

~~CONFIDENTIAL~~
7665

~~RESTRICTED~~

Diag. Cht. No. 9400

Form 504

17

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. AR-4348-W Office No. H-7665

LOCALITY

State ALASKA

General locality ARCTIC COAST

Locality AKOLIAKATAT PASS TO ICY CAPE

1948-49-50

CHIEF OF PARTY

H.A. Paton and R.A. Earle

LIBRARY & ARCHIVES

DATE Jan 5-48 - Feb 2-50 - Feb 1-51

B-1870-1 (1)

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

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

7665

DEC 14 1948

Form 537
(Ed. June 1948)

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. 7665

1948 work

Field No. AB-4348-W

State Alaska

General locality Arctic Coast

Locality Akoliakatat Pass to Icy Cape

Scale 1: 40,000 Date of survey August 1948

Instructions dated 4 February 1948

Vessel Launch No. 2, Arctic Shore Party

Chief of party Hubert A. Paton

Surveyed by Karl B. Jeffers

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

Fathograms scaled by Charles Kuranko

Fathograms checked by Karl B. Jeffers

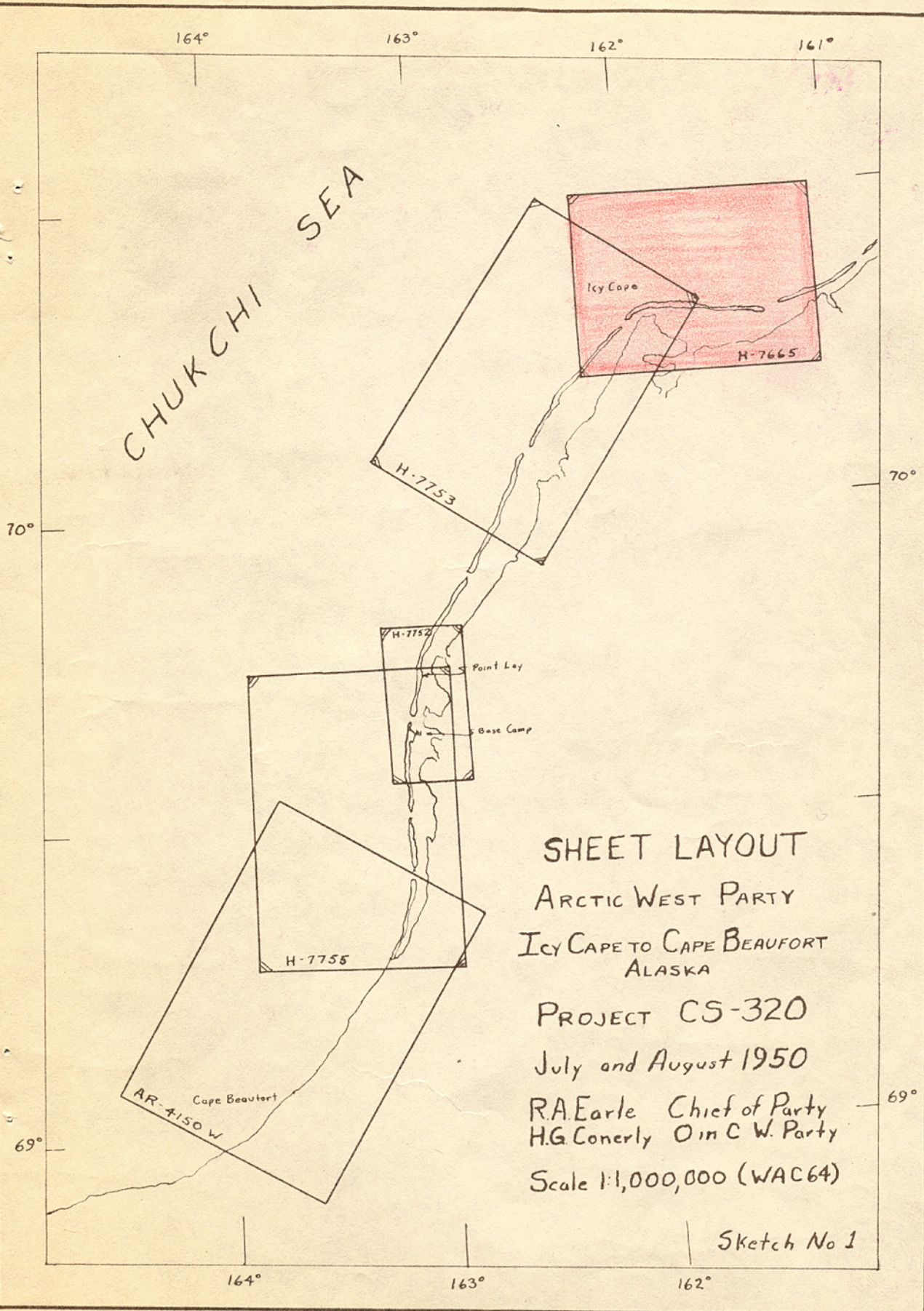
Protracted by L.W. Eason II

Soundings penciled by L.W. Eason II

Soundings in ~~XXXXXX~~ feet at ~~MLLW~~ MLLW

REMARKS: Survey incomplete.

CHUKCHI SEA



SHEET LAYOUT
ARCTIC WEST PARTY
ICY CAPE TO CAPE BEAUFORT
ALASKA

PROJECT CS-320

July and August 1950

R.A. Earle Chief of Party
H.G. Conerly O in C.W. Party

Scale 1:1,000,000 (WAC64)

Sketch No 1

H-7665

AR 4348 W

ARCTIC COAST OF ALASKA

AKOLIAKATAT PASS TO ICY CAPE

PROCESSING OFFICE NOTES

Smooth Sheet

The projection is hand made on Whatman paper. No acceptable shoreline is available and none has been shown on the sheet. *Shoreline applied to smooth sheet in Wash. Office from manuscripts of air-photo compilations 7-9362-63 of 1949.*
Datum

U. S. Coast and Geodetic Survey Astronomic Point Barrow, 1945.

Signals

The hydrographic signals were plotted on the 1:20,000 sheets, then transferred to H-7665.

Boat Sheet

This is an incomplete survey. The boat sheet has been returned to the field party for additional work. Prior thereto it was examined. No unrecorded hydrographic information was found thereon. *Survey completed in 1949 & 1950*

Akoliakatat Pass

This entrance was developed on H-7662 (AR 2348 W), which is on scale of 1:20,000. However, there should be another line or two run to clarify the relation of the three 8-foot soundings at Latitude $70^{\circ} 18.1'$, Longitude $161^{\circ} 20.9'$, with the 6,7, and 8 foot soundings a quarter of a mile to east southeastward.

add. sdg. lines were run in this area in 1949

H-7662 and H-7665 were examined under the projector.
(1948) (1948-49-50)

Respectfully submitted,

Edgar E. Smith
Edgar E. Smith,
Cartographic Engineer,
Seattle Processing Office.

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SHEET NO. AR-4348-W
AKOLIAKATAT PASS TO ICY CAPE
ARCTIC COAST OF ALASKA

AUGUST 1948

SCALE 1: 40,000

HUBERT A. PATON, CHIEF OF PARTY

A: PROJECT This sheet is part of Project CS-320, basic surveys along the Arctic Coast of Alaska and was done under authority contained in Supplemental Instructions dated 4 February 1948.

B: SURVEY LIMITS AND DATES This survey covers a strip about two miles wide along the seaward side of the sand bar from Akoliakatat Pass to Icy Cape, and includes one dead-reckoning line off the pass to a point about ten miles offshore. Hydrography was begun on 4 August and was discontinued on 10 August. Work was begun on the lagoon sheets at that time because of unfavorable weather conditions on the outside coast. A junction was made at the pass with Sheet No. AR-2348-W.
H-7662 (1948)

C: VESSEL AND EQUIPMENT. A thirty-foot motor sailer which was leased from Mr. Dave Brower was used for the field work. The party operated from the base camp at Nevat Point in Kasegaluk Lagoon. Under the terms of the lease contract a new gasoline engine was installed on the launch before the field season began. A maximum speed of approximately six and one-half knots was attained.

Soundings were taken with 808 type recorders numbers S 106 and S 109 using an outboard fish.

D: TIDE AND CURRENT STATIONS A tide station was established in the lagoon at the Nevat Point base camp. The portable automatic tide gage could not be placed in operation until the first of September when repair parts were received. The range of the tide is so small that the standard type of float will not surface, and a much larger and heavier float is necessary to produce a true trace of the tide curve. It was also found that a small wooden float secured to the outside of the well where it would jar the support was helpful in producing a true curve.

The tidal wave is frequently obliterated by wind action which has a much greater effect on the water level than does the tide. Previous reports that a north-east wind produces extremely low tides, and south-west winds produce high tides was verified in this area. It is possible that barometric pressure may also have some effect. It is recommended that a barograph be operated in conjunction with the tide gage next year. It was found that the two extremes of water level produced by wind action may differ by as much as five feet.

No current stations were occupied in this area. Distances run between fixes indicate a general set of about one-half a knot to the eastward along this coast.

E: SMOOTH SHEET The smooth sheet ^{was} ~~will~~ be constructed and plotted by personnel at the Seattle Processing Office.

F: CONTROL STATIONS Control is based on the second order arc of triangulation along the coast which was executed by this party in 1948. The field computations are based on the 1945 Barrow Datum. Hydrographic signals were located by theodolite cuts at triangulation stations. Some of the positions have been computed, others are to be plotted from the lists of directions. Preliminary positions of some signals were determined by sextant fixes.

G: SHORELINE AND TOPOGRAPHY No plane table work was done by this party. Field notes were recorded to assist in the identification of control on air-photos of the area. No photographs were available for field inspection. The shoreline and topography will be compiled from photographs at a later date. *Compiled on air-photographic surveys T-9362-63 of 1949.*

The range of the tide was too small to permit the location of the low water line by hydrographic methods.

H: SOUNDINGS Soundings were recorded in feet by means of an 808 type recording fathometer.

I: CONTROL OF HYDROGRAPHY All sounding lines were controlled by sextant fixes on objects ashore. No unusual or sub-standard methods were employed.

J: ADEQUACY OF SURVEY The survey is not complete. More development off the entrance to Akoliakatat Pass and in the vicinity of Icy Cape is required. The work is to be carried offshore to the ten-fathom curve which is approximately six miles offshore in this area. It will be necessary to build tall signals for this work and it is very probable that it will be necessary to supplement these with buoys in the Blossom Shoal area unless Shore Equipment is available next season.

See Des. Rpt. for 1949 work.

The season was closed before work could be resumed on this sheet. Adverse weather conditions resulted in the loss of about fifty percent of the time when ice conditions ~~permitted~~ ^{prevented} boat work.

K: CROSSLINES The few crossings obtained are satisfactory. Other crosslines are required to complete the area. *See TP 2 of Review*

L: COMPARISON WITH PREVIOUS SURVEYS. There were no previous surveys in the area.

M: COMPARISON WITH CHART NO. 9400. The scale of the chart is too small to warrant detailed comparison, however, the general configuration is similar and no noteworthy changes are indicated.

N: DANGERS AND SHOALS. No new dangers or shoals were discovered. There is a 13 foot sounding about one mile northwest of Icy Cape which will require further investigation. *This shoal sounding was developed during 1949 field season*

O: COAST PILOT INFORMATION. See special report on Coast Pilot notes.

P: AIDS TO NAVIGATION. There are no floating aids to navigation in the area. There is a Radar Screen at Icy Cape which is listed on the report of Landmarks for Charts.

R: GEOGRAPHIC NAMES: There are no new names of geographic features in the area. See Special Report on Geographic Names. *NOT YET RECEIVED 11/6/49 L.H.*

Z: TABULATION OF APPLICABLE DATA

- (a) Attached hereto
 - 1 Tabulation of Statistics
 - 2 Tide Note
 - 3 Velocity correction abstract
- (b) Special reports submitted under separate cover.
 - 1 Geographic Names
 - 2 Coast Pilot Notes
 - 3 Temperature and Salinity Observations
 - 4 Landmarks for Charts

Respectfully submitted

Karl B. Jeffers

Karl B. Jeffers
Lt. Comdr., C. & G. Survey

APPROVAL SHEET

1948

The organization of the party did not permit frequent examination of the records or close supervision of the field work as it was in progress. The sheet and records were examined late in August and again at the close of the season and are approved. The remarks as to the completeness of the survey set forth in the attached report are approved.

The smooth sheet is being plotted at the Seattle Processing Office.

Hubert A. Paton
Hubert A. Paton
Comdr., C. & G. Survey
Chief Of Party

7665

STATISTICS - SHEET NO. AR-4348-W
Akoliaktat Pass to Icy Cape
Arctic Coast of Alaska

1948

Date	Day	Vol.	Positions	Sta. Mi. Line	H. L. Sdgs.
8-4-48	a	1	98	42.8	2
8-6-48	b	1	35	19.9	1
8-7-48	c	1	96	40.8	1
8-9-48	d	2	100	52.0	
8-10-48	e	2	51	24.6	1

Totals		2	380	180.1	5
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Area: 45.9 square statute miles.

7665

LIST OF SIGNALS FOR AR-4348-W

1948

Name used in survey	Source
Any	ALBANY 1948
Box	BERLIN 1948
Cad	Theodolite cuts 1948
Day	" " "
Der	Radar Screen, Icy Cape 1948
Den	DENVER 1948
Duke	DUKE 1948
Est	Theodolite cuts 1948
Fan	" " "
Gag	" " "
Icy	ICY CAPE 1948
Jena	JENA 1948
Kas	KASAN 1948
Mast	N. W. Radio Mast 1948
Pole	Range Pole, Coast Guard 1948
Sky	Theodolite cuts 1948
Top	" " "
Vex	" " "
Web	" " "
Yak	" " "

Note: Preliminary positions of signals Sky, Top, Vex, Web and Yak were determined by sextant fixes recorded in Vpl. 1 of Sheet AR-3348-W.

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TIDE NOTE

SHEET NO. AR-4348-W

1948

Location of tide station: Lat. 70 15.0, Long. 161 21.8

Plane of reference: Mean Lower Low Water 2.3 ft. on the staff.

The soundings on this sheet were reduced to M. L. L. W. as determined by staff readings and portable automatic tide gage records at Nevat Point in Kasegaluk Lagoon.

TIDE NOTE FOR HYDROGRAPHIC SHEET

10 January 1949

~~Division of Hydrography and Topography:~~

1948 work

Division of Charts: R. H. Carstens

Plane of reference approved in
2 volumes of sounding records for

HYDROGRAPHIC SHEET 7665

Locality - Akoliakatat Pass to Icy Cape, Alaska

Chief of Party: H. A. Paton in 1948

Plane of reference is mean lower low water, reading
2.3 ft. on tide staff at Nevat Point
7.3 ft. below B. M. 1 (1948)

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

Condition of records satisfactory except as noted below:

E. C. McKay
Section

Chief, ~~Division of Tides and Currents.~~

GEOGRAPHIC NAMES

Survey No. H-7665

Name on Survey	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	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
<u>Alaska</u>																1
<u>Arctic Ocean</u>																2
<u>Jhuckchi Sea</u>															USGB	3
<u>Icy Cape</u>															"	4
<u>Akoliakatat Pass</u>																5
<u>Kasegaluk Lagoon</u>																6
<u>Icy Cape Pass</u>																7
<u>Blossom Shoals</u>																8
																9
																10
<u>Nevat Point (Kasegaluk Lagoon)</u>																11
																12
																13
																14
																15
																16
																17
																18
																19
																20
																21
																22
																23
																24
																25
																26
																27

Names underlined in red are approved. 1/6/49 L. Heck
10-25-49 (three additional)

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 7665...

Records accompanying survey:

Boat sheets; sounding vols. 2....; wire drag vols.;
bomb vols.; graphic recorder rolls 2. (encl)
special reports, etc. Fathogram Corr. for Proj. CS-320 (H-7660 to 7665)
.....

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

Number of positions on sheet	.....	
Number of positions checked	.....	These statistics combined with statistics for 1949 work.
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

JAN 24 1950

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-7665

1949 work

Field No. AR-4348-W

State ALASKA

General locality Arctic Coast

Locality Akoliakatat Pass to Icy Cape

Scale 1:40,000 Date of survey Aug. 1948, Aug. & Sep. 1949

Instructions dated 4 February 1948 and 15 February 1949

Vessel Arctic Shore Party

Chief of party Hubert A. Paton and R. A. Earle

Surveyed by Karl B. Jeffers, John R. Plaggmier, and D. M. Whipp

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

Fathograms scaled by Charles Kuranko, Douglas Hilditch, and Harold Hubbard,

Fathograms checked by Karl B. Jeffers, R.E. Westerman, M.M. Harris, and C. Hetherington

Protracted by John R. Plaggmier

Soundings penciled by John R. Plaggmier

Soundings in ~~fathoms~~ feet at MLW MLLW

REMARKS:

SUPPLEMENTARY REPORT TO ACCOMPANY
HYDROGRAPHIC SHEET NO. AR-4348W, H-7665
AKOLIAKATAT PASS TO ICY CAPE
ARCTIC COAST OF ALASKA
AUGUST, 1949
SCALE: 1: 40,000

Robert A. Earle - - Chief of Party
Karl B. Jeffers - - In charge of field work

A: PROJECT This sheet is part of Project CS-320, Basic Surveys along the Arctic Coast of Alaska and was done under authority contained in supplemental instructions dated 4 February, 1948 and 15 February, 1949.

B: SURVEY LIMITS AND DATES Work was begun on this sheet in 1948 and was returned to the field for completion in 1949. Hydrography was resumed on 14 August 1949 and was discontinued on 9 September 1949. Junctions were made at the eastern limits at Akoliakatat Pass with sheets H-^(1948, 49)7664 and H-⁽¹⁹⁴⁸⁾7662; and at Icy Cape with Sheets H-⁽¹⁹⁴⁹⁾7751 and H-⁽¹⁹⁴⁹⁾7753.

C: VESSEL AND EQUIPMENT Thirty-five foot rearming boats were adapted to use as hydrographic launches. They were equipped with 808 type recording fathometers with outboard fish, TCS-14 radio telephones, and a complete outfit of emergency gear for all personnel. The party operated from a temporary camp at Icy Cape and used anchorages at the camp and in the lagoon near Akoliakatat Pass.

D: TIDE AND CURRENT STATIONS A portable automatic tide gage was operated at the Icy Cape tide station just inside the lagoon. An attempt to occupy a current station on Blossom Shoals early in September was abandoned because of bad weather.

E: SMOOTH SHEET Additional work was plotted on the smooth sheet by personnel of the Arctic Field Party.

F: CONTROL STATIONS Additional control was established south of Icy Cape by the Arctic Field Party in 1949, H. A. Paton, Chief of Party. Second order triangulation with supplemental hydrographic signals located by 4th order triangulation was executed in April and May.

J: ADEQUACY OF SURVEY This survey could not be extended offshore as far as it was desired because of very poor visibility and rough seas which prevailed the major part of the season. For this reason additional dead reckoning lines were run to locate the 10 fathom curve. The area covered is complete with the exception that more development should have been done in the area directly north of Icy Cape. Work in the Blossom Shoal area was extended as far as possible with available signals and some dead reckoning was used at the extreme ends of the lines. Soundings on the long dead reckoning lines to the north and northwest of Icy Cape indicate the necessity for additional work next season. There are indications of several more offshore banks in the area. It is recommended that Shoran equipment be furnished the West Party next season for completion of the hydrography. Icy Cape is the most important point on the route from Cape Lisbourne to Point Barrow and complete hydrographic surveys are more essential here than in any other offshore area along this coast. *It is assumed that the additional work has been accomplished during the 1950 field season. Records for this work have not been received in the Wash. Office 10/11/50. (Accomplished in 1950 - 5/9/51)*

Junctions with adjoining surveys are satisfactory and depth curves can be adequately drawn with the exception of the one fathom curve along the beach.

K: CROSS LINES The percentage of cross lines is lower than required by the instructions. All crossings are satisfactory.

L: COMPARISON WITH PRIOR SURVEYS ^(field party) The only previous survey available for comparison in this office is the reconnaissance work done by the Coast Guard Ship NORTHLAND and detailed comparison is not justified.

M: COMPARISON WITH CHART Chart No. 9400 ^{and Artic Coast Charts 6 & 13 (Restricted) are} is the only published charts of this area. The hydrographic information in the vicinity of Icy Cape should be completely revised from this new basic survey.

N: DANGERS AND SHOALS This survey disclosed the existence of a series of shoal banks northwest of Icy Cape with clear channels between them. Further investigation of the 37 foot sounding in Lat. $70^{\circ}26.5'$ Long $161^{\circ}59.20'$ is required. *See # 2729 of Return* {Accomplished 44
in 1950 season

Shoalest soundings on banks in this area are:

$70^{\circ} 23.26'$	$162^{\circ} 07.95'$	26 feet
$70^{\circ} 22.50'$	$161^{\circ} 57.80'$	2022 feet
$70^{\circ} 24.00'$	$161^{\circ} 55.80'$	19 feet
$70^{\circ} 21.2128'$	$161^{\circ} 55.66'$	16 feet
$70^{\circ} 20.7166'$	$161^{\circ} 55.50'$	11 feet

Z: TABULATION OF APPLICABLE DATA

(a) Attached hereto:

1. Tabulation of Statistics
2. Tide Note
3. Velocity of Correction Abstract
4. List of Signals

(b) Special Reports submitted under separate cover:

1. Geographic Names
2. Coast Pilot Notes
3. Temperature & Salinity Observations
4. Landmarks for Charts

Respectfully submitted.

John R. Plaggmier

John R. Plaggmier
Ensign, USC&G Survey

16 December, 1949

APPROVAL SHEET

H-7665

1949

This survey is incomplete as noted in the descriptive report and should be returned to the field in 1950. Inspections of field work were made by the officer in charge of the West Party, based at Point Lay.

1950 work to
be smooth
plotted in
Wash. Off.

Your attention is called to paragraph (J) in which Lt. Comdr. Jeffers recommends that any additional development on Blossom Shoals be done by shoran. In view of the fact that ships will eventually do the offshore hydrography and because shoran would be most expensive for the west Arctic unit for this small amount of work, the writer disagrees with this opinion and feels that it would be more economical to use other methods, including dead reckoning, if necessary, to further develop the 37 ft. shoal, indicated on the offshore line.

Recommendation by C of P noted. See Review Type out for work accomplished during 1950 season - R.A. & Visual

The smooth sheet, records and supplemental descriptive report have been examined and are approved.

R. A. Earle

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

Statistics

1949

for

Hydrographic Survey No. H-7665 (Field No. AR 4348 W)

<u>Date</u>	<u>Day Letter</u>	<u>Vol.</u>	<u>No. Pos.</u>	<u>St. Mi. Sdgs.</u>	<u>H. L. Sdgs.</u>
<u>Launch No. 1.</u>					
8-16-49	a	4	74	33.7	0
9-8-49	b	4	30	15.6	0
9-9-49	c	4 & 5	<u>149</u>	<u>48.5</u>	<u>0</u>
		Total	253	97.8	0

Launch No. 2.

8-14-49	a	1	27	12.0	0
8-16-49	b	1	51	18.1	0
8-25-49	c	1	56	23.4	0
8-28-49	d	1	<u>114</u>	<u>57.1</u>	<u>0</u>
8-31-49	e	2	78	29.1	1
9-1-49	f	2	66	29.7	0
9-8-49	g	3	12	8.0	0
9-9-49	h	2 & 3	<u>141</u>	<u>68.5</u>	<u>0</u>
9-10-49	j	3	123	40.0	0
9-11-49	k	3	<u>29</u>	<u>29.5</u>	<u>0</u>
		Total	697	315.4	1

Total:	Sq. Sta. Mi.	75.0
	Sta. Mi. Line	413.2
	Pos.	950
	H. L. Sdg.	1

1949

TIDE NOTE
SHEET NO. H-7665

Station Location: Icy Cape, Lat. 70 17.9; Long. 161 56.6
Point Lay Base Camp, Lat. 69 38.3, Long. 163 08.1

Plane of Reference: Mean Lower Low Water, which is 2.0 feet on the staff at Icy Cape and 3.2 feet on the staff at Point Lay Camp.

Soundings were reduced to mean lower low water as recorded on a portable automatic tide gage at Icy Cape. During periods when the Icy Cape gage was not operating the tide records at Point Lay Base Camp were used.

VELOCITY CORRECTIONS H-7665

28 July to 14 September 1949

1949

Filed with H-7754

Fathometer # S-106

<u>Depth</u>	<u>Corr.</u>
10.0	0.8
22.0	0.6
33.5	0.4
43.5	0.2
53.5	0.0
61.0	-0.2
85.0	-0.5
109.0	-1.0

Fathometer # S-73

<u>Depth</u>	<u>Corr.</u>
13.5	0.8
25.0	0.6
36.5	0.4
46.5	0.2
56.5	0.0
66.5	-0.2
88.5	-0.5

Fathometer # S-55

<u>Depth</u>	<u>Corr.</u>
8.5	0.2
21.0	0.0
32.0	-0.2
42.5	-0.4
52.5	-0.6
62.5	-0.8
79.5	-1.0
103.5	-1.5

1949

SUPPLEMENTAL LIST OF SIGNALS FOR H-7665

<u>Name used in survey</u>	<u>Source</u>
BAR	Theodolite Cut, 1949
CIA	ACACIA, 1949
DAN	Theodolite Cut, 1949
FED	" " "
HAP	" " "
HOUSE	" " 1948
LAN	" " 1949

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~

3 February 1950

Division of Charts: R. H. Carstens

1949 work

Plane of reference approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 7665

Locality Akoliakatat Pass to Icy Cape, Arctic Coast

Chief of Party: R. A. Earle in 1949

Plane of reference is mean lower low water, reading

2.0 ft. on tide staff at Icy Cape

12.6 ft. below B. M. ACACIA 1949

plot Icy Cape T.G. when Boat sheet
is available 1/11/50

3.2 ft. on tide staff at Point Lay

3.2 ft. below B. M. 1 (1949)

Height of mean high water above plane of reference is 0.60 foot.

Condition of records satisfactory except as noted below:

E.C. McKay

Section

Chief, Division of Tides and Currents.

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7665 (1949 Wk.)

Records accompanying survey:

Boat sheets ..2..; sounding vols. .5...; wire drag vols.;
 bomb vols.; graphic recorder rolls 10 envel.
 special reports, etc.

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

Number of positions on sheet	.....	1077 1330
Number of positions checked	.....	286
Number of positions revised	.....	6
Number of soundings revised (refers to depth only)	.....	37
Number of soundings erroneously spaced	.....	124
Number of signals erroneously plotted or transferred	.....	—
Topographic details	Time	
Junctions	Time	30
Verification of soundings from graphic record	Time	24

These totals are for 1948 & 1949 work

Verification by *E. B. Fealey* Total time *16.4 hrs* Date *Aug. 7, 1950*
 Reviewed by *Am Jeskeind* Time *22* Date *Oct. 11, 1950*

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7665

FIELD NO. AR-4348-W

Alaska, Arctic Coast, Akoliakatat Pass to Icy Cape
Surveyed August 1948 - September 1949 Scale 1:40,000
Project No. CS-320

Soundings:

808 Fathometer

Control:

Sextant fixes on shore signals

Chief of Party - H. A. Paton and R. A. Earle
Surveyed by - K. B. Jeffers, J. R. Plaggmier and D. M.
Whipp
Protracted by - J. R. Plaggmier
Soundings plotted by - J. R. Plaggmier
Verified and inked by - E. G. Yearley, I. M. Zeskind
Reviewed by - I. M. Zeskind, 9 May 1951
Inspected by - R. H. Carstens

1. Shoreline and Control

The shoreline originates with air-photographic surveys T-9362 and T-9363 of 1949 before review.

The source of the control is described in the Descriptive Report.

2. Sounding Line Crossings

Depths at crossings are in good agreement.

3. Bottom Configuration and Depth Curves

The usual depth curves are adequately delineated.

Numerous bottom irregularities which were caused by the gouging of grounded ice are found inshore in depths less than 36 ft. The bottom beyond these depths is generally smooth, except for the sand ridges extending off Icy Cape.

4. Junctions with Contemporary Surveys

Adequate junctions were effected with H-7664 (1948-49) on the east and with H-7662 (1948) in Akoliakatat Pass. The junctions with H-7753 (1949) on the southwest and H-7751 (1949) in Icy Cape Pass will be discussed in the reviews of those surveys.

5. Comparison with Prior Surveys

No prior surveys of this area have been made by this Bureau.

6. Comparison with Arctic Coast Chart 6 (Latest print date 3/27/50)
Chart 13 (Latest print date 4/10/50)

A. Hydrography

These preliminary charts were compiled from the present survey prior to verification. Only minor 1-2 ft. corrections have been made to the smooth sheet soundings during verification and review.

B. Aids to Navigation

No aids to navigation are charted in the area of this survey.

7. Condition of the Survey

- a. The field plotting was accurately done.
- b. The sounding records and Descriptive Report are complete and comprehensive.

8. Compliance with Project Instructions

This survey adequately complies with the Project Instructions.

9. Additional Field Work Recommended

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

H. R. Edmonston
H. R. Edmonston

Chief, Nautical Chart Branch

Examined and approved:

H. Arnold Kero
H. Arnold Kero

Acting Chief, Division of Charts

L. S. Hubbard
L. S. Hubbard

Chief, Section of Hydrography

W. M. Scaife
W. M. Scaife

Chief, Division of Coastal Surveys

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-7665

1950 work

Field No. AR-4348-W

State ALASKA

General locality Arctic Coast, Alaska

Locality Akolikatat Pass to Icy Cape

Scale 1:40,000 Date of survey August 1950

Instructions dated 4 February 1948, 15 February 1949 & 8 March 1950

Vessel ARCTIC FIELD PARTY

Chief of party R. A. EARLE

Surveyed by HORACE G. CONERLY

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

Fathograms scaled by W. J. DRAGON

Fathograms checked by HORACE G. CONERLY

Protracted by Otto Svendsen

Soundings penciled by Otto Svendsen

Soundings in ~~fathoms~~ feet at ~~MLLW~~ on 3/5

REMARKS: 1950 Work plotted in Washington Office.

Signal Hap 70° 14' - 162° 08' was incorrectly applied and moved to its proper location by use of GPs (8294, Page 6) it was used for only 1 three point fix which was not distorted because there was no lateral displacement involved.

E. Thomas, 9/12/51

ADDENDUM TO
DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SHEET NO. H-7665 (Field No. AR-4348-W)
AKOLIYAKATAT PASS TO ICY CAPE
ARCTIC COAST ALASKA
1950

ROBERT A. EARLE
HORACE G. CONERLY

CHIEF OF PARTY
CHIEF OF SUB-PARTY

A: PROJECT The additional work covered by this addendum is a part of Project No. CS-320, and was accomplished under authority contained in supplemental instructions dated 8 March 1950.

B: SURVEY LIMITS AND DATES The area covered by this additional work is a group of shoals known as "Blossom Shoals" which lie about 8 miles northwest of Icy Cape.

C: VESSEL AND EQUIPMENT A thirty-five foot rearming boat, known as launch No. 1, which had been adapted for use as a hydrographic launch in 1949 was used on this work. It was equipped with 808 type recording fathometers No's. 73S and 106S, outboard fish, TCS-14 radio telephone, and a complete outfit of emergency gear for all personnel. The party operated from a temporary camp at Icy Cape, and used anchorages in the lagoon near Icy Cape Pass.

D: TIDE AND CURRENT STATIONS A portable automatic tide gage was operated at the base camp, 8 miles south of Point Lay village. This gage is known as the Powruk tide gage. In 1949 tide gages were operated at both Icy Cape and Powruk. Since a study of 1949 tide records by the Washington Office indicated "no time difference", or "range factor" between Icy Cape and Powruk gages, The Powruk gage was the only gage established for this area in 1950. No current stations were occupied.

E: SMOOTH SHEET Director's letter No. 839-bdh, dated 12 October 1950 states that sheet No. H-7665 will not be available to the Arctic Field Party for plotting the 1950 hydrography since it has already been inked and verified. Consequently, the 1950 field work will be plotted on the smooth sheet by personnel in the Washington Office.

F: CONTROL STATIONS Remarks under this heading in the original descriptive report are applicable. Eighty foot wooden towers were built over stations EAT and POLE. A new 100 foot radar tower was located by sextant angles and named TOWER. The foregoing provided three, tall towers for control of offshore hydrography.

J: ADEQUACY OF SURVEY The survey is considered to be adequate.

K: CROSS LINES The crossings on the boat sheet are satisfactory. The 1949 dead reckoning loop which falls in the area of the 1950 hydrography appears to be slightly out of position on the boat sheet. It is recommended that the plotting of this loop be reexamined after the 1950 hydrography has been plotted on the smooth sheet.

1949 work
in adequate
agreement
with 1950
work.

N: DANGERS AND SHOALS The remarks under this heading in the original 1948 Descriptive Report and the supplemental 1949 Descriptive Report, are applicable.

The 37 foot shoal found in Latitude $70^{\circ} 26.5'$ North, Longitude $161^{\circ} 59.2'$ in 1949 was verified. The shoalest sounding found in the vicinity was 36 feet at Lat. $70^{\circ} 26.3'$; Long. $161^{\circ} 59.2'$. This is apparently the outermost shoal with soundings of less than 10 fathoms.

O: COAST PILOT INFORMATION Information under this heading in the original descriptive report is applicable.

A 10 fathom channel inshore of the shoal mentioned under paragraph "N" is indicated on the boat sheet. If this indication is verified on the smooth sheet, the channel should be mentioned in the coast pilot notes in addition to the shoaler channel which is described there.

C.P. Sect.
notified.
5-9-50

Q: LANDMARKS FOR CHARTS Hydrographic signal "TOWER" is a steel radar tower which rises approximately 120 feet above mean sea level. This object has been recommended as a landmark for charts, and on small scale charts should take precedence over the old radar tower previously recommended for charting since the latter is only 40 feet high. Both of these objects could be charted on any large scale chart of the area since the new tower is approximately 125 meters distant from the old radar screen.

U: DAY LETTERS The day letters for Launch No. 2 in 1949 were indicated by red, lower-case letters. The day letters for Launch No. 1 in 1950 were indicated by red, ^{and green} upper-case letters.

Y: REMARKS It will be noted that some of the required paragraphs for a descriptive report have been omitted from this addendum. When such omissions occur, the information contained under the corresponding paragraph in the original descriptive report is applicable.

Z: TABULATION OF APPLICABLE DATA

(a) Attached hereto:

1. Tabulation of Statistics, 1950
2. Tide Note, 1950
3. Abstract of Velocity Corrections, 1950
4. List of Additional Signals

Z: TABULATION OF APPLICABLE DATA (Cont'd.)

(B) Special Reports submitted under separate cover:

1. Geographic Names, Arctic Coast, Icy Cape to Cape Beaufort, 1950.
2. Coast Pilot Notes, 1950
3. Velocity Corrections, 1950 *H-7858*
4. Landmarks for Charts, 1950
5. Descriptive Report to Accompany Hydrographic Sheet No. 7665 (Field No. AR-4348-W)
6. Supplement to above report written in 1949.

Respectfully submitted

Horace G. Conerly
Horace G. Conerly
Lt. Comdr., USC&G Survey

Approved and Forwarded:

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

ADDITIONAL STATISTICS

1950

FOR

HYDROGRAPHIC SURVEY NO. H-7665 (Field No. AR-4348-W)

<u>Date</u>	<u>Day Letter</u>	<u>Vol.</u>	<u>No.Pos.</u>	<u>St.Mi.Sdgs.</u>	<u>H.L. Sdgs.</u>
8-12-50	A	8	129	69.0	1
8-13-50	B	8	<u>134</u>	<u>69.7</u>	<u>2</u>
1950 TOTALS			263	138.7	3
1949 TOTALS			697	315.4	1
1948 TOTALS			<u>380</u>	<u>180.1</u>	<u>5</u>
GRAND TOTALS			1340	634.2	9

FINAL: Sq.Stat.Mi. 146
Stat.Mi.Sdg.L. 634.2
No. of Pos. 1340
H.L. Sdgs. 9

TIDE NOTE
SHEET NO. H-7665
(Field No. AR-4848-W)

1950

STATION LOCATION: Powruk Tide Gage, Point Lay Base Camp, at Latitude $69^{\circ} 38.3'$; Longitude $163^{\circ} 08.1'$.

PLANE OF REFERENCE: Mean Lower Low Water, which is 2.3 feet on the staff at the station, and 3.6 feet below bench Mark No. 1.

All soundings were reduced to mean lower low water by using the portable automatic tide gage records at the base camp. The gage was maintained from 15 July to 30 August 1950.

APPROVAL SHEET

H-7665

1950

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

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



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

LIST OF ADDITIONAL SIGNALS
HYDROGRAPHIC SHEET NO. H-7665
FIELD NO. AR-4348-W

1950

<u>Name used in survey</u>	<u>Source</u>
TOWER	Sextant Fix 1950 ⁴ (Page 2, Vol.No. 8) (H-7753)

Data for locating this signal can be found on page 2 of sounding volume No. 8.

VELOCITY CORRECTIONS AR-4348W H-7665

1950

Fathometer # 73 S

August 12, 1950

<u>To Depth</u>	<u>Corr. A. Scale</u>	<u>Corr. B. Scale</u>
6	+0.7	
15	+0.5	
23	+0.3	
31	+0.1	
38.5	-0.1	+ 1.9
45	-0.3	+ 1.7
51	-0.5	+ 1.5
57	-0.7	+ 1.3
62.5		+ 1.1
68		+ 0.9
73		+ 0.7
78		+ 0.5
83		+ 0.3

Fathometer # 106 S

August 13, 1950

<u>To Depth</u>	<u>Corr. A. Scale</u>	<u>Corr. B. Scale</u>
6	0.0	
15	-0.2	
23	-0.4	
31	-0.6	
38.5	-0.8	
45	-1.0	-2.0
51	-1.2	-2.2
57	-1.4	-2.4
62.5	-1.6	-2.6
68	-1.8	-2.8
		-3.0

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography:~~

31 January 1951

Division of Charts: R. H. Carstens

1950 work

Plane of reference approved in
1 volumes of sounding records for

HYDROGRAPHIC SHEET 7665 Add. Wk.

Locality Arctic Coast, Alaska

Chief of Party: R. A. Earle in 1950

Plane of reference is mean lower low water, reading

2.3 ft. on tide staff at Point Lay (Powruk)

3.2 ft. below B. M. 1 (1949)

Height of mean high water above plane of reference is 0.60 foot.

Condition of records satisfactory except as noted below:

E. C. McKay
Section

Chief, ~~Division of Tides and Currents.~~

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7665 Ad.Wk. 1950

Records accompanying survey:

Boat sheets .2...; sounding vols. .1...; wire drag vols.;
 bomb vols.; graphic recorder rolls .2. etc.
 special reports, etc.

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

Number of positions on sheet	.....	263
Number of positions checked	.....	43
Number of positions revised	.....	29
Number of soundings revised (refers to depth only)	.....	5
Number of soundings erroneously spaced	.....	0
Number of signals erroneously plotted or transferred	.....	0
Topographic details	Time	..... 2
Junctions	Time	..... 0
Verification of soundings from graphic record	Time	..... 5

These Totals for 1950 work.

Plotted by *Otto Jvendsen* 85 hrs 2-19-51
 Verification by *Lu Zeskund* Total time .18... Date ..5/9/51
 Reviewed by *Lu Zeskund* Time 6 Date 5/9/51.

NAUTICAL CHARTS BRANCH

SURVEY NO. H.7665

1948 work

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
Mar. 1949	Arctic #6	Stirni	Before After Verification and Review
7/49	9400	Ricigari	Before After Verification and Review <i>Applied three Arctic Ch. #6</i>
3/50	9402	CPW-stegum	Before After Verification and Review <i>From Arctic #6 and 13 almost entirely.</i>
7 Dec 54	9459	Janet H. Roll	Before After Verification and Review <i>Completely applied</i>
5/24/55	9458	Goodrich	Before After Verification and Review
2/1/56	9402	J. G. McLean	Before After Verification and Review
			Before After Verification and Review
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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.

NAUTICAL CHARTS BRANCH

SURVEY NO. H-7665 (1949 Wk.)

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
3/50	9402	CRW by [Signature]	Before After Verification and Review <i>From Arctic # 6413 almost entirely.</i>
2/1/50	Arctic No. 6	[Signature]	Before After Verification and Review
2/9/50	Arctic Ch. # 13	M. Rogers	→ Before After Verification and Review
7 Dec 54	9459	James H Bell	Before After Verification and Review <i>Completely applied</i>
			Before After Verification and Review
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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.

NAUTICAL CHARTS BRANCH

SURVEY NO. H-7665 Ad. Wk. 1950

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
4/9/51	Arctic #13	J.A. McGinn	Before After Verification and Review
22 Apr 51	9402	James H. Bell	Then Arctic #13 J
1 Dec 54	9459	" "	Before After Verification and Review <i>Completely applied</i>
			Before After Verification and Review
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