

H-8122 Launch 2 Blue day return
 Fathometer 74

H-8122 Lamuck 2 Blue dog station
 Extension 74

D = 2.26 ft
 C = +0.825 fm (495 ft)

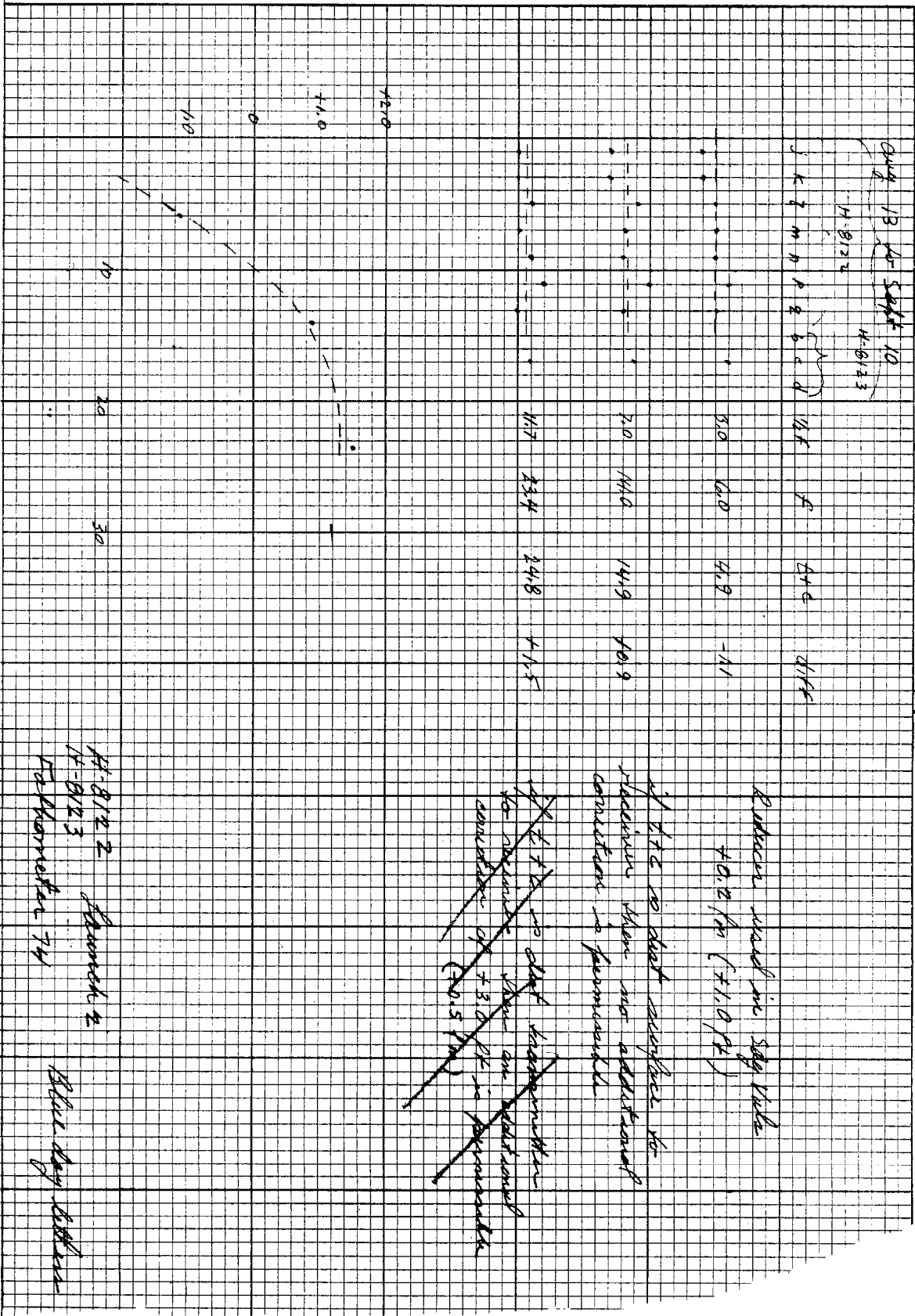
Aug 13 to Sept 10
 H-8122 H-8123

J K L M N P Q R S T U
 1/2 ft F 4+6 414

Between road in log take
 +0.2 fm (+1.0 ft)

If the road surface is
 maximum then no additional
 correction is permissible

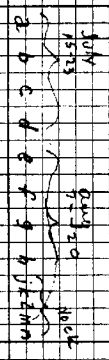
~~It is not acceptable
 to report that an additional
 correction of +3.0 ft is permissible
 (+0.5 fm)~~



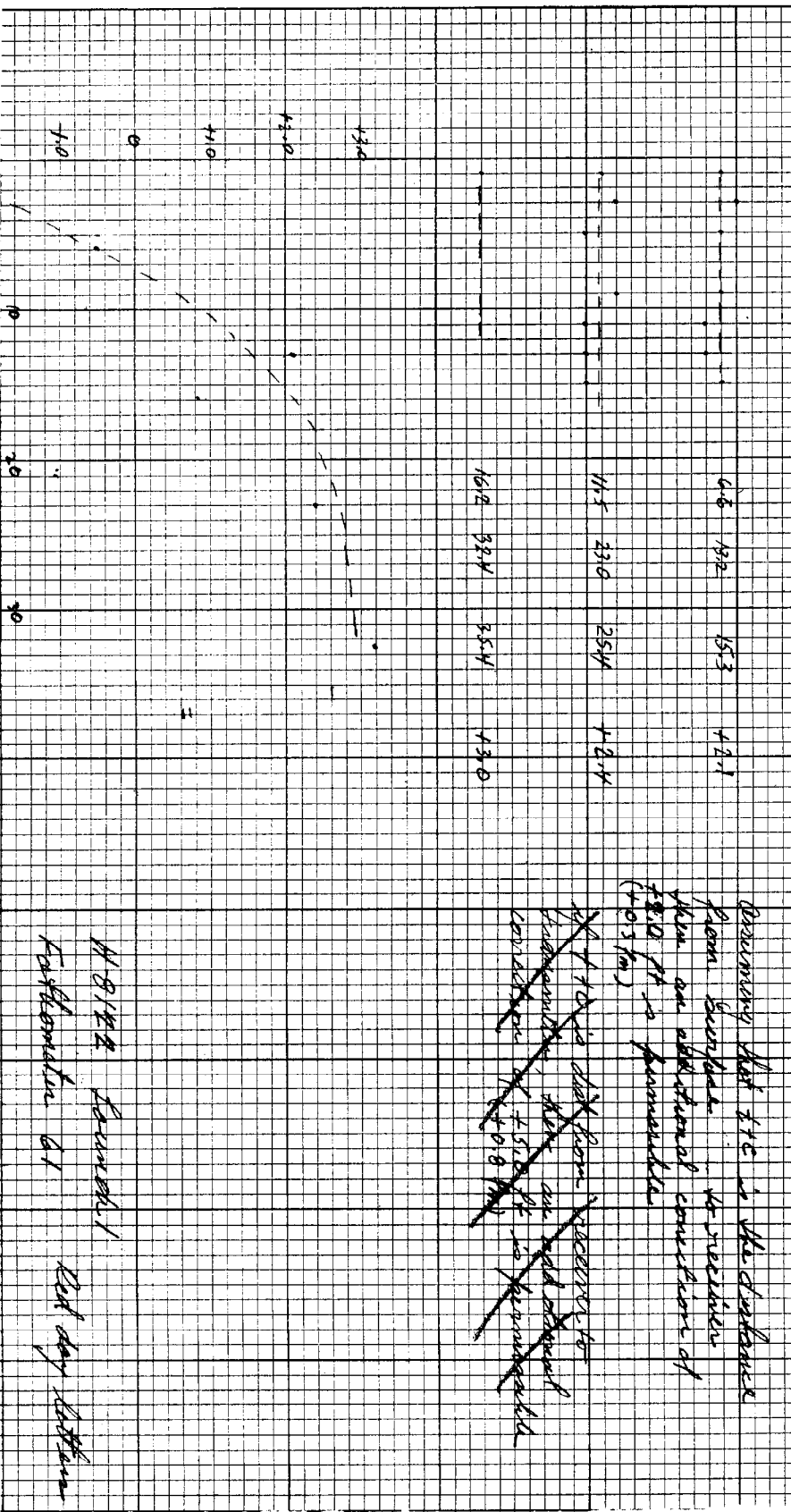
H-8122 Lamuck 2 Blue dog station
 H-8123 Extension 74

H-8152 Launch 1 Red dog letter
Forklift 61

d: 299 ft
C = +0.892 fm (535 ft)



2.9	3.8	5.3	-0.5
6.6	13.2	15.3	42.1
11.5	23.0	25.4	12.4
16.2	32.4	35.4	43.0



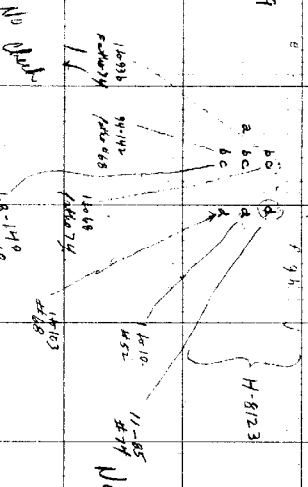
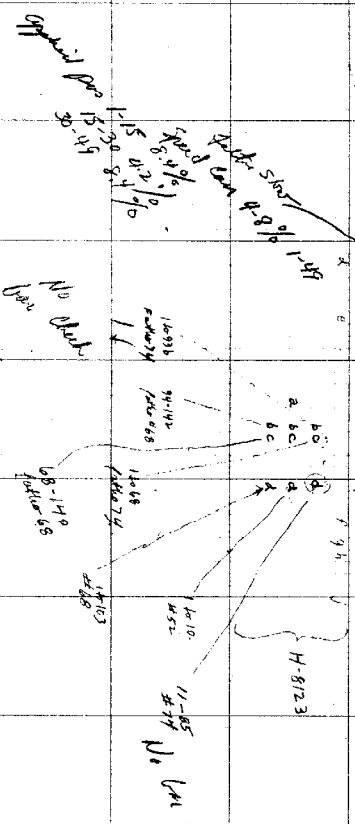
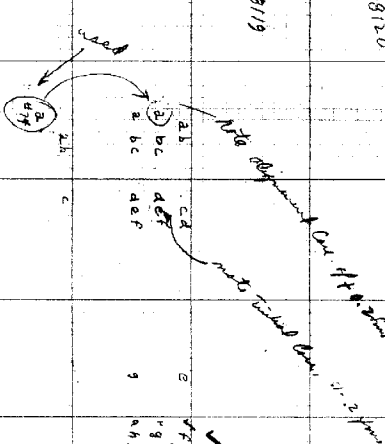
Address road in secondary volume
+0.1 fm (+0.7 ft)

Remember that this is the distance
from launch to receiver
when an additional correction of
+0.1 fm is provided

~~of +0.1 is not from receiver to
transmitter. It is the distance
between the two. It is provided
considering the +0.8 fm~~

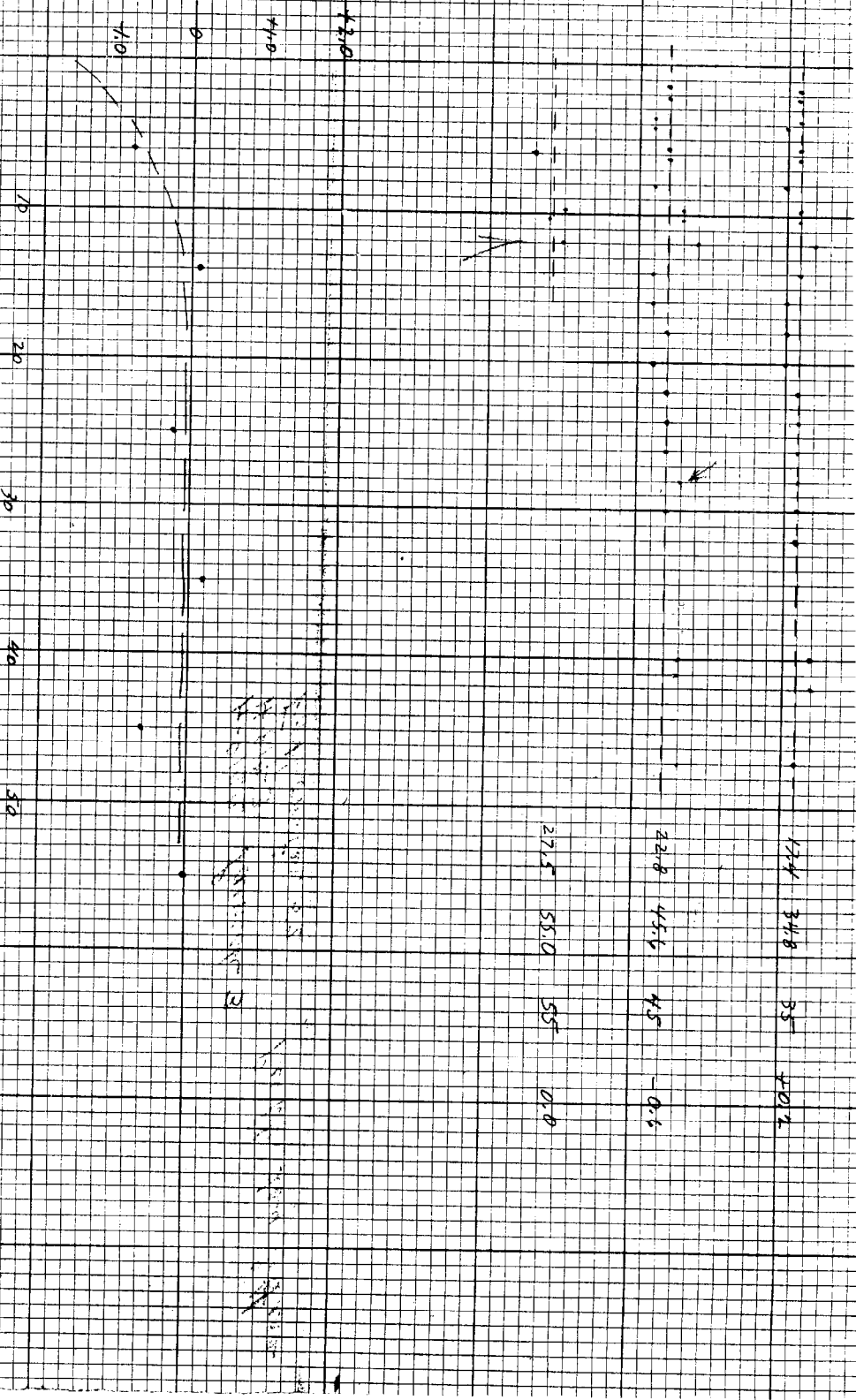
H-8152 Launch 1
Forklift 61
Red dog letter

Laundry #	June			July			August			Sept	
	10	20	30	10	20	30	10	20	30	10	20
Laundry #1-41	a b c d	e f g	ab								
Laundry #2-71	a	bc	cd								
Laundry #4-11			ab								
Laundry #1-11											
Laundry #1-21											
Laundry #2-31											
Laundry #3-41											
Laundry #4-51											
Laundry #5-61											



H-8122 Fairwick 3
H-8123
Fairmont 52

Purple day letters



Reduces and we sky volume to 2.4 km (4.10/2)

if $t_c =$ that surface for recession then
 an additional correction of (-0.2 km) is found.

~~if $t_c =$ that surface for recession then
 an additional correction of (-0.2 km) is found.
 or additional correction of (-0.3 km) is found.~~

17.4 34.8 85 ±0.2

22.8 45.6 45 -0.3

27.5 50.0 55 0.0

Handwritten notes and calculations, including a large '3' and some illegible scribbles.

July 14 to Sept 10
 4-8123
 8 0 0 d

a b c d e f g h i j k l m n p q r s

approx
 L+C
 diff

1/2 f

-0.8

2.9 5.8

5

+0.1

7.0 14.0

15

-0.2

12.6 25.2

25

+0.2

17.4 34.8

35

-0.6

22.8 45.6

45

0.0

27.5 55.0

55

1270

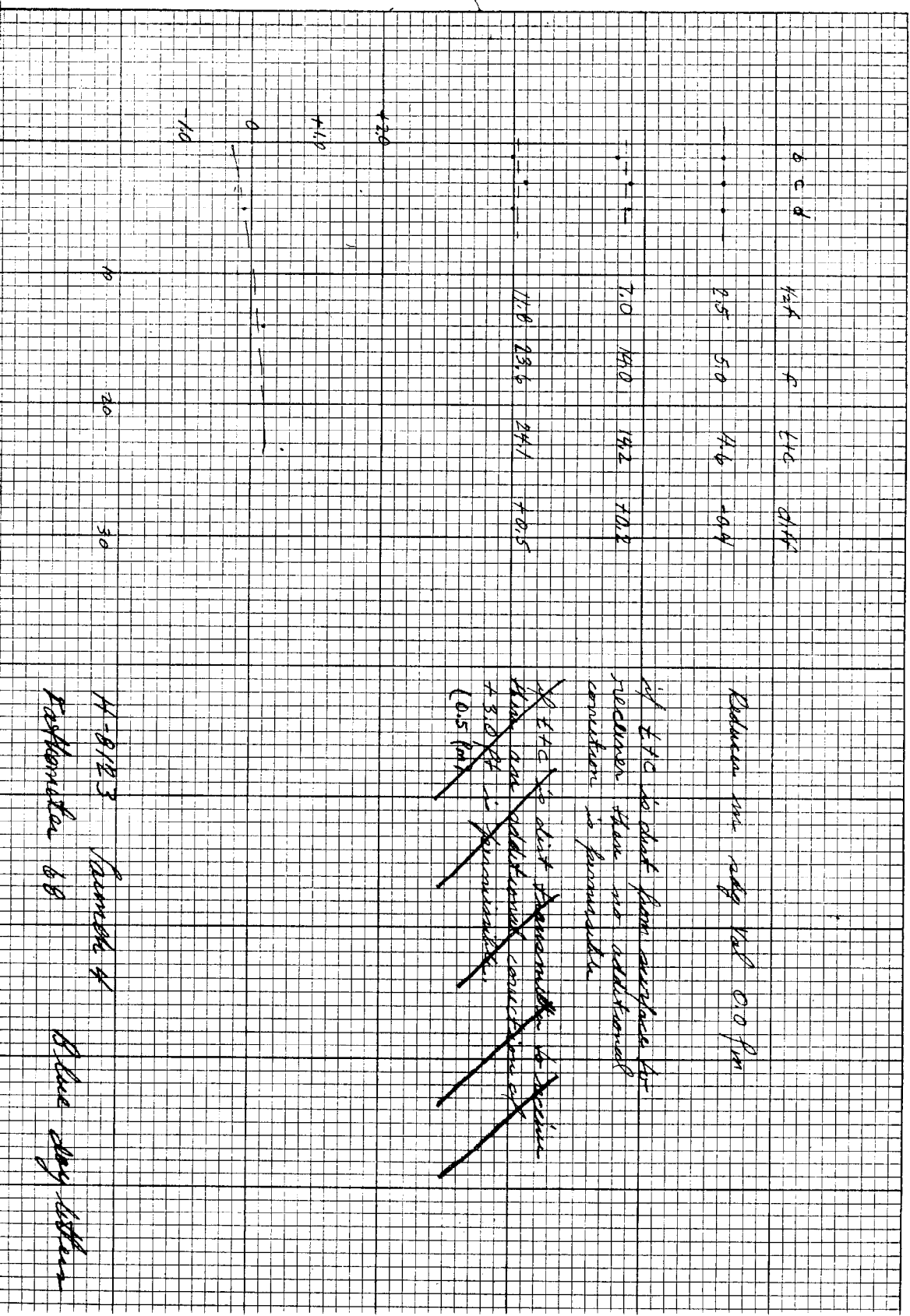
7110

0

2)

H-81 '3 Lammek 4 Blue clay strata
Fathomless #68

$\Delta = 2.71 \text{ ft}$
 $C = 0.775 \text{ pm (4.65 ft)}$



Reduction was made 0.0 pm

if ETC is not from surface for
reasons then no additional
correction is provided

~~ETC is not from surface for
reasons then no additional
correction is provided
(0.5 pm)~~

H-81/23 Lammek 4
Fathomless #68

Blue clay strata

DIVISION OF CHARTS

REVIEW SECTION- NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8122

FIELD NO. PF-2354

Alaska, Bering Sea, St. Lawrence Island

Project No. CS-343

Surveyed - July, Sept., 1954

Scale 1:20,000

Soundings:

Control:

808 Fathometer

Sextant fixes on
shore signals
Shoran

Chief of Party - K. G. Crosby

Surveyed by - P. Taylor, H. P. Demuth, F. J. Tucker, Jr.

Protracted by - H. J. Weese

Soundings plotted by - P. A. Weber, H. J. Weese, P. Taylor

Preliminary Verification by - E. E. Thomas, A. R. Stirni

Verified and inked by - J. Chambers 12/4/56, Curves & Junctions with H-8123 & H-8124 inked by -

Reviewed by - A. R. Stirni 10/7/55

F. Pavlat 7/15/45

Inspected by - R. H. Carstens

1. Shoreline and Control

The shoreline originates with film positives of the reviewed manuscripts of air-photographic surveys T-9613 (1948-55), T-9614 (1948-55), T-9615 (1948-55), and T-9619 (1948-55). Sections of revised high-water line in agreement with hydrographic party measurements were applied from Revision Survey 508 (1955) filed as Chart Letter 657 (1955), and Bp. 52708.

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

2. Sounding Line Crossings

The sounding line crossings are in good agreement, the corrections applied to effect agreement of cross-lines are discussed in items 7b, and 7c, under Condition of Survey.

3. Depth Curves and Bottom Configuration

The bottom in general slopes gently from the shoreline to the 10-fm. depth, and beyond that becomes practically level. Along the eastern side of the survey between the main shoreline and the Pujuk Islands there are numerous irregularities in depths less than 5 fms. Except for the low-water line all the usual depth curves are adequately delineated.

4. Junctions with Contemporary Surveys

Junctions between the present survey and unverified survey H-8123 (1954) on the west and the preliminary verification of survey H-8124 (1954) on the south are in harmony, however, further disposition of these junctions is deferred pending completion of the present survey and reviews of the latter surveys after complete verification. There are no contemporary surveys on the east. The soundings from unverified offshore survey H-7950 (1951-53) (1:500,000), which fall in the southwest portion of the present survey are in satisfactory agreement with present survey soundings.

5. Comparison with Prior Surveys

H-2620 (Recon.) (1902), 1:40,000

This prior survey is comprised of two lines of reconnaissance hydrography running from Northeast Cape southward around the Penuk Islands and thence northwestward to Apavawook Cape (East Cape). The few soundings which fall in the present survey generally differ by 1-fm. with present survey soundings.

The present survey entirely supersedes this prior survey.

6. Comparison with Chart 9302 (Print date 6/15/53)

A. Hydrography

The charted hydrography originates with the previously discussed survey and with partial application of the boat sheet of the present survey (Bp's 51894-900).

The present survey entirely supersedes the charted hydrography.

B. Aids to Navigation

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

7. Condition of Survey

(a) The sounding records and Descriptive Report are complete and comprehensive.

(b) The smooth plotting was fairly accurate. However, a total of 111 positions were revised during verification, because of faulty plotting of shoran fixes and because of the office application of a variable shoran correction to Ship Shoran station SHO-BOAT on lines in the vicinity of Penuk Island, and

in the western part of the survey. Corrections to Shoran distances ranging between 0.04 and .1 mile were necessary in order to resolve discrepancies of crossings and in junctional areas, and to obtain a consistent pattern in bottom configuration.

(c) Examination of conflicting sounding lines revealed discrepancies in depths caused by fathogram paper alignment, initial adjustment and fathogram scanning, and also revealed most of the discrepancies in position noted under paragraph 7b. Corrections ranging between 0.4 fm. were applied to depths. A total of 1671 depths were corrected during verification.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work

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

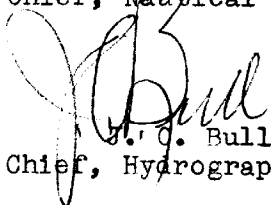
Examined and Approved:



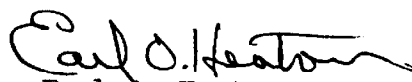
H. R. Edmonston
Chief, Nautical Chart Branch



E. R. McCarthy
Chief, Division of Charts



H. C. Bull
Chief, Hydrography Branch



Earl O. Heaton
Chief, Division of Coastal Surveys

Addendum to Review
H-8122 (1954)

Verification and Inking Completed by-----J. C. Chambers
Review Addendum by-----F. J. Pavlat - 7/15/65
Inspected by-----R. H. Carstens

The verification of H-8122 has been completed. Soundings, junctions, and depth curves have been completely inked.

Junctions

Adequate junctions were effected with H-8123 (1954) on the west and with H-8124 (1954) on the south. The junction with unverified survey H-7950 (1951-53) which falls in the south-west portion of the present survey will be considered in the review of H-7950.

Comparison with Chart 9302 (Latest Print Date 12/14/64).

The charted hydrography originates with the present survey after preliminary verification and review. The charted depth are in agreement with the present survey.

Condition of Survey

See Item 7 of original review.

Approved:



Lorne G. Taylor
Commander, USESSA
Chief, Nautical Chart Division

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~

22 March 1955

Division of Charts: R. H. Carstens

Plane of reference approved in
31 volumes of sounding records for

HYDROGRAPHIC SHEET 8122

Locality St. Lawrence Island, Alaska

Chief of Party: K. G. Crosby in 1954

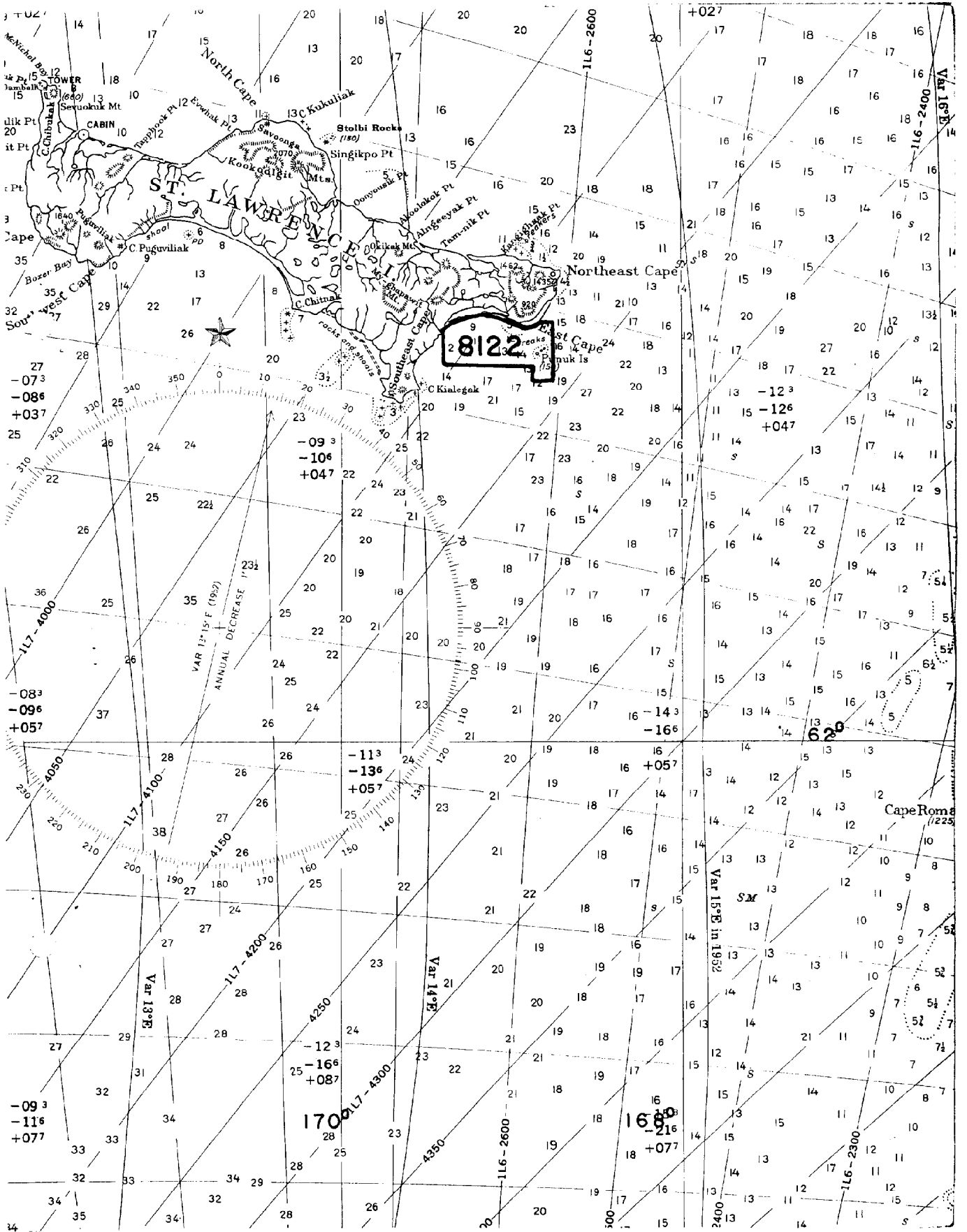
Plane of reference is mean lower low water, reading
2.6 ft. on tide staff at Lake Cynthia Entrance ($1\frac{1}{2}$ miles southwest of)
4.6 ft. below B. M. 1 (1954)

Height of mean high water above plane of reference is 1.7 feet.

Condition of records satisfactory except as noted below:

E. C. McKay
Tides Branch

Chief, Division of Tides and Currents.



8122

-09°
-10°
+047

-12°
-12°
+047

-08°
-09°
+057

-11°
-13°
+057

-09°
-11°
+077

-12°
-16°
+087

16°
-21°
+077

116-2300

Var 15° E in 1952

Var 14° E

Var 13° E

VAR 13° 15' F (1952)
ANNUAL DECREASE 1'

Var 16° E

Cape Romanoff (225)

SM

116-2400

116-2600

116-911

117-4000

117-4100

117-4200

117-4300

116-2600

116-911

117-4000

117-4100

117-4200

117-4300

116-2600

116-911

117-4000

117-4100

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116-911

NAUTICAL CHARTS BRANCH

SURVEY NO# 8122

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
3-6-61	9302	J. M. Albert	Before ^{Prelim.} After Verification and Review ^{Consider completely applied for this scale}
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
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			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.