7167

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. 2146 *Office No.* 7167

LOCALITY

State ALASKA

General locality Bristol Bay

Locality Egegik

Egegik River Entrance

194 6

CHIEF OF PARTY

R.W. Woodworth

LIBRARY & ARCHIVES

DATE

8-1870-1 (1)

7167

Form 537
Ed. Dec. 1930

REG. NO. H7167

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.

Field No. 2146

REGISTER NO. H-7167

State Alaska ✓

General locality Bristol Bay ✓

Locality Egegik River Entrance ✓

Scale 1:20,000 ✓ Date of survey 12 Aug. to 27 Sept. 19 46

Vessel Egegik Shore Party

Chief of Party R. W. Woodworth ✓

Surveyed by J. E. Schultz ✓
Soundings taken by Fathometer, and graphic recorder

Protracted by C. A. J. Pauw

Soundings penciled by C. A. J. Pauw

Soundings in ~~fathoms~~ feet

Plane of reference MLLW ✓

Subdivision of wire dragged areas by

Inked by R. K. De Lawder

Verified by R. K. De Lawder

Instructions dated CS 327 - 20 June 1946, 19

Remarks: Smooth Sheet and Plotting by Seattle Processing Office

U. S. GOVERNMENT PRINTING OFFICE

Descriptive Report

To

Accompany Hydrographic Survey H- 7167

Field No. 2146

Egegik, Bristol Bay, Alaska

1946

Scale 1:20, 000

Chief of Party, R.W. Woodworth

Surveyed by, J.E. Schultz

A. PROJECT

General Instuctions Project CS 327 dated 20 June 1946 written to Commanding Officer U.S.C. & G.S.S. PATHFINDER.

Director's letter of 25 June 1946 20 - RS, FP - Woodworth.

B. SURVEY LIMITS AND DATES

Locality - Egegik, Bristol Bay, Alaska . Survey extends from Egegik Village on the eastward to the westward extremity, beimg defined by a N - S line approximately four miles offshore from the mouth of the Egegik River.

Hydrography was executed during the period 12 August to 27 September 1946.

C. VESSEL AND EQUIPMENT

A thirty five foot Navy Re - arming Boat was used for the Survey. This type of boat makes an excellent hydrographic launch for work in an area such as Bristol Bay. Its speed of ten knots enables it to buck strong currents, which are encountered in this area, with a reasonable amount of safety.

All the hydrography was done with an NK -7 fathometer (265,329) 800 fms/sec. The fish was outboard and mounted two feet below the surface of the water.

It is recommended that the use of this type of fathometer be discontinued for survey purposes. Due to the graduation of the scale it is imposible to read soundings closer than the nearest foot. This practice was followed throughout the survey.

In this area where bottom is lumpy and tidal corrections are questionable an accuracy of 1 ft. in fathometer soundings is adequate.
R.H. Carstens
8/5/48

Junctures with contemporary Hydrographic Surveys: To the eastward on the Egegik River with Field No. 2246. H-7166 (1946) 1:20,000

The work did not progress as rapidly as expected. Due to tide conditions it was found necessary to work only between mid and full tide. There was seldom more than one tide in daylight hours.

At low tide the area covered by most of this survey is mud flats and sand bars. The party was based in Egegik Village throughout the period of this survey. The possibilities of establishing a Hydrographic camp on the outer coast to speed up the progress of the work was investigated. It was found to be impractical because of the lack of a suitable launch anchorage.

E. SMOOTH SHEET

Function of Processing Office

F. CONTROL STATIONS

Datum, North American 1927

Triangulation J.C. Tribble 1946

Local topographic control, graphic sextant method. (1946) } T-8873 (1946)

G. SHORELINE AND TOPOGRAPHY

The shoreline and topographic details pertaining to this survey were taken from nine lens air photographs flown in 1943.

These photographs are adequate for all topographic detail.
Shoreline from T-8873 (1946)

H. SOUNDINGS

All depths were obtained by NK-7 fathometer.

I. CONTROL OF HYDROGRAPHY

Standard sextant - fix practige for position determination were used. (See Processing Office notes re "weak Fixes" & review, par. 7e)

J. ADEQUACY OF SURVEY

The survey of this area is adequate.

Ja. BOAT SHEET JUNCTURES

Boat sheet junctures with current hydrographic surveys are in close agreement, however the smooth sheet examination when accomplished will govern.

Depth curves can be adequately drawn on the boat sheet of the junctures.

K. CROSSLINES

Adequate crosslines were run indicating close agreement. (Review, par. 2)

M. COMPARISON WITH CHART

No previous survey existed.

N. DANGERS AND SHOALS

The dangers and shoals are adequately outlined on the boat sheet. in field at time of Ver. & Review All of the river areas that bare at low tide inside of a line drawn through signals Spit - Jew are mud flats.

The areas that bare outside of the Jew - Spit line are sand bars. There are no pinnacle rocks in the area.

0. COAST PILOT INFORMATION — *Entered in 1947 edition, Alaska II.* J.A.M. 9/17/47

The following is written to supersede all Egegik River data now contained in the 1938 Pilot and its Supplements.

EGEGIK RIVER empties into Kvichak Bay about thirty miles North of Cape Grieg, and has CAPE CHICHAGOF for its northern entrance point. It is a large river, 1 mile wide at the canneries, and is the outlet of Lake Becharof. It flows in a westerly direction for twenty eight miles airline.

The lower part of the river is a large bay. At low water a large part of its area is bare. At the entrance shoal water extends six miles offshore, and should be given a wide berth by vessels passing along the coast. Entering vessels, dependent upon their draft and conditions of the sea, generally cross the entrance between half and full tide stages only.

The seaward end of the entrance channel is marked by a black can buoy, maintained from May to October. It is located in eight fathoms of water two miles west of the entrance bar. Although there are four fathoms over this bar at MHW moderately heavy seas will break over it any stages of tide. It is considered the most dangerous bar in the Bristol Bay area. Boats and men have been lost over it in very recent years.

To run a midchannel course enter it from a position approximately ½ mile north of the buoy and hold just north of the median line between Coffee point and Red Bluff Light. The former is the tangent on the north side of the bay. The latter, atop the most prominent bluff, is a flashing white (ev. 20 sec.) light maintained from May to October. It is a very small white house often difficult to pick up from seaward in the daytime. Follow this course until the light bears north approximately ½ mile. The channel then bears

southeasterly and gradually nears the beach. Mud/sand shoals extend off Coffee Point to completely across the channel, with only two fathoms of water over them at MHW. Inside Coffee Point a 3 - 4 fathom (MHW) narrow channel hugs the west shore of the river untill the Alaska Packers buildings bear approximately NNE. From there a straight course for this cannery's dock gives 2½ fathoms depth at MHW.

There are two semi - protected anchorages, with limited swinging boom, used by power - scows and large tugs. The principal one is the channel inside Coffee Point, where up to five fathoms may be had. A smaller anchorace lies just east of the Alaska Packers dock, with four fathoms of water at MHW. Ebb current at the latter is very strong.

The river is navigable to small boats for its entire length, into and across Becharof Lake. Although tidal to the foot of the rapids mean range in its lagoons is only one foot. Five to six feet draft can be carried through the river, but the small lagoon reduces this to three or four feet, depending upon water stages. The ¼ - mile rapids of the Lake outlet has a controlling depth of four feet at low water stages. Although its midchannel current averages five knots slow - speed power - boats run it frequently, with and without hand - line aid from the shore. The river is open from May to October.

Freight from ocean - going vessels is generally lightered into Egegik from the ship anchorage off Naknek. Egegik has but very limited facilities. The Alaska Packers Association cannery wharf is eighty feet long and dries at LW. Fresh water and a five ton crane are available thereat. Boat gasoline and diesel fuel are available for local use only. Across the river the

These notes were written from a boat sheet based on Mean High Water. The datum of the soundings sheet is MLLW and the soundings are in feet.

Libby, McNiell and Libby cannery wharf is 150 feet long and has less water at its face. This cannery is now inoperative. Its marine railway, however , is active, and hauls out Libby barges, drivers and tugs for the winter layup. Two stores remain open for the year in Egegik. Their supplies are principally food staples and clothing. There is no refrigeration available, hence no meat to be had locally.

During cannery season, from May to August, the Alaska Packers maintain radio station KUD, also radiophone communication with Naknek. The latter communication is still available through the winter via the Indian Affairs radiophone at the schoolhouse.

Mail delivery and pickup is very uncertain, often one month between mailplane stops.

Transportation is available itinerant floatplane from May to October.

P. AIDS TO NAVIGATION

1. Red Bluff Light - Lat. 58 14'09.929" N
   Long. 157 29'00.360" W
   Flashes White, 20 seconds.

2. Buoy, black can - See page 2 , Vol. 1, Sheet 2146 H-7167 (1946) 1:20,000

Q. LANDMARKS FOR CHARTS

1. Libby, McNeil and Libby Cannery, silver tank , southerly, one of two. Lat. 58° 14'01.123" N
   Long. 157 22'48.171" W

2. Alaska Packers Assn. Diamond "E" Cannary, red tank, northeasterly one of two. Lat. 58 12'55.164" N
   Long. 157 22'15.207" W

3. Prominent Tit, Named Tit on boat sheet. For Geographic Position see Egegik Sextant Triangulation 1946.

R. GEOGRAPHIC NAME LIST

1. Coffee Point - Lat. 58 12.5' N
Long. 157 26.4' W

In undisputed local usage and is derived from the fact that fishermen run their small boats behind it for coffee. The name Coffee Point is recommended.

2. Goose Point - Lat. 58 12,0' N
Long. 157 32.0' W

In undisputed local usage and is derived from the fact that this point is a roosting ground for wild geese. The name Goose Point is recommended.

U. VELOCITY CORRECTION

The bar checks were used for the fathometer corrections rather than the serial temperature observations. The bar checks for the entire survey were added together as well as the comparison between the leadline and fathometer and it was found that for the depths sounded the correction was zero.

Standard temperature and salinity methods were not used because of the large amount of sediment carried in the water. However several temperature and salinity observations were made.

The index was set with the bar at ten feet, in all cases the index would read two feet which was the measured distance of the fish below the surface of the water.

Most of the sounding was done in depths of less than twenty feet. The deepest bar check taken was thirty feet. Very little sounding was done over thirty feet.

The bar check readings of ten, twenty, and thirty feet showed the correction to be zero. Since the deepest depth sounded was thirty - eight feet, it was assumed that the correction for this

depth would still be zero.

V. RECOMMENDATIONS

1. A Channel Range is badly needed for the midchannel course leading in from the sea buoy. The front range should be near ϕ 58°-13.5' λ 157°-27.8' signal Gob, and the rear range on the ridge about a mile behind Gob.

2. Current observations are needed in the Egegik River. Observations should be made at the Alaska Packers Dock, Coffee point, and Sea buoy.

3. Launch hydrography more than four miles offshore is very difficult using visual fixes because of the low coast line. The possibilities of equipping a launch with shoran should be investigated.

Respectfully submitted

John E. Schultz

John E. Schultz
Lieut. (j.g.) USC&GS

Approved and Forwarded

R.W. Woodworth

R.W. Woodworth
Lieut. Comdr. USC&GS
Chief of Party

H-7167 (1946)

FATHOMETER CORRECTIONS

800 fms/sec. NK - 7

Depth	Correction
0 - 40 ft	0 ft.

Statistics for Hydrographic Survey H-7167 (1946)

Field No. 2146 R.W. Woodworth, Chief of Party

Survey Unit	Vol.	Day Letter	Date 1946	Number Positions	Sta. Miles Sdg. Miles
R-Boat	I	a	12 Aug.	28	4.9
R-Boat	I	b	13 Aug.	73	16.2
R - Boat	I	c	14 Aug.	92	16.6
R - Boat	I & II	d	16 Aug.	119	27.5
R - Boat	II	e	17 Aug.	101	26.2
R - Boat	II	f	19 Aug.	84	20.9
R - Boat	III	g	20 Aug.	82	20.7
R - Boat	III	h	21 Aug.	148	32.0
R - Boat	LLL&LV	j	22 Aug.	104	26.7
R - Boat	IV	k	23 Aug.	51	15.5
R - Boat	IV	l	5 Sept.	11	2.3
R - Boat	IV	m	6 Sept.	106	28.2
R - Boat	V	n	10 Sept.	111	24.8
R - Boat	V	p	12 Sept.	83	16.8
R - Boat	V & VI	q	13 Sept.	101	20.5
R - Boat	VI	r	14 Sept.	82	21.4
R - Boat	VI & VII	s	15 Sept.	106	26.2
R - Boat	VII & VII	t	23 Sept.	89	24.2
R - Boat	VII	u	24 Sept.	73	16.3
R - Boat	VII	v	25 Sept.	115	29.0
R - Boat	VII & VIII	w	26 Sept.	82	22.2
R - Boat	VIII	x	27 Sept.	32	5.2
Total				1873	444.3

H-7167 (1946)

Egegik River Entrance

Seattle Processing Office Notes

Smooth Sheet-

The projection (1:25,000 (1943-46)) is hand made on unembossed Paragon paper K & E N-118. Shoreline is from T-8873. Hydrographic signals were plotted from sextant angles in several volumes of sketch books. The angles at each station were plotted on a piece of tracing paper and laid on the smooth sheet, after the triangulation was plotted, in the manner of templets from air photographs. They were adjusted until good positions were found. These positions were traced and sent to the photogrammetric division in Washington with the original angle records, and they were there incorporated into the topographic compilation. The shoreline was traced through film positive of the compilation to the smooth sheet of T-8873 (1946). φ 58°-09.85', λ-157°-27.35'

We note that triangulation station SHOAL was computed from the intersection of two lines and that one of them was in error. The sextant location was used. This signal should be rejected on the List of G.P.'s. Division of Geodesy notified

Weak Fixes-

In the southern part of the outer area, the fixes are not very strong, and in an area outlined on the cover sheet they were very weak. At other places, the lines have an erratic appearance caused by strong currents running through the shoals and making it difficult to hold a course. Poor visibility also troubled the field party. Notes explaining the plotting have been freely interspersed through the sounding volumes. Some adjustments made to sdgs. and fixes resulting in an acceptable plot. Sdgs. between pos. 69-70s rejected.

Tide Reducers-

The tide curves for the inner and outer gages were plotted on one piece of coordinate paper. Four other tide curves were interpolated between them.

It was assumed that the reducers from the outer gage would apply without interpolation for all the outer area up to an arbitrary line just inside of Goose Point. The reducers for the inner gage were applied at a line around the eastern end of the sounded area. Between this inner line and the Goose Point line, four other lines were arbitrarily drawn across the main channel. One of the interpolated tide curves was applied at each of these lines drawn arbitrarily.

It was found by trial that the reducers could not be applied in zones unless the zones were made very narrow. It was found that, with five zones, a sounding at the division between two zones would vary as much as 1.5 feet, depending on which zone supplied the reducer. Rather than make a large number of zones, the reducers were interpolated between the already interpolated tide curves in proportion to the distance of the position from the lines arbitrarily drawn as mentioned above. See the overlay tracing with the lines representing the point of application of the tide curves drawn in yellow. This method has produced a sheet with only trivial differences at crossings.

See four letters concerning tides in the back of this report.

Landmarks-

Three points are indicated on the sheet as noted in the report of the field party.

No discrepancies noted

We find discrepancies between the triangulation names and the description cards for two stations. Descriptions on smooth sheet agree with those on Advance Print of T- 8873 (1946) & also with Desc. cards

Triangulation name -"Libby, McNeil, Libby Cannery, Silver Tank, southerly one of two." The description card says it is the center of a group of four tanks.

Triangulation name - "Alaska Packers Assn., Diamond "E" Cannery, red tank, northeasterly one of two." The description card says the point is the center of two tanks.

Signal TIT is described as a "prominent sharp knoll" and "large tit" and"sharp tit" on a hill about 300 feet high. See Air photo 17967.

Coast Pilot Notes-

These were written from a boat sheet based on Mean High Water. The datum of the smooth sheet is MLLW and the Pilot Notes should be revised with this in mind. The channel passes over a bar with a limiting depth of ~~3~~ 4 to ~~4~~ 5 feet at Lat. 58° 12.8' Long. 157° 29.5'. A development of short cross channel lines would improve the delineation of the channel. The limits of the channel are uncertain in places.

Concur but not considered necessary.

Note these Crossings-

Lat. & Long.	Pos.No.	Depth feet	Pos.No.	Depth feet	Diff. feet	Remarks
58° 14.7' 157 30.7	54b	3.5	41-42d	0.5	3	Fathograms & Plotting checked. ~~Probably a slough.~~ (Review, par. 2)
	Sdgs. 52-54 b rejected in favor of shoaler sdgs. between 41-43 d.					
58 13.5 157 30.5	36-37b	4 to ~~4~~ 3	63-64h	~~10.5~~ 9.0	6.5 ~~6~~ 0	Fath. at 63-64h shows uniform depth on the turn. (Review, par. 2)
	3 ft. sdg. on b day rejected; 9 ft. sdgs. at 63 and 64 h" plotted. Surrounding depths in agreement.					
58 12.1 157 36.2	72-74s	~~13.5~~ 15.0	~~31-30~~ 30-31s	17	2 ~~3~~ to 6	Probably due to weak positions. (Review, par 7e)
	69-70s rejected	12.5	10v	15.5	3 ~~5~~	

H-7167 (1946)

Egegik River Entrance

Tidal Note

Two tide staffs were used for this survey. The outer staff being located at the mouth of the Egegik River and the inner staff just east of the Alaska Packers Dock at Egegik Village.

A large tide range and shoal water restricts navigation into Egegik to periods between half and full tides, and with this in mind mean high water datum was used in plotting soundings on the boat sheet.

On the boat sheet the area was divided into three tide zones, the outer staff was used for all tides outside of a line drawn through signals JEW - SPIT, the inner staff for all tides east of a line drawn through signals PRU - TIT, tides for the middle zone were a combination of the two.

Tide observers were used for all readings since tide gages were not available. Half hourly readings being taken except for the period of an hour before and after high and low water when fifteen minute readings were observed.

Outer Staff -	Lat.	58° 14.5 N
	Long.	157 30.0 W
Inner Staff -	Lat.	58 13.1 N
	Long.	157 22.2 W

All times for reading of staff and execution of hydrography were based on the 150 W. Meridian time.

For the Smooth Sheet, four tide curves were interpolated between the curves of the inner and outer gages. Corresponding lines were drawn to represent the places for the application of the tide curves. Reducers were interpolated from the tide curves in proportion to the distance of the soundings from the lines where the curves apply. See the Descriptive Report for elaboration.

The datum of the Smooth Sheet is MLLW. Hourly readings at both the inner and outer gages, based on MLLW, were furnished by the Washington Office.

See Director's letters 36 mr of 2/25/47
and 36 mt of 3/19/47

H-7167 (1946) 814

Egegik River Entrance

List of Geographic Names

Egegik Bay

Egegik River

Egegik Village

Coffee Point

Goose Point

Bristol Bay

Alaska Peninsula

Respectfully submitted,

Edgar E. Smith
Cartographic Engineer
Seattle Processing Office

Ship PATHFINDER, Seattle, Wn.

5 November 1946

To : Director
U.S.Coast & Geodetic Survey

Subject : Bristol Bay chart datum.

1. A large tide range and shoal waters restricts navigation into Egegik harbor, also into other Bristol Bay harbors, to periods between half and full tides. Generally only high water depths (especially over bars and shoals) are of importance to harbor navigation.

2. With this in mind mean high water datum was used in plotting soundings on the Egegik boatsheets.

3. It is suggested that a high-water datum Egegik chart might be of more value than one on which soundings are reduced to their low-water values.

4. It is requested that the Seattle Processing Office be furnished the planes of reference, reducer zones, and other data essential to sounding reduction for Egegik entrance and river hydrography.

Ralph W. Woodworth

cc: Seattle Processing Office
Commanding Officer, ship PATHFINDER

Seattle Processing Office, 1500 Westlake Ave. N., Seattle 9, Wash.

13 February 1947

To: The Director
U. S. Coast and Geodetic Survey

Subject: Tidal Data, Egegik River and Approaches, Bristol Bay, Alaska

Through: Supervisor, Northwestern District.

Hourly Heights-

The hourly heights of Egegik River tide stations for reducing soundings at the times shown on the attached tabulation are requested. As there is a wide variation in tide between the stations and correction zones to be considered, it is suggested that photostat copies of the hourly heights for the days concerned be forwarded. If the tidal record is not complete for the time needed, it is requested that tides be inferred for these hours.

Chart Datum-

Instructions fixing the datum of the sheet at MLLW as customary or at MSW as suggested by the Chief of Party are requested, together with the readings of the datum on the several staffs, and time differences and range factors between staffs.

Correction Zones-

Instructions for division of the sheets into reducer zones are requested.

Approved and Forwarded,

Jack Senior, Supervisor, N.W. District

Edgar E. Smith
Cartographic Engineer
Seattle Processing Office

Enclosures: Copy of letter of Lt. Comdr. Woodworth
Sketch showing relation of tide gages to sounded area.

MLLW

Datum used on Seattle Sheet

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON 25

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER
AND REFER TO NO. 36-mr

February 25, 1947

To: Officer in Charge,
U. S. Coast and Geodetic Survey,
Seattle Processing Office,
1500 Westlake Avenue N.,
Seattle 9, Washington.

Subject: Tide data, Alaska.

There are enclosed three photostat copies of hourly heights from the Egegik River tide stations for the periods requested in your letter of 13 February, 1947. These heights have been referred directly to mean lower low water at each station and soundings should be reduced to this datum in accordance with the usual practice.

Due to the large differences in tidal ranges between stations, adjustment of tide reducers as taken directly from tide records will be necessary. However, without knowledge of the hydrographic features involved it would not be practicable for this office to attempt to zone the area in question for tide reducers. It appears that it will be necessary to determine reducers by interpolating between the reducers obtained from two stations (one up river and one down river from the point of sounding) on the assumption that the range varies uniformly between stations. Such a straight line interpolation could, of course, be modified if the boat sheet showed hydrographic features, such as abrupt shoaling or constriction, that might suggest the practicability of weighting the reducers in favor of either station.

Acting Director.

Enclosures.

36 - mt

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON 25

COPY

19 March 1947

AIR MAIL

To: Officer in Charge
U. S. Coast and Geodetic Survey
Seattle Processing Office
1500 Westlake Ave. N.,
Seattle 9, Washington

Subject: Tide Records, Egegik River, Bristol Bay

Reference is made to your letter of 13 March 1947 requesting a review of tide data for the Egegik River furnished in my letter of 25 February 1947.

That the gradient of from two to six feet indicated by your plotted curves actually exists is shown by the results of the tide observations at Egegik River Entrance and Egegik, the combined range and low water inequality at Egegik being about five feet less than at Egegik River Entrance. Just how this gradient would be distributed between high and low water profiles could be determined only by level connections between the staffs at the two localities but the steeper gradients would certainly be in the low water pfofiles. Your plotting of the curves for both stations to mean lower low water as a common datum, while the proper procedure for interpolating tide reducers, does not give the correct profile picture in that the high water gradient is exaggerated by the assumption of mean lower low water as a level surface. If leveling data were available for determining the actual difference in the lower low water planes and the curves at each station were plotted with reference to lower low water at each station, the high water gradient and higher low water gradient would be considerably diminished at the expense of the lower low water gradient. The reducers obtained, however, would be the same in either case as they are referred to the mean lower low water at the point of sounding.

For gradients of this size it is unfortunate that there was not a closer spacing of tide stations to facilitate the more accurate interpolation of tide reducers. Under the circumstances there appears no alternative to using the curves as plotted although some uncertainty in the precision of the results is expected.

The records furnished in my letter of 25 February 1947 have been verified and due consideration given to the multiple staffs at the entrance station. Your plotted curves are returned herewith.

/s/ R F Lee
Acting Director

GEOGRAPHIC NAMES

Survey No.

H7167

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
Bristol Bay			[redacted]						USGB	2
Alaska Peninsula									"	3
Egegik			(location of tide staff)						"	4
Egegik River									"	5
Egegik River Entrance			(for title)							6
Coffee Point										7
Red Bluff Light										8
Goose Point										9
										10
										11
			Names underlined in red are approved. 2/19/48 L. Heck							12
										13
										14
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										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H7167.

Records accompanying survey:

Boat sheets 0; sounding vols. 8; wire drag vols. 0;

bomb vols. 0; graphic recorder rolls 11;

special reports, etc. 2 overlay tracings

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

Number of positions on sheet		1873
Number of positions checked		165
Number of positions revised		7
Number of soundings revised (refers to depth only)		15
Number of soundings erroneously spaced		20
Number of signals erroneously plotted or transferred		0
Topographic details	Time	5 hrs.
Junctions	Time	4 hrs.
Verification of soundings from graphic record	Time	16 hrs

Verification by R.K. De Lawder Total time 139 hrs. Date 7-12-48

Reviewed by J.A. Dinsmore Time 32 hrs Date 7/22/48

M-2232-1

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY REGISTRY NO. H-7167

FIELD NO. 2146

Alaska, Bristol Bay, Egegik River Entrance
Surveyed in August - September, 1946 Scale 1:20,000
Project No. CS-327

Soundings: Control:

NK-7 Fathometer Sextant fixes on shore signals

Chief of Party - R. W. Woodworth
Surveyed by - J. E. Schultz
Protracted by - C. A. J. Pauw
Soundings plotted by - C. A. J. Pauw
Verified and inked by - R. K. DeLawder
Reviewed by - T. A. Dinsmore, July 22, 1948
Inspected by - R. H. Carstens

1. Shoreline and Signals

The origin of the shoreline and control is adequately covered in the Descriptive Report and the Processing Office notes. Several sections of the shoreline have been revised to agree with the depths on the present survey and are shown in broken red lines.

2. Sounding Line Crossings

Depths at crossings are in adequate agreement. However, short sections of several sounding lines were rejected because of excessive differences in depths at crossings. These discrepancies were detected by the Processing Office. The disagreements amounted to as much as 6 ft. in depths of 9 feet. Use of the remaining portions of the sounding lines involved was considered justified by comparison with other development on the present survey. Thorough examination of the fathograms and records in this office produced no conclusive solution to the cause of the discrepancies.

3. Depth Curves and Bottom Configuration

Except for the incomplete delineation of the narrow channel in the vicinity of lat. 58° 10.2', long. 157° 26.0', the depth curves were adequately drawn. The 3-ft. curve has been added to define more clearly the configuration of the bottom.

This area is generally marked by irregular shoaling. Many shoals, which uncover at M.L.L.W, closely border the narrow channel. The shoals seaward from a line between Goose Point and Coffee Point are sand bars and those within the bay and river are mud flats. The bottom is extremely lumpy.

4. Junctions with Contemporary Surveys

An adequate junction was effected with H-7166 (1946) on the east. There are no other adjoining surveys in this area.

5. Comparison with Prior Surveys

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

6. Comparison with Chart A-3370 (Preliminary print of 5/24/48)

A. Hydrography

Charted hydrography originates entirely with the unverified smooth sheet of the present survey. Numerous revisions in smooth sheet soundings have been made during verification. The present survey soundings supersede the charted information.

B. Aids to Navigation

The present survey position of the buoy charted in lat. 58° 15.35', long. 157° 40.20', is about 300 meters east of the charted position. In its present position, the buoy still adequately marks the feature intended.

Attention is directed to page 8, paragraph V (1) of the Descriptive Report regarding a need for a channel range.

7. Condition of Survey

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

b. The smooth plotting was adequate except as noted in par. c below.

c. Verification of the present survey revealed that the NK-7 Fathometer was not consistently operated at calibrated speed. Through portions of b,c,f,k,m, and q days,

the fathometer speed varied from 1 to 20 percent. This caused errors as much as 3 feet in general depths of 15 feet. These discrepancies were detected and corrected in this office.

d. The Processing Office notes the existence of weak fixes in the vicinity of lat. 58° 13.0', long. 157° 36.4'. Adjustments have been made to soundings and fixes in this area, which resulted in acceptable agreement of depths.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work

The survey is considered basic except as follows:

a. Development of the 4-7 ft. spots in the vicinity of lat. 58° 15.6', long. 157° 37.0', and the 6-7 ft. spots in the vicinity of lat. 58° 14.7', long. 157° 36.4', is desirable because of their proximity to the channel entrance.

b. The narrow channel in the vicinity of lat. 58° 10.2', long. 157° 26.0', cannot be delineated because of incomplete inshore hydrography.

Examined and approved:

I. E. Rittenburg
Chief, Nautical Chart Branch

Casper M. Durgin
Chief, Division of Charts

K. G. Crosby
Chief, Section of Hydrography

C. K. Green
Chief, Division of Coastal Surveys

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RHC

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~ 7 October 1947

...ion of Charts: H. W. MURRAY

Plane of reference approved in
8 volumes of sounding records for

HYDROGRAPHIC SHEET 7167

Locality - Egegik, Bristol Bay, Alaska

Chief of Party: R. W. Woodworth in 1946
Plane of reference is mean lower low water, reading
-1.3 ft. on tide staff at Egegik River Entrance
28.2 ft. below B. M.1 (1946) at Egegik River Entrance
2.6 ft. on tide staff at Egegik, Egegik River
29.4 ft. below B. M. 1 (1946) at Egegik, Egegik River

Height of mean high water above plane of reference is

16.3 ft. at Egegik River Entrance
11.6 ft. at Egegik, Egegik River

Condition of records satisfactory except as noted below:

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

U. S. GOVERNMENT PRINTING OFFICE 154327

NAUTICAL CHARTS BRANCH

SURVEY NO. H7167

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
11/30/49	9051	J.G. McGann	Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.