7859

RESTRICTED
SECURITY INFORMATION

Diag. Cht. No. 9400

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. ARW-4250 *Office No.* H-7859

LOCALITY

State ALASKA

General locality NORTH ARCTIC COAST

Locality PLOVER ISLANDS

19 50 & 1951

CHIEF OF PARTY

R. A. Earle & M. G. Ricketts

LIBRARY & ARCHIVES

DATE DECEMBER 10, 1951.

B-1870-1 (1)

7859

RESTRICTED
SECURITY INFORMATION

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-7859

Field No. ARW-4250

State ALASKA

General locality North ARCTIC COAST, ~~POINT BARROW~~

Locality Plover Islands ~~TAPKALUK ISLAND TO SANIGARUAK ISLAND~~ also July-Aug 1951

Scale 1:40,000 Date of survey SEPTEMBER 1950.

Instructions dated 8 MARCH 1950

Vessel ARCTIC FIELD PARTY

Chief of party R. A. EARLE

Surveyed by H. G. CONERLY

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

Fathograms scaled by W. E. SHOEMAKER

Fathograms checked by D. M. WHIPP

Protracted by G. D. SCOTT

Soundings penciled by G. D. SCOTT

Soundings in ~~fathoms~~ feet at ~~MLW~~ MLLW and are true depths

REMARKS:

U. S. GOVERNMENT PRINTING OFFICE 693019

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-7859

Field No. ARW-4250

State Alaska

General locality North Arctic Coast, ~~Point Barrow~~

Locality ~~Tapkaluk Island to Sanigaurak Island~~ Plover Islands

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

Instructions dated 4 February 1951

Vessel Arctic Field Party

Chief of party Max G. Ricketts

Surveyed by E. W. Richards - G. D. Scott

Soundings taken by fathometer, graphic recorder, ~~XXXXXXXXXXXX~~

Fathograms scaled by W. E. Shoemaker and G. P. Roberts

Fathograms checked by N. L. Hickey and K. W. Jeffers

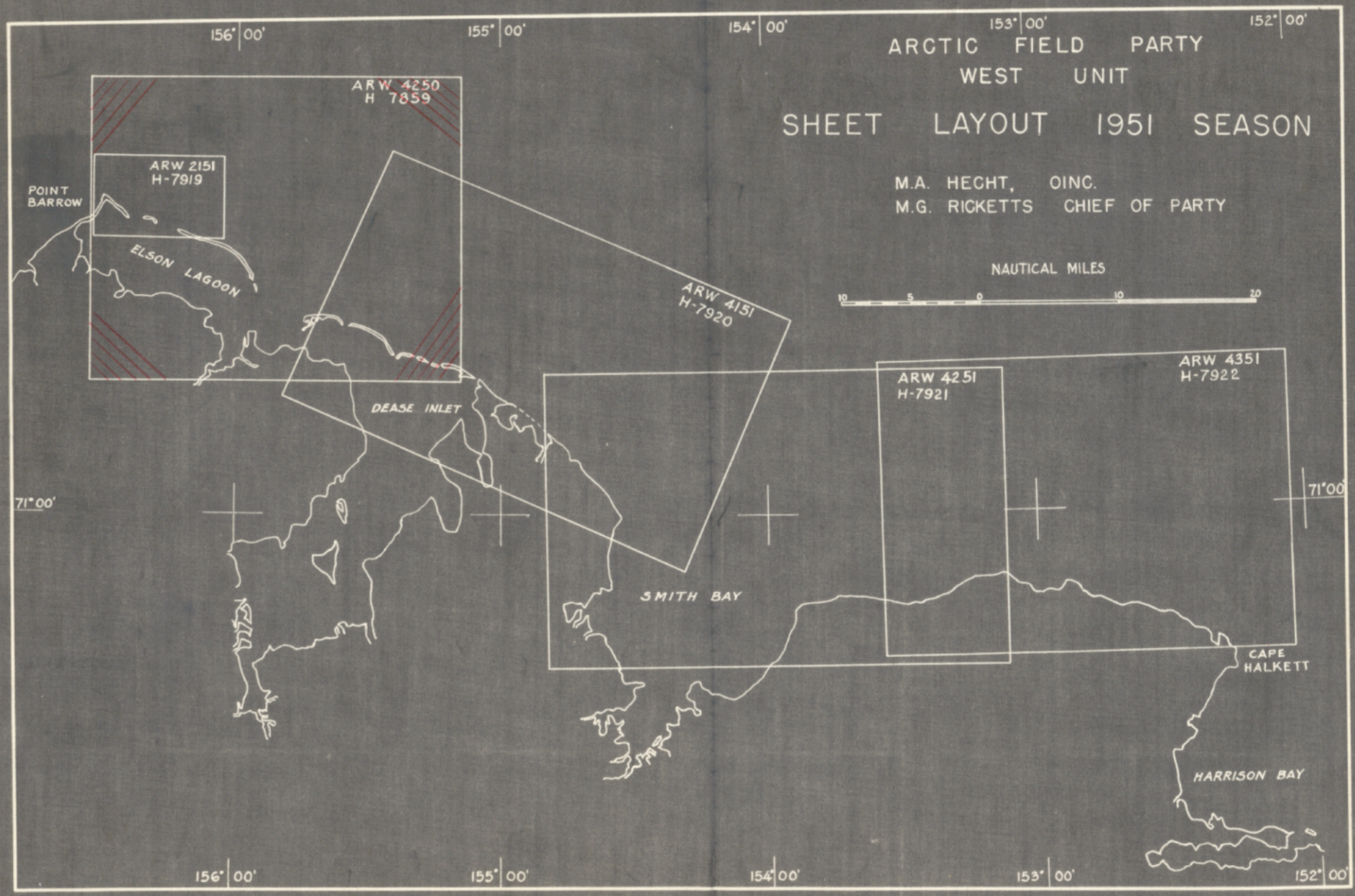
Protracted by G. D. Scott

Soundings penciled by G. D. Scott

Soundings in ~~Fathoms~~ feet at ~~XXXX~~ MLLW and are true depths

REMARKS: This report covers the 1951 work on this sheet. It is an addendum to the descriptive report submitted in 1950.

U. S. GOVERNMENT PRINTING OFFICE 693019


ARCTIC FIELD PARTY
WEST UNIT
SHEET LAYOUT 1951 SEASON
M.A. HECHT, OINC.
M.G. RICKETTS CHIEF OF PARTY
NAUTICAL MILES
10 5 0 10 20
156° 00'
155° 00'
154° 00'
153° 00'
152° 00'
71° 00'
ARW 4250
H 7859
ARW 2151
H-7919
ARW 4151
H-7920
ARW 4251
H-7921
ARW 4351
H-7922
POINT BARROW
ELSON LAGOON
DEASE INLET
SMITH BAY
CAPE HALKETT
HARRISON BAY

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H-7859 (Field No. ARW-4250)
TAPKALUK ISLAND TO SANIGARUAK ISLAND, ALASKA
PROJECT CS-320
1950
SCALE: 1:40,000

R. A. EARLE- -OINC, ARCTIC FIELD PARTY
H. G. CONERLY- -IN CHARGE, SUB-PARTY
H. G. CONERLY- -IN CHARGE, FIELD WORK

A: PROJECT

Authority for this survey is contained in supplemental instructions for Project CS-320 issued by the Director and dated 8 March 1950.

B: SURVEY LIMITS AND DATES

This survey covers the offshore approaches to the Plover Islands, extending from the western end of Tapkaluk Island to the western end of Sanigaruak Island. It joins sheet H-7070 (1945) on the west at Longitude 156° 12' West, and sheets H-7071 (1945) and H-7072 (1945) on the south.

The hydrography was accomplished on September 12 & 13, 1950.

C: VESSELS AND EQUIPMENT

This survey was made by Launch No. 1, a 36 foot Navy Rearming boat modified for survey work, operating from a base camp just north of the Arctic Contractor's camp at Point Barrow, Alaska. All soundings were obtained with 808 Fathometer No. 1043.

D: TIDE AND CURRENT STATIONS

A portable automatic tide gage was maintained from 1030 on 13 September to 0900 on 18 September 1950, Latitude 71°21.7' North, Longitude 156° 32.6' West. The staff to the foregoing gage was in place on 12 September 1950. Hourly staff readings obtained from this staff were used to reduce all soundings obtained on 12 September 1950. The tide marigram from the tide gage furnished the data for the reduction of soundings on 13 September 1950. There was heavy surge on this gage due to the large intake opening. This surge made scaling of the marigrams difficult and hence tide reducers are considered accurate only to ± 0.2 foot.

No current stations were occupied in this area.

E: SMOOTH SHEET

The smooth sheet projection was made by hand in the Seattle Processing Office. No controlled shoreline or topography is available in Seattle for this area. It is requested that shoreline be taken from photogrammetric compilations if they are available, and added to this sheet.

Shoreline applied from unverified revised surveys T-9743, T-9745 and T-9746 (1951)

F: CONTROL STATIONS

All triangulation was accomplished by R. W. Woodworth on the Point Barrow Datum in 1945.

Signals used for hydrography on this survey were located from triangulation stations by theodolite and sextant cuts in September, 1950.

Hydrographic signal DAVE on Martin Island has a weak location; two sextant cuts with a 45 degree intersection were taken on 13 September. Additional cuts were never obtained as the field season, due to exceptionally bad weather, closed on that date. (See page 2 of 1951 report)

G: SHORELINE AND TOPOGRAPHY

Field inspection of photographs of this area will be made during the 1951 field season.

The low water line was not defined by soundings as the high and low water lines are practically identical due to the small range in tide. An attempt was made to define the six foot curve, but this was not successful in many areas since shoals and rough seas prevented the launch from getting close to the shore.

H: SOUNDINGS

All hydrography was accomplished with an 808 type depth recorder, No. 104S, operating on the foot scale. An outboard fish installation with the fish set at a depth of 2.1 feet was used. The fathometer initial was set and maintained at 1 foot on the fathogram. Daily bar-checks were obtained and the data recorded. The bar check residual obtained from the recorded bar-check data was combined algebraically with the velocity corrections to simplify the entry of reducers. Refer to special report, "Velocity Corrections, West Unit, 1950". The fathometer was equipped with a salt water reed, and all time was *controlled with the fathogram.

*Positions, position marking, and clock time coincide with printed time arcs)

I: CONTROL OF HYDROGRAPHY

All sounding lines were controlled by sextant fixes on objects located ashore. No unusual methods were employed.

J: ADEQUACY OF SURVEY

This survey is not complete. The two days work on this sheet were accomplished in September after the West Unit was moved from Point Lay to Point Barrow. The sheet will be completed during the 1951 season. (done)

K: CROSSLINES

No crosslines were run in this area.

L: COMPARISON WITH PRIOR SURVEYS.

Hydrography accomplished during the 1950 season joins satisfactorily with prior surveys at the junction points. The final comparison must be

delayed until the sheet is finished.

M: COMPARISON WITH CHART 9495

This chart, publication date 1 May 1950, was compiled from the 1945 survey submitted by the Arctic Field Party. The 1950 survey is in agreement with the data shown on the latter chart.

N: DANGERS AND SHOALS

No new dangers or shoals were found outside the six foot curve. The passes in this area were adequately developed in 1945 and there is little or no evidence of change in them. It is believed that the shoals inshore from the six foot curve on the ocean side of the Plover Islands need not be developed further since all traffic stays well offshore in this area.

O: COAST PILOT INFORMATION

Coast Pilot information in this area was covered by a report in 1945. No additions will be made at this time; however, when a more complete survey is made of this area during the 1951 season, a detailed report will be submitted.

P: AIDS TO NAVIGATION

No new permanent aids to navigation were established in this area in 1950. Previously charted aids are in fair condition.

Q: LANDMARKS FOR CHARTS

No additions were made in 1950.

R: GEOGRAPHIC NAMES

No new geographic names are recommended for this area.

Z: TABULATION OF APPLICABLE DATA

(a) Attached hereto:

1. Tabulation of statistics
2. Tidal Note
3. Velocity Correction Abstract
4. List of Signals
5. List of Geographic Names
6. Approval Sheet

(b) Special Reports submitted under separate cover:

1. Geographic Names (1945)
2. Coast Pilot Notes
3. Temperature and Salinity Observations (1950) Filed with fgms
4. Landmarks for Charts (1945)

Respectfully submitted,

Horace G. Conerly
Lieut.Comdr. USC&G Survey

Approved and forwarded.

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

APPROVAL SHEET
SHEET H-7859

This survey was started early in September in the hope that it could be completed. Practically continuous bad weather prohibited its completion, however, the inshore hydrography, which was completed this year, will eliminate the need for a camp in Elson Lagoon in 1951.

The sheet and records have been examined and are approved. Additional work is recommended in this area in 1951.

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

ADDENDUM TO

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SURVEY H-7859 (FIELD NO. ARW-4250)

TAPKALUK ISLAND TO SANIGARUAK ISLAND

ARCTIC COAST OF ALASKA

PROJECT CS-320

1951

SCALE 1:40,000

Max G. Ricketts - - - - - - - - - - - - - - - - Chief, Arctic Field Party
M. A. Hecht - - - - - - - - - - - - - - - - -Officer in Charge, West Unit
E. W. Richards and G. D. Scott- - - - - - Officers in Charge, Field Work

A. PROJECT

Authority for this survey is contained in the Supplemental Instructions dated 8 March 1950 and 4 February 1951.

B. SURVEY LIMITS AND DATES

For survey limits see original descriptive report.

The additional hydrography was accomplished between 27 July and 16 August 1951.

C. VESSELS AND EQUIPMENT

Two 35-foot converted Navy re-arming boats equipped with 808J fathometers, Nos. 104S and S106, were used for this survey. The base of operation was located on a spit just north of the Arctic Contractors' camp at Point Barrow, Alaska

The average turning radius is 4 meters (at sounding speed.)

D. TIDE AND CURRENT STATIONS

A portable automatic tide gage was operated in Elson Lagoon just north of a dredged channel between the Arctic Ocean and Elson Lagoon (Latitude 71° 21.3'N and Longitude 156° 32.8'W). No time or range corrections were applied to the tidal data in reducing the soundings. An attempt was made to establish a gage on the ocean side of the spit but heavy seas carried the support structure away.

F. CONTROL STATIONS

Seven additional hydrographic signals were located by sextant and theodolite cuts in 1951.

Signal DAVE was relocated by additional sextant and theodolite cuts that moved the signal 35 meters NW from the 1950 position.

It is suggested that the verifier check the 1950 hydrography for a possible shift when the fix involves Signal DAVE. (Done)

H. SOUNDINGS

The 820 fm/sec reed was used on this sheet in accordance with the Director's letter of 21 June 1951. See "Velocity Corrections, West Unit, 1951".

I. CONTROL OF HYDROGRAPHY

All sounding lines were controlled by sextant fixes on objects located ashore.

The control on the DR loop on "c" day (blue), positions 2c through position 63c, is not satisfactory. Several methods of adjustment were attempted on this loop. The final adjustment was to hold positions 51c through 63c and plot back on time and course to position 11c which is the last visual fix on the take-off line. The error of closure between the back plot position 11c and the fixual fix position 11c was 0.1 mile to NW. This error was adjusted between positions 11c and 31c.

The DR loop on "h" day (red), positions 1h through 50h, was adjusted in the same manner. This loop was transferred directly from the boat sheet.

J. ADEQUACY OF SURVEY

The survey is complete and adequate for the area.

The junction with H-7920 (1951) (scale 1:40,000) on the east is satisfactory and no holidays exist.

The junction with sheets H-7070 (1945) and H-7071 (1945) and H-7072 (1949) (scale 1:20,000) on the southern side of the survey is satisfactory.

K. CROSSLINES

The percentage of crosslines run approximately 25%. In general, discrepancies there are no crossings of more than 1 foot, which is considered adequate for this area. see Review Par. 3

There are several 2-foot crossings on the DR loops in depths of over 25 feet. These loops have weak control and any shift in the lines to correct these crossings cause worse crossings in other area.

In Latitude 71° 20.6'N and Longitude 156° 04.5'W, there is a 2-foot

crossing involving "c" day (blue) which was re-scanned and found correct. It is suggested that the 1950 records in the Washington Office be checked for a possible error on "B" day (red). There is another 2-foot crossing at Latitude 71° 16.2'N and Longitude 155° 40.5'W where both fathograms involved were re-scanned and found correct. This discrepancy might be the result of ice gouging.

L. COMPARISON WITH PRIOR SURVEY

See Section M of this report.

M. COMPARISON WITH CHARTS 9445 and 9495

The survey was compared with Chart 9445 at the western end of the sheet and Chart 9495 along the southern side of the sheet.

The second edition of Chart 9445, publication date March 3, 1950, was used for comparison. Since Chart 9445 and Survey H-7859 are the same scale a tracing of all soundings and depth curves shown on 9445 was made and used for the comparison.

The results of the comparison are as follows:

1. The 36-foot curve is badly out of position from Longitude 156° 13'W to 156° 09'W. A depth of 40 feet was found inside the 36-foot curve on 9445 at Latitude 71° 23'N and Longitude 156° 10'W. A vertical cast on position 1c (blue) Latitude 71° 24'N and Longitude 156° 09'W showed that the fathometers were operating properly in 1951. — See Review Par. 4

2. The 30-foot curve agrees fairly well, but shows evidence of the area deepening rather than shoaling as reported by the Navy BAREX expedition in 1950.

3. The 24-foot curve as pencilled on the smooth sheet agrees with the soundings shown on Chart 9445.

4. It is hard to make any comparison for the 18-foot curve as there are so few soundings on the 1951 smooth sheet in this depth. This area was surveyed on Sheet H-7071 in 1945 (See Section J of this report). It is recommended that Chart 9445 be corrected to agree with this survey. The 1945 field work in this area is questionable as the fathometers were out of adjustment. It is suggested that the 1945 report on Velocity Corrections be used to confirm this.

The first edition of Chart 9495, publication date June 9, 1946, was used for comparison. The scale of this chart is 1:125,000. Comparison was made by scaling the geographic positions of approximately 20% of the soundings shown on the chart and plotting them on the smooth sheet.

All soundings plotted agreed with the smooth sheet soundings. However, if any discrepancies are discovered by the verifer, it is recommended that the 1951 work be used.

O. COAST PILOT INFORMATION

See special Coast Pilot Report submitted under separate cover.

Z. TABULATION OF APPLICABLE DATA

(a) Attached hereto:

1. Tabulation of statistics.
2. Tidal Note.
3. Velocity Correction Abstract.
4. Approval Sheet.

(b) Special Reports submitted under separate cover:

1. Geographic Names (1951)
2. Coast Pilot (1951)
3. Velocity Report, West Unit, 1951. Filed with H-7919

Respectfully submitted,

G. D. Scott
G. D. Scott
Lieutenant (j.g.), USC&GS

Approved and Forwarded.

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

APPROVAL SHEET

REG. NO. H-7859

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

In case of any discrepancy between the 1945 and 1951 field work, it is recommended that the 1951 work be charted. See Paragraph M, sub-paragraph 4 of this report.

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

LIST OF SIGNALS FOR SHEET H-7859
(Field No. ARW-4250)

SIGNAL	YEAR	METHOD OF LOCATION
NUNUK	1945	2nd Order Triangulation
ELSON	1945	2nd Order Triangulation
ROSS	1945	2nd Order Triangulation
GOON	1945	2nd Order Triangulation
End	1950	Theodolite Cuts
Dead	1950	" "
Man	1950	" "
Pad	1950	" "
Gone	1950	" "
Coo	1945	" "
Op	1945	" "
Per	1945	" "
Bert	1945	" "
Trip	1950	Sextant Cuts
Black	1950	Sextant Cuts
Dave	1950	Sextant Cuts

SUPPLEMENTAL GEOGRAPHIC NAMES

SURVEY H-7859 (ARW-4250)

Submitted 1950:

POINT BARROW

ELSON LAGOON

EKILUKRUAK ENTRANCE

COOPER ISLAND

Supplemental List:

ELUITKAK PASS

DOCTOR ISLAND

DEADMANS ISLAND

TAPKALUK ISLAND

MARTIN ISLAND

SANIGARUAK PASS

SANIGARUAK ISLAND

PLOVER ISLANDS

COMBINATION VELOCITY AND FATHOMETER CORRECTIONS

FATHOMETER 104S

MONTH 1950	LAUNCH NUMBER	APPLICABLE DEPTH	VELOCITY CORR. FT.	FATHOMETER CORR. FT.	TOTAL CORR.FT.	TOTAL B CORR.FT.
9/12 & 9/13 Incl.	1	0 to 5	0.0	0.8	0.8	
		10.5	-0.2	0.8	0.6	
		16	-0.4	0.8	0.4	
		22.5	-0.6	0.8	0.2	
		28.5	-0.8	0.8	0.0	
		34	-1.0	0.8	-0.2	
		40	-1.2	0.8	-0.4	
		46	-1.4	0.8	-0.6	
		51.5	-1.6	0.8	-0.8	
		57	-1.8	0.8	-1.0	

COMBINATION VELOCITY AND FATHOMETER CORRECTION

IN FEET

ARCTIC FIELD PARTY

POINT BARROW, ALASKA

1951

Fathometer 1048 (Launch No. 1)

Sheet	Day Ltr.	Date 1951	Applicable Depth	Vel. Corr.	Bar Corr.	A-B Scale Corr.	B-C Scale Corr.	Total Corr.
ARW-4250	c**	7/27	0-18	0.0	0.0	-	-	0.0
			18-52	-0.5	0.0	-	-	-0.5
	d	8/1	0-18	0.0	0.1	-	-	0.0
			18-52	-0.5	0.1	-	-	-0.5
	e	8/3	0-18	0.0	0.0	-	-	0.0
			18-52	-0.5	0.0	-	-	-0.5
	f	8/6	0-14	0.0	—	-	-	0.0
			14-35	-0.5	—	-	-	-0.5
			35-54	-1.0	—	-	-	-1.0
	g	8/7	0-14	0.0	-0.2	-	-	0.0
			14-35	-0.5	-0.2	-	-	-0.5
			35-54	-1.0	-0.2	-	-	-1.0
	h	8/8	0-14	0.0	-0.2	-	-	0.0
			14-35	-0.5	-0.2	-	-	-0.5
								A B
			35-54	-1.0	-0.2	-0.5	-	-1.0 -1.5
			54-70	-1.5	-0.2	-0.5	-	-2.0
	j	8/9	0-14	0.0	0.0	-	-	0.0
			14-35	-0.5	0.0	-	-	-0.5
			35-54	-1.0	0.0	-	-	-1.0
	k	8/10	0-14	0.0	0.0	-	-	0.0
			14-35	-0.5	0.0	-	-	-0.5
			35-54	-1.0	0.0	-	-	-1.0
	l	8/11	0-14	0.0	-0.1	-	-	0.0
			14-35	-0.5	0.0	-	-	-0.5
			35-54	-1.0	-0.1	-	-	-1.0
	m	8/16	0-14	0.0	—	-	-	0.0
			14-35	-0.5	—	-	-	-0.5
			35-54	-1.0	—	-	-	-1.0

* Initial set at 1.0 ft. this day only: all others at 2.0 ft.
**a and b days processed in 1950

COMBINATION VELOCITY AND FATHOMETER CORRECTIONS

IN FEET

ARCTIC FIELD PARTY

POINT BARROW, ALASKA

1951

Fathometer S106 (Launch 2)

Sheet No.	Day Ltr.	Date 1951	Applicable Depth	Vel. Corr.	Bar Corr.	A-B Scale Corr.	B-C Scale Corr.	Total* Corr.
ARW-4250	a	7/28	0-18	0.0	(-0.1)	-	-	0.0
			18-52	-0.5	(-0.1)	-	-	-0.5
	b	7/30	0-18	0.0	-0.3	-	-	-0.5
			18-52	-0.5	-0.3	-	-	-1.0
	c	7/31	0-18	0.0	-0.1	-	-	0.0
								A B
			18-52	-0.5	-0.1	-0.5	-	-0.5 -1.0
								B C
			52-84	-1.0	-0.1		-1.0	-1.5 -2.5
			84-112	-1.5	-0.1			-3.0
							(C-D Scale)	C D
			112-140	-2.0	-0.1		-2.0	-3.5 -5.5
			140-160	-2.5	-0.1			-6.0
	d	8/6	0-14	0.0	-0.1	-	-	0.0
			14-35	-0.5	-0.1	-	-	-0.5
			35-54	-1.0	-0.1	-	-	-1.0
	e	8/8	0-14	0.0	-0.2	-	-	0.0
			14-35	-0.5	-0.2	-	-	-0.5
			35-54	-1.0	-0.2	-	-	-1.0
	f	8/9	0-14	0.0	-0.8	-	-	-1.0
			14-35	-0.5	-0.8	-	-	-1.5
								A B
			35-54	-1.0	-0.8	1.0		-2.0 -1.0
	g	8/10	0-14	0.0	-0.1	-	-	0.0
			14-35	-0.5	-0.1	-	-	-0.5
			35-54	-1.0	-0.1	-	-	-1.0
	h	8/11	0-14	0.0	-0.6	-	-	-0.5
			14-35	-0.5	-0.6	-	-	-1.0
			35-54	-1.0	-0.6	-	-	-1.5

* Total Correction has been rounded off to the closest half foot.

** No bar check on this day, values for previous day used.

TIDE NOTE
SHEET NO. H-7859
(Field No. ARW-4250)

STATION LOCATION

Point Barrow Tide Gage, Point Barrow Base Camp, at Latitude 71° 21.7′ North and Longitude 156° 32.6′ West.

PLANE OF REFERENCE

Mean lower low water which is 1.8 feet above zero on the tide staff of this station.

TIDE NOTE
(1951)

STATION LOCATION

Point Barrow Tide Gage, Point Barrow sub-camp at Latitude 71° 21.34'N and Longitude 156° 32.75'W.

On "m" day (red) only. Pitt Point Tide Gage, Pitt Point base camp at Latitude 70° 55'N and Longitude 153° 05'W.

PLANE OF REFERENCE

Mean lower low water on Barrow gage is 2.5 feet above zero on tide staff of this station.

Mean lower low water on Pitt gage is 4.8 feet above zero on the tide staff of this station.

STATISTICS FOR HYDROGRAPHIC SURVEY
H-7859 - (FIELD NO. ARW - 4250)

Launch No.	Date 1950	Vol. No.	Day Ltr.	No. Pos.	Stat.Mi. Sounding	Hand Lead
1	Sept.12	1	A(red)	155	48.5	4
1	13	1	B	140	58.5	0
		TOTALS:		295	107.0	4

Square Statute Miles of Soundings: 15.8

STATISTICS FOR HYDROGRAPHIC SURVEY

H-7859 1950-1951

ARCTIC FIELD PARTY

PROJECT CS-320

Launch No.	Date 1951	Vol. No.	Day Ltr.	No. of Positions	Statute Miles, Sdg.	Hand Lead
1	July 27	3	c	83	35.7	1
1	Aug. 1	3	d	59	24.2	2
1	3	3	e	110	46.0	1
1	6	3	f	40	20.9	0
1	7	3	g	49	27.6	0
1	8	5	h	68	35.9	1
1	9	5	j	75	43.7	1
1	10	5	k	75	38.0	0
1	11	5	l	78	41.4	0
1	16	5&6	m	62	28.8	0
TOTALS	Launch No. 1			699	342.2	5
2	July 28	2	a	14	5.8	0
2	30	2	b	56	23.0	0
2	31	2	c	63	28.8	0
2	Aug. 6	2	d	57	27.0	2
2	8	2	e	76	35.9	1
2	9	2&4	f	119	51.3	0
2	10	4	g	65	29.6	0
2	11	4	h	88	41.1	0
TOTALS	Launch No. 2			538	243.5	3

STATISTICS FOR HYDROGRAPHIC SURVEY

H-7859 1950-1951

ARCTIC FIELD PARTY

PROJECT CS-320

TOTALS FOR SURVEY

Number of Positions:

1950.	295
1951.	1237
	1532

Statute Miles of Sounding Line:

1950.	107.0
1951.	585.7
	692.7

Hand Lead Soundings :

1950.	4
1951.	8
	12

Square Statute Miles of Soundings:

1950.	15.8
1951.	105.6
	121.4

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 1
volumes of sounding records for

HYDROGRAPHIC SHEET 7859

Locality West Arctic Coast, Alaska

Chief of Party: R. A. Earle in 1950
Plane of reference is mean lower low water, reading
1.8 ft. on tide staff at Point Barrow (Elson Lagoon)
13.8 ft. below B. M. 1 (1945)

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

Condition of records satisfactory except as noted below:

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

U. S. GOVERNMENT PRINTING OFFICE 756675

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

[illegible] 14 December 1951

Division of Charts: R. H. Carstens

Plane of reference approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 7859

Locality Arctic Coast, Alaska

Chief of Party: M.G. Ricketts in 1951
Plane of reference is mean lower low water, reading
2.5 ft. on tide staff at Point Barrow (Elson Lagoon)
6.8 ft. below B. M. 2 (1950)

Height of mean high water above plane of reference is 0.5 foot.

Condition of records satisfactory except as noted below:

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

U. S. GOVERNMENT PRINTING OFFICE 766675

GEOGRAPHIC NAMES

Survey No. H-7859

Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K	
Alaska			(for title)							1
Arctic Coast			(" ")							2
										3
Point Barrow				(location of tide gage)					USGB	4
Elson Lagoon									"	5
Tapkaluk Island										6
Ekilukruak Entrance										7
Cooper Island										8
Sanigaruak Island										9
Sanigaruak Pass										10
Martin Island									USGB	11
Plover Islands		(title)								12
										13
				Names underlined in red are approved						14
				3-8-51 L. Heck						15
				10-30-52: 3 additional names						16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7859 (1950)

Records accompanying survey:

Boat sheets 1; sounding vols. 1; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 2 env;

special reports, etc. 1 Smooth Sheet

.....

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

Number of positions on sheet		.....
Number of positions checked		.....
Number of positions revised		.....
Number of soundings revised (refers to depth only)		.....
Number of soundings erroneously spaced		.....
Number of signals erroneously plotted or transferred		.....
Topographic details	Time	.....
Junctions	Time	.....
Verification of soundings from graphic record	Time	.....

Verification by.....Total time ..... Date .....

Reviewed by..... Time ..... Date .....

SEE VER. REPORT (1951) IN FRONT OF REPORT T.J.

M-2232-1

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7859...(1951)

Records accompanying survey:

Boat sheets ...1...; sounding vols. ..5...; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 12 Env.;

special reports, etc. 1 Smooth Sheet; 1 Descriptive Report.....

.....

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

Number of positions on sheet		1532
Number of positions checked		20
Number of positions revised		NONE
Number of soundings revised (refers to depth only)		NONE
Number of soundings erroneously spaced		NONE
Number of signals erroneously plotted or transferred		NONE
Topographic details	Time	1
Junctions	Time	32
Verification of soundings from graphic record	Time	70 — ? G.F.J.

Verification by T. L. JANSON.....Total time 103.. Date 9/22/52

Reviewed by....G. F. Jordan..... Time ..35.. Date 10/29/52
(including shoreline revision of soundings and curves)

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7859 FIELD NO. ARW-4250

Alaska, North Arctic Coast, Plover Islands

Project No. CS-320

Surveyed during Sept. 1950 and July-August 1951 Scale 1:40,000

Soundings: Control:

808-J Fathometers Visual fixes on shore signals

Chief of Party - R. A. Earle and M. G. Ricketts
Surveyed by - H. G. Conerly, E. W. Richards and G. D. Scott
Protracted by - G. D. Scott
Soundings plotted by - G. D. Scott
Verified and inked by - T. L. Janson
Reviewed by - G. F. Jordan, 29 October 1952
Inspected by - R. H. Carstens

1. Shoreline and Control

The shoreline is from advance prints of unreviewed air-photographic surveys T-9743, T-9745, and T-9746.

Topographic control stations established by theodolite cuts in 1950 were supplemented by hydrographic stations established on the 1951 survey.

2. Bottom Configuration and Depth Curves

The depth curves are completely delineated except for the low-water line and the 6-ft. curve. The Descriptive Report of the 1950 work states that the low-water line is practically identical to the high-water line, and that development of the 6-ft. curve close inshore was prevented by rough seas.

The bottom configuration in this 4-mile wide area along the coast is, in general, smooth in depths greater than 24 feet. A few ridges rising 3 to 4 feet above the bottom were found in 24-to 30-ft. depths. The bottom inshore from 24-ft. depths is irregular except in the approaches to Ekilukruak Entrance.

Crossing Depths

3. Differences in depths at sounding line crossings are in general no more than 1 foot. There are some 2-ft. differences in depths greater than 30 ft., as mentioned in the Descriptive Report. These differences probably accumulate from several factors, such as scanning in whole units, inadequate scanning of the fathograms (see Par. 7a), and instrumental irregularities. It was not considered necessary to attempt to resolve these differences. The depth curves were smoothed considerably, however, in revision of conflicting soundings during the review.

4. Junctions

Adequate junctions were effected with H-7071 (1945) and H-7072 (1945) on the south, and with H-7070 (1945) and H-7919 (1951) on the west. H-7920 (1951) on the east has not been received in the office. There are no adjoining surveys at present in the unsurveyed area on the north.

In reference to the junction with H-7070 (1945), it should be noted that discrepancies in overlapping soundings have been resolved by correcting soundings on that survey. The corrections are described in an addendum to the review of H-7070. The corrections also resolve the discrepancies noted in Par. M. of the 1951 report of the present survey.

5. Comparison with Prior Surveys

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

6. Comparison with Chart 9445 (Print of 52-8/11)
Chart 9495 (Print of 52-4/28)

A. Hydrography

The charted hydrography is from the present survey before verification except in the overlap with H-7070 (1945). As noted in par. 4 above, soundings on H-7070 have been revised. These revisions affect soundings and curves charted now from that survey.

B. Aids to Navigation

There are no charted aids to navigation in the area of the present survey. The survey did not reveal any dangers which might require marking.

7. Condition of the Survey

a. The Descriptive Reports of the 1950 and 1951 work are complete and comprehensive.

b. The sounding records apparently do not reflect a complete accurate record of soundings. In checking questionable soundings and curve delineations it was found that some of the fathograms on the 1951 work were improperly scanned. Soundings were scaled exactly at the time mark without consideration for the fathogram profile either side of the mark. Such a practice does not give proper consideration to bottom irregularities or to rough seas.

c. The survey was accurately and neatly smooth-plotted.

8. Compliance with Project Instructions

The survey complies with the project instructions except in regard to obtaining bottom characteristics. Paragraph 28 of the instructions states that the character of the bottom shall be determined at frequent intervals. The coverage averages one characteristic per ten square miles (35 sq. in. on the smooth sheet). It is acknowledged, however, that the characteristics are homogeneous.

9. Additional Field Work

This is a basic survey and no additional field work is necessary.

Examined and approved:

H. R. Edmonston
Chief, Nautical Chart Branch

H. Arnold Karo
Chief, Division of Charts

L. S. Hubbard
Chief, Section of Hydrography

Earl O. Heaton
Chief, Division of Coastal Surveys

NAUTICAL CHARTS BRANCH

SURVEY NO. H-7859

Record of Application to Charts

Note See back of cover of this D.R.

DATE	CHART	CARTOGRAPHER	REMARKS
3/26/51	9495	Richardson	Before ~~After~~ Verification and Review Partially
2/21/51	9445	[illegible]	Before ~~After~~ Verification and Review To buff in files. transferred to C.P.
3 Jan 52	9400		~~Before After Verification and Review~~
	9402		
	9403	Ernest H Bell	Before ~~After~~ Verification and Review 1951 work
	9495		✓
	9445		~~Before After Verification and Review~~
6/3/54	9465	R.D. Goodrich	~~Before~~ After Verification and Review
Apr '55	9403	H. MacEwen	~~Before~~ After Verification and Review Thru Chart 9465
10-11-55	9495	R.K. [illegible]	~~Before~~ After Verification and Review No reconstr. thru Chart 9465
			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.

H-7859 (1950) Applied to buff. drawing of Chart

9445 (1:40,000) 2/21/51 L.S.S.
9495 (1:25,000) 3/26/51 J.F.R. applied to CP
BEFORE verification & review