

7916

[REDACTED]

Diag. Cht. No. 9400

CS-320

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. ARE-2151 Office No. H-7916

LOCALITY

State ALASKA

General locality ARCTIC COAST

Locality PINGOK ISLAND TO COTTLE ISLAND

194 51

CHIEF OF PARTY

M. G. Ricketts

LIBRARY & ARCHIVES

DATE FEBRUARY 13, 1952

8-1870-1 (1)

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

7916

[REDACTED]

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-7916

Field No. ARE-2151

State Alaska

General locality North Arctic Coast

Locality Pingok Island to Cottle Island

Scale 1:20,000 Date of survey 7/25/51 to 8/29/51

Instructions dated 6 February 1951

Vessel Arctic East Party

Chief of party Max G. Bicketts

Surveyed by R. M. Sylar, M. T. Paulson

Soundings taken by fathometer, ~~graphic recorder, hand lead, wire~~ 808 J. Nos. 1215 & 1195

Fathograms scaled by J. J. Cassidy

Fathograms checked by P. J. Maloney

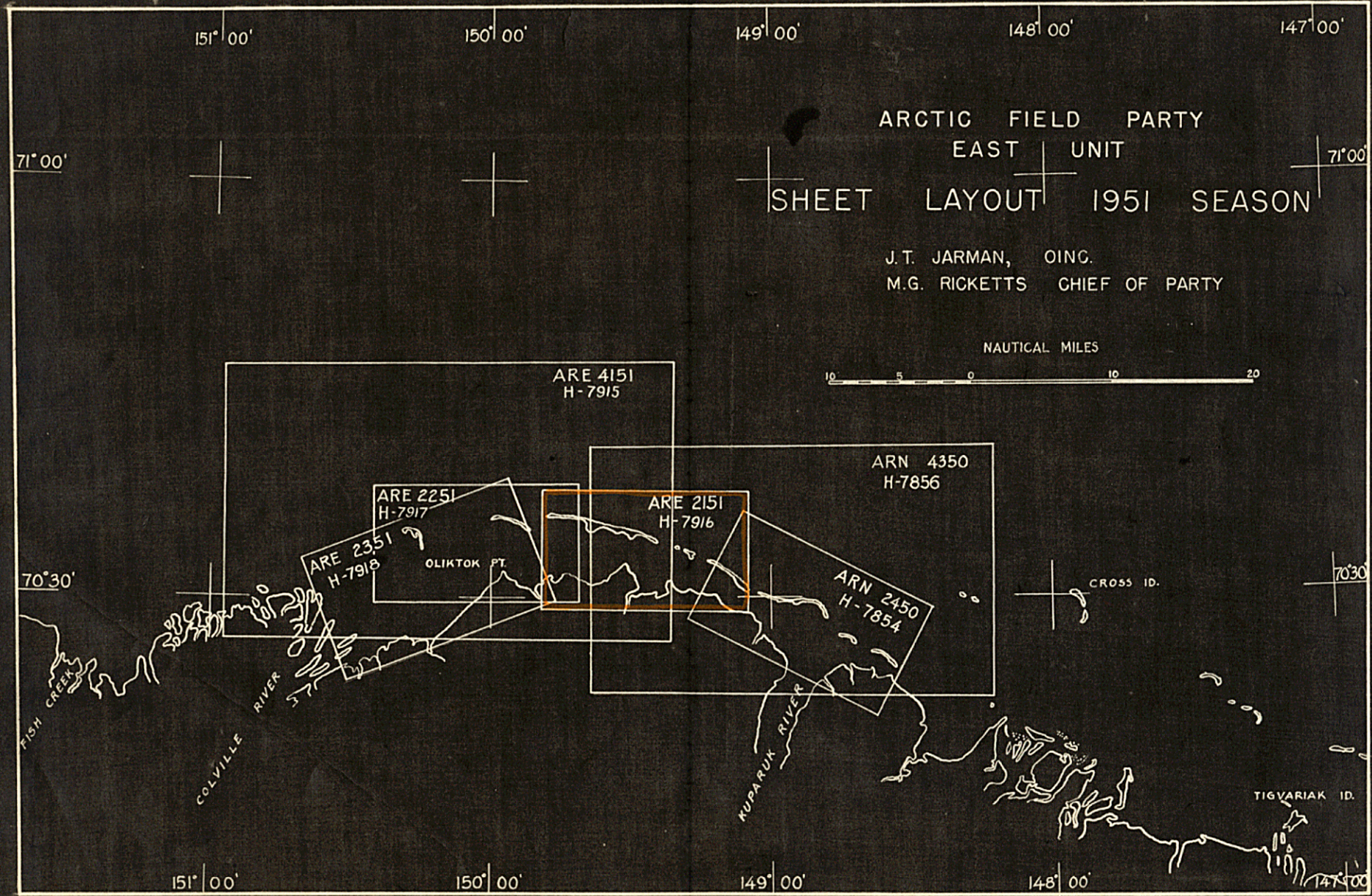
Protracted by F. X. Popper

Soundings penciled by F. X. Popper

Soundings in ~~fathoms~~ feet at ~~MLW~~ MLLW *and are based on a sound velocity of 800 fm/sec.*

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Reduce from this (15 3/4")  
to this (10 1/2")



Leave approx. 4" space outside border,  
this side for binding purposes.

DESCRIPTIVE REPORT TO ACCOMPANY  
HYDROGRAPHIC SURVEY H-7916  
FIELD NO. ARE-2151  
PINGOK ISLAND  
ALASKA  
PROJECT CS-320  
1951  
SCALE 1:20,000

Max G. Ricketts - - - - - Chief, Arctic Field Party  
J. T. Jarman - - - - - Officer in Charge, East Unit  
R.M. Sylar & M.T. Paulson - - - - - Officers in Charge, Field Work

A: PROJECT

Authority for this project is contained in Supplemental Instructions for Project CS-320, Basic Surveys, Arctic Coast, dated 6 Feb. 1951.

B: SURVEY LIMITS AND DATES

This survey includes the inshore area from Beechey Point to four miles east of Oliktok Point and extends northward one to two miles north of the Barrier Islands. It is bounded by latitudes  $70^{\circ} 28.3'$  and  $70^{\circ} 35.1'$ , and longitudes  $149^{\circ} 06.6'$  and  $149^{\circ} 40.3'$ .

Sheet H-7916 joins sheet H-7854 on the east, sheets H-7915 and H-7856 on the north, and sheet H-7917 on the west.

The field work was accomplished during the period 25 July to 29 August 1951.

C: VESSELS AND EQUIPMENT

This survey was made with converted rearming launches Nos. 13 and 14, using portable 808J type fathometers Nos. 121S and 119S respectively. The fathometer fishes were installed on the starboard (outboard) side of the launches. The launches are 35 feet in length with a 3 foot draft.

The turning radius of launch No. 13 is 7 to 8 meters. It takes the launch 6 seconds to make a  $90^{\circ}$  turn and 11 seconds to make a  $180^{\circ}$  turn at a speed of 7.5 knots (1900 rpm).

D: TIDE AND CURRENT STATIONS

Tide reducers were obtained from the Oliktok Point 1951 portable tide station, (latitude  $70^{\circ} 30.75'$  N, longitude  $149^{\circ} 52.04'$  W). Refer to Special Report "Tide Reducers 1951".

No current stations were observed.

E: SMOOTH SHEET

The Seattle Processing Office constructed the smooth sheet projection and plotted the control stations. The positions were projected, and the soundings entered on the smooth sheet by the Arctic Party Personnel.

The method of fixing the line at the turns on this sheet is not in accordance with the usual hydrographic specifications but is considered satisfactory for the North Arctic Coast.

In practically every case that a vertical cast was taken, the vertical cast was from 1/2 to 2 feet shoaler than the fathometer soundings.

F: CONTROL STATIONS

The basic control was established by the 1951 Triangulation, <sup>and Traverse</sup> In addition to the triangulation stations, the following stations were located by sextant fixes:

MAS                      SOD                      BART                      TUN                      LOG

No shoran stations were used on this sheet.

G: SHORELINE AND TOPOGRAPHY

Shoreline delineation was not available at the time of the smooth plotting. The manuscripts are being compiled from nine-lens photographs by the Portland Photogrammetric Office. *See Review*

Shoal areas were outlined on the boat sheet by the hydrographer and described in section "N" of this report.

H: SOUNDINGS

Soundings were obtained by the 808J type recording fathometers, equipped with a calibrated velocity reed of 800 fathoms per second. Refer to "Special Report, Fathometer Corrections, 1951".  
*(Filed with H-7918)*

I: CONTROL OF HYDROGRAPHY

Control of the hydrography was entirely by sextant fixes.

J: ADEQUACY OF SURVEY

The survey is considered adequate.

K: CROSSLINES

The survey is <sup>e</sup>verified by about 8% crosslines, and all crossings checked satisfactorily.

**L: COMPARISON WITH PRIOR SURVEYS**

There are no previous surveys in this area.

**M: COMPARISON WITH CHART**

The existing chart in this area, USC&GS Chart No. 9403, is on too small a scale for an adequate comparison.

**N: DANGERS AND SHOALS**

1. Latitude  $70^{\circ} 33.2'$ , longitude  $149^{\circ} 11.2'$ <sup>3</sup>, position 92u day, least depth 17 feet. This shoal is in an area that has apparently been gouged by ice, and is considered a danger to navigation to deep-draft vessels.

2. Latitude  $70^{\circ} 32.5'$ , longitude  $149^{\circ} 12.3'$ <sup>4</sup>, position 79u day, least depth 15 feet. This shoal is considered a danger to navigation.

3. A shoal ridge extends along the offshore side of Cottle, Bodfish, and Pingok Islands. This shoal ridge varies in depth from 3 feet to 12 feet with considerably deeper water between the shoal and the islands. In general the shoal ridge is 200 to 400 meters off shore. The shoalest depths along this ridge are enumerated as follows:

<u>Latitude</u>	<u>Longitude</u>	<u>Least Depth</u>
$70^{\circ} 31.2'$ <sup>3</sup>	$149^{\circ} 09.1'$	6 feet
$70^{\circ} 32.2'$	$149^{\circ} 08.2'$	5 feet
$70^{\circ} 32.7'$	$149^{\circ} 16.6'$	6 feet
$70^{\circ} 33.8'$	$149^{\circ} 20.9'$	4 feet
	$149^{\circ} 30.5'$	5 feet

4. Latitude  $70^{\circ} 32.0'$ , longitude  $149^{\circ} 25.5'$ , least depth 5 feet. This shoal is the only definite shoal found in midstream between the Barrier Islands and the mainland.

5. There is no passage between Pingok, Bodfish, and Cottle Islands. Exposed portions of shoals between these islands has been sketched by the hydrographer on the boat sheet.

6. Latitude  $70^{\circ} 29.4'$ , longitude  $149^{\circ} 09.3'$  - a sand bar extends about 950 meters to the northwest of Beechey Point. The outer end of the bar bares 1 foot at mean tide but changes considerably with each storm.

7. Latitude  $70^{\circ} 29.6'$ , longitude  $149^{\circ} 14.5'$  - a sand bar about 400 meters to the northwest of a prominent point of land. The outer end of the bar, latitude  $70^{\circ} 29.8'$  and longitude  $149^{\circ} 15.5'$ , bares one foot at mean tide level. The bar was sketched on the boat sheet by the hydrographer.

N: DANGERS AND SHOALS (CONT'D.)

8. Latitude  $70^{\circ} 30.3'$ , longitude  $149^{\circ} 19.3'$ . A sand bar extends about 325 meters northwest from the point of land at this location and was outlined on the boat sheet by the hydrographer.

9. Latitude  $70^{\circ} 31.1'$ , longitude  $149^{\circ} 27.5'$ . A submerged sand bar extends 600 meters northwest of Milne Point. It was sketched on the boat sheet by the hydrographer.

10. Latitude  $70^{\circ} 30.1'$ , longitude  $149^{\circ} 32.3'$ . A submerged sand bar extends about 600 meters northwest of the point of land at this location. The bar was sketched on the boat sheet by the hydrographer.

11. Latitude  $70^{\circ} 32.7'$ , longitude  $149^{\circ} 26.2'$ . A partially exposed shoal extends about 475 meters to the west of the point of land at this location. The bar was sketched on the boat sheet by the hydrographer.

12. Latitude  $70^{\circ} 33.2'$ , longitude  $149^{\circ} 33.5'$ . A partially submerged sand bar extends about 900 meters west southwest of the point of land at this location on Pingok Island. The exposed portions were sketched on the boat sheet by the hydrographer.

O: COAST PILOT

Refer to Coast Pilot Report, Arctic East Party 1951.

P: AIDS TO NAVIGATION

Refer to Form 567, Aids to Navigation, Arctic Party, 1951, previously submitted.

Q: LANDMARKS FOR CHARTS

Refer to "Report - Landmarks for Charts 1951", submitted 2 November 1951.

R: GEOGRAPHIC NAMES

Refer to "Geographic Names Report, Arctic Field Party, 1951", previously submitted.

S: TABULATION OF APPLICABLE DATA

The following applicable records have been forwarded under separate cover:

1. List of Geographic Positions, 1951
2. Tidal Station Report, 1951
3. Coast Pilot Notes, 1951
4. Geographic Names Report, 1951
5. Landmarks for Charts, 1951
6. Aids to Navigation, 1951

T: ATTACHMENTS

The following data are attached to this report:

1. List of Signals
2. Statistics
3. Tidal Note
4. Fathometer Corrections  
*(filed with H-7918)*
5. Approval Sheet

*Francis X. Popper*  
Francis X. Popper  
Lieutenant, USC&GS

Approved and Forwarded:

*Max G. Ricketts*  
Max G. Ricketts  
Commander, USC&GS  
Chief, Arctic Field Party



## ENCLOSURE 1

LIST OF SIGNALS

SHEET H-7916 (ARE-2151)

<u>SIGNAL</u>	<u>SOURCE</u>
Bart	Vol. No. 1
BASE	OLIKTOK E. BASE 1951
<del>BOD</del> DIS	BODIS 1951
CEL	CELLAR 1951
COT	COTTLE 1951
Ent	Topographic Sta. Traverse G.P. List 1951
FOX	FOX 1951
HIP	HIP 1951
HOON	HOON 1951
Lar	Topographic Sta. Traverse G.P. List 1951
Log	Vol. No. 1
Mas	Vol. No. 1, 2
MAY	MAY 1951
Nal	Topographic Sta. Traverse G.P. List 1951
NOF	NOPOINT 1951
SAND	SAND 1951
Sod	Vol. No. 1, 2
SPY	SPY 1951
STORE	STORE 1951
TAK	TAK 1951
Toy	Topographic Sta. Traverse G.P. List 1951
TRA	Aid to Navigation 1951 Traverse G.P. List (Pingok I. Day Bn.)
Tun	Vol. No. 1
MOU	MOUND ,1951

Enclosure 2

STATISTICS  
1951

SHEET H-7916 (ARE-2151)

<u>Date</u>	<u>Launch</u>	<u>Day Letter</u>	<u>Vol.</u>	<u>No. Pos.</u>	<u>Stat. Miles Sounding Lines</u>
7/25	13	a	1	76	23.2
7/26	13	b	1	153	45.1
7/31	13	c	1	63	17.1
	13	c	2	65	18.3
8/1	13	d	2	158	48.5
8/3	13	e	2	67	14.0
	13	e	3	41	12.8
8/5	13	f	3	124	27.6
8/6	13	g	3	132	37.3
	13	g	4	26	6.8
8/7	13	h	4	91	23.0
8/8	13	j	4	65	18.2
8/9	13	k	4	97	27.1
	13	k	5	222	63.6
8/12	13	l	5	92	14.5
	13	l	6	119	27.5
8/14	13	m	6	115	28.4
8/16	13	n	6	69	19.1
	13	n	7	41	10.8
8/17	13	p	7	40	11.0
8/19	13	q	7	198	47.0
8/20	13	r	7	12	3.6
	13	r	8	178	46.2
8/22	13	s	8	84	21.6
8/26	13	t	8	34	9.9
	13	t	9	20	5.4
8/29	13	u	9	118	30.9
	14	a	10	8	2.3
TOTAL				2,508	660.8

SQUARE STATUTE MILES 65.0

Enclosure 3

TIDAL NOTE

H-7916

Tide gage location:

Oliktok Point

Latitude 70° 30.75' N  
Longitude 149° 52.04' W

Plane of reference:

<u>Station</u>	<u>Mean lower low water on the staff</u>
Oliktok Point (No. 1)	2.4 feet
Oliktok Point (No. 2)	2.5 feet

Refer to "Tide Reducers Report, Project CS-320, 1951," submitted under separate cover.

Enclosure 4

FATHOMETER CORRECTIONS 1951

SHEET H-7916 (ARE-2151)

Launch 13

Fathometer No. 121

Correction to Bar check line . . . . . 0.1 foot  
"B" scale or phase correction 121S . . . . . +0.8 foot  
126S . . . . . +0.8 foot

Bar check correction:

<u>Date</u>	<u>Fath.No.</u>	<u>Bar Check Correction</u>	<u>Date</u>	<u>Fath.No.</u>	<u>Bar Check Correction</u>
25 July	121S	0.0	8 Aug.	126S	-0.05
26 July	121S	+0.5	9 Aug.	126S	-0.12
1 Aug.	121S	-0.03	19 Aug.	121S	0.0
6 Aug.	121S	-0.05	20 Aug.	121S	-0.07
7 Aug.	121S	-0.1	29 Aug.	121S	0.0

Launch 14

Fathometer No. 119S

Correction to Bar check line . . . . . 0.2 foot  
"B" scale or phase correction . . . . . +0.5 foot

Bar check correction:

<u>Date</u>	<u>Fath.No.</u>	<u>Bar Check Correction</u>
29 Aug.	119S	0.0

APPROVAL SHEET

REG. NO. H-7916

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

*Max G. Ricketts*  
Max G. Ricketts  
Commander, USC&GS  
Chief, Arctic Field Party

GEOGRAPHIC NAMES

Survey No. H-7916

Name on Survey	Source of Name									
	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>			(for title)							1
<u>Arctic Coast</u>			( " )							2
<u>Beaufort Sea</u>		✓							BGN	3
										4
<u>Thetis Mound</u>		✓								5
<u>Jones Mound</u>		✓								6
<u>Milne Point</u>		✓								7
<u>Kavearak Point</u>		✓								8
<u>Beechey Point</u>		✓							BGN	9
<u>Cattle Island</u>		✓								10
<u>Bertoncini Island</u>		✓								11
<u>Pingok Island</u>		✓								12
<u>Simpson Lagoon</u>		X							BGN	13
<u>BODFISH ISLAND</u>		✓								14
<u>JONES ISLANDS</u>		X								15
										16
										17
<u>OLINTOK Point</u>			(location of tide gage)							18
										19
										20
										21
										22
										23
										24
										25
										26
										27
										M 234

Names underlined in red are approved, 2-18-51 L. HECK

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. *H-7916* .....

Records accompanying survey:

✓ Boat sheets *1*....; sounding vols. *10*....; wire drag vols. ....;  
 bomb vols. ....; graphic recorder rolls *11 Env.*....;  
 special reports, etc. *1 Descriptive Report, 1 Smooth Sheet*.....  
 .....

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

Number of positions on sheet	.....	<i>2,508</i>
Number of positions checked	.....	<i>240</i>
Number of positions revised	.....	<i>15</i>
Number of soundings revised (refers to depth only)	.....	<i>10</i>
Number of soundings erroneously spaced	.....	.....
Number of signals erroneously plotted or transferred	.....	<i>1</i>
Topographic details	Time	<i>24</i> .....
Junctions	Time	<i>4</i> .....
Verification of soundings from graphic record	Time	<i>20</i> .....

Verification by *John F. Gallen*..... Total time *312 hr.* Date *8-20-52*.....

Reviewed by *R. E. Elkins*..... Time *32 hr.* Date *10-14-52*.....

Rdc

### TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~

10 March 1952

Division of Charts: R. H. Carstens

Plane of reference approved in 10  
volumes of sounding records for

HYDROGRAPHIC SHEET 7916

Locality Arctic Coast, Alaska

Chief of Party: M. G. Ricketts in 1951

Plane of reference is mean lower low water, reading  
2.4 ft. on tide staff ~~at~~ (No. 1) at Oliktok Point  
8.6 ft. below B. M. OLIK LEFFINGWELL (1911-1951)

2.5 ft. on tide staff (No. 2) at Oliktok Point  
8.6 ft. below B. M. OLIK LEFFINGWELL (1911-1951)

Height of mean high water above plane of reference is 0.7 foot.

Condition of records satisfactory except as noted below:

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



DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7916

FIELD NO. ARE-2151

Alaska, Arctic Coast, Pingok Island to Cottle Island

Project No. 320

Surveyed - July - August 1951

Scale 1:20,000

Soundings:

808 Fathometers

Control:

Sextant fixes on shore signals

Chief of Party - M. G. Ricketts  
Surveyed by - R. M. Sylar and M. T. Paulson  
Protracted by - F. X. Popper  
Soundings plotted by - F. X. Popper  
Verified and inked by - J. F. Gallen  
Reviewed by - R. E. Elkins, 14 October 1952  
Inspected by - R. H. Carstens

1. Shoreline and Signals

The shoreline originates with the unreviewed manuscripts of air-photographic surveys T-9774, T-9775, T-9781, and T-9782 of 1951.

The origin 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 exact trend and extent of minor inshore irregularities gouged by ice can not be fully depicted by the depth curves, nor can the exact east-west extent of the shoal ridges, lying about 300 meters north of the Barrier Islands be completely shown. As these features probably change with storms and ice, the general bottom configuration as delineated, is adequate for charting. In accordance with instructions, development was not made of the low-water line and inshore shoal flats.

The bottom north of the Barrier Islands is smooth except for shoal ridges closely paralleling the shoreline and irregularities caused by ice gouging. Several offlying shoals rise from depths of 24 to 36 ft. The bottom of the lagoon south of the islands is smooth. Passage into the lagoon on this survey is blocked by shoals connecting the Barrier Islands.

4. Junctions with Contemporary Surveys

The junction with H-7854 (1950-51) on the east, with H-7856 (1950-51) and H-7915 (1951) on the north, and with H-7917 (1951) on the west will be considered in the reviews of those surveys.

5. Comparison with Prior Surveys

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

6. Comparison with Arctic Coast Chart 17 (Latest print date 4/21/52)

A. Hydrography

The charted hydrography originates with the present survey before verification. Minor corrections amounting to 1 and 2 feet have been made to a few soundings during verification and review.

B. Aids to Navigation

The beacon on Pingok Island is the only aid within the limits of the present survey and is charted from the survey position.

7. Condition of Survey

- a. The sounding records are complete and the Descriptive Report covers all matters of importance.
- b. The smooth plotting was well done.
- c. As mentioned in the Descriptive Report, the fathometer soundings are greater than lead line soundings at simultaneous comparisons by about one foot in 30-ft. depths. These discrepancies were not corrected in the field, and inasmuch as the survey is of a relatively unimportant area, have not been corrected on the inked smooth sheet.

8. Compliance with Project Instructions


This survey adequately complies with the Project Instructions.

9. Additional Field Work Recommended


This is a good basic survey and no additional field work is recommended. The conditions discussed in paragraphs 3 and 7c

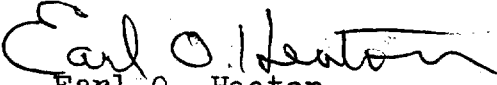
are mentioned in this review as a matter of record.

  
H. R. Edmonston  
Chief, Nautical Chart Branch

  
L. S. Hubbard  
Chief, Section of Hydrography

Examined and approved:

  
H. Arnold Kero  
Chief, Division of Charts

  
Earl O. Heaton  
Chief, Division of Coastal Surveys

