

8139

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-4154 Office No. H-8139

LOCALITY

State Alaska - Aleutian Islands

General locality Andreanof Islands

Locality Adak Strait and North Approach

1945

CHIEF OF PARTY

S. B. Grenell

LIBRARY & ARCHIVES

DATE January 7, 1958

B-1870-1 (1)

8139

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-8139

Field No. EX-4154

State Alaska

General locality Aleutian Islands, Andreanof Group ~~Group~~ Islands

Locality ~~North coast Tanaga Island~~; Adak Strait and north approach

Scale 1:40,000 Date of survey 7 July - 21 August 1954

Instructions dated 19 March 1952; 20 Feb. 1953; 6 April 1953; 23 Dec. 1953

Vessel EXPLORER

Chief of party S. B. Grenell

Surveyed by S. B. Grenell; W. F. Malnate; K. B. Jeffers; J. C. Tison, Jr.

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

Fathograms scaled by fathometer readers

Fathograms checked by K. B. Jeffers

Protracted by C. A. J. Pauw

Soundings penciled by C. A. J. Pauw

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

REMARKS: Transferred to Seattle Processing Office for smooth plotting

Positions and soundings for "R" day were plotted by ship personnel. (See approval sheet of Descriptive Report)

Handwritten initials

Descriptive Report
to accompany
Hydrographic Survey No. H-8139
(Field No. EX-4154)
Adak Strait and North Approaches
Project CS-218 - Season 1954
Scale 1:40,000

Surveyed by: S. B. Grenell, W. F. Malnate, K. B. Jeffers and J. C. Tison, Jr.

A. PROJECT

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

1. Original instructions dated 19 March 1952
2. Supplemental instructions dated 20 February 1953
3. Letter 22/MEK, S-1-EX, dated 6 April 1953, subject - "Clarification of Instructions".
4. Supplemental instructions dated 23 December 1953.

B. SURVEY LIMITS AND DATES

This survey includes all of Adak Strait (except the inshore areas), the north approach to the strait out to the 1,000 fathom curve; and the offshore area north of the north end of Kanaga Island. The western limit of the survey is approximately Longitude 177-15 W.

Hydrography was begun on 7 July and completed on 21 August 1954.

This survey joins prior survey H-7978, (1:400,000) (1952) on the north and constitutes a resurvey of parts of U. S. Navy surveys H-6881 and H-6882 (1:40,000) in Adak Strait.

Junctions were made with contemporary surveys as follows: H-8057 (1:60,000) north of Cape Miga; H-8140 (1:40,000) at the south end of Adak Strait, and these 1:20,000 scale inshore surveys in Adak Strait: H-8143, H-8144, H-8145 and H-8146, H-8236 (1955) and H-8233 (1955) (1954-55) (1954) (1954) (1954) (1954)

Sec
#4 of
Review

C. VESSEL AND EQUIPMENT

All hydrography on this survey was accomplished by the Ship EXPLORER.

Turning radius of the ship (from 1952 descriptive report):
Full right rudder - 360 meters
Full left rudder - 275 meters

Soundings were scaled from continuous profiles recorded on 808 fathometer No. 113-S in depths within the limits of its range. EDO fathometer No. 4 was used generally in depths greater than 100 fathoms.

D. TIDE AND CURRENT STATIONS

A standard tide gage was in operation at Adak throughout the season. ✓

During the progress of this survey, portable tide gages were operated at Barabara Island, Sharp Point, Unalga Bight, and Cape Chlanak. ✓

Soundings on July 10 were reduced for tide as recorded at Barabara Island. On July 13 the Barabara Island record was used until the gage was dismantled and the Adak record was adjusted to Barabara Island for the remainder of the day. On July 16 reducers were taken from the Unalga Bight gage which was the only gage in operation on that date. The observations at Sharp Point were used to reduce all soundings on July 23rd. All other soundings were referred to the Sharp Point or Cape Chlanak gages with the dividing line being the 6.3 mile arc to the south and east from shoran station KEEN.

Three current stations in Adak Strait were observed as follows:

- Sta. No. 8 in 24 fms. Lat. 51-48.0, Long. 176-56.8. (H-8145 & H-8146)
- Sta. No. 6 in 18.5 fms. Lat. 51-47.1, Long. 177-05.4. (H-8143)
- Sta. No. 7 in ~~44~~⁴⁰ fms. Lat. 51-47.9, Long. 177-00.2. ✓

Observations were made with the Roberts Radio Current Buoys. A minimum of 100 hours of continuous observations was obtained for each station. ✓

E. SMOOTH SHEET

The smooth sheet projection was made by hand at the Seattle Processing Office. Shoran arcs were drawn and control stations plotted at the Processing Office. ✓

Shore line was not transferred to the smooth sheet, but is delineated on the inshore contemporary survey smooth sheets at a scale of 1:20,000. ✓

On 9 August the ship ran approximately 43 miles of hydrography which was plotted on boat sheet EX-2754 (1:20,000) as "A" day. This work has been plotted as part of this survey and is identified as "R" day - see Vol. 9. (pg. 3)

F. CONTROL STATIONS

Existing triangulation control was used as follows:

- G. C. Mattison, 1943, Kanaga Island.
- C. D. Meaney, 1943, Adak Strait
- U. S. Navy, 1933, Adak Island and Bay of Islands.

Additional third-order triangulation control was established by this party to locate shoran stations and for supplemental control. ✓

Photo-hydro stations were taken from air-photo compilations made by the Washington Office from 1954 field inspections. See topographic manuscripts Nos. T-9925, T-9926, T-9934 and T-11329.

Smooth plotting on this sheet will be done by personnel at the Seattle Processing Office.

G. SHORELINE AND TOPOGRAPHY

No shoreline or topography is shown on the smooth sheet since all of this hydrographic surveys ~~are~~^{is} offshore from the 1:20,000 scale surveys accomplished simultaneously. See 751 (c) of the Hydrographic Manual. Shoreline details will be found on surveys H-8143 thru H-8146, inclusive. (1954-55)

H. SOUNDINGS

All soundings were obtained by continuous profiles on 808 or EDO type fathometers. Soundings were recorded at half-minute intervals. Other soundings were scaled from the fathograms as necessary to plot submerged topographic details.

Corrections were applied for draft and squat, for variation from the established initial reference line, and for the tide.

On "G" day, 28 July, an eleven fathom correction was added to soundings greater than 1,200 fathoms where a third needle was used on the EDO recorder operating on the fast speed. The correction was derived from direct measurements on the fathogram.

I. CONTROL OF HYDROGRAPHY

The hydrography along the north coast of Kanaga Island is controlled by sextant fixes on shore signals which were located by triangulation or air photo compilation. All other hydrography is controlled by shoran distances. Shoran arcs were run using pairs which yielded the strongest available control. Shoran stations KEEN, GULL and LANA were used on this survey. See special report on shoran corrections which has been submitted separately and is hereby made a part of this report.

J. ADEQUACY OF SURVEY

The survey is considered adequate for charting purposes and is adequate to supersede prior surveys of the area. The survey is complete and there are no holidays. P5 & 6
Review

addendum
See ~~Appendix I~~ for a discussion of junctions with other surveys.

K. CROSSLINES

Crosslines constitute approximately five percent of the hydrography on this survey. In general the crossings are in agreement with some

differences on steep slopes. See appendix I for a more detailed discussion ✓
of crossings.

L. COMPARISON WITH PRIOR SURVEYS

In general the present survey is in agreement with prior surveys listed in Paragraph B of this report. The present survey was accomplished in greater detail resulting in better delineation of depth curves. P5
Review

See Appendix I for a detailed comparison with prior surveys.

M. COMPARISON WITH CHART

The survey boat sheet was compared in a general way with Chart No. 9193, 2nd edition, print date 53-7/20. There are no charted shoals or dangers in the area covered by this survey and none were discovered. See Appendix I for detailed comparison with prior surveys. P6 Re-
view

N. DANGERS AND SHOALS

No new dangers or shoals were found by this survey. There are no charted shoals or dangers within the limits of this survey. See Descriptive Reports for inshore surveys for information regarding rocks and shoals adjacent to the main channel. ✓

O. COAST PILOT INFORMATION

See "Coast Pilot Notes - U. S. Coast Pilot - Alaska, Part II, Yakutat Bay to Arctic Ocean. Ship EXPLORER - 1954", previously forwarded. ✓

See Descriptive Reports for adjoining inshore surveys for data relative to anchorages. The ship did not anchor any place within the area covered by this survey.

Vessels passing thru Adak Strait should not come closer than one mile to the coast line on either side. Currents are strong through the strait and passage should not be attempted in heavy fog or darkness without the use of radar. The narrowest and shoalest part of the passage lies between Argonne Pt. and Sharp Point where the Strait is approximately 6 miles wide. The minimum mid-channel depth is 30 fathoms. ✓

P. AIDS TO NAVIGATION

There are no aids to navigation within the limits of this survey, and no bridges, overhead or submerged cables, or ferry routes exist in the area. ✓

Q. LANDMARKS FOR CHARTS

The only landmarks are natural objects such as rocks, peaks or small islands. See Descriptive Reports for 1:20,000 scale inshore surveys for specific recommendations. ✓

R. GEOGRAPHIC NAMES

See "Special Report on Geographic Names - Bobrof, Kanaga and Adak Islands - U. S. C. & G. S. S. EXPLORER - Season 1954" which was forwarded to Washington on 18 November 1954. *on file 4-5-54*

Z. TABULATION OF APPLICABLE DATA

1. Forwarded with this report:
 - (a) Smooth Sheet H-8139
 - (b) Boat sheet EX-4154
 - (c) Sounding volumes (9 ea.) 1 thru 9.
 - (d) 2 envelopes fathograms
 - (e) 1 cahier shoran abstracts

2. Data forwarded separately:
 - (a) Field Inspection Report for Maps T-9925, T-9926, T-9932 thru T-9934, T-9940, T-9941, Project CS-218, Ph-34, Kanaga Island, Alaska, Ship EXPLORER, 1954.
 - (b) Field Inspection Report for Maps T-11329 (part) etc., Project CS-218, Ph-34, Adak Island, Alaska, Ship EXPLORER, 1954.
 - (c) Special Report on Fathometer Corrections, USC&GSS EXPLORER, Project CS-218, 1954 Field Season. *SB Grenell 1954/142*
 - (d) Special Report on Shoran Corrections, 24 July to 12 September, 1954, USC&GSS EXPLORER, Project CS-218. *J.B. Grenell 1954/144*
 - (e) Special Report on Geographic Names, Bobrof, Kanaga and Adak Islands, Ship EXPLORER, 1954 Field Season.
 - (f) Coast Pilot Notes, U. S. Coast Pilot - Part II, Yakutat Bay, to Arctic Ocean, Ship EXPLORER, 1954.
 - (g) Tide observations for tide stations at Barabara Island, Sweeper Cove, Unalga Bight, Sharp Point and Cape Chlanak, 1954 Field Season.
 - (h) Current observations at current stations Nos. 6, 7, and 8, Adak Strait.
 - (i) Second and Third Order Triangulation, Adak Strait, Ship EXPLORER, 1954 Field Season.
 - (j) Magnetic Observations at SHARP 1954, LON(USN) 1933, FEL (USN) 1933, ASTRO 1925, and DAM-2, 1943, Ship EXPLORER, 1954 Field Season.
 - (k) Season's Report, 1954, Ship EXPLORER, Project CS-218. *SB Grenell 1954/104*

*photographic Report
SB Grenell 1954 filed in Geographic Branch*

Additional applicable data:

Computations for location of shoran masts at stations KEEN, GULL
and LANA attached to this report.

Respectfully submitted

Karl B. Jeffers
Karl B. Jeffers
Commander, USC&GS

STATISTICS

Hydrographic Survey H-8139 (1954)

Field No. EX-4154

Ship EXPLORER

Project CS-218

<u>Vol. No.</u>	<u>Day Ltr.</u>	<u>Date</u>	<u>No. Pos.</u>	<u>Stat. Miles of Sounding Line</u>
1	A	7/10/54	110	68.0
1	B	7/13/54	93	61.6
2	C	7/16/54	46	26.4
2	D	7/23/54	60	33.8
2 & 3	E	7/24/54	127	72.3
3	F	7/27/54	151	100.8
3 & 4	G	7/28/54	168	108.2
4	H	7/29/54	74	46.0
4	J	8/3/54	49	33.2
5	K	8/5/54	101	75.0
5	L	8/9/54	93	60.7
6	M	8/11/54	153	102.6
7	N	8/13/54	84	65.2
7	P	8/19/54	133	103.2
8	Q	8/21/54	48	32.5
9	R	8/9/54	85	43.2
TOTALS			1575	1032.7

Area surveyed: 290 square statute miles

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TIDAL NOTE

To accompany Hydrographic Sheet EX-4154 Reg. No. H-8139

Tide reducers for work on July 10, which was north of North Cape, were taken from the records of the Barabara Island tide gage. For July 13, in the same general vicinity, Barabara was used until it was dismantled, then Adak observations were adjusted to the Barabara location.

On July 16 reducers were taken from the Unalga Bight gage, which was the only one operating at the time. The general location of the work was the north part of Adak Strait.

For "D" day, reducers were taken from the Sharp Point gage. For all other reducers the 6.3 mile arc to south and east from shore station KEEN was used as a dividing line between Sharp Point and Cape Chlanak gages.

The locations and staff readings of gages used are as follows:


<u>Gage</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Staff Reading of MLLW</u>
Adak (Sweeper Cove)	51-51.7	176-38.4	3.3
Unalga Bight	51-46.85	176-48.35	2.4
Sharp Point	51-52.2	177-04.1	2.7
Cape Chlanak	51-42.6	177-08.7	3.0
Barabara Island	51-48.55	177-44.52	2.8

No corrections were made for distances from the gage.

Approval Sheet
H-8139 (EX-4154)

The hydrography on this survey was done under my direct supervision. The boat sheet, records and fathograms were inspected and approved daily as the work progressed. The survey is complete and adequate. No additional work is recommended.

The smooth sheet will be plotted by personnel at the Seattle Processing Office. The records and descriptive report have been examined and are approved. (*See Title Sheet*).


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

POSITION COMPUTATION, THIRD-ORDER TRIANGULATION

α	2	SHARP to 3	1954	WES (USN)	1933	288	11	08		α	3	to 2							
2d L		&				+148	56	00		3d L		&							
α	2	SHARP to 1	KEEN			77	07	08		α	3	to 1							
$\Delta\alpha$						180	00	00.0		$\Delta\alpha$									
α'	1	to 2								α'	1	to 3							

FIRST ANGLE OF TRIANGLE

ϕ	51	51	52.6902	SHARP	1954	λ	177	04	00.548	ϕ	3								
$\Delta\phi$		00	00.126			$\Delta\lambda$	+	00	00.886	$\Delta\phi$									
ϕ'	51	51	52.5641	KEEN		λ'	177	04	01.434	ϕ'		1							

		Values in seconds				Values in seconds			
		$\frac{1}{2}(\phi+\phi')$		Logarithms		$\frac{1}{2}(\phi+\phi')$		Logarithms	
s	1.240549	1624.6		1.240549	27.4				
Cos α	9.348166	(229.8)		9.988931	(1120.5)				
B	8.509942			8.508819					
h	9.098657	1st term +	12551	Sin α	9.988931				
s^2				λ'	8.508819				
Sin ² α				Sec ϕ'	0.209345				
C				$\Delta\lambda$	9.947640				
h^2		2d term +		Sin $\frac{1}{2}(\phi+\phi')$					
D				$-\Delta\alpha$					
		3d term +							
		$-\Delta\phi$							

POSITION COMPUTATION, THIRD-ORDER TRIANGULATION

α	2	to 3							
$\Delta\alpha$									
α	2	to 1							
$\Delta\alpha$									
α'	1	to 2	180	00	00.0				

FIRST ANGLE OF TRIANGLE

ϕ		2	λ						
$\Delta\phi$			$\Delta\lambda$						
ϕ'		1	λ'						

	Logarithms	Values in seconds	$\frac{1}{2}(\phi+\phi')$		Logarithms	Values in seconds	$\frac{1}{2}(\phi+\phi')$	Logarithms	Values in seconds
s			1.261501		372.5 (1481.9)		1.261501		
$\cos \alpha$			9.032490				9.997463		
B			8.509946				8.508816		
h		1st term	8.803937		063670		9.976697		+0.9478
s^2			2.52300						
$\sin^2 \alpha$			9.99493				0.208917		
C			8.50779						
h^2		2d term	1.02563						
D									
		3d term							
		$-\Delta\phi$							

867.1
(282.2)

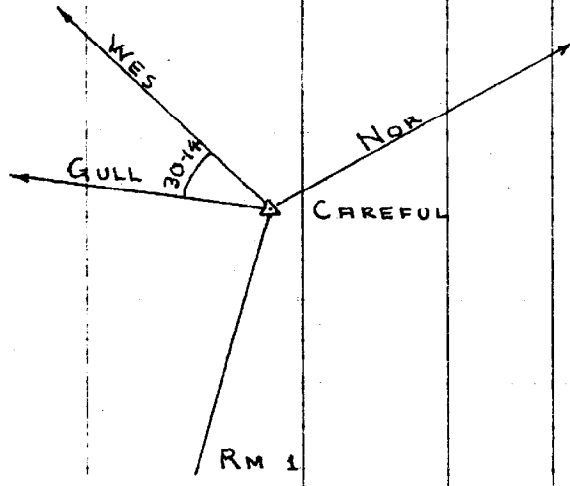
LIST OF DIRECTIONS

Station CAREFUL 1954 State ALASKA

Chief of party S. B. GRENNELL Date _____ Computed by H. G. C.

Observer D. M. WHIPP Instrument SEXTANT Checked by _____

OBSERVED STATION	Observed direction	Eccentric reduction	Sea level reduction*	Corrected direction with zero initial	Adjusted direction*
	° ' "	' "	"	° ' "	' "
GULL (SHORAN MHST) H.D. = 10.26 METERS	0 00 00.00			0 00 00.00	
JELL (H.D. = 292.55')	14 - 42				
WES (USN) 1933	3-0 - 27	Az. =			
		ANGLE WES - NOR = 133-47-21.0			
NOR (USN) 1933	[164-14-21]	Az. = 248-05-09			



* These columns are for office use and should be left blank in the field.

Station: Ken

State: Maryland

Chief of party: C. V. H.

Date: 1917

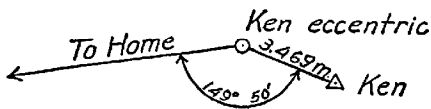
Computed by: O. P. S.

Observer: C. V. H.

Instrument: No. 168

Checked by: W. F. R.

OBSERVED STATION	Observed direction	Eccentric reduction	Sea level reduction	Corrected direction with zero initial	Adjusted direction
	° ' "	' "	"	° ' "	' "
Chey	0 00 00.00	- 7.31	"	0 00 00.00	' "
Tank west of Δ Dulce	29 03 37.0	-1 09.8	"	29 02 34.5	' "
Ken (center), 3.469 meters	176 42		"		' "
Forest Glen standpipe	313 24 53.0	+3 01.2	"	313 28 01.5	' "
Home	328 31 30.21	+ 31.93	"	326 32 09.45	' "
Bureau of Standards, wireless pole.	352 17 20.8	+ 5.7	"	352 17 33.8	' "
Reno	357 28 48.63	- 1.16	"	357 28 54.78	' "
Reference mark, 16.32 m	358 31 20		"		' "



This form, with the first three and fifth columns properly filled out and checked, must be furnished by field parties. To be acceptable it must contain every direction observed at the station.

It should be used for observations with both repeating and direction theodolites.

The directions at only one station should be placed on a page.

If a repeating theodolite is used, do not abstract the angles in tertiary triangulation. The local adjustment corrections (to close horizon only) are to be written in the Horizontal Angle Record, and the List of Directions is to be made from that record directly.

Choose as an initial for Form 24A some station involved in the local adjustment, and preferably one which has been used as an initial for a round of directions on objects not in the main scheme. Use but one initial at a station. Call the direction of the initial 0° 00' 00." 00, and by applying the corrected angles to this, fill in opposite each station its direction reckoned clockwise around the whole circumference regardless of the direction of graduation of the instrument. The clockwise reckoning is necessary for uniformity and to make the directions comparable with azimuths.

If a station has been occupied eccentrically, reduce to the center and enter in this form, in ink, the resulting corrections to the observed directions in the column provided for them. If an eccentric reduction is necessary, but not made in the field, leave the column blank. If the station was occupied centrally, and no eccentric reduction is required, put dashes in the column to show that no corrections are necessary.

Directions in the main scheme should be entered to hundredths of seconds in first-order triangulation; otherwise to tenths only. Points observed upon but once, direct and reverse, should be carried to tenths in first-order and second-order triangulation, and to even seconds only in third-order triangulation. In general, but two uncertain figures should be given.

It is recommended that the following simple plan of observing be used with a repeating instrument: Measure each single angle in the scheme at each station and the outside angle necessary to close the horizon. Measure no sum angles. Follow each measurement of every angle immediately by a measurement of its explement. Six repetitions are to constitute a measurement. The local adjustment will consist simply of the distribution of the error of closure of the horizon.

LIST OF DIRECTIONS

Station REAR 1943 State ALASKA
 Chief of party S. B. GREENELL Date AUGUST 3 1954
SEPT. 2 1954 Computed by H.G.C.
 Observer H.G.C. & C.W.C. Instrument WILD No. 30657
19295 Checked by _____

OBSERVED STATION	Observed direction	Eccentric reduction	Sea level reduction*	Corrected direction with zero initial	Adjusted direction*
	° ' "			° ' "	
REAR 1943	0 00 00.00			0 00 00.00	
PERCH 1954	27-51-01.4				
SHARP 1954	146-20-27.8				
LANA (SHORAN Mast)	313 19 17.9				
WES (USN) 1933	[184-26-35.3]				
FAR 2 (USE) 1943	[203-43-08.5]				
DAM 2 1943	[308-34-24.7]				

* These columns are for office use and should be left blank in the field.

LIST OF DIRECTIONS

Station REAR 1943 State ALASKA

Chief of party S. B. GREWELL Date SEPT 2, 1954 Computed by C. W. C.

Observer C. W. C. Instrument 19295 Checked by J. C. T. JR.

OBSERVED STATION	Observed direction	Eccentric reduction	Sea level reduction*	Corrected direction with zero initial	Adjusted direction*
	° ' "	' "	"	° ' "	' "
PERCH 1943	0 00 00.00			0 00 00.00	
RAN 1943	60-31-43.3				
LANA (SHORAN MAST)	94-54-51.9				
DAM 2 1943	99-03-19.7				
YARR (SHORAN MAST)	130-35-46.5				

* These columns are for office use and should be left blank in the field.

LIST OF DIRECTIONS

Station D.A.M. 2 1943 State ALASKA

Chief of party S.B. GRENELL Date SEPT. 2 1954 Computed by J.C.T.J.R.

Observer J.C.T.J.R. M.B.J. Instrument No. 400 Checked by _____

U. S. GOVERNMENT PRINTING OFFICE: 1932 11-9603

OBSERVED STATION	Observed direction	Eccentric reduction	Sea level reduction*	Corrected direction with zero initial	Adjusted direction*
REAR 1943	0 00 00.00			0 00 00.00	
LANA (SHORAN ANTENNA)	48-21-53.5				
YAKA 1954	218-31-06.9	(SHORAN ANTENNA)			
STEEL TOWER 1954	218-46-19.7				
RADIO TOWER 1954	218-54-37.3				
RAN 1943	[90-02-49.]				

* These columns are for office use and should be left blank in the field.

COMPUTATION OF TRIANGLES

State: ALASKA

11-9121

U. S. GOVERNMENT PRINTING OFFICE: 1929

NO.	STATION	OBSERVED ANGLE	CORR'N	SPHER'L ANGLE	SPHER'L EXCESS	PLANE ANGLE AND DISTANCE	LOGARITHM
	2-3 1 LANA 2 RAN 1943 3 DAM ₂ 1943 1-3 1-2	(133 34 11.2) 4 44 53.2 41 40 55.6 180 00 00.0					3.515642 0.139940 8.917901 9.822820 2.573483 3.478402
	2-3 1 LANA 2 DAM ₂ 3 REAR 1-3 1-2	(127 29 38.7) 48 21 53.5 4 08 27.8					3.614340 0.100499 9.873547 8.858610 3.588386 2.573449
Do not write in this margin.	2-3 1 LANA 2 REAR 3 RAN 1-3 1-2	(98 56 09.3) 34 23 08.6 46 40 42.1					3.721240 0.005303 9.751865 9.861841 3.478408 3.588384
	2-3 1 2 3 1-3 1-2						

PROCESSING NOTES for H-8139

SMOOTH SHEET

Except to note that all positions and soundings on the smooth sheet except "R" day, which was plotted aboard the EXPLORER, the information for this item is covered in the field report.

SOUNDINGS

Soundings obtained with 808 Fathometer 113-S have been corrected in accordance with Captain Grenell's letter dated 12 April 1955
Subject: Fathometer Corrections for 1954 hydrography. (SB Grenell 1954/42)

ADEQUACY OF SURVEY

The survey is considered adequate for charting. ✓

(1954-55) (1954)
Junctions with H-8144 and H-8146 have been compared and appear to be in agreement. The depth curves at the junctions of these sheets can be adequately drawn. Copies of other sheets that join this survey were not at hand for comparison. ✓

CROSSLINES

Crosslines appear to be in adequate agreement. Some differences occur on steep slopes and broken bottom. | P2 Review

COMPARISON WITH CHART

The smooth sheet was compared with Chart No. 9193, 3rd Edition, print date 3 June 1957.

Minor differences were noted over the entire area of the survey. The most notable were the 124 fm. charted sounding, at Lat. $51^{\circ} 42' 45''$ N, Long. $176^{\circ} 59' 15''$ W, the smooth sheet shows 114 fms. A 47 fm sounding on the smooth sheet, at Lat. $51^{\circ} 44' 45''$ N, Long. $177^{\circ} 00' 00''$ W, the chart does not show any depth less than 54 fms in this area. A charted sounding of 28 fms at Lat. $51^{\circ} 49' 38''$ N, Long. $177^{\circ} 00' 45''$, the smooth sheet shows 33 fms. The 100 fm depth curve is shown on the smooth sheet to be cut off at Lat. $51^{\circ} 55' 30''$ N, Long. $176^{\circ} 53' 00''$ W. | Sec R6 Review

Respectfully submitted,

William M. Martin

WILLIAM M. MARTIN
Supr. Cartographer

APPROVED & FORWARDED:

Curtis Le Fever
CURTIS LE FEVER, Capt., C&GS
Seattle District Officer

GEOGRAPHIC NAMES PENCILED ON H-8139

ADAK STRAIT

BERING SEA

PACIFIC OCEAN

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens

30 January 1958

Plane of reference approved in
9 volumes of sounding records for

HYDROGRAPHIC SHEET 8139

Locality Adak Strait, Aleutian Islands

Chief of Party: S. B. Grenell in 1954

Plane of reference is mean lower low water, reading

2.8 ft. on tide staff at Barabara Island

7.2 ft. below B.M. 1 (1953)

2.7 ft. on tide staff at Sharp Point, Kanaga Island
10.5 ft. below B.M. 1 (1954)

2.4 ft. on tide staff at Unalga Bight, Adak Island
6.4 ft. below B.M. 1 (1954)

3.0 ft. on tide staff at Cape Chlanak, Kanaga Island
8.5 ft. below B.M. 1 (1954)

~~Condition of records and laboratory reports is noted below~~

Mean high water above plane of reference is as follows:

Barabara Island	=	3.2 feet
Sharp Point	=	3.2 feet
Unalga Bight	=	3.6 feet
Cape Chlanak	=	3.4 feet


Signature

Chief, Tides Branch

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. ..8139...

Records accompanying survey:

Boat sheets .1...; sounding vols. ..9..; wire drag vols.;
 bomb vols.; graphic recorder rolls 8-~~Envelopes~~
 special reports, etc. 1-Smooth sheet and 1-Descriptive report.

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

Number of positions on sheet	.....	1575
Number of positions checked	.....	12
Number of positions revised	.....	11
Number of soundings revised (refers to depth only)	.....	16
Number of soundings erroneously spaced	.....	0
Number of signals erroneously plotted or transferred	.....	0
Topographic details	Time	..... 0
Junctions (Total of 9)	Time	..... 43
Verification of soundings from graphic record	Time	..... 10

Verification by *CR Helmer* Total time 2.23 Date 5/10/58

Reviewed by *Lu Jester* Time 31 Date 5/29/58

DIVISION OF CHARTS
REVIEW SECTION--NAUTICAL CHART BRANCH
REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8139

FIELD NO. EX-4154

Alaska-Aleutian Islands, Andreanof Islands, Adak Strait and
North Approach

Surveyed July-Aug. 1954

Scale 1:40,000

Project No. CS-218

Soundings:

808 Depth Recorder
Edo Depth Recorder

Control:

Shoran
Sextant fixes on
shore signals

Chief of Party - S. B. Grenell
Surveyed by - S. B. Grenell, W. F. Malnate, K. B. Jeffers, and
J. C. Tison, Jr.
Protracted by - C. A. J. Pauw
Soundings plotted by - C. A. J. Pauw
Verified and inked by - C. R. Helmer
Reviewed by - I. M. Zeskind
Inspected by - R. H. Carstens

Date: 5/29/58

1. Shoreline and Control

No shoreline is shown on this off-shore survey.

The source of the control is given in the Descriptive Report.

2. Sounding Line Crossings

Depths at crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves were adequately delineated.

The bottom is very irregular. Submarine features such as deeps, ridges and shoals contribute to the bottom irregularity.

4. Junctions with Contemporary Surveys

Adequate junctions were effected with H-8233 (1955) on the northeast, with H-7978 (1952) on the north, with H-8057 (1953-54) on the northwest, with H-8142 (1954) northwest of Kanaga Island, with H-8143 (1954) on the west, with H-8144 (1954-55) and H-8140 (1954) on the southwest, with H-8146 (1954), H-8145 (1954) and H-8236 (1955) on the east.

5. Comparison with Prior Surveys

H-6881 USN (1933-35), 1-40,000
 H-6882 USN (1933-35), 1-40,000
 H-6883 USN (1933), 1-10,000
 H-6884 USN (1933), 1-6,000
H-6888 USN (1933), 1-10,000

These prior surveys together cover the area of the present survey. A comparison between these U. S. Navy reconnaissance surveys and the present survey reveals differences in depths of as much as 105 fms. An example of these differences occurs in lat. $51^{\circ}57.8'$, long. $176^{\circ}56.6'$, where a prior depth of 610 fms. falls in present depths of 505 fms. In shoaler depths differences range from about 1 to 6 fms.

These discrepancies in depths are attributed to weak control, improper spacing of soundings and errors in depths on the Navy surveys. A number of bottom characteristics have been carried forward from the Navy surveys to the present survey.

With the addition of these bottom characteristics, the present survey is adequate to supersede the prior surveys within the common area.

6. Comparison with Chart 9120 (Latest print date 4-18-55)
Chart 9121 (Latest print date 8-25-52)
Chart 9193 (Latest print date 6-3-57)

A. Hydrography

The charted hydrography originates with the prior surveys previously discussed which need no further consideration, supplemented by one sounding from the boat sheet of the present survey.

The present survey is adequate to supersede the charted hydrography within the common area.

B. Aids to Navigation

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

7. Condition of survey

- a. The sounding records and Descriptive Report are complete and comprehensive.
- b. The smooth plotting was accurately done.
- c. No bottom characteristics were obtained during the present survey.

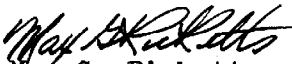
8. Compliance with the Project Instructions

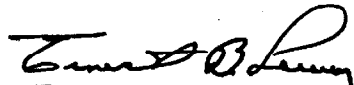
The survey adequately complies with the Project Instructions, except as noted in paragraph 7c above.

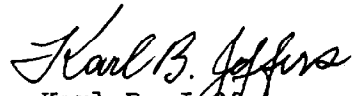
9. Additional Field Work Recommended

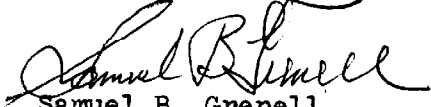
* The survey is considered basic and no additional field work is recommended. As a matter of record attention is directed to the fact that no bottom characteristics were obtained in the area of the present survey, as noted in paragraph 7c above.

Examined and approved:



Max G. Ricketts
Chief, Nautical Chart Branch


Ernest B. Lewey
Chief, Division of Charts


Karl B. Jeffers
Chief, Hydrography Branch


Samuel B. Grenell
Chief, Division of Coastal Surveys

* The original Navy survey was made with vertical casts and there are bottom samples on approximately 1/2 of the fixed positions. It was not considered necessary to repeat these observations.


S. B. Grenell

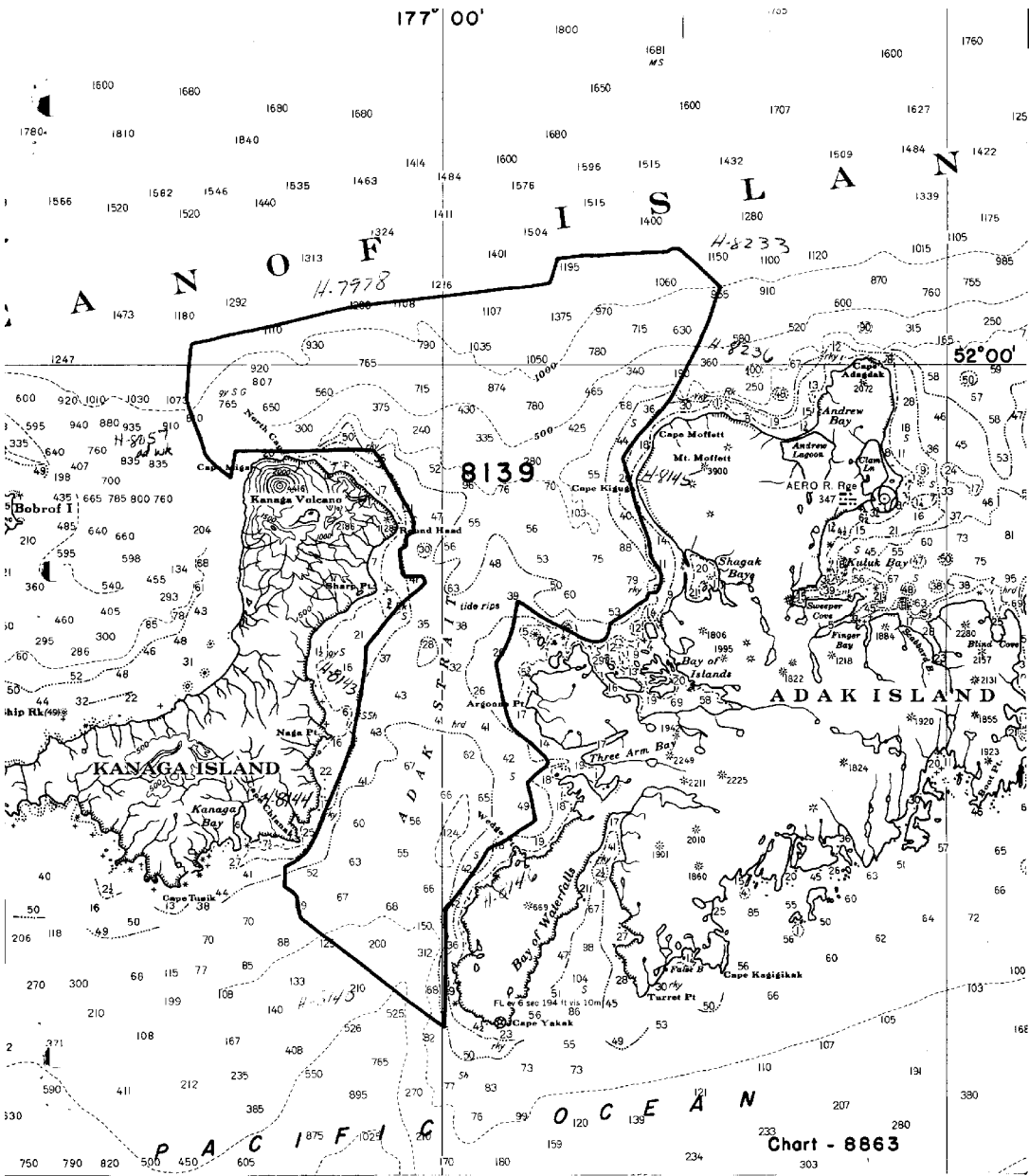


Chart - 8863

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8139

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
6-19-58	8863	C.R. Wittmann	Before After Verification and Review
10-7/58	9120	S.A. McGinnis	Before After Verification and Review <i>Examined only.</i>
7/1/57	9193	<i>A. H. ...</i>	Before After Verification and Review <i>Critical changes only</i>
9-23-59	9120	T.A. Dinwiddie	Before After Verification and Review <i>Fully applied</i>
9-12-67	9121	D.W. Romeburg	^{F.VII} Before After Verification and Review <i>revised sndg. & cont.</i>
12/30/92	16467	Joseph Robinson	Before After Verification and Review
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			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.