# 6700 ADD.WK

U. S. COAST AND GEODETIC SURVEY DEPARTMENT OF COMMERCE DESCRIPTIVE REPORT Type of Survey HYDEOGRAPHIC Field No. Office No H-6700 Add. Wk LOCALITY State SOUTHWEST ALASKA General locality ALEUTIAN ISLANDS Locality NORTHEAST OF SECUAM ISLAND 194 52 CHIEF OF PARTY G. L. Anderson LIBRARY & ARCHIVES JANUARY 14, 1953 DATE

B-1870-1 (I)

# DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

# 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.

REGISTER No. H-6700 Add. Wk. 1952

Field No
State Southwest Alasks
General locality Aleutian Islands
Locality N. E. of Seguam Island
Scale 1: 80,000 Date of survey July 26-27, 1952
Instructions dated CS-218 dated 3-19-52 and CS-343 dated 3-21-52
Vessel EXPLORER
Chief of party . G. L. Anderson
Surveyed by C. N. Schoene and J. E. Guth
Soundings taken by fathometer, graphic recorder, hand leady wire
Fathograms scaled byJ. E. Guth and R. C. M.
Fathograms checked by J. E. Guth and R. C. M.
Protracted by
Soundings penciled by .D. R. Engle
Soundings in fathoms KHOLXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Remarks:
•

u. s. GOVERNMENT PRINTING OFFICE 777082

# DEPARTMENT OF COMMERCE U. S. COAST AND GEODETIC SURVEY

SHIP EXPLORER
705 FEDERAL OFFICE BUILDING

705 FEDERAL OFFICE BUILDING SEATTLE 4. WASHINGTON

H-6700 and wh 1952

2 January 1953

To:

The Director

U. S. Coast and Geodetic Survey Department of Commerce Bldg.

Subject:

Investigation of reported shoal - Chart 8862

References: (a)

- (a) Instructions Project CS-218 dated 19 March 1952.
- (b) Instructions Project CS-343 dated 21 March 1952
- (c) Preliminary Review Chart 8862 (G.F.J.) dated 27 February 1952. (1952)
- (d) Descriptive Report H-7995 (EX-10252) to be forwarded.
- l. This investigation of reported shoals was made in accordance with reference instructions (a) and (b); and, specifically for items 3 and 4 of reference (c).
- 2. The enclosed tracing paper overlay (which was given a field No. EX-8152 for identification) was plotted over a bromide print of Sheet H-6700.(1941)
- 3. The only accurate control available was shoran distances from station CONE on Seguam Island. The Ship EXPLORER covered the shoal area with a system of lines along shoran arcs from CONE averaging about 0.3 mile apart. Since only one distance was available these sounding lines were adjusted along the arcs to best fit the depth curves of the 1941 survey. During the period from 1200 26 July 1952 to 0600 27 July 1952, 220.3 statute miles of sounding line were run in this area.

4. It is believed that this investigation covered the wk 1953 area sufficiently well to check the 1941 survey and to discredit previous reports of a rock and a 30 fathom sounding. No. indications of any such shoals were noted during this investigation.

F. R. Gossett CDR. USC&GS

Approved and forwarded:

G. L. Anderson

Captain, USC&GS

Commanding Ship EXPLORER

Enclosures:

Overlay tracing EX-8152 Sounding Volume No. 1

Fathograms A and B days

# TIDE NOTE FOR HYDROGRAPHIC SHEET

Division XXX Constal XSURVAYS:

16 January 1953

Division of Charts: R. H. Carstens

Plane of reference approved in volumes of sounding records for

HYDROGRAPHIC SHEET

6700 Ad. Wk. 1952

Locality Seguam Island, Aleutian Islands

Chief of Party: G. L. Anderson in 1952 Plane of reference is mean lower low water, reading 2.1 ft. on tide staff at Finch Cove, Seguam Island 9.1 ft. below B. M. 1 (1941)

Height of mean high water above plane of reference is 3.2 feet.

Condition of records satisfactory except as noted below:

E.C.McKay

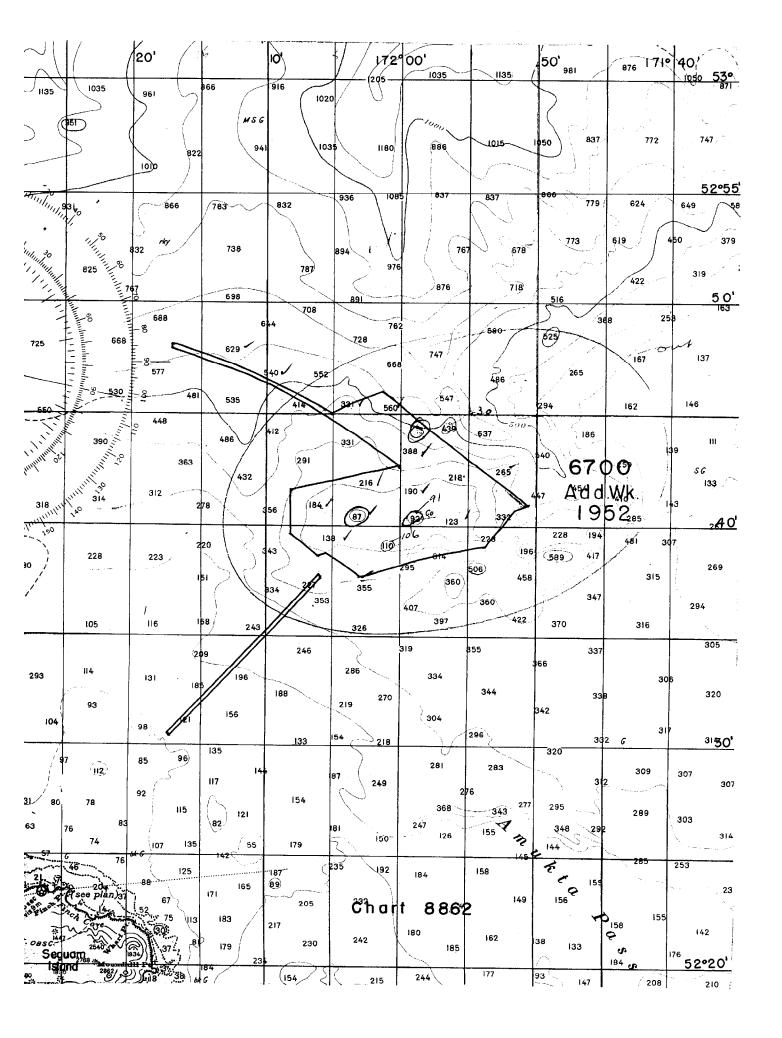
Section of Tides Chief, Division of Tides and Currents.

# Hydrographic Surveys (Chart Division)

# HYDROGRAPHIC SURVEY NO. H-6700 Add. Wk. 1952

Records accompanying survey:		
Boat sheets; sounding vols; w	ire drag	g vols;
bomb vols; graphic recorder rolls	l Env	
special reports, etc. 1. Overlay	• • • • • •	• • • • • • • • • •
	• • • • • •	• • • • • • • • • •
The following statistics will be submitted wirepher's report on the sheet:	th the o	certog-
Number of positions on sheet		. /94
Number of positions checked		All positions plotted by Verifier
Number of positions revised		•••••
Number of soundings revised (refers to depth only)		
Number of soundings erroneously spaced		• • • • •
Number of signals erroneously plotted or transferred		• • • • • •
Topographic details	Time	••••
Junctions	Time	• • • • •
Verification of soundings from graphic record	Time	/
Verification by	. 106	Date 6-16-53
Reviewed by Speskend Time	.1.0	Date 6-23-53

Stirni 4 hours



# NAUTICAL CHARTS BRANCH

# SURVEY NO. H-6700 Add WK 1952

# Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
10/23/52	9000	O.P. Wittmann	Before After Verification and Review (mr conseture)
1-4-54	9102	3 m. albert	, 3.m.
11-3-54	8862	p. N. Bewon 1	- Define After Verification and Review (200 correction)  (approvedly replied previously from best shoot)
		·	(apparantly applied previously from best shoot)
Nav. '55	8802	G.H.E.	Before After Verification and Review add 300 fm indg.
			Before After Verification and Review
			Before After Verification and Review
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M-2168-1

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.

# 6700

3700

Diag.	Cht	Ma	8802	_ 2
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Form 50

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

# DESCRIPTIVE REPORT

Type of Survey HYDHOGRAPHIC  Field No. 8041 Office No. H-6700
7 100 110
LOCALITY
State SOUTHWEST ALASKA
General locality ALEUTIAN ISLANDS
Locality YUNASKA ISLAND TO SEGUAM ISLAND
1941
CHIEF OF PARTY
F. B. T. Siems
LIBRARY & ARCHIVES
DATEJULY 16, 1942

B-1870-1 (1)

# 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. ...8041.......

. S. GOVERNMENT PRINTING OFFICE

no / ou

### DESCRIPTIVE REPORT

## to accompany

# Hydrographic Sheet No. H-6700

(Field No. 8041)

USC&GSS EXPLORER

F. B. T. Siems, Comdg.

Season of 1941

Scale 1:80,000

Project HT-219

# INSTRUCTIONS

Instructions dated Feb. 3, 1938 and April 3, 1940.

# LIMITS

Sheet H-6700 covers the water area from Latitude 52° 08' to 52° 53' N. and from Longitude 170° 35' to 172° 20' W., covering west part of Yunaska Pass and most of Amukta Pass, Aleutian Ids., Alaska. The inshore hydrography around Amukta and Chagulak Ids. was accomplished on sheets H-6695 (2041) and H-6698 (4041).

### SURVEY METHODS

The standard methods usually employed in R.A.R. operations were followed. Visual fixes were taken when available, and those taken simultaneously with the bomb fixes furnished determinations of the R.A.R. velocities. All soundings were taken with the Dorsey III Fathometer, with vertical casts at frequent intervals to check operation of the fathometer, obtain bottom specimens, and for temperature and salinities of water for use in correcting the fathometer soundings. Use was made of the Roberts Streamlined Sono-Radio Buoys. No R.A.R. shore stations were employed. See record "Buoy Locations" for positions of buoys used.

On "Q" day the 1050 cycle oscillator was found to be transmitting the outgoing signal at 8 to 10 fms. on the dial and therefore an initial correction was applied in the sounding volume for this day (see smooth plotter's notes). On all other days the initial correction for the various oscillators was set at 12 feet draft. Since the draft varied from 11 to 14 feet, the corrections are not applied to the soundings of this sheet as they are much less than 1% and also generally additive.

The first part of sounding line "X" day was rejected in the sounding record as no bomb returns were obtained along this stretch and positions as adjusted on boat sheet proved to be in error by subsequent lines. Other lines adequately cover the area and this line is not needed.

Shoal indication in Lat. 52° 34', Long. 171° 33' should be in- pac. 9(s) vestigated at some future time.

# R.A.R. BUOY EQUIPMENT

The party was not equipped with the light stainless steel wire for mooring sono-buoys in the several advantageous locations on offshore banks. This would have simplified the R.A.R. work considerably by obviating the use of inshore stations at great distances away. Buoys were planted with unsuitable mooring wire on the bank 20 miles south of Yunaska and on the extensive bank 20 miles northwest of Amukta. On the latter bank the combination of the large amount of heavy wire rope used in the absence of the light stainless steel wire rope, and the excessive currents obtaining here, caused serious losses of equipment, making it therefore advisable to confine the stations mainly to the inshore greas of moderate depths and moderate currents. However, in order to continue the valuable station on this bank, the party resorted to the use of  $1/8^{\mu}$  wire drag ground wire for anchor line. Fortunately the wire withstood the strains caused by strong currents and stormwaves. Upon discontinuing the station and endeavoring to retrieve the buoy anchor, the wire parted at one of the fittings as it passed over a lead block, leaving insufficient wire of this type on hand for further use on other banks.

## PLAN OF WORK

R.A.R. operations were generally conducted according to the following plan: the establishment of two or three sono-radio buoy stations, then proceeding immediately to survey the area controlled with a view of completing it by continuous day and night running.

## SENSITIVITY SETTING

As to the operation of the sono-radio buoys, experiments consuming much time were necessary to arrive at the correct sensitivity setting of the electrical units. Some device is urgently needed that will measure not only the sensitivity of the electrical unit, but will as well take into account the sensitivity of the hydrophone in combination therewith.

On occasions, two buoys would be operating perfectly while a third prevented their use by continuous radio emission. A streamlined hydrophone housing devised by Lieut. Roberts was found to definitely elimate the trouble. Strong currents apparently had caused water noises. Previous to this discovery the trouble was attributed to over-sensitivity setting, or to improper location of the buoy site, resulting in lowering the sensitivity too much and

HAR

unnecessarily changing the location. The establishment and use of more than two buoys at a time was discouraged in view of the possibility of increasing the interference by the use of several buoys.

# DANGERS

There are: no dangers in the water area covered by soundings on this sheet.

# CHANNELS

Outside of Yunaska Pass and Amukta Pass, both wide passes, there - are no channels developed on this sheet.

# ANCHORAGES

No anchorages on this sheet.

# COMPARISON WITH FREVIOUS SURVEYS

No previous surveys in this area.

## COMPARISON WITH PUBLISHED CHART

The few charted soundings in the area covered by this sheet are generally shown out of position. For example, the 85 fms. charted in Lat. 52° 40°, Long. 171° 30°, is about 3 miles southwest of comparable depths by this survey.

# GEOGRAPHIC NAMES

No new geographic names were assigned this sheet.

# VELOCITIES

The velocities as determined from simultaneous bomb and visual fixes, and as used in the smooth plotting, are tabulated in plotter's notes herewith.

STATISTICS	In records for H-6700		-
Statute miles of sounding lines	. 3348.3	480.3	3828.6
Number of soundings		2396	19530
Number of positions		257 450	2716 2850

Descriptive Report compiled in Seattle Processing Office.

# APPROVAL NOTE

Sheet H-6700 has been examined by me and is hereby approved.

F. B. T. Siems. Comdg., Ship EXPLORER.

# TIDAL FORM

Sheet E-6700. (1941

Tide reducers emitted on account of depths.

# GENERAL PROCEDURE USED IN PLOTTING BY DEAD RECKONING AND R.A.R.

(This paragraph is a partial quotation from notes made by the smooth plotter and incorporated into the Descriptive Report for sheet H-6701. (1491)

The bomb arcs were swung from the proper buoys and the intersections noted. Then the average distance was measured over each line and reduced to a log factor, an average meters per revolution of the screw, or meters per minute run.

The dead reckoning was laid out on a piece of tracing paper using the courses and computed distances. This is then laid out over the smooth sheet and fitted to the bomb arc intersections. Those returns that are clearly out of line are rejected and the line plotted directly from the tracing paper.

Because of the changes in the direction and force of the wind, currents, tides and sound velocities, only short stretches of the line will conform to the dead reckoning tracing, and each section has to be swing to fit the greatest number of positions.

Depth curves, crossings with other lines, similar conditions and adjoining lines will also help locate the lines.

### SRB "TUNE"

In the buoy location book, there are locations of this buoy on pages 14, 15, 16 and 17.

The locations on p. 14 and 15 consist of one single angle with bearing on distant peak, and several single bomb returns from SRB "IUG". These were not used.

The location on p. 16 consists of two sextant fixes with bearings and distances to the buoy. It would appear from the record that this location might be good up antil the time of the position on p. 17, namely 19:30 elclock on Aug. 9.

The location on p. 17, consisting of a migra single fix corrected for V.A. plots 300 meters NNE of location on p. 16.

Both locations were plotted on the smooth sheet and arcs swung from each, hagianing on "Z" day where there were a number of positions having 3 or more returns. The location on p. 17 was found to give the best intersections and was accepted as the location of SRB "TUNE" for all the work on this sheet and sheet H-6701. (1941)

Due to the depth of water (80 fms.) in which this buoy is located, the probable scope of buoy around anchor is relatively great. Velocity tests gave results ranging from 1451 to 1472 m.p.s. on returns from TUNE, after rejecting all positions closer than 20 sec.

### SRB "REX"

This buoy was established by Str. PIONEER. A fix given on p. 7 of buoy location book was plotted on 20,000 scale boat sheet and transferred. Location of buoy on boat sheet H-6701 lies 1.5 miles north of above position. Capt. Siems believes that buoy was moved offshore by PIONEER but new location not obtained by EXPLORER.

The only positions on which returns were received from this buoy were Nos. 90, 91, 92, 93, 95, 96, 98, on Z day; Nos. 2 and 4 GG day and 1 trial bomb before beginning work on GG day.

The only return from buoy "REX" (or "VEX") on Z day which came near the other arcs was on Ps. 90. Using the recorded postion, all other returns fell way short of intersection, whereas using boat sheet 160,000 position, they fell way beyond intersection. In the latter case, an intersection of all returns might be obtained by reducing velocity below 1465 mps. but this would be contrary to all other evidence pertaining to velocity on this day (see notes regarding velocities used).

The returns from the boat sheet 160,000 position give perfect intersections on the 3 positions on GG day, lending further support to the belief that buoy was moved offshore later in season.

On recommendation of Capt. Siems, this buoy was disregarded wherever used.

# RAR VELOCITIES

Simultaneous visual fixes and bomb positions were taken about 200 times on this sheet, including that part of the work which was recorded in books for the 160,000 sheet but plotted on this sheet. After the projection and plotting of control was completed and checked, all these visual fixes were plotted and the distances in meters to the buoys were carefully scaled. The theoretical velocites for each position were then computed. It is believed that there was very little distortion in the sheet at the time this was done.

A large number of these velocities were obviously erroneous and were rejected. In addition, all those velocities where the position was closer to the respective buoy than about 18 seconds were thrown out as being too close to give accurate determination of velocity. In computing average velocity, no velocity less than 1440 mps or greater than 1500 mps was included as such cases were considered to be erroneous.

There is attached a tabulation of these computations and a summary by days of the results. It should be noted that buoys DIVE and TUNE were found troublesome in this work and also throughout the plotting. These buoys exext were in deeper water than the rest and it is believed the scope of the mooring gear was sufficient to make an appreciable difference in the position of the buoy from time to time. Although buoy SHOAL was also in deep water, less difficulty was had with it during the smooth plotting.

The results of these computations show a wide range of theoretical velocities. The general average for the sheet was 1467.60, but when smooth plotting was started, it was found that using different velocities in different areas gave more satisfactory agreement of lines with visual fixes, single angles, dead reckoning, and such other factors as had to be taken into consideration. A detailed explanation of each velocity used and the reasons for its selection follows: These data are also shown on the tracing which accompanies the sheet.

From records for H-6700 (8041): (1941)

"M" and "N" days:

Vel. 1469 mps.

This work lies in the southeastern part of the sheet. It is mainly controlled by visual fixes and these were in general the accepted positions. In some cases toward the lower edge of the sheet where fixes were weak, the bomb arcs were used to help determine the position, along with dead reckoning data. The arcs were plotted on the sheet for information only and the velocity used to plot them is the average of all velocity tests on these days.

Attention is called to the apparent effect of the sheel area in Lat. 52° 17' - 18' and Long. 170° 42' - 44'. The effect seems to reduce the velocity when the sound waves have to cross this shoal, pafticularly on returns from buoy SOUTH which must pass directly over the shoal. Returns from buoy RAY, crossing the shoal at varying angles, do not seem to show any consistent trend.

# Q day, Sheet H-6700: (1941) Vel. 1469

This velocity was is the mean of velocity tests on "M" and "N" days which are in the same general vicinity as this work. A reasonably good agreement of velocity with visual work was obtained. A few simulaneous fixes and bombs were taken on this day but the fixes were weak and the angles uncertain, consequently these were not used in computing velocity tests.

# R day, Sheet H-6700: (1941) Vel. 1469

Only three good velocity determinations were made on this day, which gave angeneral average of 1472.33. On account of the small number of tests, expensive this velocity was not used for plotting but rather a velocity of 1469 which was determined on M and N days, and in the same general area.

# S day, Sheet H-6700: (1941) Vel. 1469 Pos. 1 - 19 incl.

These positions lie along the lower edge of the sheet on the eastern end. The velocity used is that determined on Mx "M" and "N" days, which lie to the northward of this work.

# Vel. 1465 Pos. 30 - 116 incl.

From pos. 30 to 98 the line was controlled by visual fixes, with a number of bombs fired simultaneously. The mean velocity obtained from these tests was 1465.71 m/p/s, which was used to plot the RAR work beginning with pos. 99 and extending into "T" day. These lines cross the sheet in a N-S direction. At the south end they adjoin work where a velocity of 1464 was used (see "E" day, Sheet H-6701)(1941) lying to westward. Toward the north end of the line they cross lines visually fixed and RAR lines using higher velocities. Good agreement of soundings was obtained at crossings at both north and south ends of the lines.

# T day, SheetH-6700: (1941) Vel. 1465

The first part of this day (up to Pos. 59) is a continuation of / HSN day and the velocity determined for that day was continued.

The balance of the day's work is largely controlled by visual fixes, and the velocity tests were taken in the latter part of the days work. Although a mean velocity of 1470.49 was obtained from these tests, so many of the fixes were weak, and so much difficulty was had in plotting the angles, that the velocity of 1465 was continued rather than make a change in the middle of the day's work. The plotting of these lines is mostly a cut and try proposition, or reconciliation between angles, bombs and dead reckoning to give the most reasonable looking lines.

The first part of this days work was plotted by siggle bomb returns, dead reckoning and crossings with other lines as no other data was available. Velocity detailed by is general average for sheet.

The kimm balance of the day's work was mostly controlled by visualy fixes, and dead reckoning with single angles. The bomb arcs plotted on the smooth sheet are at velocity 1467; the general average for them sheet.

"W" day, Sheet H-6700: (1941)

Vel. 1473

Pos. 18-42

This line plotted after soundings on cross lines were in. Welerity the remarks from pos. 24 on it crosses the regular system of lines nearly at right angles, thereby enabling a good determination of positions by the crossing of soundings. Vel. 1473 is the velocity which best satisfies them conditions to be met; time, course, and agreement of soundings at crossings. This velocity also gave a very good agreement of crossings from Pos. 18-24 where the adjacent work was visually controlled.

MX# day, Sheet H-6700: (1941)

This day's work visually controlled. Arcspplotted on sheet are at vel. 1467, the general average for the sheet, althomean of velocity tests gives 1465.68, to correspond with other work in the area.

"Y" day, Sheet H-6700: (1941)

This day's work all RAR. No velocity tests. Used 1467 m/p/s, the general average for the sheet.

"Z" day, Sheet H-6700: (1941)

Vel. 1473

This velocity was arrived at by experiment with all positions having threez sources bomb returns. Buoy REX was not taken into consideration as explained elsewhere. The single angles and fixes on pos. 41, 43, 47 and 50 Z were also plotted and 1473 gave best agreement with angles. In spite of the comparatively large difference in velocity wix on the cross lines, good agreement of soundings was obtained; also true of crossings with visual work. Change in velocity between Y and Z days arbitrarixly made at pos. 1Z.

"AA" day, Sheet H-6700: (1941)

Continuation of "2" day at same velocity. Good crossings

"BB" day, Sheet H-6700: (1941)

Vel. 1470 Pos. 1-52 incl.

This velocity is the mean of all tests taken up to Pos. 52. It gives good agreements with visual fixes, dead reckoning, and soundings on cross lines.

Vel. 1467 Pos. 73-end of day

Velocity was changed at pos. 73 to give betters agreement with visual fixes and dead reckoning on line running out to Seguam. Good agreement of soundings on cross lines; several pos. with 3 bomb returns intersect in a point. Mean velocity for all of "BB" day = 1466.19.

"CC" day, Sheet H-6700: (141)

Vel. 1467 Pos. 1-58.

This velocity carried forward from previous day. Mean of velocity tests = 1466.93. We Several poor intersections, believed caused by changing position of buoys. due to currents.

This days work is the same line as "E" day, Sheet E-6701. (1/4/1) The latter work was plotted first on this sheet and a vel. of 1464 arrived at and used. The "E" day work in general lies to the south of the "CC" day work; and it is believed that the different velocities, although not consistent, do not introduce any great error in the location of soundings. These lines were largely determined by dead reckoning and fitting soundings anyway.

Work between Pos. 59, 60, 61 CC are a continuation of "E" day work and the 1464 vel. was used here for consistency.

Upon resumption of RAR at pos. 78, I returned to vel. 1467. / Fair agreement with visual work.

"DD" day, Sheet H-6700: (1941)

Vel. 1467 - general sheet average

"EE" day, Sheet H-6700:

Vel. 1467 - #

"FF" day, Sheet H-6700:

Vel. 1467 - " "

"GG" day, Sheet H-1467x6700: //

Vel. 1467 - " "

There are no cross lines as a check on this velocity. Depth curves give only clue.

"HH" day, Sheet H-6700: (1941)

Vel. 1474

There are no crossings on this line. It continues into "G" day, sheet H-6701. The velocity was determined on that sheet and used on this sheet for consistency.

#JJ# day, Sheet H-6700; 1941)

Vel. 1467 - general sheet average.

Yel, 1467 migeneral sheet average

This is merely a continuation of "X" day on Sheet H-6700, 94 and consists of 3 pos. only (Pos. 1 B = Pos. 29X) Vel. carried fwd.

"E" day, Sheet H-6701: (1941)

Vel. 1464

Mean velocity this day 1463.38; however fixes weak and series not very long. Vel. 1464 taken from later work same area. K. L and Kadays. Gives good agreement soundings and dead reckoning. This day is a continuation of "CC" day, Sheet, H-6700 Which see.

uKu, uLu, uMu, uNu days, Sheet H-6701: (1741) Vel. 1464

This velocity was determined by taking the average of the mean velocities determined by velocity tests on "E", "K" and "L" days, which was 1464.50. Although the smooth plotter on sheet H-6701 used a velocity of 1465 on the work adjacent to this sheet at the southern edge, it is not believed that any appreciable error is caused by this difference of 1 m/p/s, particularly since the desdresskesing deterministics quite a few bomb intersections had to be rejected in view of dead reckoning courses and times. See notes on "General Procedure in Plotting RAR positions."

WP's day, Sheet H-6701;(174/ 2012) Vel. 1464

This day's work controlled by visual fixes. The bomb return arcs were plotted on smooth sheet using the above velocity to be consistent with adjacent work, as above. As these positions were all less than 18 sec. from the respective buoys, they were not used in computing the mean velocity. lest

# DISCREPANCIES

# "A" day - Sheet H-6700: (1941)

# "B" day - Sheet H-6700: (1941)

Smooth plotter was unable to find any combination of angles, log readings, revelution count, bomb returns that would make soundings from pos. 1 to 7 agree with those on cross lines. The positions are shown on smooth sheet but no soundings have been shown. From pos. 7 to 17, good agreement was obtained at crossings. After pos. 17, work was reconnaissance only according to note by field party on page 30, vol. 1. No attempt was made to plot this work on smooth sheet.

# DISCREPANCIES

# "Q" day - Sheet H-6700 (1941)

Considerable difficulty was experienced by smooth plotter on this day's work. The first six positions had to be rejected as they did not plot on any kind of line.

Attention is called to field party's notes at beginning of this day formerous and also at pos. 67, regarding fathometer initial corrections. It positively the believed that the initial correction must have varied quite a bit as a number of poor crossings, as listed below, were encountered; whereas quite a few other crossings on the same lines were good. The control plotting was checked and it was found impossible to bring the soundings into agreement without disregarding entirely the angles, courses, and bomb distances recorded.

For this reason, the conflicting soundings on "Q" day have been omitted at the crossings, also all other soundings which appear to be out of place. The lines crossed were mainly controlled by visual fixes and appear to be alright.

Lat.	& Long.	Positions	Soundings	Remarks
	16.9. 54.4.	7 = 8 Q 134 - 135 T	203 - 202 fms 199 - 198	sdys from posity-89 rejects until be philled to give any into the agreement.
52° 170°	17.1' 58.5'	12 Q 161 - 162 N	. 336 . 324 - 316	336 rejected v
	17.1' 08.0'	17 - 180 94 - 95 T <sub>194</sub>	452 445 = 448	si rejected line
	17 i 15 (	21 - 22Q 53 - 54B	21-2 sgre	dings around the turn 2002 appear too deep to 95 200 as with adjacent parallel 2005 53-54R.
52° 170°	15.3! 49.8	38 = 39 Q 141-142 N	145 . Sags.	.38 - 39 Q rejected; on
52° 170°	15.21 A 57.61	. 42 - 43 Q - 105.2 106 T:	390 - 393 Dea 380 - 386	per sdys NP.
52° 171°	15!	vicinity.53.1 50 = 52 Q	Description of appear	dings around the turn 50-520 ar too deep to agree with cent parallel line on R day.
52° 170°	13.8' 51.1'	64.0 153 - 154 B	262	estys platted
	11.9!) 54.5!	130 317 72 0	.599 % miss	first sdg. after series of
	11.91	A AST CALL		cted.

let.	Long.	Positions	Soundings	Remarks
		i <b>Sir</b>		
52° 171°	49.1' 41.3'	351 - 831 - 831 -	235-289 222-250	Note that crossing around turn on slope at Pos. 36Y, is 0.K.
52 <del>°</del> 171°	\$1.2° 33.0°	12-13BB 92-93Z		Would be improved by meving pos. on close 12BB westward.
52° 171°	32.0' 50.5'	66-67 <b>AA</b> 86-87 <b>BB</b>		Next crossing to eastward O.K. Same difference on Boat Sheet.
52° 171°	42.51 48.01	36-3744 70-7144	491-496 468	No satisfactory solution found. on slope Other crossings on this line OK.
52° 170°	50.5' 59.1'	4-51 97-98 <b>44</b>	463-457 468-473 <sub>**</sub>	Pos. 4Y not too certain. on slope
52° 170°	50.81 59.21	106-107 <b>44</b> 97 <b>-</b> 98 <b>44</b>	463 478 <del>24114</del>	Same line as above.
52° 171°	49.21 10' to	7-8W	114-113-1	15 Deeper than adjacent soundings on parallel lines. Crossing with 68-69Y is OK.
52° 171°	44.61 28.71	42-430 3188	81.4%	The 89 fm. sdg. lies between 82 and 1/2 79 in the record (g min. interval). Possibly read fathometer 10 fms. deep
52° 171°	42.81 02.61	56-57J 47-48 <b>V</b>	748 air blanc 318	Next adg. on "Y" day is 315. These 2 company of the second
52° 171 <del>°</del>	40.5! 02.71	49-50 <b>xx</b> 49-50 <b>y</b>	285 near a 292	
	40.47 01.7'	3-4J。 * 5 <del>9-</del> 51BB 杂点	287 (4.4 283 (	On return line (57-58BB) which is very close to 50-51BB, crossing OK.
	29.5' 57.0!	88-89BB 109-110BB	304 MPP 288	No apparent explanation.
52° 171°	37.81 49.81	એ-શ <b>ા</b> ગં∻ઃલક	1922 1113 <sub>117</sub>	No apparent explanation.
52° 172°	341 03.21	Service Control	294-288 314-299 <sup>np</sup>	ynimpertanc
		ing Maric 15-467	\$100 <b>-310</b> \$110 #	ER line indefinite
52 <b>°</b> 171°		910544106674 216≃2475411	्रहा)। अवनानुस्तर	III line indefinite-fathometer / trouble

	Lat &	Long.	Positions	Soundings	Remarks
	52° 171°	32.9' 41.5'	17-1811	334***********************************	Having fathometer troubles EL line.
	52° 171°	25.4! 45.4!	41-42 <b>55</b> 10-11 <b>AA</b>	184-194	Appears pos. 41EE should go north; Partien however this would spoil agreement of time and course around turns.
	52° 171 <del>°</del>	39.5' 46.6a	19 <b>-20ff</b> 23 <b>-24ff</b>	235-231 202-206	No explanation apparent.
		38.5' 59.5'	3-400 42-43 <b>FF</b>	203*198*! 298-295-298	6 sdgs. at pos. 4DD were increased by 100 fms, to check other line & depth curves, on recommendation of Chief of Party.
	52° 171°	08.81 251	195-196 <b>T</b> 203-204 <b>T</b>		Two lines practically coincide as plotted but soundings do not agree.
		08! to 20! to		318-304 309-299 360-371 366-377 524-520 529-545	It appears that pos. 214, 215 & 216T should be farther S and W. As pos. 172, 173, 175 & 176T are visually controlled, and 193 & 194T are RAR controlled, a higher velocity for pos. 214, 215 & 216 than used for the earlier pos. on T day would seem to be indicated.
	52° 171°	16.9' 36.5'	48-49 <b>T</b> (-67 17-18N	(0) <b>1:80</b> 193 <i>*P</i> • • • • • • • • • • • • • • • • • • •	Good crossing might be obtained by swinging Pos. 18M (H-6701) either north or south.
		10.6' 45.8'	60-61N . 85-86R	206 MA 530	All sdgs. after pos: 60N rejected on recommendation of Chief of Party; apparently much deeper than recorded.
<b>\</b>	5 <b>2°</b> 170°	10.6' 45.0'	67-68N . * 85-86R	Soundings not Impose	near crossing look improbable but
		09.9' 49.5!	146-1478 19-208	570 639	570 was last sdg. obtained on N line. Fathometer working better on R day. 639 plotted on smooth sheet.
		12.5! 54.5!	131-1327 28429R	.523-513 476	No explanation apparent. T line النفاء المالية المالي
	52° 171°	12.41 41.51	42-43 <b>R</b> 2-3 <b>K</b> 26-271	- satisfact	sing of these three lines not entirely pry although greatest difference 5 fms. of 234 fms. All are on turns.
		19,21 15,7!	.7 <i>শ</i> ে 55-56ঃ	296 5157-301 <b>0</b> 6	Visual control, symmetric

Lat.	& Long.	Positions	Soundings	Remarks	
52° 171°	36.751 43.71	31-32 <b>W</b> 19-20 <b>ER</b>		9 questionableonly so long series of misse	
52° 171°	35.0' 48.0'	96-9700 33-34 <b>v</b>	376-374 Ady	stiment of linear widay to sing with 67-68 AA almo pour crossing with 21-2 off ed deeper says might	make good , 196-97 cci 2AA. Line ink
52° 171°	33.7° 50.8°	67-68 <b>44</b> 34-85 <b>9</b>	373-383 367-364	and the contract of the contra	end Al Grand

# SHOALS

There is an extensive bank at SRB SHOAL, Lat. 52° 17', Long. 170°

43', legst depth 72 fms.

Northwest of Amukta I. there is a large bank extending from Lat Lat. 52° 45! Long. 171° 18!; and 77 fms. in vicinity of SRE TUNE, Lat. 52° 45! Long. 171° 31!; and at Lat. 52° 45!, Long. 171° 31!; and at Lat. 52° 45.5!, Long. 171° 31!; and at Lat. 52° 45.5!, Long. 171° 27.5!. A least depth of 78 fms. is found at SRE CHICK in Lat. 52° 42.5! Long. 171° 27.5! Long. 171° 27.5!

A small bank, least depth 93 fms., lies in Lat. 52° 20', Long.

1710 491.

A large bank, extending from Lat. 52° 39 to 42 and Long. 171° 55' to 172° 07', has least' depth of 92 fms. in Lat. 52° 40'2 Long. 171° 59', and least depth of 87 fms. in Lat. 52° 40.5', Long. 172° 03'

The shoal 6 miles NE of the east end of Seguam I., in Lat. 52° 25', Long. 172° 11', shows a least depth of 52 fms.

# FUTURE DEVELOPMENT

The area in the extens southeast corner of the sheet, in approx. 300-100 Lat 52° 10', Long, 170° 35' to 50', needs further development to properly define the depth curves and effect a junction with adjacent of styling the styling of the styling

Note also shoal indication (216 fms.) mentioned near top of page 2 of body of this Descriptive Report.

There is a shoal indication (168 fms.) in Lat. 52° 30', Long. For som Revised 1720 021.

There is a shoal (160 fms.) in Lat. 520 141 Long. 1710 40'. - Mornin Review

There is a shoel indication (178 fms.) in Lat. 52° 131, Long. And Addition 1710 481.



# DEPTH CURVES

Depth curves have been drawn on the smooth sheet for 100, 200 and 1000 fms., as required by the Hydrographic Manual.

In addition, to more clearly delineate the hydrographic features, curves have been **Adjusty** penciled for 300, 400, 500, 600, 700, 800 and 900 fms. in certain areas.

# BOTTOM CHARACTERISTICS

Bottom samples consisting of marine plant and animal life were obtained on the bank in approx. Lat. 52° 40', Long. 172° 00', at passix positions 60 and 61; FF day. Samples as were sent to the Scripps Oceanographic Institute of La Jolla, Calif.

Other bottom specimens included some of cinders and others of a coral growth.

WORK FROM SHEET H-6701 (16041)

Pos. 611-11 II was superseded and deleted on H-6700 due to disagreement with H-7995 (1952) 1/24/53 eHelmer (carstons)

The hydrography in the southwestern part of the smooth sheet was originally recorded in the volumes for sheet H-6701 (1990) the recommendation of the Chief of Party, this work was plotted on sheet H-6700 (1.80,000). Notes have been made in them was sounding records opposited each position plotted on this sheet. An abstract of this work follows:

Work recorded to volumes for H-6701 but plotted on H-6700: (1941)

Day	Lines	plotted ***	Stat. miles	Soundings	Positions
<b>3</b>		1-3 incl.	. 4.0-	12	
r'	(A Al	11). 1	- 119.0 ± ; ;	11811	53
K'	Pos.	1-42 incl.	136.9	655	42
L'	Pos.	19-32 incl.	28.7	109	13
	Pos.	132-146 incl.	30.9	117	. 14
M'		VII	45.0	184	18
n'		الالا الالا	<b>4:50.8</b>	337	55
P'		<b>بر</b> در ا	65.0	1498	59
# Prime at		Totals:	** 480.3	2396	257

WORK FROM SHEET H-6699 (4141)

This development has not been platted eited in H-6723 or H-6700, for the reasons given on this page.

These vecords are patained as evidence of additional development on this sheat and reasonable assurance of the least depth of 55 fm new plotted.

On "C" day of the above sheet, development was done in approx. Lat. 52° 25', Long. 172° 10', to investigate this shoal as a possible site for a sono-radio buoy. This work was controlled by bomb returns from buoys "Seguam" and "Amukta", the intersection of the arcs being nearly tangent. Also a bearing and a single angle were taken between signal LOAF and the N tangent of Seguam Island.

An attempt to plot this work on sheet H-6700 (8041) was made but it was not found possible to reconcile the soundings with other work in the area which was controlled by visual fixes. It was necessary to make a positive correction of late to the compass bearings to bring the lines into approximate agreement with the other work.

Since this area was later well covered on "N" and "P" days of sheet H-6701 (16041) and "BB" day sheet H-6700 (8041) crosses the area between pos. 93 and 94, this work is not shown on the smooth sheet except for the 52 fm. sounding between pos. 17-180, the least depth found. The location of this sounding was necessarily roughly determined, but is believed near enough for charting purposes.

A tracing is enclosed showing the soundings as originally plotted, plotting the uncorrected bearing to the N tangent of Seguam Id. The red intermediates ticks show the approximate displacement after adding 1\frac{1}{2}0 to the bearings.

As an aid in plotting this work, the following positions were transferred from sheet H-6699 (4141) to sheet H-6700: 35 to 48 P. and 38 to 40 W. The soundings have been plotted on these lines and a note made on the smooth sheet as to their source.

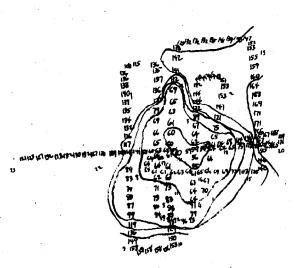
\* An attempt was made & venicle the sounding strength of the tracing but without success. He position of the 52 fm sounding in too uncertaint plat and as a 55 fm sounding appears in this area it is not deamed advisorble to appearant a position for the 52 fm sounding the enters development on rejections.

# SUMMARY OF VELOCITY TESTS

Date	Sheet	Day Let.	Sum of Veloc.	No. in Series	Mean Veloc.	
July 3	<b>H-6700</b> (19	41) <b>M</b>	19,111.86	13	1,470.14	
July 4	Ħ	N	110,202.11	75	1,469.36	
July 19	Ħ	R	4,417.00	3	1,472.33	
July 20	H	S	17,588.48	12	1,465.71	
July 21	<b>B</b> .	T	19,116.41	13	1,470.49	
July 23	Ħ	U	1,461.09	1	1,461.09	
July 27	H-6700194 H-6701	) X B	13,191.16	9	1,465.68	(
July 30	H-6700	Z	2,939.94	2	1,469.97	
Aug. 5	Ħ	BB °	35,188.46	5,1	1,466.19	
Aug. 6	H-6700 H-6701	CC.	24,937.87 16,097.20	17 11	1,466.93 1,463.38	
Aug. 30	H-6701	K	4,400.10	3	1,466.70	
Aug. 31	Ħ	L	41,012.07	28	1,464.72	
Sep. 7	<b>#</b>	P				(
T	otals:	-	309,663.75	211		

Mean velocity =  $\frac{309,663.75}{211}$  = 1467.60

See page 14



Development on "C" day sheet, H-6694 (4141) See Descriptive Report.

, \_;<u>|</u>-

-<u>|</u>-

	Remarks	Decis	ions
1		525 710	U.S.G.B.
2		520 715	0 - 0 / 0
3		J -	
4		525 710	15
5		520 720	
6		3 2 0 7 2 0	
		525705	
7		525705	<u>(</u>
8	Referred to U.S. G.B: ox to apply pending its decision		
9		525 710	
10			
11			
12			
13			
14			
15			
16		,	
17			
18			
19			-
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		Ch. /	[ qt /	1. 4.	St. 24.	` & <sup>2</sup> /	\ \. \ \ /	`&` /	′ 5.` /	
Name on Survey	A,	Char C	C,	D D D D D D D D D D D D D D D D D D D	or local did	Orloco Mod	o Guide	H Social H	N.S. Jari	
Amukta Island										1
Amukta Pass										2
Bering Sea										3
Chagulak Island										4
Seguam Island										5
Pacific Ocean			,							6
Yunaska Island										7
Yunaska Pass										8
Yunaska Pass Chagulak Pass										9
										10
				<u> </u>	eck	10)	142			11
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# Surveys Section (Chart Division) HYDROGRAPHIC SURVEY NO. 1157.00

Records accompanying survey:	
Boat sheets .one.; sounding vols. (12);	buoy locations vol. (1)
bomb vols(5); graphic recorder roll	.s;
special reports, etc. one overlay tracing t	o show velocities used in
plotting.	• • • • • • • • • • • • • • • • • • • •
The following statistics will be submitted rapher's report on the sheet:	l with the cartog-
Number of positions on sheet	27/6
Number of positions checked	25.
Number of positions revised	2
Number of soundings recorded	19530
Number of soundings revised (refers to depth only)	2.7.
Number of soundings erroneously spaced	32
Number of signals erroneously plotted or transferred	••••
Topographic details Time	
Junctions Time	
Verification of soundings from graphic record Time	
Verification by	.143. Date \$/31/42
Review by S.F. Jordan Time	30½ Date 3/28/42

# MEMORANDUM IMMEDIATE ATTENTION

	SURVEY DESCRIPTIVE REPORT XRHQTOSTATXOFX	No. H H 6700	received July 10,1942 registered July 16, 1942 verified reviewed approved
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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		
26		
30		
40		
62		·
• 63		· ·
82		
83		
88		
90		

RETURN TO

82 R. W. Knox

Ruk

# TIDE NOTE FOR HYDROGRAPHIC SHEET

July 23, 1942.

Division-of-Hydrography-and-Topography:

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

Plane of reference approved in 18 volumes of sounding records for

HYDROGRAPHIC SHEET 6700

Locality Yunaska to Seguam Islands, Aleutian Islands, Southwest Alaska

Chief of Party: F. B. T. Siems in 1941 Plane of reference is ft. on tide staff at \* ft. below B. M.

\* Tide reducers omitted on account of depths.

Condition of records satisfactory except as noted below:

Chief, Division of Tides and Currents.

re orvice 15422

## DIVISION OF CHARTS

# SURVEYS SECTION

# REVIEW OF HYDROGRAPHIC SURVEY

REGISTER NO. 6700 Field No. 8041

S. W. Alaska; Aleutian Islands; Yunaska to Seguam Islands Surveyed June - August 1941; Scale 1:80,000 Instructions dated February 3, 1938 (SURVEYOR)

Soundings: Dorsey III Fathometer Control:

RAR with sono-radio buoys Visual three-point fix

Chief of Party - F. B. T. Siems
Surveyed by - Ship's Officers
Protracted by - P. M. Fisher
Soundings plotted by - P. M. Fisher
Verified and inked by - G. B. Littlepage
Reviewed by - G. F. Jordan
Supply 1944
Inspected by - H. R. Edmonston

# 1. Shoreline and Signals

The triangulation was accomplished under the present project.

The topographic signals are from the following plane table surveys -

T-6861 (1941) T-6866 to T-6869 (1941) T-6862 (1941) T-6850 to T-6852 (1941)

Other control is from hydrographic signals on shore and the sono-radio buoys whose locations are given in a single volume with the sounding records.

As this is an offshore survey, only the high water line has been transferred from the above topographic surveys.

# 2. Sounding Line Crossings

In general, the agreement in crosslines is satisfactory. A number of disagreements in crosslines are listed on pages 9-12 of the Descriptive Report, with comment by this review. In consideration of the depths involved, the discrepancies are considered relatively unimportant. The control for the sounding lines was carefully considered in the plotting, and a comprehensive discussion on this point is included in the Descriptive Report.

# 3. Depth Curves

Considering the depths involved the depth curves have been satisfactorily drawn. However, a closer development of certain areas is recommended, at some opportune time, under Par. 9.

# 4. Comparison with Contemporary Surveys

Satisfactory junctions are made with H-6723 (1941) at Seguam Island, H-6698 (1941) around Amukta Island, H-6568 (1940) at Yunaska Island, and with offshore surveys H-6478 (1939) on the southeast, H-6701 (1941) on the north and south and H-6573 (1940) on the northeast.

# 5. Comparison with Prior Surveys

There are no prior surveys in this area by this Bureau.

# 6. Comparison with Chart 8802 (latest print of 8-31-42)

# a. Hydrography

The charted soundings fall into three groups

- (1) Those found on the first Standard of 1909
- (2) Those from track lines by Naval vessels
- (3) Soundings west to Long. 171°25' (limits of 8861) from a photostat of the boat sheet of the present survey.

There are large discrepancies between the soundings on the track lines and the present survey such as 85fm. against 280fm. A 2 - 4 mile displacement of these lines would place their soundings in more comparable depths on the present survey. It is recommended that all soundings charted within the area of the present survey should be disregarded.

# b. Aids to Navigation

None.

# 7. Condition of Survey

The condition, detail and scope of the sounding records, Descriptive Report and field plotting are very good.

### 8. Compliance with Instructions

Satisfactory.

### 9. Additional Work Recommended

No immediate additional work is recommended; however, at an opportune time it is recommended that the following shoal indications be developed, provided such can be controlled by buoys established for the westward extension of the hydrography.

- Lat. 52°40.5', Long. 172°03', 87fm. and 95fm. | Confirmed-(a) See Add.WK in 140fm.
- 3 miles east of (a), 92 and 95fm. in 130fm. (b)

It would have been desirable for the field party to have accomplished the additional development listed below:

- Lat. 52°37.9', Long. 171°50.7', 196fm. in (c) 250 to 450fm.
- Lat. 52°17', Long. 172°09' and 172°06'. lines (d) north for 200-fm. curve
- Lat. 52°19.5', Long. 171°49.5', lines west from 93fm. for 100-fm. curve (e)
- Lat. 52°34.4', Long. 171°33.0', 216fm. in 250fm. at point of 300-fm. curve (f)
- Lat. 52°32' to 52°23', Long. 172°02.5', line for (g) 200-fm. curve
- Lat. 52°12', Long. 170°37', 300 to 1,000-fm. curves (h)

# 10. Superseded Surveys

No prior surveys.

Examined and approved:

Chief, Surveys Section

Chief. Division of Charts

1953 Review

Chief, Section of Hydrography

Chief, Division of Coastal Surveys

# DIVISION OF CHARTS

# REVIEW SECTION - NAUTICAL CHART BRANCH

# REVIEW OF HYDROGRAPHIC SURVEY

# REGISTRY NO. H-6700 Ad. Wk.

FIELD NO. ----

S. W. Alaska, Aleutian Islands, N. E. of Sequam I.

Project No. CS-218, CS-343

Surveyed in July 1952

Scale 1:80,000

Soundings:

Control:

NMC Fathometer NMC-2 Fathometer One shoran distance and adjustment to bottom configuration

Chief of Party - G. L. Anderson Surveyed by - C. N. Schoene and J. E. Guth Protracted by - D. R. Engle Soundings plotted by - D. R. Engle Verified and inked by - D. R. Engle Reviewed by - I. M. Zeskind, 23 June 1953 Inspected by - R. H. Carstens

# 1. Instructions

The additional work was accomplished in compliance with -

# Instructions for

Project CS-218 dated 19 March 1952 Project CS-343 dated 21 March 1952, and

Preliminary Review of Chart 8862 (G.F.J.)
dated 29 February 1952.

# 2. Scope

The additional work was done for the following reasons:

a. To investigate the area in the vicinity of lat. 52° 44.0°, long. 171° 59.0° to confirm or disprove the existence of a 30-fm. sounding on a trackline of the USS WICHITA (Chart Letter 392, 1943) and a reported rock awash in Notice to Mariners No. 37 (1951) (not charted).

b. To develop the 87-and 92-fm. shoals in the vicinity of lat. 52° 40.4°, long. 172° 03.2° and lat. 52° 40.3°, long. 171° 59.0°, respectively.

# 3. Results

The results of the additional work are as follows:

- a. The 30-fm. sounding and the reported rock awash are discredited.
- b. The 87-fm. and 92-fm. sounding are substantiated by comparable present depths and the features are adequately developed.

# 4. Comparison with Chart 8862 (Latest print date 10/15/51)

The additional work has not been charted. Minor differences of 1-9 fms. between the charted soundings and soundings obtained by the additional work were noted. The 30-fm. sounding investigated has been deleted from the chart in accordance with advance information in Chart Letter 655 (1952).

H. R. Edmonston

Chief. Nautical Chart Branch

G. R. Fish

Chief, Section of Hydrography

Examined and approved:

H. Arnold Karo

Chief, Division of Charts

Earl O. Heaton

Chief, Division of Coastal Surveys

applied to Ch. 8862-Sept 9, 1942- Stualler " " 8861 (marinely applied when manifeld) agr. 22, 1944 g.H.S. addl work applied to the 8862 1/1/53- D.H.B.