8236

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-2155 *Office No.* H-8236

LOCALITY

State Alaska

General locality Aleutian Islands, Adak Island

Locality Cape Moffett to Cape Adagdak

1955

CHIEF OF PARTY

S. B. Grenell

LIBRARY & ARCHIVES

DATE April 1, 1956

8-1870-1 (1)

8236

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-8236

Field No. EX-2155

State Alaska

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

Locality Cape Moffett to Cape Adagdak

Scale 1:20,000 Date of survey 25 May to 9 June 1955

Instructions dated 16 December 1954 and 20 January 1955

Vessel USC&GSS EXPLORER, Launch 1 and Launch 2

Chief of party S. B. Grenell

Surveyed by S.B. Grenell, J. Bowie, K.B. Jeffers, E.F. Hicks, Jr, S.L. Hollis, Jr. G.E. Haraden & H.A. Garcia

Soundings taken by ~~echo sounder~~ graphic recorder, hand lead, ~~wire~~

Fathograms scaled by Fathometer Readers

Fathograms checked by K.B. Jeffers, F.X. Popper, H.A. Garcia

Protracted by V.J. Franze, Jr., G.E. Haraden, K.B. Jeffers

Soundings penciled by V.J. Franze, Jr.

Soundings in fathoms ~~feet~~ at ~~MEAN LOW WATER~~ MLLW

REMARKS: Lines on the east side of Cape Adagdak should be transferred to Survey No. H-7182 (1946)

U. S. GOVERNMENT PRINTING OFFICE 16—66520-1

Descriptive Report
to Accompany
Hydrographic Survey H-8236
(Field No. EX-2155)
Cape Moffett to Cape Adagdale
Project 1218 - Season 1955
Scale: 1:20,000

Surveyed by: S.B. Grenell, J. Bowie, K.B. Jeffers, E.F. Hicks,Jr, S.L. Hollis, Jr., G.E. Haraden, and H.A. Garcia.

A. PROJECT:

This survey is part of a continuing project to complete the survey of the Aleutian Islands and was executed in accordance with instructions dated 16 December 1954 - Project 1218 (formerly CS-218).

B. SURVEY LIMITS AND DATES:

This survey covers the inshore area from longitude 173° 46.8'W at Cape Moffett eastward to 176° 33.0'W at Cape Adagak on the north coast of Adak Island. The work extends offshore to a junction with contemporary survey No. H-8233, (EX-4155), a shoran controlled survey at a scale of 1:40,000.

At the western limit of the survey a junction was made with 1954 surveys as follows:

H-8145, 1:20,000 scale inshore survey.
H-8139, 1:40,000 scale offshore survey. Nat on 10-3-56

A junction was made with 1946 survey No. H-7182, scale 1:10,000 off the northeast coast of Cape Adagdak. This area was previously surveyed by the U.S. Navy as shown on H-6881, 1:40,000, 1933.

C. VESSEL AND EQUIPMENT:

The hydrography on this sheet was accomplished by the Ship EXPLORER and EXPLORER launches numbers 1 and 2. The ship was equipped with EDO and 808 graphic recording fathometers and the launches used 808 recorders supplemented by hand leads.

Soundings were scaled from continous profiles. In general the ship used the EDO recorder for soundings in excess of 100 fathoms and the 808 for lesser depths.

D. TIDE AND CURRENT STATIONS:

A portable automatic tide gage was installed in a sheltered spot on the rocks near triangulation station Balsa in Andrew Bay. Heavy seas from the northwest broke over the rocks and carried the gage away soon after the first marigram was removed. Part of the gage and the float well were salvaged, however the station was not re-established. All soundings were referred to the standard

tide station at Sweeper Cove, Adak, without correction for time or range; see Director's letter dated 8 July 1955, (file 36-7-982e).

No current observations were made in the area covered by this survey.

E. SMOOTH SHEET:

The smooth sheet projection was constructed by hand on a standard Watman cloth-backed paper sheet. Shoran arcs from station TANK were drawn as soon as the projection was made and checked. (1953-55)

The shoreline was transferred to the smooth sheet by burnishing blue-line prints of advance manuscripts T-11322 and T-11323 furnished by the Washington office. The transfer of shoreline and signals has been verified.
Shoreline revised in Wash. to agree with reviewed M/S T-11322 & T-11323.

F. CONTROL STATIONS:

Triangulation control used for this survey includes:
BALSA, ACORN, and TANK, established by this party in 1955
DREW (USE) 1944
AL - 29 (USN) 1943
LORA 1947 - relocated in 1955

Photo-hydro signals were pricked on 9-lens photographs in the field and were located by radial plot in the Washington office.

The positions of signals VIC and IRA as shown on advance manuscript T-11323 were not accepted. These signals were relocated by plotting sextant cuts and fixes obtained in the field.

Signal LID was probably miss-identified in the field. The smooth plot of the hydrography shows jumps which cannot otherwise be accounted for; see notes on pages 5 to 40, Vol. No. 6, launch No. 2. © Lid - center object. Boat positions smooth-plotted using sun ∠, time and course.

Photo-hydro station VET was not on the print of manuscript T-11323 furnished. The signal was plotted on the manuscript later and the geographic position was furnished in letter No. 73-mkl, dated 10 January 1956. © Vet on reviewed M/S T-11323

G. SHORELINE AND TOPOGRAPHY:

The shoreline is taken directly from photo-grammetric compilations as shown on ~~advance~~ reviewed manuscripts T-11322 and T-11323 furnished by the Washington office.

Hydrographic and photo-grammetric locations of offshore rocks are in excellent agreement. Rocky foreshore and surf prevented the delineation of the low water line.

Acorn Rock was not inked on the sheet. The outline of the rock isn't clear on manuscript T-11322. - Transferred from M/S T-11322 in Washington to smooth sheet.

H. SOUNDINGS:

Soundings were obtained from continuous profiles recorded on 808 or EDO fathometers. Considerable difficulty was experienced in obtaining adequate records on steep slopes with the 808 fathometers mounted in the launches. This was due to rough water, inexperienced personnel, and lack of power in the signals. Soundings were corrected for tide, phase, draft, and variation of initial setting as required.

Bottom samples and least depth on rocks were obtained by hand lead lines.

I. CONTROL OF HYDROGRAPHY:

Nearly all hydrography on this survey was controlled by sextant fixes on shore signals. Sounding lines run by launch No. 1 on "a" day were controlled by a shoran distance from shoran station TANK and one sextant angle. On subsequent days the shoran was used to keep the launch on line and three point fixes were recorded at appropriate intervals. This system was particularly useful in the area off Cape Moffett where strong tidal currents occur.

J. ADEQUACY OF SURVEY:

This is a complete basic survey and is adequate to supersede prior surveys of the area. The survey overlaps adjoining basic surveys and no holidays exist.

Junctions with adjoining surveys are satisfactory and depth curves can be adequately drawn. There are no holidays.

K. CROSSLINES:

Crosslines constitute 6 per cent of all lines run.

At latitude 52° 00.9', longitude 176° 37.8' there is apparent disagreement between 87 to 88 D crossing 83 to 84 A and 82 to 83 C. Fathograms and positions were rechecked and appear to be correct. Questionable soundings are on a steep slope of a deep valley and are probably correct. Fathograms rescanned- discrepancies corrected- crossings in agreement.

In general crossing are in good agreement and apparent differences can be explained by the extremely steep bottom slopes.

L. COMPARISON WITH PRIOR SURVEYS:

The only prior survey of this area was made by the U.S. Navy in 1933 on a scale of 1:40,000, and is part of survey No. H-6881. The Navy work was less rigidly controlled than the new survey and little effort was made to sound out the area between the 10-fathom curve and the beach. In general the two surveys are in good agreement. The present survey yields a better presentation of depth curves and inshore details. A submerged rock with least depth of 1.1 fathoms which is not shown on H-6881 was found in latitude 51° 58.54', longitude 176° 44.05'. No other significant changes are indicated by the hydrography. Shoreline and offshore rocks should be superseded by shoreline manuscript T-11322 and T-11323. See P-5 of Review.

M. COMPARISON WITH CHART:

The largest scale chart of the area is chart No. 9193 - scale 1:120,000, 2nd edition (1953), printed 7/20/53. Charted information in the area covered by this survey is based on the Navy survey of 1933, H-6881. See paragraph L for P-5 & 6 of Review

comparison with previous surveys.

N. DANGERS AND SHOALS:

Two shoals were found as follows:

(1) Latitude 51° 58.54', longitude 176° 44.05', least depth 1.1 fathoms, position 116b (launch No. 1).

(2) Latitude 51° 58.55', longitude 176° 38.15', least depth 2.3 fathoms, position 147d (launch No. 2).

The number and location of inshore rocks should be revised as shown on the ~~advance~~ reviewed manuscripts and smooth sheet.

O. COAST PILOT INFORMATION:

See notes for revision of Coast Pilot No. 9, 1954, Cape Spencer to Arctic Ocean, forwarded 28 October 1955.

There are no good anchorages in the area surveyed. The insular shelf is very narrow along this coast. Temporary anchorage in Andrew Bay may be found in the area southward of the rocks on the east side of the bay.

Tidal currents with a maximum estimated velocity of 1.5 knots were encountered around Cape Adagdak and close inshore. The strength of the current decreases with increasing depth of water and is slight at a distance of 2 miles from the beach.

Currents thru Adak Strait pour over the shelf off Cape Moffett and at times reach a velocity estimated to be in excess of 2 knots at maximum strength.

P. AIDS TO NAVIGATION:

The Coast Guard maintains a loran station on the point west of Cape Adagdak and at the northeast limit of Andrew Bay. The loran tower shown on chart No. 9193 no longer exists, however, there are several one story white buildings on the point at the approximate location of the former tower.

There are no other aids to navigation in the area.

Q. LANDMARKS FOR CHARTS:

See separate report previously submitted.

R. GEOGRAPHIC NAMES:

See Special Report on Geographic Names previously submitted and List of Geographic Names attached to this report.

It has been recommended that the rock north of Mount Moffett (Trig. sta. ACORN) be named ACORN ROCK. Noted, 854, LA

All charted names are in common use in the area. No attempt was made to verify these names as the chart is the source of information for all temporary residents of the island.

Z. TABULATION OF APPLICABLE DATA:

(1) Submitted with this report:
- (a) 1 Smooth Sheet
- (b) 3 Boat Sheets
- (c) 1 Boat Sheet, Survey H-7182
- (d) 6 Volumes sounding records
- (e) 3 Envelopes fathograms

(2) Submitted previously:
- (a) Special Report on Geographic Names
- (b) Special Report on Land Marks for Charts
- (c) Notes for Revision of Coast Pilot No. 9
- (d) Tide observation at Sweeper Cove
- (e) Special Report on Fathometer Corrections
- (f) Special Report on Shoran Corrections
- (g) Magnetic Observations at LORA 1947 - 1955.

Respectfully submitted,

Vincent J. Franze, Jr.
Vincent J. Franze, Jr.
Ensign, C&GS

Approved and forwarded:

George A. Nelson
George A. Nelson
Commander, C&GS
Commanding Ship EXPLORER

H-8236 Field No. EX-2155

Vol. No.	Day Ltr.	Date	No. Pos.	Wire Sdgs.	Sta. Miles Sdg. Line
1	A	5-25-55	91	0	40.7
1	B	5-27-55	59	0	19.1
1 & 2	C	6-6-55	153	0	67.4
2	D	6-7-55	106	0	33.4
2	E	6-8-55	54	22	9.2
2	c	6-9-55	133	12	19.1
3	a	6-6-55	98	0	23.9
3 & 4	b	6-8-55	132	3	29.7
3	d	6-8-55	174	2	30.4
5	a	5-27-55	60	0	8.3
5	b	6-6-55	132	0	18.2
5	c	6-7-55	15	0	2.6
6	e	6-9-55	215	4	31.4
		TOTALS	1404	43	333.4

AREA SURVEYED: 37 square statute miles.

TIDE NOTE TO ACCOMPANY

H-8236 Field No. EX-2155

All Hydrography on this survey was referred to the standard tide gage at Sweeper Cove, latitude 50° - 51.7'N, longitude 176° - 38.4'W. A reading of 3.3 feet on the tide staff corresponds to MLLW. No time or range corrections were applied to the observed tides.

GEOGRAPHIC NAMES

HYDROGRAPHIC SURVEY H-8236

Field No. EX-2155

Cape Moffett
Acorn Rock
Andrew Bay
Cape Adagdak
Andrew ~~Lagoon~~ Lake

New name

(Name Standard)

LIST OF SIGNALS

Survey No. H-8236

Field No. EX-2155

NAME	SOURCE
ACORN	ACORN 1955
ACT	T-11322
ADE	T-11323
Al-29	Al-29(USN)1943
ALP	T-11323
BAL	BALSA 1955
BAW	T-11322
BED	T-11323
BOG	T-11323
CAD	T-11322
CUB	T-11323
CUT	T-11323
DAV	T-11323
DOG	T-11322
DREW	DREW(USE)1944
DUD	T-11323
EAT	T-11322
ELI	T-11323
EMU	T-11323
FAL	T-11322
FEM	T-11323
GAD	T-11323
GAM	T-11322
HAG	T-11322
HAT	T-11323
INK	T-11322
IRA	Vol. 6
JIM	T-11322
JOG	T-11323
KIN	T-11323

NAME	SOURCE
KEL	T-11322
LID	T-11323 - Questionable
LIP	Vol. 1, page 3
LORA	LORA 1947-1955
MAC	T-11323
MON	T-11323
NEO	T-11323
NUN	T-11323
ODD	T-11323
OLD	T-11323
PIE	T-11323
PUP	T-11323
RAT	T-11323
REX	T-11323
SET	T-11323
SHY	T-11323
TANK	TANK 1955 (Shoran)
THE	T-11323
TIT	T-11323
UFI	T-11322
UMP	T-11323
USE	T-11323
VET	T-11323
VIC	Vol. 1
WAX	T-11323
WOO	T-11323
YON	T-11323
YOU	T-11323
ZEE	T-11323
ZIG	T-11323

Approval Sheet

H-8236 (EX-2155)

The ship hydrography on this survey was accomplished under my direct supervision. The launch work was inspected daily. All field records have been examined and are approved. No additional field work is required.

The smooth sheet is only partially plotted at this time and is subject to review by my relief.

S. B. Grenell
Capt., C&GS
Commanding Ship EXPLORER

GEOGRAPHIC NAMES

Survey No. H-8236

Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K Coast Pilot	
Alaska										1
Aleutian Islands				for title						2
Andreanof Group										3
										4
Adak Island									BGN	5
Capa Moffett									"	6
Acorn Rock										7
Andrew Bay									BGN	8
Cape Adagdak									"	9
Ardrew Lake	9141								Andrew Lake	10
				Names approved 6-7-56 L. Heck						11
										12
										13
Sweeper Cove		(tide station - off limits of sheet)							BGN	14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. ..8236...

Records accompanying survey:

Boat sheets ..4...; sounding vols. ..6...; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls ~~3-Envelopes~~ .....;

special reports, etc. ~~1-Smooth sheet, 1-Descriptive report, and~~ .....

~~1-Tracing of junction soundings~~;.....

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

Number of positions on sheet		1403.
Number of positions checked		120...
Number of positions revised		...2...
Number of soundings revised (refers to depth only)		..79..
Number of soundings erroneously spaced		...0...
Number of signals erroneously plotted or transferred		...1...
Topographic details	Time	12 hrs
Junctions	Time	16 hrs
Verification of soundings from graphic record	Time	4 hrs

Verification by D. J. KENNON ...Total time 210 Date 9/18/56

Reviewed by ... Time 32 Date 10-3-56

M-2232-1

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8236 FIELD NO. EX-2155

Alaska, Aleutian Islands, Adak Island, Cape Moffett to Cape Adagdak

Project No. CS-1218

Surveyed - May - June, 1955 Scale 1:20,000

Soundings: Control:

Edo Fathometer
808 Fathometer

Sextant fixes on shore signals

Chief of Party - S. B. Grenell
Surveyed by - S. B. Grenell, J. Bowie, K. B. Jeffers, E. F. Hicks, Jr. G. E. Haraden and H. A. Garcia, S. L. Hollis, Jr.
Protracted by - V.J. Franze, Jr., G. E. Haraden and K. B. Jeffers
Soundings plotted by - V. J. Franze, Jr.
Verified and inked by - D. J. Kennon
Reviewed by - I. M. Zeskind 10-3-56
Inspected by - R. H. Carstens

1. Shoreline and Signals

The shoreline originates with reviewed air-photographic surveys T-11322 and T-11323 of 1953-55.

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

2. Sounding Line Crossings

The sounding line crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves were adequately delineated, except close inshore where the foul areas and inshore dangers generally prevented development to the low-water line.

The survey covers the island shelf and slope on the north side of Adak Island between Cape Adagdak and Cape Moffett and extends to depths of as much as 880 fms. The bottom is very irregular in depths less than 100 fms,, fairly irregular in 100 fms to 500 fms. depths, and generally smooth in greater depths. Submarine features such as ridges, pinnacles and troughs contribute to the bottom irregularity.

4. Junctions with Contemporary Surveys

Adequate junctions were effected with H-7182 (1946) and H-7605 (1946) on the east and H-8233 (1955) on the north. The project survey on the west has not as yet been received in the Washington Office.

5. Comparison with Prior Surveys

H-6881 (1933) U. S. N., 1:40,000

This U. S. Navy reconnaissance survey covers the area of the present survey. A comparison between the prior and present surveys reveals discrepancies of 2 - 3 fms. close inshore and as much as 307 fms. 2 miles or further offshore. An example of these discrepancies occurs in lat. 52°00', long. 176°42.2', where a prior depth of 110 fms. falls in present depths of 417 fms. These discrepancies are probably caused by weak control and inaccuracies in depth determination on the prior survey.

Supplementary bottom characteristics have been carried forward from the prior survey. The present survey is adequate to supersede the prior survey within the common area.

6. Comparison with Chart 9193 (Latest print date 7-5-54)

A. Hydrography

The charted hydrography originates principally with the previously discussed U. S. Navy reconnaissance survey H-6881 (1933), which needs no further consideration, supplemented by two soundings from advance information of the present survey (Bp. 52893-94) and one sounding from the present survey prior to verification and review.

A few bottom characteristics were transferred to the present survey from H-6881. 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 area of the present survey. The landmark "Loran Tower" charted in lat. 51°59.6', long. 176°36.7', is reported on page 4, paragraph P of the Descriptive Report to no longer exist and should, therefore be deleted from the chart.

7. Condition of Survey

a. The sounding records and Descriptive Report are complete and comprehensive.

b. The smooth plotting was accurately done.

8. Comoliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work Recommended

The survey is considered basic and no additional field work is recommended. ✓

Examined and Approved:

H. R. Edmonston
Chief, Nautical Chart Branch

Charles A. Schanck
Chief, Chart Division

J. C. Bull
Chief, Hydrography Branch

Samuel B. Grenell
Chief, Division of Coastal Surveys

RHC

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Division of Coast and Geodetic Surveys: 9 April 1956

Division of Charts: R. H. Carstens

Plane of reference approved in
6 volumes of sounding records for

HYDROGRAPHIC SHEET 8236

Locality Aleutian Islands, Alaska

Chief of Party: S. B. Grenell in 1955
Plane of reference is mean lower low water, reading
3.0 ft. on tide staff at Sweeper Cove
19.6 ft. below B. M. 16 (1951)

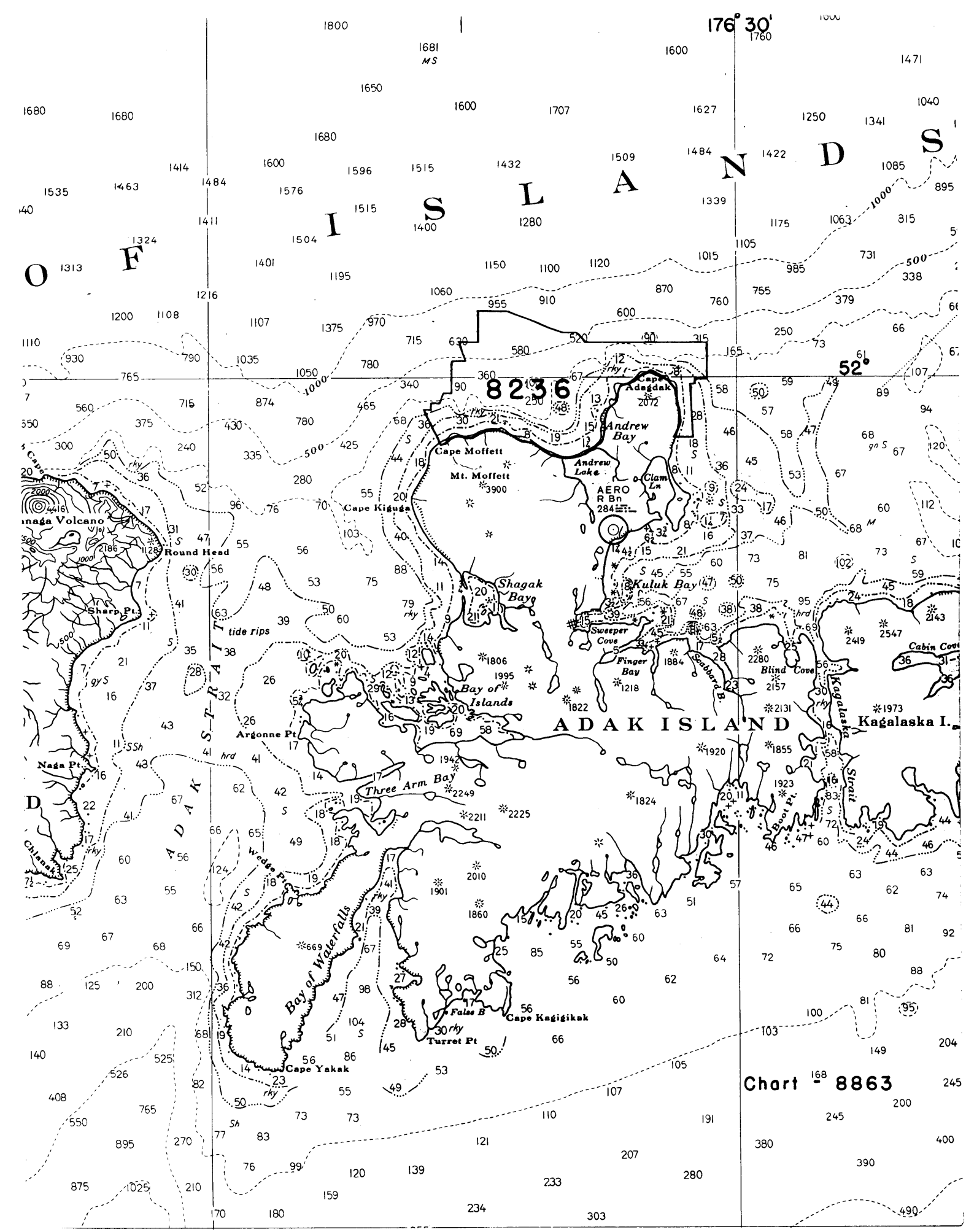
Height of mean high water above plane of reference is 3.7 feet.

Condition of records satisfactory except as noted below:

William Hopkins

Chief, Division of Tides and Currents Branch

U. S. GOVERNMENT PRINTING OFFICE 877935


176° 30'
52°
8236
ISLANDS
OF
Cape Adagdak
2072
Andrew Bay
Andrew Lake
Clam Ln
AERO R Bn
284
Cape Moffett
Mt. Moffett
3900
Cape Kiguga
Round Head
Sharp Pt.
tide rips
Shagak Bay
Kuluk Bay
Sweeper Cove
Finger Bay
Scabbard B.
Blind Cove
Cabin Cove
Kagalaska
Kagalaska I.
Bay of Islands
ADAK ISLAND
Argonne Pt
Naga Pt
Three Arm Bay
Boat Pt.
Strait
ADAK STRAIT
Wedge Pt.
Bay of Waterfalls
False B
Cape Kagigikak
Turret Pt
Cape Yakak
Chart 168 8863

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8236

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
1/10/57	9195	[illegible]	~~Before~~ After Verification and Review Partially Applied. Consider as completely applied until chart is reconstructed JMA
5/28/57	9102	Chas Williamson	~~Before~~ After Verification and Review Thru 9193 JMA
6-23-58	8863	Chas Williamson	~~Before~~ After Verification and Review
12/30/92	16467	Joseph Robinson	~~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.