7856

7856

Diag. Cht. No. 9400

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. AHN-4350 *Office No.* H-7856

LOCALITY

State ALASKA

General locality ARCTIC COAST

Locality MIDWAY ISLANDS TO PINGOK ISLAND

1950-51

CHIEF OF PARTY

R. A. Earle & M. G. Ricketts

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DATE FEBRUARY 19, 1951

B-1870-1 (1)

Form 537
(Ed. Nov. 1941)

REG. NO.

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-7856

Field No. ARN-4350

State ALASKA

General locality ARCTIC ~~OCEAN~~ COAST

Locality MIDWAY ISLANDS TO ~~BARTER ISLANDS~~ PINGOK ISLAND

Scale 1:40,000 Date of survey 13 August, 27 August, 1950 and 11-30 August 1951

Instructions dated 8 March 1950 & 6 Febr. 1951

Vessel ARCTIC NORTH PARTY & ARCTIC EAST PARTY

Chief of party R. A. EARLE & M.G. RICKETTS

Surveyed by H. D. NYGREN & M.T. PAULSON

Soundings taken by fathometer, ~~graphic, recorder, hand lead, wire~~ 125s, 119s

Protracted by H. D. NYGREN

Soundings penciled by H. D. NYGREN

Soundings in ~~fathoms~~ feet ~~feet~~ at ~~MLLW~~. MLLW (and are true depths)

REMARKS: Fathograms scaled by J. T. Shanahan. Fathograms checked by J. J. Gray.

U. S. GOVERNMENT PRINTING OFFICE 428975

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

ARCTIC FIELD PARTY
NORTH UNIT
SHEET LAYOUT 1950 SEASON

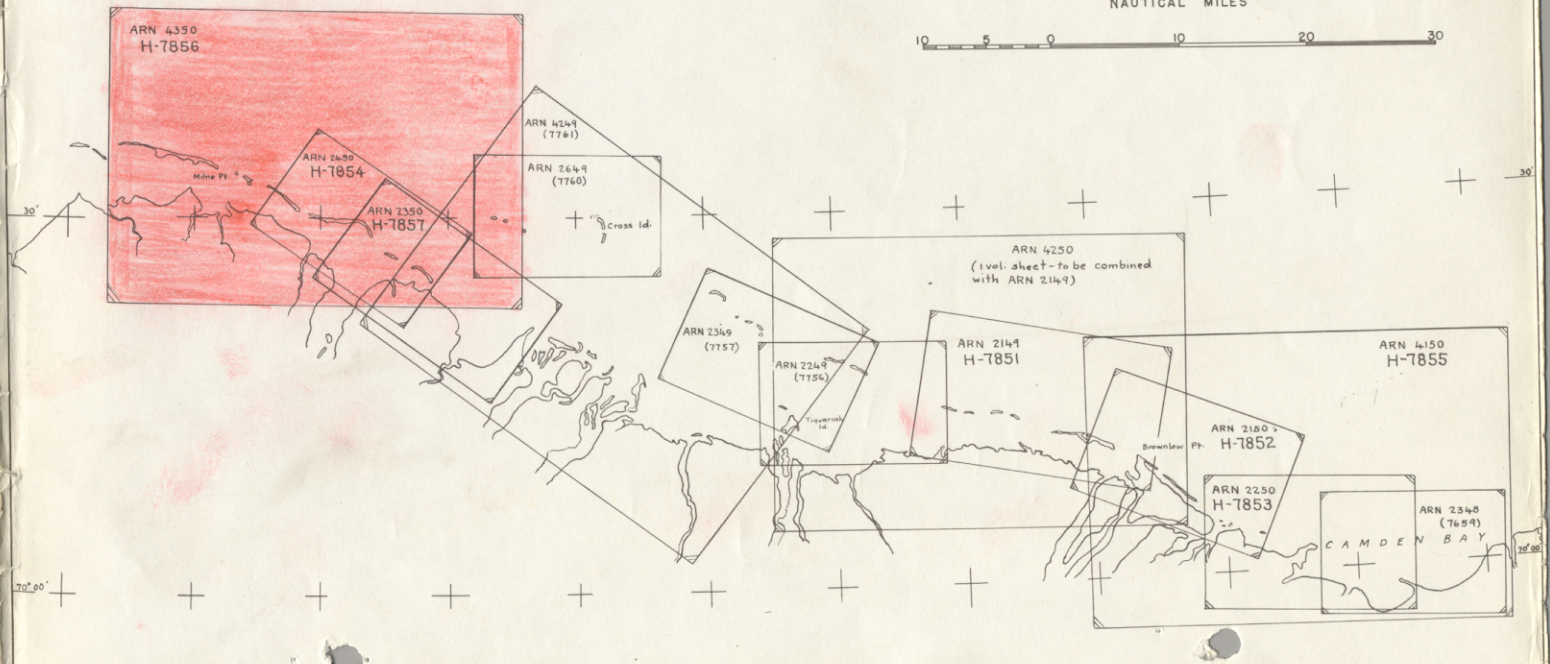
J.T. JARMAN, OINC

R.A. EARLE, CHIEF OF PARTY

SCALE 1:1,000,000

NAUTICAL MILES

10 5 0 10 20 30



DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H-7856
FIELD NUMBER ARN-4350
MIDWAY ISLANDS TO RETURN ISLANDS
ALASKA
PROJECT CS-320
SCALE: 1:40,000

CHIEF OF PARTY - R. A. EARLE
IN CHARGE, SUB-PARTY - - - - - - - - - - - - - - - - - - J. T. JARMAN
IN CHARGE, FIELD WORK - - - - - - - - - - - - - - - - - H. D. NYGREN

A: PROJECT Authority for this survey is contained in the Supplemental Instructions for Project CS-320 dated 8 March, 1950.

B: SURVEY LIMITS AND DATES This survey covers the general offshore area north of the five fathom curve between the Midway Islands and the Return Islands from Longitude 148° 20' to Longitude 148° 18'. It is north of Sheets H-7854, H-7857, H-7761, and west of H-7760. A small area which would normally be a part of H-7760 was surveyed on this sheet when ice conditions finally permitted access by the launch. The northern limits of the survey were restricted by the ice barrier.

Progress was impeded by the continual presence of heavy ice concentrations. With several exceptions ice was encountered on every sounding day, and work was prevented entirely on many of the other days. Time between fixes will not check on most plotted sounding lines and courses steered in general were erratic because of the necessity to avoid the ice. Work began on the sheet on August 13, 1950, and ended on August 27, 1950.

C: VESSELS AND EQUIPMENT This survey was made with converted rearming launch Number 15, using portable fathometer No. 125s, 4 1/2 ft. The launch was fitted with an outboard fish installation, which gave considerable trouble and sustained repeated damage while operating in ice congested areas.

Launch No. 15 was equipped with the shoran set No. 933. Large corrections were applied to the distances obtained with this set; these corrections being described and tabulated in the "Special Report on Shoran Operations, Arctic North Party, 1950."

This launch operated from a hydrographic camp which was established on Cross Island, east of the survey area.

D: TIDE AND CURRENT STATIONS Tide reducers were obtained from the Cross Island 1950 portable tide gage record. The gage was located in an ice-free bight on Cross Island, latitude 70° 29.3 N. and longitude 147°56.4W. The 1949 bench marks were tied-in, and additional marks established. The datum for this gage was checked by the Washington, D.C. Office.

No current stations were observed in the area covered by this sheet.

E: SMOOTH SHEET The Seattle Processing Office constructed the smooth sheet projection and plotted the control stations. Shoran control stations were plotted from geographic positions which are tabulated in the "Special Report on Shoran Operations, Arctic North Party, 1950." Positions were protracted, and soundings placed on the smooth sheet, by Arctic Party personnel.

In various instances, the time between fixes did not check. This is explained in the paragraph headed "Survey Limits and Dates." The positions as recorded were accepted as correct. No other unusual conditions were encountered.

F: CONTROL STATIONS The basic control was established in 1949 by triangulation. Shoran station SMIT is triangulation station NIX 1949; shoran station JIM was located by traverse from triangulation station DEER 1949; and shoran station MIL is triangulation station STUMP 2 REFERENCE MARKS NO. 1 1949.

G: SHORELINE AND TOPOGRAPHY Shoreline was traced from copies of map manuscripts numbered T-9344 and T-9340 (1949). These manuscripts were compiled from nine-lens photographs by the Portland Photogrammetric Office. Refer to the discrepancies noted in the report for Sheet H-7854 (1950) Review, par. 1

H: SOUNDINGS All soundings thru D day were obtained with 808j portable fathometer No. 125s. Fathometer 119s was then substituted for the remaining work.

Fresh water reeds were used which gave a calibrated velocity of 1441.7 (788 fms./sec.) meters per second. (See: Special Report Fathometer Corrections, Arctic North Party, 1950.) Special note is made in the above report regarding the outboard fish installation being repeatedly damaged during the progress of the work and consequent corrections and adjustments. Filed with H-7857

The depth of the outboard fish was 2 feet below the surface. The general field practice was to set the fathometer initial on the fathogram at 2 feet, and then take a bar-check which was recorded. From these recorded data, any bar check residual could be computed and applied.

I: CONTROL OF HYDROGRAPHY Control of hydrography was entirely by shoran.

J: ADEQUACY OF SURVEY Although the survey is unfinished, it is adequate within the completed areas. It is expected that additional work will be accomplished during the 1951 season. See 1951 Report attached

K: CROSSLINES Crosslines checked satisfactorily. Additional crosslines should be executed in the western part of the work to meet specifications.

L: COMPARISON WITH PRIOR SURVEYS There are no previous surveys in this area.

M: COMPARISON WITH CHART The existing chart of this area, USC&GS Chart No. 9400, is on too small a scale for an adequate comparison. Review, par. 6.

N: DANGERS AND SHOALS The only danger found within the limits of this survey is the submerged shoulder extending west from the western end of Reindeer Island. This shoal deepens gradually to nineteen feet at a distance of two miles west of the island.

(line spacing 360 m)
A small holiday exists about 2 miles north of Reindeer Island, Latitude 70° 30.6' North, Longitude 148° 19.0' West. Grounded icebergs, which were present in this area throughout the season prevented its development. Adjacent soundings were 37 and 38 feet, and the estimated height of the bergs was 20 feet. Adjacent soundings do not indicate that a shoal exists in this area. Not investigated in 1951

O: COAST PILOT INFORMATION See "Coast Pilot Report, Arctic North Party, 1950." During the 1950 season the launch occasionally sought shelter to the south of Reindeer Island while working on this survey. See "Descriptive Report for survey H-7760."

Prevailing weather encountered during this period was foggy, with moderate NE winds and occasional rain and snow. For eight days, Aug. 19 through Aug. 27, high winds made it impossible to do launch work. Westerly winds brought heavy concentrations of ice into the area and easterly winds tended to clear leads between the pack ice and the islands. The ice barrier gradually receded through the season until the violent storm mentioned above completely cleared the area except for scattered bergs.

P: AIDS TO NAVIGATION There are no Aids to Navigation within the limits of this sheet. During the 1951 season, Navy daybeacons will be erected on Reindeer and Long Islands.

Q: LANDMARKS FOR CHARTS At the request of the U.S. Navy, a 35 foot, red, wooden, tower which supports a 12 foot crossed, diamond-shaped, banner was erected on Reindeer Island during the 1950 season. This object was well constructed, and it was still standing at the close of the 1950 season. It has been listed on form 567 as a landmark for charts. The latter will be recommended for deletion when the Navy daybeacon is erected on Reindeer Island in 1951.

R: GEOGRAPHIC NAMES See "Geographic Names Report, Arctic North Unit, 1949". No additional information was obtained in 1950. 854-L14

S: TABULATION OF APPLICABLE DATA The following listed reports and data has been, or will be submitted to the Washington Office under separate cover:

1. List of Geographic Positions, 1949, 1950
2. Tidal Data Report, 1950
3. Fathometer Correction Report, 1950 (filed with H-7857)
4. Coast Pilot Notes, 1949 and 1950
5. Geographic Names Report, 1949

T: ATTACHMENTS The following listed data are attached to this report:

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

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

Approved and Forwarded:

R. A. Earle
R. A. Earle
Comdr., USC&G Survey
Chief of Party

H-7856

LIST OF SIGNALS
SHORAN STATION LOCATIONS

NAME	N. LATITUDE	W. LONGITUDE	REMARKS
SMIT	70° 29'823.1m	147° 55'619.3m	On Cross I.
JIM	70° 29'465.5m	148° 20'426.5m	On Reindeer I.
MIL	70° 24'1839.6m	148° 34'582.9m	On Stump I.

STATISTICS
FOR
SHEET H-7856 (ARN-4350)

LAUNCH NO.	DATE 1950	VOLUME NUMBER	DAY LTR.	NUMBER POSITIONS	STAT. MILES SDG. LINE
15	13 Aug.	1	a (blue)	110	46.8
15	14 Aug.	1	b (blue)	129	57.0
15	15 Aug.	2	c (blue)	130	54.4
15	16 Aug.	2&3	d (blue)	134	51.8
15	17 Aug.	3	e (blue)	119	43.3
15	18 Aug.	3	f (blue)	48	19.3
15	19 Aug.	4	g (blue)	12	1.5
15	20 Aug.	4	h (blue)	68	20.8
15	27 Aug.	4	j (blue)	40	17.0
		TOTALS		790	311.9

AREA 49.3 Square Stat. Miles

TIDAL NOTE

SHEET NO. H-7856 (Field No. ARN-4350)

The soundings were reduced to mean lower low water (MLLW), using tides as recorded from observations on the tide gage at Cross Island, Latitude 70° 29'.3N and Longitude 147° 56'4W.

The height of mean lower low water above the zero of the staff is 3.8 feet.

Refer to "Tide Data Report for 1950" for applicable tide curves.

VELOCITY CORRECTIONS
SHEET ARN-4350 H-7856

Launch No. 15
Fath. No. 125
Velocity Curve No. 2
8/13 to 1658

Depth Applicable Feet	Velocity Corr. Feet	Bar-Check Corr. Feet	Combined Corr. Feet
0 to 20	0.0	-0.5	-0.5
20 to 49	-0.2	-0.5	-0.7
49 to 67	-0.4	-0.5	-0.9

"B" and "C" scale correction same as "A" scale (0.0)

Launch No. 15
Fath. No. 125
Velocity Curve No. 2
8/13 after 1658 thru 8/16

Depth Applicable Feet	Velocity Corr. Feet	Bar-Check Corr. Feet	Combined Corr. Feet
0 to 20	0.0	-0.7	-0.7
20 to 49	-0.2	-0.7	-0.9
49 to 67	-0.4	-0.7	-1.1

"B" and "C" scale corrections same as "A" scale (0.0)

Launch No. 15
Fath. No. 119
Velocity Curve No. 2
8/17 thru 8/27

Depth Applicable Feet	Velocity Corr. Feet	Bar-Check Corr. Feet	Combined Corr. Feet
0 to 20	0.0	-0.5	-0.5
20 to 49	-0.2	-0.5	-0.7
49 to 67	-0.4	-0.5	-0.9

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

GEOGRAPHIC NAME LIST

SHEET NO. H-7856 (Field No. ARN-4350)

Beaufort Sea
Alaska
Return Islands
Stump Island
Egg Island
Long Island
Gwydyr Bay
Kuparuk River
Pt. Storkersen
Fawn Creek
Midway Islands
Argo Island
Reindeer Island

APPROVAL SHEET
H-7856

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, the smooth sheet and the field records of this survey have been inspected, and they are approved for transmission to the Washington Office.

The sheet is unfinished, and additional work will be required in 1951.

L. T. JARMAN
Lt.Comdr., USC&G Survey
OinC, North Unit

It was not possible for the Chief of Party to make frequent inspections of all widely separated units engaged on hydrographic surveys, such inspections during the field season being assigned to the officer in charge of field work in each base camp.

The sheet and records have been examined and are approved. The survey is incomplete and will require additional work in 1951.

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

837

RHC

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. June 1937

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~ 20 March 1951

Division of Charts: R. H. Carstens

Plane of reference approved in 4
volumes of sounding records for

HYDROGRAPHIC SHEET 7856

Locality North Arctic Coast, Alaska

Chief of Party: R. A. Earle in 1950
Plane of reference is mean lower low water, reading
3.8 ft. on tide staff at Cross Island
5.8 ft. below B. M. 1 (1949)

Height of mean high water above plane of reference is 0.50 foot.

Condition of records satisfactory except as noted below:

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

U. S. GOVERNMENT PRINTING OFFICE 756675

Form 537
(Ed. June 1946)

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-7856

Field No. AEW-4350

State Alaska

General locality Arctic ~~Ocean~~ Coast

Locality Midway Islands to Pingok Island

Scale 1:40,000 Date of survey 11 - 30 August 1951

Instructions dated 6 February 1951

Vessel Arctic East Party

Chief of party Max G. Ricketts

Surveyed by M.T. Paulsen, H.D. Nygren

Soundings taken by fathometer, ~~graphic recorder, hand lead, wire~~ 119s, 125s

Fathograms scaled by J.B. Tarbill, M.J. Grey

Fathograms checked by L. Emrich, E.T. Blomstrom

Protracted by H.D. Nygren

Soundings penciled by H.D. Nygren

Soundings in ~~fathoms~~ feet at ~~MEAN~~ MLLW (and are true depths)

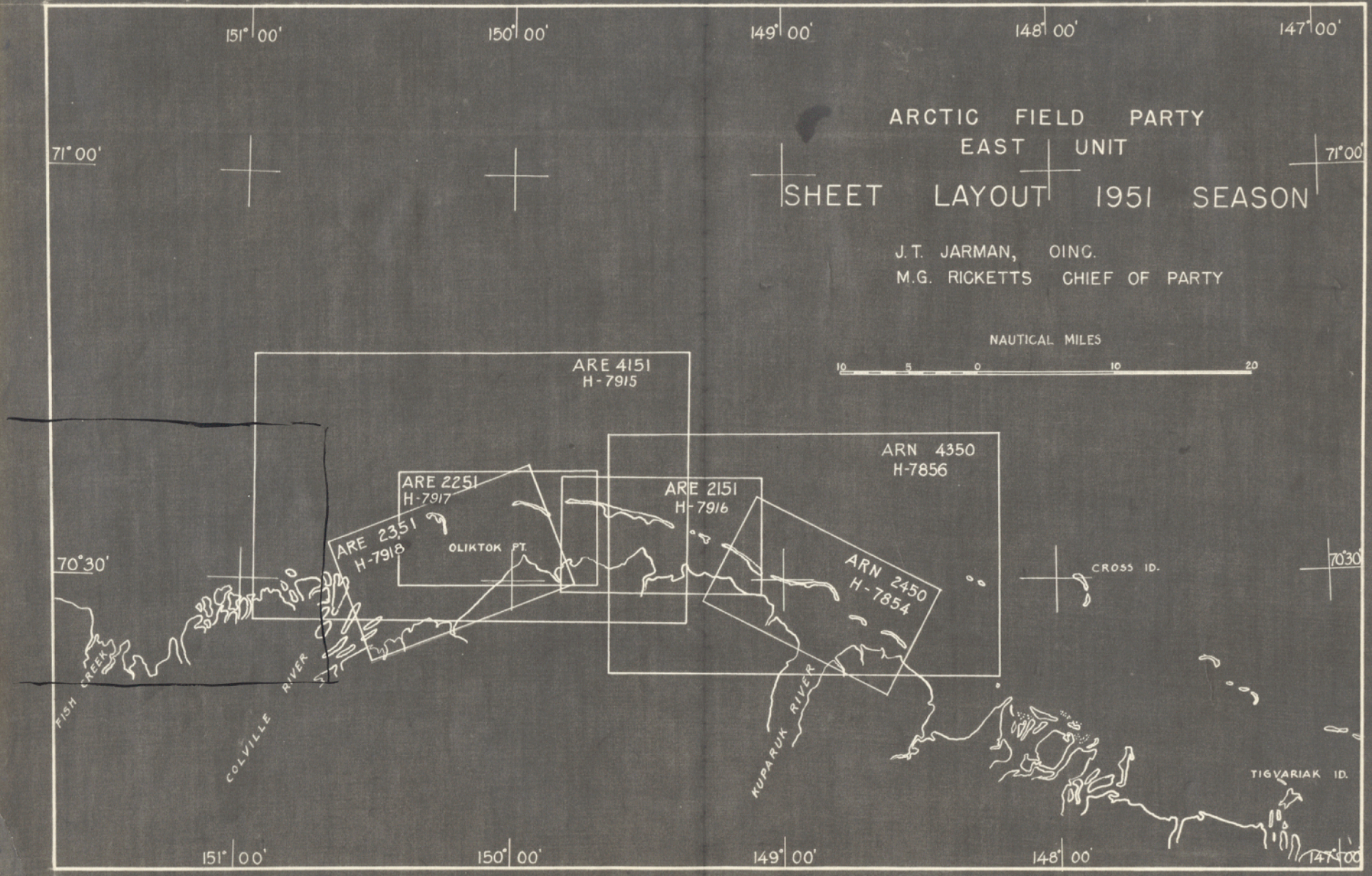
REMARKS: This survey was left unfinished in 1950, and was completed during the 1951 season. A previous report contained a title sheet for the 1950 work. Note: See other title page for combined information of both 1950 & 1951 seasons

U. S. GOVERNMENT PRINTING OFFICE 693019

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

ARCTIC FIELD PARTY
EAST UNIT
SHEET LAYOUT 1951 SEASON

J.T. JARMAN, OINC.
M.G. RICKETTS CHIEF OF PARTY



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

ADDENDUM TO
DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H-7856
FIELD NUMBER ARN-4350
MIDWAY ISLANDS TO PINGOK ISLAND
ALASKA
PROJECT CS-320
SCALE: 1:40,000

CHIEF OF PARTY - MAX G. RICKETTS
IN CHARGE, SUB PARTY - - - - - - - - - - - - - - - - - J. T. JARMAN
IN CHARGE, FIELD WORK - - - - - - - - - - - - - - - - - M. T. PAULSON
H. D. NYGREN

A: PROJECT Authority for this survey is contained in Supplemental Instructions for Project CS-320, Basic Surveys, Arctic Coast, dated 6 February 1951.

B: SURVEY LIMITS AND DATES This survey completes the offshore work started in 1950 west of the Midway Islands. It extends from Longitude 148° 17' E to 149° 26' E, and runs north to Latitude 70° 41' N. On the east it adjoins H-7760 (ARN-2649) and on the west H-7915 (ARE-4151). To the south it adjoins the northern limits of H-7761 (ARN-4249), H-7857 (ARN-2350), H-7854 (ARN-2450), and H-7916 (ARE-2151).

This work was completed between August 11 and August 30, 1951. Additional work would have been desirable, but the necessity of moving the base camp from Oliktok Point to Barter Island forced the closing of the field season on the 31st of August.

Because of the almost total absence of ice in this area during the 1951 season, heavy seas prevented field work on several occasions.

C: VESSELS AND EQUIPMENT This survey was made with converted rearming launches 14 and 15. Both launches were equipped with portable recording fathometers of type 808J. *Launch 14 used fathometer 1195, and launch 15 used 1258. Launches were outfitted with outboard fish units on swinging mounts. As no ice was encountered little trouble was experienced this year with damaged fish mounts. The pipes supporting the fish on launch 15 were badly bent on one occasion when the launch was allowed to broach in a surf, however this damage was repaired by the launch crew.

* Review, par. 7C.

Launch 14 was equipped with launch shoran set 933 and launch 15 with set 572 at the start of field work. On the 21st of August these sets were exchanged between launches because of a breakdown in set 572. On the 28th of August this set broke down again and it was removed from service. Corrections to distances received with this equipment are described and tabulated in "Special Report on Shoran Corrections, Arctic East Party, 1951".

Both launches were based at a hydrographic camp on Beechey Point.

D: TIDE AND CURRENT STATIONS The tide station controlling this area was located at Oliktok Point. The datum was furnished by the Washington Office.

No current stations were observed in the limits of this survey.

E: SMOOTH SHEET The 1951 work was plotted on the smooth sheet constructed by hand in 1950. Additional shoran circles and some control stations were plotted by personnel of the Seattle Processing Office. Arctic Party personnel completed this operation.

F: CONTROL STATIONS Control is based on the second order triangulation of H.A. Paton, 1949 and M.G. Ricketts, 1951. Hydrographic signals are second order, third order, or topographic stations located by triangulation or traverse, with four exceptions. Signal Bart was located by the hydrographic party on survey H-7916 (ARN-2151). Signals Ax and Jac were located by the hydrographic party on survey H-7854 (ARN-2450). Signal JEF was located by the hydrographic party on survey H-7760 (ARN-2649) in August 1949. This station location was scaled from a photostat of the smooth sheet for this survey.

Shoran stations OLE, PUK, DED, and HEN were located in 1951 by short traverse from triangulation stations.

The day beacons on Reindeer Island, Long Island, and Pingok Island were located by traverse.

G: SHORELINE AND TOPOGRAPHY No shoreline was available in the area of the 1951 survey. *Shoreline added in Wash. Office* *Review, par. 1*

H: SOUNDINGS All soundings were obtained by handlead or by the portable fathometers previously listed. The fathometers were again operated on the foot scale, time being controlled by the fathogram. The reeds used this year gave a calibrated velocity of 800 fm/sec. Velocity corrections were computed and applied as described in "Special Report, Fathometer Corrections, Arctic East Party, 1951". *See H-7918*

The standard practice of this party was again to set the fish at a depth (approximately two feet) such that the true depth was read on a six-foot bar check with the initial held at 2.0 ft on the fathogram.

I: CONTROL OF HYDROGRAPHY Hydrography was controlled by sextant fixes on shore objects, by shoran, or by a combination of both. Some sounding lines were partially controlled, dead-reckoning loops, these occurring primarily far offshore and in the area north of Reindeer Island. No unusual discrepancies were noted or adjustments made with two exceptions. Very long shoran distances read on the ten-mile scale were sometimes rejected, as noted in the records; and some angles obtained on "U" day (blue) north of Reindeer Island, were rejected because of their questionable consistency.

I: CONTROL OF HYDROGRAPHY (CONT'D.) Several short sections of line lying in the main body of the work were rejected as being weakly controlled, as well as superfluous. Adequate notes covering these situations are in the sounding records.

J: ADEQUACY OF SURVEY This survey is considered adequate for this area, although it does not fully comply with project instructions in the following details:

Additional development could be desired along the sixty-foot curve and in the northwest corner of the survey. Some additional investigation could also be made on the bank which occurs at Latitude 70° 34!5 N and Longitude 149° 05' W. This bank is at the juncture of the work of launch 14 (shoran control) and launch 15 (visual control). Although no gap existed on the boat sheets, the shoran correction applied before the smooth plot was made shifted the work of launch 14 inshore and left this section weakly developed.

Satisfactory junctions are made with adjoining surveys.

The seven-fathom curve was drawn on the smooth sheet to better delineate the large banks occurring offshore.

Bottom characteristics were not obtained on outstanding shoals.

K: CROSSLINES There are about 15% crosslines. Adequate checks were obtained considering the extreme roughness of the bottom in this area. Review, pars. 3 & 7c.

L: COMPARISON WITH PRIOR SURVEYS There are no prior surveys in this area.

M: COMPARISON WITH CHART The existing chart, Arctic No. 12 was compiled from the 1950 work on this survey. Review, par. 6.

N: DANGERS AND SHOALS The following shoals exist in this area:

A sharply-rising shoal with a least depth of 21 ft lies at Longitude 149° 02' W and Latitude 70° 34!0 N.

A small shoal with a least depth of 22 ft lies at Longitude 149° 11' W and Latitude 70° 34!0 N.

A small shoal with a least depth of 30 ft lies at Longitude 148° 54' W and Latitude 70° 35!0 N.

A least depth of 26 ft lies at Longitude 148° 57'0 W and Latitude 70° 36!3 N. This is the shoalest point found on an extensive bank lying far offshore. This bank is actually part of a long line of shoals which extend out WNW of Reindeer Island. They culminate somewhere north of the limits of this survey. Attention is invited to the 41 ft depth found in the undeveloped area at 70° 41!0 N and 149° 16!0 W. The various shoals found on this ridge are indicated with least depth notes on the smooth sheet. (notes removed)

N: DANGERS AND SHOALS (CONT'D.) No investigation was made of the area north of Reindeer Island in which the grounded icebergs were encountered in 1950 because of lack of adequate control, and because the impending close of field operations made other areas of more importance.

Other least depths with less critical values are also indicated by note on the smooth sheet. notes removed

O: COAST PILOT INFORMATION See "Coast Pilot Report, Arctic East Party, 1951".

Launches working in this area during 1951 were based at Beechey Point. Entrance to the anchorage area was generally made through the pass west of Long Island; however, this pass is very shoal and breaks completely across in storms, so it was necessary on several occasions to use the entrance west of Egg Island or the one west of Pingok Island.

Protection at Beechey Point was fair for all but NE winds. Holding bottom was good, and fresh water was available from numerous ponds in the area.

Prevailing weather during the latter half of August 1951 was variable and unsettled. Winds varied from calm to a full gale. Occasional fog was encountered and extensive periods of rainfall were experienced. Temperatures were considerably milder than those noted in 1950.

The ice had receded over the horizon by the time work was started on this survey and except for a few scattered bergs of small size, no ice was seen in this area. Considerable ice was observed to the north of Cross Island during the last week of August, however. The sea conditions varied from calm to heavy swell and sharp-breaking seas. On one occasion eight foot swells were recorded on the fathogram.

P: AIDS TO NAVIGATION See "Form 567, Landmarks for Charts or Nonfloating Aids, Arctic East Party, 1951".

Several Aids to Navigation were constructed during the 1951 season.

Q: LANDMARKS FOR CHARTS See "Form 567, Landmarks for Charts, Arctic East Party, 1951".

The wooden tower on Reindeer Island has been destroyed and replaced by a day beacon in a slightly different location. A deletion from the chart has been recommended. Beacon now charted

The following landmarks lie within the limits of this survey:

Jac (POLE) - Long Island
HOON (POLE) - Cottle Island
FOX (MOUND) - Jones Mound
BEACHEY (MOUND) - Beechey Mound
RIC (POLE) - Long Island
TAK (HOUSE) - Milne Point
STORE (HOUSE) - Beechey Point

R: GEOGRAPHIC NAMES See "Report, Geographic Names, CS-320, 1951".

S: MISCELLANEOUS This survey was plotted on two boat sheets in 1951, which are in addition to the one boat sheet of 1950. Some work on survey H-7854 (ARN-2450) was also plotted on these two sheets.

T: TABULATION OF APPLICABLE DATA

1. List of Geographic Positions 1951
2. Tide Station Report, 1951
3. Fathometer Correction Report, 1951 - See H-7918
4. Coast Pilot Notes, 1951
5. Geographic Names Report, 1951
6. Landmarks for Charts, 1951
7. Aids to Navigation, 1951
8. Special Report on Shoran Corrections, 1951

U: ENCLOSURES

1. Supplementary List of Signals, 1951
2. Supplementary Statistics, 1951
3. Tidal Note, 1951
4. Fathometer Corrections, 1951
5. Velocity Corrections, 1951
6. Supplementary Geographic Names List
7. Approval Sheet

H. D. Nygren
H. D. Nygren
Lt.(jg), USC&GS

Approved and Forwarded:

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

ENCLOSURE 1

SUPPLEMENTARY LIST OF SIGNALS 1951
SURVEY NO. H-7856 (AEN-4350)

NAME	SOURCE
Ax	H-7854
Bart	H-7916
BOD	BODIS 1951
BRA	Aid to Navigation 1951 Traverse G.P. List
CAR	Aid to Navigation 1951 Traverse G.P. List
COT	COTTLE 1951
DED	Shoran Sta. Traverse G.P. List
DEER	DEER 1949
EGG	EGG 2 1949
Ent	Topographic Sta. G.P. List 1951
FOX	FOX 1951
HEN	Shoran Sta. Traverse G.P. List.
HIP	HIP 1951
HOON	HOON 1951
JEF	H-7760
Jac	H-7857
Lar	Topographic Sta. G.P. List 1951
LONG	LONG 2 1949
OLE	Shoran Sta. Traverse G.P. List
PING	PINGOK 1951
PUK	Shoran Sta. Traverse G.P. List
RIC	RIC 1951
SLIM	SLIM 1951
STORE	STORE 1951
STUMP	STUMP 2 1949
Toy	Topographic Sta. G.P. List 1951
TRA	Aid to Navigation 1951 Traverse G.P. List
TAK	TAK 1951

ENCLOSURE 2

SUPPLEMENTARY STATISTICS 1951
SURVEY H-7856 (AHS-4350)

DATE	LAUNCH. NO.	DAY LETTER	VOLUME NUMBER	NUMBER OF POSITIONS	STAT. MILES SDG. LINES
8/11	15	k (blue)	10	27	11.7
8/12	15	l (blue)	10	127	53.3
	14	a (green)	5	70	23.5
8/16	14	b (green)	5	75	29.4
	15	m (blue)	10	89	37.0
8/17	15	n (blue)	10	40	19.6
	14	c (green)	5	44	18.8
8/19	14	d (green)	6	123	52.0
	15	p (blue)	10	67	28.3
	15	p (blue)	11	51	23.0
8/21	15	q (blue)	11	133	56.7
	14	e (green)	6	126	47.6
	14	e (green)	7	12	6.7
8/24	14	f (green)	7	154	69.4
8/25	14	g (green)	7	116	52.1
	15	r (blue)	11	135	56.2
8/26	15	s (blue)	11	56	30.0
	15	s (blue)	12	39	10.2
	14	h (green)	8	113	48.8
8/27	14	j (green)	8	50	22.4
	15	t (blue)	12	68	27.4
8/28	15	u (blue)	12	113	51.0
	14	k (green)	8	84	33.8
	14	k (green)	9	39	16.1
8/29	14	l (green)	9	15	21.3
	15	v (blue)	12	128	53.6
8/30	15	w (blue)	13	131	55.0
	15	x (blue)	14	72	33.2
		TOTALS		2,297	988.1

Square statute miles 164.5

ENCLOSURE 3

TIDAL NOTE 1951

H-7856 (AEN-4350)

TIDE GAGE LOCATION

Oliktok Point - Latitude 70° 30!75 N
Longitude 149° 52!04 W

PLANE OF REFERENCE

Station	Mean Lower Low Water on Staff
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
SURVEY H-7856 (AHB-4350)

LAUNCH 14
FATHOMETER 119s

Correction to Bar Check Line -0.2
"B" Scale or Phase Correction - +0.5

BAR CHECK CORRECTIONS:

Date	Fath.No.	Bar Check Correction	Date	Fath.No.	Bar Check Correction
12 Aug.	119s	0.0	25 Aug.	119s	+0.15
16 Aug.	"	0.0	26 Aug.	"	+0.3
17 Aug.	"	0.0	27 Aug.	"	+0.1
19 Aug.	"	-0.13	28 Aug.	"	0.0
21 Aug.	"	+0.07	29 Aug.	"	0.0
24 Aug.	"	+0.1			

LAUNCH 15
FA THOMETER 125s

Correction to Bar Check Line - 0.0
"B" Scale or Phase Correction -0.3

BAR CHECK CORRECTIONS:

Date	Fath.No.	Bar Check Correction	Date	Fath.No.	Bar Check Correction
11 Aug.	125s	+0.2	25 Aug.	125s	+0.1
12 Aug.	"	+0.03	26 Aug.	"	+0.2
16 Aug.	"	+0.08	27 Aug.	"	0.0
17 Aug.	"	+0.5	28 Aug.	"	+0.1
18 Aug.	"	+0.5	29 Aug.	"	+0.05
19 Aug.	"	+0.13	30 Aug.	"	+0.13
21 Aug.	"	+0.07			

ENCLOSURE 5

VELOCITY CORRECTIONS 1951

SUMMARY

SURVEY H-7856 (ARN-4350)

CORRECTION Feet	DEPTH Feet
0.0	32.5
-0.5	65.0
-1.0	86.5

ENCLOSURE 6

SUPPLEMENTARY
GEOGRAPHIC NAME LIST - 1951
SURVEY NO. H-7856 (FIELD NO. ARN-4350)

Beechey Mound
Beechey Point
Bertoncini Island
Bodfish Island
Cottle Island
Jones Islands
Jones Mound
Kavearak Point
Milne Point
Pingok Island
Sakonowyak River
Simpson Lagoon

APPROVAL SHEET

REG. NO. H-7856

Recommend that the survey on this sheet be considered complete eventhough some additional developement along the 60-foot curve offshore could be desired except for excessive cost of such work.

Reestablishment of shoran stations in 1952 to develope the small bank noted in Paragraph "J" is not considered economical.

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

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

GEOGRAPHIC NAMES

Survey No. H-7856

Name on Survey	On Chart No. A	On previous survey No. B	On U. S. quadrangle Maps C	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
Alaska				(for title)						1
Arctic Coast				(" ")						2
										3
Beaufort Sea									USGB	4
Gwydyr Bay										5
Kuparuk River									USGB	6
Fawn Creek									"	7
Point Storkersen										8
Return Islands									USGB	9
Long Island										10
Egg Island										11
Stump Island										12
Midway Islands										13
Reindeer Island										14
Argo Island										15
										16
										17
										18
				Names underlined in red are approved 3-9-51. L. Heck						19
										20
										21
Cross Island			(location of tide gage)							22
										23
										24
										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7856

Records accompanying survey:

Boat sheets 1; sounding vols. 10 (1951 work) 4 (1950 work); wire drag vols. ;

bomb vols. ; graphic recorder rolls 13 env. (1951 work) 4 env. (1950 work)

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		3087
Number of positions checked		190
Number of positions revised		36 45
Number of soundings revised (refers to depth only)		~~2826~~
Number of soundings erroneously spaced		15
Number of signals erroneously plotted or transferred		22
Topographic details	Time	36 hr.
Junctions	Time	15 hr.
Verification of soundings from graphic record	Time	20 hr.

Verification by T. Gallen J. J. Gallahan Total time 90 330 Date 4/17/53

Reviewed by J. A. Dinsmore Time 28 Date 24 April 1953

Stimi - 13 hrs

M-2232-1

RHC

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. June 1937

TIDE NOTE FOR HYDROGRAPHIC SHEET

10 March 1952

~~Division of Hydrography and Topography~~

Division of Charts: R. H. Carstens

Plane of reference approved in 10
volumes of sounding records for

HYDROGRAPHIC SHEET 7856 Add. Wk.

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 ~~xx~~ (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.~~

U. S. GOVERNMENT PRINTING OFFICE 750675

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7856 FIELD NO. ARN-4350

Alaska, Arctic Coast, Midway Islands to Pingok Island

Project No. CS-320

Surveyed in August 1950 and August 1951 Scale 1:40,000

Soundings:

808 Fathometer

Control:

Shoran
Sextant fixes on shore signals
Dead reckoning

Chief of Party - R. A. Earle and M. G. Ricketts
Surveyed by - H. D. Nygren and M. T. Paulson
Protracted by - H. D. Nygren
Soundings plotted by - H. D. Nygren
Verified and inked by - J. T. Gallahan and J. F. Gallen
Reviewed by - T. A. Dinsmore, 24 April 1953
Inspected by - R. H. Carstens

1. Shoreline and Control

The shoreline originates with the unreviewed manuscripts of air-photographic surveys T-9340, T-9341, T-9342, T-9343, T-9344, T-9345, T-9346 of 1949 and T-9774, T-9775, T-9781, T-9782 of 1951.

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

2. Sounding Line Crossings

Depths at crossings are in good agreement after the application of the corrections mentioned in paragraph 7c.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated on this offshore survey. The 7-fm. curve has been shown in brown in some localities to aid in defining the configuration of several offshore shoals.

The shoal rising abruptly from surrounding depths of 45 ft. to within 21 ft. of the surface in lat. 70° 34.1', long. 149° 01.5', is the most prominent of several off-lying shoals in the area. The bottom is moderately irregular.

4. Junctions with Contemporary Surveys

Adequate junctions were effected with the following surveys:

H-7760 (1949-50) on the east
H-7761 (1950) on the southeast
H-7857 (1950) on the south
H-7916 (1951) on the southwest

The junctions with H-7854 (1950) on the south and H-7915 (1951) on the west will be considered in the reviews of those surveys. There are no surveys adjoining on the north.

5. Comparison with Prior Surveys

There are no prior surveys made by this Bureau in the area covered by the present survey.

6. Comparison with Arctic Chart No. 12 (Print of 4/21/52)
Chart No. 17 (Print of 4/21/52)

A. Hydrography

Hydrography on Chart No. 17 originates entirely with the present survey prior to verification and review. Numerous revisions of 1-2 ft. have been made to the smooth-sheet soundings during verification.

Hydrography on Chart No. 12 originates solely with the 1950 work on the present survey. With the additional work of 1951, the present survey is now complete and reveals much information not presently charted.

The present survey entirely supersedes the charted information.

B. Aids to Navigation

There are no floating aids to navigation charted within the limits of the present s urvey. The survey and charted positions of the three beacons in the area are in agreement.

7. Condition of Survey

a. The sounding records are complete; the Descriptive Report covers all matters of importance.

b. The smooth plotting was generally good. The plotting of a number of positions was revised during verification because of weak control.

c. Simultaneous comparisons of fathometer and leadline soundings indicated that the depths recorded by fathometer 119s (Launch 14, 1951 season) were from 0.5-3.0 ft. too deep in depths of 20-60 ft. The velocity corrections applied in the field were used in conjunction with 6-ft. bar checks showing 0.0 correction. Only a few bar checks were taken in depths greater than 12 ft. However, these and vertical casts which were frequently taken, consistently showed the fathometer to be reading about 2 ft. too deep in 40-ft. depths. Adequate bar checks in the deeper depths would have proved useful in determining corrections for the erroneous fathometer depths. Corrections from the leadline comparisons were derived and applied in the Washington Office. The corrected depths have effected agreement between the work of Launch 14 and other work and have eliminated numerous discrepancies at sounding line crossings as well as improving the delineation of the depth curves.

d. The area in lat. 70° 31.3', long. 148° 19.0', in which grounded icebergs were encountered in 1950, was not investigated during the 1951 season because of the lack of adequate control and the need of utilizing the available time for more important work. Adjacent depths in this vicinity do not indicate the presence of a shoal.

e. Development of the shoal ridge in the vicinity of lat. 70° 35', long. 149° 08', is sparse and additional sounding lines over the ridge would probably reveal shoaler depths. However, adjacent shoals adequately reveal the dangers to navigation in this area.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work

The area is considered to be adequately covered by the present survey and no additional field work is necessary. Undeveloped shoal indications such as the 40-ft. sounding in lat. 70° 41', long. 149° 16', are probably portions of offlying shoals which apparently extend beyond the present survey limits.

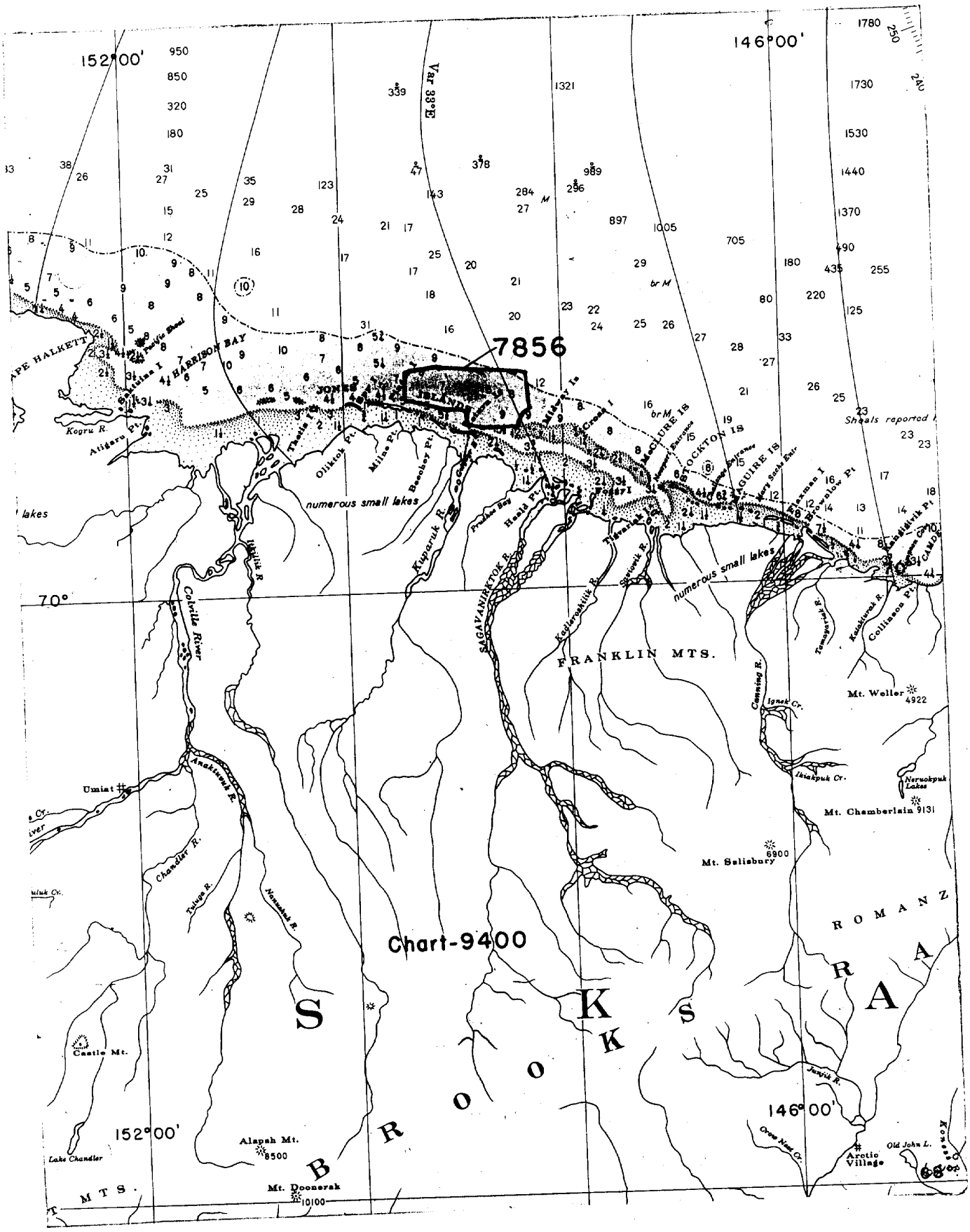
Examined and approved:

H. R. Edmonston
Chief, Nautical Chart Branch

H. Arnold Karo
Chief, Division of Charts

G. R. Fish
Chief, Section of Hydrography

Earl O. Heaton
Chief, Division of Coastal Surveys


152°00'
146°00'
70°
Var 33°E
7856
CAPE HALKETT
HARRISON BAY
JONES
ISLAND
Kogru R.
Atigaru Pt.
Thetis I.
Oliktok Pt.
Milne Pt.
Beechey Pt.
Kuparuk R.
Prudhoe Bay
Heald Pt.
Midway Is.
McCLURE IS.
STOCKTON IS.
MAGUIRE IS.
Flaxman I.
Brownlow Pt.
Kadleroshilik R.
Collinson Pt.
CAMDEN BAY
numerous small lakes
Colville River
Itkillik R.
SAGAVANIRKTOK R.
Kogtarokhilik R.
Sagavanirktok R.
FRANKLIN MTS.
Canning R.
Ignek Cr.
Mt. Weller 4922
Tamayariak R.
Kadleroshilik R.
Umiat
Anaktuvuk R.
Chandler R.
Tuluga R.
Nanushuk R.
Ikiakpuk Cr.
Nerucokpuk Lakes
Mt. Chamberlain 9131
Mt. Salisbury 6900
ROMANZOF MTS.
Chart-9400
BROOKS RANGE
Castle Mt.
Alapah Mt. 8500
Mt. Doonerak 10100
Lake Chandler
Jamjik R.
Arctic Village
Old John L.
Crow Nest Cr.
68°00'

NAUTICAL CHARTS BRANCH

SURVEY NO. H-7856

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
3/7/51	Arctic 12	Bell	Before ~~After~~ Verification and Review Completely
5/25/51	Arctic 12	[illegible]	Before [illegible] Verification and Review
7 Apr 52	Arctic #17	Lawrence H Bell	Before ~~After~~ Verification and Review Soundings & Cmars Complete Application
4-15-52	940.3	[illegible]	Before After Verification and Review Also work done in 1951 Completely applied before Work.
3 Mar 54	Arctic #17	Lawrence H Bell	~~Before~~ After Verification and Review Partial application only
3 Mar 54	Arctic 12	"	~~Before~~ After Verification and Review Applied soundings & cmars off shore
8-1-54	9472	Goodrich	~~Before~~ After Verification and Review
12-24-54	9471	Goodrich	~~Before~~ After Verification and Review
Apr 55	9403	H. Wallace Sievers	~~Before~~ After Verification and Review Then Chts 9471 & 72
			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.