

5083

Diag. Cht. No. 8502-2, 8552, 8554-1

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R.S. Patton, Director

U. S. COAST & GEODETIC SURVEY
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FEB 17 1931

State: ALASKA

Acc. No. _____

DESCRIPTIVE REPORT

Topographic } Sheet No. 43 5083
Hydrographic }

LOCALITY

~~Southwest Alaska~~

Kenai Peninsula

~~Vicinity of Point Gore~~

South of Gore Pt.

19 30

CHIEF OF PARTY

F.B.T. Siems

5083

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 5083

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. 43

REGISTER NO. **5083**

State ~~Southwest~~ Alaska

General locality Kenai Peninsula

Locality ~~vicinity of Point Gore~~ South of Gore Pt.

Scale 1:40,000 Date of survey Aug. 19 - Sept. 26, 1930

Vessel Str. DISCOVERER

Chief of Party F.B.T. Siems

Surveyed by F.B.T. Siems

Protracted by G.C. Mast

Soundings penciled by G.C. Mast

Soundings in fathoms ~~feet~~

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated March 21, 1930

Remarks:

DESCRIPTIVE REPORT

to

Accompany Hydrographic Sheet No. 43

U.S.S. DISCOVERER

Project No.- 57

AUTHORITY:

This survey was made under the Director's instructions, dated March 21, 1930.

LIMITS:

The work on this sheet extends from longitude $150^{\circ} 41'$ off the west side of Nuka Bay, to longitude $151^{\circ} 16'$ taking in the approaches to Port Dick, and from latitude $59^{\circ} 11'$ where it joins Launch Sheet No. 24, to latitude $59^{\circ} 04'$ where it joins Sheet No. 161. For work done in previous years in this area see Hydrographic Sheets 4512⁵¹⁰¹₅₀₈₇, 3802 and 3805.

CONTROL:

Visual fixes were used for the control of the survey on the entire sheet. The 1930 location of Triangulation Station CHUGACH is very close to that of 1906. The latter was connected by a single point connection at GORE, whereas in 1930 a complete triangulation scheme was carried through from the eastward.

SURVEY METHODS:

Fathometer soundings using the red-light method was used

for the entire survey of this sheet. Vertical casts were taken at frequent intervals over the entire sheet to check the fathometer soundings, and to obtain temperature and salinity data for correcting echo soundings. Bottom specimens were also obtained on vertical casts. ✓

Fathometer soundings were taken at 30 second intervals over the entire sheet. Soundings were obtained while the ship was running at standard speed, with the exception of "D" day. On "D" day the ship drifted in developing a shoal, taking vertical casts and fathometer soundings simultaneously. Only the vertical casts were plotted on the smooth sheet. ✓

Cross lines were spaced at irregular intervals, and the soundings on the cross lines check closely with the soundings on the main system of lines. With the exception of soundings between 1-G and 3-G, these soundings seem to be low. It is recommended that they be rejected.

will be held up until overlapping sheets completed.
A.L.S.

FATHOMETER:

Fathometer red-light soundings were the standard method used on this sheet. Occasionally in depths under 30 fathoms, and over 90 fathoms, strays were recorded on the dial and it was difficult to pick out the correct sounding. Depths over 30 fathoms, and under 90 fathoms were recorded very well by the red-light method. ✓

In general there were no strays and the depths were recorded regularly with a brilliant red flash. ✓

Serial temperatures were taken at intervals during the season and surface and bottom temperatures were taken on each vertical cast. Temperature corrections for reducing the

soundings were obtained from a mean of all the temperatures during the season. The index correction was scaled from a curve and combined with the temperature correction, and applied to all soundings.

SLOPE CORRECTIONS:

No slope corrections were necessary on this sheet. A least depth of ¹³14 fathoms was found 7/8 miles southeast from Gore Point or hydrographic signal Pin.

TIDAL DATA:

The records of a portable automatic tide gauge at Port Dick were used for the tide reducers for the soundings on this sheet, supplemented by the records at Seward obtained by a standard automatic tide gauge when the former was incomplete.

Respectfully submitted,

Gilbert C. Mast
Gilbert C. Mast,
Aid - C. & G.S.

Approved and forwarded:

F. B. T. Siems
F. B. T. Siems,

Chief of Party, C. & G.S.

STATISTICS FOR SHEET NO. 43.

Date	Letter	Volume	Positions	Soundings	Miles	Vessel
1930						
Aug. 19	A	1	30	163	15.5	Ship
" 20	B	1	10	60	4.8	"
" 21	C	1	46	234	21.2	"
" 25	D	1	33	208	3.8	"
" 27	E	1	14	88	10.0	"
" 29	F	1	14	89	10.3	"
" 30	G	1	18	97	10.6	"
Sept. 4	H	1	27	169	16.0	"
" 5	J	1	7	33	4.5	"
" 19	K	1 2	153	853	79.0	"
" 20	L	2	190	1023	102.0	"
" 23	M	3	99	480	44.5	"
" 25	N	3	111	637	58.7	"
" 26	P	3&4	111	646	27.0	"
			<u>863</u>	<u>4780</u>	<u>407.3</u>	

CORRECTIONS FOR FATHOMETER SOUNDINGS

Depth fms	Temp. Cor. for Max. depth	Initial Correction	Total Correction	Correction used
0 - 29	.257	3.1	3.4	3.5
29 - 47	.348	2.4	2.7	3.0
47 - 69	.396	1.9	2.3	2.5
69 - 130	.502	1.7	2.2	2.0

The distance between the location of the oscillator and hydrophone which was used in obtaining redlight sounding was 24 feet. Graduation on fathometer dial is corrected for the 24 foot base line. Auxiliary paper scale pasted on the dial was used for depths from 100 to 125 fathoms. Fathometer adjustments remained fixed thruout the season.

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APPROVAL
OF
CHIEF OF PARTY.

Sheet 43 and accompanying records have been inspected and approved by me. The areas sounded are considered complete. Additional work however, may be required along the western limits to develop shoals that may exist just beyond this limit.



F. B. T. Siems

Chief of Party, C. & G. S.

3/16

April 10, 1931

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
4 volumes of sounding records for

HYDROGRAPHIC SHEET 5083

Locality **South of Gore Pt., Southwest Alaska**

Chief of Party: **F. B. T. Siems, in 1930**
Plane of reference is **mean lower low water, reading**
5.0 ft. on tide staff at Sunday Harbor, Port Dick
19.2 ft. below B. M. 1

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.



Chief, Division of Tides and Currents.

Section of Field Work

Report on H-5083

Chief of Party F. B. J. Siems

Projected by G. C. Mast

Verified and inked by G. H. Street

Surveyed in 1930

Surveyed by F. B. J. Siems

Soundings plotted by G. C. Mast

1. Changes in speed is not always recorded otherwise the records conform to the requirements of the General Instructions.
2. Pencil geographic names and shore line was not indicated otherwise the plan and character of development fulfill the requirements of the General Instructions.
3. The plan and extent of development satisfy the specific Instructions.
4. The sounding line crossings are considered adequate.
5. The usual depth curves can be drawn.
6. Soundings at the turns in line were not properly plotted. The line was indicated as turning sharply at right angles instead of an arc. With this exception the field plotting was complete.
7. The office draftsman did not have to do over any part of the drafting done by the field party.
8. This sheet joins with four other sheets of the same project: H-5087, 5100, 5101 and 5092. Sheet No. H-5092 was the only completed sheet and this makes a satisfactory junction.

9. No further surveying is required to fully develop important areas within the limits of this sheet.
10. Attention is called to the sounding between Long. $151^{\circ}02'$ - $151^{\circ}04'$ and Lat. $59^{\circ}11'$ - $59^{\circ}12'$. These are questioned in the records and are omitted until the adjacent sheet (overlap) is completed.
11. The character and scope of the surveying is good. The field drafting is good.

Respectfully submitted,
J. H. Streeter

May 13, 1931

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. **5083**

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

Number of positions on sheet	.863.
Number of positions checked	.258
Number of positions revised	...29.
Number of soundings recorded	4617
Number of soundings revised	.171.
Number of signals erroneously plotted or transferred	...0..

Date: **... May 13, 1931**

Cartographer: **... G. H. Street**

DEPARTMENT OF COMMERCE

AND REFER TO No. 80-AAP

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

SECTION OF FIELD RECORDS

Report on H. 5083

South of Gore Point, Kenai Peninsula, Alaska

Surveyed in 1930

Instructions dated March 21, 1930 (DISCOVERER)

Fathometer Soundings - Three Point Control

Chief of Party, F. B. T. Siems

Surveyed by F.B.T.S.

Protracted and soundings plotted by G. H. Mast

Verified and inked by G. H. Streeter

1. Records:

The records conform to the requirements of the Hydrographic Manual.

2. Specific Instructions.

The plan and extent of development satisfy the specific instructions with the exception that split lines should have been run over certain shoal indications and to develop the full extent of some of the banks. These will be mentioned more in detail in the following paragraphs.

3. Depth Curves.

There is sufficient detail to draw the characteristic depth curves with the exception of the area at the southwestern extremity of the 50 fathom bank in approximate lat. 59-06 long. 150-48.

4. Field Drafting.

The field drafting was completed as prescribed in the Hydrographic Manual and was satisfactory.

5. Junction with surveys.

(a) Contemporary work.

A satisfactory junction has been effected with H. 5087 on the south and east. The junction with the other contemporary sheets, H. 5092,

H. 5100, H. 5101 will be taken up in the review of those sheets.

(b) Old Work.

The new survey overlaps the survey of 1915 (H.3802) to a considerable extent at the northwestern corner. Although the majority of the soundings on the old survey in this overlapping area was surveyed with the Bassnett tube, there is nevertheless, a generally good agreement with the new work. This is somewhat surprising in view of the discrepancies found on H. 3805 surveyed by the same method (see review H. 5087). There are several soundings on H. 3802 that are shoaler than the depths shown in the present survey. These have been investigated and found to be tube soundings taken under way. They are probably erroneous notwithstanding the general good agreement. Since no critical depths are involved in the overlapping area, the new survey should supersede all the work on the old survey that falls within its limits. This also applies to the work on H. 3805 (surveyed in 1915) which entirely covers the limit of the new survey. The unreliability of many of the soundings on the latter sheet has been discussed in my review for H. 5087.

6. Additional Work.

While the survey discloses several irregularities in the bottom, in general it is fairly smooth and it is not believed any dangers exist. However, ^{since} it is understood that work is being extended to the westward to cover a portion of H. 3802, and it would be well to do some additional work in the following places:

- (a) Develop the full extent of the western end of the 50 fathom bank, approximate lat. 59-06, long. 150-46.
- (b) Split lines in the vicinity of the 31 fathom sounding in lat. 59-05.7, long. 151-11.8.
- (c) Split line in the vicinity of the 33 fathom sounding in lat. 59-07.8, long. 151-08.
- (d) A development of the area in the vicinity

of the 15 fathom sounding off the entrance to Patt Dick in approximate lat. 59-10.8, long. 151-05.8 and to include the $6\frac{3}{4}$ fathom undeveloped shoal (tube sounding) about one half mile to the westward on H. 3802.

7. Accuracy of Fathometer Soundings.

This sheet is a further example of the fine work that can be done with the fathometer red light method. With proper corrections applied the results obtained (when the instrument is functioning properly) should be of a very high order of accuracy.

8. Reviewed by A. L. Shallowitz. June 1931.

Approved:

A. M. Sobieralski
Chief, Field Records Section

F. S. Borden
Chief, Field Work Section

Δⁿ Dick, 1930 was used as an object in this survey. Its accuracy was questioned and it was re-located in 1931 and found to be 30 meters in error in longitude.

Numerous boat positions were checked using Dick 2, 1931. The errors in fixes were so small that no changes were necessary.

See letter of Dec 2, 1932, H. B. Campbell, filed in descriptive report for T. 4663.

E. P. Peck
Dec. 15, 1932.

AND REFER TO NO. **CO-AAP**

SECTION OF FIELD RECORDS

Report on H. 5088

South of Gore Point, Kani Peninsula, Alaska

Surveyed in 1930

Instructions dated March 21, 1930 (DISCOVERER)

Fathometer Soundings - Three Point Control

Chief of Party, F. B. T. Siess

Surveyed by F.B.T.S.

Protracted and soundings plotted by G. H. Mast

Verified and inked by G. H. Streeter

1. Records:

The records conform to the requirements of the Hydrographic Manual.

2. Specific Instructions:

The plan and extent of development satisfy the specific instructions with the exception that split lines should have been run over certain shoal indications and to develop the full extent of some of the banks. These will be mentioned more in detail in the following paragraphs.

3. Depth Curves:

There is sufficient detail to draw the characteristic depth curves with the exception of the area at the southwestern extremity of the 50 fathom bank in approximate lat. 58-06 long. 150-43.

4. Field Drafting:

The field drafting was completed as prescribed in the Hydrographic Manual and was satisfactory.

5. Junction with SURVEYS:

(a) Contemporary Work:

A satisfactory junction has been effected with H. 5087 on the south and east. The junction with the other contemporary sheets, H. 5092.

H. 5100, H. 5101 will be taken up in the review of those sheets.

(b) Old Work.

The new survey overlaps the survey of 1915 (H. 3002) to a considerable extent at the northwestern corner. Although the majority of the soundings on the old survey in this overlapping area was surveyed with the Bassett tube, there is nevertheless, a generally good agreement with the new work. This is somewhat surprising in view of the discrepancies found on H. 3005 surveyed by the same method (see review H. 5087). There are several soundings on H. 3005 that are shallower than the depths shown on the present survey. These have been investigated and found to be tube soundings taken under way. They are probably erroneous notwithstanding the general good agreement. Since no critical depths are involved in the overlapping area, the new survey should supersede all the work on the old survey that falls within its limits. This also applies to the work on H. 3005 (surveyed in 1915) which entirely covers the limit of the new survey. The unreliability of many of the soundings on the latter sheet has been discussed in my review for H. 5087.

G. Additional Work.

While the survey discloses several irregularities in the bottom, in general it is fairly smooth and it is not believed any danger exists. However, ^{since} it is understood that work is being extended to the westward to cover a portion of H. 3002, and it would be well to do some additional work in the following places:

- (a) Develop the full extent of the western end of the 50 fathom bank, approximate lat. 59-06, long. 150-43.
- (b) Split lines in the vicinity of the 51 fathom sounding in lat. 59-05.7, long. 151-11.8.
- (c) Split line in the vicinity of the 33 fathom sounding in lat. 59-07.8, long. 151-08.
- (d) A development of the area in the vicinity

of the 15 fathom sounding off the entrance to Pat Dick in approximate lat. 39-10.0, long. 151-06.8 and to include the 6 1/2 fathom undeveloped shoal (tube sounding) about one half mile to the westward on H. 5000.

7. Accuracy of Fathometer Soundings.

This sheet is a further example of the fine work that can be done with the fathometer red light method. With proper connections applied the results obtained (when the instrument is functioning properly) should be of a very high order of accuracy.

C. Reviewed by A. L. Shallowits. June 1931.

Approved:

Chief, Field Records Section

Chief, Field Work Section