

5181

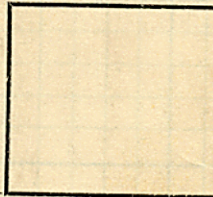
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DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R. S. PATTON, Director



State: ALASKA

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. 41 5181
Hydrographic }

LOCALITY

KODIAK ISLAND

NORTH

OF

TUGIDAK ISLAND

19 31

CHIEF OF PARTY

F. B. T. SIEMS, Comdr. U. S. C. & G. S.

U. S. GOVERNMENT PRINTING OFFICE: 1927

5181

Handwritten notes:
312 June 1931
with enclosure 1 & 2

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 5181

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. 41

REGISTER NO. **5181**

State ALASKA

General locality KODIAK ISLAND

Locality NORTH OF TUGIDAK ISLAND

Scale 1:40,000 Date of survey May 20 to Aug. 25, 1931

Vessel U.S.C. & G.S.S. SURVEYOR

Chief of Party F.B.T.SIEMS

Surveyed by F.B.T.SIEMS, A.C. THORSON

Protracted by A.C. THORSON

Soundings penciled by A.C. THORSON

Soundings in fathoms fath

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by ---

Inked by *A.C. Thorson*

Verified by *A.C. Thorson*

Instructions dated April 17-th, 19 31

Remarks: _____

DESCRIPTIVE REPORT
TO ACCOMPANY
HYDROGRAPHIC SHEET NUMBER 41

Scale: 1:40,000

Str. SURVEYOR

F.B.T.SIEMS, Comd'g.

INSTRUCTIONS:

The survey of Sheet No. 41 was executed during the 1931 season in accordance with instructions dated April 17, 1931 -- Project No. 58, reference 10-R.S.

SURVEY METHODS:

The hydrography on this sheet was executed by the Str. SURVEYOR except for a small area nearer shore executed by the Launch HELIANTHUS.

The hand-lead was used entirely by the Launch HELIANTHUS. The SURVEYOR used hand-lead mainly, hand-lead with machine, and for the most part hand-lead and fathometer soundings were taken simultaneously for experimental purposes, *Some fathometer soundings were taken alone.*

Reducing the fluctuation of the Fathometer neon flash was accomplished by using frequencies lower than the standard heretofore used for the Fathometer. (See report on "The reduction of Fathometer Soundings", page 3.)

Hand-lead soundings with machine were used on cross lines, (A and B days) only. These soundings appear unreliable. Mistakes in reading lead-line probably were made by inexperienced men. The quartermaster was required to operate the sounding machine, and the remaining personnel aboard had little recent practise in reading a lead-line. It was also impracticable to always check the readings as in this method of sounding the readings are made in the after part of the vessel. Some doubt also exists as to the reliability of these soundings in the deeper depths, if the wire from the sounding machine is retarded by friction there is a liklihood of a bow forming in the measuring line and inability on the part of the leadman to effect sufficient lifting power to bring the measuring line vertically taut. This appeared to be the trouble on the SURVEYOR. The measuring line was constructed in the usual manner, it contained 10 fathoms of stranded wire adjacent to the lead.

Visual fixes on triangulation and topographic signals were used for control

Sounding lines were run by compass courses parallel to the beach.

CONTROL:

Triangulation stations established in 1919, 1929, 1930 and 1931 were used for control. They were supplemented by topographic signals all of which were transferred from topographic Sheet "A" except signal SHARP, which was transferred from topographic sheet Register No. 4582. Hydrographic signal UP was transferred from the bromide of hydrographic sheet Register No. 5081.

COMPARISON WITH PREVIOUS SURVEYS:

Previous surveys in the area covered by this sheet were reconnaissance in character and comparisons were not noted.

At the junction with sheet 5084 executed in 1930 a few discrepancies from 1 to 2 fathoms were noted in Latitude $56^{\circ} 44.7'$ and Longitude $154^{\circ} 33.0'$. However these discrepancies were noted along the edge of a submarine shelf where the bottom drops off rapidly.

SHORELINE:

In accordance with paragraph 28 page 4, of the hydrographic manual shoreline was not transferred to this sheet

DANGERS:

There are apparently no dangers within the limits of the hydrography on this sheet.

ANCHORAGES:

Anchorage can be made within the limits of this sheet but little or no protection is afforded except in the lee of Tugidak Island in southerly weather.

CROSSINGS:

No important discrepancies were noted in the crossings they generally checking within one fathom except A and B days, (see under METHODS). It is recommended that the cross lines A and B days be rejected. Nothing would be lost as to area covered by this rejection.

DISCREPANCIES:

The tides on E-day were referred to Three Saints Bay and most of the soundings on this day appear to be from a few feet to a fathom deep. The Lazy Bay tides were interpolated, the gage being out of commission that day, but it did not affect the depths appreciably.

INTENSITY OF SURVEY:

The area covered by this sheet is evidently a part of an extensive glacial deposit, embracing Tugidak Island and the seaward extending banks. Tugidak Island is relatively low and flat and composed of sand, gravel and boulders, no ledge rock was observed. Some granite boulders as much as 20 feet in diameter were found along the north beach of Tugidak Island.

Although the bottom may be classed as generally flat, there is an extensive irregularity in that the average depth of an area will shoal two or three fathoms to form numerous shoals of small areas. Large boulders or boulder patches will account for this condition. There is also a gradual shoaling in certain areas probably due to the action of current on loose material.

An intensive development of large irregular areas of the bank under ten fathoms was made which revealed shoal depths never less than about two fathoms

of the average surrounding depths. The area was not considered of sufficient importance to extend the intensiveness of the survey beyond the ten fathom curve, and there are probably many additional small shoals of two or three fathoms less depth than the adjacent average depths that could be found but which would add little to the value of a chart.

If ledge rock or abnormally large boulders did extend above the general level of the deposit, the chances of finding them by the hand-lead would be very remote. If further examination is desirable it is considered that the area should be wire dragged.

The following areas beyond the ten fathom curve indicate shoaling probably due to the presence of boulders. Further work with the hand-lead may ordinarily be indicated as necessary but in the opinion of the writer it is doubtful whether the lead would reveal any further appreciable shoaling in this particular bottom.

Between positions 58 and 59 K-day is a 10 fathom shoal surrounded by 12 to 14 fathoms.

Between positions 65 and 66 L-day and between 111 and 112 L-day is a 11 to 12 fathom shoal.

Just after position 76 L-day a 10 fathom fathometer sounding was obtained.

Between positions 113 and 114 N-day is a 12 fathom shoal surrounded by 14 to 17 fathoms.


LANDMARKS FOR CHARTS:

Approaching this area from the westward the west coast of Tugidak Island shows as a low continuous bluff with no appreciably higher ground beyond. On the southern end of Sitkinak Island there is a prominent conical hill topped by a sharp knob. A range of hills rises from there terminating in a dome shaped mountain, the highest on the island.


TIDES:

The standard tide gauge maintained on the Pacific American Fisheries Dock at Lazy Bay was used in the reduction of the soundings on this sheet.

Respectfully submitted,


A.C. Thorson, Jr. H.&G.E.
U.S.C. & G.S.S. SURVEYOR

Revised and approved,


F.B.T. SIEMS, H.&G.E.
Chief of Party, C.&G.S.
Commanding SURVEYOR

APPROVAL NOTE OF CHIEF OF PARTY

Sheet Number 41 and accompanying records
have been inspected by me and are approved.

As mentioned in the descriptive report
further hand-lead work is considered superfluous.
A wire drag examination may be in order.



F.B.T. SIEMS, H.&G.E.
Chief of Party, C.&G.S.
Commanding SURVEYOR

LIST OF SIGNALS USED

<u>HYDROGRAPHIC NAME</u>	<u>LOCATION</u>
North Twin	North Twin (1919)
South Twin	South Twin (1919)
Mount	Mount (1929)
Tanner	Tanner (1929)
Light	Light (1930)
Emo	Emo (1929)
Wart	Wart ₂ (1930)
Flat Point	Flat Point ₂ (1930)
Val	Valley Point ₂ (1930)
Dome	Dome (1930)
Cone	Cone (1930)
East	East Base (1930)
Red Bluff	Red Bluff ₂ (1930)
Near	Near (1931)
End	Topographic Sheet "A"
New	"
Nob	"
Nut	"
Dub	"
Old	"
Up	Hydrographic Sheet Reg.5081
Sharp	Topographic Sheet Reg. 4582

STATISTICS SHEET NO. 41

DATE	DAY	VOL.	NO. OF SOUNDINGS		POSITIONS	STATUTE MI.	VESSEL
			H.L.	FATH.	TROLLY	OF SOUNDINGS	
5/20/31	A	1	41	41	9	4.6	SURVEYOR
5/21/31	B	1	225	226	49	19.0	"
5/27/31	C	1	280	264	58	27.6	"
5/28/31	D	1	219	36	46	21.7	"
6/ 5/31	E	2	254	168	52	28.0	"
6/ 8/31	F	2	562	179	137	73.5	"
6/ 9/31	G	2&3	420	42	11	52.0	"
6/17/31	H	3	250		75	26.5	"
6/18/31	J	3	651	313	M2	52.6	"
6/22/31	K	3&4	168	461	M3	45.8	"
6/23/31	L	4	187	618	M3	54.8	"
6/24/31	M	4&5	245	283	M2	39.1	"
6/25/31	N	5	159	715	M3	66.8	"
7/14/31	P	5	369		94	39.0	"
7/15/31	Q	6	170		51	17.9	"
8/17/31	R	6	360		124	45.6	"
8/18/31	S	6	498		135	45.1	"
8/24/31	T	7	172		63	18.2	"
8/25/31	U	7	232		79	24.5	"
8/18/31	A	8	590		153	45.7	HELIANTHUS
8/19/31	B	8	385		96	28.5	"
8/20/31	C	8	404		108	29.0	"
8/21/31	D	8	219		63	18.0	"
8/24/31	E	9	185		68	15.2	"
8/25/31	F	9	102		41	6.5	"

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 5181

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

Number of positions on sheet	<u>2528</u>
Number of positions checked	<u>352</u>
Number of positions revised	<u>3</u>
Number of soundings recorded	<u>8502</u>
Number of soundings revised	<u>143</u>
Number of signals erroneously plotted or transferred	<u>None</u>

Date: 11 November 1932

Cartographer: E. C. McElson

May 24, 1932.

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
9 volumes of sounding records for

HYDROGRAPHIC SHEET 5181

Locality ~~North~~ of Tugidak Island, Sitkinak Strait, S. E. Coast of
Kodiak Island, Alaska.

Chief of Party: F. B. T. Siems in 1931

Plane of reference is mean lower low water, reading

3.3 ft. on tide staff at Lazy Bay
17.7 ft. below B. M. 3

2.9 ft. on tide staff at Three Saints Bay

11.9 ft. below B. M. 1

2.2 ft. on tide staff at Jap Bay

8.4 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.

**Erroneous reducers entered and checked by field party
on C, L and M days causing considerable extra
work in the office.**

Paul T. Whitney
Chief, Division of Tides and Currents.

Section of Field Records

Sheet No 5181

Surveyed in 1931

Chief of Party - F.B.T. Siems

Surveyed by - F.B.T. Siems, A.C. Thorsen

Protected by - A.C. Thorsen

Soundings plotted by - A.C. Thorsen

Verified and inked by E.C. McGlosson

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. The sounding line crossings are satisfactory.
4. The usual depth curves can be completely drawn within the limits of the sheet.
5. The field plotting was completed to the extent prescribed in general instructions.
6. The office draftsman did not have to do over any part of drafting done by field party except as noted on

statistic sheet.

7. The junctions with adjacent sheets are satisfactory except that H5179 does not join H5181 in the south east corner. There seems to be a gap which could be taken care of by running one or two parallel lines.

Respectfully submitted,
E. L. McGlosson

Section of Field Records
Review of Hydrographic Sheet No. 5181
North of Tugidak Island, Kodiak Island, Alaska
Surveyed May - August 1931
Instructions dated April 17, 1931 (Surveyor)
Chief of Party - F. B. T. Siems
Surveyed by F. B. T. Siems and A. C. Thorson
Protracted and soundings plotted by A.C. Thorson
Verified and inked by G. C. McGlasson

1. The records generally conform to the requirements of the Hydrographic Manual except that the smooth sheet does not show the initials of the persons constructing and verifying the projection, etc.
2. The plan and extent of development satisfy the specific instructions.
3. Soundings are by fathometer, machine and hand lead. The comparative readings plotted on the sheet are indicated by F and VC. No serious discrepancies were noted. The agreement in depth at crossings is as good as can be expected in this character of bottom.
4. Depth curves. The development is sufficient to draw the usual curves. The five, ten and twenty fathom curves appear on the sheet.
5. Junctions with adjacent sheets H-5081, H-5084 and H-5180 are satisfactory. The junction with H-5179 at the southwest corner of this sheet lacks one line to make the development equal to that on H-5179 or three lines to make it equal to this (H5181) sheet. The 11 and 12 fathom sounding from H-5179 should have been developed. There is no recent survey southward and southeastward of this junction point.
6. Comparison with previous surveys. This is the first detailed survey of the area. The few soundings shown in this area on Chart 8502 are in substantial agreement with the present survey.
7. Recommendation. This sheet (H-5181) should supersede all previous information for charting purposes of the area represented by it.

No further sounding is considered necessary.

- *Most of the area inside of the 10 fathom curve is rocky and, as stated in the descriptive report, probably contains boulders. Only the drag, therefore, will give assurance of freedom from dangers. **Only very intensive drag work would be of any use. Such work would not be warranted unless commercial importance of this area made it necessary.*
8. Reviewed by R. J. Christman, November 18, 1932. *A. M. S.*

Inspected: E. P. Ellis.

App: A. M. Sobieralski