

8123

Diag. Cht. No. 9302

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. PF-2454 Office No. H-8123

LOCALITY

State Alaska

General locality St. Lawrence Island

Locality Maknik Lagoon to Kialegak Point

1945

CHIEF OF PARTY

K. G. Crosby

LIBRARY & ARCHIVES

DATE February 18, 1955

8123

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-8123

Field No. PF-2454

State Alaska

General locality ~~Bering Sea~~ St Lawrence Island

Locality ~~St. Lawrence Island~~ Maknik Lagoon to Kialegak Pt.

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

Instructions dated 6 March 1951 and 14 December 1953

Vessel PATHFINDER

Chief of party K. G. Crosby

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

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

Fathograms scaled by Field party GRS, GUB, MW, Lupoli

Fathograms checked by Ship's officers PAW, HJW, ERS, FJT, HPP

Protracted by G. R. Schevon

Soundings penciled by P. Taylor, G. R. Schevon

Soundings in fathoms ^{and fms} ~~FEET~~ at ~~MLLW~~ and are based on a

REMARKS: velocity of sound of 800 fms/sec

262

DESCRIPTIVE REPORT

To Accompany

HYDROGRAPHIC SURVEY H-8123 (FIELD NO. PF-2454)

ST. LAWRENCE ISLAND

A L A S K A

SCALE 1:20,000

1 9 5 4

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.
3. Supplemental Instructions dated 14 December 1953.

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 and west - St. Lawrence Island, on the south - latitude $62^{\circ} 59' N.$, and on the east - longitude $169^{\circ} 17' W.$

2. Field work began on 14 July 1954 and ended on 10 September 1954.

3. There are no prior surveys falling within the limits of this sheet. (*one study from H-7950-1950-53*)

4. This survey joins contemporary surveys H-8122 and H-8124 on the east. ⁽¹⁹⁵⁴⁾
(1954)

C. VESSELS AND EQUIPMENT

1. Hydrography was done with Launches Nos. 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 No. 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 No. 1, #61, Launch No. 2, #74S, Launch No. 3, #52; and Launch No. 4, #46. + #68

4. Shore stations were established at SHO-CYN, on south side of St. Lawrence Island west of entrance to ~~Lake Cynthia~~; (Makuk Lagoon) 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.

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. One current station falls within the limits of this survey. Located at latitude $63^{\circ} 05.0' N.$, longitude $169^{\circ} 20.6' W.$, - 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. see 'G'

3. Soundings were penciled 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.

2. Shoran station SHO-PUN was located from nearby triangulation stations established this year and in 1951. This station position is not plotted on the sheet because of its remote location.

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 were transferred from a photogrammetric compilation by the Processing Office. The low-water line and other topographic details were not revised by the hydrographic survey as the tide range was not great enough to permit sounding over the reference plane.

7-9613, 7-9617, 7-9618, F9620 (1948-55)

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 attached tabulation and Fathometer Descriptive Report, 1954.

I. CONTROL

1. Hydrography was controlled by shoran fixes.

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 random 0.1 mile error for launch No. 1 on SHO-BOAT.

(a) The zero set correction was obtained from a series of calibrations taken during the season and applied to the sounding volumes during processing. 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. Rep. # 89 (1954)
K.B. Crosby*

(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 for a launch, each position being at a different distance from SHO-CYN. Shoran readings were taken at the same time and 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 variable-distance corrections could be used which 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) In addition to the above described corrections (zero set and distance), one additional correction was necessary for the control from Launch No. 1 only for some portions of "d", "e", and "f" days. It was found that in certain areas of the hydrography done by Launch No. 1 on these critical days the shoran indicator was reading 0.1 statute mile short, that is, readings observed from SHO-BOAT station (on the rate side of set A, the mobile set on Launch No. 1) were low by 0.1 statute mile, and in order to reconcile these particular readings with the remainder of the hydrography in the area 0.1 statute mile was added to the SHO-BOAT reading.

The affected area was in the close vicinity of SHO-CYN, between the inshore work near the station to about 2.2 statute miles offshore. This area was always north of the baseline formed by SHO-BOAT and SHO-CYN. As an example in the hydrography between positions 1 "d" and 10 "d" it was found that each SHO-BOAT reading was 0.1 too low. This was corrected by adding 0.1 statute mile to the shoran readings in the sounding volume before smooth sheet plotting. From position 11 "d" to position 14 "d" the launch was operating south of the shoran baseline and it was found that no correction was necessary. Once the launch crossed the baseline again, on a northerly course, the correction was again necessary. This trend continued for the portions of "d", "e" and "f" days when sounding north of the baseline.

It is believed that the cause of this apparent random error can be attributed to the short distance between

SHO-CYN and the launch, and that the relatively high power output of SHO-CYN was causing the erratic error. This station was operating with their gain turned up high, in order to receive launches that were sounding at some distance away. Since the error was found north of the baseline only, it is assumed that either the shore station and/or the mobile station antennas were selective or directional when the two were in close proximity, and this directionability combined with faulty operation of the mobile set provided the 0.1 statute mile error. The error was not found during the hydrography, and for this reason no calibrations were obtained on the working grounds at the time. The smooth sheet plotting brought out the error when it was found that the soundings and general hydrographic notes did not check with other launch information, and that this check could be obtained by adding 0.1 statute mile to SHO-BOAT readings on Launch No. 1 during the critical periods. Following is a tabulation of the positions for which this correction was used:

DAY	POSITIONS	
	FROM	TO
d	1	10
	15	37
	54	76
e	7	10
	23	41
	50	67
	78	92
f	5	18
	32	46
	60	76

J. ADEQUACY OF SURVEY

1. This survey is considered adequate.
2. Junctions with adjoining surveys H-8122 and H-8124 show good agreement except for the ship soundings on H-8124 which were noted to be from 0.1 to 0.5 fathoms deeper than those of this survey. (*Correction on H-8124*)
3. There are no "holidays" in the survey or at the junctions with H-8122 and H-8124. Depth curves can be drawn continuously, with the consideration mentioned in paragraph two above.

4. The ten-fathom curve is rather irregular because of the slight discrepancy in the soundings obtained by the several launches over the relatively flat bottom. (see # 5 below)

5. There was a noticeable discrepancy in the soundings obtained with launch No. 2 as compared to those of the other launches. This was particularly apparent in the crossline run by Launch No. 2 which paralleled a portion of the SHO-CYN arc in the vicinity of latitude 63° 03.5' N., and longitude 169° 26.5' W. These soundings were consistently about 0.3 fathoms shoaler than the predominant depths in the area. This effect is most apparent in the 8 to 10 fathom depths where the bottom characteristic is fairly flat. *Corrected by rescanning fathograms and adjusting for initial.*

K. CROSSLINES

1. Approximately 12 percent of the hydrography were crosslines.

2. The crossings are within 0.1 to 0.3 fathoms in agreement in most instances except for the case regarding Launch No. 2. Discrepancies between Launch No. 2 and No. 3 ran as high as 0.7 fathom in the vicinity of latitude 63° 00.6' N., and longitude 169° 31.8' W. ~~In each case at the crossings the shoaler soundings of Launch No. 2 were used.~~ *Fathograms rescanned and initial adjusted for.*

L. COMPARISON WITH PRIOR SURVEYS

(1951-52)

1. Only one prior survey, H-7950, is in existence and a comparison follows:

LOCATION		SOUNDINGS (FATHOMS)	
<u>Latitude</u>	<u>Longitude</u>	H-7950	H-8123
63° 04.7' N.	169° 19.5' W.	12.5	12
63° 05.6' N.	169° 19.5' W.	12.0	11
63° 05.6	169 19.5	12.0	12

M. COMPARISON WITH CHART

1. No soundings appear on Chart No. 9302 within the area enclosed by this survey. *One entry 12 fms - see review # 6*

N. DANGERS AND SHOALS

1. There are two well defined shoal areas which may be considered as dangers. These are approximately 0.5 mile from shore.

2. A 0.6 fathom sounding was obtained at latitude $62^{\circ}59.2'$ N., and longitude $169^{\circ}30.95'$ W., the result of a development comprising of 50 meter spacing between sounding lines. Least depth is as scaled from fathogram.

3. The second shoal area contains four distinct least depths resulting from 100 meter spacing between sounding lines.

(a) A depth of ~~2.0~~^{1.9} fathoms at latitude $63^{\circ}02.9'$ N., and longitude $169^{\circ}32.6'$ W., on position 89j (Red) was found. This sounding was verified by a hand lead at 2.1 fathoms.

(b) A depth of 1.9 fathoms at latitude $63^{\circ}03.1'$ N., and longitude $169^{\circ}32.2'$ W., between position 54j and 55j (Red) was found. Time and rough seas did not permit verification by hand lead.

(c) A depth of 1.8 fathoms at latitude $63^{\circ}03.2'$ N., and longitude $169^{\circ}31.9'$ W., between positions 136c and 137c (Purple) was found. Further development failed to uncover a shoaler depth.

(d) A depth of 1.3 fathoms at latitude $63^{\circ}03.3'$ N., and longitude $169^{\circ}32.0'$ W., between positions 24d and 25d (Purple) was found. Time and seas prevented a handlead investigation.

4. No other shoals were found.

O. COAST PILOT INFORMATION

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

P. AIDS TO NAVIGATION

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

Q. LANDMARKS FOR CHARTS

1. See report on Form 567, LANDMARKS FOR CHARTS.

R. GEOGRAPHIC NAMES

1. 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.

2. TABULATION OF APPLICABLE DATA

<u>NAME</u>	<u>DATE FORWARDED</u>
1. Fathometer Correction Descriptive Report	19 Oct. 1954 <i>Sp Rep 91 (1954)</i>
2. Shoran Correction Descriptive Report	13 Oct. 1954 " " <i>89 (1954)</i>
3. Coast Pilot Notes	23 Nov. 1954
4. Triangulation Records, St. Lawrence Island	12 Oct. 1954
5. Current Observation Records, St. Lawrence Id.	5 Oct. 1954
6. Tide Observation Records, St. Lawrence Id.	4 Oct. 1954
7. Landmarks for Charts, 1954	8 Oct. 1954

Respectfully submitted,

George R. Schevon
George R. Schevon,
Ensign, USC&GS

APPROVED AND FORWARDED:

K. G. Crosby
K. G. Crosby,
Captain, USC&GS,
Comdg. Ship PATHFINDER

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	
			Read.	Corr.	Read.	Corr.
0800	99.776	99.775	17.110	17.105	4.440	4.448
0830	.780	.775	.110	.105	.430	.438
0900	.776	.775	.115	.110	.440	.448
0930	.780	.775	.110	.105	.450	.458
1000	.780	.770	.125	.120	.430	.438
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	<u>.780</u>	<u>.775</u>	.095	.090	.455	.463
MEAN	99.779	99.775				
CORR.	-0.005	+0.008				

*Ship swinging at these times to give 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	<u>.780</u>	<u>.775</u>	.235	.230	.330	.338
MEAN	99.779	99.775				
CORR.	-0.005	+0.008				

SHIP SHORAN STATION SHO-BOA T 6, ST. LAWRENCE ISLAND, ALASKA

6 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	16.810	16.804	6.965	6.973
0830	.780	.775	.815	.809	.945	.953
0900	.780	.775	.815	.809	.955	.963
0930	.780	.775	.815	.809	.935	.943
1000	.780	.775	.815	.809	.925	.933
1030	.780	.775	.815	.809	.925	.933
1100	.780	.775	.815	.809	.940	.948
1130	.780	.775	.790	.784	.910	.918
1200	.780	.775	.795	.789	.915	.923
1230	.780	.775	.780	.774	.920	.928
1300	.780	.775	.790	.784	.915	.923
1330	.780	.775	.790	.784	.915	.923
1400	.780	.775	.785	.779	.915	.923
1430	.780	.775	.785	.779	.915	.923
1500	.780	.775	.785	.779	.915	.923
1530	.780	.775	.785	.779	.915	.923
1600	<u>.780</u>	<u>.775</u>	.785	.779	.910	.918
MEAN	99.780	99.775				
CORR.	-0.006	+0.008				

SHIP SHORAN STATION SHO-BOAT 7, ST. LAWRENCE ISLAND, ALASKA

10 SEPTEMBER

TIME	ZERO CHECK		POSITION OF ANTENNA			
	SHO-PUN	SHO-CYN	SHO-PUN		SHO-CYN	
			READ	CORR.	READ.	CORR.
0800	99.780	99.775	17.685	17.679	6.760	6.768
0830	.780	.775	.695	.689	.775	.763
0900	.780	.775	.690	.684	.760	.768
0930	.780	.775	.685	.679	.755	.763
1000	.780	.775	.675	.669	.755	.763
1030	.780	.775	.675	.669	.755	.763
1100	.780	.775	.680	.674	.748	.756
1130	.780	.775	.685	.679	.755	.763
1200	.780	.775	.685	.679	.745	.753
1230	.780	.775	.675	.669	.750	.758
1300	.780	.775	.675	.669	.755	.763
1330	.780	.775	.685	.679	.750	.758
1415*	.780	.775	.680	.674	.760	.768
1430	.780	.775	.680	.674	.770	.778
1500	.780	.775	.675	.669	.765	.773
1530	.780	.775	.685	.679	.755	.763
Mean	99.780	99.775				
Corr.	-0.006	0.008				

* 1400 reading delayed while repairing antenna.

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

3 SEPTEMBER

TIME	ZERO CHECK		POSITION OF ANTENNA			
	SHO-PUN	SHO-CYN	SHO-PUN		SHO-CYN	
			READ.	CORR.	READ.	CORR.
1230	99.782	99.775	16.700	16.694	3.475	3.483
1300	.780	.775	.705	.699	.480	.488
1330	.780	.775	.710	.704	.480	.488
1400	.780	.775	.710	.704	.476	.484
1430	.780	.775	.710	.704	.480	.488
1500	.780	.775	.710	.704	.485	.493
1530	.780	.775	.715	.709	.470	.478
1600	.780	.775	.720	.714	.470	.478
1630	.780	.775	.695	.689	.485	.493
1650	.780	.775	.720	.714	.465	.473
Mean	99.780	99.775				
Corr.	-0.006	+0.008				

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

5 SEPTEMBER

TIME	ZERO CHECK		POSITION OF ANTENNA			
	SHO-PUN	SHO-CYN	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				

SHORAN CORRECTIONS

for

ZERO SET

HYDROGRAPHIC SURVEY H-8123

DAY LAUNCH 1:	FROM	TO	CORRECTION		BOAT	REMARKS
			CYN	PUN		
a (red)	All day		0.001	0.001		
b (red)	All day		0.001	-0.004		
c (red)	All day		0.001	-0.002		
d (red)	All day		0.001		0.015	
e (red)	Pos. 1	Pos. 6	0.001	-0.014		
	Pos. 7	End	0.001		0.012	
f (red)	All day		-0.001		0.009	
g (red)	All day		-0.004		0.012	
h (red)	All day		0.001		0.015	
j (red)	All day		-0.001		0.010	
<u>LAUNCHES 2 & 4:</u>						
a (blue)	All day		-0.013	-0.021		
b (blue)	Pos. 1	Pos. 93	0.004		0.015	Launch 2
	Pos. 94	End	-0.004		0.008	Launch 4
c (blue)	Pos. 1	Pos. 68	0.006		0.016	Launch 2
	Pos. 69	End	-0.004		0.008	Launch 4
d (blue)	All day		-0.010		0.001	Launch 4
<u>LAUNCHES 3 & 2:</u>						
a (violet)	All day		0.007		0.014	
b (violet)	All day		0.007		0.014	
c (violet)	All day		0.007		0.014	
d (violet)	Pos. 1	Pos. 10	0.007		0.014	Launch 3
	Pos. 11	End	0.014		0.026	Launch 2

FATHOMETER ECHO CORRECTIONS

INDEX

HYDROGRAPHIC SURVEY H-8123

<u>FATHOMETER NUMBER</u>	<u>LAUNCH NUMBER</u>	<u>CORRECTION (FATHOMS)</u>
61	1	0.1
74 S	2	0.2
52	3	0.2
46	4	0.0
68	4	0.0

STATISTICS FOR HYDROGRAPHIC SURVEY H-8123

<u>VOL. NO.</u>	<u>DAY LETTER</u>	<u>DATE</u>	<u>POSITIONS</u>	<u>STATUTE MILES OF SOUNDINGS</u>
<u>LAUNCH 1:</u>				
1	a (red)	7/16/54	47	18.5
1-2	b (red)	7/17/54	84	36.8
2	c (red)	7/21/54	118	45.3
3	d (red)	8/21/54	76	24.4
3	e (red)	8/26/54	102	32.4
3-4	f (red)	9/3/54	53	10.7
4	g (red)	9/5/54	198	49.9
4-5	h (red)	9/6/54	169	57.5
5	j (red)	9/10/54	<u>92</u>	<u>26.2</u>
Totals for LAUNCH 1			939	301.7
<u>LAUNCH 2:</u>				
6	a (blue)	7/14/54	8	1.5
6	b (blue)	9/5/54	93	30.4
6	c (blue)	9/6/54	68	18.3
9	d (violet)	9/10/54	<u>76</u>	<u>22.0</u>
Totals for LAUNCH 2			245	72.2
<u>LAUNCH 3:</u>				
8	a (violet)	9/3/54	67	24.4
8	b (violet)	9/5/54	22	8.7
8	c (violet)	9/6/54	147	46.8
9	d (violet)	9/10/54	<u>10</u>	<u>3.0</u>
Totals for LAUNCH 3			246	82.9
<u>LAUNCH 4:</u>				
6	b (blue)	9/5/54	48	15.6
6	c (blue)	9/6/54	72	18.3
7	d (blue)	9/10/54	<u>103</u>	<u>31.5</u>
Totals for LAUNCH 4			223	65.4
Totals for all launches			<u>1653</u>	<u>522.2</u>

TIDE NOTE

HYDROGRAPHIC SURVEY H-8123

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

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-8123

BERING SEA

~~CAPE KIALEGOAK~~ (Kialegak Pt) *

~~LAKE CYNTHIA~~ (Maktvik Lagoon) *

ST. LAWRENCE ISLAND

* B.G.N. Decision
in its list No. 5102
(March, 1951)

APPROVAL SHEET


HYDROGRAPHIC SURVEY H-8123

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. CROSBY
Captain, USC&GS
Comdg. Ship PATHFINDER

GEOGRAPHIC NAMES

Survey No. H-8123

Name on Survey	Source											
	A	B	C	D	E	F	G	H	K			
<u>Alaska</u>												1
<u>Bering Sea</u>											B.R.V.	2
<u>St. Lawrence I.</u>											"	3
<u>Kialagak Pt.</u>											"	4
<u>Maknik Lagoon (not Lake Cynthia)</u>											"	5
												6
												7
												8
												9
												10
												11
												12
												13
												14
												15
												16
												17
												18
												19
												20
												21
												22
												23
												24
												25
												26
												27

Names approved
3-1-55. L. Heck

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8123.....

Records accompanying survey:

Boat sheets .3...; sounding vols. 9....; wire drag vols.;
 bomb vols.; graphic recorder rolls 3 ~~env.~~;
 special reports, etc. 1 Smooth Sheet.....

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

Number of positions on sheet		1653..
Number of positions checked		..28..
Number of positions revised		..12..
Number of soundings revised (refers to depth only)		..292..
Number of soundings erroneously spaced		..-...
Number of signals erroneously plotted or transferred		..-...
Topographic details	Time	..16 hrs
Junctions	Time	..12 hrs
Verification of soundings from graphic record	Time	..10 hrs
Verification by <i>Ernest S. Thomas</i>	Total time	1.41.. Date 10/27/55
Reviewed by <i>A.R. STIRNI</i>	Time	32 hrs Date 1/6/55

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8123

FIELD NO. PF-2454

Alaska, St. Lawrence Island, Maknik Lagoon to Kialegak Pt.

Project No. CS-343

Surveyed - July-Sept., 1954

Scale 1:20,000

Soundings:

Control:

308 Fathometer

Shoran

Chief of Party - K. G. Crosby
Surveyed by - P. Taylor, H. P. Demuth and F. J. Tucker, Jr.
Protracted by - G. R. Schevon
Soundings plotted by - P. Taylor, G. R. Schevon
Verified and inked by - E. E. Thomas
Reviewed by - A. R. Stirni 1/6/56
Inspected by - R. H. Carstens

1. Shoreline and Control

The shoreline originates with the reviewed manuscripts of air-photographic surveys T-9613 (1948-55), T-9617 (1948-55), T-9618 (1948-55), and T-9620 (1948-55).

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

2. Sounding Line Crossings

Sounding line crossings are in satisfactory agreement after corrections were applied to effect agreement of cross-lines as noted in item 7c, under Condition of Survey.

3. Depth Curves and Bottom Configuration

The bottom is generally smooth and gently sloping except for an irregular shoal area approximately 2000 meters long and 700 meters wide at lat. 63°03.0', long. 169°32.5'.

The depth curves were adequately delineated except that the low-water line and stretches of the 1-fm. curve are not developed. The low tidal range, 1.7 feet, and in some areas breakers and foul areas inshore limited the development of these curves.

4. Junctions with Contemporary Surveys

Junctions between the present survey and the preliminary verification of surveys H-8122 (1954) and H-8124 (1954) on the east are in harmony, however, further disposition of these junctions is deferred pending reviews of the latter surveys after complete verification. The three soundings from unverified off-shore survey H-7950 (1951-53), 1:500,000 which fall in the north-eastern portion of the present survey are in satisfactory agreement with present survey soundings.

5. Comparison with Prior Surveys

There are no prior surveys of the area by the Bureau.

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

A. Hydrography

Only one sounding, 12-fms. at lat. $63^{\circ}05.5'$, long. $169^{\circ}21.0'$ is charted in the present survey area. This sounding, which originates with unverified survey H-7950 (1951-53), falls in present survey depths of 11-fms and is superseded by the present survey.

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 accurately done.

(c) Prior to verification discrepancies at crossings and unnatural irregularities in the 10-fm. curve were caused by soundings obtained on Launch No. 2, which were 0.3 fm. shallower than other soundings. The revision of 242 soundings during verification, by rescanning fathograms and revising the initial correction, resulted in a smoother and more natural delineation of the 10-fm. depth curve and elimination of crossline discrepancies.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

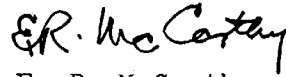
9. Additional Field Work

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

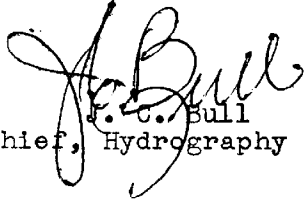
Examined and Approved:



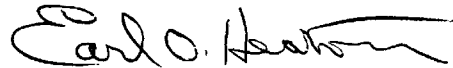
H. R. Edmonston
Chief, Nautical Chart Branch



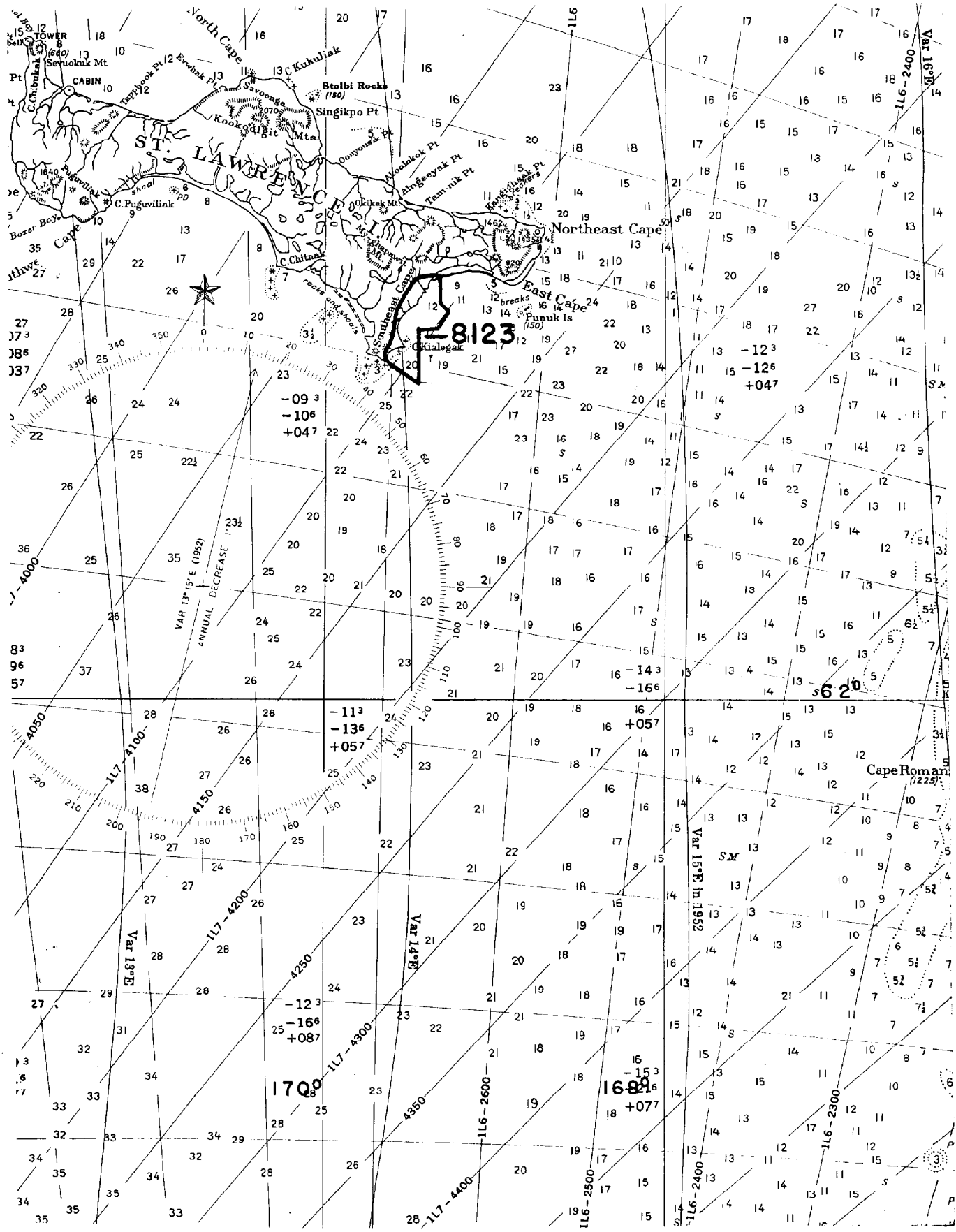
E. R. McCarthy
Chief, Chart Division



J. C. Bull
Chief, Hydrography Branch



Earl O. Heaton.
Chief, Division of Coastal Surveys



8123

-09³
-10⁶
+04⁷

-11³
-13⁶
+05⁷

-12³
-16⁶
+08⁷

-15³
-16⁶
+07⁷

1700

Var 15° E in 1952

Var 13° E

Var 14° E

Var 16° E

VAR 13°15' E (1962)
ANNUAL DECREASE 1"

086
037

83
96
57

13
16
17

34
35

Cape Roman (225')

Var 16° E

Var 16° E

Var 16° E

Var 16° E

Var 16° E

Var 16° E

Var 16° E

Var 16° E

Var 16° E

Var 16° E

Var 16° E

Var 16° E

Var 16° E

Var 16° E

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~

14 March 1955

Division of Charts: R. H. Carstens

Plane of reference approved in
9 volumes of sounding records for

HYDROGRAPHIC SHEET 8123

Locality St. Lawrence Island, Bering Sea

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 S.W. 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
Tide Branch

Chief, Division of Tides and Currents.

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8123

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
3-6-'61	9302	J. M. Albert	<i>Complete</i> 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
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			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.