

7671

Diag'd. on Diag. Ch. No. 8502-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC
Field No. PF-2548 Office No. H-7671

LOCALITY

State Alaska
General locality Bristol Bay
Locality Kvichak Bay - North Shore

194 8

CHIEF OF PARTY

R.F.A. Studds

LIBRARY & ARCHIVES

DATE May 24, 1949

B-1870-1 (1)

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MAY 24 1948

Form 537
(Ed. June 1946)

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

Reg. No. H-7671

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 7671

Field No. Pf 2548

State Alaska

General locality Bristol Bay

Locality Kvichak Bay - north shore.

Scale 1/20 000 Date of survey May to September 1948

Instructions dated 20 June 1946

Vessel Ship PATHFINDER

Chief of party R F A Studds

Surveyed by J.C.Tribble, E.H.Sheridan, H.D.Reed

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

Fathograms scaled by McCaslin, Johnson, Savage

Fathograms checked by RLW LSS
NET GDS JRP JOP HDR AHM JOL LOW

Protracted by Marion Gwinn McLean

Soundings penciled by Marion Gwinn McLean

Soundings in ~~fathoms~~ feet at ~~MLLW~~ MLLW

REMARKS: Smooth sheet and plotting by Seattle Processing Office.

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SURVEY H-7671

FIELD NO. PF-2548

A - PROJECT

Project No. CS 327. General instructions were issued to Commanding Officer, Ship PATHFINDER under date of 20 June 1946. ✓

B - SURVEY LIMITS AND DATES

Area covered by this survey is on the North side of Kvichak Bay. Area extends from a junction with sheet H-7617 (PF-2547) to the East in approximate longitude 157 - 20 to longitude 157 - 37 on the West. To the South the survey extends to a junction with sheet H-7667 (1947-48) (PF-4147). ✓

Hydrography was executed during the period from 23 May to 15 Sept. 1948. ✓

C - VESSELS AND EQUIPMENT

Launches 1, 2, 3 & 4 operating from the Ship PATHFINDER were used in this survey. Hydrography was done using Model 808A fathometer No's. 46, 59, 68 & 74S. ✓

D - TIDE & CURRENT STATIONS

A portable automatic tide gage at Naknek River Entrance was established and operated for the duration of the survey. Tide reducers for the boat sheet were obtained by correcting the observations from the above tide gage with data obtained by the Ship PATHFINDER while occupying fathometer tide stations in the immediate vicinity of this survey. Final tide reducers for the Smooth Sheet were obtained in accordance with special Tide Report of Commanding Officer, Ship PATHFINDER, date 17 November 1948. ✓

No current stations were occupied. ✓

E - SMOOTH SHEET

The smooth sheet will be plotted by personnel of the Seattle Processing Office. ✓

F - CONTROL

Control was from the following sources:

Triangulation by party of Curtis LeFever in 1947.
Triangulation by Ship PATHFINDER in 1947.
Triangulation by Ship PATHFINDER in 1948.
Air photo control prints by party of A. Newton Stewart in 1947.
Hydrographic stations located by sextant & theodolite cuts by personnel of Ship PATHFINDER in 1948.

G - SHORELINE AND TOPOGRAPHY

The shoreline and topographic details pertaining to this survey were taken from air photo compilation sheets No. 9061 & No. 9062, & 9067. (All of 1948)

There are no prior topographic surveys by this Bureau of this area.

H - SOUNDINGS

All soundings were recorded in feet and tenths using the 808 fathometer except where bottom samples were taken when a hand lead was used.

1. Control of Hydrography - Sounding lines were controlled using standard sextant fix methods.

J - ADEQUACY OF SURVEY

The area covered by this survey is well out of the main ship channel in Kvichak Bay and is only used by the local fishing craft. The area is broken up by wide shoals that completely dry at low water. Because of the extensive shoal areas and the large range of tide the normal time available for launch hydrography was somewhat limited. However it is believed that sufficient soundings have been taken for charting purposes and the survey is considered adequate.

Satisfactory junctions were obtained with sheet H-7667 (PF-4147) to the South and sheet H-7617 (PF-2547) to the East of this area. (1947-48) NEW (1947) 349

K - CROSSLINES

About 10% crosslines were run and in most cases were in close agreement with the regular sounding line.

L - COMPARISON WITH PRIOR SURVEYS

There are no prior surveys in this area.

M - COMPARISON WITH CHART

There is no hydrographic information on USC&GS Chart No. 8802 in this area. In general it is believed that the low water line should be moved Northwest, closer to the shoreline. See Chart #3570.

N - DANGERS AND SHOALS

Shoal areas are adequately outlined on the boat sheet.

O - COAST PILOT INFORMATION

This subject is covered in a separate report by the Commanding Officer, Ship PATHFINDER

P - AIDS TO NAVIGATION

There are no fixed or floating aids to navigation in the area covered by this survey.

Q - LANDMARKS FOR CHARTS

There are no landmarks for charts in this area.

R - GEOGRAPHIC NAMES

This subject is covered in a separate report by the Commanding Officer, Ship PATHFINDER.

Z - TABULATION OF APPLICABLE DATA

(a) Attached to this report -

1. Tabulation of statistics.
2. Fathometer corrections & summary of velocity corrections.
3. List of signals.


(b) To be submitted to Washington Office under separate cover -

1. Report on tides submitted 17 November 1948.
2. Geographic names.

Respectfully submitted,

Harry D. Reed, Jr.
Lieut., C&GS

Approved and Forwarded:


ROBERT W. KNOX
Commander, C&GS
Chief of Party

FATHOMETER CORRECTIONS FOR 1948 SEASON

SHIP PATHFINDER

Project GS-327

Portable 808-type fathometers were used for sounding during the entire 1948 season. Bar check corrections were obtained for each fathometer by meaning all the bar checks taken on that fathometer for the entire season, regardless of the launch or boat sheet used. In addition, for the fathometer used for Ship soundings the fathometer comparisons (vertical casts) were meaned in conjunction with the bar checks.

During the field season an abstract was maintained on the bar checks against the fathometer number. The corrections were individually plotted on graph paper and a mean curve obtained. A study of the curves show negligible variances during the season. The temperature and salinity observations follow this in showing, outside of the surface layer, constant velocity corrections for the entire season. The T & S curve approximates the bar check curves closely. Since there are inherent instrumental characteristics the bar check curves were held rather than the T & S curves. Corrections are in units of 0.5 foot in accordance with Director's letter 24 December 1947, No. 36-mr.

The fathometer installations for the PATHFINDER's launches are all practically the same, with inboard units. For ease of operation the initial was held on one foot for all launch work and the bar check curves were drawn from this point. Initial corrections were applied when the initial drifted off the one-foot line. No instrumental (electrical) changes were made during the season outside of replacement of weak tubes. The B and C scale corrections were obtained at the time the bar check was made, when possible. Vertical casts for the Ship were plotted in different colors for the three scales and the corrections were obtained from this curve. The draft was set for the initial for all Ship work. Insufficient data was obtained for Fathometer NO's. 61 and 68 on the working grounds and the B scale corrections were taken in Lake Washington, Seattle. For only a few soundings were the bar check curves extended beyond the limits allowed by the manual, and apparently reliable vertical casts were used for verification.

At the beginning of the season all launches had a common bar - a six foot by eight inch drilled plate supported by a steel frame. One of these bars was lost and either a three inch pipe seven feet long or a four foot by eight inch flat plate was used instead. All bar lines were of tiller cord marked in five foot intervals. All lines (both bar and hand lead) were new at the beginning of the season. For the first month sufficient line comparisons were not taken and several bar checks were rejected. After the lines became stable the bar checks with the first bar proved adequate and reliable. The handlead lines were not remarked in the field and all handlead soundings should not be plotted unless corrected.

H 7671 Pf 2548

Kvichak Bay - North Shore.

Processing Office Notes.

Smooth sheet.

The projection is hand made on Whatman paper. Datum is NA 1927. Basic control is the triangulation by LeFever in 1947, field computations. Nearly all the other stations were fixed by fourth order methods. See triangulation of Studds 1948. Shoreline is from T 9061 and T 9067.

The water mark in the south corner of the sheet was caused by rain leaking through the roof.

Dangers.

This is a sheet of shoals and flats containing very little safe area. A blind channel approaching from the southwestward dies at Lat. 58 43 Long. 157 32. There is the trace of another old channel, parallel to the first, which has been cut off by a bar at Lat 58 41.2 Long. 157 33.6. The eastern corner of the surveyed area is highly irregular. A large part of the rest of the bottom is exposed at low tide.

Crossings.

Mostly good, and generally within two feet.

⁽¹⁹⁴⁶⁻⁴⁷⁾
Junction with H 7165 to southeast.

This junction is in general agreement. The chief features are well verified. There are many differences of the order of two or three feet.

Junction with H. 7165 will be discussed in the review of that survey. (P. Review)

⁽¹⁹⁴⁷⁾
Junction with H 7617 to northeast.

Part of this junction occurs in an excessively irregular area. Closely adjacent soundings on the same sheet vary considerably and vary just as much with soundings on the other sheet. The differences along this junction are greater than on the junction with H 7165. Soundings on one sheet can usually be found close by on the other sheet, but they may not be in exact register. The northern half of this junction is in flatter bottom and the agreement between the sheets is much better there.

See P. 4 Review

Edgar E. Smith
Edgar E. Smith
Cart. Engr.
Seattle Proc. Off.

5/12/49

H 7671 Pf 2548

Alaska

Bristol Bay

Kvichak Bay - north shore.

Tidal Note

A portable automatic tide gage was set up at Naknek River entrance. It was operated for the duration of the survey. Tide reducers for the boatsheets were obtained by correcting the observations from the above tide gage with data obtained by the Ship PATHFINDER while occupying the fathometer tide stations in the immediate vicinity of this survey. Final tide reducers for the smooth sheet were obtained in accordance with the Special Tide Report of the Commanding Officer, Ship PATHFINDER, date 17 November, 1948.

H 7671 Pf 2548

Alaska

Bristol Bay

List of Geographic Names

Kvichak Bay

STATISTICS SHEET H-7671 (PF-2548)

Date 1948	Day	Vol. No.	No. Positions	Stat. Mi Sdg.Line	H.L.Sdgs.
<u>Launch #4</u>					
May 23	a	1	123	30.3	0
May 26	b	1	15	3.4	0
May 28	c	1 & 2	154	34.5	0
May 29	d	2	106	22.4	0
May 31	e	2	30	5.3	0
June 5	f	2	70	13.8	0
June 6	g	2 & 3	85	19.4	1
June 7	h	3	146	31.4	1
June 8	j	3	99	24.1	1
June 30	k	4	81	16.7	0
July 9	l	4	104	26.0	1
July 12	m	5	131	25.7	1
July 13	n	5	99	24.0	0
Sept. 15	p	5 6	<u>81</u>	<u>17.1</u>	<u>1</u>
TOTALS			1324	294.1	6
 <u>Launch #2</u>					
June 13	a	1	123	23.7	1
June 14	b	1	<u>115</u>	<u>25.6</u>	<u>1</u>
TOTALS			238	49.3	2
 <u>Launch #3</u>					
July 14	a	1	171	49.7	2
July 15	b	1 & 2	150	41.0	0
July 16	c	2	154	40.0	1
July 17	d	2 & 3	<u>157</u>	<u>38.3</u>	<u>1</u>
TOTALS			632	169.0	4
 <u>Launch #1</u>					
July 30	a	1	118	29.1	0
July 31	b	1	33	7.5	0
Aug. 11	c	1 & 2	204	46.0	1
Aug. 18	d	2	176	46.5	1
Sept. 3	e	2	<u>152</u>	<u>38.1</u>	<u>1</u>
TOTALS			683	167.2	3
GRAND TOTALS			2877	679.6	15

Area - 65.4 sq.stat.mi.

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

June 7, 1949

~~Division of Hydrography and Topography~~

Division of Charts: R. H. Carstens

Plane of reference approved in
12 volumes of sounding records for

HYDROGRAPHIC SHEET 7671

Locality Kvichak Bay, Bristol Bay, Alaska

Chief of Party: R. F. A. Studds in 1948
Plane of reference is mean lower low water, reading
3.9 ft. on tide staff at Clark Point
25.6 ft. below B. M. 5 (1947)

4.5 ft. on tide staff at Naknek River Entrance
24.7 ft. below B. M. 2 (1946)

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

Clark Point = 17.8 feet
Naknek River Entrance = 20.7 feet

Condition of records satisfactory except as noted below:

E. C. McKay
Section

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

GEOGRAPHIC NAMES

Survey No. - **H-7671**

Name on Survey	Source										Number
	A	B	C	D	E	F	G	H	K		
<u>Alaska</u>				(for title)							1
<u>Bristol Bay</u>				"	"					USGB	2
<u>Dead Man Sands</u>											3
<u>Kvichak Bay</u>											4
											5
											6
											7
											8
											Names underlined in red are approved. 6-2-49
											10
											11
											12
											13
<u>Naknek River</u>				(location of tide staff)						USGB	14
											15
											16
											17
											18
											19
											20
											21
											22
											23
											24
											25
											26
											27

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7671

Records accompanying survey:

Boat sheets ...!...; sounding vols. ...!?...; wire drag vols.;
 bomb vols.; graphic recorder rolls ^{13 envelopes};
 special reports, etc.

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

Number of positions on sheet		2877.
Number of positions checked		53
Number of positions revised		0
Number of soundings revised (refers to depth only)	<i>Dozens of "0" depths were changed to "-1" and additional dozens of "-1" were changed to "-2"</i>	61
Number of soundings erroneously spaced	<i>Similarly, about 750 minus 2-3-4-5 & 6 depth were inked at the next higher number.</i>	0
Number of signals erroneously plotted or transferred		0
Topographic details	Time	4 Hrs.
Junctions	Time	20 Hrs.
Verification of soundings from graphic record	Time	10 Hrs.
Verification by <i>L. J. Jeske</i>	Total time	26
Verification by <i>Stephen Rose</i>	Total time	27.4 Hrs.
	Date	<i>Sept 29, 1949</i>
Reviewed by <i>L. J. Jeske</i>	Time	21
	Date	<i>Sept 27, 1949</i>

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7671

FIELD NO. PF-2548

Alaska, Bristol Bay, Kvichak Bay - North Shore
Surveyed in May - September, 1948 Scale 1:20,000
Project No. GS-327

Soundings:

Control:

808 Fathometer

Sextant fixes on shore signals

Chief of Party - R. F. A. Studds
Surveyed by - J. C. Tribble, E. H. Sheridan; H. D. Reed
Protracted by - M. G. McLean
Soundings plotted by - M. G. McLean
Verified and inked by - S. Rose
Reviewed by - I. M. Zeskind, September 27, 1949
Inspected by - R. H. Carstens

1. Shoreline and Signals

The source of the shoreline and signals is given in the Descriptive Report.

2. Sounding Line Crossings

Considering the irregular bottom of the area covered by the present survey, depths at crossings are in adequate agreement.

3. Bottom Configuration and Depth Curves

The usual depth curves supplemented by the 3-ft. curve in the southwest portion of the survey are adequately delineated.

Except for inshore mud flats, the bottom of this area is extremely irregular and is marked by many sand shoals which bare at M.L.L.W.

4. Junctions with Contemporary Surveys

An adequate junction was effected with H-7617 (1947) on the northeast. Junctions with H-7165 (1946-47) on the southeast and H-7666 (1948) and H-7667 (1947-48) on the south will be considered in the reviews of those surveys.

5. Comparison with Prior Surveys

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

6. Comparison with Chart A-3370 (Latest print date 3/28/49)

A. Hydrography

The hydrography on this chart originates with the boat sheet of the present survey. The present smooth-sheet soundings, in some instances, differ by several feet with the charted soundings.

The present survey supersedes the charted hydrography within the common area.

B. Aids to Navigation

No aids to navigation are charted in this area.

7. Condition of Survey

a. The Descriptive Report and sounding records are complete and comprehensive.

b. The smooth plotting was accurately done.


8. Compliance with the Project Instructions


The survey adequately complies with the Project Instructions.

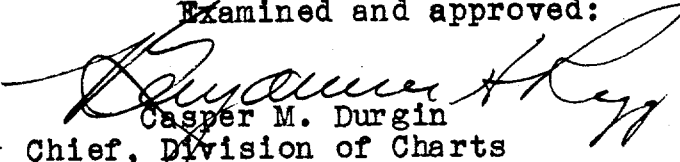
9. Additional Field Work Recommended

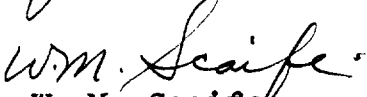
This is a basic survey and no additional field work is recommended.

Examined and approved:


H. R. Edmonston
Chief, Nautical Chart Branch


K. G. Crosby
Chief, Section of Hydrography


Casper M. Durgin
for Chief, Division of Charts


W. M. Scaife
Chief, Division of Coastal Surveys

