

7644

Diag'd. on Diag. Ch. No. 8864-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. Pi-2148 Office No. H-7644

LOCALITY

State Aleutian Islands

General locality Rat Islands

Locality Kiska Island - North End

1948-49

CHIEF OF PARTY

H. E. Finnegan

LIBRARY & ARCHIVES

DATE August 17, 1949 & Jan. 25, 1950

7644

JAN 25 1950

Form 537
(Ed. June 1946)

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. 7644

Field No. Pi 2148

State Alaska - Aleutian Islands ✓

General locality ~~Aleutian Islands~~ - Rat Islands ✓

Locality North Part Kiska Island, ~~North End~~. ✓

Scale 1/20 000 ✓ Date of survey 27 May - 27 Sept., 1948 ✓
3 Feb. 1938; Applicable Supp. Instr. dated 1 Mar. 1938.

Instructions dated 10 Feb. and 8 Apr. 1948. See list of Instructions attached

Vessel Pioneer

Chief of party H.E. Finnegan ✓

Surveyed by P.A. Weber
G. Nelson, H.B. Lewey, G.R. Fish, C.A. George, C.J. Beyma, ✓

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

Fathograms scaled by HWK EAC JPC WCP RLK FWL SDP CAG

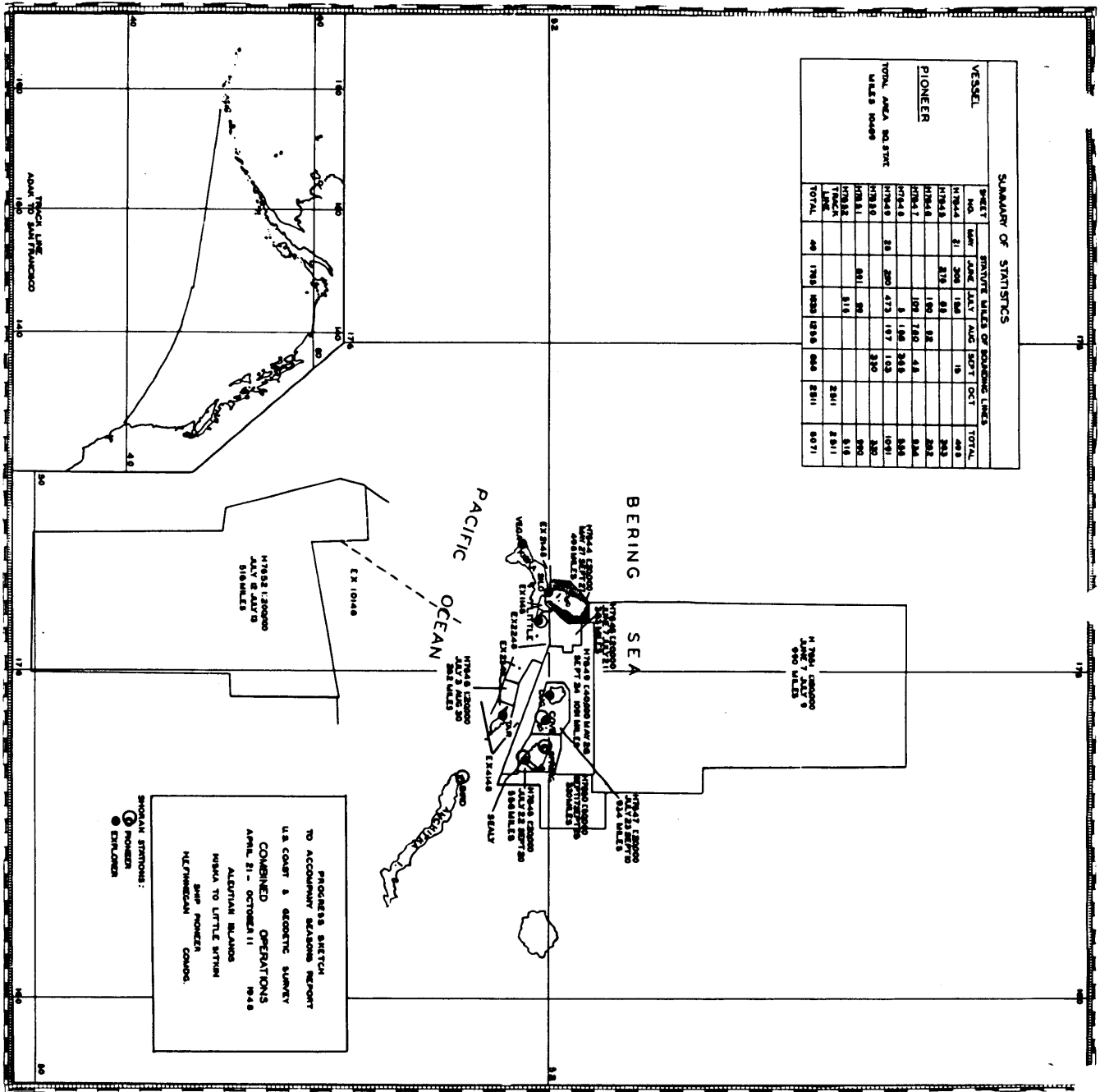
Fathograms checked by SDP BCS AEG DGR

Protracted by C.R. Lehman

Soundings penciled by C.R. Lehman

Soundings in fathoms ~~feet~~ at ~~MLW~~ MLLW ✓

REMARKS:
.....
.....
.....
.....
.....



SUMMARY OF STATISTICS

VESSEL	SHEET NO.	STATIVE MILES OF SOUNDING LINES					TOTAL
		NOV	JUNE	JULY	AUG	SEPT		OCT
PIONEER	NINER 4	81	208	186	18		493
	NINER 5	81	83				263
	NINER 6		190	72			262
	NINER 7		108	72	44		224
	NINER 8		8	196	248		552
	NINER 9	83	280	473	197	103	1091
	NINER 10				230		230
	NINER 11		881	98			979
	NINER 12			815			815
	NINER 13						281
TRACK LINE		49	176	808	125	86	281
TOTAL		49	176	808	125	86	281

TOTAL AREA 80,517
MILES SQUARE

H - 7647 (PI - 2178)

NOTES FOR DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SURVEY

H - 7644 (Field No. PI-2148)

Project CS 218 Field Season of 1948

Ship - PIONEER - Henry E. Finnegan,
Chief of Party

SCALE: 1:20,000

Surveyed by: G. R. Fish
E. B. Lewey
C. A. George
C. J. Beyma

A. PROJECT

The work was done in accordance with the following instructions for Project CS - 218:

Original Instructions dated 3 February 1938.

Amended Instructions dated 1 March 1938.

Supplemental Instructions dated 10 February 1948.

Supplemental Instructions dated 8 April 1948.

B. SURVEY LIMITS AND DATES

The general locality is the Aleutian Islands. The survey consists of the inshore hydrography around the north end of Kiska Island, extending from North Pass on the east coast to Latitude $52^{\circ} - 00.5'$ on the west coast.

Field work began on 27 May 1948 and ended on 27 September 1948.

This survey joins ^{H-7625(1947-48) & H-7707(1947-49)} ~~EX-4148~~ on the west coast; ~~H-2700 (1904), scale 1:10,000,~~ ^{(H-7649(1946)} ~~in the vicinity of North Pass;~~ and H-7596 (1947), scale 1:40,000, on the ^{H-7645(1946)} northern and western limits. It joins contemporary surveys ~~H-7644 (P-2248),~~ ^{(H-7708(1948)} ~~EX-1148 and EX-2248.~~ An index of the PIONEER'S 1948 hydrographic surveys is ^{(H-7712(1948)} included in this report. (Also joins H-7651(1948) & H-7596(1947) See Review, par. 4.

C. VESSEL AND EQUIPMENT

The hydrography was done by the Ship PIONEER and launches Numbers 3 and 4 operating from the ship. The hydrography along the east coast of Kiska Island was done by Launch No. 4; the inshore work on the north coast by Launch No. 3 and the adjacent offshore work by the PIONEER. On the west coast, the inshore work from Sirius Point to approximately Latitude $52^{\circ} - 04.5'$ was accomplished by Launch No. 3. The inshore work between Latitudes $52^{\circ} - 00.5'$

and 52° - 04.5, was done by Launch No. 4. The offshore work on the west coast of Kiska I. was done variously by the Ship PIONEER and Launch No. 3.

The following sounding equipment was used:

Ship - PIONEER - NMC-2 Fathometer No. 117 and 808 Recorder No. 108.

Launch No. 3 - 808 Recorders Numbers 69-S and 129-S.

Launch No. 4 - 808 Recorder\$ Numbers 107-S.

On the PIONEER, the NMC-2 Fathometer was used in depths over 100 fathoms, the 808 in shoaler depths. On Launch Number 3, the 808 was used throughout its full range, while on Number 4, the maximum depth obtained was approximately 50 fathoms.

D. TIDE AND CURRENT STATIONS

Data obtained from the tide gage at Gertrude Cove, Kiska Island, Alaska were used for the reduction of all soundings. No time or range corrections were applied.

F. CONTROL STATIONS

Some of the stations used for hydrographic control were located by planetable, some by sextant cuts and others from air photographs. All of the stations used for control are plotted on aluminum-mounted graphic control surveys Nos. (T-7077, T-7078 and T-7079). * A statement as to the method of locating the various stations is included in the descriptive reports accompanying the control sheets. * Review, par. 1. (Desc. Reports enclosed with this Desc. Report)

G. SHORELINE AND TOPOGRAPHY

No shoreline was located.

H. SOUNDINGS

Depths were obtained from fathometers as described in Paragraph C of this report, and all soundings were scanned and verified from the graphs.

I. CONTROL OF HYDROGRAPHY

A small amount of hydrography off the west coast of Kiska Island was controlled by shoran, the remainder by means of three-point fixes on shore objects.

J. ADEQUACY OF SURVEY

It is considered that this survey is adequate to supersede prior surveys for charting.

There is an incompleted area of about 1 square mile off the west coast of Kiska Island, between Vulcan and Witchcraft Points. Numerous attempts to complete this work failed because of unfavorable weather conditions and extremely heavy tide rips.

(completed, 1949 work)

to be destroyed

K. CROSSLINES

Additional crossings from junctional sheets and oblique systems of 3d9 lines
The crosslines consist of 4.7% of the total lines run. With respect to the boat sheet, the crossings were generally satisfactory. A slight discrepancy between the soundings of the Ship PIONEER and Launch No. 3 was noted on a few crossings in depths of 40 fathoms and over. The launch soundings were slightly shoaler than those obtained by the ship's fathometers. (Discrepancies negligible)

L. COMPARISON WITH PRIOR SURVEYS

As far as can be determined from the boat sheet, this survey agrees with the prior surveys,* and the junctions with contemporary surveys are apparently satisfactory. * Review, par. 5

M. COMPARISON WITH CHART

The boat sheet is in general agreement with Charts 8864 and 9155, except for items listed under Paragraph N. § in par. 5, Review. § 9180

N. DANGERS AND SHOALS

1.8 fms. smooth sheet
1. Shoal - Latitude 52°-00'-185 meters; Longitude 177°-36'-128 meters. Least depth by hand lead was 2.0 fathoms obtained on Position 79g (Launch No. 4). Least depth by 808 Fathometer was 3.0 fathoms obtained on Positions 25-26d (Launch No. 4). A planetable cut was taken from the vicinity of signal BOY on September 23, 1948, at 0930 A.M. to a heavy breaker. This cut was transferred to the boat sheet and fell on the 2.0 fathom spot mentioned above. A rock awash symbol is shown at this locality on Chart No. 9155. (* from H-2701 (1949)) Approximately one-half hour was spent on this spot, drift sounding with the handlead. No rocks were visible at low water. It is recommended that the rock awash symbol be deleted and the shoalest depth be charted. (Concur; see Review, par. 5.)

2. Shoal - (Approximate center) Latitude: 52°-00'-94.5 meters; Longitude 177°-27'-95.4 meters. The shoal extends for approximately 500 meters in a north-south direction. The least depth on the 808 Fathometer was 6.0 fathoms obtained on Position 53-54f (Launch No. 4). There is a small amount of kelp on this shoal.

3. Shoal - Latitude 52°-04' to 52°-05' and Longitude 177-28.5' (Approximate). A large shoal area with depths ranging from 8⁵ to 10 fathoms, lies approximately 2 miles northwest of Witchcraft Point. The area is covered by heavy kelp, and there are unusually strong tide rips in the vicinity. Additional work is contemplated in this area when field work is resumed. *see notes on 1949 work in area*

The above shoals were reported as dangers in letter to The DIRECTOR, dated 27 October 1948. (Copy of letter included in this report). 1648 (1948)

O. COAST PILOT INFORMATION

See the special report on Coast Pilot Notes submitted 3 December 1948.

P. LANDMARKS FOR CHARTS

(See Special Report to be submitted on "LANDMARKS") Chart Letter 160 (1949)

R. GEOGRAPHIC NAMES 814 ✓

The following names, which do not appear on the charts, are recommended:

- 1. ³¹⁰⁴¹ SREDNI BAY - The indentation just north of Sredni Point.
- 2. NORTHEAST ROCKS- The highest point^{is} on the most westerly of the group of islets lying 1/4 mile off the northeast coast of Kiska Island and 1 mile north of Haycock Rock. ✓

For further information, see the special report on Geographic Names.

U. VELOCITY CORRECTIONS

An abstract(2 pages) of Velocity Corrections applied to echo soundings are included as a separate entry in this report. Also included are Initial and Phase Corrections (3 pages) for the fathometers of the Ship PIONEER, Launch No. 3, and Launch No. 4. For the determination of the above data, see special report on "Fathometer and Velocity Corrections, Ship PIONEER - 1948". *filed with H-7645* ✓

V. SHORAN CORRECTIONS

An abstract of Shoran Zero Settings is included in this report. For the determination of these value see special report on "Determinations of Shoran Settings". There is also included an abstract of shoran slope corrections to station SILO. *H-7645* ✓

W. MISCELLANEOUS

The following data is also included in this report:

- Abstract of Statistics ✓
- Tide Note
- Title Sheet
- Index of Sheets (Season's Progress Sketch)

X. SMOOTH SHEET PROJECTION

The smooth sheet should be laid out so that the southern limit just includes triangulation station CHUTE, thus allowing for the ends of a few sounding lines which lie north of Latitude: 52°-09' and fall outside the limit of the boat sheet. *97-100 B fall off sheet. Sndgs agree with H-7596 & H-7651*

Approved:

Henry E. Finnegan
Henry E. Finnegan
Comdr. USC & GS
Chief of Party

Respectfully submitted,

Clarence A. George
Clarence A. George
Lieut. Comdr. C&GS.

from 1949 work
ADDITIONAL NOTES AND CHANGES TO ACCOMPANY HYDROGRAPHIC SURVEY H-7644

REPORT SUBMITTED IN 1948

Project CS - 218

Henry E. Finnegan, Chief of Party

Scale 1:20,000

J. ADEQUACY OF SURVEY

The additional work done in 1949 completes the survey of this area. This survey is now considered adequate to supersede prior surveys for charting.

N. DANGERS AND SHOALS

2. Shoal (Approximate center) Latitude 52 00' 945 meters; Longitude 177 27' 954 meters. Additional work was done in vicinity of this shoal but no changes could be found. (least depth 6 fms.)

3. Shoal - Latitude 52 04' to 52 05' and Longitude 177 - 28.5' (approx) A large kelp covered area lies approximately 2 miles northwest of Witchcraft Point, in area of strong tide rips. In 1949 a thorough inspection was made of the area by running regularly spaced lines and taking soundings with the fathometer; also numerous hand lead soundings were taken in the vicinity of the shoalest part. Approximately 25 minutes were spent in drift sounding with hand lead but nothing shoaler than 6.8 fms. position 89r Launch #4 could be found. Inasmuch as no hand lead soundings were taken in this area in 1948 it is recommended that the values obtained in 1949 be used for charting. (A few shoaler sdgs. (not disproved by handlead) from the 1948 work have been retained on the smooth sheet in this general vicinity)

U. VELOCITY CORRECTIONS

A list of velocity corrections for 1949 are attached to this report. For the determination of these velocity corrections see special report on "Fathometer and Velocity Corrections, Ship PIONEER 1949". filed with H-7730

LIST OF STATIONS ON H-7644

<u>Name used in Hydro - Survey</u>	<u>Origin of Station</u>
ABE	T-7079 *
AGE	AGE (USE) - 1943
AL	T-7077 *
ANN	(See footnote (xx))
ANT	T-7078 *
ARM	do
ART	do
BAR	T-7078
BAT	do
BE	T-7077
BIT	do
BLUFF	Bluff - 1948
BOX	T-7078
BOY	T-7079
BUN	Bun - 1948
CAB	T-7079
CAN	T-7077
CAT	T-7078
CHUTE	CHUTE - 1904, 1945
CLIMB	CLIMB - 1904, 1935
COB	T-7078
COW	do
DO	T-7078
DOC	T-7079
DOG	T-7077
DRY	T-7078
DUD	do

** Graphic control
sheets to be
destroyed after
review.*

LIST OF STATIONS ON H-7644

<u>Name used in Hydro - Survey</u>	<u>Origin of Station</u>
ED	T-7078
EEL	T-7077
EGG	T-7079
ELB	T-7078
EMO	T-7077
ERG	T-7078
EVA	T-7078
FAT	T-7078
FEZ	do
FIG	T-7077
FIN	T-7079
FIX	T-7078
GAGE	GAGE (USE) 1943
GAL	T-7079
GAM	T-7078
GO	T-7077
GRAS	GRAS - 1948
GRAY	T-7077
GUS	T-7078
HAY	HAYCOCK - 1948
HIP	T-7077
HOE	T-7078
HOP	T-7079
HUMP	T-7078
ICE	T-7079
IDA	T-7078
IKE	T-7077
IRK	Irk - 1948
IVY	T-7078

LIST OF STATIONS ON H-7644

<u>Name used in Hydro - Survey</u>	<u>Origin of Station</u>
JAM	T-7077
JAP	T-7078
JOY	do
JUG	T-7079
KAY	T-7077
KEN	T-7078
KEY	T-7077
KID	T-7079
LAKE	T-7078
LEG	T-7077
LIF	T-7077
LIT	T-7077
LIZ	T-7078
LOG	T-7077
MAG	T-7077
MAL	T-7079
MUG	T-7078
NAK	Nak - 1948
NED	T-7078
NEL	Ex-B-48
NIX	T-7079
NOB	T-7077
NOR	N.E. Rock, 1948
NORTH	North Head 1904, 1945
OIL	T-7079
OWL	T-7078

LIST OF STATIONS ON H-7644

<u>Name used in Hydro - Survey</u>	<u>Origin of Station</u>
PAC	Pac - 1948
PEN	Pen - 1948
POT	T-7078
PRO	T-7079
PUP	T-7077
QUA	T-7079
RED	RED, USN 1935, 1945
RIK	T-7078
ROB	Rob - 1948
ROCK	Rock 1904, 1943
RUM	T-7079
RUST	Rust - 1948
SAD	T-7077
SILO (*)	Silo - 1945
SIR	T-7077
SKY	T-7079
SOB	Vol. 2 pg. 33
TAR	T-7077
TIP	T-7078
TUB	T-7079
TUNA	Tuna - 1948
UNO	T-7079
VEGA (*)	Sus, 1945
VER	T-7077
VEX	T-7079
VULC	Vulc, 1948

Note: T-7077, 78 & 79 not registered in Wash. Office. They are graphic control surveys P1-A, B & C (1948) and are to be destroyed after verification and review of the present survey.

LIST OF STATIONS ON H-7644

<u>Name used in</u> <u>Hydro - Survey</u>	<u>Origin of</u> <u>Station</u>
WAR	T-7079
XRAY	T-7079
YAK	T-7079
ZOO	T-7079

(xx) Signal ~~ANN~~ used for one position by launch No. 4. The signal was not located by the PIONEER, but may have been located by the EXPLORER.

(*) SHORAN STATION

SHORAN ZERO SETTINGS
for
Season of 1948

SHORE SETS	SHIP SETS			
	PIONEER			EXPLORER
	Ship Set # 3	Launch Set # 4	Ship Set # 6	Ship Set # 1
# 1 Little	99.814	99.820	99.810	99.816
# 2 Silo & Tar	(99.834)	(99.837)	99.842	99.839
# 3 Spring	99.808	99.817	99.807	99.822
# 4 Vega	(a)(99.781) (99.805)	(a)(99.784) (99.803)	(a)(99.780) (99.804)	(a) 99.786 99.810
# 5 Lug	(99.824)	(99.827)	(99.823)	(b) 99.829
# 6 Bird & Cove	99.813	(*)99.786 99.805	(*)99.794 99.803	99.811

NOTES: PIONEER Values in Parenthesis are from comparison with EXPLORERS Values. (See Report)
All other PIONEER Values are from Accepted Means of 1947 & 1948 Oakland Tests and 1948 Field Tests.
(a) Use only on Vega to eastward of bearings 54°T to 130°T.
(b) From 1946 Calibrations
(* Use only when Shore Set is the Drift Station (Freq. 250 mag. cycles).

SHORAN SLOPE CORRECTIONS TO SILO

---- Sheet PI-2148 (H-7644) ----

<u>Dist.</u>	<u>Corr.</u>	<u>Dist.</u>	<u>Corr.</u>
2.00 miles	- 0.010	4.0 miles	- 0.005
2.33 "	- 0.009	5.0 "	- 0.004
2.67 "	- 0.008	6.0 "	- 0.003
3.00 "	- 0.007	7.0 "	- 0.002
3.50 "	- 0.006		

Corrections to be applied:

<u>Ship Positions</u>	<u>Day Letter</u>	<u>Positions</u>
	A	1-60
Launch # 3 Positions	a	1-29
	b	1-70
	c	1-123

STATISTICS FOR HYDROGRAPHIC SURVEY H-7644 (1948)

Ship PIONEER Project CS 218

Ship - PIONEER

<u>Day</u>	<u>Vol. No.</u>	<u>Date</u>	<u>No. Positions</u>	<u>No. St. Mi.</u>
A	1	4 July	60	16.2
B	2	7 July	158	42.5
C	2	27 Sept.	39	7.8

Launch No. 3

a	3	4 June	33	6.9
b	3	11 June	70	23.0
c	3	12 June	123	30.8
d	3&4	26 June	94	22.8
e	4	8 July	91	23.0
f	4	15 July	83	16.8
g	4	16 July	42	9.6
h	5	27 Sept.	14	3.9

Launch No. 4

a	6	27 May	124	21.0
b	7	4 June	64	11.6
c	7	5 June	102	15.0
d	7&8	7 June	181	29.2
e	8	11 June	141	22.1
f	8	12 June	142	19.6
g	9	15 June	187	25.8
h	9&10	17 June	150	26.1
i	10	21 June	179	22.3
j	10&11	26 June	222	34.6
k	11	7 July	212	27.6
l	11	8 July	84	10.0
m	11	8 July	84	10.0
n	11&12	15 July	94	15.0
p	12	16 July	90	11.2
q	12	27 Sept.	30	3.7

SHEET TOTALS: No. of Positions.... 2809
 Statue Miles..... 498.1
 Square Statue Miles. 47.8

ADDITIONAL STATISTICS FOR HYDROGRAPHIC SHEET H-7644 (1949)

Ship PIONEER

Project CS-218

Ship PIONEER

<u>Day</u>	<u>Vol. No.</u>	<u>Date</u>	<u>No. Positions</u>	<u>No. Stat. Mi.</u>
D	13	30 Aug.	14	4.1
		<u>Launch No. 3</u>		
j	14	30 Aug.	141	27.3
		<u>Launch No. 4</u>		
r	15	30 Aug.	155	24.7
1949 Totals			310	56.1

Area Square statute miles 2.2

TIDE NOTE

Project CS - 218

Ship PIONEER

Field Season of 1948

The tide gage at Gertrude Cove, Kiska Island, Aleutian Islands, Alaska, Latitude $51^{\circ}56.2'$ North and Longitude $177^{\circ}27.5'$ East was used for the reduction of all soundings.

A height of 4.4 feet on the tide staff corresponds to mean lower low water (The Director's letter, 36-tmo, dated 31 August 1948 to the Commanding Officer, Ship EXPLORER). No corrections for differences in time or height were applied to the observed tides.

Hourly heights were obtained from the Ship EXPLORER, except for the following periods: August 25-31 and September 24-27, which were obtained from the Washington Office.

7644

TIDE NOTE

Project CS-218

Ship PIONEER

1949 Field Season

Tides for the reduction of soundings were obtained from the Washington Office. These tides have been inferred from observed tides at Sweeper Cove and all necessary time and range differences between Sweeper Cove and Gertrude Cove have been made.

INITIAL AND PHASE CORRECTIONS
TO
Ship's Fathometers

PIONEER

Season of 1949

FATHOMETER
NMC & NMC-2

INITIAL CORRECTION
- 0.1 fms.

808 J #S-108

- 0.1 fms

PHASE CORRECTION

<u>FATHOMETER</u>	<u>SCALE</u>	<u>CORRECTION</u>
808-A	B	- 0.3
ship 69-S	C	- 0.4
	D	- 0.6
<hr style="border-top: 1px dashed black;"/>		
808-J	B	- 0.9
ship #108	C	- 0.8
	D	- 0.3
<hr style="border-top: 1px dashed black;"/>		
808-J	B	- 0.6
Launch #4 #107-S	C	- 0.0
	D	- 0.3
<hr style="border-top: 1px dashed black;"/>		
808-J	B	- 1.4
Launch #3 #129-S	C	- 0.4
	D	- 1.5

VELOCITY CORRECTIONS

1949

808 Fath. Ship & Launches

<u>Corr'n. fms.</u>	<u>Depth fms.</u>
0.0	0.0 to 4.0
-0.1	4.1 to 8.3
-0.2	8.4 to 12.4
-0.3	12.5 to 17.0
-0.4	17.1 to 20.9
-0.5	21.0 to 24.9
-0.6	25.0 to 28.3
-0.7	28.4 to 32.0
-0.8	32.1 to 35.6
-1.0	35.7 to 43.2
-1.2	43.3 to 51.0
-1.4	51.1 to 59.2
-1.6	59.3 to 67.4
-1.8	67.5 to 75.0
-2.0	75.1 to 82.0
-2.2	82.1 to 90.9
-2.4	91.0 to 98.1
-2.6	98.2 to 105.8
-3.0	105.9 to 124.7
-3.5	124.8 to 146.7
-4.0	146.8 to 170.0
-4.5	170.1 to 196.0

VELOCITY CORRECTIONS

1949

NMC & NMC-2 FATHOMETERS

NMC & NMC-2 FATHOMETERS

<u>Corr'n. fms.</u>	<u>Depth fms.</u>	
	0.0	to 65.0
	-0.2	to 102.0
	0.0	103 to 250
plus	0.5	251 to 370
plus	1.0	371 to 450
plus	1.5	451 to 510
plus	2.0	511 to 580
plus	2.5	581 to 630
plus	3.0	631 to 670
plus	3.5	671 to 720
plus	4.0	721 to 760
plus	4.5	761 to 810
plus	5.0	811 to 870
plus	6	871 to 930
plus	7	931 to 1000
plus	8	1001 to 1050
plus	9	1051 to 1095
plus	10	1096 to 1145
plus	11	1146 to 1190
plus	12	1191 to 1235
plus	13	1236 to 1275
plus	14	1276 to 1315
plus	15	1316 to 1355
plus	16	1356 to 1395
plus	17	1396 to 1430
plus	18	1431 to 1460
plus	19	1461 to 1490
plus	20	1491 to 1525
plus	21	1526 to 1555
plus	22	1556 to 1590
plus	23	1591 to 1620
plus	24	1621 to 1650
plus	25	1651 to 1675
plus	26	1676 to 1705
plus	27	1706 to 1730
plus	28	1731 to 1760
plus	29	1761 to 1785
plus	30	1786 to 1810
plus	31	1811 to 1835

<u>Corr'n. fms.</u>	<u>Depth fms.</u>	
plus 32	1836	to 1870
plus 33	1861	to 1885
plus 34	1886	to 1910
plus 35	1911	to 1930
plus 36	1931	to 1955
plus 37	1956	to 1980
plus 38	1981	to 2010
plus 40	2011	to 2120
plus 45	2121	to 2225
plus 50	2226	to 2330
plus 55	2331	to 2430
plus 60	2431	to 2520
plus 65	2521	to 2615
plus 70	2616	to 2700
plus 75	2701	to 2785
plus 80	2786	to 2865
plus 85	2866	to 2945
plus 90	2946	to 3025
plus 95	3026	to 3100
plus 100	3101	to 3170
plus 105	3171	to 3245
plus 110	3246	to 3315
plus 115	3316	to 3385
plus 120	3386	to 3450
plus 125	3451	to 3520
plus 130	3521	to 3580
plus 135	3581	to 3645
plus 140	3646	to 3710
plus 145	3711	to 3770
plus 150	3771	to 3830
plus 155	3831	to 3890
plus 160	3891	to 3945
plus 165	3946	to 4010

APPROVAL SHEET TO ACCOMPANY SURVEY H-7644 (PI-2148)

The field work was supervised closely and the boat sheet was inspected daily while the work was in progress.

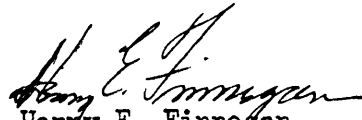
The records have been inspected and have been approved.

The survey is incomplete, there being additional work required off the west coast of Kiska, in the vicinity of Witchcraft Point.

It is intended to complete the necessary additional work as soon as possible after field work is resumed in 1949. It is intended to keep the 1948 boat sheet until this work is completed, and in order that the Processing Office may proceed with the smooth plotting, a bromide copy of the boat sheet will be furnished with the 1948 records.

When the additional work is completed, this report will be amplified as necessary.

ad. wk. completed in 1949



Henry E. Finnegan
Comdr. USC & GS
Commanding, Ship PIONEER

13 January 1949

APPROVAL SHEET TO ACCOMPANY SURVEY H-7644 (PI-2148)

The field work was closely supervised and the boat sheets examined. The records have been inspected and approved.

The survey is considered adequate to supersede prior surveys for charting.


Henry E. Finnegan
CDR., USC&GS
Comdg. Ship PIONEER

MEMORANDUM TO SEATTLE PROCESSING OFFICE LISTING OFFICE WORK
ON SURVEY H-7644 (PI-2148)

Office work done by personnel of Ship PIONEER:

1. Fathograms scanned and verified.
2. Tidal Reducers entered and checked.
3. Velocity Corrections entered and checked.
4. Initial Corrections entered and checked.
5. Phase Corrections entered and checked.
6. Shoran Corrections entered and checked.
7. Shoran Distances corrected and checked.
8. Hydrographic Title Sheet (Form 537)(partially complete).
9. Descriptive Report.
10. Following data submitted to accompany final Descriptive Report:
 - a. Abstract of Statistics.
 - b. Tide Note.
 - c. List of Stations.
 - d. Abstract of Velocity Corrections.
 - e. Abstracts of Initial and Phase Corrections for fathometers.
 - f. Abstract of Shoran Zero Settings.
 - g. Abstract of Shoran Slope Corrections to Station SILO.
 - h. Copy of Letter to Director, "Dangers to Navigation".
 - i. Approval Sheet by Chief of Party.

Office work remaining to be done by Processing Office:

1. Reduction and checking of soundings in Sounding Records.
2. Construction and inking of smooth-sheet projection, the plotting and inking of control stations, and the drawing of the Shoran Distance Circles.
3. Plotting the positions, Visual and Shoran.
4. Penciling the soundings.
5. Drawing the depth curves in pencil.
6. Completion of the Title Sheet (Form 537).
7. Additions to Descriptive Report (if required).

LIST OF INSTRUCTIONS AND SUPPLEMENTAL INSTRUCTIONS
FOR PROJECT CS-218

(To Season of 1949)

-
1. Supplemental Instructions dated 28 February 1936.
 2. Instructions dated 3 February 1938.
 3. Supplemental Instructions dated 28 February 1938.
 4. Amended Instructions dated 1 March 1938.
 5. Supplemental Instructions dated 3 April 1939.
 6. Amendment to Instructions dated 8 May 1940.
 7. Revised Instructions dated 16 April 1943.
 8. Supplemental Instructions dated 1 February 1944.
 9. Supplemental Instructions, Shoreline Inspection, 18 March 1944.
 10. Supplemental Instructions, dated 10 February 1948.
 11. Supplemental Instructions, Photogrammetric Field Surveys, 8 April 1948.
 12. Detail Instructions for Operation of the K-20 Camera (Reference Paragraph 16-D of Instructions dated 8 April 1948).
 13. Report on Experimental Use of Photographs for Establishing Elevations in Alaska. Division of Photogrammetry, April 1949.
 14. Brief Instructions for Operation of the K-20 Camera (Reference Paragraph 16-D of Instruction dated 8 April 1948).
 15. Supplemental Instructions dated 11 April 1949 (To C.O. EXPLORER).

Ship PIONEER, P. O. Box 2039, Oakland 4, Calif.

COPY
776
31-49

27 October 1948

To: The Director
U. S. Coast & Geodetic Survey
Washington 25, D. C.

*original filed
as C.K. 648 (1948)*

Subject: Dangers to Navigation

In addition to dangers reported in letter of 20 August 1948, the following principal dangers and shoals are reported. They were discovered by the past season's surveys in the Rat Islands, Aleutian Island Project CS - 218.

N. A. Datum - 1927

Depth (fathoms)	Latitude (North)	Longitude (East)	Dist. (N.Mi.)	Bearing (True)	Reference landmark and Remarks
3.0	51-59.55	178-17.55	0.35	38	N. end Khvostof Island
6.5	51-58.98	178-19.46	0.37	18	N. end Pyramid Island
2.5	51-58.30	178-18.90	0.63	353	N. end Pyramid Island
9.0	51-58.11	178-22.42	0.35	40	E. end Davidof Island
4.2	51-58.68	178-15.60	0.33	228	W. end Khvostof Island
Rock Awash	51-58.80	178-26.72	0.13	322	Tip of peninsula, S. of William Cove, N.W. side of Little Sitkin Island. (See Chart 8264)
11.0	52-00.47	178-29.69	0.80	344	Islet, N.E. of Williwaw Cove, N. end Little Sitkin Island.
2.5	52-03.70	177-52.30	7.60	26	Center Tanadak Island. (Shoal- est spot Mc Arthur Reef.)
* 3.0	52-04.42	177-30-82	1.63	23	Witchcraft Point {disproved by '49 handlead work}
* 2.8	52-04.70	177-29.76	1.80	00	Witchcraft Point. (Shoalest depth obtained in extensive shoal area extending approx. 2 miles NNW of Witchcraft Pt. Very thick kelp and tide rips in this area.)
<i>See L 876 (1949) and not verified least depth in area 6.8 fms (hand lead)</i>					
* 6.0	52-00.52	177-27.83	2.68	206	Witchcraft Point
* 6.8			0.10	170 180	Above 6 fm. spot
* 10.8	52-00.98 52-01.00	177-29.08 177-29.05	1.96	194	Witchcraft Point

* Applicable to H-7644

Copy

7128
8-30-49

N.A. Datum - 1927

Depth (fathoms)	Latitude (North)	Longitude (East)	Dist. (N.Mi.)	Bearing (True)	Reference landmark and Remarks
* 6.0 5.7	52-01.10	177-29. ⁴⁶ 52	1.81	185	Witchcraft Point
* 2.0 1.8	52-00.10	177-36.12	2.08	321	Little Kiska Head

From further investigation in the eastern part of the pass between Sea Lion Rock and Rat Island, the following dangers are reported:

2.0	51-50.12	178-06.85	5.62	119.7	Sea Lion Rock
0.8	51-50.08	178-11.75	8.41	109.5	Sea Lion Rock <i>Not on Sigsbee 9180 2² fms on H 7646</i>

The following charts are affected:

9124, 9155, 9180, 8864, 9102.

SIGNED - HENRY E. FINNEGAN

Henry E. Finnegan
Commanding Ship PIONEER
By George A. Nelson
Executive Officer

* Applicable to H-7644

U.S.C. & G.S.S. PIONEER

P.O. Box 2039

Oakland, California

Copy of C.L. 876 (1949)

1 November 1949

To: The DIRECTOR
U.S. Coast & Geodetic Survey
Washington 25, D.C.

Subject: Dangers to Navigation

Reference: Letter from Comdg. Officer Ship PIONEER to
Director dated 27 October 1948.

The additional work done on the west side of Kiaka Island during the 1949 field season indicates that the 10th item reported in referenced letter listed as follows is in error and should be cancelled. ✓

Depth fms.	Latitude (North)	Longitude (East)	Dist. N.M.	Bearing True	Reference Landmark and Remarks
2.0 ↑ rejected	52-04.70	177-39.76	1.80	000	Witchcraft Point. (Shoalest depth obtained in extensive shoal area extending approx. 2 miles NW of Witchcraft Pt. Very thick kelp and tide rips in this area.)

The above shoal was sealed from the fathogram but not verified by hand lead.

The shoalest spot found in 1949 using hand lead was 6.8 fms. Since no hand lead investigation was made in 1948 it is recommended that the 1949 sounding be used for charting. ✓

Henry E. Finnegan
CIR., USC&GS
Comdg. Ship PIONEER

H 7644 Pi 2148
North part of Kiska Island

Processing office notes.

Smooth sheet.

The projection is hand made on K & E paper N 124 H. The triangulation is chiefly from work of Finnegan 1948, field computations. Other stations are from Vol. 5, Adjusted Triangulation of Alaska, pages 264, 5, 6, 270, 2, 8, and 417. Topographic stations are from T 7077, 8 & 9. (Review, par. 1)

To control the Shoran distance circles points were computed on radii from Silo at 4 and 8 statute mile intervals and from Vega at 12 and 24 miles. One mile spaces were carefully stepped off along the radii and the distance circles were swung thru these points.

No suitable shoreline was available, except T 8632 south of the sounded area. (Review, par. 1)

Important soundings.

These items have been indicated with arrows on the smooth sheet. Note the questioned sounding of 6.6 fathoms at Lat. 52 04.8 Long. 177 28.6. The fathogram is uncertain. (Review, par. 7c.) The depth is believed to be three fathoms deeper. To eastward of this sounding is an area of about a square mile where shoals, kelp and tide rips were found. It was not better developed at the time on account of dangerous rips.

Boatsheet.

This was retained by the field party for further use in 1949, especially for more attention to the large shoal area mentioned in the paragraph above, and to fill in the unsounded area south and east of it.


Edgar D. Smith
Cart. Engr.

8/10/49

H 7644
P1 2148

North Part Kiska Island
Additional Work of 1949.

Processing Office Notes.

1 D to 14 D Vol.13

Lat. 52 08.7 Long. 177 36.2. These positions plotted well and the line seems good. The crossing with the B day line was not satisfactory. The D day line was re-scanned. Positions 16B and 17B were shifted slightly to southward (which incidentally straightened the B day line). This made the crossing good. As the fathograms for the B day line are in Washington it is suggested that these soundings be re-scanned at that point. (re-scanned & found O.K.)

Detached soundings

Launch 3 j day Vol.14

Several detached positions near the previously found 6.1 fathom sounding at Lat. 52 00.5 Long. 177 27.8 were not plotted because they were deeper than 6.1 fathoms.

Crossings.

Except as noted, good ~~to fair.~~

Smooth sheet.

This was returned from Washington for plotting the additional work of 1949. No signals added.

Edgar E. Smith
Edgar E. Smith
Cart. Engr. 3 Jan. 1950

~~← rejected~~
2.8 Fathoms at Lat. 52 04.70 Long 177 29.76

This sounding was not verified when an examination was made by hand lead the following season. See copy of letter of Commanding Officer to Director dated 1 November 1949 which is attached to descriptive report. As the smoothsheet leaves the processing office the sounding has not been removed. The shoalest sounding found by hand lead in 1949 was 6.8 fathoms at Pos. 89 r day, P 18 Vol 15. It is presumed that the 6.8 shoalest sounding requires the rejection of other soundings listed below since they are within the area of the hand lead examination.

rejected on smooth sheet {
3.2 Fms. Lat. 52 04.78 Long 177 29.80
3.2 04.81 29.86
4.2 04.83 29.92
4.7 04.90 30.06

*Sdgs. read on
Kelp and should
be disregarded
R.H.C.*

As the records of these soundings proposed for rejection are in the Washington office the matter is left for examination and decision by verifiers and reviewers.

U. U. S.

GEOGRAPHIC NAMES

Survey No. H-7644

Name on Survey	Sources										No.	
	A	B	C	D	E	F	G	H	K			
<u>Alaska</u>			(for title)								1	
<u>Alutian Islands</u>			"	"							2	
<u>Rat Islands</u>			"	"							3	
<u>Kiska Island</u>									USGB		4	
<u>Bering Sea</u>									"		5	
											6	
<u>North Head</u>									USGB		7	
<u>Salmon lagoon</u>									"		8	
<u>North Pass</u>											9	
<u>Reynard Cove</u>									USGB		10	
<u>Sredni Point</u>									"		11	
<u>Sredni Bight</u>			(Special Names Report recommended Bight over Bay)									12
<u>McArthur Pass</u>											13	
<u>Haycock Rock</u>									USGB		14	
<u>Northeast Rocks</u>											15	
<u>Sirius Point</u>									USGB		16	
<u>Vulcan Point</u>									"		17	
<u>Witchcraft Point</u>									"		18	
											19	
											20	
											21	
											22	
											23	
<u>Gertrude Cove</u>			(location of tide gage)									24
											25	
											26	
											27	

Names underlined in red are approved.
7-21-49 L. Heck

GEOGRAPHIC NAMES

Survey No. H-7644
('49 Wk.)

Name on Survey											
	A	B	C	D	E	F	G	H	K		
											1
											2
											3
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See original list of names approved for
1948 sheet. No additional names

H.M.
2-6-50

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7644 (1948-49)

Records accompanying survey:

Boat sheets	3 (1949)	;	sounding vols.	12 (1948)	;	wire drag vols.	.....
	15 total						
bomb vols.		;	graphic recorder rolls	26 encl. (1948)	;		
				3 (1949)	;		
special reports, etc.				29 " total			

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

Number of positions on sheet	.....	3119
Number of positions checked	.....	80
Number of positions revised	.....	24
Number of soundings revised (refers to depth only)	.....	40
Number of soundings erroneously spaced	.....	—
Number of signals erroneously plotted or transferred	.....	—
Topographic details	Time	..... 1/2
Junctions	Time	..... 20
Verification of soundings from graphic record	Time	..... 16

(Combined statistics for 1948-49 work)

Verification by *[Signature]* Total time 217 Date 12 May 1950

Reviewed by *[Signature]* Time 32 Date 6 Sept. 1950

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

September 22, 1949

~~Division of Hydrography and Topography:~~

Division of Charts: R. H. Carstens

Plane of reference approved in
12 volumes of sounding records for

HYDROGRAPHIC SHEET 7644

Locality Kiska Island - Rat Island, Aleutian Islands

Chief of Party: H. E. Finnegan 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.~~

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~

8 February 1950

Division of Charts: R. H. Carstens

Plane of reference approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET 7644

Locality Kiska Island, Aleutian Islands

Chief of Party: H. E. Finnegan in 1949
Plane of reference is mean lower low water, reading
3.0 ft. on tide staff at Sweeper Cove
7.0 ft. below B. M. 1 (1943)

Height of mean high water above plane of reference is 3.7 feet.

Condition of records satisfactory except as noted below:

E. C. McKay
Section

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

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

TOPOGRAPHIC TITLE SHEET

Each Topographic and Graphic Control Sheet, and each Air Photographic Drawing should be accompanied by this form, completed so far as practicable, when forwarded to the Washington office.

REGISTRY No. T-7077

Field No. PI - A - 48

Scale 1:20,000

State Aleutian Islands General locality Rat Islands

Specific locality West side of Kiska Island

Dates: Survey began MAY 1948 Completed JUNE - 1948

Photography, Supplemented by ground surveys to supplemental Inst. 2-10-48 & 4-8-48

Project No. CS - 218 Instructions dated Original Instructions 3 February - 1938

Vessel } or Ship PIONEER Chief of party Henry E. Finnegan

Field work by G.A.N. & G.R.F. Office work by G.R. F.

Final inking by S.D.P.

Ground elevations } in feet above { M. H. W.
Treetop elevations } or {

Contours } by { Planetable } Interval ft.
Approximate contours } Multiplex }
Form lines }

REMARKS Graphic Control Sheet - no shoreline. Sheet retained for use of
Photogram' div. in radial-line plots of Kiska Island after
which it is to be destroyed

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

TOPOGRAPHIC TITLE SHEET

Each Topographic and Graphic Control Sheet, and each Air Photographic Drawing should be accompanied by this form, completed so far as practicable, when forwarded to the Washington office.

REGISTRY No. T - 7078

Field No. PI - B - 48

Scale 1: 20,000

State Aleutian Islands General locality Rat Islands

Specific locality North End of Kiska Island

Dates: Survey began MAY - 1948 Completed JUNE - 1948

Photography _____, Supplemented by ground surveys to _____
Supplemental Inst. 2-10-48 & 4-8-48

Project No. CS - 218 Instructions dated Original instructions 3 February -- 1938

Vessel } or Ship PIONEER Chief of party Henry E. Finnegan
Party }

Field work by G.A.N., G.R.F., S.D.P. Office work by G.R.F.

Final inking by S.D.P.

Ground elevations } in feet above { M. H. W.
Treetop elevations } or { _____

Contours } by { Planetable } Interval _____ ft.
Approximate contours } { Multiplex }
Form lines }

REMARKS Graphic Control Sheet - no shoreline. Sheet retained for use of

photogram' elev. after which it is to be destroyed.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

TOPOGRAPHIC TITLE SHEET

Each Topographic and Graphic Control Sheet, and each Air Photographic Drawing should be accompanied by this form, completed so far as practicable, when forwarded to the Washington office.

REGISTRY No. T - 7079

Field No. PI - C - 48

Scale 1: 20,000

State Aleutian Islands General locality Rat Islands

Specific locality East Side of Kiska Island

Dates: Survey began MAY - 1948 Completed JUNE - 1948

Photography, Supplemented by ground surveys to Supplemental Inst. 2-10-48 & 4-8-48

Project No. CS - 218 Instructions dated Original instructions 3 February - 1938

Vessel } or Ship PIONEER Chief of party Henry E. Finnagan

Field work by G.R.F. & H.W.K. Office work by G.R.F.

Final inking by S.D.P.

Ground elevations } in feet above { M. H. W.
Treetop elevations } or {

Contours } by { Planetable } Interval ft.
Approximate contours } Multiplex }
Form lines }

REMARKS Graphic Control Sheet - no shoreline - Sheet retained for use
of Photogram' strip, after which it is to be destroyed

DESCRIPTIVE REPORT TO ACCOMPANY GRAPHIC CONTROL SURVEYS

T-7077 (PI-A-48), T-7078 (PI-B-48), T-7079 (PI-C-48).

Project CS-218

Field Season 1948

Ship PIONEER

H.E. Finnegan, Chief of Party

Aleutian Islands

Rat Islands

North Coast of Kiska Island

INSTRUCTIONS:

Original instructions were dated 3 February 1938 and applicable supplemental instructions were dated 1 March 1938, 10 February 1948, and 8 April 1948.

LIMITS:

These surveys were made for the purpose of locating the hydrographic signals on the north end of Kiska Island (north of Latitude 52°--00'). The respective limits of the individual surveys are as follows:

- T-7077 - Northwest side of Kiska Island.
- T-7078 - Northeast side of Kiska Island and a small area on the northwest side of the island in the vicinity of West Kiska Lake.
- T-7079 - East side of Kiska Island (north of Lat. 52--00 and in the vicinity of Reynard Cove).

CONTROL USED:

An arc of third-order triangulation was run from the east to the northwest coast of Kiska Island in 1948. The triangulation stations located by this scheme and triangulation stations established in prior years and adjusted to the N.A. 1927 datum were used as control for locating signals on these sheets.

METHODS OF LOCATING SIGNALS:

The hydrographic signals were located by various methods, such as: plane-table methods, geodetic methods (theodolite cuts), air photographs, sextant observations (intersection of cuts), and a combination of the above methods. All stations, regardless of the method of location, have been plotted and verified on graphic control sheets, and it is not considered that any further plotting will be necessary. On the list of stations for the hydrographic surveys, the registry numbers of the pertinent graphic control sheets have been noted.

There is listed below the methods used to locate the hydrographic signals on the various graphic control surveys for which this report is written:

T-7077

Signal SIR at the north end of Kiska Island was located by sextant cuts taken from the Ship PIONEER and plotted on control sheets T-7077 and T-7078, and later combined. These cuts were verified by radial lines from selected U.S. Navy 1935 Photographs.

Signal VER is on the end of a prominent headland. Sextant cuts were taken to this headland before a white wash was placed on the point. The white wash was located by radial lines from selected U.S. Navy Photographs, and verified by the sextant cuts to the point.

Signals EMO and KEY were located by sextant cuts from the vicinity of triangulation stations VULC 1948 and BLUFF 1948 supplemented by sextant cuts from a hydrographic launch. The remainder of the signals around the northwest end of the island were located by sextant cuts from the Ship PIONEER and from a hydrographic launch.

At the southwest end of the control sheet the signals in red were located by the intersection of theodolite cuts from the vicinity of BUN 1948 and plane-table cuts from a three-point fix on the point in the vicinity of TUNA 1948, supplemented by sextant cuts taken from the Ship PIONEER. The signals inked in blue were located by sextant cuts from the Ship PIONEER.

T-7078

All signals on the western part of this sheet (between BLUFF 1948 and TUNA 1948) were located by plane-table, either by three-point fixes or by cuts from plane-table stations located by three-point fixes.

Signal SIR at the north end of Kiska Island was located by sextant cuts taken from the Ship PIONEER and plotted on control sheets T-7077 and T-7078, and later combined. These cuts were verified by radial lines from selected U.S. Navy Photographs taken in 1935.

On the east coast a plane-table traverse was run north from GRAS 1948 to Signal DRY by Lieut.-Comdr. G.A. Nelson. Theodolite cuts from GRAS and plane-table cuts were obtained on signals north of signal DRY. Radial line cuts were obtained from U.S. Navy Photographs taken in 1935, and sextant cuts were taken from the Ship PIONEER. The final locations of the signals are based on a consideration of all factors. Signal ANT agreed with the traverse location, but signal DRY had to be moved northwest about ten meters.

South of GRAS 1948 (Lat. 52--06.8) the signals were located by theodolite cuts and plane-table cuts from triangulation, supplemented by radial line cuts from nine lens photographs taken in 1947, and by sextant cuts taken from a hydrographic launch.

⁷⁹
T-7077

Signals ZOO, WAR, VEX, UNO, and FIN were cut in by theodolite from LITTLE 1904, and signals NIX and MAL were cut in by theodolite from AGE(USE) 1943. Additional cuts on these signals were obtained from nine lens photographs taken in 1947, the photographs being fixed by three or more triangulation stations. Signals SKY and KID were located by cuts from nine lens photographs. Signal QUA was located by sextant cuts from a hydrographic launch.

The remainder of the signals were located by at least two theodolite or plane-table cuts from triangulation stations or plane-table positions fixed by three-point method, and verified by cuts from nine lens air photographs. ✓

INDEX OF SEXTANT CUTS:

The sextant cuts to the hydrographic signals plotted on these graphic control sheets are indexed as follows:

Hydrographic Survey H-7644 (PI-2148); Page 4, Volume 1; and Page 2 of Volumes 2, 4, 6, 7, 8, 9, 10, 11. ✓

Hydrographic Survey H-7649 (PI-4148); Page 2, Volume 1.

LANDMARKS:

(See special report on "Landmarks"). C.L. 160 (1949)

LIST OF NEW NAMES:

(See special report on "Geographic Names").

LIST OF PLANE-TABLE POSITIONS:

Signal^{*} SIR is not marked, but is recoverable. A DESCRIPTION OF RECOVERABLE TOPOGRAPHIC STATION card is included with this report. ✓

Signals^{*} LAKE and^{*} HUMP are marked topographic stations and description cards are being forwarded with this report. * *filed in Photogrammetry under H-7644* ✓

Most of the signals plotted on these control sheets have been spotted on the field inspected air photographs and some of them can be recovered by the use of the photographs. ✓

PERSONNEL AND DATES OF FIELD WORK:

T-7077

Plane-table work was by Lieut.-Commanders G.A. Nelson and G.R. Fish. The sextant cuts were taken by various ship's officers. ✓

T-7078

Plane-table work on the east coast was by Lieut.-Comdr. G.A. Nelson, that on the west coast was by Lieut.-Comdr. G.R. Fish and Ensign S.D. Parkinson. Other work was by various ship's officers. ✓

T-7079

Plane-table work was by Lieut.-Comdr. G.R. Fish and Ensign H.W. Keith. Other work was by various ship's officers. ✓

Most of the field work on these sheets was accomplished in May and June 1948. ✓

Three acetate sheets, which were used for radial line plots, were prepared by Lieut.-Comdr. G.R. Fish and are being forwarded to the Seattle Processing Office for general information.

Respectfully submitted:

Ernest B. Lewey
 Ernest B. Lewey
 Lt. Comdr. USC&GS

Approved:

Henry E. Finnegan
 Henry E. Finnegan
 Comdr. USC&GS
 Chief of Party

At sta. LAKE { ϕ 52° 03' 1152.0 m.
 λ 177° 31' 684.0 m.

Declination 5° 15' E (scaled from G.C. sheet)

4 June 1948
 1330 (180 Mar. Time)
 Declinatoire No. 248

248

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7644

FIELD NO. PI-2148

Alaska-Aleutian Islands, Rat Islands, North Part Kiska Id.
Surveyed in May - September 1948 & Aug. 1949 Scale 1:20,000
Project No. CS-218

Soundings:

Control:

NMC & NMC-2 Fathometers
808 Fathometer
Hand lead

Shoran
Sextant fixes on shore signals

Chief of Party - H. E. Finnegan

Surveyed by - G. A. Nelson, G. R. Fish, E. B. Lewey, P. A.
Weber, C. A. George and C. J. Beyma

Protracted by - C. R. Lehman

Soundings plotted by - C. R. Lehman

Verified and inked by - L. V. Evans III

Reviewed by - T. A. Dinsmore, 6 September 1950

Inspected by - R. H. Carstens

1. Shoreline and Signals

No contemporary shoreline is available for this area at the present time.

The signals originate with graphic control surveys Pi-A, B and C (Field numbers) of 1948 which are designated for destruction subsequent to the verification and review of the present survey.

2. Sounding Line Crossings

Considering the bottom irregularities, depths at crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated except close inshore where heavy kelp beds and the foul character of the bottom prevented development to the low-water line. The 60, 70, 80-and 90-fm. depth curves have been added to aid in defining more clearly the configuration of the off-shore bottom.

Except for irregularities inshore, the bottom is relatively smooth. Attention is directed to the kelp-infested shoal area which extends for two miles offshore northwest of Witchcraft Point.

4. Junctions with Contemporary Surveys

Adequate junctions were effected with the following surveys:

H-7651 (1948) on the north
H-7649 (1948) on the northeast
H-7645 (1948) on the east
H-7712 (1948) on the south (east side of island)
H-7625 (1947-48) on the southwest
H-7596 (1947) on the west and north

The junctions with H-7708 (1948) on the southeast and H-7707 (1947-48) on the south (west side of island) will be considered in the reviews of those surveys.

5. Comparison with Prior Surveys

a. H-2701 (1904) 1:20,000

This early reconnaissance survey covers an offshore portion of the present survey on the southeast. The prior depths are generally within 1-2 fms. of present depths.

The rock awash charted (Kiska datum) in lat. $52^{\circ} 00.22'$, long. $177^{\circ} 35.95'$, from H-2701 should be disregarded. This locality was thoroughly investigated on the present survey at low water by drift sounding with the hand lead. The least depth revealed by the present investigation is 1.8 fms. which is recommended for charting.

b. H-6900 (1935) 1:30,000 and H-6902 (1935) 1:60,000

These prior surveys by the U. S. Navy cover the area of the present survey except for the inshore area surrounding the north end of Kiska Island which has not been previously surveyed.

In general, few differences were noticed between prior and present depths. Where appreciable differences were noticed, they are attributed to the weak control of the prior surveys and the steep slope of the bottom. In several instances, it is apparent that a slight shift in position of the prior sounding lines would effect agreement between the prior and present depths.

Major discrepancies between prior and present depths are noted as follows: (positions are on Kiska datum)

- (1) The 8-fm. sounding charted in lat. $52^{\circ} 03.80'$, long. $177^{\circ} 30.15'$, from H-6902 falls in depths of 21 fms. on the present survey. The prior sounding is considered to be displaced in position and should actually fall about 450 meters southward where comparable depths were obtained on the present survey. Present development is adequate to discredit the prior sounding which should be disregarded.
- (2) The 34-fm. sounding charted in lat. $52^{\circ} 03.20'$, long. $177^{\circ} 40.8'$, from H-6900 falls in depths of 50-54 fms. on both the prior and present surveys. The unsupported 34-fm. sounding was probably recorded 20 fms. too shoal and should actually be 54 fms. It is recommended that the 34-fm. depth be disregarded.

Several bottom characteristics have been retained from the prior surveys. With these additions, the present survey is adequate to supersede the prior surveys within the common area. For charting purposes, inshore rocks (awash and sunken) should be retained from the prior surveys until shoreline detail from air photographic surveys is available for this area.

6. Comparison with Chart 9180 (Latest print date 12/18/44)

A. Hydrography

Charted hydrography originates principally with the prior surveys which need no further consideration. Several critical soundings have been applied to the chart by hand correction from advance information of the present survey contained in Chart Letters 648 (1948) and 876 (1949). Some of the critical soundings and numerous others on the present survey have been revised in depth during verification and review. The present survey soundings, therefore, supersede the charted information.

B. Aids to Navigation

No aids to navigation are charted 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 satisfactory.
- c. The unsupported 6.6-fm. sounding in lat. 52° 04.78', long. 177° 28.68', on the present survey is of questionable depth. Falling in depths of 12 fms. the sounding may be on kelp as the fathogram shows no well-defined separation. Inasmuch as the immediate area is undeveloped the sounding is retained until further investigation can be made.


8. Compliance with Project Instructions


The survey adequately complies with the Project Instructions.


9. Additional Field Work


This is considered a basic survey. However, attention is directed to the questionable 6.6-fm. sounding noted in paragraph 7c above and to the widely spaced sounding lines east and west of Sirius Point. In the latter instance, additional split lines would aid in delineating the 100-fm. depth curve more accurately.

Examined and approved:


H. R. Edmonston
Chief, Nautical Chart Branch


R. W. Knox
Chief, Division of Charts


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Chief, Section of Hydrography


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Chief, Division of Coastal Surveys

NAUTICAL CHARTS BRANCH

SURVEY NO. H-7644 (1948-49)

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
7/27/50	8864	<i>GAE</i>	<i>Partially applied</i> Before After Verification and Review
11/1/50	9180	<i>SAM</i>	Before <u>After</u> Verification and Review <i>Partially applied</i> <i>Critical soundings only.</i> Before After Verification and Review
11/7/50	9153	<i>SAM</i>	Before <u>After</u> Verification and Review <i>Part applied</i> <i>Critical soundings only</i>
8/3/51	9124	<i>Ricgaric</i>	Before After Verification and Review <i>Part. applied.</i>
11/18/54	^{Recor} 9124	<i>C.R. Wittman</i>	Before After Verification and Review <i>(fully)</i>
7/2/55	9180 ^{recor}	<i>C.R.W.</i>	Before After Verification and Review <i>3/11/61</i>
5/23/57	9102	<i>C.R. Wittman</i>	Before After Verification and Review <i>Ver. with reconstr. ch. 9180 3/11/61</i>
11/16/61	8864	<i>ME</i>	Before After Verification and Review
			Before After Verification and Review

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.