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Form 504  
Rev. April 1935

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Topographic

Hydrographic

Sheet No.

2239

DECLASSIFIED BY NOAA  
SUBSISTENCE REPORTS REVIEW  
GUIDELINES AS DESCRIBED IN SECTION  
2.3(p), EXECUTIVE ORDER 12356.

State Southwest Alaska

LOCALITY

North side, <sup>shore</sup> West end of Umnak Id.

Between Nikolski, Cape Sagak and

Adugak Island.

19340.

CHIEF OF PARTY

J. H. Peters

CP

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO.

HYDROGRAPHIC TITLE SHEET

DECLASSIFIED BY NOAA  
PURSUANT TO DOC SYSTEMATIC REVIEW  
3.3(a), EXECUTIVE ORDER 12355

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. 2239

REGISTER NO. H6610 (Confidential)

State Southwest Alaska, Aleutian Islands

General locality North <sup>shore</sup> side, ~~West end~~ of Umnak Island

Locality Between Nikolski, Cape Sagak and Adugak Island.

Scale 1:20,000 Date of survey 1939 & 1940, 19

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

Chief of Party Ray L. Schoppe and J. H. Peters  
J. M. Smook, P. C. Doran, E. B. Latham, J. Bowie

Surveyed by J. D. Thurmond, D. E. Sturmer

Protracted by Seattle Processing Office

Soundings penciled by Seattle Processing Office

Soundings in fathoms ~~feet~~ Fathoms

Plane of reference Mean Lower Low Water

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated February 3, 1938 & February 21, 1940  
& May 8, 1940

Remarks:

DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SHEET NO. , FIELD NO. H2239

WEST OF NIKOLSKI

WEST END UMNAK ISLAND, NORTH SIDE, TO AND

BETWEEN CAPE SAGAK AND ADUGAK ISLAND

ALEUTIAN ISLANDS, ALASKA

- o -

U. S. C. & G. S. S. EXPLORER

J. H. PETERS, COMMANDING

DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SHEET NO. , FIELD NO. H2239

WEST OF NIKOLSKI

WEST END UMNAK ISLAND, NORTH SIDE, TO AND

BETWEEN CAPE SAGAK AND ADUGAK ISLAND

ALEUTIAN ISLANDS, ALASKA

U. S. C. & G. S. S. EXPLORER

J. H. PETERS, COMMANDING

INSTRUCTIONS:

Instructions for this survey were issued to the Commanding Officer of the SURVEYOR, dated February 3, 1938, and to the Commanding Officer of the EXPLORER, dated February <sup>8</sup>21, 1940. and May 8, 1940

SURVEY METHODS:

The sheet was surveyed in accordance with instructions of February 3, 1938, the Hydrographic Manual (Special Publication No. 143) and the Director's letter to the Commanding Officer dated May 6, 1940, outlining procedure for using the LAUNCH DEPTH RECORDERS. In 1939, the SURVEYOR'S motor sailer and Launches Nos. 3 and 4, were used. All positions were determined by three point sextant fixes, using signals located by triangulation and topography. Launch soundings were obtained by hand lead and wire. Bottom specimens were obtained at various intervals by putting tallow on the bottom of the lead. Approximately eighty-five per cent of the sheet was completed in 1939.

In 1940 the EXPLORER'S Launches Nos. 2, 3, and 4, were used to

complete the survey. Positions were determined the same as before, but the soundings were obtained by LAUNCH DEPTH RECORDERS (SUBMARINE SIGNAL COMPANY PORTABLE FATHOMETER NO. 808.) Usually, fixes were obtained every three minutes, except in developments or in areas affected by variable currents for which fixes were taken at two minute intervals. At each fix, the marker button on the fathometer, was pressed to mark the graph for that position. Soundings were entered in the record book every minute for depths over twenty fathoms and every one-half minute for depths under twenty fathoms. Peaks were recorded for development purposes. These soundings were placed on the boat sheet at night. Every tenth fix was numbered on the graph during operations for identification. Later, usually a bad weather day, the graph was removed from the fathometer and thoroughly scrutinized, soundings corrected in the record book, all critical soundings recorded and each position numbered on the graph. When sounding, depths over twenty fathoms were read and entered in the record book to the one-half fathom, and under twenty fathoms, to the shoaler even fathom. When scrutinized, the depths were scaled to the one-sixth fathom and so entered in the record book.

For scrutinizing and scaling, a small box was made containing two spools and a eight inch flat surface for reading. Paper was rolled on to re-roller as scanning progressed. A celluloid scale was made to obtain the correct time at any point on the bottom curve between fix marks.

Bar checks were made three times a day. The bar was lowered to four fathoms to keep clear of the discoloration caused by the initial spark. R.P.M. counts were taken at the same time the bar checks were made.

While sounding, it was not necessary to back the launch at any time, consequently, the propeller reverse was not used except to clear the wheel of kelp or when de-kelping the fish.

The organization of the launch party consisted of two officers and four men. The officers doing the usual duties of taking right and left angle and plotting. The four men performed the duties of coxswain, engineer, recorder and fathometer reader. At first, the recorder read the fathometer and pressed the marker button but this was changed because he had too many things to do at once, making mistakes in time, reading the fathometer five or ten fathoms off, or missing some important note for the remarks column. Having a man to attend the fathometer only, solved this condition. The fathometer reader called out the soundings, pressed the marker button, numbered the positions on the correct marks, operated the shift scale lever when necessary and adjusted the amplification to obtain a clear graph of the bottom profile. The recorder was then free to keep the time under control and keep a correct and neat record book. An electric bell with a pushbutton contact was made for "stand-by", and "mark", for taking fixes and marking the graph. A buzzer clock was also used, buzzing every minute. Fathometer soundings were corrected for initial, speed, temperature and salinity; the last

Review  
Paragraph  
7-c

two being negligible.

JUNCTIONS:

Sheet No. 2239, <sup>H-6610 (1939-40)</sup> joins sheet No. 2338, Reg. No. <sup>H 6505 (1939)</sup> on the northeast;   
 ~~sheet No. 8137, Reg. No. 6383, on the north,~~ <sup>+ sheet No. H 6503 (1938-39-40)</sup> northwest, and west; and   
 sheet No. 2339, Reg. No. <sup>H-6611 (1939-40)</sup>, on the southwest in the vicinity of Samalga   
 Island.

DISCREPANCIES:

Junctions with adjacent sheets and between launch and ship soundings were very good. Crossings were ~~excellent~~ <sup>satisfactory</sup>, especially the 1940 fathometer crossings on the 1939 hand-lead and wire soundings.

DANGERS:

Ships should avoid passing too close to Adugak Island at night or at times of fog or limited visibility because of strong currents and deep water close to the island.

The same applies to Pancake <sup>Rock</sup> ~~Reef~~, located at latitude  $52^{\circ}56.15'$  and longitude  $169^{\circ}01.6'$ .

There is a clump of small rocks in vicinity of latitude  $52^{\circ}55.3'$ , and longitude  $169^{\circ}00.6'$ .

<sup>low</sup> A rock island is located at latitude  $52^{\circ}55.2'$ , and longitude  $169^{\circ}00.05'$ , with small rocks close by, several two hundred meters northwest, and two rocks awash four hundred meters south. The area east of this rock island to Umnak Island (one mile) is thick with kelp, foul, and to be avoided by any type of boat except by local knowledge, in which case small power boats or dories drawing four feet or less can pass through

a narrow stretch of clear water between the main part of the island and a small, flat, sand island, almost awash at high tide, located at latitude  $52^{\circ}55.18'$ , and longitude  $168^{\circ}58.75'$ .

A <sup>4 1/2</sup> ~~four~~ fathom shoal indication, latitude  $52^{\circ}56.25'$ , longitude  $168^{\circ}59.65'$ , was developed by D. E. Sturmer in 1939, on sheet No. 2338. (H 6505) (1939)

At latitude  $52^{\circ}54.3'$ , longitude  $168^{\circ}58.9'$ , is a rock baring two or three feet at high water. West of this rock are three rocks, covered at high tide, at distances of two, three, and four hundred meters. The five fathom curve extends <sup>800</sup> ~~six~~ hundred meters west and ~~six hundred meters~~ west and six hundred meters northeast. of the above islet.

At latitude  $52^{\circ}53.35'$ , longitude  $168^{\circ}59.8'$ , is a <sup>three</sup> ~~two~~ fathom rock surrounded by thin kelp.

In vicinity of latitude  $52^{\circ}53.0'$ , longitude  $168^{\circ}59.4'$ , are three ~~one fathom~~ rocks surrounded by thin kelp, depths  $1\frac{1}{6}$ ,  $1\frac{2}{6}$  +  $1\frac{4}{6}$  fms. area

A shoal <sup>1 1/2</sup> extends off-shore for ~~two~~ miles in a N.N.W. direction from the mainland at vicinity of latitude  $52^{\circ}52.0'$ , longitude  $169^{\circ}03.5'$ .

This is a foul area, containing heavy kelp patches and numerous one, two, three, four, and five fathom spots. Strong currents and heavy tide rips were encountered. Breakers were noticed in this area in heavy weather.

Least depth  
 $\frac{5}{6}$  fms  
 $\phi 52^{\circ}52.6$   
 $\lambda 169^{\circ}03.7$

This area is dangerous for small boats or dories and must be avoided except by keeping close inshore (two hundred meters) and keeping out of

kelp patches. *Even this channel is obstructed by  $1\frac{3}{6}$  fathom spot in lat  $52-52.25$  long.  $169-03.32$*

At latitude  $52^{\circ}50.5'$ , longitude  $169^{\circ}06.55'$ , there is a <sup>1 5/6</sup> ~~one~~ fathom spot with kelp in the vicinity. There are other one fathom spots one-

$\frac{3}{6}$  fms  $\phi 52^{\circ}50.3$   
 $\lambda 169^{\circ}05.8$



quarter to one-half mile to the E.S.E., where the five fathom curve makes out from the beach.

At latitude 52°51.2', longitude 169°06.15', is a <sup>2 1/2</sup> three fathom spot with kelp in the vicinity. To the E. and S.E. of here are numerous small ~~3 1/2 to 5~~ five fathom shoals and kelp patches.

In the area bounded by latitudes 52°50' to 52°54.5, between longitudes 169°04.3' and 169°08', the bottom is very irregular with five, ten, and fifteen fathom shoals. Ships should avoid this area and stay west of the twenty fathom curve, excepting small launches or dories.

Least depths  
5 fm in  
φ 52°-54.0  
λ 169°-06.0  
1 1/2 fm in  
φ 52°-53.4  
λ 169°-03.4

CHANNELS:

For dories or small launches, drawing four feet or less, a passage is available between the mainland and small, flat sand island (latitude 52°55.5', longitude 168°58.75'). See paragraph four, under "DANGERS".

(Page 5)

Any dory or small launch passing the point at latitude 52°52.0', longitude 169°04.0', should keep within two to three hundred meters off the beach or two miles or more off the point. A heavy, impenetrable kelp patch is at vicinity of latitude 52°52.5', longitude 169°03.5'. (See remarks pertaining to this shoal in the "DANGERS", paragraph.

\* Depths indicate the best passage is about 300 meters offshore midway between 2 1/2 fm and 1 1/2 fm shoals south of this kelp patch.

Dories or launches can pass between PANCAKE <sup>Rock</sup> ~~REEF~~, and the clump of rocks located 1.0 mile to the southeast. There is <sup>14 to 21</sup> ~~twenty~~ fathoms of water in the center.

\* 14 fm  
φ 52°-55.8  
λ 169°-01.0  
not developed.

\* Vessels drawing more than two and one-half fathoms should NOT pass between Adugak Island and the point of Umnak Island four miles southeast of Adugak. Vessels drawing less than two and one-half fathoms may pass

There is a channel 1/2 mi. eastward of Adugak I. with least depth of 9 fm.

*This statement not justified by soundings, nor by directions to anchorage p. 7.*

between Adugak Island and this point, keeping one-half mile off and not more than one and <sup>three quarters</sup> ~~one-half~~ miles southeast of the east end of Adugak Island.\* However, no particular advantage can be seen for any large vessel passing to the south or southeast of Adugak Island, as the pass between Cape Sagak and Samalga Island is FOUL, and all vessels are hereby advised to pass to the west and north of Adugak Island.

\* The deepest water (9 to 14 fms) is 1/2 to 1 1/4 mi east of Adugak I.

ANCHORAGES:

Vessels may anchor in twenty fathoms, rocky bottom, on either the north or south side of Adugak Island in good weather. Some protection from southerly weather is obtainable in the north side anchorage and the same for northerly weather at the south side anchorage.

At latitude 52°52'07", longitude 169°01.2<sup>8</sup>' is a prominent, conspicuous pinnacle. This is on the beach line and 1.0 mile west of a prominent rounded, grassy hill, about six hundred feet high known locally as "ELBOW". A mile northeast of this prominent pinnacle is an anchorage\* for vessels in ~~good~~ <sup>southerly or easterly</sup> weather. Protection is afforded in southerly weather but is wide open to the west, northwest, north, and northeast. To reach this anchorage, pass one mile southwest of Pancake <sup>Rock</sup> Reef, heading 140° true until the prominent pinnacle bears 190° true, then turn right, heading directly for the pinnacle until a desirable anchorage is reached.

\* In 12 fms  
 φ 52°-53'  
 λ 169°-01'

*Local knowledge or a large scale chart are needed to approach this anchorage as dangers exist on both sides of the channel.*

COMPARISON WITH PREVIOUS SURVEYS: No previous surveys of this area have been made by the Coast and Geodetic Survey. Chart 8802 (surveys to 1938 and other sources) is of

such scale that any attempt for a detailed comparison would be questionable. However, Adugak Island is <sup>160' at Δ Adugak T-6711 (1939)</sup> ~~155~~ feet in elevation (instead of 100) at the west side, sloping off gradually to the east end. This survey should supersede all previous charts of this area.

GEOGRAPHICAL NAMES:

Adugak Island - U. S. Coast Pilot, Alaska, Part II, Fourth Edition, 1938, page 363.

PANCAKE REEF <sup>Rock \*</sup> - Name suggested for the reef <sup>⊙</sup> located at latitude 52° 56.15', longitude 169° 01.6', five miles west of Nikolski and four and one-half miles east-northeast of Adugak Island. The main part of the reef is a few feet above high water and the name of Pancake Reef is suggested because of the resemblance to the general appearance of a pancake when viewed from a distance of two or three miles.

ELBOW <sup>T-6711 (1939)</sup> - Name suggested for the prominent, rounded, grassy hill <sup>442 feet</sup> (about six hundred feet in elevation) located four and one-half miles east-northeast of Cape Sagak, five and one-half miles southwest of Nikolski, and five and one-half miles east-southeast of Adugak Island. The name is in local use and is therefore suggested for permanent adoption.

LANDMARKS:

Landmarks are Adugak Island, Pancake Reef <sup>Rock</sup>, Elbow, the pinnacle one mile west of Elbow and Cape Sagak. The first three are described under Geographical Names.

The pinnacle one mile west of Elbow, is sixty-five feet high

\* Approved  
T-6712 (1939)

⊙ A rocky islet.

USCB  
deliberate

(estimated) and is conspicuous when viewed from the north or south. T-6711 (1939)

Cape Sagak is the southwest end of Umnak Island. The point is jagged, the top is flat and grassy, steep sides at the beach, estimated at one hundred feet, <sup>118 ft at Δ Sagak (highest pt.)</sup> and one sharp pinnacle, latitude 52°49.5', longitude 169°06.9', <sup>49 ft at ○ Pinsag T-6711 (1939)</sup> estimated at seventy-five feet in height and conspicuous from the northwest and south.

STATISTICS:

	<u>1939</u>	<u>1940</u>	<u>TOTAL</u>
Positions		1117	
Soundings (portable fathometer)		5323	5323
Soundings (hand-lead)		109	
Soundings (wire)		5	
Statute miles sdgs.	652.0	237.6	889.6
Area (sq. statute miles)	44.5	7.5	52.0

GENERAL DISCUSSION:

Unless having personal knowledge of the area or a large scale chart based on the 1939-40 surveys, navigators should keep their vessels west of a line between Cape Sagak and the east end of Adugak Island, and north of a line <sup>\*</sup> extending from the east end of Adugak Island to Pancake <sup>Rock</sup> Reef, to the point of the mainland two and one-half miles east of Pancake <sup>Rock</sup> Reef.

The beach is rocky in some places and sandy in others. The mainland is grass covered and used by the Aleutian Livestock Company to graze sheep and horses. From a point, say two miles northwest of Pancake <sup>Rock</sup> Reef,

\* Dangers outside of this line are the 6 fm shoal 3/4 mi. west of Pancake Rock and the 10 fm Shoal in φ 52°-55.9 169°-05.6

Elbow appears as the most conspicuous and highest point of land between Nikolski and Cape Sagak. Elbow drops off to an elevation of about one hundred feet, one mile to the eastward where a low notch appears in the sky line, and to about twenty feet in elevation one mile to the westward at the vicinity of the large prominent pinnacle on the beach line. From here to Cape Sagak, the land is low and narrow.

T-6712 (1939)

Adugak Island, is located in the northwest corner of the sheet. It is highest (<sup>160</sup>~~155~~ feet) on the west end and extends in an east-west direction, one mile in length, one-half mile in width at the west part, about 250 meters in width in the center and arrow shaped on the east end. There are several large rocks off the northwest side, a family of sea lions occupying the one furthest off-shore.

T-6711 (1939)

A herd of about 500 fur seals were seen during 1939, and again in 1940, in the vicinity of the five fathom shoal between Adugak Island and Elbow.

φ 52°-54'  
λ 169°-06'

The bight northeast of Cape Sagak contains numerous kelp patches <sup>5/6 fms to</sup> and five fathom shoal spots.

In 1939, developments and drift sounding were made on shoals as follows:

1. Latitude <sup>52°56.15</sup>, longitude <sup>169°02.65</sup>'. Least depth six fathoms. Bottom was visible at time drift soundings were obtained.

2. Latitude <sup>52°53.65</sup>', longitude <sup>169°02.15</sup>'. Least depth six <sup>5 3/4</sup> fathoms. A <sup>7 1/4</sup> <sup>6 1/2</sup> fathom spot is 300 meters southwest.

3. Latitude <sup>52°54.25</sup>, longitude <sup>169°05.75</sup>'. Least depth <sup>10 3/4</sup> ~~elev~~

10 fms on  
H-6503  
(1938-39-40)

fathoms.

4. Latitude  $52^{\circ}54.55'$ , longitude  $169^{\circ}04.6'$ . Least depth ~~twelve~~ <sup>10 3/4</sup>

fathoms.

5. Latitude  $52^{\circ}54.2'$ , longitude  $169^{\circ}05.75'$ . Least depth ~~five~~ <sup>5 3/6</sup> ~~2/6~~

fathoms. Drift sounding with portable depth recording fathometer in 1940.

6. (1940) Latitude  $52^{\circ}53.95'$ , longitude  $169^{\circ}06.0'$ . Least depth ~~five~~ <sup>7 3/4</sup> <sup>5</sup> fathoms. Development and drift soundings with portable depth recording fathometer.

7. (1940) Latitude  $52^{\circ}54.05'$ , longitude  $169^{\circ}07.95'$ . Least depth ~~six~~ <sup>6 1/2</sup> fathoms. Development and drift soundings with portable depth recording fathometer.

8. (1940) Latitude  $52^{\circ}52.65'$ , longitude  $169^{\circ}06.15'$ . Least depth ~~seven~~ <sup>7 1/4</sup> fathoms. Development by portable depth recording fathometer.

These are not specific dangers but are potential possibilities and should be wire dragged if at any time in the future, the area should become of sufficient importance to require the presence of large ships.

A standard tide gage was located at Dutch Harbor, while portable gages were located (1939 and 1940) at Adugak Island and "C Kee Bay", (1939).

Currents are estimated at two to three knots maximum, the direction of the flow being northeast and southwest.

Tide rips occur between Adugak Island and the mainland three and one-half miles to the southeast, around Pancake <sup>Rock</sup> Reef, and around the <sup>10</sup> ~~eleven~~ fathom shoal halfway between Adugak Island and Pancake <sup>Rock</sup> Reef.

Heavy tide rips occur in the vicinity of the pass between Cape Sagak and Samalga Island.

Kelp symbols were sketched on the boat sheets, heavy symbols denoting heavy kelp and light symbols denoting thin kelp.

During the 1940 season, portable depth recording fathometers were used in Alaska for the first time.\* These fathometers functioned perfectly for the entire season, they are easy to operate and easy to keep in adjustment. A profile of the bottom is obtained which give the hydrographic detail which would be missed easily by wire or hand-lead soundings. The quality of the work is improved and the quantity doubled. The recording fathometer is a DISTINCT IMPROVEMENT in launch hydrography and it is RECOMMENDED THAT ALL LAUNCHES of the COAST AND GEODETIC SURVEY be equipped with PORTABLE DEPTH RECORDING FATHOMETERS of this type.

\*  
Submarine  
Signal Type  
808

See Review  
Paragraph 7

Unless the processor of this sheet is familiar with the peculiarities of the depth recorders, he will need instruction from someone who has had experience with them.

Respectfully submitted,

*John Bowie, Jr.*  
John Bowie, Jr.  
Jr. H. & G. Engr.,  
U.S.C. & G.S.S. EXPLORER.

NOTE:

This report is written in Alaska. The smooth sheet, statistic record and sounding volumes are at the Seattle Processing Office. Supplemental data relative to the least depths (to 1/6 fathom) on shoals and

See pages  
14 and 15

rocks should be supplied by the Processing Office.


APPROVED:

  
J. H. Peters, H. & G. Engr.,  
Commanding Ship EXPLORER.

APPROVED:

Ray L. Schoppe, H. & G. Engr.,  
Commanding Ship SURVEYOR.

APPROVED AND FORWARDED:

  
A. M. Sobieralski, H. & G. Engr.,  
Seattle Processing Office.



ADDITIONAL COMMENTS BY SEATTLE PROCESSING OFFICE

Report describes various topographical details, such as rocky islands, but fails to mention rocky islands in Lat.  $52^{\circ} 55.35'$ , Long.  $169^{\circ} 00.6'$ . It is assumed that these have been covered by descriptive report accompanying topographic sheet. T-6712 (1939)

Although numerous dangers are listed in the report, the list is far from complete. The following additional shoals and dangers should be noted:

In Lat.  $52^{\circ} 53.4'$ , Long.  $169^{\circ} 04.4'$ , a  $1\frac{5}{6}$  fathom spot, in northern part of shoal area described on pp. <sup>5 &</sup> 6.

A reef in Lat.  $52^{\circ} 50.25'$ , Long.  $169^{\circ} 05.6'$  is noted in remarks opposite positions 33 and 34b (blue). Shown as rocks awash with notation "foul".

Shoal water extends northward about one mile, with a  $2\frac{5}{6}$  fm. spot at Lat.  $52^{\circ} 51.2'$ , Long.  $169^{\circ} 06.1'$ .

In the vicinity of Adugak Island a <sup>6 1/6</sup> ~~5-4/6~~ fathom spot  $\frac{3}{4}$  mile S.E. of its east end in Lat.  $52^{\circ} 54^{\prime} 05^{\prime\prime}$ , Long.  $169^{\circ} 07^{\prime} 95^{\prime\prime}$ , and a  $6\frac{4}{6}$  fathom spot  $\frac{1}{4}$  mile west of its west end in Lat.  $52^{\circ} 54.55'$  and Long.  $169^{\circ} 10.8'$  should be noted.

The development in the vicinity of the <sup>6 1/6</sup> ~~5-4/6~~ fathom spot mentioned above is shown on an overlay tracing. All critical sdgs on the overlay have been added to the smooth sheet.

WORK BY PROCESSING OFFICE

The projection, triangulation and topography on this sheet were prepared by officers attached to the SURVEYOR in 1939.

The plotting and penciling of soundings was done in the Seattle Processing Office.

The position of the pinnacle in Lat. 52° 52.07', Long. 169° 01.8' was added from a tracing of topographic sheet T-6711. (1939)

The position of small shoal (hydro. signal FLAT) in Lat. 52° 49.01' and Long. 169° 08.05', although indicated on boat sheet as a topographic signal, is not shown on any topographic sheet. A few cuts were recorded in the sounding volumes of the adjoining sheet, (Field No. 2339), but in order to get a better location, some cuts taken in 1938 as reconnaissance were copied into the records of that sheet. The position on this sheet is transferred from Hydrographic Sheet 2339, (Field Number). The only description of the reef is a note that it bares 3 feet. However, it was used as a signal at high water, so it is apparently bare at high water.

Some 7, 8 and 9 fathom curves were drawn on this sheet inadvertently, and could not be removed without obliterating soundings. The heavy kelp symbols should have been removed before starting the plotting.

No register number has been assigned to this sheet.

SOUNDINGS WITH DEPTH RECORDER

This is the first sheet handled by the processing office containing soundings taken with depth recorder. As the graphs had been scrutinized by the officers in charge of the hydrographic parties, it was not considered necessary to compare soundings.

Shoal soundings compared by verifier.

However, in two instances, poor crossings were investigated and the graph proved the soundings entered in the sounding records to be erroneous, having been read five fathoms too deep. (See Pos. 19 - 21b and 107 - 108b, vol. 14.) The erroneous soundings were left on the sheet, and will no doubt be detected when the soundings are to be inked.

Erroneous soundings corrected.

A.M. Bohieralski

## TIDAL NOTE

Hydrographic Sheet No. 2239 (Field Number)

Soundings in 1939 were reduced from observed tides at Okee Bay. Soundings taken after Sept. 11 were reduced from observed tides at Adugak Island.

Okee Bay Tide Gage - Portable Automatic No. 290:

Latitude  $53^{\circ} 01.25' N.$       Longitude  $168^{\circ} 49.85' W.$   
 M.L.L.W. .... 3.0 feet  
 Highest tide recorded, June 29, 1939..... 7.4 feet  
 Lowest tide recorded, June 18, 1939..... 1.8 feet

Adugak Island Tide Gage - 1939:

Latitude  $52^{\circ} 54.7' N.$       Longitude  $169^{\circ} 10.1' W.$   
 Staff reading highest tide, June 29, 1939..... 8.8 feet  
 Staff reading lowest tide, July 15, 1939..... 2.7 feet

Soundings in 1940 were reduced according to observed tides at Adugak Island, except when that record was missing, in which case Dutch Harbor tides minus 1.0 hour, 1.0 range ratio, as previously determined for Adugak Island, were used. Each day's record is noted as to the station used.

Adugak Island Tide Gage - 1940:

Highest tide observed, June 9, 1940..... 7.5 feet  
 Lowest tide observed, June 7, 1940 ..... 2.9 feet  
 M.L.L.W. on staff ..... 2.8 feet

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

C O P Y

EXPRESS ADDRESS:

32-FIM

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

December 10, 1940.

To: Officer in Charge,  
Seattle Processing Office,  
1519 S. Alaskan Way,  
Seattle, Washington.

From: The Director,  
U. S. Coast and Geodetic Survey.

Subject: Tidal data for Cape Sagak.

This office has your letter of December 4 requesting hourly heights of the tide as observed at Driftwood Bay, Alaska, between the hours of 8 a.m. and 4 p.m. on June 12, 1938, to be used for reducing soundings taken near Cape Sagak.

The Driftwood Bay gage was not established until June 18, 1938. Since it is necessary, therefore, to furnish predictions, the predictions have been computed for Cape Sagak. Predicted hourly heights for Cape Sagak for the period requested follow:

165th Meridian Time	Height referred to MLLW
7:00	-0.3 Low Water
8:00	-0.1
9:00	0.3
10:00	0.8
11:00	1.6
12:00 noon	2.6
13:00	3.4
14:00	4.2
15:00	4.6
16:00	4.8
16:21	4.8 High Water

(Sgd.) J. H. Hawley  
Acting Director.

LIST OF SIGNALS USED

HCC10

Sheet 2239 (Field Number).

(1939)

From Topographic Sheet T-6710 (Field No. H-39):

Triangulation Stations:

TAL 1938

AMA 1938

Topographic Signals:

She	Chim	Raw *	Can	Min	Sis
Per	Cross	Fig	Eve	Pus*	

(1939)

From Topographic Sheet T-6711 (Field No. G-39):

Triangulation Stations:

ADUGAK 1937

SAGAK 1938

LAKE 1938

ADA 1937

NIKOL 1938

ELBOW 1937

Topographic Signals:

Tip	Low	Pet	Pinsag	Joe	Dix	Off
La	Est	Raw*	Bik	Wood	Toy	Sit
Met	Hnt	We	Gus	Fur	Bug	Jar
Rag	Pole	Bit	Eps	Qin	Hig	Et
Saw	Ike *	Fat	Zoo	Ray	Gip	Rug
Non	Jan	Wash	Bust	Wed	Nod	Ken
Jut	Riv	Log	Pant	Ike*	Siv	Ace
Mid	Dub	Pit	Ynk	Ned	Dol	Kay
Top	Jab	Hug	Zeb	Pus*	Ice	Bas

(1939)

From Topographic Sheet T-6712 (Field No. F-39):

Triangulation Stations:

ELBOW 1937

EWE 1938

TANG 1938

SAP 1938

PANCAKE 1938

Topographic Signals:

Key						
Bas	Sis	Bum	All	How	Lub	And
Bee	Far	Try	Mix	Oak	Sol	Imp
Don	Any	Red	Oog	Wet	Raw*	Can
	Add	Air	San	Dry		

\*Duplicated names.

Date	Vol	Day	Stat.Miles Sdg.Lines			No. of Positions			No. of Soundings		
			Wire	H.L.	Total	Wire	H.L.	Total	Wire	H.L.	Total
<u>LAUNCH NO. 3</u>											
6/1/39	1	a	13.8		13.8	50		50	189		189
6/10/39	1	b	36.0		36.0	152		152	412		412
6/11/39	1	c	26.6		26.6	126		126	336		336
6/13/39	1&2	d	28.8		28.8	143		143	431		431
6/15/39	2	e		19.3	19.3		134	134		554	554
6/18/39	2&3	f	10.7	16.3	27.0	60	80	140	162	332	494
6/19/39	3	g		22.8	22.8		154	154		590	590
6/20/39	3	h	11.5	15.7	27.2	70	121	191	160	353	513
7/5/39	3&4	j	25.5	00.4	25.9	119	8	127	308	16	324
7/10/39	4	k		4.6	4.6		39	39		192	192
7/11/39	4	l	18.6	6.7	25.3	88	45	133	256	135	391
7/12/39	4	m	16.8		16.8	77		77	192		192
9/6/39	5	n	14.7	3.6	18.3	94	29	123	235	111	346
9/8/39	5	p	13.6	6.1	19.7	76	40	116	216	142	358
9/11/39	5	q	2.0	10.2	12.2	11	67	78	32	248	280
9/12/39	6	r	22.1	1.1	23.2	131	11	142	340	26	366
9/13/39	6	s	21.3		21.3	141	4	145	359	4	363
9/29/39	7	t	7.2	7.2	14.4	50	51	101	126	182	308
<u>MOTOR SAILER</u>											
6/13/39	1	a		29.0	29.0		177	177		647	647
6/14/39	1	b	13.8	20.7	34.5	92	119	211	216	435	651
6/15/39	1&2	c		20.6	20.6		172	172		689	689
6/18/39	2	d	13.9	9.6	23.5	78	60	138	226	227	453
6/19/39	2&3	e	23.6	3.8	27.4	133	29	162	365	104	469
6/20/39	3	f	14.7	2.0	16.7	96	17	113	248	57	305
6/21/39	3	g	6.1	0.2	6.3	44	2	46	116	5	121
7/5/39	3	h	6.0	12.8	18.8	50	105	155	122	285	407
9/13/39	3&4	j	22.2	2.0	24.2	185	18	203	509	49	558
9/29/39	4	k	13.6	2.8	16.4	108	38	146	307	108	415
<u>LAUNCH NO. 4</u>											
9/13/39	1	a	21.2	2.2	23.4	163	17	180	441	56	497
9/29/39	1	b	28.1		28.1	191		191	541		541
GRAND TOTALS:			432.4	219.7	652.1	2528	1537	4065	6745	5647	12392

For 1940 statistics  
see page 9.

RAC  
HCC.

TIDE NOTE FOR HYDROGRAPHIC SHEET

January 21, 1941

Division of Hydrography and Topography:

✓ Division of Charts: Attention: Mr. H. R. Edmonston.

Plane of reference approved in  
17 volumes of sounding records for

HYDROGRAPHIC SHEET 6610 [REDACTED]

DECLASSIFIED BY NOAA  
PURSUANT TO DOC SYSTEMATIC REVIEW  
GUIDELINES AS DESCRIBED IN SECTION  
3.3(a) EXECUTIVE ORDER 12356.

Locality North Shore, West end of Umnak Island, between Nikolski,  
Cape Sagak and Adugak Island, Aleutian Islands.

Chief of Party: J. H. Peters in 1939-1940  
Plane of reference is mean lower low water reading  
3.0 ft. on tide staff at Okee Bay  
10.4 ft. below B. M. 1  
3.5 ft. on tide staff at Adugak Island  
5.3 ft. below B.M. 1A

Height of mean high water above plane of reference is 3.4 feet at  
Okee Bay; 3.5 feet at Agudak Island.

Condition of records satisfactory except as noted below:

*Acty* *Hamm*  
Chief, Division of Tides and Currents.

GEOGRAPHIC NAMES

Survey No. **H6610**



Name on Survey

On Chart No.      On previous survey No.      On U. S. quadrangle Maps      From local information      On local Maps      P. O. Guide or Map      Rand McNally Atlas      U. S. Light List

DECLASSIFIED BY NOAA  
PURSUANT TO DOC SYSTEMATIC REVIEW  
GUIDELINES AS DESCRIBED IN SECTION  
3.3(a), EXECUTIVE ORDER 12356.

	A	B	C	D	E	F	G	H	K	
<u>Adugak Island</u>										1
<u>Ananiuliak Island</u>										2
<u>Cape Sagak</u>										3
<u>Nikolski</u>										4
<u>Samalga Island</u>										5
<u>Umnak Island</u>										6
<u>Pancake Rock</u>										7
<u>Elbow Hill</u>										8
										9
<u>Orkee Bay</u>										10
										11
										12
										13
										14
										15
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										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

Names underlined in red approved  
by L. Heck on 3/25/42



Remarks

Decisions

	Remarks	Decisions
1		525690
2		530685
3		525690
4		525685 U.S.G.B
5		525690
6		530680 U.S.G.B
7		525690 U.S.G.B.
8	Do not LXX pending USBA action	525690
9		
10	Location of tide staff	530685
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		

Field Records Section (Charts)

DECLASSIFIED BY NOAA  
PURSUANT TO DOC SYSTEMATIC REVIEW  
HYDROGRAPHIC SHEET NO. **H.C. 618**  
3.3(a), EXECUTIVE ORDER 12358

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

Number of positions on sheet	5182		
Number of positions checked	75		
Number of positions revised	9		
Number of soundings recorded	17829		
Number of soundings revised	90 h.l. and machine 150 approx. Fathometer		
Number of soundings erroneously spaced	36		
Number of signals erroneously plotted or transferred	None		
	<i>Junctions</i> 10 hrs		
	<i>Graphic record</i> 12 hrs		
Date:	March 16, 1942		
Verification by	Harold F. Stegman	Time:	243 <sup>2</sup> hrs
Review by	" "	Time:	22 hrs

DECLASSIFIED BY NOAA  
PURSUANT TO DOC SYSTEMATIC REVIEW  
GUIDELINES AS DESCRIBED IN SECTION  
3.3(a), EXECUTIVE ORDER 12356.

Smooth Sheet One

Boat Sheet Three

Records; Sounding 17 Vols., Wire Drag      Vols., Bomb      Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes

Landmarks for Charts (Form 567) No

Statistics Yes

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) No

Special Chart for Lighthouse Service \*\*\*\*  
(Circular Nov.30, 1933)

Hydrography: Total Days 21 ; Last Date Sept. 29, 1940

Remarks \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**MEMORANDUM**  
**IMMEDIATE ATTENTION**

DECLASSIFIED BY NCA  
 PURSUANT TO DC SYSTEMATIC REVIEW  
 GUIDELINES AS DESCRIBED IN SECTION  
 3.3(a), EXECUTIVE ORDER 12356.

SURVEY  
 DESCRIPTIVE REPORT  
 PHOTOSTAT OF

No. H **H6610**  
~~No. X~~ [REDACTED]

received Jan. 6, 1941  
 registered Jan. 13, 1941  
 verified  
 reviewed  
 approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE	Initial	Attention called to
20		
22		
24		
25	<i>HBL</i>	<i>Pages 4-12 and 14-15</i>
26		
30		
40		
62		
63		
82		
83		
88		
90		

RETURN TO

82	T. B. Reed
----	------------

DIVISION OF CHARTS

SURVEYS SECTION

REVIEW OF HYDROGRAPHIC SURVEY

REGISTER NO. H-6610

FIELD NO. 2239

Alaska-Aleutian Islands, North shore of Umnak Island

between Nikolski, Cape Sagak and Adugak Island.

Surveyed in June, July, September 1939, September 1940

Scale 1:20,000

Instructions dated Feb. 3, 1938, Feb. 8, 1940 and May 8, 1940

Soundings:

Control:

Hand lead

Machine

Fathometer (808 graphic recorder)

Three point fixes on shore  
signals.

Chief of Party - R. L. Schoppe and J. H. Peters

Surveyed by - J. M. Smook, P. C. Doran, E. B. Latham, J. Bowie,  
J. D. Thurmond, D. E. Sturmer.

Protracted by - R. M. S. (Seattle Processing Office)

Soundings plotted by - R. M. S. (Seattle Processing Office)

Verified and inked by - H. F. Stegman

Reviewed by - H. F. Stegman

Inspected by - H. R. Edmonston

1. Shoreline and Signals.

- a. Shoreline and topographic signals originate with planetable surveys T-6710, T-6711, and T-6712 all of 1939.
- b. Hydrographic signal FLAT was transferred from H-6611 (1939-40).

2. Sounding Line Crossings.

Satisfactory.

3. Depth Curves.

Satisfactory. In the foul areas and kelp beds near the shoreline portions of the 1, 2, 3, and 5 fathom curves have necessarily been omitted.

4. Junctions with Contemporary Surveys.

H-6610 makes satisfactory junctions with the following surveys:

- a. H-6505 (1939) on the northeast.
- b. H-6503 (1938-39-40) on the north and west.
- c. H-6611 (1939-40) on the southwest.

5. Comparison with Prior Surveys.

There are no prior surveys by this bureau in the area of the present survey.

6. Comparison with Chart 8802 (Latest print dated 1/29/42)

Hydrography on the chart originates principally with the present survey and adjacent contemporary surveys. The following items require consideration:

1. The  $2\frac{1}{4}$  fm. sounding charted in lat.  $52^{\circ}51'.2$ , long.  $169^{\circ}06.'1$  was revised by the verifier to  $2\frac{5}{6}$  fms. The charted depth should be changed to  $2\frac{3}{4}$  fms. *no correction  
in chart 8802*
2. The 5 fm. shoal in lat.  $52^{\circ}54.'0$ , long.  $169^{\circ}06.'0$  is not charted.
3. Pancake Rock in lat.  $52^{\circ}56.'2$ , long.  $169^{\circ}01.'6$  is displaced about  $\frac{3}{4}$  mile westward on the chart. The sunken rock charted  $\frac{3}{4}$  mile southwest of this islet is evidently a displaced representation of the 6 fm. shoal in lat.  $52^{\circ}56.'1$  long.  $169^{\circ}02.'7$ . As charted it falls in depths of over 30 fms. on the present survey.
4. The sunken rock charted in lat.  $52^{\circ}55.'8$ , long.  $169^{\circ}00'$  falls in depths of 22 fms. on this survey. It evidently represents the shoal area at the junction with H-6505 (1939) about 800 meters northeast of this position.

7. Condition of Survey.

- a. The condition of this survey is satisfactory. It is evident that a great deal of time was spent in making thorough investigations of shoal areas. Much of this work was done with the portable depth recorder. From a study of the fathograms it appears that, in areas where kelp exists, the fathometer should be supplemented by ~~an~~ hand lead soundings for a correct interpretation of the bottom echo and for determining the character of the bottom. For example the graphic record for pos. 42 d, launch No. 2 1940, shows a definite echo at  $8\frac{1}{6}$  fms. which was checked exactly by hand lead. The light markings on the graph at depths of  $4\frac{1}{2}$  to 8 fms. are evidently caused by kelp. These soundings were taken in the vicinity of the  $5\frac{5}{6}$  fm. shoal in lat.  $52^{\circ}54.'2$ , long.  $169^{\circ}05.'8$ . In this connection it is noted that the  $1\frac{5}{6}$  fm. shoal sounding in lat.  $52^{\circ}53.'4$ , long.  $169^{\circ}04.'4$  has the recorded remark "Checked by hand lead."

- b. Most of the outstanding shoals on this survey carry bottom notations but none were recorded for the following:

<u>Least Depth</u>	<u>Latitude</u>	<u>Longitude</u>
10 fm.	52°55.'9	169°05.'5
6 fm.	52°56.'1	169°02.'6
10 3/4 fm.	52°54.'5	169°04.'5

- c. It is stated (D.R. page 3) that, "The fathometer reader---- adjusted the amplification to obtain a clear graph of the bottom profile." It is now known that changing the amplification of the graphic recorder will change the depth of the profile as much as 2½ feet. This adjustment should only be made when the comparisons are taken.

8. Compliance with Project Instructions.

This survey is satisfactory except that no drift soundings were taken on the 10 fathom shoal mentioned in paragraph 7 b above, and the 14 fathom shoal indication in lat. 52°55.'8, long. 169°01.'0 was not developed.

9. Additional Field Work Recommended.

As recommended in the Descriptive Report, page 11, the area of uneven bottom southeastward of Adugak Island should be wire dragged at a future date. When this work is done the dragged area should include the shoals mentioned in paragraph 7b and 8 above, and the approaches to the anchorage area noted on page 7 of the D.R.

10. Superseded Surveys.

None.

*Robert W. Ward*  
Chief, Surveys Section

*Fred. L. Peacock*  
Acting Chief, Section of Hydrography

Examined and approved

*J. S. Borden*  
Chief, Division of Charts

*G. H. Wade*  
Chief, Division of Coastal Surveys

after review  
applied on July 27, 1942 g.H.S.

Applied to drawing of Chart 8802 (#6610 partly inked) Nov 18, 1941 - J.T.W.

Applied to drawing of chart 8861 (before review) Mar. 7, 1942 - J.T.W.  
no correction after review - J.T.W.

" " comp. " 9025 Apr. " J.M.A.

" " " 880

~~Chart 1207 fully applied also chart #246 ~~applied~~ 3/25/42~~