5948

Form 504
Rev. April 1935
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

~~Topographic~~
Hydrographic } Sheet No. 8235

State ALASKA

LOCALITY

ALEUTIAN ISLANDS

UNIMAK PASS

1935

CHIEF OF PARTY

A.M.SOBIERALSKI

U. S. GOVERNMENT PRINTING OFFICE

5948

Form 537
Ed. Sept., 1929

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

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. 8235 H5948

REGISTER NO.

State ALASKA

General locality ALEUTIAN ISLANDS 14

Locality UNIMAK PASS 10

Scale 1:80,000 Date of survey AUG.1 to OCT.3, 1935

Vessel SURVEYOR

Chief of Party A. M. SOBIERALSKI

Surveyed by A.M.SOBIERALSKI,G.L.BEAN,R.C.ROWSE,I.T.SANDERS.

Protracted by R.C.ROWSE

Soundings penciled by R.C.ROWSE

Soundings in fathoms ~~XXXXX~~

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by

Inked by Jamc Cormick

Verified by Jamc Cormick

Instructions dated APRIL 13, 1934

Remarks:

U. S. GOVERNMENT PRINTING OFFICE: 1929

DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC FIELD SHEET NO. 8235.

UNIMAK PASS, ALEUTIAN ISLANDS, ALASKA.

SCALE 1:80,000.

DATE OF INSTRUCTIONS APRIL 13, 1934.

The area covered by this sheet is on the northwest side of Unimak Pass in generally deep water. It is adjacent on the south to sheet H-5761(additional work), on the west to field sheet 4235, and on the northwest to the R.A.R. work of the Str. DISCOVERER, 1934(sheets H-5739 and H-5740), which it overlaps as far as the 100-fathom curve. It is composed entirely of offshore work.

SURVEY METHODS. Standard survey methods were used throughout the area covered. The ship's position was determined by visual fixes and the depth was determined by means of the fathometer.

DISCREPANCIES. No discrepancies are evident in the area covered. All crossings check within allowable limits.

DANGERS. No dangers were found in the area covered by the survey.

CHANNELS & ANCHORAGES. The survey is in deep water and includes no restricted areas.

COMPARISON WITH PREVIOUS SURVEYS. No previous surveys.

Control - continued:

based on observations and computations made in 1901, while all other stations are based on observations and computations made in 1934. A slight discrepancy results, but it is doubtful whether the difference would be noticeable on the scale of this sheet.

The comparative scarcity of vertical casts in this area is due to the fact that clear weather is so rare in this area that it was considered inadvisable to delay the hydrography. As it was, the spacing of sounding lines had to be increased in some cases.

Hydrographic features:

Along the northwestern edge of the area surveyed there is a narrow bank with depths less than 50 fathoms, resembling a submerged glacial morain, which might be of interest to geologists studying the geological features of this country. A similar formation is found extending across the northern part of Akutan Bay, Unalaska Bay, and off the southern part of Akutan and Unalga Passes. The present charts give no indication of these formations.

A similar bank extends along the eastern edge of this area. At the southwestern edge of the sheet there are some 22 fathom soundings which are at the northern edge of a bank more fully developed on H-5761 (Additional work 1935).

Additional Work:

It is recommended that the very narrow bank extending almost due east and west in Latitude 54 - 27.6 between longitude 165 - 00 and 165 - 04 be more fully developed when opportunity occurs.

It is not very likely that any dangers occur in this area, but the peculiarity of the formation warrants a further investigation. The least water obtained on the bank was 25 fathoms.

Currents:

No current observations were made in Unimak Pass in 1935. From experience on the sounding lines, it is known that strong currents setting roughly northwestward on the flood and southeastward on the ebb extend all the way out to the 100 fathom curve. However, the direction of the current is influenced by the configuration of the bottom, and only a very exhaustive current survey would determine all the peculiarities of the currents in this area.

The currents are particularly strong in a channel about 5 miles wide adjoining and roughly parallel to the 50 fathom curve which borders the Unimak Island shore. In running the sounding lines by courses large allowances for the current had to be made when crossing this area.

The times of slack water and strength of current are very irregular. The predictions in the current tables are unreliable while the statement in the Coast Pilot (page 269) referring the currents to time of high and low water at Kodiak is entirely unreliable. The publication of tidal predictions for Dutch Harbor will be of considerable help as the currents are no doubt related to those tides.

ADDITIONAL NOTES

TO

DESCRIPTIVE REPORT

HYDROGRAPHIC SHEET No. 8235 (FIELD NUMBER)

The large overlap of sheets H-5739 and H-5740 was made in order to develop the 100 fathom curve, but principally because the only available positions from these sheets at the time field work was in progress were very approximate. Consequently there was an apparent discrepancy and the work was therefore extended to the 100 fathom curve. On plotting the correct positions from the 1934 positions, the agreement is rather good and furnishes a good independent check of the accuracy of the R. A. R. positions on H-5739 and H-5740,* since the R. A. R. positions in this area were obtained under adverse conditions - at the extreme limit of the sheet, using very acute angles, in an area subject to strong currents, tide rips, etc., and abrupt changes in depth. I consider this a noteworthy example of the accuracy of R. A. R. positions under adverse conditions.

*See review, par. 5.

Survey Methods:

All fathometer soundings were corrected for temperature and salinity in accordance with the Hydrographic Manual.

Control:

Attention is called to the fact that the positions of stations Pogromni Volcano, Cape Khituk Hill and Scotch Cap Pinnacle are

STATISTICS, SHEET 8235.

DATE	DAY	VOLUME	POSITIONS	SOUNDINGS	MILES(STAT.)	VESSEL
Aug. 1	A	1	151	926	117.4	Ship
Sept.22	AA	2	56	410	40.0	Ship
Oct. 1	B	1	13	63	7.7	Ship
Oct. 2	C	1	77	280	52.0	Ship
Oct. 3	D	1 & 2	192	661	119.9	Ship
TOTALS			489	2340	337.0	

Area covered, 292.5 sq. stat. miles.

Respectfully submitted,
Roger C. Rowse
Roger C. Rowse,
H. & G. E., U. S. C. & G. Survey.

Approved & forwarded, (See additional notes)
A. M. Sobieralski
A. M. Sobieralski,
Chief of Party, U. S. C. & G. Survey.

LIST OF SIGNALS

HYDROGRAPHIC SHEET 8235

Hydrographic Name	Location
Akun Hd.	Akun Head 1935
Avat Pk.	Avat Peak 1934
Breed	Breed 1901-34
Chef	C. Sarichef L. H. (Hydro. signal)
Cut	Cut 1934
East	East 1934
Gull	Gull 1934
High	High 1935
Hump	Hump 1934
Jagged	Topo signal, K-B-35
Kit	Cape Khituk Hill 1901
Light	Scotch Cap L. H. 1934
Lion	Topo signal, K-F-35
Ned	" " K-C-35
Pike	Hydro signal, 4235
Pog	Pogromni Volcano 1901
Rootok Pk	Rootok Peak 1934
Saw	Saw 1934
Scoth	Scoth Cap Pinnacle 1901
Sered	Sered 1934
Sharp (Akun I.)	Topo signal, K-B-35
Sharp (Tigalda I.)	" " K-E-35
Spike	Spike 1934
Spot	Spot 1935
Steep	Steep 1935
Tain	Tain 1934
Twin	Tall Twin Pinnacle 1901-34
Vitus	Vitux 1934

Topographic Information:

Three cuts to tangents at C. Mordvinof are plotted on the sheet. As it may be a long time before surveys are extended to this point, these cuts may prove useful. Allowance should be made, however for the distance of the point, it is low and gently sloping so that the actual tangent may be below the horizon.

these cuts check fairly well, the cape as charted and no corrections are necessary. A.L.S.

(Lat. 54°-36'- Long. 164°-41')

* The position of Mt. Patton shown on this sheet was determined by sextant cuts. The peak is quite prominent from the northward and I recommend that it be charted, as the chart is somewhat misleading without the indication of a peak in this vicinity. The name is particularly appropriate, since Mt. Faris and Mt. Westdahl in the same vicinity are named after officers of the Coast and Geodetic Survey.

Only 2 cuts recorded in Sounding Volumes. V.L.

A. M. Sobieralski

A. M. SOBIERALSKI,
Commanding Officer,
U. S. C. & G. S. S. SURVEYOR

* Because of the weak location of this peak (two acute sextant cuts) and because no vertical angles from which the elevation can be computed were recorded, the matter of naming ~~this peak~~ should await an accurate position determination.

C.I.G. Approved L.O.C.

RLC

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Ed. Feb. 1935

TIDE NOTE FOR HYDROGRAPHIC SHEET

March 19, 1936.

Division of Hydrography and Topography:

✓ Division of Charts: **Attention: Mr. E. P. Ellis**

Tide Reducers are approved in
2 volumes of sounding records for

HYDROGRAPHIC SHEET 5948

Locality **Unimak Pass, Aleutian Islands**

Chief of Party: **A. M. Sobieralski in 1935**
Plane of reference is **mean lower low water reading**
2.5 ft. on tide staff at **Tigalda Bay**
12.6 ft. below B.M. **1**
3.9 ft. on tide staff at Akutan Harbor
13.5 ft. below B.M. 1

Height of mean high water above plane of reference is 2.8 feet at Tigalda Bay; 3.6 feet at Akutan Harbor.

Condition of records satisfactory except as noted below:

Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE

GEOGRAPHIC NAMES

Survey No. H5948

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	
Unimak Island ✓	8860									1
Ugamak Island ✓	8860									2
Tigalda Island ✓	8860									3
AvatanakIsland ✓	8860									4
Rootok Island ✓	8860									5
Akun Island ✓	8860									6
Akutan Island ✓	8860									7
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M 234

H5948

	Remarks	Decisions
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M 234		

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. H5948

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

Number of positions on sheet	489
Number of positions checked	5
Number of positions revised	0
Number of soundings recorded	2340
Number of soundings revised	0
Number of signals erroneously plotted or transferred	0

Date: april 1, 1936

Verification by J. A. McCormick Time: 15 hr.

Review by Chas. R. Bush Jr. Time: 12 hrs

HYDROGRAPHIC SURVEY NO. 5948

Smooth Sheet Yes

Boat Sheet No

Sounding Records Yes Vols. 2

Descriptive Report Yes

Title Sheet Yes

List of Signals See D.R.

Landmarks for Charts (Form 567) Yes

Statistics Ye s

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) No

Special Chart for Lighthouse Service (Circular Nov. 30, 1933) No

Remarks

FORM M-238

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT } No. H 5948
PHOTOSTAT OF } No. T

received March 2, 1936
registered March 4, 1936
verified
reviewed
approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
✓ 22		[illegible]	page 1, 1st ¶ page 2, last ¶, C.O.'s remarks.
24			
✓ 25		[illegible]	D. R. & C.O.'s remarks
26			
✓ 30		PCW	page 3 C.O.'s remarks
40			
62			
63			
82			
83			
88	/		
90			
✓	T. Adams	KTA	2nd ¶ page 4 - C.O.'s remarks
	L.O. Colbert	[illegible]	" " "

RETURN TO

82	

C. K. Green March 7, 1936

Verifier's Report on H-5948.

Records: Records are complete. Field party shows bottom characteristics opposite fathometer soundings with no explanation of how they were obtained.

Drafting: Drafting is excellent.

Control: Topographic sheets have not been received for this area.

Junctions: This sheet is joined on the south by H-5760 and H-5761. These junctions were made. H-5739 and H-5740 join this sheet on the northwest. The R.A.R. of H-5739 does not join the work on this sheet very well. A tracing of these two junctions accompanies this sheet. Verifier did not ink these junctions.

April 1, 1936.

Submitted,

J.A.McCormick.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5948 (1935) FIELD NO. 8235

Unimak Pass, Aleutian Islands, Alaska
Surveyed in Aug. - Oct. 1935 - Scale 1:80,000
Instructions dated April 13, 1934 (SURVEYOR)

Fathometer Soundings. 3 Point fixes on shore signals.

Chief of Party - A. M. Sobieralski.
Surveyed by - A. M. Sobieralski, G. L. Bean, R. C. Rowse, I. T. Sanders.
Protracted by - R. C. Rowse.
Soundings Penciled by - R. C. Rowse.
Verified and inked by - J. A. McCormick.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual, except that no vertical angle is recorded for the peak north of Pogrommi Volcano, located by sextant cuts and to which the field party assigned an elevation of about 3000 feet on the smooth sheet. The cuts and elevation are being retained in pencil pending the completion of topographic surveys in this area.

The Descriptive Report is complete and satisfactorily covers all items of importance.

2. Compliance with Instructions for the Project.

The survey complies with the instructions for the project.

3. Sounding Line Crossings.

The cross lines, together with the parallel adjacent lines are in good agreement.

4. Depth Curves.

Within the limits of the survey the usual depth curves may be satisfactorily drawn.

5. Junction with Contemporary Surveys.

a. Satisfactory junctions are made with H-5760 (1934) and H-5761 (1934) on the south, with H-5971 (1935) on the west.

b. The junction with H-5761 (1935) additional work will be considered in the review of that survey.

c. The junction on the west with H-5739 (1934) is not very satisfactory. The soundings on the present survey are consistently shoaler than the 1934 work. The difference ranges from 5 fathoms in depths of 75 fathoms, to 15 fathoms in depths of 100 fathoms. The 1934 work, within the area of the present survey was R.A.R. controlled and positions are weak due to small angles of intersection, whereas the present survey was controlled by 3 point visual fixes. No error could be found in the velocities used on the 1934 work. Since the present soundings are considered more accurately controlled the soundings of H-5739 (1934), falling within the area of the present survey, have been omitted from the junction on the latter, but have been retained on the original survey. In charting this area the present survey should serve as a basis within its limits.

d. The junction with H-5740 on the northwest consists of but 2 sounding lines that overlap the present survey to and slightly beyond the fifty fathom curve. The western most line is in reasonable agreement with the present survey, whereas the other line causes convolutions in the 50 and 100 fathom curves, which are in no way indicated or suggested by the development on the present survey. These discrepancies range from 10 to 15 fathoms along the 100 fathom curve to 1 to 3 fathoms in the vicinity of the 50 fathom curve. This line on H-5740 (1934) is controlled by R.A.R., which was undertaken during adverse conditions in an area subject to strong currents, tide rips, etc., and the distance arcs made very acute angles. (See par. 1, page 4 of Descriptive Report for H-5948). In addition some of this discrepancy may be due to the fathometer differences of 1 to 3 fathoms noted on other contemporary surveys between the 1934 and 1935 season's work. The above discussed line of soundings from H-5740 (1934) that falls within the limits of the present survey has been omitted from the latter, but retained on the original survey. In charting these surveys the present survey should be used to its limits, continuing therefrom with the soundings on H-5740 (1934).

6. Comparison with Prior Surveys.

H-2542 (1901) and H-3579 (1913-14).

These surveys contain only a few lines of soundings that fall within the limits of the present survey. The agreement is satisfactory.

7. Comparison with Chart No. 8860 (New Print dated Feb. 21, 1936).

Within the area of the present survey the chart is based on surveys discussed in the foregoing paragraphs and contains no additional information except as follows:

(a) The 113 fathom sounding at lat. 54°36', longitude 165° 27' falls in depths of 64 to 67 fathoms on the present survey. This sounding first appeared on the 1908 standard of chart 8860. Since this sounding does not originate with Coast Survey sheets, and its origin can not be ascertained, together with the fact that it falls in much shoaler depths on the present survey, it should be disregarded for charting purposes.

8. Field Plotting.

The field plotting was satisfactory.

9. Additional Field Work Recommended.

No additional work is necessary.

10. Superseding Old Surveys.

Within the area covered the present survey supersedes the following surveys for charting purposes:

H-2542 (1901) in part
H-3579 (1913-14) in part.

11. Reviewed by - Chas. R. Bush, Jr., August 4, 1936.

Inspected by - A. L. Shalowitz.

Examined and approved:

C. K. Green, C. K. Green
Chief, Section of Field Records.

L. O. Colbert
Chief, Division of Charts.

Fred. L. Peacock
Chief, Section of Field Work.

G. Rude
Chief, Division of H. & T.

Applied to drawing of Chart No. 8860 — S.B. Maize Mar. 1937

Applied to drawing of Chart No 8802 — S.B. Maize June 1937

Applied to compilation chart No. 8720 — Apr. 1943 g.H.S.