

6937

Diag'd. on diag. ch. No. 9198

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. Su-2843 Office No. H-6937

LOCALITY

State Alaska

General locality Aleutian Islands

Locality Semichi Islands

194 3-44

CHIEF OF PARTY

L.C. Wilder, C.D. Meaney

LIBRARY & ARCHIVES

DATE

6937

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REG. NO. H6937
H7000

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. SU-2843.....

REGISTER NO. H-6937 and ~~H-7000~~

State ALASKA

General locality..... ALEUTIAN ISLANDS

Locality..... SEMICHI ISLANDS

Scale 1:20000 Date of survey Nov. 9 - 26, 1943
June 25 - Sept. 28, 1944

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

Chief of Party L.C. WILDER and C.D. MEANEY

Surveyed by C.D. MEANEY, L.C. WILDER, L.S. HUBBARD, J.C. BOSE,
W.F. MALNATE, C.A. GEORGE, & R.H. RANDALL.....

Protracted by P.M. Fisher and W.M. Martin

Soundings penciled by W.M. Martin

Soundings in fathoms ~~feet~~

Plane of reference MLLW

Subdivision of wire dragged areas by

Inked by A. R. STIRNI

Verified by A. R. STIRNI

Instructions dated CS-218, Feb. 3, 1938, 19.....

Revised instructions, April 16, 1943, Supplemental

~~Revised~~ Instructions April 1, 1944 & Feb. 1, 1944

Liason Officer's Instructions dated March 25, 1944

& May 17, 1944, Project 2.....

DESCRIPTIVE REPORT

To Accompany

HYDROGRAPHIC Sheet, Field No. H-6937 & H-7000

SEMICHI ISLANDS

ALEUTIAN ISLANDS - ALASKA

Scale: 1:20,000

U.S.C. & G.S.S. SURVEYOR

L.C. Wilder, Cmdg. - 1943

C.D. Meaney, Cmdg. - 1944

PROJECT

The authority for this survey is contained in the Director's Instructions for Project CS-218, dated Feb. 8, 1938. Supplemental instructions for the work around the Semichi Islands were written by the Liaison Officer at G.H.Q., 17th Naval District, Project Number II, dated May 17, 1944.

SURVEY LIMITS AND DATES

This sheet covers the area surrounding the Semichi Islands between the offshore limits of latitudes $52^{\circ} 49' N$ and $52^{\circ} 38' N$, and between Longitudes $173^{\circ} 47' E$ and $174^{\circ} 15' E$. It extends to the shoreline of Nizki Island and Alaid Island; to the inshore sheet, number H-6999, surrounding Shemya Island, sheet number 6974 around Alcan Cove, and sheet number H-6988 covering the passes between Nizki Island and Shemya Island.

Field work was executed from Nov. 9 to Nov. 26 in 1943 and from June 25 to September 28 in 1944.

The outer limits of this sheet make a junction on all sides with sheet, field number SU-6936, executed in 1943 on a scale of 1:100,000.

VESSEL AND EQUIPMENT

Most of the hydrography on this sheet was executed by the SURVEYOR. An area of very broken bottom southeast of Shemya Island and the in-shore area around Alaid and Nizki Islands were sounded by the ship's hydrographic launches #2 and #4, operating from the ship.

The turning radius of the SURVEYOR with a hard over helm is about 200 meters.

The SURVEYOR used the Dorsey III fathometer, serial number 40, the 808 fathometer No. 52 and Navy NMC fathometer #52. The Dorsey III Fathometer and 808 depth recorder were standardized for a velocity of sound of 820 fms. per second. The NMC recorder is standardized for a velocity of sound of 800 fms. per second.

Whenever possible the soundings were taken with the Dorsey III fathometer, operating the NMC fathometer at the same time to obtain a graphic check on the soundings and thus prevent the reading of the numerous stray flashes on the Dorsey III fathometer as soundings.

In depths greater than 200 fathoms the NMC fathometer was used, graphic results being obtained in all depths.

In depths between 10 and 50 fathoms, the 808 fathometer was used for sounding in conjunction with the Dorsey III fathometer.

The initial impulse of the Dorsey fathometer was set on all selectors for a draft of 14 feet.

The initial impulse of the 808 fathometer on the SURVEYOR was set for a draft of 14 feet.

The recording device of the NMC fathometer was set for zero draft, that is, the record shows the depth under the ship's keel. The visual depth indicator of the NMC was set for a draft of 14 feet.

A frequency meter was installed on the NMC fathometer. The reading of this meter was recorded once every page in the sounding records. The readings never varied more than two tenths of one per cent from 60 cycles per second.

The depths as determined by all fathometers were compared with each other and the depth obtained by wire sounding.

Serial temperatures and salinities were taken at the beginning and end of the field season for the purpose of obtaining velocity corrections to the soundings.

TIDE STATIONS

A portable automatic tide gage was maintained at the east dock in Alcan Harbor, on the north side of Shemya Island.

A separate tide staff, at the same location, was read half hourly by personnel of the U.S.E.D. during most of the period of the survey.

All tide reducers are based on the height of tide at Alcan Cove.

During short intervals when tidal records at Alcan Cove were missing, the tidal records of Massacre bay were used.

SMOOTH SHEET (Processing Office will write this subject).

CONTROL STATIONS

A scheme of second order triangulation covering the Semichi Islands was executed in 1944 by the SURVEYOR. This scheme was connected with the main scheme of triangulation of Attu Island and the base located at Massacre Bay.

Connections were also made to a local scheme of triangulation and traverse on Shemya Island executed by the U.S. Army Engineers.

The combined schemes of triangulation are based on the Gannet USN-1934 datum.

The main scheme of triangulation was executed in 1943 by the U.S.S. HYDROGRAPHER, W.M. Scaife Commanding, by the U.S.C. & G.S.S. EXPLORER, G.C. Mattison, Commanding and by U.S.E.D., Norman Sylar in charge.

Additional observing was done in 1944 by the U.S.C. & G.S.S. EXPLORER, R. Horne, Commanding.

Topographic stations were located by standard planetable methods. The positions of most topographic stations were also obtained by triangulation cuts and computations. Topographic sheets Nos. T-6931a, T-6931b, T-6932 and T-6964 cover this area.

In the fall of 1943, a topographic base-line was established at the east end of Alaid Island. This was expanded by sextant cuts through a system of hydrographic signals to connections with the triangulation stations at the east and west ends of the area, stations Alaid - 1943 and Shemya - 1943. Practically all of the hydrographic stations used in the 1943 field season were recovered and incorporated in the 1944 control system.

Many of the 1944 hydrographic signals at the west part of Alaid Island were located by sextant cuts and plotted on the boat sheets. These signals were later relocated by plane table for use on the smooth sheet.

A number of hydrographic buoys were used for visual control off the east and west shores of the Semichi Islands. These were located by 3 point fixes on shore stations or other hydrographic buoys.

The data concerning all buoys were kept in a buoy book.

No allowance for buoy scope was made because of uncertainty concerning tidal currents. *See processing office report.*

ADEQUACY OF SURVEYS

The soundings of the area covered are complete. There is an indication of a shoal off the south limit of sheet 7000 in Latitude $52^{\circ} 33'$ and Longitude $174^{\circ} 08'E$ which needs further development. There were no previous surveys of this area.

Sufficient bottom samples were taken in the area north of the islands to delineate the limits of various types of bottom. Very few bottom samples were taken on the south side of the islands, however, and more should be taken at some future date.

The area well west and south east of Shemya Island was controlled by visual fixes on hydrographic buoys. Due to the buoy scope and uncertain direction of the tidal currents this control is not so accurate as that for the remainder of the sheets.

CROSSLINES

(This paragraph should be revised after the smooth sheet is plotted)

About ten per cent of the hydrography consists of crosslines.

Most of the crossings check between 2 and 4 per cent.

A few poor crossings in deep water were noted on the boat sheets. These should be further investigated and reported upon after the smooth sheets are plotted. Many of these are located on steep slopes. These crossings are located as follows:

Latitude 52° - 46.2'
52° - 46.6'
52° - 47.8'

Longitude 174° - 13.7' ^{H-7000}
174° - 11.7' }
174° - 12.7' } *These look reasonable on smooth sheet.*

COMPARISON WITH PRIOR SURVEYS AND CHARTS

Previous to this survey only a few scattered soundings shown on chart 9102, existed. Due to the lack of control prior to the present survey the soundings in this area shown on chart 9102 should be rejected.

A reconnaissance survey of Alcan Harbor was made by the U.S.S. HYDROGRAPHER early in 1943. This survey is in Latitude 52° - 45.5' between longitudes 174° - 04' and 174° - 06'E. Because of the more accurate control of the present survey, the present soundings superseded the sounding of the reconnaissance survey. ^{H-7000}

The area south of Nizki Island was partly sounded by the U.S.S. ENGSTROM in 1943 while working in conjunction with the SURVEYOR. Soundings taken by the SURVEYOR in 1944 did not check some of these soundings. The lines of doubtful soundings were rerun by a ship's launch.

DANGERS AND SHOALS

Sheet 6937-

The most dangerous shoal in the area of this sheet is the 1 1/2 fathom spot 1 mile west of Alaid Island. This breaks in moderate seas. A reef with a least depth of 1/2 fathoms lays two tenths of a mile south east of the 1 1/2 fathom spot.

Numerous inshore reefs fringe the coast of Alaid and Nizki Islands. The most dangerous of these are a 2 fathom spot and a 3 fathom spot one half mile north of the east end of Nizki Island. See H-6998

The following dangerous shoals were found:

- 1 $\frac{1}{2}$ fms. - lat. 52° - 46.7' long. 173° - 50.4'E breaks in moderate weather, no kelp.
- 4 $\frac{3}{8}$ fms. lat. 52° - 46.6' long. 173° - 50.8'E least depth on extensive shoal.
- 5 $\frac{1}{2}$ fms. lat. 52° - 45.9' long. 173° - 57.6'E
- 2 $\frac{1}{2}$ fms. lat. 52° - 45.9' long. 173° - 58.2'E
- Submerged ^{in weather} rk. lat. 52° - 45.1' long. 174° - 01.1E Breaks in most weather.
- 4 fms. lat. 52° - 43.2' long. 174° - 00.3' Breaks in moderate weather. See H-6998
- 5 $\frac{1}{2}$ fms. lat. 52° - 43.1' long. 174° - 00.5' South end of ledge extending from shore.
- 2 $\frac{1}{2}$ fms. lat. 52° - 43.5' long. 173° - 58.5' South end of ledge extending from shore.

Sheet 7000

Most of the shoals around Shemya Island were inshore of the area covered by sheet 7000. They were developed on sheet H-6999.

The shoal ledge extending off the southeast end of Shemya Island continues into the area covered by sheet 7000. Several submerged rocks which break in moderate weather lay there. See also report H-6999 } H-7000

A 4 fathom spot lays 2 $\frac{1}{2}$ miles south of the east end of Shemya Island.

The following dangerous shoals were found.

- 1 $\frac{1}{2}$ fms. - lat. 52° - 42.0' long. 170° - 11.2' east end of reef.
- 4 $\frac{1}{2}$ fms. - lat. 52° - 42.2' long. 174° - 11.4' east end of reef.
- 2 $\frac{1}{2}$ fms. - lat. 52° - 42.4' long. 174° - 11.4' east end of reef & Breaker } see H-7000
- 7 $\frac{1}{4}$ fms. - lat. 52° - 40.1' long. 174° - 09.9' least depth on ledge, south end of broken bottom extending inshore.
- 5 $\frac{3}{8}$ fms. - lat. 52° - 41.1' long. 174° - 12.1'
- 5 $\frac{1}{2}$ fms. - lat. 52° - 42.4' long. 174° - 11.7'

COAST PILOT INFORMATION:

Coast pilot notes for the entire area of the Semichi Islands were submitted to the Washington office December 9, 1944.

AIDS TO NAVIGATION

There are no fixed aids to navigation in this area. ✓

Two nun buoys were established south-east of Shemya Island by the Army Transport Command. These mark the turns in the courses when navigating around the east end of Shemya Island between the north and south sides of the island. } H-7000

The buoy positions are as follows:

Lat. 52° - 44.5' long. 174° - 14.1' in 19 fms. } H-7000
Lat. 52° - 38.8' long. 174° - 11.8' in 15 fms. }

LANDMARKS FOR CHARTS

Landmarks for charts were submitted on form 567, dated Dec. 30, 1944. All landmarks listed are within the limits of this survey. (I. 28(1945))

GEORGRAPHIC NAMES

It is recommended that the bight south of and between Alaid and Nizki Islands be named Barnacle Bight. This bight has no known name, and a name is needed for local use.

Respectfully Submitted,

L.S. Hubbard

L.S. HUBBARD, Lt. Comdr.
U.S.C. & G. Survey
Ship SURVEYOR

Approved:

C.D. Meaney

C.D. MEANEY, Lt. Comdr.
Cmdg. Ship SURVEYOR

Hydrographic Control - Hydrographic Survey
Field No. 2845

6937

Semichi Islands, Alaid Island to Shemya Island

Ship SURVEYOR

L.C. WILDER, Comdg. (1943)
(Sounding Volumes 1 to 5 Incl.)

Two triangulation stations were available: Alaid, on the west end of Alaid Island and Shemya, on the west end of Shemya Island. The geographic positions of these stations, as determined by Mr. Siler, Corps of Engineers, U.S. Army, were obtained from the Ship EXPLORER. The positions of additional signals on the west end of Shemya Island were furnished by the Corps of Engineers, U.S. Army.

A planetable base, 1027 meters long, was established on the east end of Alaid Island. The distance was measured by a 100 meter wire. The planetable work was done on a standard, aluminum mounted topographic sheet. From one end of the base a planetable cut was taken to station Shemya. In the later adjustment of signals this line was held to assure no large error in azimuth.

From the planetable base, several other signals were located by the planetable. From these, the remaining signals were cut in from the ship, using fixes and cuts which were as strong as could be readily obtained. By these cuts positions of signals Alaid and Paul, relative to the planetable base, were determined.

Sextant fixes ashore were also obtained at various signals. A location of signal Paul, on the east end of Nizki Island, was determined by sextant angles on signals on Shemya Island, the positions of which were furnished by Army Engineers.

The geographic position of Alaid and the sextant location of Paul were plotted on the boat sheet. Holding these positions and the planetable cut to station Shemya for orientation, the remaining signals, located relative to the planetable base, were transferred to the boat sheet. An adjustment of approximately 30 meters was necessary.

As many signals as possible were spotted by means of contours on the U.S. Army, Corps of Engineer's Quadrangles. Holding these locations and such points and offlying rocks that were located by the planetable, the shoreline was adjusted to the boat sheet. In places the adjustment amounted to as much as 200 meters. It is noted that the fath line as shown on the quadrangles agrees approximately with the 5 fathom depth curve as determined by the hydrography.

*
The remarks above relating to control for the 1943 boat sheet do not apply to smooth sheet control. During the 1944 season a rigid second order triangulation net was spread over the Semichi Is. and a planetable graphic control survey tied in the topographic signals.

EES

A junction was made with the 1:10,000 scale survey of the U.S.S. HYDROGRAPHER (May - June, 1948) at the west end of Shemya Island. Two points, signals Lie (Bolo) and Lya (Top) are common to both surveys. The line between these signals was held for orientation and a slight adjustment in distance made in transferring the soundings of the previous survey to the present boat sheet.

A preliminary reduction for temperature and salinity was applied to the soundings on the boat sheet. The soundings were also reduced to Mean Lower Low Water using predicted tides.

All hydrography was fixed position using good fixes except at the west end of the sheet, where the fixes were satisfactory but weak. Sounding was by two survey launches, the Ship SURVEYOR and Destroyer Escort, No. 50.

No sounding was accomplished along the north side of the islands, close inshore, as it was not ordered.

Duplicate pages and pages
pertaining only to H-7000 have
been removed from this report.

TIDE NOTE FOR HYDROGRAPHIC SURVEY NO. H-~~(7000)~~ (6937)

Tide Station: Alcan Harbor, Shemya Island.

Latitude $52^{\circ} - 43.95'$ N

Longitude $174^{\circ} - 04.34'$ E

Two Staffs were used at Alcan Harbor: Staff No. 1 which was established by the Ship EXPLORER was partly destroyed and was replaced by a new staff (No. 2) on September 8, 1944.

The plane of mean lower low water for Alcan Harbor corresponds to a staff reading of 5.0 feet on No. 1, (See Directors letter to commanding officer, Ship EXPLORER, dated July 17, 1944.) and to a staff reading of 4.9 feet on Staff No. 2.

No correction for differences in time or height was applied.

The gage at Alcan Harbor was inoperative on numerous occasions and is supplemented by staff readings by the U.S. Engineers up to and including August 30, 1944. The plane of mean lower low water on the Engineers staff is 3.0 feet.

For such days during September, when the Alcan Harbor gage was not operating, tides at Massacre Bay have been substituted without time or range correction in accordance with the Director's letter dated December 6, 1944 (36-McC). A value of 3.9* feet, for mean lower low water on the staff at Massacre Bay was furnished by the Ship EXPLORER. The hourly heights for Massacre Bay were also furnished by the Ship EXPLORER.

* A value of 3.6 feet used for mean low water on the staff in use during September in accordance with Director's letter dated January 29, 1945 - reference 36-mlh.

ABSTRACT OF VELOCITY CORRECTIONS

Hydrographic Surveys: H-6937(1943), H-6999(1944) & H-7000(1944)

Period: June 25 to September 29, 1944.

820 fathoms per second. Dorsey III and 808 Fathometers.

LAUNCHES				SURVEYOR			
Depth		Cor.		Depth		Cor.	
Fms. & Ft.		Feet		Fms. & Ft.		Feet	
0-0	to	2-3	0 ft.	5-0	to	10-0	- 1/2
2-4	to	8-0	- 1/2	10-1	to	15-0	- 1
8-1	to	13-3	- 1	15-1	to	19-3	- 1 1/2
13-4	to	18-0	- 1 1/2	19-4	to	24-0	- 2
18-1	to	22-0	- 2	24-1	to	28-0	- 2 1/2
22-1	to	26-0	- 2 1/2	28-1	to	32-0	- 3
26-1	to	30-0	- 3	32-1	to	36-0	- 4
30-1	to	37-3	- 4	39-1	to	46-0	- 5
37-4	to	44-0	- 5	46-1	to	52-0	- 6
44-1	to	51-0	- 6	52-1	to	58-3	- 7
51-1	to	57-3	- 7	58-4	to	64-3	- 8
57-4	to	63-3	- 8	64-4	to	71-0	- 9
63-4	to	70-0	- 9	71-1	to	77-0	- 10
70-1	to	76-0	- 10	77-1	to	83-0	- 11
76-1	to	82-0	- 11	83-1	to	89-0	- 12
82-1	to	88-0	- 12	89-1	to	95-3	- 13
88-1	to	94-0	- 13	95-4	to	101-3	- 14
94-1	to	100-0	- 14				

Fms. & Ft.		Fathoms	
100-0	to	110-0	- 2.5
110-1	to	129-0	- 3.0
129-1	to	147-0	- 3.5
147-1	to	165-0	- 4.0
165-1	to	184-0	- 4.5
184-1	to	203-0	- 5.0
203-1	to	222-0	- 5.5

See pg. 12' for depths
over 222 fms.

ABSTRACT OF VELOCITY CORRECTIONS

Hydrographic Survey: (H-6937 & H-7000)

Dorsey III Fathometer. 820 fms. per second

Depth	Cor.
Fms. & Feet	Fathoms
222-1 to 240-0	-6.0
240-1 to 259-0	-7.5
259-1 to 277-0	-7.0
277-1 to 295-0	-7.5
295-1 to 315-0	-8.0
315-1 to 332-0	-8.5
332-1 to 350-0	-9.0

The above corrections were taken from an extrapolation of the Velocity Correction Curve and are to be used only for a few Dorsey III soundings over 200 fathoms.

ABSTRACT OF VELOCITY CORRECTIONS

Hydrographic Surveys: H-6937(1943) and H-7000(1944)

Period: June 25 to September 29, 1944.

R.C.A. (type BMC) Fathometer. 800 fathoms per second.

Depths: 0 to 100 fathoms.

Fms. & Ft.	Fect	Fms. & Ft.	Fms.
0-0 to 13-0	0.0	1376 to 1390	+ 17.5
13-1 to 100-0	+ 1.0	1391 to 1405	+ 18.0

Depths: 100 to 20000 fms.

Fathoms	Fms.	Fms. & Ft.	Fms.
100 to 220	+ 0.0	1406 to 1425	+ 18.5
221 to 325	+ 0.5	1426 to 1440	+ 19.0
326 to 395	+ 1.0	1441 to 1460	+ 19.5
396 to 475	+ 1.5	1461 to 1475	+ 20.0
476 to 540	+ 2.0	1476 to 1495	+ 20.5
541 to 595	+ 2.5	1496 to 1515	+ 21.0
596 to 630	+ 3.0	1516 to 1530	+ 21.5
631 to 670	+ 3.5	1531 to 1545	+ 22.0
671 to 715	+ 4.0	1546 to 1565	+ 22.5
716 to 755	+ 4.5	1566 to 1580	+ 23.0
756 to 790	+ 5.0	1581 to 1595	+ 23.5
791 to 825	+ 5.5	1596 to 1610	+ 24.0
826 to 855	+ 6.0	1611 to 1625	+ 24.5
856 to 890	+ 6.5	1626 to 1640	+ 25.0
891 to 915	+ 7.0	1641 to 1655	+ 25.5
916 to 945	+ 7.5	1656 to 1670	+ 26.0
946 to 970	+ 8.0	1671 to 1685	+ 26.5
971 to 995	+ 8.5	1686 to 1700	+ 27.0
996 to 1020	+ 9.0	1701 to 1715	+ 27.5
1021 to 1045	+ 9.5	1716 to 1730	+ 28.0
1046 to 1070	+ 10.0	1731 to 1745	+ 28.5
1071 to 1095	+ 10.5	1746 to 1760	+ 29.0
1096 to 1115	+ 11.0	1761 to 1775	+ 29.5
1116 to 1145	+ 11.5	1776 to 1790	+ 30.0
1146 to 1170	+ 12.0	1791 to 1800	+ 30.5
1171 to 1195	+ 12.5	1801 to 1815	+ 31.0
1196 to 1215	+ 13.0	1816 to 1830	+ 31.5
1216 to 1240	+ 13.5	1831 to 1845	+ 32.0
1241 to 1260	+ 14.0	1846 to 1855	+ 32.5
1261 to 1280	+ 14.5	1856 to 1870	+ 33.0
1281 to 1295	+ 15.0	1871 to 1885	+ 33.5
1296 to 1315	+ 15.5	1886 to 1895	+ 34.0
1316 to 1335	+ 16.0	1896 to 1910	+ 34.5
1336 to 1355	+ 16.5	1911 to 1920	+ 35.0
1356 to 1375	+ 17.0	1921 to 1935	+ 35.5
		1936 to 1950	+ 36.0
		1951 to 1960	+ 36.5
		1961 to 1970	+ 37.0
		1971 to 1985	+ 37.5
		1986 to 1995	+ 38.0

H-7000
SU 6937

Seattle Processing Office Notes

The processing of this sheet has been long and difficult on account of:

- (1) Interpretation of fathograms and the varying relation between Dorsey readings and the NMC profile.
- (2) Unavoidably weak fixes east of Shemya
- (3) Fixes dependent on floating signals.
- (4) Confusion of records with H-6937. Further remarks applicable to H-6937, which is nearing completion, will be forwarded for inclusion in this report. (included)

Datum-

USN GANNET 1934. ✓

Control-

The second order triangulation by the SURVEYOR, Meaney, Comdg., 1944, is the source of all G.P.'s except the position for SHEMA which was located in 1943.

Topographic stations are from T-6931a and T-6932. The bits of shoreline which appear on the smooth sheet are from T-6964, T-6931a, T-6932, and T-6971.

Floating Signals-

These have not been regarded as fixed points, but treated as drifting objects restricted to the scope of the anchor chains and are discussed later.

Boat Sheets-

In 1943 a large sheet was laid out for a 1:20,000 scale survey of the Semichi Islands. About a fourth of the work was accomplished that year. During the second season, the limits of the largest allowable sheet were exceeded. After completion of the survey, it was decided to divide it into two sheets. This was done approximately along the north-south center, so as to cut very few sounding lines.

Sounding Records-

It has not been practicable to keep whole volumes separate for each sheet. Volumes 1, 2, 3, 4, 5, 14, 17, 21, 22, 23, 24, 25, 26, and 27 apply to H-6937. Volumes 6, 28, and 29 apply to H-7000. Volumes 7, 8, 9, 10, 11, 12, 13, 15, 16, 18, 19, and 20 are mixed.

The table of statistics shows day by day where the position numbers are plotted. The books for the two sheets are numbered in one series. The series of fathograms also have not been divided between the two sheets, but carry the registry numbers for both sheets.

Crosslines-

About 10% of the hydrography consists of crosslines.

Poor crossings were found in the vicinity of Lat. 52° 38'14, Long. 174° 14'12. Because the control is, at this point, the weakest in the whole area, it is probably due to displacement of crosslines. } H-7000

Near the 200 fathom depth curve the scales of the MMC fathometer had to be changed from 100-200 to 0 to 2,000. This made unreadable sections of the graph and poor crossings.

Because of the broken bottom and sharp changes in grade, only the least found soundings were plotted and as many other soundings as were needed to delineate the depth curves. In cases of close development, soundings on splits were not plotted if they did not help delineate the depth curves. Especially in the launch development, it was necessary to use an arbitrary selection of soundings to avoid congestion.

Numerous overlays were made in the trial dead-reckoning plots and the lines were adjusted so that the crossings and positions of the buoys checked with each other.

NMC Fathometer Corrections-

In all cases, the readings of the Dorsey III fathometer were assumed as true and the NMC and the 808 were used as graphic checks, by oral instructions from the field party.

The initial on the NMC was not constant and was unreadable, so a comparison between the Dorsey and NMC was taken on either side of an inserted shoal reading to obtain the correction to the NMC. The comparisons between the Dorsey III and the NMC varied from 9 to 26 ft. Since the initial was assumed to have been set for a draft reading of 14 feet, this draft measurement plus or minus the remaining difference was added to the NMC reading to obtain the compared shoal reading.

This was done on instructions from Capt. Meaney.

14

Method of plotting sounding line positions from fixes using one or more floating objects-

When one or more of the objects in the fix are buoys and the scale of the sheet is large, the movement of the buoys will make a difference in the position of the fix. In the plotting of sheet H-7000, the scope of the buoys was large, the tidal currents heavy, and the fixes weak. The essence of the method used is to obtain by cuts from DR ship positions a position of the buoy within its scope circle, which will give satisfactory fixes consistent with DR data and crossings until the conditions (tide and weather) change, or until better fixes are available.

The buoy object was considered as a circle at scope radius instead of a definite point. An arc was plotted using the single angle of the shore stations. The shore to buoy angle was then plotted on this arc using both the shore to right and shore to left tangents to the buoy scope circle. The fix is somewhere along the arc between the two points obtained. The scope of the buoy and the strength of the fix determine the length of this arc.

After plotting these arcs for a series of sounding line positions, dead reckoning is applied through them and a trial line is established. From these trial D.R. positions, the shore to buoy angle is resected to the buoy scope circle and the position of the buoy at the time of this trial is estimated. The effect of tide and wind on both buoy and ship is considered. Now through cut and try method a position of the buoy is assumed and the line is continued. If the course and time of the ship dead reckoning did not fit, a new position of the buoy was determined. The direction and shift of the buoy must be consistent with the stage and direction of the flow of the tide.

This method was continued until the ship again used positions from three fixed points. Ranges and cuts to shore objects helped to determine the positions of the buoys.

With two buoys in the fix, the limiting possible location of the fix is not on an arc but in the area bounded by four concentric arcs, the opposite side of which are concentric to each other. In some cases, the movement of the buoys can be determined. Fortunately on sheet H-7000, there was a slack water stage of tide when two buoys were used in the fix and the anchor positions held throughout.

To determine the probable anchor position of a buoy when it is located with one or more buoys in the fix, the curve of the shore angle is plotted and the limiting positions of the shore to right and left tangents of the buoy scope circles are plotted. The resulting arcs are probable locations of the buoy, but the full scope diameter of the buoy to be located must be taken into account. The known directions of tidal current, later ranges, cuts, and trial and error dead reckoning can be used to narrow the probable buoy area until the buoy scope circle is determined. (See sketch on following page.)

To locate a buoy with a combination of one or more buoys and one or two shore signals.

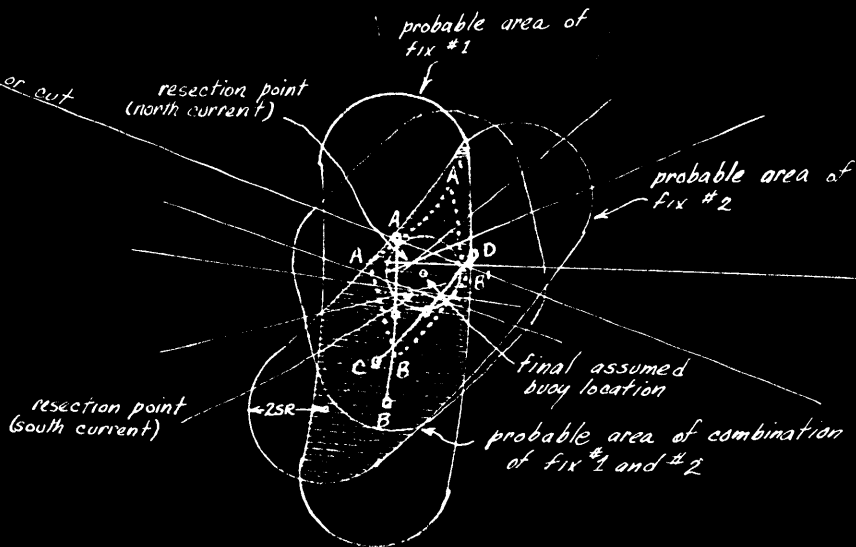
GUM Δ

STAR Δ 11 08-51
 GUM 12°-02'
 STAR
 FRED 40°-51'

2) 12-02 STAR 13°-08'
 RIM
 FRED 28°-17'

Δ RIM

3) 14-20 RIM 28°-32'
 FRED
 NORA 24°-16'



Arcs AB and CD are loci of a series of points using the angle between two shore stations. A, B, C and D are positions on these arcs of the angles from shore to left and shore to right tangents to the buoy scope circle.

When two buoys are used in the fix, the combinations of angles between shore to the left tangents to the scope circles of both buoys with the right tangents and combinations thereof form the figure AA'BB'. The probable area of the buoy location is within this area enlarged by twice the scope radius.

Buoy "King"-

Fixes to locate buoy KING were taken as follows:

SURVEYOR	Vol. 11	Page 24	Pos. 26U and 27U
"	" 12	" 30	Pos. 73X
Launch No. 2	22	" 22	Pos. 165t and 166t
"	" 22	38-39	Pos. 76u and 76 $\frac{1}{2}$ u

These fixes plot in a triangular pattern about 80 m. on each side. The buoy was planted in 20 fms. of water and the scope as computed by the field party is 77 meters average and 93 meters maximum.

A trial plot of sounding lines on SURVEYOR's "V" day, particularly Pos. 1 to 8V and 44 to 48V, indicates that the point determined on Pos. 76 $\frac{1}{2}$ u gives the most satisfactory results for this day's work.

A trial plot of "t" day, Launch No. 2, indicates that the point determined on Pos. 166t gives the most satisfactory results for this day's work.

The blue circle station symbol for buoy KING is shown at Pos. 26U, SURVEYOR, the fix taken at the time of planting the buoy. A pencil circle of 93 meters radius, representing the maximum scope of the buoy, includes all of the points used in plotting with buoy KING.

Buoy "Mike"-

Lt. Comdr. George, in his "buoy book", shows an average theoretical scope of 91 meters, maximum 117 meters. Smooth plotting indicates that scope must be even greater, or more likely, that anchor dragged with the current, as it was found necessary to use two different positions of the buoy to smooth-plot different days' work. The first position, designated MIKE 1, agrees approximately with the fix and cuts taken when the buoy was planted; the second position, designated MIKE 2, lies 210 meters south of the first position.

This buoy was planted on Aug. 16, 1944, in 38 fms. water. It was moored with 60 fms. of cable and 15 fms. of chain. Pos. 74X and 75X (74X rejected by field party) were taken, and cuts to the buoy were taken from Pos. 76, 77, 78, and 79X. The cuts from Pos. 77, 78, and 79 were all from the same direction; a fairly good check was obtained.

The buoy was not used for a signal by the SURVEYOR until Aug. 25, AA day. It was found that the previous position would not plot, and 4 new fixes, Pos. 124, 125, 126, and 127AA were taken. These fixes agree quite well within themselves, also with the fix taken by Launch No. 2 on August 20, Vol. 23, page 23. Also, a good check on this position was obtained by means of the long ranges between Pos. 115 and 116 AA. This is position MIKE 2.

The next day on which MIKE was used by the SURVEYOR was Aug. 29, EE day. It was found that MIKE 2 would not plot satisfactorily for this day's work. Pos. 20 and 41 EE were used to determine a trial position, which lies 45 meters ENE of the position taken at the time the buoy was planted. This position of the buoy gave results agreeing with times and courses, occasional ranges, and a further check was obtained from the four ranges recorded between Pos. 37 and 38 EE. The trial position of the buoy was accepted and called MIKE 1.

Buoy "Pete"-

Pos. 39PP was taken at anchor of buoy PETE. Although a weak fix, a good check angle was obtained. 15 minutes later, Pos. 40PP was taken at the buoy. Lt. Comdr. George has noted in the record "using Pos. 40 for location of signal PETE for PP day." This point lies 115 meters 25° true from the anchor position. The theoretical maximum scope of the buoy as computed by Mr. George is 119 meters. Pos. 40 was used as the location of the buoy in smooth plotting all of PP day and gave satisfactory results. This location is called PETE 1.

It was found, however, that this location was not satisfactory for QQ day. A new position 50 meters, 260° true from the anchor position, was determined from the intersection of the cut at Pos. 20QQ (using the range PISA-OLE as right angle) and the range PETE-PISA on Pos. 31QQ. This location was used for all of QQ day and gave good results. It is called PETE 2.

Compass Error-

Evidence of a rather large gyro error is found in numerous places. This was particularly noted on QQ day, where a $-5 \frac{3}{4}^{\circ}$ correction to the course steered must be applied to agree with the course made good between Pos. 90 and 94QQ; a $-9 \frac{3}{4}^{\circ}$ correction between Pos. 97 and 100QQ; and a $-7 \frac{1}{4}^{\circ}$ correction between Pos. 109-111QQ. Since the correction is in the same direction regardless of ship's heading, it is apparently not caused by wind or current.

STATISTICS for H-6937 and H-7000

The Sounding Records for these two sheets are combined in one series of twenty nine volumes.

Date	Day Letter	Vessel	Vol. No.	H-6937		H-7000	
				No. of Positions	Stat. Miles	No. of Positions	Stat. Miles
11/10/43	A (red)	SURVEYOR	1	11			
11/11/43	B	"	1	20			
11/16/43	C	"	1	88	46.8		
11/17/43	D	"	1	52	28.5		
11/22/43	E	"	1	2			
11/24/43	F	"	1	26	11.4		
6/25/44	A	"	6			41	18.4
6/28/44	B	"	6			124	59.8
6/30/44	C	"	6			137	70.8
7/10/44	D	"	6 & 7			131	57.6
7/11/44	E	"	7			39	12.6
7/14/44	AF	"	7	72	38.3		
7/17/44	G	"	7			91	43.7
7/18/44	H	"	8	72	28.8		
7/19/44	J	"	8			86	46.6
7/21/44	K	"	8	18	10.2	55	28.9
7/24/44	L	"	8 & 9	(Pos. 23-35; 67-70)		(Pos. 1-23; 36-67)	
7/28/44	M	"	9	178	87.8	103	45.0
8/4/44	N	"	9			105	80.8
8/5/44	P	"	10	17	7.4	43	22.3
8/5/44	Q	"	10	(Pos. 1-17)		(Pos. 18-60)	
8/9/44	R	"	10			137	53.0
8/10/44	S	"	10			70	28.5
8/11/44	T	"	11			75	27.4
8/12/44	U	"	11	46	24.2	77	27.1
8/14/44	V	"	11	(Pos. 1-46)		(Pos. 46-149)	
8/15/44	W	"	12	74	37.4		
8/16/44	X	"	12			66	26.5
8/17/44	Y	"	12	95	41.5		
8/23/44	Z	"	12	8	8.0		
8/25/44	AA	"	12	3		2	
8/26/44	BB	"	12	(Pos. 3,4,5)		(Pos. 1 & 2)	
8/27/44	CC	"	13	127	56.7		
8/28/44	DD	"	13	11.5	54.6		
8/29/44	EE	"	13			4	
8/31/44	FE	"	13			124	61.0
9/1/44	GG	"	13	48	23.6		
9/1/44	GG	"	13 & 14	147	66.9		
9/2/44	HH	"	14 & 15	178	81.2		
9/7/44	JJ	"	15	132	63.0		
9/7/44	JJ	"	15			173	78.4
9/9/44	KK	"	15			9	1.4
9/10/44	LL	"	15			135	48.2
9/11/44	MM	"	16			164	47.7
9/12/44	NN	"	16			139	61.3
9/13/44	PP	"	16 & 17	186	74.5		
9/14/44	QQ	"	17	169	77.9		

Date	Day Letter	Vessel	Vol. No.	H-6937		H-7000	
				No. of Positions	Stat. Miles	No. of Positions	Stat. Miles
11/16/43	C	(blue) ENGSTREM	2	70	52.9		
11/17/43	D	"	2	36	21.6		
11/18/43	a	(red) Launch #2	3	36	8.0		
11/19/43	b	"	3	7			
11/20/43	c	"	3	159	36.5		
11/21/43	d	"	4	102	27.2		
11/22/43	e	"	4	51	8.0		
7/11/44	f	"	18			18	37
7/21/44	g	"	18	81	17.0		
7/24/44	h	"	18			74	15.0
8/1/44	j	"	18	122	16.9		
8/2/44	k	"	19			86	16.7
8/3/44	l	"	19	60	5.7		
8/4/44	m	"	19			89	14.3
8/8/44	n	"	20	138	22.4		
8/9/44	p	"	20	163	27.3		
8/10/44	q	"	20			18	3.6
8/11/44	r	"	21	151	25.1		
8/12/44	s	"	21	113	19.9		
8/14/44	t	"	21 & 22	175	36.1		
8/16/44	u	"	22	153	20.8		
8/17/44	v	"	23	96	14.8		
8/25/44	w	"	23	157	25.7		
8/25/44	x	"	23 & 24	108	20.9		
8/26/44	y	H-6988 -----	24	54	7.4		
		H-6937 -----	24	41	5.1		
9/1/44	z	"	24	214	48.6		
9/7/44	aa	"	25	186	37.3		
9/10/44	bb	"	25	151	30.6		
9/11/44	cc	"	26	185	47.9		
9/12/44	dd	"	27	70	13.0		
9/26/44	ee	"	27	95	19.6		
11/16/43	a	(blue) Launch #4	5	123	34.3		
11/17/43	b	"	5	109	32.8		
8/11/44	c	"	28			108	25.2
8/12/44	d	"	28			124	25.3
9/11/44	e	"	28 & 29			99	20.1
9/13/44	f	"	29			156	24.2

Totals: 4950 1550.1 2918 1190.4

Area - Square Statute Miles:

H-6937 ----- 107
H-7000 ----- 75.5

Respectfully submitted,

Edgar E. Smith

Edgar E. Smith
Cartographic Engineer
Seattle Processing Office

H-6937
SU 2843

Alaid and Nizki Islands

Seattle Processing Office Notes

Combined Report-

As the field records for H-7000 and H-6937 were intertwined, a combined report was prepared for them. Sheet H-7000, with combined report by field party and Processing Office notes on H-7000 only, has already been sent to Washington. These notes on H-6937 are for attachment to that combined report. See paragraphs (Boat Sheets) and "Sounding Records" on the first and second pages of Processing Office notes for H-7000. See also the combined table of statistics. *(Pertinent part of combined report is included)*

The Smooth Sheet is hand made on Paragon paper.

The shoreline and topography are from T-6931^b, T-6932, and T-6964. This is shown in ink. The outer lines of the extensive ledges were transferred from the boat sheets. This seems to have been carefully sketched by the sounding party. It was left in pencil on the smooth sheet. *Complete topography now on these T-sheets from air photographs*

The sounding lines between Shemya and Nizki Islands would have served best if plotted on H-6988, but the signals required them to be plotted on H-6937. *Now plotted on H-6988*

Lines sounded by the ENGSTREM*

The escorting vessel sounded on "C" and "D" days, blue. See Vol. 2. These lines are useful to fill in splits which would occur without them. These soundings are usually shoaler than the SURVEYOR's crossing lines, the difference ranging up to two fathoms. This caused some irregularities in the curves. The lines lay across the south part of the sheet, chiefly outside the 20 fm. curve. *Soundings omitted where covered by other work*

Buoy Signals west of Alaid-

Information concerning buoys KING, PETE I & II, and MIKE I & II was inserted with other surveying buoys on preceding pages of this report. See also List of Signals.

On T-6964 at Latitude $52^{\circ} 46!68$ Longitude $173^{\circ} 54!53$ is shown a rock 3 fathoms above MHW, located by intersections. The line 45s to 46s passes directly over this point. At the top of page 40, Vol. 21, is noted "rock 15 m. to starboard." It is believed that the note has been misplaced by the recorder and that it should have been opposite the sounding at 13 hr. 12 M, 45S. Pos. 45 has been altered 15 meters to eastward.
Topo. position accepted - hydro rejected

Corrected List of Shoals and Dangers, for page 5 in combined report by the field party.

<u>Shoal Sdg.</u> fms.	<u>Latitude</u>	<u>Longitude</u>
1.0	$52^{\circ} 46!7$	$173^{\circ} 50!45$ ✓
3.8	46.6	50.65 ✓
2.1 5 ^s	45.9	57.6 ✓
Submerged rock	45.15	174 01.1 ✓
2.5	45.9	173 58.2 ✓
1.5	45.17 ²	174 01.15 ✓
1.6 5 ^s	43.1	00.3 ✓
1.0 5 ^s	43.1	00.5 ✓
2.6	43.5	173 58.5 ✓
1.5 4 ^s	44.9	54.3 ✓
2.3	45.05	53.4 <i>Stray</i>

above corrected for kelp readings

There are other shoal spots, but they are more inshore and do not necessarily constitute danger.

Correction to last paragraph of Page 4 of this report-

The most dangerous shoal in the area of this sheet is the 1 fm. sounding at Latitude $52^{\circ} 46!7$ Longitude $173^{\circ} 50.4$, a mile west of Alaid Island. This breaks in moderate seas. A reef with a least depth of 3.8 fms. lays 0.2 m. southeast of the 1 fm. spot at Latitude $52^{\circ} 46!6$ Longitude $173^{\circ} 50!65$.

Comparison of H-6937 with H-6988-

<u>Latitude</u>	<u>Longitude</u>	<u>H-6937</u> fms.	<u>H-6988</u> fms.	
52° 43.08	174° 01.4	4.1	7	This work has been plotted and adjusted on H-6988
43.27	01.45	5.5 - 5.6	3.8	
43.58	01.72	2.3	3.1 - 3.3	
43.55	01.78	2.1	3.1 - 2.8	
43.53	01.94	2.8	3.8	
43.62	02.32	2.0	3.4	
43.79	02.35	1.6	3.2	
44.39	02.6	6.3 - 6.5	4.8	
44.45	02.72	8.8	6.6	

Soundings on H-6937 are sparse compared to those of H-6988. Most of the soundings listed above suggest a possible displacement of the H-6937 soundings to north and west by 25 to 100 meters. *Disposed of before review of H-6988*

~~Note- The following four sheets are carbon copies of part of the report for H-6999. It concerns a shoal in the overlap between H-6999 and H-7000.~~

List of SignalsTriangulation

ALCID (USED)	1943
ARMY	1944
ATE	1944
BLOOD	1944
BOZO	1944
COLD	1944
ELBA	1944
END	1943
GALE	1944
GAS (USED)	1943
GUM	1944
IVY	1944
JACK	1944
JILL	1944
JONES	1944
JULY (HEF)	1944
LEMON	1944
LIE	1944
NINA	1944
NIZ	1944
OLE	1944
PAUL	1944
PIKE	1944
SHEMYA (USED)	1943
SPAR	1944
STAR	1944
TOP (JOE)	1944
WAC	1944

Topographic Stations

AMOS	1944, 4th order
ANDY	T-6964
ARK	"
BABY	1944, 4th order
BAG	T-6932
BON	1944, 4th order
BUCK	T-6964
COPY	T-6964
CORN	"
COW	"
DUTY	1944, 4th order
EZRA	" " "
FOUL	T-6964
GAL	1944, 4th order
GAT	T-6964
GRIT	1944, 4th order
HANK	1944, 4th order
HAY	T-6932
HOP	1944, 4th order
HORN	" " "
HOUSE	T-6964
HUMP	"
JANE	1944, 4th order
JIG	" " "
KARO	T-6964
KAY	T-6964
KELP	1944, 4th order
KI	" " "
LARD	" " "
LEG	" " "
LING	" " "
LIT	T-6932
LIT	T-6964
LODGE	"
LOG	"
LOLUS	1944, 4th order
LULU	" " "

List of Signals (Cont.)

Topographic Stations

Hydro Buoys

MASTER	T-6932	KING	Vol. 11, p. 24; vol. 12, p. 30
MILK	T-6964	MIKE I	Vol. 12, p. 31
MYA	(SU-6938)	MIKE II	Vol. 12, p. 65
NOR	1944, 4th order		
NUB	--- Photo plot, see tracing		
NEWT	--- attached to report		
NUT	1944, 4th order	PETE I	Vol. 16, p. 68
		PETE II	Vol. 17, p. 26 & 28
OAR	1944, 4th order		
OIL	" " "		
OUT	T-6932		
PIC	T-6964		
PISA	1944, 4th order		
PERRY	" " "		
PIN	" " "		
PINK	" " "		
QUACK	(SU 6938)		
QUIZ	1944, 4th order		
RAG	1944, 4th order		
RAIN	" " "		
RO	" " "		
RET	T-6964		
RYE	T-6964		
SALT	T-6964		
SCOOT	T-6932		
SHIP	"		
SOG	T-6964		
SPUD	1944, 4th order		
SPOT	" " "		
STORE	" " "		
TAXI	T-6964		
TOY	T-6932		
TRI	1944, 4th order		
TWIN 2	" " "		
UNO	T-6964		
WOLF	1944, 4th order		
YANK	T-6964		
ZERO	1944, 4th order		

T-6937

Geographic Names Penciled on the
Smooth Sheet

Alaid Island
Nizki Island
Shemya Island
Bering Sea
Pacific Ocean

(It is recommended that the name Shemya Pass be applied to the pass between Shemya and Nizki Islands; *Alaid Pass be applied to the pass between Alaid and Attu; and *Agattu Strait be given to the water between Agattu and Attu. These localities should have names for convenient reference. The cove between Nizki and Alaid, south side, could well be called Nizki Cove. These suggestions closely follow Aleutian usage.

Edgar E. Smith)

* off area this sheet

Respectfully submitted,

Edgar E. Smith
Cartographic Engineer
Seattle Processing Office

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. **H6937..**

Records accompanying survey:

(Combined with those for H-7000)

Boat sheets ..4..; sounding vols. 29...; wire drag vols.;
 bomb vols.; graphic recorder rolls 14 (combined with H-7000)
 special reports, etc.

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

Number of positions on sheet	4950
Number of positions checked	251
Number of positions revised	7
Number of soundings revised (refers to depth only)	47
Number of soundings erroneously spaced	36
Number of signals erroneously plotted or transferred	—
Topographic details	Time 24 hrs
Junctions	Time 32 "
Verification of soundings from graphic record	Time 24 "

Verification by.....A. R. STIRN!.....Total time 264 hrs Date Feb. 6, 1947

Reviewed by.....*J. F. Jordan*..... Time 54... Date Feb. 24, 1947

GEOGRAPHIC NAMES

Survey No. **H6937**

Name on Survey											
	A	B	C	D	E	F	G	H	K		
<u>Pacific Ocean</u>											1
<u>Bering Sea</u>										US+B	2
<u>Alaska</u>											3
<u>Alutian Islands</u>											4
<u>Semichi Islands</u>										US+B	5
<u>Shemya I</u>										"	6
<u>Alean Harbor</u>											7
<u>Nizki I</u>										"	8
<u>Nizki Cove</u>											9
<u>Alaid I</u>											10
											11
											12
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											24
											25
											26
											27

} for title

Names underlined in red approved
by H. Heck on 3/5/47

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-6937

FIELD NO. SU-2843

Alaska-Aleutian Islands, Semichi Islands
Surveyed in Nov. 1943 to Sept. 1944 Scale 1:20,000
Project No. CS-218

Soundings:

Control:

Fathometer:

Dorsey III
NMC Recorder
808 Recorder

Three-point fixes on shore
and buoy signals

Chief of Party - L. C. Wilder and C. D. Meaney
Surveyed by - C. D. Meaney, L. C. Wilder, L. S. Hubbard,
J. C. Bose, W. F. Malnate, C. A. George and
R. H. Randall
Protracted by - P. M. Fisher and W. M. Martin
Soundings plotted by - W. M. Martin
Verified and inked by - A. R. Stirni
Reviewed by - G. F. Jordan, February 24, 1947
Inspected by - H. W. Murray

1. Shoreline and Signals

Signal control originates with triangulation of 1943 and 1944 and with graphic control surveys T-6931b, T-6932, T-6964 and T-6971b of 1944.

Shoreline and rock detail is for the most part from air photographs of 1944 which have been compiled on the surveys noted above. Some detail is from the original graphic control work.

2. Bottom Configuration and Depth Curves

The bottom area inshore from the 20-fm. depth curve is generally irregular. Offshore from this curve, the bottom is generally smooth.

The depth curves are adequately delineated except in some foul and heavy kelp areas close inshore.

The protrusion in the 40-fm. depth curve at lat. $52^{\circ} 40'$, long. $173^{\circ} 56'$ depicts a natural feature. For charting purposes, the compiler should consider generalizing this feature.

3. Sounding Line Crossings

The agreement of depths at crosslines is generally good.

4. Junctions with Adjoining Surveys

Very good junctions are effected on the east with H-6987, H-6988 and H-6999 of 1944. An additional junction on the east will be considered in the review of H-7000 (1944). On the south, a good junction is effected with H-6871 (1945).

The present survey adequately supersedes the 100,000 scale reconnaissance survey H-6936 (1943) within the common area except for the 39-fm. sounding carried forward at lat. $52^{\circ} 41.6'$, long. $173^{\circ} 49.38'$.

5. Comparison with Wire Drag Surveys

H-7020 (1944) W. D. covers a small portion of the present survey in the area north of the east end of Nizki Island. The effective drag depths do not conflict with the present survey depths.

6. Comparison with Prior Surveys

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

7. Comparison with Chart 9125 (Print date of Mar. 31, 1945)
Chart 9198 (Print date of Feb. 2, 1945)

a. Hydrography

Charted hydrography originates with advance information of the present survey (Bps. 37846-1943 and 38969-1944) and with H. O. Chart 10.253-1.

Numerous corrections have been made to recorded soundings in kelp areas since the field compilation of the advance blueprints. Consequently, charted hydrography is now superseded by the verified survey. In particular, the following charted soundings should be deleted and new selections made from the present survey:

	<u>Chart</u>	<u>General Depths</u>	<u>Lat.</u>	<u>Long.</u>
2 fm.	9125	5 fm.	- 52° 43.17'	174° 00.54'
3 fm.	9125	6 fm.	- 52° 43.09'	174° 00.32'
5 fm.	9125	6 fm.	- 52° 42.96'	174° 00.43'
3 fm.	9198	7 fm.	- 52° 45.0'	173° 53.3' (stray)
*2 fm.	9198	7 fm.	- 52° 46.2'	173° 52.0'
*1 fm.	9198	11 fm.	- 52° 46.5'	173° 50.25'

* The 2-fm. sounding is an incorrect transfer on Bp. 38969 of a 7-fm. sounding shown on the boat sheet. The 1-fm. sounding from the same blueprint is the first numeral of a 12-fm. sounding on the boat sheet.

The sunken rocks on chart 9198 at the positions listed below should be disregarded. The rocks originate with H. O. Chart 10.253-1 and are considered to symbolize foul areas. The present survey is adequate.

<u>Latitude</u>	<u>Longitude</u>
52° 45.6'	173° 52.9'
52° 45.3'	173° 53.6'
52° 45.2'	173° 55.5' (3 rocks)
52° 44.2'	173° 58.0'

The rock awash on chart 9125 at lat. 52° 43.19', long. 174° 00.3', should be disregarded. No authority was found for the rock other than what is considered a smudge on Bp. 37846. Similar smudges appear on other parts of the blueprint.

b. Aids to Navigation

The small red buoy on the present survey at lat. 52° 45.59', long. 173° 58.52' is the only charted aid to navigation in this area. The buoy does not mark any specific danger.

8. Condition of the Survey

- a. The Descriptive Report and sounding records are complete and comprehensive.
- b. The smooth-plotting was excellent.
- c. The survey makes an excellent coverage of the area and shows close development in the inshore areas. Inasmuch as the inshore areas are covered with kelp, kelp recordings on the fathograms introduced the usual problem of determining true bottom and least depths on shoals. A number of soundings plotted close inshore are apparently scaled from tops of kelp. The following doubtful and uninvestigated offshore soundings are considered of sufficient importance to warrant further investigation:

4.6 fm. lat. 52° 44.81', long. 173° 56.54' - undeveloped
2.6 fm. lat. 52° 43.50', long. 173° 58.50' - in kelp
1.6 fm. lat. 52° 43.62', long. 173° 58.67' - in kelp
2.1 fm. lat. 52° 44.79', long. 173° 56.00' - in kelp

A breaker (from the boat sheet) at lat. 52° 42.94', long. 174° 00.4' falls between sounding lines spaced 100 meters apart and was not investigated.

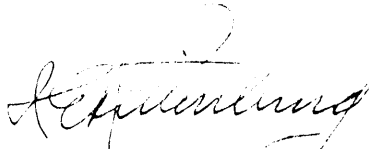
9. Compliance with Project Instructions

The survey adequately complies with the project instructions except that as noted on page 3 of the Descriptive Report, an insufficient number of bottom characteristics were obtained south of the islands.

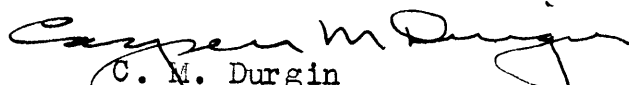
10. Additional Field Work

This is an excellent basic survey except as noted in preceding par. 8c. The soundings and breaker noted in that paragraph should be investigated.

Examined and approved:


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