8144

Diag. Cht. No. 8863-3.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. EX-2454 *Office No.* H-8144

LOCALITY

State Alaska

General locality Aleutian Islands, Andreanof Islands

Locality South Side Kanaga Island and Kanaga Bay

1954-55

CHIEF OF PARTY

S. B. Grenell

LIBRARY & ARCHIVES

DATE November 1, 1956

B-1870-1 (1)

8144

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-8144

Field No. EX-2454

State Alaska

General locality Aleutian Islands, Andreanof Islands

Locality South Side Kanaga Island and Kanaga Bay, ~~Kanaga Island~~

Scale 1:20,000 and 1:5,000 (insert) Date of survey 3 September to 12 September 1954
13May to 2 August, 1955

Instructions dated 19 March 1952, 20 February 1953, 23 December 1953, 4 May 1954

Vessel EXPLORER LAUNCHES No. 1, No. 2, and No. 3

Chief of party S. B. Grenell

Surveyed by M. E. Wennermark, J. C. Tison, Jr., H. G. Conerly, ~~and~~ C. W. Clark and K.B. Jeffers

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

Fathograms scaled by fathometer readers

Fathograms checked by S. B. Grenell, M. E. Wennermark, H. G. Conerly, C. D. Upham, and A. C. Haglund

Protracted by (in part) S. L. Hollis & C. E. Pedersen (Seattle Pro.)

Soundings penciled by (in part) S. L. Hollis, L. C. Haverkamp & C.E. Pedersen

Soundings in fathoms ~~feet~~ at ~~MEAN~~ MLLW based on a velocity of sound of 800 fms./sec.

REMARKS:

U. S. GOVERNMENT PRINTING OFFICE 803019

AES

DESCRIPTIVE REPORT
TO ACCOMPANY
HYDROGRAPHIC SHEET H-8144
(FIELD NO. EX-2454)
SOUTH SIDE KANAGA ISLAND, AND KANAGA BAY, ALASKA
PROJECT CS-218, SEASON 1954
SCALES 1:20,000 and 1:5,000 (INSERT)
USC&GSS EXPLORER S. B. GRENELL, COMDG
SURVEYED BY:
M. E. WENNERMARK H. G. CONERLY
J. C. TISON, JR. C. W. CLARK

A. PROJECT:

This survey was executed in accordance with the following instructions for Project CS-218:

Original Instructions dated 19 March 1952.
Supplemental Instructions dated 20 February 1953.
Letter 22/MEK, S-1-EX, dated 4 May 1954, subject; "Hydrographic Surveys - Project CS-218.
Supplemental Instructions dated 23 December 1953.

B. SURVEY LIMITS AND DATES:

The survey involves inshore hydrography from the vicinity of Cape Tusik on the south coast of Kanaga Island, near Longitude 177°20'W, eastward along the southern coast of Kanaga Island to the vicinity of 51°44'N, 177°07'W. A larger scale survey of Kanaga Bay is included in this survey and is incorporated in this sheet as an insert. The areas covered lie between the shore and off-shore hydrography accomplished on Sheet H-8140 (1954).

Date of beginning survey - 3 September 1954.
Date of completing survey- 12 September 1954.

Junctions with prior surveys:

~~H-8055 (1953)~~ (1933)
H-6891 - Kanaga Bay
H-6882 (1933) - Adak Strait - Southern Part. } superseded - see review

Junctions with contemporary surveys:

H-8140 (1954) (EX-4254) Southern Entrance to Adak Strait.
H-8143 (1954) (EX-2354) East Coast Kanaga Island, Adak Strait.
H-8055 (1953)

C. VESSEL AND EQUIPMENT:

Hydrography on this sheet was accomplished by EXPLORER Launches No. 1, No. 2, and No. 3.

Launch No. 1 was equipped with 808 fathometer No. 49 and this fathometer was in operation during all hydrography accomplished by Launch No. 1. Handlead soundings were taken on shoals and on critical points in Kanaga Bay. No correction is applied to the leadline.

Launch No. 2 was equipped with 808 fathometer No. 50 and this fathometer was in operation for all hydrography accomplished by Launch No. 2. The leadline was not used on this launch, except for the purpose of taking bottom samples. No corrections were applied.

Launch No. 3 was equipped with 808 fathometer No. 60 and this fathometer was in operation during all hydrography accomplished by Launch No. 3. The leadline was used on this launch for the purpose of taking bottom samples and the leadline required corrections for depth as noted in section H of this report.

Bottom samples were obtained by using the leadline equipped with snapper type sampling device or with tallow.

All launches were equipped with shoran and most of the hydrography was shoran controlled. (See Special Report on Shoran Corrections, 24 July to 12 September 1954.) Most of the hydrography in Kanaga Bay was controlled by sextant fixes.

D. TIDE AND CURRENT STATIONS:

A portable automatic tide gage was maintained at Cape Chlanak, Kanaga Island while the hydrography was in progress. All tide reducers were derived from the Cape Chlanak gage observations. No time or range corrections were applied. (See Tidal Note attached to this report.)

No current station observations were made in the area of this survey.

E. SMOOTH SHEET:

The smooth sheet projection was made by hand in the Seattle Processing Office. No appreciable distortion was noted.

Shoran arcs were drawn by hand in the Seattle Processing Office and checked by EXPLORER officers.

Triangulation stations and topographic stations for which computed geographic positions were available were plotted and checked by the Seattle Processing Office. The remaining topographic stations were transferred directly to the smooth sheet by pricking through shoreline manuscripts compiled by photogrammetric methods or by transfer from graphic control sheet.

There are no hydrographic stations on the sheet.

F. CONTROL STATIONS:

Triangulation stations were established by:

S. B. Grenell - 1954 C. D. Meaney - 1943

Fourth order geographic positions were computed for horizontal control stations TANK and COG. Positions were computed for the following control stations in addition to those mentioned above:

TAP	PIX
SAY	AGE
RAM	BON

EAR

(The above were not identified for horizontal control but some of them could be used as horizontal control)

Signals listed below were located by graphic control on graphic control sheet EX-C-54, scale 1:5,000: (graphic-control sheet destroyed)

DUB	NIL
FEZ	MOB
GUS	LUG

HOP

All signals appear on the large scale manuscript No. T-11555 (1954) compiled from the 1:5,000 scale photographs flown after graphic control sheet EX-C-54 was completed and after field inspection for manuscript T-9940 was finished - thus the duplication in sources for various signals. (See Field Inspection Report for Maps T-9925, T-9926, T-9932 thru T-9934, T-9940, T-9941, Kanaga Island, Alaska - EXPLORER 1954. all of 1952-54,

G. SHORELINE AND TOPOGRAPHY:

Shoreline and topography for this survey was transferred to the smooth sheet from Shoreline Manuscripts ~~T-9939,~~ T-9940,* T-9941,* and T-11555, (1954) as compiled by photogrammetric methods from field inspection data from 1953 and 1954. The shoreline on the boat sheet was transferred from a preliminary air-photo compilation and is superseded by 1954 field inspection reports.

(RS490, filed as Bp.50217) *(1952-54)

(final verification from reviewed manuscripts)

Offshore signals are on rocks.

The low-water line was not defined by soundings on the southern coast of Kanaga Island. Surf conditions, kelp, and foul coast line prevented sounding into the low-water line. The foreshore is steep in various places and the low-water line coincides with the high water line.

Some low-water line was defined by soundings in the large scale survey of Kanaga Bay particularly in the northernmost end of the bay. No LW line determined by hydro; approx. LW line transferred from RS496.

Kelp and foul areas are defined by hydrography and, in most cases, were sketched on the boat sheet during the progress of the survey.

Discrepancies between topographic and hydrographic surveys are noted in section U. of this report.

It is to be noted that references made by the hydrographer concerning distances to topographic detail are always estimated distances unless otherwise noted.

H. SOUNDINGS:

All soundings recorded on sounding lines were obtained with echo sounding equipment listed in section C.

Handlead soundings were obtained on shoals or at detached positions while obtaining bottom samples.

The leadline used by Launch No. 3 required corrections for depth as follows:

Mark (fms)	True depth (fms)	Correction (fms)
3.0	3.0	0.0
4.0	4.1	+ 0.1
All intermediate marks		+ 0.1
23.0	23.1	+ 0.1
24.0	24.2	+ 0.2
All intermediate marks		+ 0.2
27.0	27.2	+ 0.2

See also "Special Report on Fathometer Corrections - Ship EXPLORER - Season 1954".

I. CONTROL OF HYDROGRAPHY:

Hydrography in the Kanaga Bay area was controlled mainly by sextant fixes on shore signals. The remainder of the survey was controlled by shoran using stations LANA and YAKA. The computations for the location of stations YAKA and LANA are included in the descriptive report for Hydrographic Sheet H-8139.

See "Special Report on Shoran Corrections" - Project CS-218, 24 July to 12 September 1954," for descriptions of the shoran stations and derivation of corrections applied to shoran distances. ✓

J. ADEQUACY OF SURVEY:

There is a holiday in the soundings in one bight about two miles northwest of Cape Tusik. This is the only holiday in the survey and it is recommended that this area be surveyed in the 1955 field season. (See Season Report - Ship EXPLORER - 1954). The boat sheet is being retained for this purpose and will be forwarded to the Processing Office when the survey is completed. Surveyed in 1955; Notes on 1955 work attached to this report

See ~~Appendix I~~ Review for discussion of junctions with adjoining surveys and comment with reference to depth curves.

The survey complies with the Project Instructions and practices in the Hydrographic Manual. ✓

K. CROSSLINES:

Crosslines represent about 7% of the regular system of sounding lines on the 1:20,000 survey. ✓

On the larger scale survey of Kanaga Bay, the crosslines represent about 5% of the regular system of sounding lines. ✓

See Appendix I for discussion relative to discrepancies at crosslines. ✓

L. COMPARISON WITH PRIOR SURVEYS:

The only survey of the south coast of Kanaga Island included in this survey is that of the U.S. Navy Aleutian Islands Survey Expedition of 1933. That survey is of a smaller scale and is more of the nature of a reconnaissance survey. This survey supersedes all such surveys. See review

The Kanaga Bay area was surveyed by the U.S. Navy in 1933 on 1:5,000 scale. This survey supersedes the 1933 survey.

M. COMPARISON WITH CHART:

This survey is in general agreement with information charted on Chart No. 9121. However this survey is an original basic survey and supersedes all presently charted information. See review

N. DANGERS AND SHOALS:

The shoreline is fringed with rocks and kelp. ✓

The entrance to Kanaga Bay is constricted by large foul areas of numerous breakers and dense kelp on both sides. These areas are shown on the boat sheet. Three off-lying shoal areas were found as follows:

(Locations scaled from ~~boat~~ smooth sheet)

Position No.	Lat. N.	Long. W.	Depth (fms)
63c ✚ 3 (1ch 1)	51°42.06	177°11.372	7.8 5
~~59c ✚ 1½ "~~	~~51°42.08~~	~~177°11.37~~	~~2.1~~ read kelp
62c ✚ 4½ "	51°42.165	177°11.384	~~2.3 4~~ 2 6 5

The above features were found on regular sounding lines by fathometer and no development was accomplished.

Several submerged pinnacles were found off-shore south of Cape Tusik. A large development was run over this area. Soundings were inked on an overlay tracing which accompanies this sheet. Other features were found off the point about 2⅓ miles west of Cape Tusik. These features are listed below: Overlay attached to this report

Position No.	Lat. N.	Long. W.	Depth (fms)
~~12a~~ 48c	51°40.4~~8~~ 18	177°16.7~~1~~ 1,28	~~4.7 5.2~~ 5 6
11c ✚ 5	51°40.37'	177°16.81~~3~~ 13	~~4.0~~ 9 2
35a ~~36a ✚ 1~~ +5, and 36a	51°40.67'	177°19.81'	~~2.1 3~~ 3 2
~~13a~~	~~51°40.43'~~	~~177°16.30'~~	~~3.4~~ kelp
~~59c ✚ 2~~	~~51°40.21'~~	~~177°15.93'~~	~~9.8~~ read kelp

~~See Appendix I for a list of other limiting dangers found.~~ No additional listing submitted.

O. COAST PILOT INFORMATION:

See "Coast Pilot Notes - U.S. Coast Pilot - Alaska, Part II, Yakutat Bay to Arctic Ocean - Ship EXPLORER - 1954", for Coast Pilot information and recommended anchorages.

During the survey, the weather from the south prevented the launches from anchoring. In general, the south coast of Kanaga Island is fringed by foul area and there are very few places that are protected from the southerly seas. Kanaga Bay and False Bay provide some protection for small boats.

P. AIDS TO NAVIGATION:

Several fixed aids are located in the Kanaga Bay area. These are listed in the "Special Report on Nonfloating Aids and Landmarks for Charts" Ship EXPLORER - Season 1954. (CL995-1954) see review

There are no bridges, overhead or submerged cables, or ferry routes within the area of this survey.

Q. LANDMARKS FOR CHARTS:

Landmarks within the area of this survey and those recommended for charting are listed in the "Special Report on Nonfloating Aids and Landmarks for Charts" Ship EXPLORER - Season 1954. (CL 995-1954)

R. GEOGRAPHIC NAMES:

See "Special Report on Geographic Names - BOBROF, KANAGA, and ADAK ISLANDS" - USC&GSS EXPLORER - Season 1954.

U. MISCELLANEOUS:

The sounding line connecting position 123b and 124b (1ch #2) appears to pass directly over the topographic rock symbol, lat. 51°40.95' and long. 177°15.39', transferred from ~~T-9940~~ RS 490. No explanatory note was found in the sounding volume. A shoal sounding of 0.9 fms was received at the position of the rock and it is assumed that the sounding line passed just north of the rock. (Rock symbol changed to "breaker" on final T-9940; "02 brks" on H-8144)

At lat. 55°39.95' and long. 177°~~15.39~~ 17.7' there is a gap of 250 meters with no soundings. This was caused by jamming of the gears in the fathometer for approximately 1 minute between positions 147a and 148a. The bottom in this area is relatively regular and no additional work is recommended.

Z. TABULATION OF APPLICABLE DATA:

Data forwarded with this report:

1. Smooth Sheet H-8144.
2. One overlay tracing of development area.
3. Six sounding volumes 1 thru 6.
4. Two boat sheets H-8144 (EX-2454b, and EX-2454c).
5. Fathograms for Launches No. 1, No. 2, and No. 3.

Data forwarded separately:

(a) Field Inspection Report - Maps T-9932 and T-9937 (part) thru T-9939 - Kanaga Island, Alaska, Ship EXPLORER - 1953, forwarded to Washington Office 23 November 1953.

(b) Field Inspection Report - Maps T-9925, T-9926, T-9932 thru T-9934, T-9940, and T-9941 - Kanaga Island, Alaska, Ship EXPLORER 1954.

(c) Tide data for Cape Chlanak tide station forwarded 11 October 1954.

(d) Special Report* 141 on Shoran Corrections, 24 July to 12 September 1954 Ship EXPLORER - forwarded 11 March 1955.

#142

(e) Special Report on Fathometer Corrections - Ship EXPLORER - Season 1954, forwarded 25 February 1955.

(f) Special Report on Geographic Names - BOBROF, KANAGA, and ADAK ISLANDS - Ship EXPLORER - Season 1954, forwarded 18 November 1954.

(g) Coast Pilot Notes - Ship EXPLORER - Season 1954, forwarded 20 December 1954.

(h) Second and Third Order triangulation, Adak Strait, Ship EXPLORER Season 1954.

(i) Computations for positions of Shoran Station LANA included in Descriptive Report for Hydrographic Survey H-8139.

(j) Special Report on Non-floating Aids and Landmarks for Charts - Ship EXPLORER - 1954 Season. (CL 995-1954)

(k) Season's Report - Ship EXPLORER - Project CS-218 - 1954, forwarded 30 November 1954.

Respectfully submitted,

Allan C. Haglund

Allan C. Haglund
Ensign USC&GS

APPENDIX I

The crossline in the area off Cape Tusik was checked against the sounding lines and crossings appeared satisfactory. Because of the jagged bottom profile, differences of up to 2 fathoms should not be considered extreme in that area.

STATISTICS

HYDROGRAPHIC SURVEY H-8144 (1954)
FIELD NO. EX-2454
SHIP EXPLORER
PROJECT CS-218

VOL. NO.	DAY LTR	DATE	H.L. BOT. SAMPLE OR WIRE SDGS	NO. POS.	STATUTE MI. SDG LINES
1 (Lch 3)	a	9/3/54	-	67	13.8
1 "	b	9/4/54	-	162	39.7
1 & 2 "	c	9/9/54	-	142	44.0
2 "	d	9/10/54	-	83	21.2
2 "	e	9/12/54	-	55	12.7
3 (Lch 2)	a	9/4/54	-	158	49.3
3 & 4 "	b	9/9/54	1	159	48.9
4 "	c	9/10/54	-	174	37.3
5 (Lch 1)	a	9/8/54	-	159	13.9
5 & 6 "	b	9/9/54	-	133	13.5
6 "	c	9/10/54	14	143	14.9
	TOTALS		15	1435	309.2
			add. Wk -	103	16.7
				1538	325.9

AREA - 16.5 Square statute miles

TIDAL NOTE

To accompany Hydrographic Sheet EX-2454, Reg. No. H-8144

Tide reducers for the whole sheet were taken from records of Cape Chlanak tide gage at Latitude 51-42.6
" Longitude 177-08.7

MLLW on the staff was 3.0 ft. No correction was made for distance from the gage.

APPROVAL SHEET
H-8144
EX-2454

This survey was accomplished entirely by EXPLORER Launches No. 1, No. 2, and No. 3. The boat sheets and fathograms were inspected as the work progressed. The survey is complete and adequate with the exception of one holiday as noted in the text of this report. Additional field work is necessary to complete this survey. ← add'l work done in 1955

Some of the positions and soundings were smooth plotted by this command and the records transferred to the Processing Office for the remainder of the plotting.

The descriptive report, records, and smooth sheet have been examined and are approved.

S. B. GRENELL,
Captain, C&GS
Comdg. Ship EXPLORER

Notes to Accompany

Supplemental Hydrography

On H-8144 (Field No. EX-2454)

Project 1218 - Season 1955

South Side of Kanaga Id., Vicinity of Cape Tusik

USC&GSS EXPLORER, S. B. Grenell, Comdg.

Scale 1:20,000, Surveyed by K. B. Jeffers.

This report supplements the Descriptive Report previously submitted for H-8144 (EX-2454) and is concerned only with the hydrography accomplished in the vicinity of Cape Tusik at the western limit of the survey. One boat sheet was retained on the EXPLORER under authority contained in Director's letter dated 7 March 1955, file 22/MEK, S-1-EX.

B. SURVEY LIMITS AND DATES

The survey was limited to the area in the vicinity of Cape Tusik, on the south coast of Kanaga Id. which was left unfinished at the end of the 1954 Field Season.

Field work was accomplished on 13 May and 2 August 1955.

C. VESSEL AND EQUIPMENT

The supplemental hydrography was done by EXPLORER Launch No. 3 using 808 fathometers numbers 127S and 113S operating on "A" scale only.

D. TIDE AND CURRENT STATIONS

There were no tide or current stations in the area of the 1955 field work. Soundings were reduced for tide by reference to the standard station at Sweeper Cove, Adak, with a time difference of -1.5 hours and range factor of 0.9.

E. SMOOTH SHEET

This hydrography will be plotted on the smooth sheet by personnel at the Seattle Processing Office.

F. CONTROL STATIONS

Two new photo-hydro signals were established in 1955. The photographs were forwarded to the Washington Office for photogrammetric locations of the signals. See copy of letter attached for location of signals GOT and JAY.

H. SOUNDINGS

All soundings were scanned from continuous profiles recorded on 808 type fathometers and corrected for draft, tide, and variation of initial setting. See Special Report on Fathometer Corrections, Ship EXPLORER, 1955 Field Season.

I. CONTROL OF HYDROGRAPHY

All sounding lines are controlled by sextant angles on photo-hydro signals.

Respectfully submitted

Karl B. Jeffers

Karl B. Jeffers
Comdr., C&GS

List of Signals Used

On H-8144 (EX-2454)

1955 Field Season

NAME	SOURCE
Ann	~~T-9940~~ RS 490
Bow	~~"~~ "
Cat	T-9940
Day	"
Elf	"
Fig	"
Got*	"
Jay*	"

* See letter 731-mkl, dated 13 October 1955, copy attached to Descriptive Report.

Statistics - H-8144

1955 Field Work

Vol. No.	Day Ltr.	Date	No. Pos.	Sta. Miles Sdg. Lines
7 (Lch. #3)	f	5-13-55	33	7.1
7 "	g	8-2-55	70	9.6
	1955 TOTAL		103	16.7

Area(1955 work) 1.1 Sq. Sta. Miles.

(COPY)

731-mkl

13 October 1955

To: Commanding Officer
U.S.C.& G.S. Ship EXPLORER
705 Federal Office Building
Seattle, 4, Washington

Subject: Photo-hydro stations GOT and JAY

In compliance with your letter dated 6 October 1955, photo-hydro stations GOT and JAY were located photogrammetrically on map manuscript T-9940, and their scaled positions are:

GOT: Latitude 51° 40' 1528 m Longitude 177° 16' 413 m

JAY: " 51° 41' 171 m Longitude 177° 17' 676 m

It would be helpful to the photogrammetrist if, in the future, brief descriptions of photo-hydro stations were furnished as a means of evaluating the accuracy with which the stations were identified on the photographs.

/s/ Robert W. Knox
Acting Director

PROCESSING OFFICE NOTES
H-8144 EX-2454

SMOOTH SHEET

Covered in the report by the hydrographer. ✓

CONTROL STATIONS

Hydrographic signals for the 1955 work were transfered from T-9940, Kanaga Island, except for Signals ANN and BOW which were transfered from the boat sheet. See the Directors letter 73-mkl dated 22 May 1956, a copy of which is enclosed with these notes.

Boat-sheet positions of ⊙Ann & ⊙Bow from RS 490.

SOUNDINGS

After the depth curves were drawn, shoal soundings were checked on the fathograms. In some instances it was found that kelp had been read instead of the true bottom. A spot check was made of all fathograms and where the bottom under the kelp could be distinguished, or where the second echo gave reasonable proof of the bottom, changes were made. However this area is heavy with kelp beds and in general the fathograms, in kelp areas either, are ~~both~~ difficult or and impossible to read properly. Some sections are good as evidenced by the start of "c" day launch 2, where the difference between rocky points and kelp can be readly distinguished. ✓

A number of penciled changes were made in the soundings as well as in the report. ✓

It was felt that the soundings from 1c to 77c, launch 2, that were plotted on the overlay were a necessary part of the smooth sheet and were penciled thereon. Due to the rescanning of the fathograms the smooth sheet soundings will be deeper on the shoal, as compared to the overlay.

Included in this rpt.

← Overlay revised by verifier

CONTROL OF HYDROGRAPHY

Positions 4c to 15c, launch 1, ~~was~~ were plotted on the 1:20,000 and the soundings penciled thereon, because shoran was used to control these positions. ✓

DANGERS AND SHOALS

Rocks, reefs ledges and kelp as noted in the record books were plotted. Any additional rocks, kelp etc. were transfered from the boat sheet. ✓

φ51-41.8
λ177-12.2

A rock awash noted in vol. 1, pg. 65, pos. 54c, is apparently in error as to direction. If plotted to the SW, as noted, it falls in deep water. If plotted to the NE it checks the rocks shown from T-9940. A check of the fathogram shows no indication of a rock to the SW.

A rock noted in vol.4, pg. 39, pos. 164c, gives no distance or direction. (Presumed to refer to rock from T-9940, φ51-42.14 λ177-13.63)

ADEQUACY OF SURVEY

The junctions with adjacent surveys have not been checked, no prints of same being available in the Processing Office.

The survey agrees within itself and the depth curves can be adequately drawn except for the inshore curves. Because of the foul character of the shoreline the inshore curves were not developed.

AIDS TO NAVIGATION AND LANDMARKS FOR CHARTS

This office was not furnished the EXPLORER'S "Special Report On Nonfloating Aids & Landmarks For Charts".

Respectfully submitted

Clarence E. Pedersen

Clarence E. Pedersen
Cart. Aid (Gen), C&GS

Examined and approved

William M. Martin

William M. Martin
Cartographer-in-Charge, S.P.O.

Approved and forwarded

Frank G. Johnson

Frank G. Johnson, Captain, C&GS
Seattle District Officer

73-mkl

22 May 1956

To: Seattle District Officer
Coast and Geodetic Survey
705 Federal Office Building
Seattle 4, Washington

Subject: Photo-topo signals for H-8144 - Project 6034

In reference to your letter dated 15 May 1956, one ozalid print of map T-9940, Kanaga Island, has been forwarded to you.

Clouds precluded location of photo-hydro signals ANN and BOW; all others as requested in your letter were delineated on the map manuscript.

Acting Director

Form 537a
Ed. Nov. 1929

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

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. EX-C-54

REGISTER NO.

State Alaska

General Locality Aleutian Islands - Andreanof Islands

Locality Kanaga Island - Kanaga Bay

Scale 1:5,000 Date of survey September, 1954

Vessel Ship EXPLORER

Chief of party S. B. Grenell

Surveyed by J. C. Tison, Jr.

Inked by J. C. Tison, Jr. and J. D. Walker

Heights in feet above - - - - - - to ground to tops of trees

Contour, Approximate contour, Form line interval - - - Feet

Instructions dated 3/19/52, 12/23/53, 5/4/54, 19....

Remarks: Graphic control only

GPO 866853

Graphic Control survey EX-C-54 has been marked for destruction as all pertinent information thereon has been transferred to H-8144 (1954-55).

Descriptive Report
to accompany
Graphic Control Topographic Sheet
Field No. EX-C-54
Kanaga Bay - Kanaga Island
Aleutian Islands, Alaska
Season 1954
Ship EXPLORER - S. B. Grenell, Comdg.

Instructions:
Original INSTRUCTIONS for Project CS-218 dated 19 March 1952, with supplements dated 23 December 1953 and 4 May 1954, govern.

Purpose:
The survey was conducted to locate signals for controlling hydrography executed in advance of photogrammetric surveys.

Scale:
The scale is 1:5,000, which was used also for the hydrographic survey of Kanaga Bay.

Control:
Second and third order triangulation stations established in 1943 and 1954, supplemented by hydrographic signals located by theodolite cuts in 1954, furnished control for the graphic control work. All stations and signals are on the 1927 North American datum. The triangulation established in 1943 is adjusted, while the position of triangulation station PERCH 1954 and the positions of signals located by theodolite in 1954 are unadjusted.

Limits:
While the sheet covers the entire area of Kanaga Bay and its entrance, the graphic control work by planetable was actually confined to the southern half of the bay, its entrance, and the outside shoreline for a distance of 1/2 mile east of the entrance. Signals shown in the northern half of the bay were all located by theodolite cuts, and their plotted positions were checked by planetable cuts whenever possible. They were also used for checking planetable orientation.

Methods:
Standard topographic methods were used throughout. Planetable set-ups were made over triangulation stations to start the survey, and thereafter were located by projecting azimuths and resecting on two or more previously established stations or signals, so distributed as to give a strong location.

Signals for hydrography were located either by a combination of theodolite and planetable cuts, by planetable cuts alone, or by a combination of planetable cuts and stadia distance. Signals "Gus" and "Hop" were located by the latter method, and all others by three or more cuts from points selected to give a strong intersection.

Adequacy:

The graphic control work is adequate for controlling the hydrography subsequently accomplished to the same 1:5,000 scale. Topography of the area will result from 1954 photogrammetric surveys. ✓

Previous Surveys:

The only previous survey was by the U. S. Navy in 1933. No attempt was made to check any part of this survey. ✓

Landmarks:

All landmarks for charts in the area are being submitted separately on Form 567 and will be plotted as such on the hydrographic smooth sheet. CL 995-1954

Aids to Navigation:

There are no aids to navigation in the area covered by this sheet. ✓

Geographic Names:

The name Kanaga Bay (Chart 9121) is well established.

There are no other known named features in the area, and since it is uninhabited, local usage does not apply. ✓

See Special Report on Geographic Names, Season 1954, for recommended names for unnamed features.

Statistics:

The following signals were located exclusively by planetable:

Mob	Gus
Lug	Hop

The following signals were located by a combination of theodolite and planetable cuts: ✓

Nil	Ear
Dub	Fez

The following signals, located by theodolite and plotted on the sheet, were checked by planetable cuts and used to check planetable orientation:

Stake	Ram
Tank	Say
Cog	Tap
Pix	Age
Bon	

Respectfully submitted

James C. Tison, Jr.

James C. Tison, Jr.
Commander, C&GS

Approved and forwarded:

S. B. Arnell
Chief of Party

GEOGRAPHIC NAMES ON H-8144

ANGORA POINT

CAPE CHLANAK

CAPE TUSIK

FALSE BAY

INDIAN POINT

KANAGA BAY

KANAGA ISLAND

KAYAK COVE

MEMORIAL POINT

~~NAGA POINT~~ (outside limits of H-8144)

PACIFIC OCEAN

POINT DECEIT

RANGE POINT

SWALLOW POINT

TOTEM ROCK

WRECK REEF

RHC

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. Apr. 1950

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~

Nov. 23, 1956

Division of Charts: R. H. Carstens

Plane of reference approved in
7 volumes of sounding records for

HYDROGRAPHIC SHEET 8144

Locality Kanaga Island, Alaska

Chief of Party: S. B. Grenell in 1954-1955
Plane of reference is mean lower low water, reading
3.0 ft. on tide staff at Cape Chlanak
7.7 ft. below B. M. 2 (1954)

3.0 ft. on tide staff at Sweeper Cove

19.6 ft. below B.M. 16 (1951)

Height of mean high water above plane of reference is:
Cape Chlanak 3.4
Sweeper Cove 3.7

Condition of records satisfactory except as noted below:

William Shofus

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

U. S. GOVERNMENT PRINTING OFFICE 877933

GEOGRAPHIC NAMES

Survey No. H-8144

Name on Survey	On Chart No. A	On previous survey No. B	On U. S. quadrangle Maps C	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
Alaska			(for title)							1
Aleutian Islands			"	"						2
Pacific Ocean										3
Kanaga Island									BGN	4
~~Naga Point~~ (not in area of H-8144)									"	5
False Bay										6
Cape Chlanak			(tide station)						BGN	7
Kanaga Bay									"	8
Indian Point										9
Totem Rock										10
Memorial Point										11
Angora Point										12
Kayak Cove										13
Range Point										14
Wreck Reef										15
Swallow Point										16
Cape Tusik									BGN	17
Point Deceit										18
										19
			Names approved 11-20-56							20
					L. Heck					21
										22
										23
										24
										25
										26
										27
										M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8144

Records accompanying survey:

Boat sheets 3; sounding vols. 7; wire drag vols. .....;
bomb vols. .....; graphic recorder rolls 4 envelopes
special reports, etc. 1 Descriptive report, 1 Smooth Sheet,
1 Overlay to accompany smooth sheet

The following statistics will be submitted with the cartographer's report on the sheet:		Totals	D.J.K.	J.E.G.
Number of positions on sheet		1538	461	1077
Number of positions checked		53	35	18
Number of positions revised		2	1	1
Number of soundings revised (refers to depth only)		137	52	85
Number of soundings erroneously spaced		* 99	99	0
Number of signals erroneously plotted or transferred		0		0
Topographic details	Time	36	12	24
Junctions	Time	26	10	16
Verification of soundings from graphic record	Time	16	8	8

Verification by D.J. Kennon 109 8-29-57
J.E. Gearhart ~~Total~~ time 140 Date 12-3-57
Total time 249

Reviewed by W.L. Evans Time 71 Date 2/5/58

* Corrections to spacing necessitated by errors in scanning fathograms.

M-2232-1

DIVISION OF CHARTS

REVIEW SECTION-NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8144 FIELD NO. EX-2454

Alaska-Aleutian Islands-South Side Kanaga I. & Kanaga Bay

Surveyed: Sept. 1954 to August. 1955 Scale:1:20,000(1:5,000 Insert)

Project No. CS-218

Soundings:

808 depth recorder
hand lead

Control:

Shoran
Sextant fixes on shore signals

Chief of Party - S. B. Grenell
Surveyed by - M. E. Wennermark, J. C. Tison, Jr., H. G. Conerly, C. W. Clark & K. B. Jeffers
Protracted by - S. L. Hollis & C. E. Pedersen
Soundings plotted by - S. L. Hollis & C. E. Pedersen
Verified and inked by - D. J. Kennon & J. E. Gearhart
Reviewed by - L. V. Evans III
Inspected by - R. H. Carstens

1. Shoreline and Control

The shoreline originates with reviewed photogrammetric surveys T-9940 and 9941 of 1952-54 and T-11555 (1954).

The sources of control are given in the Descriptive Report.

2. Sounding Line Crossings

Depths are in reasonable agreement at sounding line crossings.

3. Depth Curves and Bottom Configuration

Depth curves of 10 fms. and deeper are completely defined; in depths less than 10 fms. the steep, rocky foreshore or extensive foul areas along shore allowed only fragmentary development of the inshore curves.

The area of this inshore survey lies entirely within the island shelf. The bottom is rugged and irregular, with many shoals and pinnacles rising sharply from the uneven slope of the shelf.

4. Junctions with Contemporary Surveys

Satisfactory junctions were effected with H-8055 (1953) to the west and H-8140 (1954) to the south. Junctions with H-8139 (1954) to the east and H-8143 (1954) to the northeast will be considered in the reviews of those surveys.

5. Comparison with Prior Surveys

A) H-6891 (1933) 1:5,000
H-6882 (1933) 1:40,000

These U. S. Navy reconnaissance surveys are in general agreement with the present survey. However, a number of soundings on these prior surveys are obviously in error, as for example:

Prior Depth	Lat.	Long.	Present Depth
1 3/4 fms.	51°43.18'	177°12.15'	3.1 fms.
6 1/2 "	51°42.83'	177°12.10'	7.3-7.5 fms.

A further indication of the reconnaissance nature of these prior surveys is shown by the fact that nothing less than 22 fms. was found in the vicinity of the 13-fm. shoal in lat. 51°41.87', long. 177°11.40' on the present survey.

The present survey entirely supersedes these prior surveys within their common areas.

B) H-6778 (1943-45) 1:120,000 Reconnaissance (C&GS)

The one line of soundings from this prior, small-scale reconnaissance survey which extends into the area of the present survey reveals no information of cartographic interest. The present survey supersedes this prior survey within their common area.

6. Comparison with Chart 9121 (8/25/52)
Chart 9193 (6/3/57)
Chart 8863 (7/29/57)

A) Hydrography

The charted hydrography originates largely with the prior surveys previously discussed and needs no further consideration.

On Chart 9193 considerable inshore hydrography has been charted from copies of the boat sheets of the present survey (Bp. 51868-70). A number of shoal soundings so charted were subsequently interpreted to be kelp on the fathograms and revised as much as 6.7 fms. on the verified smooth sheet. The following are some important examples of such revisions:

Charted (from Boat Sheet)	Lat.	Long.	Final Smooth Sheet
10 fms.	51°40.0'	177°15.54'	12 fms.
3 "	51°40.5'	177°16.3'	5.6" " 4/ 9/73
1 "	51°41.05'	177°14.1'	5.5 " 4/ 9/73
2 "	51°42.08'	177°11.35'	8.7 " Charted 7½ nearly 4/ 9/73

The visible wreck in lat. 51°42.17' long. 177°11.78' (Chart 9121) was reported by the field party to have shifted position (CL 995-1954). There are two wrecks on the present survey near the shoreline northwest of the former position of the charted wreck.

The present survey entirely supersedes the charted hydrography within the survey limits.

B) Aids to Navigation

There are no official aids to navigation maintained by the Coast Guard within the area of this survey. Of the beacons shown on Chart 9121, all but one were reported no longer existing and that one was recommended for charting as a landmark (CL 995-1954).

The mooring buoy charted in lat. 51°43.17', long. 177°12.02' (Chart 9121) was no longer in existence at the time of the present survey (CL 995-1954).

7. Condition of Survey

A.) The field records and reports are complete and comprehensive.

B.) The smooth plotting was satisfactory.

C.) Numerous soundings originally scanned on the top of kelp traces were revised in the Washington Office.

8. Compliance with Project Instructions

This survey adequately complies with the project instructions.

9. Additional Field Work Recommended

This is considered a good, basic survey and no additional field work is recommended. However, as a matter of record it is noted that the shoals off the entrance to Kanaga Bay in approximate lat. 51°42:1, long. 177°11:3 were not developed except by the regular system of sounding lines. 50m spacing.

Examined and approved:

Max G. Ricketts
Chief, Nautical Chart Branch

~~Charles A. Schanck~~
Chief, Division of Charts

Karl B. Jeffers
Chief, Hydrography Branch

Samuel B. Grenell
Chief, Division of Coastal Surveys

51°41'

51° 40'

177° 17'

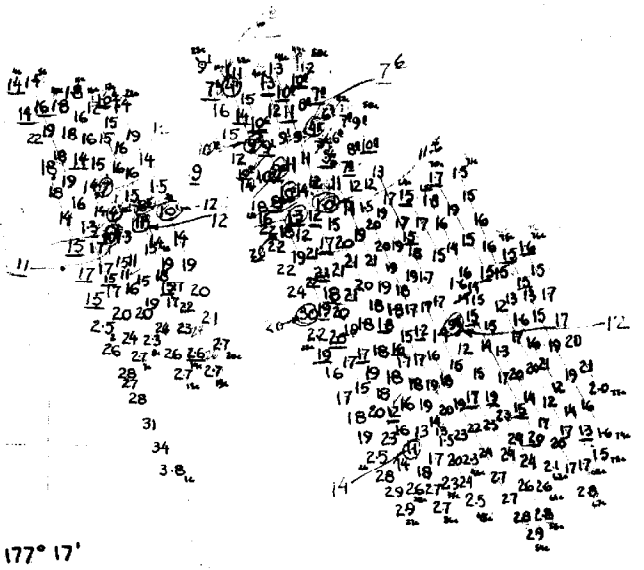
177° 15"

Soundings underlined in green have been transferred to Smooth Sheet.

Revisions in green made during verification.

Overlay to Accompany EX-2454

51° 41'



51° 40'

177° 17'

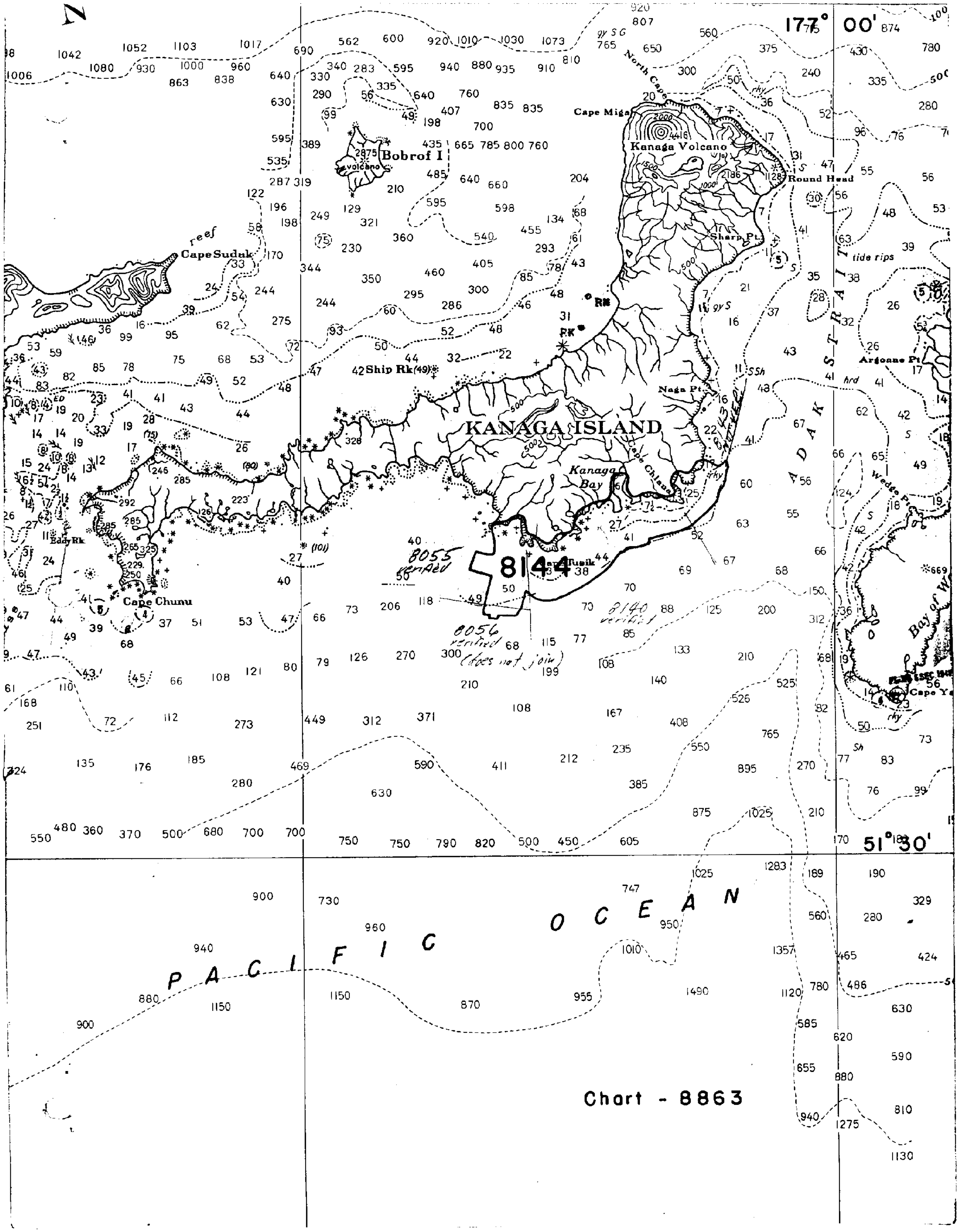
177° 15'

Soundings underlined in green have been transferred to Smooth Sheet.

Revisions in green made during verification.

Overlay to Accompany EX-2454

814


N
177° 00'
51°30'
KANAGA ISLAND
Kanaga Volcano
Cape Miga
North Cape
Round Head
Sharp Pt.
Naga Pt.
Kanaga Bay
Cape Chlanc
Bobrof I
Cape Sudak
Ship Rk
Eddy Rk
Cape Chunu
Argonne Pt
Wedge Pt
ADAK STRAIT
tide rips
PACIFIC OCEAN
8144
8055 verified
8056 verified (does not join)
8140 verified
Chart - 8863

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8144

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
6-11-58	8863	Wittmann	~~Before~~ After Verification and Review
9/2/69	9193	[illegible]	~~Before~~ After Verification and Review [illegible]
10-18-67	9121	Romesburg	~~Before~~ Full After Verification and Review applied sndg &
			curves ~~[illegible]~~ Kanaga Bay
12/30/92	16467	Joseph [illegible]	~~Before~~ After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

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