

6964

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Diag. Cht. No. 8865-1

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey TopographicField No. 30 - C-44 Office No. T-6964 Graphic Control

LOCALITY

State Alaska - Aleutian IslandsGeneral locality Semichi IslandsAleutian IslandsLocality Nizki and Alaid IslandsSemichi IslandsAlaid Island Nizki Island1944

CHIEF OF PARTY

C. D. Meaney
SURVEYOR

LIBRARY & ARCHIVES

DATE FEB 2 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

TOPOGRAPHIC TITLE SHEET

The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. SU C-44

REGISTER NO. T-6964 *Graphic Control*

State ALASKA - Aleutian Islands

General locality Semichi Islands
Aleutian Islands - Near Islands

Locality Nizki and Alaid Islands
Alaid and Nizki

Scale 1:20,000 Date of survey _____, 19 44

Vessel SURVEYOR

Chief of party C. D. Meaney

Surveyed by Marvin T. Paulson - L. S. Hubbard

Inked by Marvin T. Paulson

Heights in feet above MHT to ground to tops of trees

Contour, Approximate contour, Form line interval _____ feet

Instructions dated February 1, 1944 (Director's Sup'd)

Remarks: and May 17, 1944 (Liaison Officer)

DESCRIPTIVE REPORT

to accompany

GRAPHIC CONTROL SHEET NO. T-6964

INSTRUCTIONS:

The survey was made in compliance with Supplemental Instructions from the Director, dated February 1, 1944, Project CS-218, and instructions (Project 2) from Lieut. Comdr. C. M. Durgin, Liaison Officer, dated May 17, 1944.

LIMITS:

The area covered by this survey is Alaid Island and Nizki Island of the Semichi Island group, Latitude $52^{\circ}43'$ to $52^{\circ}47'$ N and Longitude $174^{\circ}02'$ to $173^{\circ}51'$ E. In order to secure proper control for orientation the sheet includes signals on the east end of Shemya Island to Longitude $174^{\circ}06'$.

SURVEY METHODS:

Standard planetable methods were used on this survey. Adequate control existed from 2nd order triangulation or hydrographic signals and whitewashes located by checked triangulation. All positions of signals that were computed from only a single triangle were checked by either traverse or graphic triangulation.

A traverse was run from signal Lard on the north side of Alaid Island westward to signal Pisa, thence to station Ole. A second traverse and shore line was run from BLOOD to GALE. Signals located on these two traverses were not visible from any triangulation station. Signals in the vicinity of COLD and BOZO were also located or checked by topography.

The air photographs of the Semichi Islands that were in the possession of the SURVEYOR at the time of this survey were on a scale of 1:20,000 and not very clear. Several sets of excellent photographs were taken later by the Army and Navy and placed at the disposal of the SURVEYOR, but unfortunately these pictures were received too late in the season to permit field inspection and sketching of the shoreline; however, on the photographs taken after July, 1944 nearly all the signals and whitewashes can be identified and pricked. (826)

DESCRIPTION OF COAST:

The shorelines of Nizki and Alaid Islands are very irregular with steep bluffs beginning usually within a few feet of the high water line. (25)

There are numerous off-lying rocks and reefs around all sides of the islands. These rocks are well defined on the photographs. The high points of several rocks around the west end of Alaid Island were located by planetable. The highwater lines of these rocks were not rodded in.

The sand spit extending east on Alaid Island is continually changing position due to heavy seas. On Photograph No. 404 BS 4TM 1397 IV 18 10-19-1600, the spit shows bare all the way across.

AIR PHOTOGRAPHS:

Listed below are the various sets of photographs pertaining to the survey of the Semichi Islands:

<u>Date of Flight</u>	<u>Approx. Scale</u>	<u>No. of Photos.</u>	<u>Remarks</u>
9-22-43	20,000	31	Semichi Islands
5-25-44	5,000	1- 26	Alaid I. only.
6-19-44	8,500	1- 18	Shemya & Nizki Is. Three sets, vertical right, and left.
8-19-44	7,500	1- 61	
9-18-44	10,500	1- 45	
10-19-44	8,000	1- 65	
10- 4-44	8,500	flight line 1 (1-32) 2 (1-35) 3 (1-7) 4 (1-29) 5 (1-10) 6 (1-23)	Semichi Islands by Navy

JUNCTION WITH OTHER SURVEYS:

This sheet joins contemporary surveys, ~~No. T-6932~~ and T-6931b. There is no discrepancy in the junction with these sheets.

RECOVERY OF 1943 SIGNALS:

In 1943, a planetable base was established on the east end of Alaid Island. The planetable work was done on an aluminum mounted topographic sheet, without a projection. From the planetable base, several other signals were located by the planetable. From these, the remaining signals used for hydrographic control were located by sextant cuts from various stations ashore, and from the SURVEYOR.

With few exceptions, all the hydrographic signals used in 1943

were recovered and located in 1944. Where there was any doubt as to recovering the exact position of the 1943 hydrographic signals, a new name was assigned.

The following signals were not recovered: Foul, Copy, Andy, Lit and House. Since all of the above signals were located by planetable in 1943, these positions have been transferred to the present survey. Apparently, the exact position of signal Twin was not recovered and, accordingly, the 1943 position has been transferred and called Twin.1. The point used in 1944 has been called Twin 2. The positions of the remaining signals, located by planetable in 1943, are in close agreement with the 1944 positions. All of the 1943 positions transferred to this survey are circled in yellow.

The planetable sheet of 1943 is being transferred to the Seattle Processing Office. This sheet was not assigned a registry number.

Hydrographic signals used in 1943 and located on Survey T-6964 are listed below:

<u>1943</u> <u>Name</u>	<u>1944</u> <u>Name</u>	
AID	ALOID 1943	Aid was the high point of the hill but signal ALOID is a marked station located on the highest point.
Cock	Pisa	Definite pinnacle recovered and whitewashed.
Lulu	Lulu	Tripod recovered and dressed.
IVY	IVY 1944	Tripod recovered, station marked and signal rebuilt.
Lemon	LEMON 1944	High point of hill in 1943, recovered, marked, and signal built in 1944.
Spot	Spot	High point of small island recovered.
Tri	Tri	Tripod recovered, redressed and station marked.
Duty	Duty	Old w.w. recovered.
Nor	Nor	Old w.w. recovered and marked.
Pin	Pin	Old w.w. recovered
Ro	Ro	Old w.w. recovered
Perry	Perry	Pole recovered
Twin 1	Twin 2	The high point of the rock used as a signal in 1943 was not recovered but a whitewash was placed on this same rock island about 60 meters north. Hydrographic

and triangulation records of 1944 refer to Twin 2 as Twin.

Rain	Rain	Old w.w. recovered.
Hop	Hop	Old w.w. recovered and marked.
Gal	Gal	Old w.w. recovered
Store	Store	Tripod recovered and dressed.
Ki	Ki	Hut on high point of island recovered
Cold	COLD 1944	High point of hill recovered, marked and signal built over station.
Jones	JONES 1944	Tripod recovered, marked and redressed.
Paul	PAUL 1944	Tripod recovered, marked and redressed.
Blood	BLOOD 1944	Tripod recovered, marked and redressed.
Hef	JULY 1944	Highest part of reef recovered and marked, pole and banner built over station
Nub	Newt	Pinnacle recovered

1943 signals not recovered

Hou
Lit
Foul
Andy
Copy

GEOGRAPHIC NAMES:

U.S.G.B. Decision
ALAI D HEAD - Recommended because of its bold appearance and high, nearly vertical bluffs.

LANDMARKS:

Letter 28 (1945) Conf.
Reference to "Landmarks for Chart Report" dated December 1, 1944.

STATISTICS:

Traverse (statute miles)	5.8
Shore line " "	2.6
Area (square statute miles)	12.0

MISCELLANEOUS:

The topography for the most part was accomplished by Marvin T. Paulson, Lt. (j.g.); however, part of the traverse on the west end of Alaid Island was done by L. S. Hubbard, Lieut. Comdr.

Submitted by:

Marvin T. Paulson
Marvin T. Paulson
Lieut. (j.g.)

Approved and Forwarded:

C. D. Meaney
C. D. MEANEY, Lt. Comdr.
Commanding Officer
Ship SURVEYOR

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

The following notes should be lettered on the topographic sheet(T-6964) in accordance with Par. 7844(pg. 741) & Fig. 169 of the Hydrographic Manual:

✓ **ALAI** (**WESTERLY PEAK**)
(landmark: 644 ft. above MHW)

✓ **LEMON** (**HIGHEST PEAK**)
(landmark: 663 ft. above MHW)

✓ **KI** (**HIGHEST KNOLL**)
(landmark: 165 ft. above MHW)

✓ **ARMY** (**HEADLAND**)
(landmark: 80 ft. above MHW)

✓ **STAR** (**TOWER**)
(landmark)

NOTE: This station is on Topographic Survey T - 6932.

✓ **PISA** (**LEANING ROCK**)
(landmark)

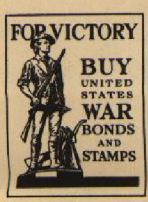
✓ **SPOT** (**ISLET**)
(landmark)

83

Form # 567 was prepared after the topographic sheet was transferred to the Seattle Processing Office; the above stations have since been submitted as landmarks.

See chart letter 28(1945) Conf.

done 12/30/44
mf



Note by R. H. Hardy

see T6931 for corrected
Datum plotting.

DATUM

7/3/45

There is a small difference of approximately 11 meters between the coordinates of triangulation stations determined in the field and those later computed. In the later computations a more accurate determination of azimuth and length and also of the position of the initial station SHENYA were used than was available to the field party.

The latitude and longitude of the reference station as recomputed is shown on the sheet in pencil. Also shown is the recomputed datum mark.

All hydrographic sheets submitted in 1944 with the exception of H-6987, which has been forwarded to Washington, are based on the recomputed datum. The hydrographic boat sheets submitted by the SURVEYOR are on the field datum. Those submitted by the EXPLORER with the exception of H-6987 are on the recomputed datum.

The following is a brief resume of triangulation in the Near Islands as used for control on hydrographic and topographic sheets.

The triangulation in the vicinity of Massacre Bay, by Scaife in 1943, started from an assumed datum. Scaife's work was extended north by Sylar, USN, to make a recovery of the Navy's astronomical station of 1934, which was near station CHIC. Assuming the position of station CHIC to be the same as the astronomical station, the following datum differences were obtained:

	<u>Latitude</u>	<u>Longitude</u>
Scaife's datum CHIC 1943	52° 56' 16.7318 N	173° 14' 27.740 E
USN Observation Pier 1934	52 55 48.25	173 14 24.36
Correction from Scaife and Sylar, 1943, to USN 1934 -----	-30.068	-03.380

Note: The astronomical pier is five or six feet from CHIC and is exactly on the line towards RAN 1943. The pier was too large for Sylar to occupy with his instrument without leaning against the pier, which sat in tundra and moved under pressure. Hence the new station. See Sylar's description for distance between them. This difference has been ignored and CHIC assumed to be a recovery of the astronomical station.

When plotting the 1943 smooth sheets, the difference shown above was applied to all of Scaife's and Sylar's geographic positions to bring the sheets on the USN 1934 datum.

In 1944 when the party on the SURVEYOR took up work in the Semichi Islands, the coordinates of stations SHEMA and ALAID so determined were used in their triangulation computations. To reconcile the azimuths so these positions could be used on Form 27 "Position Computation", an inverse computation was made. Starting with the position of SHEMA so determined, and using the azimuth of the line SHEMA-ALAID as determined by the inverse computation and the length of the line SHEMA-SAN 2 as furnished by the Resident Army Engineer, the positions of triangulation stations in the Semichi Islands were computed. The positions of triangulation stations on this topographic sheet were so determined.

Later in the season, the triangulation executed by Scaife and Sylar was recomputed by Lt. Comdr. Shelton on the EXPLORER, starting with the astronomical position of station CHIC as determined by the Navy in 1934 (USE GANNET 1934 datum). This data was not available to the party on the SURVEYOR at the time work was commenced. The recomputed values of ALAID and SHEMA differed slightly in latitude and longitude from that obtained by applying the datum difference.

<u>SHEMA:</u>	<u>Latitude</u>	<u>Longitude</u>
By applying datum difference	52° 44' 36.7591	174° 05' 41.7555
As recomputed by Shelton	52 44 36.594	174 05 41.672
Difference -----	00.005	-00.583

After the parties had returned to Seattle, the Army furnished a revised length of their base line on SHEMA Island, which gave a slightly different length of the line SHEMA-SAN 2 than that furnished the SURVEYOR by the Resident Engineer.

The triangulation executed by the SURVEYOR in the Semichi Islands, 1944, was recomputed using the position of SHEMA and azimuth SHEMA-ALAID as determined by Shelton's recomputations, and for length, the revised length of the line SHEMA-SAN 2.

The following agreements were obtained on the line GALE-SHEMA:

Computed from Army base on SHEMA	6223.52 meters
Computed from Massacre Bay base	<u>6223.16 meters</u>

Difference ----- 0.36
(approximately 1 part in 17,000)

Position of ALAID:

	<u>Latitude</u>	<u>Longitude</u>
Recomputed by Shelton (Massacre Bay base)	52° 46' 1266.9 m.	173° 52' 144.9
Recomputed SURVEYOR's work (Army adjusted base)	<u>52 46 1267.4</u>	<u>173 52 144.9</u>
Difference -----	0.5 m.	0.0

ADDITION TO DESCRIPTIVE REPORT T-6964

Washington Office, May 15, 1945

Detail shown in green on T-6964 was compiled from air photographs in this office.

Photographs:

1-11 at 1:10,000, dated 1944, and 1-V-12, 1-V-18, 1-V-19, 1-V-21 to 1-V-27, 1-V-30, 1-V-32 to 1-V-35, 1-V-38 to 1-V-40, 1-V-47 to 1-V-55, 1-V-57, 1-V-63 at 1:8,000, dated 1944. *6-1 to 6-13, 7-1, 7-4, 2-16 to 2-35, 4-1 to 4-16 at 1:10,000, dated 1944.*

Field Inspection:

Photographs (1:8,000) field inspected by planetable party only to the extent of locating hydrographic signals and triangulation. No shoreline or other detail inspected.

Compilation:

Compilation done by holding hydrographic signals and triangulation that were identified on the photographs. Shoreline and other shore and off-shore detail was delineated on the photographs with the aid of a stereoscope and projected onto the sheet by use of a vertical projector.

Compiled by: A. H. Faulds.

Verified by: *L. H. Maki*

Inspected by L. C. Hardy
H. J. Jones

Inspected:

J. A. Mc Cormick
10/11/45.

GEOGRAPHIC NAMES

Survey No.

T6964

Name on Survey

	On Chart No.	On previous survey No.	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List	
A	B	C	D	E	F	G	H	K	
Aleutian Islands		(for title)							1
Semichi Islands		"			525	740 E		US6B	2
Nizki Island					"			"	3
Alaid Island					"			"	4
Alaid Head					"			"	5
									6
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Names underlined in red approved
by H. Hecker on 10/11/45

NAUTICAL CHARTS BRANCH

SURVEY NO. 6964

Record of Application to Charts

[illegible]

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.