

7852



Diag. Cht. No. 9400

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. ARN-2150 Office No. H-7852

LOCALITY

State ALASKA

General locality ARCTIC COAST

Locality EAST OF FLAXMAN ISLAND

194 50

CHIEF OF PARTY

R. A. Earle

LIBRARY & ARCHIVES

DATE MARCH 13, 1951.

B-1870-1 (1)

DECLASSIFIED BY NOAA  
PURSUANT TO DOC SYSTEMATIC REVIEW  
GUIDELINES AS DESCRIBED IN SECTION  
3.3(a), EXECUTIVE ORDER 12356.

7852  
2582



MAR 13 1951

Form 537  
Ed. Dec. 1930

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO.

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.

Field No. ARN-2150

REGISTER NO. H-7852

State ALASKA

General locality ARCTIC NORTH COAST

East of  
Locality FLAXMAN ISLAND TO CANNING RIVER

Scale 1:20,000 Date of survey 21 July to 10 Sept. 19 50

Vessel ARCTIC NORTH PARTY

Chief of Party R. A. EARLE

Surveyed by R.M. SYLAR, E.W. RICHARDS, H. D. NYGREN

Protracted by C.A.J. PAUW

Soundings penciled by C.A.J. PAUW

Soundings in ~~fathoms~~ feet Graphic Recorder

Plane of reference MLLW

Subdivision of wire dragged areas by \_\_\_\_\_

Inked by \_\_\_\_\_

Verified by \_\_\_\_\_

Instructions dated 15 February 1949, 8 March 1950, 19\_\_\_\_

Remarks: Fathograms Scaled by: North Party Personnel  
Fathograms Checked by: North Party Personnel

Note: Overlay from ARF Preliminary  
Base Map, Beachy Point (63 B)

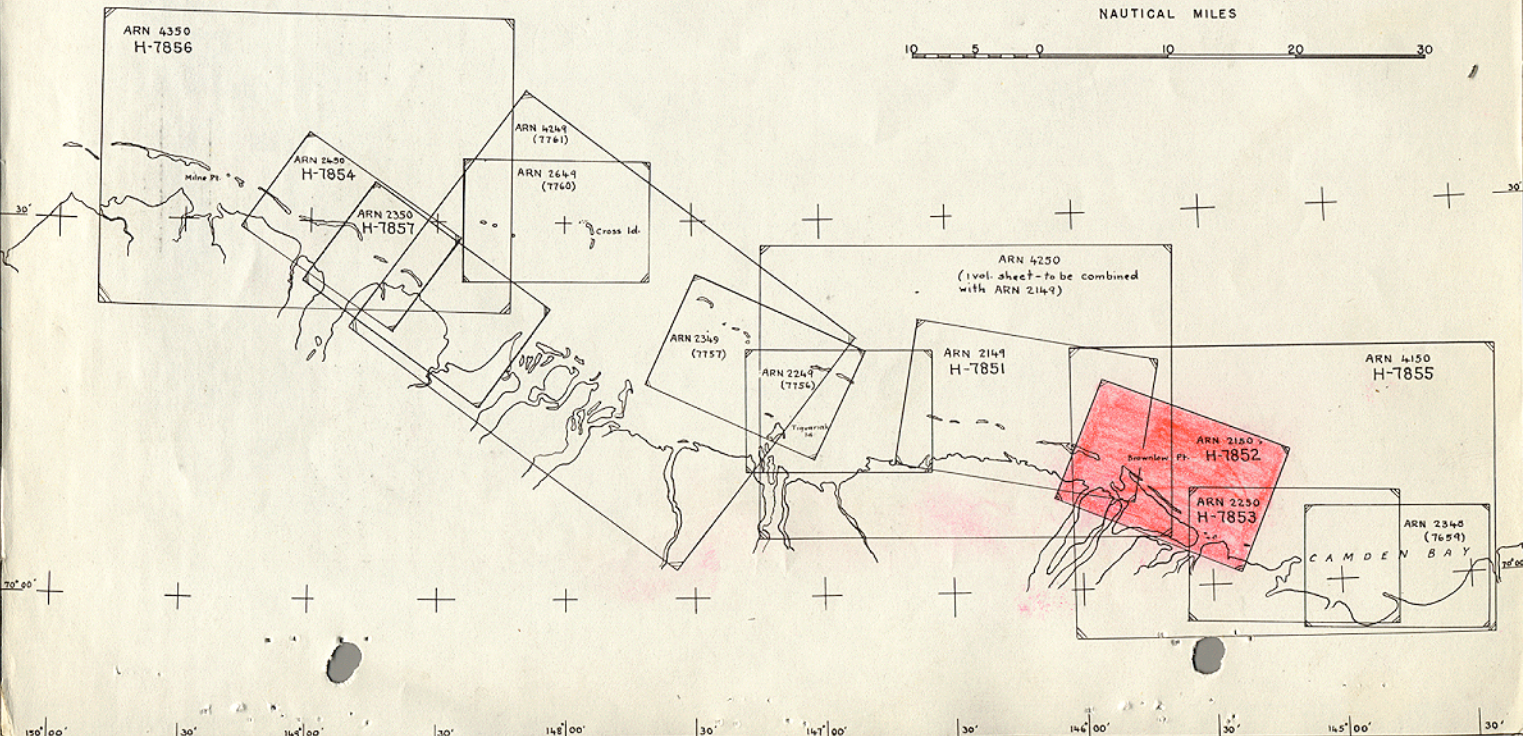
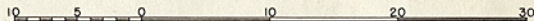
ARCTIC FIELD PARTY  
NORTH UNIT  
SHEET LAYOUT 1950 SEASON

9353  
58

J.T. JARMAN, OINC  
R.A. EARLE, CHIEF OF PARTY

SCALE 1:1,000,000

NAUTICAL MILES



DESCRIPTIVE REPORT TO ACCOMPANY  
HYDROGRAPHIC SURVEY NO. H-7852  
FIELD NUMBER ARN-2150  
FLAXMAN ISLAND TO CANNING RIVER  
PROJECT CS-320  
SCALE: 1:20,000

See Review par. 7b.  
for corrections applied  
during verification.

CHIEF OF PARTY - - - - - R. A. EARLE  
IN CHARGE, NORTH UNIT- - - - - J. T. JARMAN  
IN CHARGE, FIELD WORK- - - - - R. M. SYLAR  
H. D. NYGREN

A: PROJECT

This survey is part of Project CS-320, Basic Surveys, Arctic Coast of Alaska. It was accomplished under authority contained in supplemental instructions dated 4 February 1948, 15 February 1949, and 8 March 1950.

B: SURVEY LIMITS AND DATES

This survey covers the inshore area along the North Arctic Coast between Flaxman Island and the east arms of the Canning River. The work makes a junction on the west with H-7851, <sup>(1949-50)</sup> on the east with H-7853, <sup>(1950)</sup> and on the north with H-7855. <sup>(1950)</sup>

Work on this sheet was started on 21 July 1950 and was concluded on 10 September, 1950.

Progress was impeded during July and early August by heavy ice concentrations in the area outside the Flaxman Island Entrance.

C: VESSELS AND EQUIPMENT

This survey was made with converted rearming launches numbered 11, 15 and 13; equipped with 808j fathometers 125s and 121s and outboard fish installations set at two feet. Fathometer 125s was transferred from launch 11 to 15 during the season. Launch 15 was fitted with shoran set 933, powered by a belt driven generator. A PU-6 gasoline unit was used as a standby.

The launches which were based at Flaxman Island, made overnight stops in Camden Bay while working in this area.

D: TIDE AND CURRENT STATIONS

A tide gage was maintained at the Flaxman Island hydrographic camp throughout the time that work was being done in this area. Records from this gage were used to compute the reducers for this sheet, after the datum had been determined by the Washington Office.

E: SMOOTH SHEET

The smooth sheet projection was made, and shoran circles were plotted by personnel of the Seattle Processing Office. Signals were plotted from geographic positions, positions were protracted, and soundings were placed on the smooth sheet, by personnel of the Arctic Party.

F: CONTROL STATIONS



Control was based on the triangulation of R. A. Earle in 1950 and H. A. Paton in 1949, computed on Flaxman Island-1912 datum. Several hydrographic stations were located by the launch crews. Shoran stations were located by traverse from triangulation or topographic stations.

G: SHORELINE AND TOPOGRAPHY

The shoreline on the smooth sheet was transferred from <sup>3</sup> a nine-lens compilation furnished by the Portland Photogrammetric Office. T-9352, T-9353 and T-9358 (1947)

Bars thrown up at the mouths of the Canning River by a summer gale were sketched by R. M. Sylar, and transferred from the boat sheet as a broken red line. *check for 1950 data*

The low water line could not be defined because of the low range of tide. *T-9358 was the source of L.W. line at Canning River, East Arm.*

H: SOUNDINGS

All sounding was accomplished with portable graphic records of type 808j. Fresh water reeds which gave a calibrated velocity of 788.2 fm/sec. were used. All time was controlled by the fathogram; soundings were in feet; and the initial was held at two feet.

I: CONTROL OF HYDROGRAPHY

Hydrography was controlled by visual fixes and shoran. Shoran corrections were obtained and computed as described and tabulated in the "Special Report, Shoran Operations, Arctic North Party, 1950".

J: ADEQUACY OF SURVEY

This survey is adequate and complete. Satisfactory junctions were made with adjoining surveys.

K: CROSSLINES

Crosslines are adequate and satisfactory checks were obtained. *Review, paragraph 7b.*

L: COMPARISON WITH PRIOR SURVEYS

This is a previously unsurveyed area.

M: COMPARISON WITH CHART

The only existing chart of the area, USC&GS 9400, is on too small a scale for comparison. *Review, par. 6a.* *new Ch. 9403 also covers this area.*

N: DANGERS AND SHOALS

The offshore areas are free of any dangers. The delta off the east mouth of the Canning River is subject to seasonal change and should be avoided.



The delta of the west fork of the Canning River lies SW of Brownlow Point. The area between this delta and the long shoal making out WNW of Brownlow Point is very shallow and subject to change. The shoal itself bares at intervals along its length and should be avoided.

Many boulders lie along the south shore of Flaxman Island, and on the west shore of Brownlow Point, and these beaches should be approached cautiously.

O: COAST PILOT INFORMATION

See: "Coast Pilot Reports, Arctic North Party, 1949 and 1950."

The shallow lagoon SE of Brownlow Point was traversed by launch during a period of storm high water. At this time depths of 4 to 5 feet were obtained, with the tide about 2 ft. above MLLW. A rock awash was noted at Latitude  $70^{\circ} 08.3' N.$ , and Longitude  $145^{\circ} 46.6' W.$  The only entrance to this lagoon is at Latitude  $70^{\circ} 08.7' N.$ , and Longitude  $145^{\circ} 46.1' W.$  A small shallow draft vessel can find shelter just inside this entrance.

In August 1950 an exhaustive search was made for a channel into the Canning River, and no such channel was found to exist.

A sheltered small boat anchorage exists east of the spit, which extends out from the southern part of Flaxman Island, southwest of the prominent house. The northern and eastern shores of Flaxman Island are subject to heavy erosion by seas during the open water season. The large wedges of ground-ice melt and cause the island to recede as much as 10 to 20 yards a year, according to Leffingwell.

P: AIDS TO NAVIGATION

The following aid to navigation was established within the limits of this survey:

<u>HYDROGRAPHIC NAME</u>	<u>CHARTED NAME</u>	<u>LOCATION</u>
Age	Day beacon, circular day marker	$70^{\circ} 10' 1162.2$ m N. $145 56 365.7$ W.

Q: LANDMARKS FOR CHARTS

The following object which lies within the limits of the survey, was submitted as a landmark in 1950.

<u>HYDROGRAPHIC NAME</u>	<u>CHARTED NAME</u>	<u>LOCATION</u>
Ware	Building - Warehouse, most prominent of group of 3 buildings.	$70^{\circ}$ <del><math>70^{\circ}</math></del> $09' 1363.7$ m N. $145 50 187.0$ m W



R: GEOGRAPHIC NAMES

See: "Special Report, Geographic Names, Arctic North Party, 1948 and 1949." on file - 8274A.

S: TABULATION OF APPLICABLE DATA

The following reports and records have been submitted to the Washington Office under separate cover:

1. Triangulation Records, 1949 and 1950
2. Tidal Data, 1950
3. Fathometer Corrections, 1950 With H-7857 ✓
4. Coast Pilot Notes, 1949, 1950
5. Geographic Names Report, 1948, 1949
6. Shoran Report, 1950

T: ATTACHMENTS

1. List of Signals
2. Statistics
3. Tidal Note
4. Abstract of Fathometer Corrections
5. Geographic Name List
6. Approval Sheet

U: REMARKS

The offshore sounding line between positions 90k and 131k (red), which was run by launch 13, lies in the area covered by sheet ARN-4150. H-7855  
It was impossible, without a great deal of trouble, to plot this line on the above mentioned shoran sheet due to the lack of visual control stations. In accordance therewith it is requested that this line be transferred to sheet ARN-4150 in Washington, by use of the projector.

Transfer of above line not required.

Respectfully submitted,

*H.D. Nygren*  
H. D. Nygren  
Ensign, USC&G Survey

Approved and forwarded:

*R.A. Earle*  
R. A. Earle,  
Commander, USC&G Survey  
OinC, Arctic Field Party



SIGNAL LIST  
FIELD SURVEY ARN-2150 (H-7852)

<u>NAME</u>	<u>SOURCE</u>
Age *	Traverse
Art **	Topographic G.P. List
Bar	" " "
<u>Brownlow</u>	2nd Order Triangulation
<u>Canning</u>	" " "
<u>Finish</u>	" " "
<u>Flaxman</u>	" " "
Fred	Vol. # 6, page 44.
Hunter	2nd Order Triangulation
Hut **	Three point fix
Keg	Topographic G.P. List
<u>Leffingwell</u>	2nd Order Triangulation
Len	Vol. # 6, page 44.
Lily	3rd Order Triangulation
Log	Topographic G.P. List
Luk	3rd Order Triangulation
Nod	" " "
Put	Topographic G.P. List
Rel	" " "
Rod	Vol. # 6, page 44.
Rum	Topographic G.P. List
Ruth	3rd Order Triangulation
Tel on H-7853	" " "
Tri	Topographic G.P. List
Ven	" " "
<u>Village</u>	2nd Order Triangulation
<u>Walker</u>	" " "
Was on H-7853	Topographic G.P. List

\* See Form 567, Non-floating Aids to Navigation, 1950  
 \*\* See Geographic Position List for Topographic Station Locations

SHORAN STATIONS

Man	(1476.6)
	70° 11' 382.8 m N
	(187.0)
	146° 02' 443.9 m W
Tre	(1766.4M)
	70° 02' 93.0M N
	(551.2)
	145° 25' 84.2 m W

Shoran stations located by traverse from triangulation stations.  
 See "Special Report, Shoran Operation, Arctic North Party, 1950."



STATISTICS  
FIELD NO. ARN-2150 (H-7852)

<u>Date</u>	<u>Launch</u>	<u>Day Letter</u>	<u>Vol.</u>	<u>Position</u>	<u>Stat.Mile Sdg.Lines</u>
7/21/50	13	a (red)	1	138	38.4
8/28/50	11	a (purple)	7	55	20.9
9/9/50	15	a (blue)	8	233	65.5
7/22/50	13	b (red)	1	<del>262</del> <sup>124</sup>	36.7
8/29/50	11	b (purple)	7	56	21.3
9/10/50	15	b (blue)	9	33	9.8
7/25/50	13	c (red)	2	168	42.7
7/26/50	13	d (red)	2	70	16.6
8/1/50	13	e (red)	2	19	5.0
8/3/50	13	f (red)	2	12	3.7
			3	23	7.3
8/4/50	13	g (red)	3	105	26.6
8/5/50	13	h (red)	3	63	20.3
8/7/50	13	j (red)	3	59	17.5
8/8/50	13	k (red)	4	170	43.0
8/9/50	13	l (red)	4	98	30.1
			5	4	1.5
8/13/50	13	m (red)	5	9	2.1
8/16/50	13	n (red)	5	170	36.6
8/19/50	13	p (red)	5	33	16.7
8/28/50	13	q (red)	5	52	19.3
			6	9	2.1
8/29/50	13	r (red)	6	52	13.9
8/30/50	13	s (red)	6	29	7.0
8/31/50	13	t (red)	6	61	16.1
9/1/50	13	w (red)	6	<u>114</u>	<u>32.0</u>

SHEET TOTAL      ~~2097~~  
1949                      543.2

AREA: 59.4 square statute miles

TIDAL NOTE

ARN-2150 (H-7852)

GAGE LOCATION - Flaxman Island

Lat. 70° 11.1' N  
Long. 146° 03.0' W

The height of mean lower low water (MLLW) above the zero of the tide staff is 2.2.feet.

NOTE: Refer to TIDAL DATA REPORT, 1950 for applicable tide curves.



VELOCITY CORRECTIONS  
Sheet ARN-2150

*Report with  
4-7857*

Launch No. 13  
Fath. No. 121  
Velocity Curve No. 1  
7/21 thru 7/26  
Aug. 1, 4, 5, 7 & 8

Review, par. 7b.

<u>Depth Appli- ble Feet</u>	<u>Velocity Corr. Feet</u>	<u>"B" &amp; "C" Scale Corr. Feet</u>	<u>Bar-Check Corr. Feet</u>	<u>Combined Corr. Feet</u>	<u>Combined "B" &amp; "C" Scale Corr. Ft.</u>
All Depths	0.0	+0.8	-0.2	-0.2	+0.6

Launch No. 13  
Fath. No. 121  
Velocity Curve No. 3  
August 2, 3 & 6  
August 9 thru August 31

<u>Depth Appli- Cable Feet</u>	<u>Velocity Corr. Feet</u>	<u>"B" &amp; "C" Scale Corr. Feet</u>	<u>Bar-Check Corr. Feet</u>	<u>Combined Corr. Feet</u>	<u>Combined "B" &amp; "C" Scale Corr. Ft.</u>
0 to 11	0.0		-0.2	-0.2	
11 to 35	+0.2		-0.2	0.0	
35 to 52	+0.4	+0.5	-0.2	+0.2	+0.8

Launch No. 13  
Fath. No. 121  
Velocity Curve No. 4  
9/1

<u>Depth Appli- cable feet</u>	<u>Velocity Corr. Feet</u>	<u>"B" &amp; "C" Scale Corr. Feet</u>	<u>Bar-Check Corr. Feet</u>	<u>Combined Corr. Feet</u>	<u>Combined "B" &amp; "C" Scale Corr. Ft.</u>
0 to 24	0.0		-0.2	-0.2	
24 to 102	+0.2	+1.0	-0.2	0.0	+1.0

Launch No. 11  
Fath. No. 125  
Velocity Curve No. 3  
8/28

<u>Depth Appli- cable Feet</u>	<u>Velocity Corr. Feet</u>	<u>"B" &amp; "C" Scale Corr. Feet</u>	<u>Bar-Check Corr. Feet</u>	<u>Combined Corr. Feet</u>	<u>Combined "B" &amp; "C" Scale Corr. Ft.</u>
0 to 11	0.0		-0.6		-0.6
11 to 35	+0.2		-0.6		-0.4
Below 35	+0.4		-0.6		-0.2

"B" and "C" scale corrections same as "A" scale

VELOCITY CORRECTIONS  
Sheet ARN 2150 (Page 2)

-----  
Launch No. 11  
Fath. No. 125  
Velocity Curve No. 3  
8/29 to 1550

<u>Depth Appli-</u> <u>cable Feet</u>	<u>Velocity</u> <u>Corr. Feet</u>	<u>"B" &amp; "C" Scale</u> <u>Corr. Feet</u>	<u>Bar-Check</u> <u>Corr. Feet</u>	<u>Combined</u> <u>Corr. Feet</u>	<u>Combined "B" &amp;</u> <u>"C" Scale Corr.</u>
0 to 11	0.0		0.0	0.0	
11 to 35	+0.2		0.0	+0.2	
35 to 52	+0.4		0.0	+0.4	

"B" & "C" scale corrections same as "A" scale

-----  
Launch No. 11  
Fath. No. 119  
Velocity Curve No. 3  
8/29 after 1550

<u>Depth Appli-</u> <u>cable Feet</u>	<u>Velocity</u> <u>Corr. Feet</u>	<u>"B" &amp; "C" Scale</u> <u>Corr. Feet</u>	<u>Bar-Check</u> <u>Corr. Feet</u>	<u>Combined</u> <u>Corr. Feet</u>	<u>Combined "B" &amp;</u> <u>"C" Scale Corr.</u>
0 to 11	0.0		-0.1	-0.1	
11 to 35	+0.2		-0.1	+0.1	
Below 35	+0.4		-0.1	+0.3	

"B" & "C" scale corrections same as "A" scale

-----  
Launch No. 15  
Fath. No. 125  
Velocity Curve No. 4  
9/9 thru 9/10

<u>Depth Appli-</u> <u>cable Feet</u>	<u>Velocity</u> <u>Corr. Feet</u>	<u>"B" &amp; "C" Scale</u> <u>Corr. Feet</u>	<u>Bar-Check</u> <u>Corr. Feet</u>	<u>Combined</u> <u>Corr. Feet</u>	<u>Combined "B" &amp;</u> <u>"C" Scale Corr.</u>
0 to 24	0.0		-0.2	-0.2	
24 to 102	+0.2	-0.9	-0.2	0.0	-0.1

-----  
*+1.0 applied to sdgs 1312 to 336 days  
to correct, crossing discrepancies with  
other days*



GEOGRAPHIC\_NAME LIST

FIELD SURVEY ARN-2150 (H-7852)

Alaska

Beaufort Sea

Brownlow Point

Canning River (East Arms)

Canning River (West Arms)


Flaxman Island

APPROVAL SHEET

H-7852


During the 1950 season, field records received periodic inspections, and the field work was supervised personally by the undersigned officer. As officer in charge of processing records, I have inspected the smooth sheet and field records of this survey, and they are approved for transmission to the Washington Office.

The survey is considered adequate and no additional work is recommended.

  
J. T. JARMAN  
Lt. Comdr., USC&G Survey  
In Charge, Arctic North Party

It was not possible for the Chief of Party to make frequent inspections of widely separated hydrographic units, consequently such inspections were assigned to the officer in charge of field work in each base camp.

The sheet and records have been examined and approved. The survey is considered adequate for the area.

  
R. A. EARLE  
Commander, USC&G Survey  
Chief of Party



TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~

25 April 1951

Division of Charts: R. H. Carstens

Plane of reference approved in 9  
volumes of sounding records for

HYDROGRAPHIC SHEET 7852

Locality Flaxman Island, North Arctic Coast

Chief of Party: R. A. Earle in 1950

Plane of reference is mean lower low water, reading  
2.2 ft. on tide staff at Flaxman Island  
6.4 ft. below B. M. 1 (1950)

Height of mean high water above plane of reference is 0.70 foot.

Condition of records satisfactory except as noted below:

*E. C. McKay*  
*Section*  
Chief, ~~Division~~ of Tides and Currents.

GEOGRAPHIC NAMES

Survey No. H-7852

Name on Survey											
	A	B	C	D	E	F	G	H	K		
<u>Alaska</u>	✓										1
<u>Arctic Coast</u>											2
<u>Beaufort sea</u>	✓										3 ✓
<u>Flaxman Island</u>	✓										4 ✓
<u>Brownlow Point</u>											5 ✓
<u>Canning River (East Arms)</u>											6 ✓
<u>Canning River (West Arms)</u>											7 ✓
											8
											9
											10
											11
											12
											13
											14
											15
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											23
											24
											25
											26
											27

Names underlined in red  
are approved + 19-51

L. Heck

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7852..

Records accompanying survey:

Boat sheets ..2...; sounding vols. .9...; wire drag vols. ....;  
 bomb vols. ....; graphic recorder rolls .7.eny.  
 special reports, etc. .1 Smooth Sheet; Descriptive Report;.....  
 .....

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

Number of positions on sheet		..1959
Number of positions checked		...12.
Number of positions revised		...0.
Number of soundings revised (refers to depth only)		..576.
Number of soundings erroneously spaced		....0.
Number of signals erroneously plotted or transferred		....0.
Topographic details	Time	...16.hrs.
Junctions	Time	..21."
Verification of soundings from graphic record	Time	..67."

Verification by *Stanley K. Jeffers*... Total time ..10.4.hrs. Date 7.Oct., 1951.

Reviewed by *A. J. Hoffman*..... Time 59.hrs. Date 2/14/52



DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7852

FIELD NO. ARN-2150

Alaska-Arctic Coast, East of Flaxman Island

Project No. CS-320

Surveyed in July - September 1950

Scale 1:20,000

Soundings:

808 Fathometer

Control:

Shoran  
Sextant fixes on shore signals

Chief of Party - R. A. Earle  
Surveyed by - R. M. Sylar, E. W. Richards and H. D. Nygren  
Protracted by - C. A. J. Pauw  
Soundings plotted by - C. A. J. Pauw  
Verified and inked by - S. K. Jeffers  
Reviewed by - A. J. Hoffman, 14 February 1952  
Inspected by - R. H. Carstens

1. Shoreline and Signals

The shoreline originates with the reviewed manuscripts of air-photographic surveys T-9352, T-9353 and T-9358 of 1949.

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

2. Sounding Line Crossings

Depths at crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated, except in inshore areas where the low-water line could not be developed by the regular system of sounding lines because of the low range of tide. (0.7 ft.)

The bottom is relatively smooth except for irregularities in the inshore area which are probably caused by the gouging of grounded ice.

4. Junctions with Contemporary Surveys

The present survey junctions adequately with H-7851 (1949-50) on the west, H-7855 (1950) on the north and with H-7853 (1950) on the east.

5. Comparison with Prior Surveys

There are no prior surveys in the area by this Bureau.

6. Comparison with Charts, Arctic Coast No. 9 (Print date 4/16/51)  
Arctic Coast No. 10 (Print date 5/7/51)

a. Hydrography

These special charts were compiled from the present survey prior to verification. Minor corrections to soundings amounting to 1-2 ft. have been made on the smooth sheet during verification and review. See paragraph 7b of this review. The present survey supersedes the charted soundings.

b. Aids to Navigation

The day beacon at the eastern end of Flaxman Island is maintained by the Navy and adequately marks the feature intended. There are no other aids to navigation in the area.

7. Condition of Survey

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

b. The smooth plotting was very well done.

Discrepancies of about 1 ft. between soundings of a and b days, with soundings of other days were corrected by applying a constant correction of +1.0 ft. to a and b day soundings. No apparent cause for the discrepancies could be found from the recorded data.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work

This is an excellent basic survey and no additional field work is recommended.

*Wallace A. Bruder*

~~H. R. Edmonsten~~

Acting Chief, Nautical Chart Branch

Examined and approved:

*H. Arnold Kero*  
H. Arnold Kero  
Chief, Division of Charts

*L. S. Hubbard*

L. S. Hubbard

Chief, Section of Hydrography

*Earl O. Heaton*

Earl O. Heaton

Chief, Division of Coastal Surveys





