

4497

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

State: Southwest Alaska.

11-5010

DESCRIPTIVE REPORT.

Hydrographic Sheet No. **64497**

LOCALITY:

Alaska Pen. ~
 Aniakchak Bay

~~Southwest Alaska~~

Kumlik I.

1925

CHIEF OF PARTY:

CLEM L. GARNER

MAR 23 1926

~~Division of Hydrography and Topography:~~

Division of Charts:

Tide reducers are approved in
/ volume of sounding records for

HYDROGRAPHIC SHEET NO. 4497

Locality: Aniakchak Bay

Chief of Party: C. L. Garner in 1925

Plane of reference is M. L. L. W.
6.3 ft. on tide staff at Chignik
6.8 " " " " Aniakchak

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. Remarks.



Chief, Division of Tides and Currents.

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET NO. 6

Vicinity of Kumilik Island

Clem L. Garner, Chief of Party. - - - - - Instructions Dated March 25, 1925

LIMITS: The hydrography on this sheet comprises that area surrounding Kumilik Island bounded on the North by a line drawn between triangulation station Bluff in Lat. $56^{\circ}40.3$ Long $157^{\circ}29.6$ and triangulation station BLACK in Lat. $56^{\circ}39.2$, Long $157^{\circ}18.8$, on the east by Long. $157^{\circ}16'$, on the south by Lat $56^{\circ}37\frac{1}{2}$, and on the west by the eastern extremity of Cape Kumlik. A reconnaissance line runs due north in Long. $157^{\circ}22\frac{1}{2}$ as far as Lat $56^{\circ}44\frac{1}{2}$.

COASTLINE AND LAND MARKS: The coastline of Cape Kumlik at the eastern extremity of the Cape rises abruptly from the sea to a height of over a thousand feet and is surmounted by a small barren rocky plateau. Farther north, as triangulation signal BLUFF is approached the rocky cliffs give place to rolling grass covered hills, followed by small flats and a lagoon at the head of Aniakchak Bay.

Kumlik Island is approximately one mile long and half a mile wide. Its shore line is a series of bare rocky cliffs. On the Northwestern side of the Island a short stretch of sandy beach exists. The remaining shoreline is a series of rocky bluffs from which steep grass covered slopes rise to the top of the island at an elevation of slightly over a thousand feet.

The best land mark on the sheet is Kumlik Island itself. When some distance to the eastward this island may be mistaken for part of the mainland, as the end of the Cape at this point is approximately the same elevation, and is also barren and rocky. From all other directions the half mile wide channel between it and the mainland enables the island to be distinguished easily.

The bold rocky cliffs and the small barren rocky plateau at the end of the Cape may also be easily identified. From this rocky plateau a range of barren reddish colored peaks rise to an elevation of over 2500 feet.

A straight rocky pinnacle with a flat grass covered top rises to a height of 850 feet in latitude $56^{\circ}40'$, longitude $157^{\circ}26\frac{1}{4}'$. This is station PAV.

DANGERS: Triangulation station Black was not occupied by plane table and hence no topography was done. This rock however is black and small. It is about 50 meters in length in an east and west direction and about 25 meters in width, and has an approximate height of 8 feet above high water, as observed from the steamer working close by. At high water the rock is single but at half tide a reef of small extent and as represented on the sheet, shows to the eastward. The rock is surrounded by a small kelp patch.

Triangulation station PAV^R is a pinnacle rock in latitude $56^{\circ}40'$, longitude $157^{\circ}26\frac{1}{4}'$. From this pinnacle a dense patch of kelp makes out due west for half a mile. Extending from PAV^R in a south east direction to the shore of Kumlik island is a series of reefs marked by kelp. There is an isolated reef marked by kelp a quarter mile southwest of PAV^R in latitude $56^{\circ}39.7'$, longitude $157^{\circ}26\frac{1}{2}'$.

This is station PAR in computations
C.L.G.

A reef 200 meters in length makes out west of triangulation station Bluff in latitude $56^{\circ} 40\frac{1}{4}$, longitude $157^{\circ} 28\frac{1}{2}$. This reef is well marked by kelp.

There are a series of reefs and kelp patches surrounding Kumlik Island to a distance of a quarter of a mile off the beach. It is unsafe to approach the shore any closer than this distance.

CHANNELS: A channel safe for navigation, with a minimum found depth of 7 fathoms exists between Kumlik and the mainland. This channel is used by cannery vessels entering Aniakshak Bay from the south. All dangers in this channel are well marked by kelp. Several obstructions nearby the southern approaches to this channel are shown on hydrographic sheet #5 and described on the report covering that area.

SURVEY METHODS: The hydrography of this sheet was done by the steamer Anne W. For the shoaler depths a twelve pound hand lead was used, but where the depths were too great to permit of the use of this method the soundings were taken with a steam sounding machine, using stranded wire with a twenty pound lead. The signals were triangulation signals and natural objects located by plane table. Sounding lines were run in a general north and south direction and normal to the coast of Kumlik Island with the exception of the hydrography in the channel between Kumlik Island and the mainland. As this channel is only half a mile in width, channel lines were run parallel the coast. All lines were run by compass courses.

TIDES AND CURRENTS: The soundings on this sheet were reduced from data obtained from a tide gauge established in Aniakshak Bay. As this gauge was only in operation for two days a comparison was made with the gauge in Chignik. No current observations were made but a strong tidal current was noted between Kumlik Island and the mainland of Cape Kumlik.

CHARACTER OF BOTTOM: The bottom was for the most part regular. A sharp break in the bottom was found a mile off the north east coast of Kumlik Island. Time did not permit of a full development of the bottom in this region. Between Kumlik Island and the mainland the bottom was chiefly hard. To the eastward of Kumlik Island numerous shell characteristics were obtained.

ANCHORAGES: There are no satisfactory anchorages on this sheet. The DISCOVERER anchored several times about $\frac{3}{4}$ of a mile north of Kumlik Island in about longitude $157^{\circ} 25'$, in 15 to 16 fathoms of water. This anchorage offers very little protection. The Anne W. made use of an anchorage in the channel between Kumlik Island and the mainland just off signal BRI in 12 to 15 fathoms of water, soft bottom. This anchorage offers slight protection for easterly weather only.

Respectfully submitted

Robert W. Knox
Robert W. Knox
Jr. H. & G. Eng'r.

Approved and forwarded:

Glen L. Garner

Glen L. Garner,
H. & G. Eng'r.
Chief of Party.

*Records of this work
Examined and approved Sept 28-10-1918
Glen L. Garner*

STATISTICS SHEET
to accompany

Hydrographic Sheet No. 6

ANIASHAK BAY

Date	Day	Volume	Position	Soundings	Statute Miles	Vessel
1925						
Sept. 3	a	1	12	26	6.2	Anne W.
8	b	1	50	145	15.0	" "
10	c	1	93	130	25.8	" "
11	d	1	32	32	13.0	" "
12	e	1	20	24	5.8	" "
Totals	5	1	207	357	65.8	Totals

Area: 13 square statute miles

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO NO. 11-DEM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

May 7, 1927.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4497

Vicinity of Kumlik Island, S. W. Alaska

Surveyed in 1925

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

Chief of Party, C. L. Garner.

Surveyed by R. W. Knox.

Protracted and soundings plotted by C. E. Christopherson.

Verified and inked by H. E. MacEwen.

1. The records conform to the requirements of the General Instructions except that on stop soundings the time of going ahead was not always given, making it difficult to accurately plot the soundings. In most of these cases a uniform spacing was used. The records were also lacking in notes as to rocks and reefs.
2. The plan and character of development conform to the requirements of the General Instructions except that more lines should have been run in the 18 - 20 fathom area in latitude $56^{\circ} 39\text{-}1/2'$, longitude $157^{\circ} 22'$, showing possibilities of shoaler water.
3. The plan and extent of the survey satisfy the requirements of the specific instructions except that in the area between \triangle Black and Kumlik Island the spacing of lines 300 meters apart in depths less than 20 fathoms was not adhered to. This was doubtless due to the termination of the season.
4. The information for drawing the usual depth curves is incomplete in places. This can be readily seen by an inspection of the sheet.
5. The sheet was entirely plotted in the office pursuant to an experimental scheme of transmitting all the field records to the office for plotting and verification. It should be noted that if this scheme is permanently adopted then it will be necessary for field parties to exercise great care in indicating by appropriate notes on boat sheets such information that was merely sketched from the

boat and not accurately located. Otherwise an uncalled for duplication may result in plotting the smooth sheet, since it is an accepted rule of office practice to transfer all information from the boat sheet to the smooth sheet where such information is not evidenced by any other source. The practical effect of this is that frequently a reef or rock is located by topography and the hydrographer very roughly transfers this rock or reef to his boat sheet without noting that the work was so transferred. Or again, he may pass the rock on a sounding line and roughly estimate his distance from the line and plot it on his sheet without making a note in the record. If no other cuts are recorded for this rock and the estimated distance was erroneous it will not agree with the topographic location and the cartographer will be compelled to show two rocks on the smooth sheet when in reality but one exists. Such a case occurred on this sheet off the southeast end of Kumlik Island, and were it not for a personal conversation with the hydrographer a reef extending twice the distance offshore than actually exists would have been charted.

6. The junction with H. 4495 is satisfactory. That with H. 4506 will be taken up when that sheet is reviewed.
7. Additional work is needed in the area between Kumlik Island and \triangle Black. This should be done when the work is extended to the northward.
8. Attention is called to the following:

There was no planetable work done at \triangle Black. The topographic representation at the station as shown on this sheet was sketched from the combined information on the boat sheet, in the Descriptive Report and description of the station. This sheet is therefore the only source of information, for charting purposes, that will be found relative to this rock.

9. Character and scope of surveying - good.
10. Reviewed by A. L. Shalowitz, May, 1927.

Approved:

Chief, Section of Field Records (Charts)

Chief, Section of Field Work (H. & T.)

Section of Field Records.

Report on Hyd sheet No. 4497

Surveyed in 1925.

Chief of Party - Clem L. Farmer

Surveyed by - R. W. Knox

Protracted by - C. E. Christopheron

Soundings plotted by - C. E. C.

Verified and inked by - H. E. MacEwen

1. The records conform to the requirements of the general instructions.
2. The area was well covered.
3. The usual depth curves can be completely drawn, though a closer development in some sections would have allowed a more positive interpretation of the bottom.
4. The smooth sheet was made entirely in the office.
5. No further surveying is required to disclose important dangers to navigation.
6. Remarks: There are plotted on the boat sheet six (6) rocks awash for which no information could be found.

They appear neither in the Records nor on the Topographic sheet. One off the Southeast Coast of Nunlik Island appears to be questioned on the Boat sheet indicating that the position & existence of the rock is doubtful. Since these rocks are located in important areas it seems that the field party should have supplied some supporting information concerning them.

7. Rating:

(a) Character and scope of surveying - Good

Respectfully submitted

H. E. MacEwen

Draftsman

2/25/27

Reviewed by:

Date:

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

4497

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. (6) 4497

State . . . ^{SW.} ~~South West~~ Alaska

General locality . ~~Alaskan Peninsula~~ ~ Aniakchak Bay

Locality . ~~Kumlik Island~~ . ~~Aniakchak Bay~~

Chief of party Clem. L. Garner

Surveyed by . Robert W. Knox

Date of survey . September 3, 1925

Scale 1.:.20,000

Soundings in . . Fathoms

Plane of reference . Mean Lower Low Water

Protracted by Soundings in pencil by

Inked by Verified by

Records accompanying sheet (check those forwarded):

Des. report, ___0___ Tide books, ___*___ Marigrams, ___1___ Boat sheets,

___1___ Sounding books, ___0___ Wire-drag books, ___0___ Photographs.

Data from other sources affecting sheet . . none

Remarks: