

7626

Diag'd. on Diag. Ch. No. 8865

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. EX-10147 Office No. H-7626

LOCALITY

State Alaska

General locality Near Islands

Locality Agattu Island to Buldir Island

1947

CHIEF OF PARTY

F.B.T.Siems

LIBRARY & ARCHIVES

DATE Jan. 26, 1949

B-1870-1 (1)

7626

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. H7626

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-7626

Field No. EX-10147

State Alaska - Aleutian Islands

General locality Near Islands

Locality Agattu Island to Buldir Island

Scale 1 : 100,000 Date of survey 17 May - 22 August 1947

Instructions dated 3 February 1938; revised 16 April 1943

Vessel EXPLORER

Chief of party F.B.T. Siems

Surveyed by H.O. Fortin, G.C. Mast, IR. Rubottom, H.C. Applequist, P. Taylor, C.W. Clark

Soundings taken by fathometer, graphic recorder, ~~hand lead wire~~

Protracted by H.C. Parsons

Soundings penciled by H.C. Parsons

Soundings in fathoms ~~feet~~ at ~~MLLW~~ MLLW

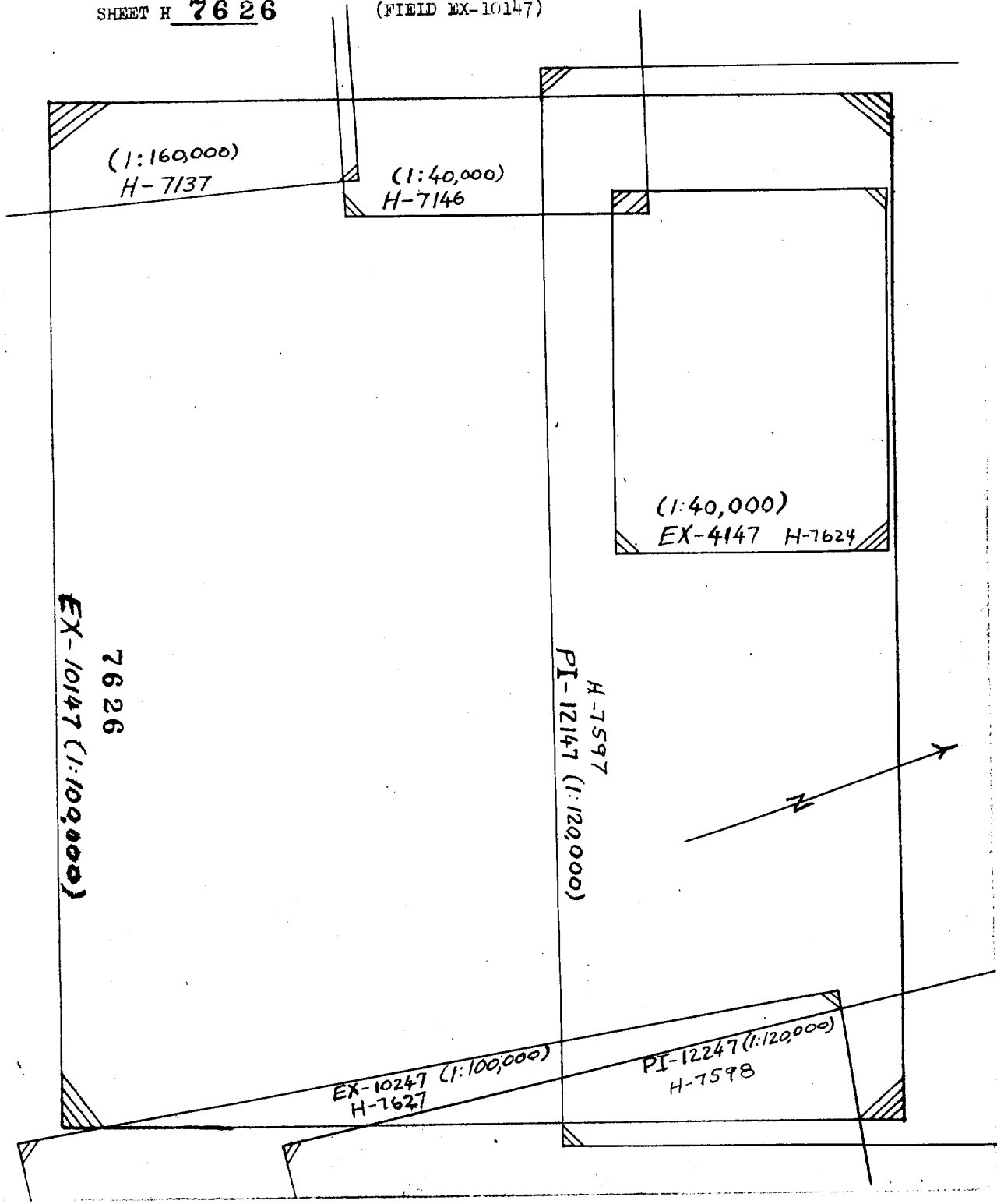
REMARKS: Fathograms were scanned and rescanned by the field party.
Critical points were further re-examined in the
Seattle Processing Office

INDEX SHEET

FOR

SHEET H **7626**

(FIELD EX-10147)



DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SURVEY H- 7626

Field No. EX-10147

SOUTH OF SHEMYA ISLAND

BETWEEN AGATTU AND BULDIR ISLANDS

1947

Scale 1 : 100,000

USC&GSS EXPLORER, F.B.T. Siems, Comdg.

Surveyed by: H.O.Fortin, G.C.Mast, I.R.Rubottom, H.C.Applequist, P.Taylor and
C.W.Clark

A. PROJECT:

Instructions Project CS-218, dated 3 February 1938, revised 16 April 1943.

B. SURVEY LIMITS AND DATES:

Locality - Offshore south of Shemya Island, between Agattu and Buldir Islands, extending offshore to limit of shoran control.

Joins sheets ^{H-7624(1947)} EX-4147 and ^{H-7597(1947)} PI-12147 on the north, sheets ^{H-7627(1947)} EX-10247 and ^{H-7698(1947)} PI-12247 on the east, and sheets ⁽¹⁹⁴⁶⁾ H-7137 and H-7146 on the west.

See index limit sheet for junctures and scales of prior and contemporary surveys.

Hydrography was executed during the period 17 May to 22 August 1947. Work was executed in conjunction with other surveys in the area.

C. VESSEL AND EQUIPMENT:

The ship EXPLORER executed all hydrography on this sheet. The vessel sounded at standard speed, at about $12\frac{1}{2}$ knots, except on occasions when rough seas prevented obtaining a satisfactory graphic record of the depth. At such times the speed was reduced to a speed of approximately 9 to 10 knots.

The turning radius of the EXPLORER is 275 and 360 meters to port and starboard respectively.

Three different fathometers were used, as follows:

- (1) The 808 fathometer for all depths within its range, except on occasions when rough seas prevented obtaining satisfactory records on the graph;
- (2) the NMC-2 (Navy type) for depths between the range of the 808 fathometer and 800 fathoms, and on occasions when rough seas prevented obtaining satisfactory records on the graph of the 808 in depths in the normal range of the 808 fathometer;
- (3) the NMC (Navy type) for all soundings in depths over 800 fathoms.

The NMC-2 was not used in depths over 800 fathoms because operation on deep scale was not at synchronous speed.

See fathometer report for 1947 for comparison between various fathometers.

Gyro error. - Because of the prevailing overcast weather and non-visibility of shore objects, comparisons between magnetic compass and gyro were taken to check the correctness of the gyro compass.

D. TIDE AND CURRENT STATIONS:

The reductions for tides were based on tidal data obtained from the portable automatic gage at Massacre Bay, Attu Island.

No current stations were occupied.

E. SMOOTH SHEET:

Function of Seattle Processing Office.

F. CONTROL:

Datum - ~~Gannet USN-1934~~^{NA 1927}, local triangulation 1943, 1944, 1945, 1946, and triangulation for location of shoran stations, 1947.

G. SHORELINE AND TOPOGRAPHY:

No shoreline details are included in this survey. ~~Outlines of the islands in the area were transferred from existing charts.~~

H. SOUNDINGS:

The sounding lines were spaced in accordance with standard instructions. Additional lines and cross lines were run in areas where the depth curves could not be drawn with sufficient accuracy.

I. CONTROL OF HYDROGRAPHY:

Sounding lines were controlled with shoran fixes. Early during the season the surveys were carried eastward from the Near Islands to within the

40- to 50-mile limiting ranges of stations STAR and ALEX. A sector southeastward of Agattu Island, which was beyond the range of STAR, was controlled by stations AGAT and ALEX. Up to the time these areas were completed, reflectors at the shoran stations had been omitted in order to allow simultaneous use of the stations by two ships from any direction. Two shoran units with reflectors at station STAR, for use by the two ships, did not prove practicable. In carrying the work farther offshore and farther to the eastward, reflectors became necessary in order to obtain maximum distances.

The two stations established at triangulation station STAR 1944 were used as follows: STAR (Ecc.) #1 1947 from beginning of day 17 May to 1000, 17 May, then changed to STAR #2 1947 until 1030, 17 May, at this time changed back to STAR (Ecc.) #1 1947, at 1407, 17 May changed to STAR #2 1947 and continued using this station thereafter.

In the area southeast of Agattu Island where the distance circles from ALEX and AGAT intersected at small angles, the plotting was made dependent on distance differences rather than on the distances alone. In other words, hyperbolas of constant distance differences in addition to the distance circles were drawn on the sheet for use in plotting the shoran positions. By this expedient, maximum accuracy in plotting is afforded, which is not the case if the plotting is dependent solely on distance circles intersecting at small angles.

In carrying the work farther to the eastward stations AGAT and BULL were used. These were later supplemented by stations SILO and VEGA, located on Kiska Island.

During a period of several days in mid-July, distances as great as 96 and 93 statute miles were received from stations AGAT and SILO (located on Kiska Island), respectively. At this time it appeared that the area southwest of Buldir Island and westward and southward of Tahoma Reef would be more than adequately controlled by stations AGAT, BULL, SILO and VEGA. Unfortunately, the favorable conditions that permitted the distant ranging suddenly disappeared, and thereafter for over a month returns were limited to distances less than about 75 miles. During this unfavorable period numerous sounding lines were run across the featureless area southwestward of Buldir Island when the ship was proceeding on occasions from one end of the project to the other. These lines are controlled by distance from one station and tied in at either end by two station fixes.

Late in August, very favorable ranging conditions re-appeared, and the remaining outlying areas were completed with adequate shoran control, using stations AGAT, BULL and VEGA, but only after considerable time had been lost in proceeding to the areas from distant parts of the project in unsuccessful attempts to extend the work seaward to required limits.

On one occasion a launch equipped with antenna, shoran shore set and power unit was anchored at the south edge of Tahoma Reef to act as a shoran shore station (LAN) for the ship's use in extending the surveys southwest of the reef. Unfortunately, tests had to be curtailed because of weather, and

they are otherwise inconclusive because of faulty operation of the power unit at the time. Maximum range was 19 miles (theoretical range: 18 miles).

J. ADEQUACY OF SURVEY:

The survey is adequate and no further work is necessary.

Junctures with adjoining surveys are satisfactory. Depth curves at the junctures can be adequately drawn. No holidays or excessive differences exist at the junctures.

K. CROSSLINES:

Adequate crosslines were run indicating close agreement.

L. COMPARISON WITH PRIOR SURVEYS:

Most of the area was covered by the reconnaissance survey of 1943. The two surveys are in closer agreement than would be expected taking into consideration the lack of control on the 1943 survey. The depth curves and submarine banks on the prior survey are displaced from 1 to 2 miles, but no appreciable shoaler soundings were found on any of the banks.

M. COMPARISON WITH CHART:

All soundings are in relatively close agreement with existing charts, except a 57-fathom depth ^{from H-6935 (1943)} is charted in latitude $52^{\circ} 19.6' N$, longitude $174^{\circ} 17.6' E$, while the least depth found on this survey reduces to $62\frac{1}{2}$ fathoms. It is noted that the 1943 survey shows a least depth of 62 fathoms at this point. The origin of the 57-fathom sounding is unknown. The amount of development both on this survey and the 1943 survey casts doubt on its existence. (Erroneous scaling on H-6935 (1943))

N. DANGERS AND SHOALS:

There are no dangers within the area of this survey, and no uncharted shoals of any importance were found.

Respectfully submitted

H. O. Fortin
H. O. FORTIN
Lt. Comdr. USCGS

G. C. Mast
G. C. MAST
Lt. Comdr. USCGS

I. R. Rubottom

I. R. RUBOTTOM
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H. C. APPLEQUIST
Lieut. USC&GS

Paul Taylor

P. TAYLOR
Lieut. USC&GS

C. W. Clark

C. W. CLARK
Lieut. USC&GS

Approved and forwarded:

F. B. T. Siems

F. B. T. SIEMS
Captain USC&GS
Commanding Ship EXPLORER

SHORAN DISTANCE CORRECTIONS - The corrections to the observed shoran distances were obtained by combining the results from the following three sources:

1. The excess of the observed shoran distance over the geodetic distance while on line between two stations:

Base lines	Shoran Distances- Difference	Shoran Distance Summation	Distance by Triangulation	Difference
STAR-ALEX	- - -	32.205	32.196	.009
STAR-BULL	- - -	- - -	- - -	- - -
AGAT-ALEX	10.255	- - -	10.237	.018
ALEX-BULL	- - -	94.779	94.682	.097
AGAT-BULL	- - -	91.040	90.978	.062
SILO-AGAT	- - -	164.810	164.704	.106
SILO-VEGA	16.246	- - -	16.218	.028

2. The difference between the observed shoran distances and the scaled distances at points located by three-point fixes in the vicinity of Kiska Island. The fixes were plotted on a vinylite sheet.

Station	Distance Differences (Scaled minus Observed)	
	Line clear	Line obstructed
SILO	-.025 (16 positions)	-.049 (136 positions)
VEGA	-.005 (232 positions)	-.044 (29 positions)

3. The differences between observed shoran distances and the distances as obtained by computing three-point fixes in the vicinity of Shemya Island.

Station	Distance Differences (Computed minus observed)
STAR	-.007 (21 positions)
ALEX	-.022 (25 positions)

The following table of corrections was selected as most closely approximating the combination of the above results.

No constant corrections for any stations except SILO, which is assigned a constant correction of: -0.01 miles.

Attenuation corrections are assigned to all distances from all stations as follows:

Distances greater than 50 miles:	-0.04 miles.
Distances from 30 to 50 miles:	-0.02 miles.
Distances from 15 to 30 miles:	-0.01 miles.
Distances under 15 miles:	-0.00 miles.
All distances (Obstructed):	-0.03 miles.

SHORAN DATA EXPLORER 1947

I. Location of Shoran sets:

Ship Set No. 1 LAN (19 Aug.) EDDY (20 Aug. on)
 No. 2 Unused. Spare set aboard.
 No. 3 Assigned to FIGHNER.
 No. 4 Assigned to FIGHNER.
 No. 5 EDDY (thru 19 Aug.) LAN (20 Aug.)
 No. 6 Assigned to FIGHNER.

Ground Set No. 1 CHICO, BULL, SILO (16 Sept. on)
 No. 2 EDDY (19 & 20 Aug.) LAN (21 Aug.)
 No. 3 SILO (thru 15 Sept.)
 No. 4 BEAR, ecc. AGAT (STAR, ecc = STAR #1)
 No. 5 ALEX, VEGA (STAR # STAR #2)
 No. 6 STAR

II. Tabular Values of ZERO SET:

Ship Sets	Std. Set 1	Std. Set 2	Std. Set 3	Std. Set 4	Std. Set 5	Std. Set 6
No. 1	99.848	99.842	99.843	99.833	99.829	99.835
No. 5	99.849	99.849	99.845	99.838	99.830	99.832

III. Abstract of tabular values by date (Ship vs. Std. stations)

STAR, ecc	(85 04)	.838				
Star	(85 06)	.832				
ALEX	(85 05)	.830				
BULL	(85 01)	.849 thru 19 Aug.	(81 01)	.848 after 20 Aug.		
AGAT	(85 04)	.838 thru 19 Aug.	(81 04)	.833 after 20 Aug.		
SILO	(85 03)	.845 thru 19 Aug.	(81 03)	.843 20 Aug-15 Sept	(81 01)	.848 after 16 Sept.
VEGA	(85 05)	.830 thru 19 Aug.	(81 05)	.829 after 20 Aug.		
LAN			(81 02)	.842 21 Aug.		

IV. Abstract of Tabular values by date (Launch vs. Std. stations).

EDDY	(81 02)	.842 thru 19 Aug.	(85 02)	.849 20 Aug.
BULL	(81 01)	.848 thru 19 Aug.	(85 01)	.849 20 Aug.

FINAL CORRECTION

DRAFT - INITIAL - INSTRUMENTAL

Sheet EX-10147

Date	Day Letter	808 #60 fms.	NMC fms.	NMC-2 fms.
5/17/47	A	- - - -	Shoal scale +2.8 2000 " +12.3	- - - -
5/19/47	B	- - - -	Shoal " +2.8 2000 " +17.3	- - - -
5/21/47	C	- - - -	Shoal " +2.7 2000 " +12.2	- - - -
5/27/47	D	1 to 24 +0.1 24+ " 39 -0.3 39+ " end -0.7	- - - -	- - - -
5/28/47	E	1 to 95 -0.4 95+ " end -0.6	- - - -	All day -0.6
5/29/47	F	1 to 9 -0.2 9+ " 32 -0.0 32+ " end +0.1	- - - -	All day +0.4
5/30/47	G	All day -0.5	- - - -	1 to 100 -0.7 100+ " end +0.3
5/31/47	H	All day -0.4	All day +17.3	All day +0.3
6/2/47	J	" " -0.9	" " +22.2	" " -1.8
6/4/47	K	1 to 26 -0.4 26+ " 40 -0.2 40+ " end -0.7	- - - -	" " +2.2
6/21/47	L	All day 0.0	- - - -	- - - -
6/22/47	M	" " -0.5	1 to 38 +22.4 38+ " end +17.4	All day -0.6
6/23/47	N	1 to 47 -0.2 47+ " end -0.4	- - - -	" " +0.4
6/24/47	P	All day -0.4	All day +12.3	" " -0.7
6/25/47	Q	- - - -	" " +7.3	" " +0.3

H.O.

Date	Day Letter	808 #60 fms.	NMC fms.	NMC-2 fms.
6/26/47	R	All day -0.3	All day +12.3	All day +0.3
7/4/47	S	1 to 6 -0.3 6+ " 12 -0.1 12+ " end -0.3	Shoal scale +2.3 2000 scale +12.3	12 to 14 incl. +0.3
7/6/47	T	1 to 6 -0.3 6+ " 27 -0.5 27+ " 44 -0.3 44+ " end -0.5	All day +12.3	All day -0.7
7/7/47	U	All day -0.3	All day +12.3	1 to 217 -0.7 217 + 5 min. to end +1.3
7/9/47	V.	1+ to 24 -0.4 24+ " 50 -0.6 50+ " end -0.4	" " +22.2	All day +0.2
7/10/47	W	1 to 68 -0.4 68+ to 78 -0.2 78+ to 106 -0.0 106+ " end -0.2	Shoal scale +2.2 2000 scale +12.2	All day +2.2
7/16/47	X	All day -0.2	All day +2.4	1 to 20 -0.6 20+ " 68 -2.6 68+ " 79 -1.6 79+ " 106 -0.6 106+ " 150 +0.4 150+ " 201 +1.4 201+ " end +0.4
7/17/47	Y	All day -0.2	All day +22.4	1 to 100 +2.4 100+ " 141 +1.4 141+ " end +0.4
7/18/47	Z	1 to 12 -0.3 12+ " 16 -0.1 16+ " end -0.3	" " +12.3	1 to 57 +0.3 57+ to end +2.3
7/20/47	AA	1 to 11 -0.3 11+ " end -0.3	All day +2.3	1 to 22 +2.3 22+ " end +0.3
7/21/47	BA	1 to 14 -0.2 14+ " end -0.6	All day +2.2	All day +2.2
7/22/47	CA	1 to 14 -0.2 14+ " end -0.6 All day -0.4	All day -2.2 1 to 20 + 2' +2.2 20 + 2' to end +12.2	All day -2.2 1 to 97 +0.2 97+ " end +2.2

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		<u>808</u>		<u>NMC</u>		<u>NMC-2</u>	
7/23/47	DA	1 to 18 -0.4	All day +2.2	All day +2.2		All day +2.2	
		18+ " 34 -0.6					
		34+ " 39 -0.8					
		39+ " end -0.4					
7/24/47	EA	All day -0.4	All day +2.2	All day +2.2		All day +2.2	
7/26/47	FA	" " -0.5	- - - -	" " +2.1		" " +2.1	
7/27/47	GA	- - - -	- - - -	" " +2.1		" " +2.1	
7/29/47	HA	1 to 11 -0.2	All day +12.4	" " +2.4		" " +2.4	
		11+ " end 0.0					
7/30/47	JA	All day +0.2	- - - -	" " +2.4		" " +2.4	
8/7/47	KA	- - - -	All day +2.2	" " +0.2		" " +0.2	
8/12/47	LA	All day -0.5	- - - -	" " +2.3		" " +2.3	
8/15/47	MA	1 to 13 -0.4	- - - -	" " +2.2		" " +2.2	
		13+ " 23 -0.0					
		23+ " end -0.4					
8/16/47	NA	1 to 22 -0.6	- - - -	" " +2.2		" " +2.2	
		22+ " end -0.4					
8/18/47	PA	1 to 44 -0.6	All day +12.2	" " +1.2		" " +1.2	
		44+ " 53 -0.8					
		53+ " 63 -0.4					
		63+ " end -0.2					
8/19/47	QA	1 " 75 -0.4	1 to 10 +12.2	All day +2.2		All day +2.2	
		75+ " 78 -0.6	10+ " end +22.2				
		83+ " 89 -1.0					
		89+ " 96 -1.2					
		96+ " 114 -0.2					
		114+ " end 0.0					
		78+ " 83 -0.8					
8/21/47	RA	All day -0.5	All day +17.1	All day +2.1		All day +2.1	
8/22/47	SA	" " -0.5	" " +12.1	" " +2.1		" " +2.1	

[Handwritten signature]

BULDIR TO NEAR ISLANDS - SOUTH OF THE ALEUTIAN RIDGE

PROCESSING OFFICE NOTES

SMOOTH SHEET

Projection is hand made. Datum is North American 1927. Triangulation is from work of Siems 1947, and Borden 1947. Other points are from the published positions, pages 284, 294, 333, and 336.

SIGNAL "LAN"

This is a shoran station established in a launch. It was located by the ship, which established its own position by shoran distances, and took a shoran distance and a bearing to signal "LAN" close by.

SHORAN DISTANCE CIRCLES

To control the shoran distance circles positions on radii from the shoran stations were computed, as shown in the tabulation below. These points were plotted on the smooth sheet. The radii were carefully subdivided into five statute mile intervals, and the circles were swung through the points.

<u>Azimuth</u>	<u>Radial distance in Stat. Miles</u>							
	<u>20</u>	<u>40</u>	<u>55</u>	<u>60</u>	<u>70</u>	<u>80</u>	<u>90</u>	<u>100</u>
<u>From Star 2 - 1947</u>								
0	x	x	x					
305	x	x	x					
<u>From Alex - 1947</u>								
270	x	x	x			x		
305	x	x	x			x		
<u>From Agat - 1945</u>								
275	x	x		x			x	x
310	x	x		x			x	x
<u>From Bull - 1947</u>								
15	x	x		x				
80	x	x		x				

<u>Azimuth</u>	<u>Radial distance in Stat. Miles</u>							
	<u>20</u>	<u>40</u>	<u>55</u>	<u>60</u>	<u>70</u>	<u>80</u>	<u>90</u>	<u>100</u>
<u>From Vega (Sus 1945)</u>								
95					x	x	x	
75						x	x	
110						x	x	
<u>From Silo 1945</u>								
71						x	x	x
90						x	x	x
105						x	x	x

A few of these computations are*attached to this report, but most of them have already been dispatched to Washington with other sheets of this project surveyed in 1947. (with "A" day fathograms)

HYPERBOLIC CURVE

In the southwestern part of the sheet hyperbolic curves based on the foci "Agat" and "Alex" were drawn to assist in plotting positions in that area. Interpolation was made between the hyperbolic curves for the difference in the shoran returns from the two stations, considering at the same time the shoran distances from the station, as usual, as the extension of the base line positions dependent on distances become uncertain.

ECCENTRICITY "STAR No. 1"

The circles are centered on "Star 2". On "A" day, May 15th, and on part of May 17th, Sheets H-7625 and H-7626, "Star Ecc. No. 1", was used. "Ecc. No. 1" is 17.7 meters north and 14.2 meters east of "Star 2". The relative positions were plotted on a coordinate sheet, scale 6 meters to the inch and oriented on the boat sheet with "Star 2" in register. Concentric circles to each .002 miles were described thereon centered on "Star 2". With one edge of a triangle on "Ecc. No. 1" and the right angle resting on a circle the other edge was brought into contact with "Star 2", and this edge pointed to positions having an eccentric correction indicated by the radius of the circle used. In this way radiating lines were drawn on the boat sheet from "Star 2" towards positions having known eccentric positions. By inspection of the boat sheet the proper correction for eccentricity was entered in the sounding record at the positions depending on "Star Ecc. No. 1". While this is not mathematically

precise it is highly accurate for this purpose and yields results more accurate than can be plotted on this scale.

DANGERS

The survey approaches Tahoma Reef to eastward but there are no dangers to surface navigation within the limits of the sounded area.

CROSSINGS

Lines using "BULL-AGAT" and "STAR-ALEX" gave good crossings.

Lines using "ALEX-AGAT" gave jumps and poor crossings with lines using "BULL-AGAT" and "STAR-ALEX".

A difference correction .04 miles, or a displacement of 0.4 mile was found in these jumps and crossings.

Jumps were averaged out and bad crossings were not plotted. Fortunately the bad crossings were in crowded areas and the additional soundings were not needed.

Junctions between "BULL-AGAT" and "BULL-VEGA" only involved time along the course and these differences were averaged out.

Junctions with H-7626 were good. When shoran control failed, soundings on H-7627 were used in plotting ends of lines of Sheet H-7626. The same applied to H-7598.

Junctions with H-7597 were not tested except in the vicinity of $52^{\circ}20'$ - $174^{\circ}40'$. Here the displacement of positions depending on "ALEX-AGAT" is 0.4 miles.

REJECTIONS

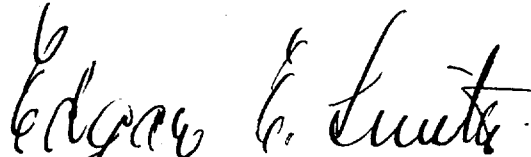
<u>Latitude</u>	<u>Longitude</u>	<u>Position</u>	<u>Depth</u>	<u>Remarks</u>
52°04.8'	174°46.8'	64-65 "X"	52	50 fms. sounding rejected. Reading made at change of gain. See also depths of 52-53 fms. at 120-121X, 131-132X, 138-139X, 140-141X, 144-145X, 151-152X, 153-154X, 155-156X and 62-63U. Least depth 1943 work 52 fms.
52°15.3'	174°19'	47J	60.2	Not plotted - reject 808 Fathometer 68.8 (plotted 64 fm 808 Fathometer 18-19 K) NMC2 Fath. 67

SIGNIFICANT SOUNDINGS

<u>Latitude</u>	<u>Longitude</u>	<u>Depth</u>	<u>Remarks</u>
52° 19.8'	174° 14.3'	62	
19.2'	12.5'	62	
23.5'	25.7'	91.90	
23.2'	27.5'	88	
20.5'	17.8'	77	
17.2'	22.4'	74	
15.2'	19.0'	64	
52° 13.4'	175° 09.5'	65	
52° 05.2'	174° 47.0'	52	- Bank 1/2 by 3 miles, very flat.
51° 50.5'	175° 18.0'	60	
52° 02.5'	174° 40.7'	84	
51° 46.7'	175° 43.1'	24.8 ²⁵	- Approaching Tahoma Reef.
52° 23.7'	173° 56.0'	50	

17 January 1949.

Respectfully submitted,

A handwritten signature in cursive script, reading "Edgar E. Smith". The signature is written in dark ink and is positioned above the typed name.

Edgar E. Smith,
Cartographic Engineer,
Seattle Processing Office.

TIDAL NOTE

Tide reducers for soundings on hydrographic survey No. H-7626
(Field No. EX-10147) are based on data taken from portable automatic tide
gage records located at Pier 2, Massacre Bay, Attu Island, Alaska. Lati-
tude $52^{\circ} 50.5'$ N, longitude $173^{\circ} 11.6'$ E.

The plane of reference, M.L.L.W., is 3.5 ft. on the staff as deter-
mined by leveling to existing bench marks.

Time meridian is that of 165 West.

STATISTICS FOR HYDROGRAPHIC SURVEY

H- 7626

Field No. EX-10147

USC&GSS EXPLORER

Survey Unit - Ship EXPLORER

Vol.	Day Letter	Date 1947	Number of Positions	Stat. Miles Sdg. Lines
1	A	17 May	70	93.6
1	B	19 "	110	122.3
2	C	21 "	99	161.0
2	D	27 "	52	62.2
3	E	28 "	117	197.2
3	F	29 "	60	99.3
4	G	30 "	135	181.9
4	H	31 "	49	101.0
5	J	2 June	84	111.5
5	K	4 "	65	83.1
5	L	21 "	34	40.6
6	M	22 "	55	84.2
6	N	23 "	111	158.2
6 & 7	P	24 "	121	194.5
7 & 8	Q	25 "	127	178.8
8	R	26 "	112	193.0
8 & 9	S	4 July	44	82.8
9	T	6 "	152	247.5
9 & 10	U	7 "	218	299.0
11	V	9 "	88	117.3
11 & 12	W	10 "	220	273.0
12 & 13	X	16 "	219	255.5
13 & 14	Y	17 "	153	212.8
14	Z	18 "	58	72.6
14	AA	20 "	37	55.8
14	BA	21 "	37	58.8
15	CA	22 "	160	243.2
15 & 16	DA	23 "	214	279.5
16 & 17	EA	24 "	43	56.2
17	FA	26 "	17	23.0
17	GA	27 "	8	10.5
17	HA	29 "	15	23.0
17	JA	30 "	27	37.4
17	KA	7 Aug.	37	57.0
18	LA	12 "	49	63.8
18	MA	15 "	91	105.5
18 & 19	NA	16 "	90	111.6
19	PA	18 "	92	100.6

19 & 20	QA	19 Aug.	126	145.1
20	RA	21 "	98	132.2
22	SA	22 "	155	192.0

TOTALS: 3849 . 5318.1

Total Square Statute Miles: 4390

H-7626 - (EX-10147)

ALEUTIAN ISLANDS

BULDIR TO NEAR ISLANDS

LIST OF GEOGRAPHIC NAMES PENCILED ON THE SMOOTH SHEET

AGATTU ISLAND ✓

SEMICHI ISLANDS ✓

BULDIR ISLAND ✓

TAHOMA REEF ✓

PACIFIC OCEAN ✓

TIDE NOTE FOR HYDROGRAPHIC SHEET

14 February 1949

Division of Hydrography and Topography:

Division of Charts: R.H. Carstens

Plane of reference approved in
21 volumes of sounding records for

HYDROGRAPHIC SHEET 7626

Locality Near Island, Aleutian Islands, Alaska

Chief of Party: F.B.T. Siens in 1947
Plane of reference is Mean lower low water
3.5 ft. on tide staff at Massacre Bay, Attu Island
6.6 ft. below B. M. 1 (1943)

Height of mean high water above plane of reference is 3.3 feet

Condition of records satisfactory except as noted below:

E.C. McKay
Section
Chief, ~~Division of Tides and Currents~~

GEOGRAPHIC NAMES
 Survey No. H-7626

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	
	A	B	C	D	E	F	G	H	K		
<u>Alaska</u>			(for title)								1
<u>Aleutian Islands</u>			"	"							2
											3
<u>Semichi Islands</u> <i>of 1902</i>									USGB		4
<u>Agattu Island</u>									"		5
<u>Buldir Island</u> <i>of 1902</i>									"		6
<u>Tahoma Reef</u>											7
<u>Bering Sea</u>									USGB		8
<u>Pacific Ocean</u>											9
											10
											11
											12
											13
											14
<u>Massacre Bay</u>			(location of tide staff)						USGB		15
											16
											17
											18
											19
											20
											21
											22
											23
											24
											25
											26
											27

Names underlined in red are approved. 2/11/49 L. Heck

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. ^{H-7626}

Records accompanying survey:

Boat sheets .2...; sounding vols. 21....; wire drag vols.;
 bomb vols.; graphic recorder rolls .5.envel.
 special reports, etc.

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

Number of positions on sheet		3849.	
Number of positions checked		27.	
Number of positions revised		3.	
Number of soundings revised (refers to depth only)		85.	
Number of soundings erroneously spaced		72.	
Number of signals erroneously plotted or transferred		
Topographic details	Time	hrs
Junctions	Time	48.	"
Verification of soundings from graphic record	Time	24.	"

Verification by... *A. R. STIRN!* Total time 327. hrs Date 10/7/49.

Reviewed by... *G. F. Jordan* Time 53. Date 11/28/49.

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7626

FIELD NO. EX-10147

Alaska-Aleutian Islands, Agattu I. to Buldir I.
Surveyed from May 17 to August 22, 1947 Scale 1:100,000
Project No. CS-218

Soundings:

Control:

Fathometers: 808,
NMC-2; NMC

Shoran

Chief of Party - F.B.T.Siems
Surveyed by - H.O. Fortin, G.C. Mast, I.R. Rubottom,
H.C. Applequist, P. Taylor and C.W. Clark
Protracted by - H. C. Parsons
Soundings plotted by - H. C. Parsons
Verified and inked by - A. R. Stirni
Reviewed by - G. F. Jordan, November 28, 1949
Inspected by - R. H. Carstens

1. Control and Shoreline

Triangulation stations of 1945 and 1947 were used for establishing the Shoran Control which is described fully in the Descriptive Report.

The shoreline is omitted on this offshore survey.

2. Bottom Configuration and Depth Curves

The bottom configuration in the area of this survey is marked by a seavalle, midway between Buldir and Agattu Islands, which cuts across three-fourths the width of the Aleutian Ridge. The head of the seavalle is in 400-fm. depths on adjoining survey H-7597. The mouth of the seavalle is marked by a large basin in lat. 51° 54', long. 174° 22', having a nearly flat bottom for about 70 square miles at a depth of 1900 to 1917 fathoms.

The bottom is also marked by four smaller seavalleys and by several banks at depths of 50 to 70 fms. The axes of these features lie generally normal to the axis of the Aleutian Ridge, a condition which possibly indicates that the bottom was once exposed to overflow from the Bering Sea basin.

The usual depth curves could be adequately drawn.

3. Sounding Line Crossings

The agreement of soundings at crossings is adequate. Notes on comparative crossings are included in the Processing Offices notes in the Descriptive Report.

4. Adjoining Surveys

Adequate junctions were effected with H-7137 (1946), H-7139 (1946) and H-7146 (1946) on the west, with H-7624 (1947) and H-7597 (1947) on the north, and with H-7598 (1947) and H-7627 (1947) on the east.

The southern limit of the present survey is the project limit. Only a few reconnaissance deep-sea soundings are charted in the area south of the present survey.

5. Comparison with Prior Surveys

H-6935 (1943) on scale 1:200,000; H-6936 (1943) on scale 1:100,000

These are reconnaissance surveys which are superseded by the present survey in the common area. The control for H-6935 was weak, especially in the eastern portion of the present survey. Erroneous scalings from fathograms on H-6935 were also discovered where some soundings were in conflict with depths on the present survey. For example, the charted 57-fm. sounding and adjacent soundings falling in 100-to 200-fm. depths on the present survey in lat. $52^{\circ} 19'$, long. $174^{\circ} 17'$, are actually 100 fms. deeper. Lines of soundings in the vicinity of lat. $52^{\circ} 13'$, long. $175^{\circ} 00'$, include 72-to 77-fm. soundings which are shown on Chart 8865 and fall in 400-to 800-fm. depths on the present survey. The positions of these lines are obviously in error. No soundings have been carried forward from these surveys.

6. Comparison with Chart 9198 (Print date of June 16, 1947)
Chart 8865 (Print date of May 8, 1948)

A. Hydrography

Charted hydrography originates with the surveys discussed in paragraph 5 above, with the boat sheet of the

present survey (Bp. 42766), and with various blueprints showing previous reconnaissance tracklines in the area. The charted hydrography is superseded by the present survey.

The 58-fm. sounding on Chart 8865 in lat. $51^{\circ} 47'$, long. $175^{\circ} 31.5'$ is from the boat sheet of the present survey (Bp. 42766) and is erroneous. The sounding is actually 157 fms. (100 fms. deeper).

The charted bottom characteristics taken from the trackline blueprints should be retained, as only one characteristic was obtained on the present survey.

B. Aids to Navigation

No aids to navigation are charted in the area of the present survey. No dangerous depths were revealed; the shoalest bank is at a depth of 52 fms.

7. Condition of the Survey

- a. The Descriptive Report and sounding records are complete and comprehensive.
- b. The smooth plotting of the survey was neat and accurate.
- c. Only one bottom characteristic was obtained.


8. Compliance with Project Instructions


The survey complies adequately with the project instructions. In the matter of bottom characteristics, paragraph 384 of the Hydrographic Manual states that "bottom data secured in deep water add to the knowledge of that part of the globe covered by water".


9. Additional Field Work

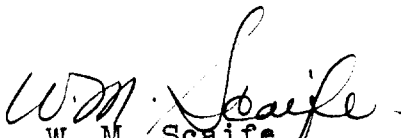
This is an excellent basic survey, except for the sparsity of bottom characteristics. No additional field work is recommended.

Examined and approved:


H. R. Edmonston
Chief, Nautical Chart Branch


Casper M. Durgin
Chief, Division of Charts


K. G. Crosby
Chief, Section of Hydrography


W. M. Scaife
Chief, Division of Coastal Surveys

NAUTICAL CHARTS BRANCH

SURVEY NO. 7626

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
11/8/50	8865	L.A.M.	Before <u>After</u> Verification and Review Examined. No correction at this time.
2/3/52	8864	L.A.M.	Before <u>After</u> Verification and Review Examined. No correction at this time.
6-25-52	9147	<i>E. M. Hoag</i>	Before After Verification and Review Examined. No corrections on this chart.
12/61	8864	<i>J. E.</i>	Before After Verification and Review part app'n - to be considered final until recently.
5-27-63	8865	<i>E. M. Hoag</i>	Before After Verification and Review Ext. part app'n to be considered final until recently.
9-1-92	16423	Ed Martin	Before After Verification and Review new chart
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
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			Before After Verification and Review

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.

applied to dl 9102 10/25/50 GHE