7625

Diag. Cht. No. 8864-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. EX-4247 *Office No.* H-7625

LOCALITY

State Alaska

General locality Aleutian Islands

Locality South of Kiska Island

1947 & 1948

CHIEF OF PARTY

F.B.T.Siems

LIBRARY & ARCHIVES

DATE Oct.26, 1948 & April 13, 1949

8-1870-1 (1)

7625

Approved
Rear Adm. U.S. Navy

Form 537
(Ed. Nov. 1941)

REG. NO. H 7625

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 7625

Field No. EX-4247

State Alaska

General locality Aleutian Islands

Locality South of ~~Side~~ Kiska Island

Scale 1 : 40,000 Date of survey 11 Aug. - 2 Oct. 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 L.W.Eason II

Soundings penciled by L.W.Eason II

Soundings in fathoms ~~feet~~ at MLW MLLW

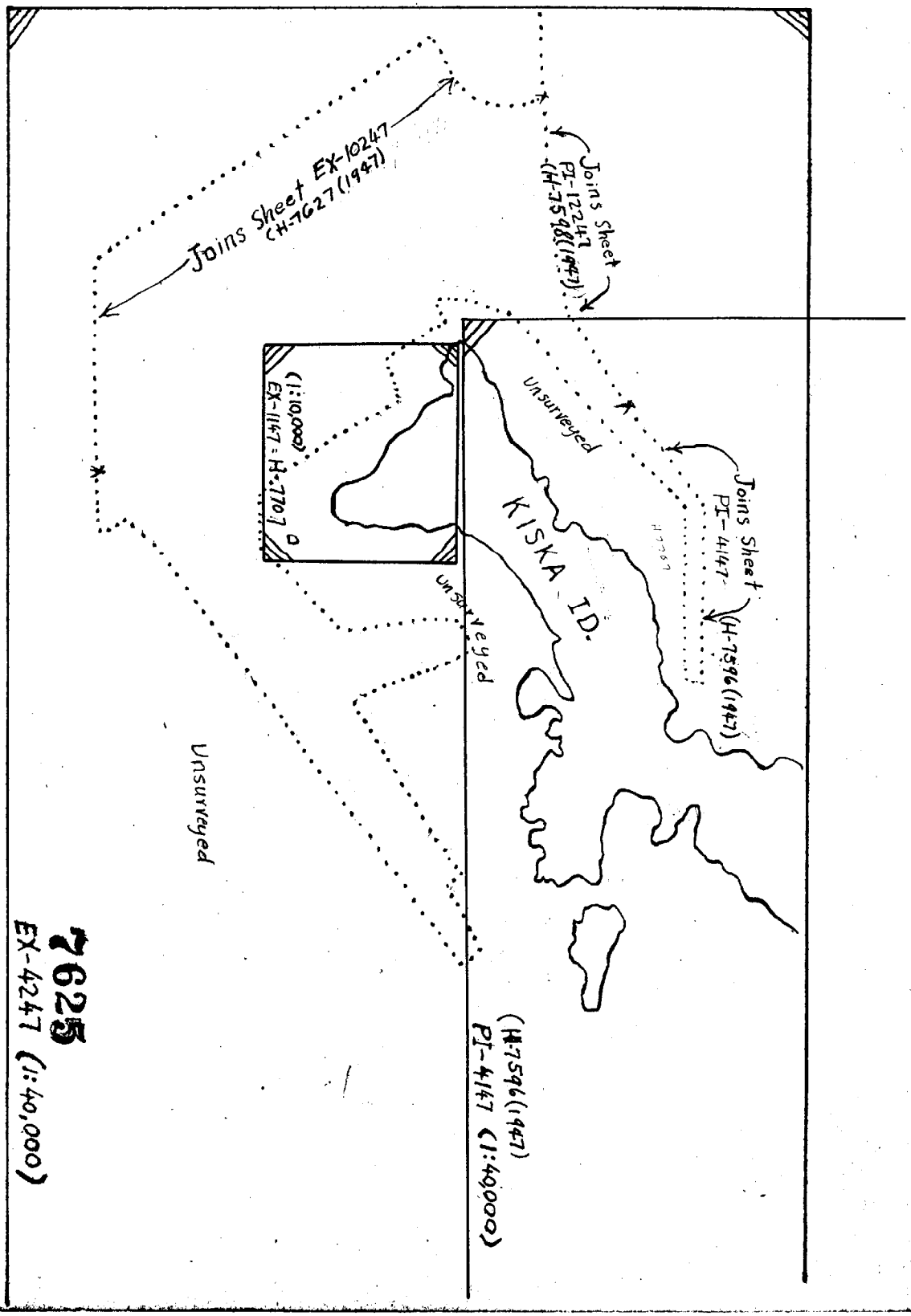
REMARKS: Fathograms scaled by Fortna Johnson Kochanluk Hensley Ferwerda

Fathograms checked by LWE HCA GCM HOF EWR CWC IRR

U. S. GOVERNMENT PRINTING OFFICE 428975

INDEX SHEET
FOR

H 7625 Field No. EX-4247



DESCRIPTIVE REPORT

to Accompany

HYDROGRAPHIC SURVEY H 7625

Field No. EX-4247

SOUTH AND WEST SIDES OF KISKA ISLAND, ALASKA

1947

Scale 1 : 40,000

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 : Southwest of Kiska Island, Alaska, joining contemporary surveys of the PIONEER on the west side of the island, and those of the EXPLORER on the southwest and south of the island.

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

Hydrography was executed during the period 11 August 1947 to 2 October 1947. Work was carried on in conjunction with other surveys in the area.

C. VESSELS AND EQUIPMENT:

The Ship EXPLORER executed all hydrography on this survey with the exception of an area of approximately 2 square miles to develop a shoal located about 3 miles off the southwest end of Kiska Island. This area was developed with the ship's launch, using visual fixes.

The EXPLORER sounded at standard speed, approximately 12½ knots, except when in close proximity of shoal areas or when rough seas prevented obtaining satisfactory graphic records of the soundings.

The turning radius of the vessel at these speeds was approximately 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 or excessively steep slopes 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 in shoaler waters on occasion when rough seas or excessively steep slopes prevented obtaining a satisfactory record on the graph of the 808;

(3) The NMC (Navy type) for all soundings in depths over 800 fathoms.

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

It was not possible to operate both the NMC-2 and the NMC fathometers simultaneously during the 1947 season due to lack of necessary duplicate tuning equipment.

See Fathometer Report for 1947 for comparison between various fathometers.

Gyro error : Bearings on shore objects were taken to determine the compass error during the course of the survey.

D. TIDE AND CURRENT STATIONS:

The reductions for tides were based on tidal data obtained from the portable automatic gage at Gertrude Cove, Kiska Island.

No current stations were occupied.

E. SMOOTH SHEET:

Function of Seattle Processing Office.

F. CONTROL STATIONS:

Datum - North American 1927, local triangulation 1943, 1945 and 1947, & G.C. Surveys T-7117 (1947), T-7115, T-7116 & T-7118 of 1948

G. SHORELINE AND TOPOGRAPHY:

~~No shoreline details are included in this survey. Outlines of the islands in the area were transferred from existing charts.~~ Shoreline applied to western portion of Kiska I. from unreviewed manuscript T-8632 (1949)

H. SOUNDINGS:

The sounding lines were spaced in accordance with standard instructions.

An additional grid system of crosslines was run to develop shoal areas.

While running the regular system of lines transversely across the ridge that extends southwesterly from Kiska Island, the gradient of the bottom was so steep that neither the 808 or the NMC-2 fathometers could record satisfactory soundings on the graph. During the latter part of the season it became the practice to switch to the NMC fathometer 2000 scale, while still in the range of the 808. By this method it was possible to record continuous soundings on the graph, while previously many of the soundings were indefinite or lost entirely while passing over the steep slope.

A series of lines was run, later in the season, along the face of the slope and continuous soundings obtained, which agreed very well with those previously obtained on the transverse lines.

I. CONTROL OF HYDROGRAPHY:

Sounding lines were controlled by shoran fixes, supplemented, whenever conditions permitted, by visual fixes. Shoran stations SILO and VEGA were used. However, much of the area southwest of Kiska Island was along or near the base-line extension of the two stations, where control by an additional station would have been desirable. Also, over much of the area intervening land masses either obscured or deflected the shoran signals from stations SILO. An effort was made to run the lines in these areas when weather conditions were favorable for obtaining supplemental visual sextant fixes.

In order to take advantage of all the accuracy inherent in shoran determinations of distance, the plotting in the areas near the base-line extension was made dependent on distance-differences rather than on the distances alone. Hyperbolas of constant distance-differences, in addition to the distance circles were drawn on the boat sheet, for use in plotting shoran positions. By this expedient, maximum accuracy in the plotting is afforded, which is not the case if the plotting is made dependent on distance circles intersecting one another at inappreciable angles.

Because of the less determinate shoran control in the area southwest of Kiska Island, the sounding lines were run across the SILO-VEGA base-line extension in order for them to be tied in with definite shoran fixes on either side of this line. When available, visual fixes were used to supplement the shoran positions; otherwise the positions near the base line were adjusted with respect to their relation to the time or distance run.

Visual fixes were used for control of launch hydrography in the vicinity of the shoal located about 2 miles off the southwest end of Kiska Island.

J. ADEQUACY OF SURVEY:

Within the area covered, this survey is considered adequate, with the exception of the 10-fathom shoal area, located about 3 miles southwest of

See Review P 6A.

Cape St. Stephen, Kiska Island, where a wire-drag examination should probably be made.

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:

No prior surveys of this area have been made by this Bureau. Prior surveys by the U.S. Navy of 1935 seem to be in relatively close agreement with this survey. See Review Pg 5.

M. COMPARISON WITH CHART:

In general, existing charted soundings are in close agreement with those obtained on this survey. See Review Pg 6.

N. DANGERS AND SHOALS:

A previously uncharted shoal with a least depth of 9½ ~~10~~ fathoms was found about 3 miles southwest of Cape St. Stephen, Kiska Island, in Lat. 51° 51'.60N, Long. 177° 10'.15E. No other new dangers or shoals were found. (See pg 3 in D.R. for 1948)

Respectfully submitted,

H.O. Fortin

H.O. Fortin, Lt. Comdr. USC&GS

G.C. Mast

G.C. Mast, Lt. Comdr. USC&GS

LR. Rubottom

LR. Rubottom, Lt. Comdr. USC&GS

H.C. Applequist

H.C. Applequist, Lieut. USC&GS

Paul Taylor

P. Taylor, Lieut. USC&GS

C.W. Clark, Lieut. USC&GS

Approved and forwarded:

F.B.T. Siems

F.B.T. Siems, Captain USC&GS
Commanding Ship EXPLORER

(See following page for additional information)

7625

SHORAN DATA EXPLORER XVII

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 PIONEER.
	No. 4	Assigned to PIONEER.
	No. 5	EDDY (thru 19 Aug.) LAN (20 Aug.)
	No. 6	Assigned to PIONEER.
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	STAR, ecc. AGAT (STAR,ecc = STAR #1)
	No. 5	ALEX, VEGA
	No. 6	STAR (STAR # STAR #2)

II. Tabular Values of ZERO SET:

Ship Sets	Gnd.Set 1	Gnd.Set 2	Gnd.Set 3	Gnd. Set 4	Gnd.Set 5	Gnd.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. Gnd. stations)

STARecc	(S5 G4) .838						
Star	(S5 G6) .832						
ALEX	(S5 G5) .830						
BULL	(S5 G1) .849 thru 19 Aug.		(S1 G1) .848 after 20 Aug.				
AGAT	(S5 G4) .838 thru 19 Aug.		(S1 G4) .833 after 20 Aug.				16 Sept.
SILO	(S5 G3) .845 thru 19 Aug.		(S1 G3) .843 20 Aug-15 Sept	(S1 G1) .848 after			
VEGA	(S5 G5) .830 thru 19 Aug.		(S1 G5) .829 after 20 Aug.				
LAN			(S1 G2) .842 21 Aug.				

IV. Abstract of Tabular values by date: (Launchvs. Gnd. stations).

EDDY	(S1 G2) .842 thru 19 Aug.	(S5 G2) .849 20 Aug.		
BULL	(S1 G1) .848 thru 19 Aug.	(S5 G1) .849 20 Aug.		

By RHR

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
SYLO-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 Kioka 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.

ABSTRACT OF POSITIONS(IN BLOCKED AREAS)WHICH REQUIRE

ATTENUATION CORRECTIONS TO SHORAN DISTANCES

DUE TO INTERVENING LAND MASSES.

BOATSHEET EX-4247 **7625**

Distances from Station VEGA:

A day: Blocked, pos. 1 to 9
Clear, pos. 10 to end.

B day: Clear, pos. 1 to 3.
Blocked, pos. 4 to end.

C day: Blocked, pos. 1 to 16
Clear, pos. 17 to end.

E day: Clear, pos. 1 to 15.
Blocked, pos. 16 to 36.
Clear, pos. 37 to end.

H day: Clear, pos. 1 to 17.
Blocked, pos. 18 to 38.
Clear, pos. 39 to 144.
Blocked, pos. 145 to 155.
Clear, pos. 156 to end.

K day: Clear, pos. 1 to 24
Blocked, pos. 25 to 53
Clear, pos. 54 to 169
Blocked, pos. 170 to end.

L day: Blocked, pos. 1 to 15.
Clear, pos. 16 to 68.
Blocked, pos. 69 to end.

P day: Clear, pos. 1 to 84.
Blocked, pos. 85 to end.

Distances from Station SILO:

E day: Blocked, pos. 1 to 67
Clear, pos. 68 to end.

F day: Clear, pos. 1 to 61.
Blocked, pos. 62 to end.

G day: Blocked, pos. 1 to 38.
Clear, pos. 39 to53.
Blocked, pos 54 to 85.
Clear, pos. 86 to 96.
Blocked, pos. 97 to 169.
Clear, pos. 170 to 184.
Blocked, pos. 185 to end.

H day: Blocked, pos. 1 to 71/
Clear, pos. 72 to 79.
Blocked, pos. 80 to end.

J day: Blocked, pos. 1 to 104
Clear, pos. 105 to end.

K day: Blocked, pos. 1 to end.

M day: Blocked, pos. 1 to 81.
Clear, pos.,82 to end.

N day: Clear, pos. 1 to 30/
Blocked, pos. 31 to 41.
Clear, pos. 42 to 46.
Blocked, pos. 47 to 63.
Clear, pos, 64 to 81
Blocked, pos. 82 to 92.
Clear, pos. 93 to 101.
Blocked, pos. 102 to 105.
Clear, pos. 106 to end.

P day: Clear, pos. 1 to 59.
Blocked, pos. 60 to end.

Copy - RHR
Copy HYI

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

FINAL CORRECTION

DRAFT * INITIAL * INSTRUMENTAL

Sheet EX-4247 **7625**

Date	Day Letter	808 #60	fms.	NMC	fms.	NMC-2	fms.
8/11/47	A	All day	-0.4	- - - -		- - - -	
9/2/47	B	1 to 28	-0.3	- - - -		All day	+2.3
		28+ " end	-0.5				
9/3/47	C	All day	-0.6	- - - -		" "	+2.2
9/4/47	D	1 to 23	-0.4	All day	+17.2	" "	+2.2
		23+ " end	-0.6				
9/9/47	E	1 to 7	--0.5	" "	+12.1	" "	+2.1
		7+ " end	-0.7				
9/11/47	F	1 to 10	--0.2	" "	+12.0	" "	+2.0
		10+ " 32	-0.4				
		32+ to 41 + 2'	-0.2				
		41 + 2' to 47	-0.6				
		47+ " 60	-0.8				
		60+ " 70	-1.0				
		70+ " 83	-1.2				
		83+ " end	-0.6				
9/12/47	G	1 to 6	-0.4	Shoal scale	+2.0	All day	+2.0
		6+ " 36	-0.2	2000 "	+12.0		
		36+ " 68	-0.8				
		68+ " 73	-0.6				
		73 " end	-0.4				
9/13/47	H	1 to 30	-0.6	All day	+22.0	All day	+2.0
		30+ " 147	-0.3				
		147+ " end	-0.6				
9/14/47	J	1 to 44 + 2'	-0.8	Shoal scale	+2.0	" "	+2.0
		44 + 2' to 51	-0.4	2000 scale:			
		51+ to 53	-0.8	1 to 20	+22.0		
		53+ " 64	-1.0	20+ " 94	+12.0		
		64+ " 78	-1.2	94 " end	+2.0		
		78+ " end	-1.4				
9/19/47	K	1 to 8	-0.3	- - - -		1 to 158	+0.3
		8+ " 22	-0.5	(808 #60 cont.)		158+ " end	+2.3
		22+ " 44	-0.7	73+ to 98	-0.1		
		44+ " 56	-0.5	98+ " 124	+0.1		
		56+ " 66	-0.3	124+ " 150	+0.3		
		66+ " 73	-0.5	150+ " end	-0.3		

-Ho.-

Date	Day Letter	808 #60	fms.	NMC	fms.	NMC-2	fms.
9/20/47	L	All day	-0.3	- - - -		All day	+0.3
9/22/47	M	1 to 111	-0.3	Shoal scale:		" "	+0.3
		111+ " end	-0.5	1 to 65 + 2'	+1.3		
				65 + 2' to end	+2.3		
				2000 scale	+17.3		
9/23/47	N	All day	-0.4	Shoal scale	+2.2	" "	+2.2
				2000 scale	+12.2		
9/25/47	P	1 to 50	0.0	- - - -		1 to 45	+2.2
		50+ " 80	-0.2			45+ " 60	+1.2
		80+ " end	-0.4			60+ " 120	+0.2
						120+ " end	+1.2
9/27/47	Q	1 to 8	-0.4	- - - -		All day	+2.2
		8+ " 17	-0.2				
		17+ " 100	0.0				
		100+ " 127	-0.2				
		127+ " 128	-0.4				
		128+ " 130	-0.6				
		130+ " 134	-0.8				
		134+ " 153	-1.0				
		153+ " end	-0.8				
9/30/47	R	1 to 13	-0.6	Shoal scale	+2.2	All day	+2.2
		13+ " 22	-0.8	2000 "	+12.2		
		22+ " end	-1.0				
10/1/47	S	1 to 21	-0.7	All day	+2.1	All day	+2.1
		21+ " 34	-0.9				
		34+ " 42	-0.5				
		42+ " 63	-0.7				
		63+ " end	-0.9				
10/2/47	T	All day	-0.5	- - - -		- - - -	

Launch #1		808 #729	
9/1/47	a	1 to 9	0.0
		10 " 59	-0.4
		59+ " 61	-0.6
		61+ " end	0.0

W.O-5

H 7625 (Ex 4247)
South side of Kiska Island.

Processing Office Notes.

Smooth Sheet.

The projection is hand made on K & E Paper 13320 DM. Datum is NA 27 adjusted.

To hold the shoran distance circles GP's were computed for points 12 and 24 statute miles south of SILO
12 and 24 " " west " "
12 and 24 " " east of VEGA
12 " " south " " .

The distances along the radii of these computed positions were subdivided into two statute mile intervals with the same care used to lay out projections.The circles centered at the shoran control points were carefully swung thru the division points.

Coordinates for hyperbolic curves, with origin midway between VEGA and SILO were computed by the field party. Filed in ~~with letter~~ ~~from~~ Cahier S-2606 From an inverse computation the azimuth of the line VEGA-SILO was found to be 237 56 28.9, distance 16.2177 Stat.Mi. A GP for the mid point was computed. The coordinates computed are not rectangular but are based on pairs of asymptotes all of which pass through the origin. The " x' " distance follows the upper asymptote, then the " y' " diatance runs parallel to the other asymptote. The advantage of computing and plotting from the asymptotes rests on the peculiar fact that for any assumed constant value of x' all values of y' will be equal, regardless of the slope of the asymptotes, so long as the base line remains constant.

For curves of conveniently assumed differences the slopes of the asymptotes were computed. These were plotted by the use of the natural tangent on an overlay tracing. Circles with radii equal to conveniently assumed x' distances were drawn across the asymptotes. Then a drafting machine was used to draw the y' ordinate parallel to the paired asymptote. Then for any x' distance all y' ordinates were stepped off from one setting of the dividers.The plotting was checked and pricked through to the projection. The overlay accompanies the smooth sheet.

Control.

For triangulation see adjusted triangulation of Alaska Vol. V, pages 264,280 & 281, and field computations Siems 1947 accession number G 7422.

For cuts to hydro stations see Vol.1 of the sounding records.

Topo stations Dog and Ben near Dark Cove are from topo plate Ex-C-47 which was returned to the field party for additional work. Other topographic stations are described points. See Forms 524.

Shore line.

None available,except for Dark Cove which was reduced from Ex-C-47, scale 1/10,000.

Although the cover sheet was not available, the corrections discussed below were spot-checked and appear ok. As stated, the corrections are quite widely divergent from the mean curve, but the correction curve is probably the best solution feasible. PJE

Crossings.

Good.

Shoran Distance corrections.

Shoran corrections were derived and entered by the field party. A large number of visual fixes were recorded simultaneously with the shoran fixes. As the plotting progressed it was observed that the shoran position persistently fell further from the shoran control point than the visual fixes. this was true throughout the sheet; south, east and west from Kiska, regardless of the visual objects, this circumstance remained true. All visual fixes with corresponding shoran positions were then plotted. It was noted that the differences increased with the distance from the shoran control point. (See plotting on cover sheet which accompanies the smooth sheet.)

This was brought to the attention of Lt.Comdr. Fortin, officer in charge of field records for the ship. After consultation the differences between shoran and visual points were scaled and plotted on a coordinate sheet against the distances from the shoran control point. This produced a shotgun pattern thru which a curve was drawn. A correction table varying with the distance from the shoran point was prepared. Separate graphs were made for SILO and VEGA. They are attached to this report.

Not received in wash. Off. See Cahier 5-2606

Filed with 1944 Fathograms. Cahier 5-2606

The resulting corrections were applied to the shoran distances in addition to the corrections already applied. Visual fixes were held when taken with shoran fixes. These corrections caused the sheet to be largely replotted. Mr. Fortin was consulted on several occasions.

Comparison with H 7596 (1947) to northward.

General agreement is good. Differences of two to three fathoms exist. See Lat. 52 01.1 Long. 177 21 where the depth on H 7596 is 88fms. and on H 7625 is 93 fms.

Agreement in depths is adequate.

Comparison with H 7627 (1947) to westward.

At Lat. 51 47.4 Long 177 05.6 the depth on H 7627 is 64 fathoms and on H 7625 is 50 to 58 fathoms. Except for this item the comparison was made with a boat sheet tracing of H 7627. The boat sheet soundings are not corrected. The corrections in deep water may amount to 25 fathoms or more. With this in mind the depth agreement seems reasonable.

Juncture with present survey considered adequate.

Comparison with Chart 8864 of 3/8/48.

		Chart	H 7625	
Lat. 51 56.5	Long. 177 15.3	76 fms.	177 fms	scale of Cht 8864 too small for adequate comparison.
56	14	100 (curve)	280	
51.6	10	10	9.4	8 Fms. reported Notice to Mariners 8/7/48 (from H-7707 (1948))
48.9	05.9	33 adequate →	32	
48.4	16.4	20 adequate →	21	3 fms. reported Notice to Mariners 7/10/48 (from H-7707, 1948)

L 485 (1948)

The scale of this chart is too small for satisfactory comparison.

Chart 9180.

No comparison made. Chart is temporarily out of stock.

Boat sheet.

The boat sheet was returned to the field party for additional work.

Respectfully submitted.

Edgar E. Smith.
Cart. Engr.
Seattle Processing Office

H 7625 (Ex 4247)

South of Kiska Island.

List of geographic names penciled on smooth sheet.

Kiska Island

Little Kiska Island

Dark Cove

Pacific Ocean

TIDAL NOTE

Soundings on Hydrographic Survey EX-4247 were reduced from tide data obtained from portable automatic tide gage No. 187, located in Gertrude Cove, Kiska Island, Alaska. This gage was not in operation at the beginning or end of this survey, but reducers were obtained from the Washington Office for the days on which hydrography was executed.

Time meridian used for operation of the gage was that of 165° West.

STATISTICS FOR HYDROGRAPHIC SURVEY H 7625

Field No. EX-4247

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

Survey Unit - Ship EXPLORER and Ship's Launch

Unit	Vol.	Day Letter	Date 1947	Number of Positions	Statute Miles of Sndg Lines
EXPLORER	1	A	11 Aug.	18	21.7
"	1	B	2 Sept.	35	23.8
"	1	C	3 "	29	19.3
"	1	D	4 "	32	21.8
"	1	E	9 "	85	57.8
"	2	F	11 "	134	82.5
"	2 & 3	G	12 "	185	117.9
"	3 & 4	H	13 "	171	116.6
"	4	J	14 "	117	83.5
"	4 & 5	K	19 "	180	105.1
"	5	L	20 "	79	52.0
"	5 & 6	M	22 "	121	75.1
"	6	N	23 "	144	78.0
"	7	P	25 "	149	78.0
"	7 & 8	Q	27 "	159	74.1
"	8	R	30 "	56	23.7
"	8	S	1 Oct.	95	49.4
"	9	T	2 "	29	14.1
Launch #1	10	a	1 Oct.	'96	25.4
		TOTAL:		1914	1119.8
			Square Statute Miles:		194

Form 537
Ed. Dec. 1930

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REG. NO. H-7625

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. H 7625 Additional Work of 1948

REGISTER NO. Ex 4247

State Alaska

General locality Aleutian Islands- ~~Rat Islands~~

Locality Kiska Island

Scale 1/40,000 Date of survey 12 May to 9 Sept, 1948

Vessel EXPLORER

Chief of Party F.R.T.Siems

Surveyed by R.R.Moore, R.L.Pfau, E.H.Kirsch, G.C.Mast

Protracted by Leo W. Eason II

Soundings penciled by Leo W. Eason II

Soundings in fathoms ~~feet~~X

Plane of reference MLLW

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated ~~3 Feb. 1938~~: Supplemental 10 February 1948

Fathograms read by

Remarks: ~~Dross, Novak, O'Brien, Christensen, Stone & Talbert.~~

Rescanned and checked by HSC WBH EWR GCM PS HDN GCM CRR

Plotted in Seattle ~~Processing~~ Office

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET H 7625 Additional Work of 1948

Field No. EX-4247

West, South and Southeast of Kiska Island, Alaska

1948

Scale 1:40,000

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

Surveyed by: R.R. Moore, R.L. Pfau, E.H. Kirsch, and G.C. Mast

A. PROJECT:

Instructions Project CS-218, dated 3 February 1938, Supplemental Instructions dated 10 February 1948.

B. SURVEY LIMITS AND DATES:

This survey surrounds the southern part of Kiska Island, south of latitude 52°00.0'N. and extends east to Sea Lion Pass, joining contemporary surveys by the Ship PIONEER on the north on both the east and west side of Kiska Island. The inshore portion of the sheet joins Sheets EX-2148 & EX2248. On the west and south it makes a junction with Sheets EX-10247 (H-7627 (1947)) and EX-10148 (H-7711 (1948)) and on the east with Sheet EX-4148. (H-7710 (1948)) H-7707 (1948) & H-7708 (1948)

See index sheet for junctures with and scales of contemporary surveys.

Approximately over half of the hydrography was accomplished during the field season of 1947.

Hydrography was executed during the period 12 May to 9 September 1948. Work was carried on in conjunction with other surveys in the area.

C. VESSELS AND EQUIPMENT:

The Ship EXPLORER executed all hydrography on this survey during the 1948 season.

Two fathometers were used as follows:

1. The 808-fathometer for all depths within its range, except on excessively steep slopes where a satisfactory record could not be obtained.

2. The NMC-2 for depths between the range of the 808 fathometer

and 800 fathoms, and in shoaler water when the slope was excessively steep making it difficult to follow the 808 fathometer graph.

See Fathometer Report for 1948 for comparison between fathometers.

D. TIDE AND CURRENT STATIONS:

The reductions for tides were based on tidal data obtained from the portable automatic gage at Gertrude Cove, Kiska Island. Currents were taken at two stations within the area of this survey by the ship while anchored functioning as shoran station for launch hydrography. The results are recorded in Volume 11, Sheet EX-2248. They were also furnished with the 1948 current report. H-7708(1948)

Strong currents were encountered when near the reef that extends from Little Kiska Island to Rat Island on both the north and south sides of the reef.

E. SMOOTH SHEET:

Function of Seattle processing office.

F. CONTROL STATIONS:

Datum: North American 1927; local triangulation 1943, 1945, 1947 and 1948. Topographic signals from topo sheets: EX-C-47, EX-A-48, EX-B-48, EX-C-48. (See list Volume 1.) T-7117(1947-48) T-7115(1948) T-7118(1948)

G. SHORELINE AND TOPOGRAPHY:

No shoreline details are included in this survey. Outlines of the islands in the area were transferred from existing charts. Short stretches of shoreline are available on the above topographic sheets for the large scale inshore sheets. Shoreline applied to western portion of Kiska I from unreviewed manuscript T-8632 (1949)

H. SOUNDINGS:

The sounding lines were spaced in accordance with standard instructions. Splits and an occasional grid system were used to develop shoal areas.

Adequate cross lines were run with close agreement between soundings. The soundings are in agreement at the junction with adjacent sheets.

I. CONTROL OF HYDROGRAPHY:

Sounding lines were controlled by shoran fixes, supplemented whenever conditions permitted, by visual fixes.

A considerable amount of the work has both shoran and visual control. Shoran stations VEGA, SILO, LITTLE, SPRING and TAR were used. Where stations SPRING and TAR were used the hydrography was plotted on sheet No. EX-4148 and transferred to this sheet. Adequate shoran control was available on most of the sheet without using stations blocked by intervening obstructions. Areas where shoran control was weak was controlled by visual fixes.

H-7710 (1948)

J. ADEQUACY OF SURVEY:

Within the area covered, this survey is considered adequate. Junctures with adjoining surveys are satisfactory. Depth curves at the junctures can be adequately drawn. No holidays or excessive differences exist at the junctions.

K. COMPARISON WITH PRIOR SURVEYS:

No prior surveys of this area have been made by this Bureau. Prior surveys by the U.S. Navy seem to be in relative close agreement with this survey. See Review ¶P5.

L. COMPARISON WITH CHART:

In general, existing charted soundings are in close agreement with those obtained on this survey. (See Review ¶P6)

M. TIME MERIDIAN:

The 165° time meridian was used from the beginning of the season to June 30, and from September 1 to end of season. 180° meridian time was used from 1 July to 31 August.

N. DANGERS AND SHOALS:

The uncharted shoal 3 miles southwest of Cape St. Stephens in Lat. 51°51.6'N. Long. 177°10.1'E. mentioned in the 1947 Descriptive Report was developed on Sheet EX-2148, and a least depth of 9 fathoms found. (See pg. 4, 1947 DR Wk.) (H-7707 (1948)) Will be considered in Review of H-7707

O. GYRO COMPASS:

The gyro compass was used to run all hydrography. Bearings were taken frequently to determine the compass error. There was a constant 2° W'ly error in the compass over the entire season.

Respectfully submitted,

G. C. Mast
Lt. Comdr., USC&GS

Approved and forwarded.

H. Arnold Karo
Commander, USC&GS

7625

TIDAL NOTE

Additional Work of 1948

Soundings on hydrographic survey EX-4247 were reduced from tide data obtained from portable automatic tide gage operated in Gertrude Cove, Vega Bay, Kiska Island Lat. 51°56.2'N Long. 177°27.5'E.

Tide data for EA day 8-27-48 were obtained from the Washington Office.

MLLW on the staff was 4.4 feet. No time or height corrections were applied to the observed tides.

Time meridian for operation of the gage was 165° W. from 7 May to 7 July, and from 7 July to 27 September 180° W.

STATISTICS FOR HYDROGRAPHIC SURVEY H 7625

Field No. EX-4247

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

Survey Unit - Ship EXPLORER

UNIT	VOL.	DAY LETTER	DATE 1948	NO. of POSITIONS	STAT.MI. of SNDG.LINES	
EXPLORER	1	A	5-12	16	5.7	
"	1	B	5-19	117	105.8	
"	1	C	5-25	12	6.3	
"	1 & 2	D	5-26	67	44.0	
"	2	E	5-27	150	81.9	
"	2 & 3	F	5-28	106	71.5	
"	3 & 4	G	6-3	202	111.1	
"	4	H	6-4	35	19.8	
"	4	J	6-5	108	62.1	
"	4 & 5	K	6-7	120	58.6	
"	5	L	6-8	129	81.6	
"	5 & 6	M	6-14	19	6.9	
"	6	N	6-15	30	20.7	
"	6	P	6-16	72	46.0	
"	6	Q	6-21	16	8.0	
"	6	R	6-22	87	51.2	
"	7	S	6-23	5	- -	
"	7	T	6-24	38	19.4	
"	7	U	6-28	34	21.1	
"	7	W	7-7	22	13.7	
"	7	X	7-13	35	23.0	
"	7	Y	7-22	33	19.a	
"	7	Z	7-24	31	12.6	
"	7 & 8	AA	7-26	49	32.1	
"	8	BA	7-29	268	88.0	
"	8 & 9	CA	8-2	28	16.0	
"	9	DA	8-3	47	23.0	
"	9	EA	8-27	111	40.1	Sq. Stat.
"	10	FA	9-9	18	7.2	Miles
				2005	1096.5	292

FINAL CORRECTIONS

DRAFT & INITIAL

DATE	DAY LETTER	808 # 60 Fms.				NMC-2 Fms.	
5-12-48	A	All day	+0.24				
5-19-48	B	" "	+0.34	47-57	+3.24		
				57-115	+2.24		
5-25-48	C	1-2	+0.47				
		2-12	+0.27				
5-26-48	D	7-67	+0.36	1-6	+2.36		
				6-30	+1.36		
				30-52	+2.36		
				52-58	+0.36		
				58-67	+2.36		
5-27-48	E	8-121	+0.04				
		122-152	-0.16				
5-28-48	F	1-106	+0.04	All day	+2.04		
6-3-48	G	1-144	+0.36	All day	+3.46		
		145-202	+0.46				
6-4-48	H	1-10	+0.67	All day	+2.37		
		18-35	+0.37				
6-5-48	J	1-48	+0.44	79-91	+2.44		
		48-78	+0.24				
		78-107	+0.44				
6-7-48	K	All day	+0.32	18-39	+2.32		
				39-100	+3.32		
6-8-48	L	1-8	+0.32	9-26	+0.32	70-83	+12.32
		26-129	+0.32	61-69	+3.32		
				84-129	+3.32		
6-14-48	M	All day	+0.10	5-23	+2.14		
6-15-48	N	1-7	+0.14				
		23-28	-0.26				
6-16-48	P	1-12	-0.01	20-72	+1.89		
		13-19	-0.21				
		26-34	-0.31				
		35-48	-0.11				
		48-66	-0.21				
		66-72	-0.11				

FINAL CORRECTIONS

DRAFT & INITIAL

DATE	DAY LETTER	808 #	60 Fms.		
6/21/48	Q	1-11	+0.04		
		11-16	-0.06		
6/22/48	R	1-20	-0.16	7-44	+2.04
		73-87	+0.04	44-73	+3.04
6/23/48	S	No Soundings			
6/24/48	T	1-16	+0.37	6-11	+2.37
		18-38	+0.17		
6/28/48	U	1-6	+0.13		
		6-34	+0.33		
		No. V. Day			
7/7/48	W	1-22	+0.41	1-17	+2.13
7/13/48	X	16-35	+0.13		
7/22/48	Y	1-33	+0.21		
7/24/48	Z	1-31	+0.20	18-31	+3.20
7/26/48	AA	1-49	+0.18	7-35	+3.18
				35-49	+1.18
7/30/48	BA	1-123	+0.16		
		123-138	-0.04	11-33	+2.16
		138-268	+0.16	33-74	+1.16
8/2/48	CA	9-28	+0.11	1-17	+2.11
8/3/48	DA	1-47	+0.25	23-30	+2.05
8/27/48	EA	1-23	-0.04		
		23-111	+0.16		
9/9/48	FA	All day	+0.04		

VELOCITY CORRECTIONS

From T&S Observations on 20 Sept. 1947

For period 16 July 1947 to end of season

808 Fath. Ship & Launch

Corr'n Fms.	Depth - Fms.	
0.0	0 to	4.0
-0.2	4.1	14.5
-0.4	14.6	24.5
-0.6	24.6	33.5
-0.8	33.6	42.0
-1.0	42.1	51.8
-1.2	51.9	60.1
-1.4	60.2	69.0
-1.6	69.1	78.0
-1.8	78.1	87.0
-2.0	87.1	95.5
-2.2	95.6	101.0
-2.5	101.1	121.6
-3.0	121.7	144.1
-3.5	144.2	166.8

NMC-2 Fath. Shoal Scale
400 - 800 fms.

Corr'n Fms.	Depth - Fms.	
0.0	0 to	146.5
+0.5	146.6	295
+1.0	296	385
+1.5	386	445
+2.0	446	495
+2.5	496	545
+3.0	546	590
+3.5	591	635
+4.0	636	670
+4.5	671	710
+5.0	711	741
+5.5	741	775
+6.0	776	822

NC Fath. Shoal Scale
100 - 200 fms.

Corr'n Fms.	Depth - Fms.	
0	0 to	146.5
+0.5	146.6	195

NMC-2 Fath. Deep Scale and NMC Deep Scale 2000-4000 fms.

Corr'n Fms.	Depth - Fms.	
0	0 to	295
+1	296	428
+2	429	532
+3	533	620
+4	621	700
+5	701	765
+6	766	822
+7	823	884
+8	885	938
+9	939	990
+10	991	1035
+11	1036	1080
+12	1081	1124
+13	1125	1166
+14	1167	1210
+15	1211	1250
+16	1251	1285
+17	1286	1320
+18	1321	1357
+19	1358	1393
+20	1394	1427
+21	1428	1460
+22	1461	1491
+23	1492	1521
+24	1522	1553
+25	1554	1583
+26	1584	1612
+27	1613	1640
+28	1641	1670
+29	1671	1700
+30	1701	1723
+31	1724	1750
+32	1751	1779
+33	1780	1805
+34	1806	1830
+35	1831	1857
+36	1858	1880
+37	1881	1909
+38	1910	1935
+39	1936	1957
+40	1958	1980
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

Corr'n Fms.	Depth - Fms.	
+43	2027 to	2050
+44	2051	2075
+45	2076	2096
+46	2097	2118
+47	2119	2139
+48	2140	2160
+49	2161	2183
+50	2184	2211
+51	2212	2232
+52	2233	2252
+53	2253	2275
+54	2276	2295
+55	2291	2315
+56	2316	2338
+57	2339	2358
+58	2359	2375
+59	2376	2396
+60	2396	2415
+61	2416	2435
+62	2436	2455
+63	2456	2473
+64	2474	2492
+65	2493	2510
+66	2511	2530
+67	2531	2550
+68	2551	2569
+69	2570	2587
+70	2588	2605
+71	2606	2624
+72	2625	2641
+73	2642	2660
+74	2661	2677
+75	2678	2695
+76	2696	2712
+77	2713	2730
+78	2731	2749
+79	2750	2765
+80	2766	2783
+81	2784	2800

VELOCITY CORRECTIONS
1948

808 Fath. Ship & Launches

Corr'n to 0.1 fm.

Corr'n Fms.	Depth-Fms.		
0.0	0	to	3.4
-0.1	3.5		8.3
-0.2	8.4		12.4
-0.3	12.5		16.6
-0.4	16.7		20.9
-0.5	21.0		24.5
-0.6	24.6		29.0
-0.7	29.1		32.7

Corr'n to 0.2 fms.

Corr'n Fms.	Depth-Fms.		
0.0	0	to	6.0
-0.2	6.1		14.9
-0.4	15.0		22.7
-0.6	22.8		31.0
-0.8	31.1		38.6
-1.0	38.7		46.3
-1.2	46.4		54.3
-1.4	54.4		61.8
-1.6	61.9		69.6
-1.8	69.7		77.0
-2.0	77.1		85.0
-2.2	85.1		93.1
-2.4	93.2		100.7
-2.6	100.8		109.0

Corr'n to 0.5 fms.

Corr'n Fms.	Depth-Fms.		
0.0	0	to	12.3
-0.5	12.4		32.9
-1.0	33.0		52.0
-1.5	52.1		71.4
-2.0	71.5		91.3
-2.5	91.4		110.9
-3.0	111.0		132.0
-3.5	132.1		154.9
-4.0	155.0		179.2

NMC and NMC-2 Fathometers

Corr'n to 0.1 fms.

Corr'n Fms.	Depth-Fms.		
0.0	0	to	77.0

Corr'n to 0.2 fms.

Corr'n Fms.	Depth-Fms.		
0.0	0	to	182.0
+0.2	182.1		220.0

Corr'n to 0.5 fms.

Corr'n Fms.	Depth-Fms.		
0.0	0	to	210
+0.5	211		330
+1.0	331		410
+1.5	411		480
+2.0	481		540
+2.5	541		600
+3.0	601		650
+3.5	651		690
+4.0	691		730
+4.5	731		765
+5.0	766		797
+5.5	798		830

VELOCITY CORRECTIONS
1948

NMC and NMC-2 Fathometers (Continued)

Corr'n to 1.0 fms.

Corr'n Fms.	Depth-Fms.		
0	0	to	270
+1	271		440
+2	441		565
+3	566		665
+4	666		745
+5	746		814
+6	815		872
+7	873		933
+8	934		984
+9	985		1030
+10	1031		1078
+11	1079		1122
+12	1123		1168
+13	1169		1207
+14	1208		1248
+15	1249		1285
+16	1286		1322
+17	1323		1356
+18	1357		1388
+19	1389		1421
+20	1422		1454
+21	1455		1484
+22	1485		1518
+23	1519		1549
+24	1550		1577
+25	1578		1609
+26	1610		1640
+27	1641		1666
+28	1667		1696
+29	1697		1724
+30	1725		1752
+31	1753		1777
+32	1778		1805
+33	1806		1828
+34	1829		1854
+35	1855		1880
+36	1881		1906
+37	1907		1930
+38	1931		1953
+39	1954		1977
+40	1978		2000

Corr'n Fms.	Depth-Fms.		
+41	2001	to	2020
+42	2021		2040
+43	2041		2063
+44	2064		2090
+45	2091		2110
+46	2111		2130
+47	2131		2152
+48	2153		2172
+49	2173		2198
+50	2199		2218
+51	2219		2237
+52	2238		2257
+53	2258		2278
+54	2279		2300
+55	2301		2320
+56	2321		2340
+57	2341		2360
+58	2361		2378
+59	2379		2400
+60	2401		2415
+61	2416		2433
+62	2434		2452
+63	2453		2470
+64	2471		2486
+65	2487		2505

Corr'n to 5.0 fms.

Corr'n Fms.	Depth-Fms.		
+5	560	to	930
+10	931		1165
+15	1166		1355
+20	1356		1517
+25	1518		1665
+30	1666		1805
+35	1806		1928
+40	1929		2040
+45	2041		2152
+50	2153		2260
+55	2261		2360
+60	2361		2452

VELOCITY CORRECTIONS
1948

NMC and NMC-2 Fathometers (Continued)

Corr'n to 5.0 fms. (Con't'd)

Corr'n Fms.	Depth-Fms.	
+65	2453	2542
+70	2543	2632
+75	2633	2720
+80	2721	2803
+85	2804	2883
+90	2884	2964
+95	2965	3040
+100	3041	3112
+105	3113	3190
+110	3191	3260
+115	3261	3327
+120	3328	3396
+125	3397	3462
+130	3463	3525
+135	3526	3590
+140	3591	3655
+145	3656	3715
+150	3716	3775
+155	3776	3835
+160	3836	3895
+165	3896	3953
+170	3954	4012
+175	4013	4068
+180	4069	4122
+185	4123	4178
+190	4179	4232
+195	4233	4285
+200	4286	4336
+205	4337	4390
+210	4391	4440
+215	4441	4490
+220	4491	4543
+225	4544	4590
+230	4591	4638
+235	4639	4685
+240	4686	4730

SHORAN CORRECTIONS:

The Shoran Zero Setting for both ship and Launch No. 3 were obtained by a comparison of the shoran distance and the computed distances from the ship to shoran stations. The ship's position was fixed by sextant angles on triangulation and topographic stations at the instant the shoran readings were made. Each computed distance was then reduced to the ship and launch antennas.

For the launch values obtained from stations TAR, SPRING and BIRD, the launch was in its chocks on the starboard side of the ship. Therefore, values obtained on certain headings had to be rejected because of interference of the ship's bridge with incoming pulses. For the launch zero settings for stations other than those three named above, the mean difference of the values obtained for the ship and those obtained for the launch were applied to the zero setting of the ship set to obtain the zero setting for the launch. No direct computations were made for the launch for stations other than TAR, SPRING and BIRD.

The final value as obtained in each case is the mean of all computations accepted. The number of values used in obtaining this mean is shown in parenthesis in the following table.

The two values obtained for the same ship set on VEGA were caused by interference with the pulse transmission by Fender Hill, Filthy Hill and other high ground to the north. Therefore, for ship set number one the zero setting should be 99.786 when the ship is working to the eastward of a bearing of 310° true on VEGA and 99.810 when the ship is to the westward of that bearing.

Paul Taylor
Lt. Comdr., USC&GS

USC&GSS EXPLORER
SHORAN ZERO SETTINGS
Season of 1948

Shore Sets	Ship Set No. 5	Ship Set No. 1	Launch Set No. 5
# 1 Little		99.816 (31)	99.812 (a)
# 2 SILO (TAR)	99.834 (14)	99.839 (36)	99.839 (22)
# 3 (SPRING)		99.822 (27)	99.817 (26)
# 4 (VEGA)		99.786* (15)	
(SEALY)	99.824 (15)	99.810 (5)	99.806 (a)
#5 (GUL) (PLUG) (LUG) (EDDIE)		99.829 (b)	99.830 (b)
# 6 (BIRD)		99.811 (29)	99.801 (20)

(a) Obtained from ship values
(b) Values obtained from 1946 calibration

* Note: Use only on ship set No 1 to the eastward of a true bearing of 310° on VEGA.

APPROVAL FOR

HYDROGRAPHIC SURVEY EX-4247

The sounding volumes and boatsheet have been inspected and approved. The survey is considered complete and adequate. No additional work is necessary.

This officer was not aboard during the execution of the field work, which was accomplished under the supervision of Captain F.B.T. Siems, former Commanding Officer of the Ship EXPLORER.

H. Arnold Karo
Comdg. Ship EXPLORER

H 7625
Ex 4247

South part of Kiska Island

List of Geographic Names
Penciled on Smooth Sheet.

Kiska Island

Little Kiska Island

Cape St. Stephen

Dark Cove

Bering Sea

Pacific Ocean

Coast Pilot Notes
Explorer 1947

-3-

current of 1.4 knots was observed during a period of 14 hours." (Note.--Further data should be derived from an analysis of the Current Observations, which have been transmitted to Washington.)

Page 126: - After line 7, insert the following:

"DARK COVE (chart 9180) is a small cove of shallow depths on the southwest shore of Kiska Island, just east of Cape St. Stephen. When the weather is rough outside, small boats have found it practicable except during a SSWly swell to land with safety in the northeast corner of the cove."

"Directions": Strike out "(3) The southwest end of Kiska Island; vessels should keep at least 5 miles off." and substitute the following:

"(3) CAPE ST. STEPHEN (chart 9108), the most southwesterly point on Kiska Island, should be passed by vessels not closer than 3½ miles to avoid broken bottom in the area off the very abrupt 10-fathom shoal, distant 1.8 miles and in direction 230° true from the southern tip of the cape. Very heavy tide rips at strength of current are found in this area."

Page 127, line 23: South (Kiska) Pass.--The buoys that have been placed to mark the narrowest reach of the channel in South Pass are missing (1947).

Kiska Island, southeast end.--Heavy tide rips occur in the area of the charted 20-fathom sounding 2.4 miles, 270° true, from Sobaka Rock. This area should be avoided as detail surveys have not been completed (1947).

Respectfully submitted,

(Ex 2148)

Henry O. Fortin
Lt. Comdr. USC&GS

2.5 fms found on Sheet H-7707

This sdg will be considered in the Review of H-7707 (1948)

Approved and forwarded:

F.B.T. Siems
Captain USC&GS
Commanding USC&GSS EXPLORER

H 7625 (Ex 4247)
Additional work of 1948

Processing office notes.

South part of Kiska Island.

History.
During the 1947 season the EXPLORER'S party filled ten volumes of soundings for this sheet. This was plotted in Seattle. The sheet was sent to Washington, with all records except the boatsheet, and a report. During the past season of 1948 ~~ten~~ eleven additional volumes were filled with soundings. On request the smooth sheet was returned from Washington to the Processing Office for plotting the new work.

Smooth sheet.
Additional distance circles were drawn from Shoran Stations Little, Tar, Spring and Lug. To control these circles points on the radii from the shoran stations were computed and plotted as follows:-

Shoran Station	Grid Azimuth	Radial distance-Statute miles				
Little	30	10	20			
	60	10	20			
	240	10				
	330	10	20			
Tar	60	16				
	90	16	24	32	40	
	120	16	24	32		
Spring	60		24	32		
	90		24	32		
Lug	45	10	16			
	90	10	16			

These positions were computed on grid coordinates, the grid axes being the first two lines drawn in the construction of the smooth sheet projection. The origin is at Lat. 51 52 Long. 177 28. Geographic coordinates of the shoran stations were reduced to grid coordinates on the same principles as shown in the Nautical Chart Manual Pages 79 to 81.

The azimuths assumed are convenient grid azimuths and dfffer from the geodetic azimuths by the amount of the convergence of the meridian. Suitable distances along the radii were assumed and computed as for right-angled triangles. This gave plotting data for the radial points on selected circles. The distances along the radii were subdivided into two statute mile intervals with the same care used in laying off projection intervals.

This method was recommended to us by Capt. Siems. It enormously reduces the work of computing geographic positions to obtain plotting data for a sheet. The method was tested by converting grid azimuth to geodetic azimuth and computing radial points on the first order GP forms. The results plotted in the same hole as the grid points.

For swinging circles with long radii we have two aluminum T-bars. When distances are too great for one table, two tables are leveled to an even surface and rigidly fastened together with cleats while the circles are drawn.

The cahier of grid computations is attached. *(Filed with fathograms)*

Crossings.
Good.

Dangers.
No dangers to surface navigation in the soundings of H 7625, but tide rips were observed 2.4 miles west of Sobaka Rock. This area was developed by the launch on sheet H 7707. Two soundings from the records of that sheet have been shown on H 7625.

Sdgs removed from sheet.

Lat. 51 48.6 0	Long. 177 16.6	2.5 fathoms	These sdgs will be considered in the review of H-7707 (1948)
51 48.6 0	177 16.3 0	12.0 fathoms	

These depths are the shoalest found in the vicinity. This area is mentioned in the last paragraph of the coast pilot notes submitted from the EXPLORER in 1947. A carbon copy of that paragraph is attached.

Respectfully submitted,

Edgar F. Smith
Cart. Engr.

Mar. 31, 1948

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H7625

Records accompanying survey:

Boat sheets .....; sounding vols. {1 (1948) 10 (1947)} wire drag vols. .....;

bomb vols. .....; graphic recorder rolls {8 (1948) 2 envelopes (1947)}

special reports, etc. .....

.....

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

Number of positions on sheet		3919
Number of positions checked		109
Number of positions revised		30
Number of soundings revised (refers to depth only)		325
Number of soundings erroneously spaced		-
Number of signals erroneously plotted or transferred		-
Topographic details	Time	4
Junctions	Time	16
Verification of soundings from graphic record	Time	16

Verification by L L Evans Jr .....Total time 320 ..... Date 17 Feb. 1950

Reviewed by ..... Time 36 ..... Date 7 March 1950

M-2232-1

EHC

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. June 1937

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~ 4 November 1948

Division of Charts: R. H. Carstens

Plane of reference approved in
10 volumes of sounding records for

HYDROGRAPHIC SHEET 7625

Locality - Kiska Island, Aleutian Islands, Alaska

Chief of Party: F. B. T. Siems in 1947
Plane of reference is mean lower low water, reading
3.5 ft. on tide staff at Massacre Bay, Attu Island
6.6 ft. below B. M. 1 (1943)
4.4 ft. on tide staff at Gertrude Cove, Kiska Island
7.3 ft. below B. M. 2 (1947)

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.~~

U. S. GOVERNMENT PRINTING OFFICE 756675

RHC

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. June 1937

TIDE NOTE FOR HYDROGRAPHIC SHEET

April 25, 1949

~~Division of Hydrography and Topography~~

Division of Charts: R. H. Carstens

Plane of reference approved in
11 volumes of sounding records for

HYDROGRAPHIC SHEET 7625 (Add. work)

Locality Rat Islands, Aleutian Islands, Alaska

Chief of Party: F. B. T. Siems in 1948
Plane of reference is mean lower low water, reading
4.4 ft. on tide staff at Gertrude Cove
7.3 ft. below B. M. 2 (1947)

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
Chief, ~~Division~~ of Tides ~~and Currents~~.

U. S. GOVERNMENT PRINTING OFFICE 154327

GEOGRAPHIC NAMES

Survey No. H-7625

Name on Survey	On Chart No. A	On previous survey No. B	On U. S. quadrangle Maps C	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
Alaska			(for title)							1
Aleutian Islands			"	"						2
Pacific Ocean										3
										4
Kiska Island									USGB	5
Little Kiska Island									"	6
Cape St. Stephen									"	7
Vega Bay									"	8
Dark Cove										9
Sobaka Rk										10
Murray Canyon	added 3-7-50 LA									11
~~Gertrude Cove~~				Names underlined in red are approved. 11/5/48 IH LA						12
Bukhti Pt.										13
										14
										15
										16
										17
Gertrude Cove			(location of tide staff)							18
										19
										20
										21
										22
										23
										24
										25
										26
										27

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DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY REGISTRY NO. H-7625

FIELD NO. EX-4247

Alaska, Aleutian Islands, South of Kiska Island
Surveyed in Aug.-Oct., 1947 & May-Sept., 1948 Scale 1:40,000
Project No. CS-218

Soundings:

808 Fathometer
NMC-2 Fathometer
NMC (Navy type) Fathometer

Control:

Shoran
Sextant fixes on shore signals

Chief of Party - F.B.T. Siems
Surveyed by - Ship's Officers
Protracted by - L. W. Eason
Soundings plotted by - L. W. Eason
Verified and inked by - L. V. Evans III
Reviewed by - I. M. Zeskind, 6 March 1950
Inspected by - R. H. Carstens

1. Shoreline and Signals

The shoreline for the western portion of Kiska Island originates with air-photographic survey T-8632 (1947-49) prior to review. No contemporary shoreline for the eastern portion of the Island is available at the present time.

The source of the control is adequately described in the Descriptive Report.

2. Sounding Line Crossings

Depths at crossings are in adequate agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated.

The present survey covers a portion of Murray Canyon, the escarpment southwest of Kiska Island and the insular slope of the southern half of Kiska Island. The bottom is generally irregular.

4. Junctions with Contemporary Surveys

Adequate junctions were effected with H-7596 (1947) on the north, H-7598 (1947) on the northwest, H-7627 (1947) on the southwest and H-7711 (1948) on the southeast.

The junctions with inshore surveys H-7707 and H-7708 of 1948 off Kiska Island, with offshore surveys H-7710 on the east and H-7645 and H-7649 of 1948 on the northeast will be considered in the reviews of those surveys.

5. Comparison with Prior Surveys

H-2701	(1904)		1:20,000
H-6900	(1935)	USN	1:60,000
H-6901	(1935)	USN	1:60,000
H-6902	(1935)	USN	1:60,000
H-6903	(1935)	USN	1:60,000
H-6905	(1935)	USN	1:60,000
FE-1	(1946)		1:301,800

These small scale reconnaissance surveys cover the area of the present survey. There are differences of as much as 102 fms. between the present and prior depths, as for example, in lat. 51° 44.35', long. 177° 34.30', where a prior depth of 448 fms. falls in present depths of 346-351 fms. The prior 53 and 54 fms. soundings (charted) in the vicinity of lat. 51° 57.4', long. 177° 16.6', fall in present depths of 67 to 78 fms.

These discrepancies are attributed largely to the dead reckoning control on the prior surveys. The following soundings (charted) differ from the present soundings by 5-63 fms. These soundings are on sounding lines which are apparently out of position. Comparable present depths are found from 450 to 800 meters northwestward from the positions of the prior soundings.

Prior Depth fms.	Latitude (N.A. 1927 Datum)	Longitude	Origin
65	51° 57.08'	177° 54.50'	H-6900
72	51° 57.60'	177° 54.40'	H-6900
30	51° 53.00'	177° 38.86'	H-6901
123	51° 47.40'	177° 30.14'	H-6901
37	51° 48.36'	177° 05.64'	H-6901

The 20-fm. sounding (charted) in lat. 52° 00.56', long. 177° 21.94', originating with H-6902 (1935) falls in present depths of 52-59 fms. The 20 fms. is a single sounding on line falling in general depths of 47-51 fms. on the prior survey. This sounding is considered to be recorded in error and should be disregarded.

One sounding and several bottom characteristics have been carried forward to supplement the present survey. With these additions, the present survey is adequate to supersede these prior surveys within the common area.

6. Comparison with Chart 9180 (Latest print date 12/18/44)
Chart 8864 (Latest print date 3/8/48)

A. Hydrography

The charted hydrography originates principally with the previously discussed surveys which need no further consideration, and with information of the present survey and survey H-7707 (1948) prior to verification and review.

The 8-fm. sounding on Chart 9180 in lat. 51° 51.74', long. 177° 10.10', originating with advance information of survey H-7707 (Chart Letter 545, 1948), falls in present depths of 26-30 fms. The charted position of this sounding is believed to be in error and the sounding should actually fall on the present 9.4 fms. shoal which lies 280 meters to the westward. The 8-fm. sounding will be considered in the Review of H-7707. (8 fm. correctly charted on 50-1/8 print of 9180)

The present survey supersedes the charted information within the common area.

B. Aids to Navigation

There are no aids to navigation within the limits of the present survey.

7. Condition of Survey

a. The sounding records and Descriptive Report are complete and comprehensive.

b. The smooth plotting was accurately done.

c. No bottom characteristics were obtained in the area of the present survey.

8. Compliance with Project Instructions

The present survey adequately complies with the Project Instructions, except as noted below in paragraph 9.

9. Additional Field Work Recommended

This is a very good basic survey and no additional work is recommended. As a matter of record, attention is directed to the lack of bottom characteristics in this area.

Examined and approved:

H. R. Edmonston
Chief, Nautical Chart Branch

Chief, Division of Charts

K. G. Crosby
Chief, Section of Hydrography

W. M. Scaife
Chief, Division of Coastal Surveys

NAUTICAL CHARTS BRANCH

SURVEY NO. H 7625

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
8/29/50	9102 Recorrtn.	GME	~~Before~~ After Verification and Review
11/2/50	9180	L.A.M.	Before (After) Verification and Review
			Examined only
			Before After Verification and Review
11/6/50	9155	L.A.M.	Before (After) Verification and Review
			Examined only.
3/3/52	8864	L.A.M.	~~Before~~ (After) Verification and Review
			Part applied. Erased (20) at Lat 52°00.5, long. 177°21.9
11/18/54	9124	Williamson	~~Before~~ After Verification and Review further application
7/12/55	9180 Recorrt.	Williamson	~~Before~~ After Verification and Review JMA
11/17/61	8864	GME	~~Before~~ After Verification and Review
			Before After Verification and Review
			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.