

5194

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

State: ALASKA

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. 81 (121)
Hydrographic } 5194

LOCALITY

SOUTHWEST ALASKA

KENAI PENINSULA

BARREN ISLANDS

19 31

CHIEF OF PARTY

H. B. Campbell.

5194

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 5194

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. 81 (121)

REGISTER NO. 5194

State ~~SOUTHWEST~~ ALASKA

General locality ~~KENAI PENINSULA~~ ENTRANCE TO COOK INLET

Locality VICINITY OF BARREN ISLANDS

Scale BOAT SHEET 1-80,000 Date of survey May - October, 19 31
SMOOTH SHEET 1-120,000

Vessel U.S.C. & G.S.S. DISCOVERER

Chief of Party H. B. Campbell

Surveyed by H. B. Campbell

Protracted by G. A. Nelson

Soundings penciled by Ira R. Rubottom

Soundings in fathoms fath

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by

Inked by S. C. McElson

Verified by S. C. McElson

Instructions dated March 21, 1930 - April 10, 19 31

Remarks:

DESCRIPTIVE REPORT

to

Accompany Hydrographic Sheet No.81 (121)

Project #57 Season 1931

Str. DISCOVERER

H.B. Campbell, Commanding

Date of Instructions: March 21, 193⁰~~1~~ - April 10, 1931.

LIMITS:

This sheet covers the area between Kenai Peninsula and Shuyak Island. It extends westward from Longitude 151-11, adjoining surveys of 1930 on the east, sheet register No. H-5087. It overlaps surveys of 1915 on the northwest, sheet register No. H-3805, and surveys of 1908 on the west, sheet register No. H-2980. Sheet No. 41 joins it on the north, and sheets Nos. 42 and 43 are inside the limits of the sheet, and cover the area around the Barren Islands. The sheet extends southward on Portlock Bank to Latitude 58°-37'.

CONTROL:

Visual fixes were used for control of the survey on the entire sheet. Prominent mountain peaks were mainly used, which had been located by triangulation in previous years and during the current season. These peaks extend from Gore Point westward, on Kenai Peninsula, on the Barren Islands, and on Shuyak and Afognak Island.

Signals Scar, Hill, Pil, Sharp, and De were transferred from their respective topographic sheets, and used for control on some of the comparatively inshore work. (See list of signals in sounding record).

SURVEY METHODS:

The survey was made on a 1:80,000 scale, but due to the extremely large sheet necessary to include all signals used, the scale of the smooth sheet was reduced to 1:120,000.

The fathometer red light method was used for obtaining soundings, with soundings taken at regular one minute intervals. In areas of uneven bottom, the regular interval was not adhered to. On shoals, the shoalest soundings were taken, and their times recorded. Shoal soundings were obtained to as low as 10 fathoms. A shoal at Longitude 151 - 26.5, Latitude 58 55.3, was developed from a motor sailer, with a sounding of ^{4 4/6}5-1/6 fathoms being obtained. All shoals were developed by a number of splits and cross lines, by the ship.

Vertical casts were taken at intervals of at least one in every 10 square miles, in the area covered by proposed chart No. 8530. Outside of this area, vertical casts were taken at intervals of one in every 25 square miles. A small area on the southeastern part of the sheet was sounded by vertical casts. The fathometer was temporarily out of order; and, while the ship was already out in that area, it was filled in with wire soundings. The bottom was comparatively even, and near 100 fathoms in depth, and no further development was deemed necessary.

FATHOMETER:

A season's report entitled "Fathometer Corrections, Southwest Alaska, 1931, Str. DISCOVERER", includes the fathometer work done on this sheet.

COMPARISON WITH PREVIOUS SURVEYS:

On the eastern limit of the sheet at a junction with surveys of 1930, the soundings agree very closely with those of the previous surveys.

On the western limit of the sheet where the survey overlaps surveys of 1908 and 1915 some of the previous soundings are at variance with those of this survey, but generally they vary only a few fathoms. It is hardly to be expected that a closer agreement of soundings could be obtained by extending this work further westward.

A complete new survey was made over the eastern part of surveys of 1915, sheet register No. H-3805. The lines on this survey were spaced rather far apart, and some of the soundings had been proven to be in error during the 1930 season.


DISCREPANCIES:

No regular system of cross lines was run, but where crossings were made the soundings check very closely. The fathometer became very erratic between positions 19-B and 25-B. Later, the soundings obtained between these positions were proven to be erroneous, and were rejected.

TIDAL DATA:

Tidal data were obtained from portable automatic gauges at Port Chatham, Big Bay, and Picnic Harbor. All these were adjusted to Barren Island tides.

Respectfully submitted,


Ira H. Rubottom,
Jr. H. & G. Engineer.

Approved and forwarded:



H. B. Campbell,
H. & G. Engineer,
Commanding, Str. DISCOVERER.

STATISTICS FOR SHEET NO. 81 (121)

DATE	DAY LETTER	VOLUME	POSITIONS	SOUNDINGS	MILES	BOAT USED
1931						
May 20	A	1	189	827	169	Ship
" 21	B	1&2	181	676	167	"
" 26	C	2	20	84	16	"
" 27	D	2	79	350	70	"
June 17	E	2	39	129	24	"
" 26	F	2	83	358	76	"
July 7	G	2	49	188	38	"
" 11	H	2&3	60	288	59	"
Aug. 11	J	3	135	412	80	"
" 17	K	3	90	375	75	"
" 20	L	3	132	454	90	"
" 21	M	4	148	413	81	"
" 27	N	4	106	286	54	"
Sept. 5	P	4	14	56	11	"
" 9	Q	4&5	202	650	124	"
" 10	R	5	239	674	139	"
" 11	S	5	98	194	68	"
" 12	T	5	89	272	60	"
" 14	U	6	162	486	93	"
" 15	V	6	127	405	83	"
" 20	W	6	40	122	25	"
Oct. 2	X	6	102	305	61	"
Sept. 15	a	3	49	79	5	P.M.S.
			<hr/>	<hr/>	<hr/>	
			2433	8083	1668	

APPROVAL OF CHIEF OF PARTY

Sheet No. 81-(121) and accompanying records have been inspected and approved by me. Both the field work and office work were done *daily since work was done by ship.* under my supervision. Δ No further hydrography is considered necessary in the area covered by this sheet.



H. B. Campbell,
Chief of Party, C. & G.S.

July 22, 1932

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
6 volumes of sounding records for

HYDROGRAPHIC SHEET 5194

Locality Vicinity of Barren Island, Southwest Alaska

Chief of Party: H. B. Cambell in 1931

Plane of reference is mean lower low water, reading

3.0 ft. on tide staff ~~at~~ No. 1 at Barren Islands

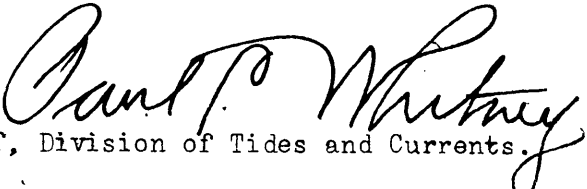
20.7 ft. below B. M. 1

5.2 ft. on tide staff No. 2 at Barren Islands

20.7 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.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 5194

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

Number of positions on sheet	2433
Number of positions checked	392
Number of positions revised	3
Number of soundings recorded	8083
Number of soundings revised	83
Number of signals erroneously plotted or transferred	None

Date: 22 Sept. 1982
Cartographer: R. M. Glosin

Section of Field Records

Sheet No 5194

Surveyed in 1931

Chief of Party - H.B. Campbell

Surveyed by - H.B. Campbell

Protected by - E.H. Nelson

Soundings plotted by - Cha R. Rubottom

Verified and Indexed by - E.C. McGowan

1. The records conform to the requirements of the general instructions.
2. The plan and character of development fulfill the requirements of the general instructions.
3. No regular system of cross lines were run, but where crossings were made they were found to be satisfactory.
4. The usual depth curves can be completely drawn within the limits of the sheet. However, in congested areas the shoal depth curves were shown complete, and the deeper curves were omitted or barely indicated on

the sheet.

5. The field plotting was completed to the extent prescribed in General Instructions. Bottom Characteristics were taken only on vertical casts.

6. The office draftsman did not have to do over any part of drafting done by field party except as noted on sketch sheet.

7. The junctions with adjacent sheets, which were considered, were found to be satisfactory. The remaining adjacent sheets will be considered when they have been verified and inked.

8. Discrepancies:

The descriptive reports notes a 56' fathom shoal at long $151^{\circ}26.5'$, lat. $58^{\circ}55.3'$. This was found to be a shoal fathom of 46'. See page 65 vol. 3 sounding records.

In volume 6 - page 30 of the sounding records - heavy swells were noted at position 20v. These notes were omitted on the smooth sheet # 5194.

However they ~~are~~ were placed
on H 5191 when the development
of this school spot was fully
developed.

Respectfully submitted,
S. C. McBliss

Section of Field Records
Report on H-5194
Entrance to Cook Inlet, Alaska
Surveyed in 1931
Instructions dated March 21, 1930 - April 10,
1931 (Discoverer)
Fathometer Soundings - Three Point Control

Chief of Party - H. B. Campbell
Surveyed by - H. B. Campbell
Protracted by - G. A. Nelson
Soundings plotted by - Ira R. Rubottom
Verified and inked by - G. C. McGlasson

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. The area having been surveyed on a 1-80,000 scale it would have been more desirable from a cartographic standpoint to have had the final smooth plotting on the same scale, since this sheet falls within the limits of proposed Chart 8532 to be constructed on a 1-80,000 scale.

3. Depth Curves.

There is sufficient detail to completely draw the usual depth curves.

4. Field Drafting.

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

5. Junctions with surveys.

a. Contemporary work.

A satisfactory junction has been effected with H-5087 on the east and H-5083 and H-5191 on the north and north-west. There is a very good agreement in the soundings at the several junctions.

The junctions with the other contemporary sheets H-5192 and H-5193 will be taken up when those sheets are reviewed.

b. Old work.

An examination has been made of all the old surveys (H-2918, H-2980 and H-3805) that fall within the limits of

the present survey H-5194. The first two are wire surveys on a scale of 1-60,000 and 1-200,000, respectively, and are very sparsely developed. The last one is on a scale of 1-120,000 but surveyed in the main with the questionable Bassnett tubes (see Review H-5087). As there are no critical depths involved it is recommended that the new survey should supersede all the work on the old surveys that fall within its limits.

6. Additional work.

No additional work is recommended within the limits of this survey. The 10 fm. shoal in lat. 58°-51' long. 151°-45' has been developed on H-5192 and will be considered in the review for that sheet.

7. Reviewed by A. L. Shalowitz, September 1932.

Examined and approved
L. O. Collat

Chief Sect. Field Records

W. P. ...
Chief, Division of Charts

J. S. ...
Chief, Section of Field Work

G. ...
Chief, Div. of H + C.

NAUTICAL CHARTS BRANCH

SURVEY NO. H. 5192

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
7 Oct 48	8533	Nichols	Before After Verification and Review
			In part thru Chart 8532
			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
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			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

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 5194

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
4 Oct 48	8523	Nichols	Before After Verification and Review
			<i>In part thru Chart 8532</i>
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
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