

7915

~~CONFIDENTIAL~~

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-4151 Office No. H-7915

LOCALITY

State ALASKA

General locality ARCTIC COAST

Locality THETIS ISLAND TO PINGOK ISLAND

194 / 51

CHIEF OF PARTY

M. G. Ricketts

LIBRARY & ARCHIVES

DATE JANUARY 2, 1952

B-1870-1 (1)

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

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7915  
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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-7915

Field No. AMB-4151

State Alaska

General locality Arctic <sup>Coast</sup> Ocean

Locality Thetis Island to Pingo Island

Scale 1:40,000 Date of survey 25 July - 27 August 1951

Instructions dated 4 February 1951

Vessel Arctic Field Party - East Unit

Chief of party Max G. Ricketts

Surveyed by H. D. Nygren and E. M. Sylar

Soundings taken by fathometer, ~~graphic recorder, hand lead wire~~ 1198, 1218 and 1268

Fathograms scaled by J. Tarbill and J. J. Cassidy

Fathograms checked by L. Harich and P. J. Maloney

Protracted by E. W. Richards

Soundings penciled by E. W. Richards

Soundings in ~~6000~~ feet at ~~MLLW~~ MLLW *and are based on a velocity of sound of 800 fm./sec.*

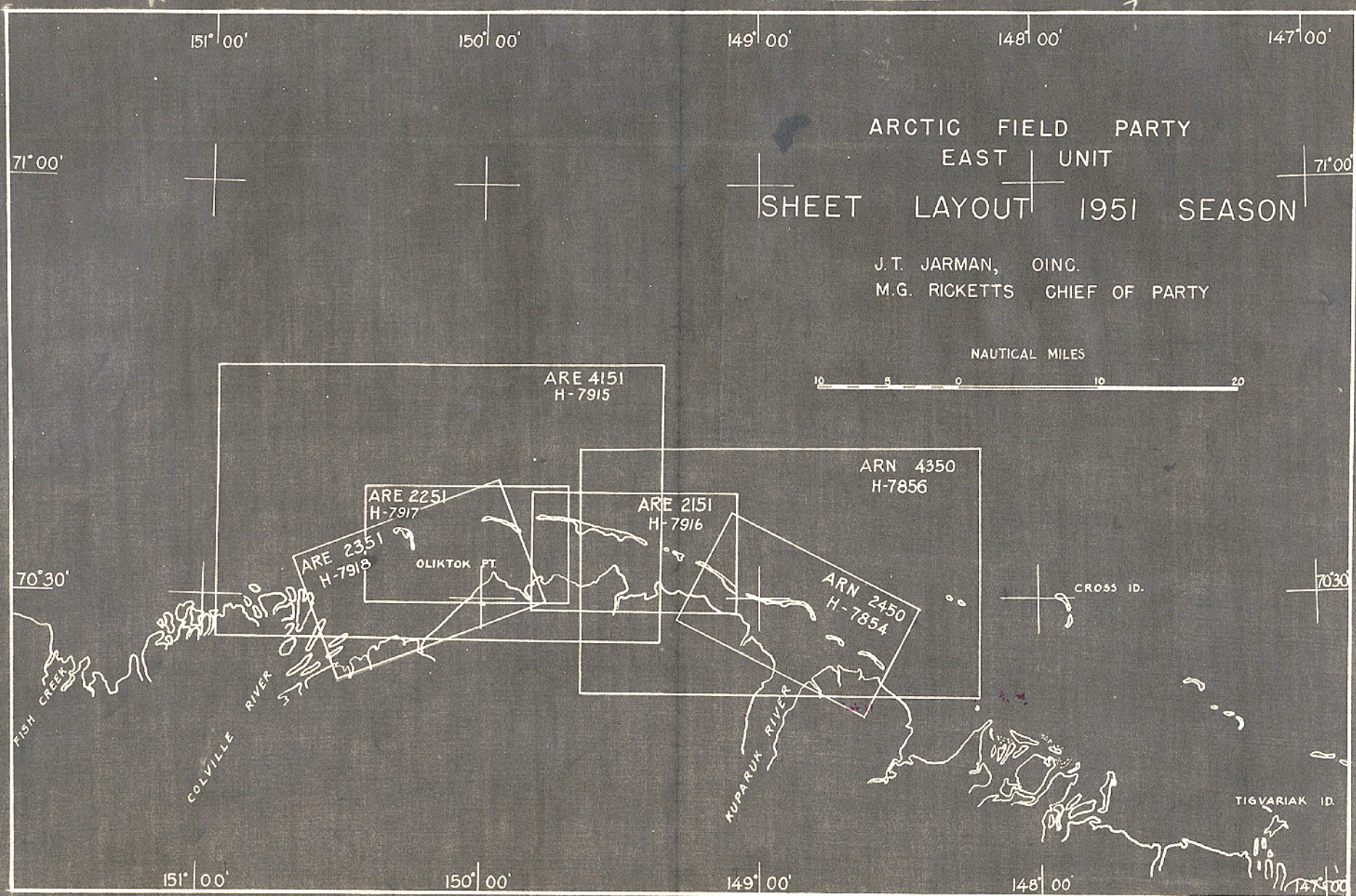
REMARKS:

.....  
.....  
.....  
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X.W.V. 6/17/91

782

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



Leave approx. 1/4" space outside border,  
this side for binding

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SURVEY H-7915

FIELD NUMBER ABE-4151

THEMIS ISLAND TO PINGOK ISLAND

ALASKA

PROJECT CS-320

1951

SCALE 1:40,000

M. G. Ricketts - - - - - Chief, Arctic Field Party  
J. T. Jarman - - - - - Officer in Charge, East Unit  
H.D. Nygren and R.M. Sclar - - - - - In Charge, Field Work

A. PROJECT

Authority for this survey is contained in Supplemental Instructions for Project CS-320, Basic Surveys, Arctic Coast, dated 4 February 1951.

B. SURVEY LIMITS AND DATE

This survey covers the offshore area north of Oliktok Point from longitude 149° 26' West to longitude 150° 14' West, between latitude 70° 35' North and latitude 70° 46' North. The area north of latitude 70° 39' is incomplete as is the unsurveyed area west of the listed limits. It joins H-7856 to the east, and H-7916 and H-7917 to the south. *(1951)* *(1950-51)* *(1951)* *The area to westward was surveyed in 1953.*

The survey was executed between 25 July and 27 August 1951. Field work was interrupted after 11 August when the hydrographic party shifted operations to the Beechey Point area, and was discontinued after 27 August when the base camp was disestablished and moved to Barter Island.

Launches 15 and 14 were operated by the same hydrographic crew.

C. VESSELS AND EQUIPMENT

The survey was made with converted rearming launches 13, 14 and 15. Launches 14 and 15 were outfitted for shoran operation. During this period launch 15 used shoran set No. 572 and 14 used set No. 933. Correction to distances obtained with this equipment are tabu-

lated and described in "Special Report on Shoran Operations, Arctic East Party, 1951". *In library*

All launches were equipped with outboard fish units. Launches 14 and 15 had Magnesyln compasses in addition to the boat compass.

D. TIDE AND CURRENT STATIONS

Tide reducers were obtained from records of the Oliktok Point tide gages. Tide gage No. 1 was located at longitude 149° 52' west and latitude 70° 30.8' north; tide gage No. 2 was located approximately 0.1 mile south of this site. See "Special Report, Tide Stations, Oliktok Point, Arctic East Party, 1951".

No current stations were observed in this area.

E. SMOOTH SHEET

The Seattle Processing Office constructed the projection by hand, and plotted the control stations from computed geographic positions. The pretracting of positions and pencilling of soundings was done by Arctic Field Party personnel.

F. CONTROL STATIONS

All control was based on Second Order triangulation of M. G. Ricketts in 1951. This was on the datum of Flaxman Island 1912. All hydrographic signals and shoran stations were located by Third Order triangulation or traverse, or were Second Order main scheme stations. Non-recoverable stations were submitted as topographic stations.

G. SHORELINE AND TOPOGRAPHY

No shoreline was transferred to this offshore survey sheet.  
*added in Washington office - See review.*

H. SOUNDINGS

All soundings were taken with type 808J portable fathometers, or by handlead. The soundings were recorded on the feet scale and all time was controlled by the fathogram. Fathometers were equipped with 800 fathom per second reeds, and no velocity corrections were computed or applied to recorded values. Launch 13 was equipped with fathometer 121S, Launch 14 with 119S and Launch 15 with 126S. See "Special Report, Fathometer Corrections, Arctic East Party 1951".  
*filed with H-7918*

I. CONTROL OF HYDROGRAPHY

Hydrography was controlled by shoran fixes or sextant fixes

on shore objects. Occasionally it was necessary to use a combination of shoran and visual control. Sounding lines run by Launch 13 in the northern part of the area are adjusted dead reckoning loops, controlled on the inshore ends by visual fixes. Shoran fixes in the western part of the sheet are weak because of the poor intersection of distance arcs.

J. ADEQUACY OF SURVEY

This survey is unfinished, but adequate in the completed portion east of longitude 150° 14'W. Comparison of junctions will be made on adjoining sheets.

K. CROSSLINES

Crosslines are adequate and check satisfactorily.

L. COMPARISON WITH PRIOR SURVEYS

There were no previous surveys of this area.

M. COMPARISON WITH CHART

The existing charts of this area are on too small a scale for adequate comparison.

N. DANGERS AND SHOALS

There are no shoals or dangers to navigation within the limits of this survey.

O. COAST PILOT INFORMATION

See "Coast Pilot Report, Arctic East Party, 1951". During the 1951 season the launches based at Oliktok Point worked in this area.

Weather during July and early August was clear and warm with occasional fog and squalls of short duration. During August conditions were unsettled with considerable fog, rain and high winds. Offshore sea conditions were very rough because of the absence of ice. Scattered ice was observed early in the season, but the main pack moved far offshore and was not observed again before the field work was stopped.

P. AIDS TO NAVIGATION

See "Form 567, Aids to Navigation, Arctic East Party, 1951".

*Chart letter 791 (1951)*

Q. LANDMARKS FOR CHARTS

See "Form 567, Landmarks, Arctic East Party, 1951".

*Chart letter 791 (1951)*

The following landmarks fall within the limits of this survey:

- GABLE - - - - - Oliktok Point.
- MOUND - - - - - Station MOUND 1951.
- MOUND - - - - - Station FOX 1951.
- HOUSE - - - - - Milne Point, Station TAK 1951.

R. GEOGRAPHIC NAMES

See "Geographic Names Report, Arctic Field Party, 1951".

S. TABULATION OF APPLICABLE DATA

The following records are submitted under separate cover:

1. List of Geographic Positions 1951.
2. Tidal Report 1951.
3. Fathometer Correction Report 1951. *Filed with H-7918*
4. Coast Pilot Notes 1951.
5. Geographic Names Report 1951.
6. Shoran Correction Report 1951.
7. Landmarks for Charts 1951.
8. Aids to Navigation 1951.

T. ATTACHMENTS

The following data are attached to this report:

1. Statistics
2. Tidal Note
3. Fathometer Corrections
4. Geographic Names List
5. Approval Sheet

Respectfully submitted:

*Harley D. Nygren*

Harley D. Nygren  
Lieutenant (j.g.), USCGS

Approved and forwarded:

*Max G. Ricketts*

Max G. Ricketts  
Commander, USCGS  
Chief, Arctic Field Party



## ENCLOSURE 1

## STATISTICS

for

SURVEY H-7915 (ARE-4151)

<u>LAUNCH NUMBER</u>	<u>DATE 1951</u>	<u>VOL. NO.</u>	<u>LETTER DAY STATION</u>	<u>NUMBER OF POSITIONS</u>	<u>STATUTE MILES SOUNDING LINES</u>
14	25 July	1	a (green)	107	48.9
14	26 July	1	b (green)	116	49.2
14	27 July	1	c (green)	99	41.9
		2	c (green)	23	10.1
14	28 July	2	d (green)	117	53.4
15	30 July	3	a (blue)	119	46.8
15	31 July	3	b (blue)	121	50.5
15	2 Aug.	4	c (blue)	127	50.6
15	3 Aug.	4	d (blue)	157	52.4
15	10 Aug.	4	e (blue)	83	33.8
		5	e (blue)	59	25.5
15	11 Aug.	5	f (blue)	25	10.6
13	21 Aug.	6	a (red)	62	60.9
13	27 Aug.	6	b (red)	<u>49</u>	<u>19.9</u>
			TOTAL	1264	554.5

Square statute miles of area 225

225

ENCLOSURE NO. 2

TIDAL NOTE

H-7915 (ARE 4151)

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 NO. 4

GEOGRAPHIC NAME LIST

SURVEY NO. H-7915 (FIELD NO. ARE-4151)

ALASKA

ARCTIC COAST

BEAUFORT SEA

JONES MOUND

MILNE POINT

OLIKTOK POINT

PINGOK ISLAND

SIMPSON LAGOON

SPY ISLAND

THETIS ISLAND

THETIS MOUND

APPROVAL SHEET

Reg.No. H-7915

Recommend that the survey on this sheet be considered complete to the Western limit (Longitude  $154^{\circ} 14'$ ) even though development of the 60 foot curve offshore has not been completed entirely in accordance with the instructions.

Reestablishment of shore stations in 1952 to complete the small holiday in the offshore loop area between Longitudes  $149^{\circ} 26'$  and  $149^{\circ} 36'$  is not considered economical. Comparison with the junction of Sheet H-7856 shows that the 60 foot curve is satisfactorily defined by the two sheets.

*34'-35' shoals  
from reconn.  
tracklines  
charted in  
this area*

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~

10 January 1952

Division of Charts: R. H. Carstens

Plane of reference approved in 6  
volumes of sounding records for

HYDROGRAPHIC SHEET 7915

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)

4.8 ft. on tide staff at Pitt Point

19.0 ft. below B.M. CAMP (1951)

Height of mean high water above plane of reference is as follows:

Oliktok Point = 0.70 foot

Pitt Point = 0.40 foot

Condition of records satisfactory except as noted below:

*E.C. McKay*  
*Section*

Chief, ~~Division of Tides and Currents~~

GEOGRAPHIC NAMES

Survey No. H-7915

Name on Survey	Source of Name										
	A	B	C	D	E	F	G	H	K		
											1
											2
											3
Pingok Island ✓											4
Spy Island ✓											5
Thetis Island ✓											6
Milne Point ✓											7
Oliktok Point ✓											8
Jones Mound ✓											9
Thetis Mound ✓											10
Simpson Lagoon											11
Colville River ✓											12
Kupigruak Pass ✓											13
											14
											15
											16
											17
											18
											19
											20
											21
											22
											23
											24
											25
											26
											27

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7915.....

Records accompanying survey:

1. Boat sheets ..2.; sounding vols. ...6.; wire drag vols. ....;  
 bomb vols. ....; graphic recorder rolls 6 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	.....	1264
Number of positions checked	.....	10
Number of positions revised	.....	2
Number of soundings revised (refers to depth only)	.....	40
Number of soundings erroneously spaced	.....	—
Number of signals erroneously plotted or transferred	.....	—
Topographic details	Time	8 hr
Junctions	Time	12 hr
Verification of soundings from graphic record	Time	15 hr
Verification by..... <i>Roy E. Elkins</i> .....	Total time	74
	Date	9-28-54
Reviewed by..... <i>R. E. Elkins</i> .....	Time	11
	Date	9-28-54



DIVISION OF CHARTS  
REVIEW SECTION - NAUTICAL CHART BRANCH  
REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7915

FIELD NO. ARE- 4151

Alaska, Arctic Coast, Thetis Island to Pingok Island

Project No. CS-320

Surveyed - July and Aug. 1951

Scale 1:40,000

Soundings:

Control:

808 Fathometer

Shoran  
Sextant fixes on  
shore signals  
Dead reckoning

Chief of Party - Max G. Ricketts  
Surveyed by - H. D. Nygren, R. M. Sylar  
Protracted by - E. W. Richards  
Soundings plotted by - E. W. Richards  
Verified and inked by R. E. Elkins  
Reviewed by - R. E. Elkins 9/28/54  
Inspected by - R. H. Carstens

1. Shoreline and Control

The origin of the signals is given in the Descriptive Report. The shoreline is from reviewed photogrammetric surveys T-9773, T-9774, T-9780, T-9781 (1947-51).

2. Sounding Line Crossings

Depths at crossings are in adequate agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated.

The bottom is generally smooth except for a few small shoals and ridges extending 2 to 10 feet above the surrounding bottom area.

4. Junctions with Contemporary Surveys

Adequate junctions were effected with H-7856 (1950-51) on the east, with H-7916 (1951) and H-7917 (1951) on the south,

and with H-8058 (1953) and H-8059 (1953) on the west. Reconnaissance trackline soundings to the north on Chart 9403 are one to three fathoms less than present survey depths at the outer limit of the dead reckoning loops.

5. Comparison with Prior Surveys

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

6. Comparison with Arctic Coast Chart 17 (Print date 4-21-52)  
Arctic Coast Chart 18 (Print date 4-21-52)

A. Hydrography

The charted hydrography is from the present survey before verification. Minor changes amounting to no more than 2 ft. were made to charted soundings during verification.

B. Aids to Navigation

The charted fixed aids are from the present survey information. There are no floating aids in the area.

7. Condition of Survey

- a. The sounding records are complete. The Descriptive Report covers the important items of this survey.
- b. The smooth plotting was well done.

8. Compliance with Project Instructions

This survey adequately complies with the Project Instructions.

9. Additional Field Work

This is a good basic survey and no additional field work is required. As a matter of record it is noted that a  $5\frac{1}{4}$ -fm. shoal in lat.  $70^{\circ}41'$ , long.  $149^{\circ}33'$  and a  $5\text{-}3/4$ -fm. shoal in lat.  $70^{\circ}46'$ , long.  $149^{\circ}33'$  are charted outside the surveyed area from trackline reconnaissance soundings.

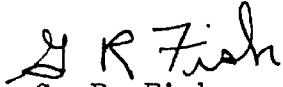
Examined and Approved:



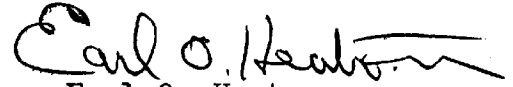
H. R. Edmonston  
Chief, Nautical Chart Branch



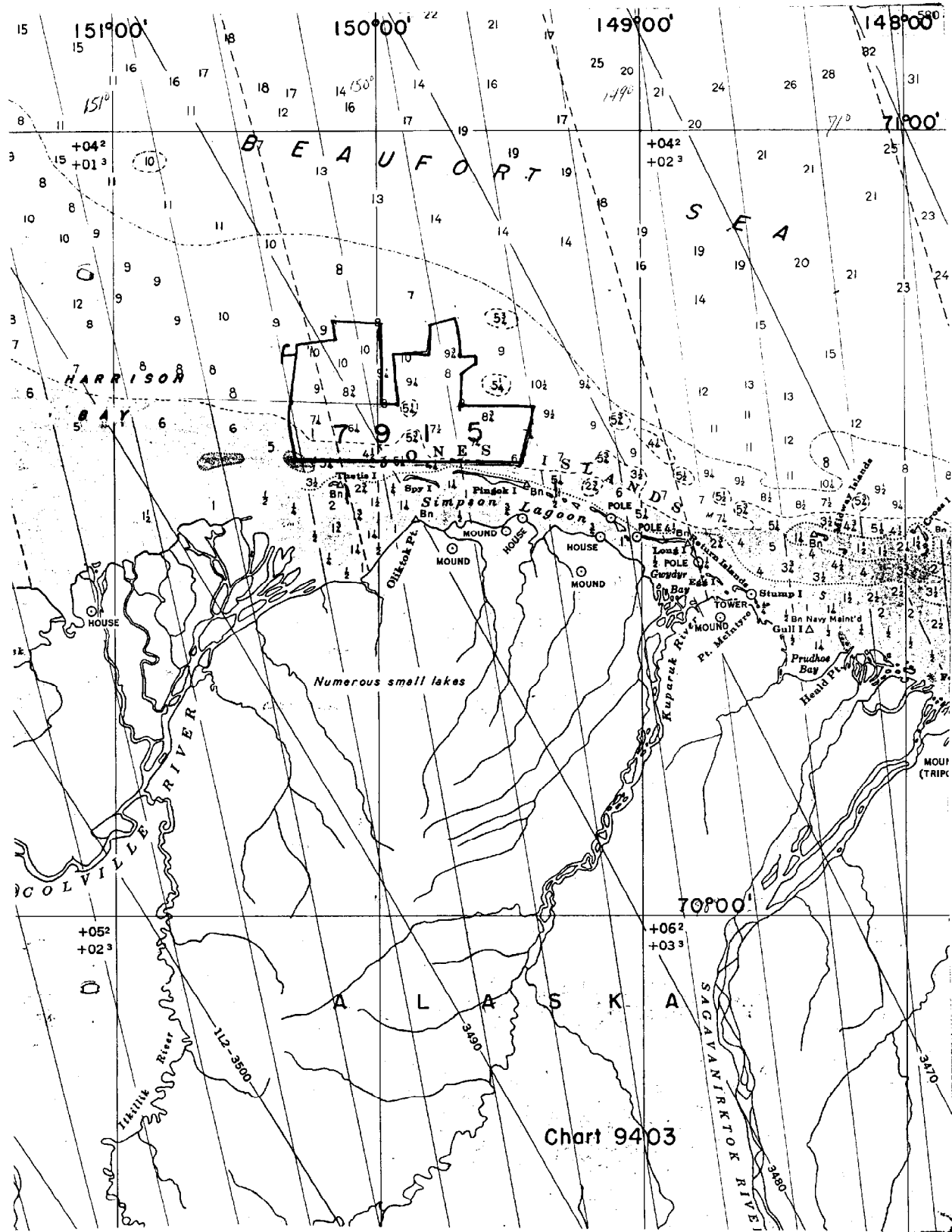
E. R. McCarthy  
Acting Chief, Division of Charts



G. R. Fish  
Chief, Hydrography Branch



Earl O. Heaton  
Chief, Division of Coastal Surveys



151°00'

150°00'

149°00'

148°00'

+04<sup>2</sup>  
+01<sup>3</sup>

+04<sup>2</sup>  
+02<sup>3</sup>

71°00'

+05<sup>2</sup>  
+02<sup>3</sup>

+06<sup>2</sup>  
+03<sup>3</sup>

70°00'

Chart 9403

B E A U F O R T

S E A

HARRISON BAY

SIMPSON LAGOON

Numerous small lakes

COLVILLE RIVER

Tikhlik River

SAGAVANIRKTOK RIVER

A L A S K A

MOUP (TRIP)

# NAUTICAL CHARTS BRANCH

SURVEY NO. H-7915

## Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
8 Jan 52	9403	James H Bell	Before <del>After</del> Verification and Review Soundings & Cunes. <u>Completely applied</u>
May '52	Arctic 18	Wittmann	Before <del>After</del> Verification and Review
7 Apr 52	Arctic # 17	James H Bell	Before <del>After</del> Verification and Review Soundings & Cunes. Complete applications
12-1-54	9470	R. K. Alexander	<del>Before</del> After Verification and Review
12-1-54	9471	Goodrich	<del>Before</del> After Verification and Review
Apr '55	9403	William Ewen	<del>Before</del> After Verification and Review <u>then chart 9470</u> #71
			Before After Verification and Review
			Before After Verification and Review
			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.