4509

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

State SOUTHWEST ALASKA

11—5613

DESCRIPTIVE REPORT.

Hydrographic *Sheet No.* "B" 4509

LOCALITY:

ALASKA PENINSULA

Offshore Chignik Bay

~~VICINITY NAKCHAMIK ISLAND~~

to Entrance

~~AND~~

~~ENTRANCE CHIGNIK BAY~~

1925

CHIEF OF PARTY:

Clem L. Garner

4509

WWB

MAR 23 1926

~~Division of Hydrography~~ and Topography:

Division of Charts:

Tide reducers are approved in
6 volumes of sounding records for

HYDROGRAPHIC SHEET NO. 4509

Locality: S. W. Alaska

Chief of Party: C. L. Garner in 1925.

Plane of reference is
6.3 ft. on tide staff at Chignik

For reduction of soundings, 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 each 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. Romarks.

G Rude

Chief, Division of Tides and Currents.

DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SHEET "B".

SOUTHWEST ALASKA SEASON 1925.

Instructions dated March 25, 1925.

Clem L. Garner - Chief of Party.

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GENERAL: This hydrographic sheet comprises a part of Chignik Bay and the general approaches on both sides of Nakchamik Island, Southwest Alaska.

The designation of "B" is retained from a sheet of 1924, which covered a large part of the same territory as the present sheet and was not thoroughly developed because of unfavorable conditions causing the close of that season. The additional work in the same territory for 1925 was to cover areas which were not covered in 1924.

New sheets were used for the 1925 work in order to avoid confusion.

DESCRIPTION OF COAST AND ISLANDS: Practically all of the coast line covered by this sheet is rocky with sheer cliffs of more than 200 feet in places and the shore line generally strewn with boulders of varying sizes but extending out from the shore usually not more than 100 meters.

Atkulik and Kak Islands are both very precipitous, especially on the north and west sides, are steep-to on all sides and from a distance usually appear very dark. Kak Island is of peculiar columnar formation, which, however, is only distinguished when close to, and has grass on top and partly on the sides. There are single detached rocks, 25 and 75 feet in height respectively, on the west and south sides of Atkulik Island, which are of assistance in identifying this island in thick weather.

Nakchamik Island is heavily eroded on the south side and the bare steep slides are of a very brown tint when seen in the sunlight. During overcast weather, however, it appears dark from all directions, with generally steep slopes. There are small sand beaches on the southwest and the northwest sides both of which are at the foot of small valleys. Lone Top mountain, determined by triangulation and known as Lone is a very symmetrical cone for the last third of its elevation and is the most distinct and prominent object on the island. This can be seen when approaching from seaward from all directions except a 90 degree arc with center about south. The higher mountain to the south of Lone obscures in this direction.

Descriptive Report - Hydro. Sheet "B" (Continuation sheet #1)

The coast line of Cape Kumliun is bold and precipitous west of the triangulation station RAG. To the east and north the coast line is bordered with low bluffs and cliffs not averaging more than 40 feet in elevation. Beyond these the slopes are gentle grass covered hills gradually rising to the highest elevation of the cape at station Kumliun.

The area covered by this sheet can be navigated with safety within a reasonable distance of the visible rocks or coast line except for the reef between Nakchamik Island and Univakshak Island which bares at extreme tides, has a small amount of kelp, during the summer season, and consists of a group of several rocks extending a distance of about 300 meters in northeast and southwest direction. These rocks are to the northeast of the position given for the least depth.

This reef is locally known as the KATMAI REEF because of the Northwestern Fisheries Company's tender KATMAI stranding on it and it is therefore recommended that this name be used on the charts.

The group of rocks one mile off the shore of Cape Kumliun and in approximate longitude 157° 57' are connected by reefs, have only a small fringe of kelp around them and are apparently very steep-to.

Nakchamik Island is generally steep-to but vessels should keep at least one-half mile off from all points as there are short projecting reefs and indications that pinnacles might exist. This is especially true off the four points in the vicinity of topographic signals DID, MA, SET and triangulation station MIK.

CURRENTS: No current observations were made during the course of this work but effects of the current were readily felt during the hydrography. These appeared to be mostly tidal but are very irratic probably on account of the uneven bottom and were most strongly observed outside of a line running northeast and southwest through Kak Island, which was also the general direction of the set. It is not believed that this amounts to more than one mile per hour and is strongest when running to the northeast.

CONTROL: The control of the entire sheet was from triangulation stations and topographic signals determined the previous season, with the exception of hydrographic signals NOL and MARK, which were determined by sextant. However, triangulation stations were used the greater part of the time and in fact whenever good fixes could be obtained with them.

ANCHORAGES: Of the several anchorages within the limits of the sheet which were used by the DISCOVERER during the course of the work, none can be recommended for other than fair weather anchorages as they afford but little protection from heavy storms and the holding ground is not good.

The easterly bight on the north shore of Chankliut Island can be used for an anchorage affording shelter from southwest winds. However, any heavy southwest wind in this locality is liable to change to a northwester with very little notice when no protection would be afforded.

ANCHORAGES:(Continued) The DISCOVERER also anchored in 11 fathoms, hard bottom, in the center of the largest bight on the west side of Nakchamik Island. Here protection may be had from the stromg northwest winds blowing out of Chignik Bay. Anchorage was also made in 16 to 20 fathoms about 700 meters off the northwest side of the island. Some protection is afforded from southeast and southwest winds by changing position from about the middle of the island to opposite signal LOW for southwest winds. The extreme north end of the island is very steep-to and can not be used for anchorage at all.

METHODS AND RESULTS: Practically all soundings in the area of this sheet were made with the Rude tubes in depths of less than 80 fathoms and with up and down wire soundings for depths over that amount. It was found that greater efficiency can be had by making up and down soundings after reaching the 80 fathom depth for the reason that with tubes the speed of the ship has to be considerably reduced to secure the desired results and even under the best of conditions misses are often had.

For the tube soundings there were daily comparisons with up and down wire casts in strict accordance with the instructions for this work. On the whole there were very few rejections of soundings.

As will be noted from the sheet the bottom of the entire area is very uneven and to such an extent that it was impossible to tell what amount of sounding would be necessary to develop any area. For that reason sounding lines were usually run 1200 meters apart as only a small area has depths exceeding 100 fathoms and the 600 meter lines were run later if the depth was found to be less than 50 fathoms.

In many places the depths were found to be less than the 50 fathoms mentioned and as many of the intermediate lines as possible were run during the season but in order to coordinate the movements of shore parties and all units of the work it was often necessary to be at considerable distances from any part of this sheet. Consequently it was not economical or advisable to lose so much time in running back and forth between the work on this sheet and other parties. For that reason all areas are not finished in detail.

The areas of this sheet, which according to present instructions for spacing sounding lines, are in need of additional development are marked in red pencil totaling about 75 miles of actual sounding lines. It was originally intended to leave unfinished work only on sheet "A" and until the very last of the season it was considered possible to finish all details for "B" sheet. This, however, proved to be impracticable on account of unfavorable conditions during September.

The soundings of this sheet are reduced from the tide gauge in Anchorage Bay, Chignik.

The usual statistical sheet accompanies this report.

Respectfully submitted

Clem L. Garner

Clem L. Garner,
Chief of Party.

Records examined and approved each day of field work,
June 1, 22, Aug. 1, 7, 11, 12, 13, 14, 15, 19, 26, 27
Sept. 1, 8, 19.

Clem L. Garner

STATISTIC SHEET
to accompany
Hydrographic Sheet No.B

Vicinity of
NAKCHAMIK ISLAND

Date	Letter	Volume	Positions	Soundings	Statute Miles	Vessel
1925						
June 10	A	1	37	91	16.0	DISCOVERER
22	B	1	27	64	20.0	"
Aug 1	C	1	34	76	12.7	"
7	D	1	54	155	30.5	"
11	E	2	63	157	30.5	"
12	F	2	120	295	62.0	"
13	G	3	135	288	82.8	"
14	H	3&4	163	377	75.6	"
18	J	4	127	279	69.0	"
19	K	5	134	280	76.0	"
26	L	5	89	138	54.3	"
27	M	6	94	163	59.4	"
Sept 1	N	6	44	44	33.3	"
8	P	6	36	75	25.5	"
9	Q	6	6	16	1.9	"
	15	6	1166	2498	649.5	Totals

Area in sq. statute miles - - 413

Report on Verifying and Inking H4509.

The records and notes are in general very good.

The protracting and plotting of soundings were well done.

There is a note at position 27C "7 fms." the meaning of which should be ascertained.

Several places, where one of the tubes failed or where they disagreed, there are indications of possible shoaler depths than adjacent soundings.

See: 6B (Time 10:00:30)
13C (" 2:07:30)
53D (" 2:32:50)

The sea bottom in the area of this sheet is very irregular and very detailed surveys will be required to fully develope it. The way a shoal can be missed is illustrated by the 28 fms. spot found in 1925 (Lat 56°17', Long 158°60½'). The 1924 survey showed 15 fms. near here.

F. M. Albert,
Cartographer, Section of Field Records.

June 1, 1926.

E.R.

ADDRESS THE DIRECTOR
U.S. COAST AND GEODETIC SURVEY

AND REFER TO No. 11-DRM

DEPARTMENT OF COMMERCE

U.S. COAST AND GEODETIC SURVEY

WASHINGTON September 28, 1926.

SECTION of FIELD RECORDS

Report on Hydrographic Sheet No. 4509

Offshore Chignik Bay, Alaska Peninsula

Surveyed in 1925

Instructions dated March 11, 1924 and March 25, 1925 (DISCOVERER)

Chief of Party, C. L. Garner.

Surveyed by C. L. G., R. L. Schoppe.

Protracted by C. D. Meaney, C. L. G., R. L. S., L. S. H.

Soundings plotted by C. D. M.

Verified and inked by F. M. Albert.

1. This sheet supplements the work on H. 4449 as well as containing additional work.

2. The records conform to the requirements of the General Instructions.

3. The plan and character of development conform to the requirements of the General Instructions.

4. The plan and extent of development satisfy the specific instructions, except that all indications of dangers were not developed. The more important of these will be mentioned hereafter.

5. There are no cross lines on this sheet and the bottom is too irregular to permit of a comparison of adjacent sounding lines.

6. This sheet was primarily plotted in the office by a field officer. A small amount of protracting was done in the field.

7. The information is sufficient for drawing the usual depth curves. Where this sheet overlaps H. 4449 the curves represent a combination of the two surveys.

8. The junction with H. 4508 is satisfactory.
The junction with H. 4397 is adequate.
A proper junction has been effected with H. 4388.
The junction with H. 4433 is satisfactory except that the work should have been extended closer inshore so as better to develop the 50 fathom curve in the area east of Tuliumnit Point.
The junction with H. 4502 is adequate. It is to be noted, however, that wherever the lines on the two surveys cross and there is a disagreement, the soundings on H. 4509 are always shoaler. H. 4509 represents tube work while H. 4502 represents up and down soundings.
The junction with H. 4507 is satisfactory.
The junction with H. 4449 is generally satisfactory except in the vicinity of Lat. 56° 20', Long. 158° 00' where the intermediate lines run on H. 4509 do not agree with the adjacent lines on H. 4449. The two surveys being on the same scale, they can be easily superimposed. Special attention is called to the 26 fathom sounding (from H. 4449) in lat. 56° 20', long. 158° 00' 390 meters, where the later survey H. 4509 shows no indication whatever.
The junction with H. 4506 on the east will be taken up in the review for that sheet.

9. It is evident from an inspection of the sheet that the bottom is very irregular. Considerable more work is necessary merely to develop the indications of dangers and drag work should be done where the depths found approach the danger limit.
No detailed statement will be made of all the areas that need additional work. The boat sheet contains red lines marked by the Chief of Party where it was contemplated doing additional work. All such areas should be surveyed and an inspection should be made of the smooth sheet when outlining future work.

The following are some of the more important places that need additional work and which are not outlined on the boat sheet:

a. The 18 and 19 fathom shoals south of Cape Kumlium in vicinity of lat. 56° 27', long. 157° 54'.

b. A development of the 23 fathom sounding (20 fathoms on boat sheet for H. 4506) in lat. 56° 25', long. 157° 43'.

c. The 28 fathom soundings in lat. 56° 17', long. 158° 00 3/4'.

d. A development of the area in the vicinity of lat. 56° 20', long. 158° 00', particularly the 26 fathom sounding from H. 4449.

e. A development of the 30 fathom sounding in lat. 56° 15 3/4', long. 158° 03 1/2'

f. A development of the area with less than 25 fathoms in the vicinity of lat. 56° 19' to 56° 20' and long. 158° 05' to 158° 07' and particularly the 21 fathom spot.

g. The 21 fathom shoal (19 on H. 4449) in lat. 56° 22 1/2', long. 157° 59' should be closer developed.

h. The 16 fathom sounding about 1/2 mile due west of Atkulik Island should be developed.

10. Character and scope of field operations - very good.
Field drafting - very good.

11. Reviewed by A. L. Shalowitz, September, 1926.

Form 537
11—5812

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

4509

HYDROGRAPHIC TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. "B" 4509
4509

State SW. Alaska

General locality . . ~~Southwest~~ Alaska Peninsula

Locality . . . Offshore ~~Entrance~~ Chignik Bay to Entrance

Chief of party . Clem L. Garner

Surveyed by . . Clem L. Garner - C.

Date of survey . . . June 10 - September 9 1925.

Scale . . . 1:60000

Soundings in . . Fathoms

Plane of reference . . MLLW

* Protracted by C.L.G.- R.L.S. L.S.H. Soundings in pencil by --

Inked by . F.M.A. Verified by F.M.A.

Records accompanying sheet (check those forwarded):

Des. report, X Tide books, X Marigrams, X Boat sheets,

X Sounding books, X Wire-drag books, == Photographs. --

Data from other sources affecting sheet

Remarks:

Records do not accompany sht. Have been transmitted. C.L.G.

* Only a few positions protracted by the field party Etc.