

7874

Diag. Cht. No. 8556-2

Form 504

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC
Field No. SU-05150 Office No. H-7874

LOCALITY

State ALASKA
General locality KODIAK ISLAND
Locality WOMENS BAY

19~~4~~ 50

CHIEF OF PARTY

G. E. Boothe

LIBRARY & ARCHIVES

DATE

Jan 11-1951

7874
F2182

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REG. NO. H - 7874

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 - 7874

Field No. SU-05150

State Alaska

General locality Kodiak Island

Locality Womens Bay

Scale 1:5000 ✓ Date of survey 15 - 25 September 1950 ✓

Instructions dated 16 August 1950

Vessel SURVEYOR

Chief of party Glendon E. Boothe ✓

Surveyed by Clarence R. Reed ✓

Soundings taken by fathometer, graphic recorder, hand lead, wire 808 Fathometer

Protracted by Charles A. Schoene

Soundings penciled by Charles A. Schoene

Soundings in ~~fathoms~~ feet at ~~MLLW~~ MLLW ✓
and are true depths

REMARKS:

DESCRIPTIVE REPORT
To Accompany

HYDROGRAPHIC SHEET FIELD NO. SU-05150

SPECIAL SURVEY - 1950
Womens Bay
Kodiak, Alaska

SCALE 1:5000

USC&GSS SURVEYOR GLENDON E. BOOTHE, COMDG.

Clarence R. Reed - Officer-in-Charge

A. PROJECT:

The authority for this survey is contained in Director's Instructions 22/MEK, S-2-SU dated 16 August 1950 under subject SPECIAL SURVEYS.

B. SURVEY LIMITS AND DATES:

This survey was made in Womens Bay, Kodiak, Alaska. It includes the approach to the dredged channel southwestward from Bell Buoy "15", the dredged channel, and the natural channel to Latitude $57^{\circ} 43' 08''$ (about 0.2 mile south of Blodgett I.) The area covered extends to the 18 ft. curve or at least 100 meters beyond the limits of the dredged channel. Field work was started on 15 September and completed on 25 September 1950.

C. VESSEL AND EQUIPMENT:

The survey was made using ship's Launch No. 93 operating from the ship.

D. TIDE AND CURRENT STATIONS:

Staff readings at the standard tide station in Womens Bay were obtained during the time of actual sounding and used for the reduction of soundings. No time or range corrections were applied. No Current Stations were observed on this project.

E. SMOOTH SHEET:

The projection was made by hand by the Seattle Processing Office. The triangulation stations and topographic stations were plotted by DM^S and DP^S. The hydrographic stations were plotted with a steel projector.

F. CONTROL STATIONS:

All control stations used in this survey are on the North American Datum 1927.

The original triangulation in this area was executed by W.C.H. in 1907 with additions by H.B.C. in 1933 and G.C.J. in 1939. The position of station "CIRCLE USN" was computed from theodolite observations made by the Navy and furnished by the Public Works Office at Kodiak Naval Base. The positions of "Range Marker No. 1" and "Range Marker No. 2" were furnished by the same office. The positions of all other triangulation stations were obtained from List of Geographic Positions furnished by Washington Office. The positions of topographic stations "IAC" and "ROC" were obtained from photostats of descriptions furnished by the Washington Office, transferring the datum from the Valdez to the North American. These stations are from topographic survey T-6695, 1939. The locations of hydrographic stations YEL, RED & LIT were obtained by sextant angles on triangulation stations, and are recorded in the sdg. volumes of the present survey.

G. SHORELINE AND TOPOGRAPHY:

Shoreline and topography were omitted from the sheet because the sounding was not carried in to the low-water line. *Shoreline added in Wash. Office (Review, par. 1.)*

H. SOUNDINGS:

All soundings were taken with 808 Fathometer No. 47. Corrections were determined by bar checks.

I. CONTROL OF HYDROGRAPHY:

All hydrography was controlled by three point sextant fixes on control stations.

J. ADEQUACY OF SURVEY:

This survey is complete for the area covered and should supersede prior surveys for charting purposes.

K. CROSSLINES:

Crosslines run were 12% of the regular system of lines. Soundings at the crossings were in good agreement considering that the swell in the outer part of Womens Bay made it difficult to read the depths from the fathogram closer than one foot.

L. COMPARISON WITH PRIOR SURVEYS:

This survey has been compared with Hydrographic Survey H-6479, of 1939, scale of 1:5000 and Hydrographic Survey H-6481, of 1939, scale of 1:10000. In the area of the natural channel southwestward from lighted

Buoy No. 18 there is good general agreement except in the shoal area on the north side of the channel in the vicinity of longitude $152^{\circ} 29'$. This area has shoaled considerably since the 1939 survey, evidently as a result of dumping dredged material. All soundings throughout the natural channel area are generally 1 to 3 feet shoaler in the 1950 survey. This might be due to the fact that different tide stations were used on the two surveys. In the remainder of the area of this survey a channel has been dredged to 26 feet since the 1939 survey and there is consequently disagreement between the two surveys. In the area on the sides of the dredged channel there is good general agreement.

Review, par. 5.

The 22 ft. ^(prior survey) shoal in Lat. $57^{\circ} 44'.5$, Long. $152^{\circ} 27'.3$ has been dredged to $29\frac{1}{2}$ ft., and the 8 ft. shoal in Lat. $57^{\circ} 44'.5$, Long. $152^{\circ} 27'.2$ now has a least depth of $27\frac{1}{2}$ ft. Both of these shoals are shown on the chart as having been cleared to 28 ft. by wire drag.

M. COMPARISON WITH CHART: *See Review, par. 6.*

The survey has been compared with WOMENS BAY CHART No. 8546, scale 1:10000, print date "48-3/22", and is in good agreement. A sounding of 10 ft. was obtained on the charted 13 ft. shoal in Lat. $57^{\circ} 43'.4$, Long. $152^{\circ} 29'.2$, part of this may be due to a tidal difference.

In accordance with paragraph 11 of the instructions for this project an investigation was made of the area along the eastern and southern sides of the channel to verify the existence of broken piling. This area was swept by a marline drag towed between two dories. The marline was secured to the lead weight at the bottom of a lead line from each dory, and the drag depth was controlled by raising or lowering the leadline. *(Drag sheet attached to Desc. Report)*

Fixes were taken from the launch by maneuvering the launch into the vicinity of each dory in turn. The drag grounded twice and fathometer soundings were obtained at the approximate location of the obstruction. A sounding of 20.6 was obtained on Pos. 53 in Lat. $57^{\circ} 43'.4$, Long. $152^{\circ} 29'.3$ and a sounding of 14 ft. was obtained on position 57, Lat. $57^{\circ} 43'.42$ Long. $152^{\circ} 29'.22$. No other indications of broken piling were found. It is probable that the drag grounded on the 10 ft. shoal at position 57. *Review, par. 7c.*

The dolphin location by position 39b, in $28\frac{1}{2}$ ft. of water, Lat. $57^{\circ} 44'.85$, Long. $152^{\circ} 27'.62$ should be charted as it does not appear on the present chart.

The dock located by position 118a, Lat. $57^{\circ} 43'.46$, Long. $152^{\circ} 28'.09$ should be charted. The size of the dock is shown on the air photographs of this area submitted in a separate report.

The wreck shown on the chart in Lat. $57^{\circ} 43'-27''$, Long. $152^{\circ} 28'-36''$ is gone and should be deleted from the chart. *(Has been deleted)*

The charted pile in the vicinity of Bell Buoy #17, Lat. 57° 44'.3, Long. 152° 27'.6 was not seen by the survey party during the progress of the survey. It is recommended that it be deleted from the chart. *Concurred in Review, par. 6 A.(3)*

N. DANGERS AND SHOALS:

No new dangers or shoals were found in this survey. ✓

P. AIDS TO NAVIGATION:

Two fixed aids to navigation, Light No. 25 and Beacon No. 20, were located by this survey. They have been listed on Form 567 and forwarded to the Office on 4 January 1951. Beacon No. 20 does not appear in the copy of the light list aboard this vessel. Ten floating aids to navigation were located as listed below:

Pes. No.	Name		Depth (Feet)	Date
40b	Lighted Bell Buoy	57° 44.'55	33.5	9-21-50
	No. 15	152° 27.'08		
142d	Red Nun Buoy	57° 44.'38	26.8	9-20-50
	No. 14	152° 27.'78		
143d	Lighted Bell Buoy	57° 44.'31	29.6	9-20-50
	No. 17	152° 27.'60		
149d	Black Can Buoy	57° 44.'00	29.6	9-20-50
	No. 19	152° 28.'00		
119d	Red Nun Buoy	57° 43.'87	18.3	9-20-50
	No. 16	152° 28.'34		
120d	Lighted Bell Buoy	57° 43.'80	29.9	9-20-50
	No. 19A	152° 28.'28		
102d	Black Can Buoy	57° 43.'58	30.5	9-20-50
	No. 21	152° 28.'52		
43d	Lighted Bell Buoy	57° 43.'69	32.0	9-20-50
	No. 18	152° 28.'59		
14b	Black Can Buoy	57° 43.'47	30.4	9-21-50
	No. 23	152° 29.'23		
1b	Lighted Buoy	57° 42.'94	78.8	9-21-50
	No. 22	152° 30.'55		

Q. COAST PILOT INFORMATION:

Coast Pilot Notes for this area were forwarded to the Office in a separate report on 18 October 1950. ✓

Q. LANDMARKS FOR CHARTS:

Landmarks for charts in this area were submitted on Form 567 and mailed to the Office on 18 October 1950. There are no landmarks in the area of this survey recommended for charting. ✓

R. GEOGRAPHIC NAMES:

There are no recommended changes in the geographic names in the

area covered by this survey. A special report on geographic names for this area was not submitted.

2. TABULATION OF APPLICABLE DATA:

Air photographs forwarded to Office 7 November 1950.

Recovery cards for triangulation stations forwarded to Office 13 November 1950.0

Landmarks for charts forwarded to Office 18 October 1950.

Leveling Record and Report of Tide Station - Kodiak forwarded to Office 20 October 1950.

To be forwarded with this report:

4 - Fathograms	Bar Check Correction Curves
1 - Volume - Tide Staff Readings	1 - Boat Sheet
Tide Curves and Reducers	1 - Smooth Sheet
Abstract of Bar Checks	1 - Tracing Overlay
Table of Fathometer Corrections	(Marline Drag)

Respectfully submitted

Charles A. Schoene
Charles A. Schoene
Lt. Comdr., USC&GS.

Approved and Forwarded

Glendon E. Boothe
Glendon E. Boothe
Commander, USC&GS
Chief of Party

Approval Sheet to Accompany
Hydrographic Sheet No. SUR-05150
H-7874 (1950)


Womens Bay, Kodiak, Alaska

1950

This survey was executed under my personal supervision. The boat sheet and records were examined at the close of each day. The fathograms, records, boat sheet, and smooth sheet have been examined and approved by me.

The survey is considered adequate, under the instructions, for this class of work and should supersede previous surveys for the area covered.

As the previous survey was executed with a hand lead line many bottom characteristics were secured. Since this survey was performed with an 808 fathometer few bottom characteristics were secured. No special effort was made to take these samples as the 1939 survey had adequately covered the area.


Glendon E. Boothe
Commander, USC&GS
Comdg. USC&GSS SURVEYOR
Chief of Party

TIDE NOTE *H-7874 (1950)*
(to accompany survey Field No. SU-05150)

The standard tide station in WOMENS BAY (NOB), Lat. $57^{\circ} 43.14$, Long. $152^{\circ} 31.125$ was used for reducing the soundings on this survey. Half-hourly readings of the staff were made during the actual period of sounding. The plane of MLLW corresponds to 5.0 ft. on the tide staff as per dispatch from the Director of 19 September 1950. No corrections for time or height were applied to the observed tides.

H-7874 (1950)
 ABSTRACT OF FATHOMETER CORRECTIONS

LAUNCH NO. 93 FATHOMETER NO. 47

A - Scale

B - Scale

From	To	Correction	From	To	Correction
0	5.0	plus 0.8	35.0	37.5	plus 0.2
5.5	12.0	plus 0.6	38.0	44.5	plus-minus 0.0
12.5	18.5	plus 0.4	45.0	51.5	minus 0.2
19.0	25.5	plus 0.2	52.0	58.0	minus 0.4
26.0	32.5	plus-minus 0.0	58.5	65.0	minus 0.6
33.0	39.5	minus 0.2	65.5	71.5	minus 0.8
40.0	46.5	minus 0.4	72.0	78.5	minus 1.0
47.0	53.5	minus 0.6	79.0	- -	minus 1.2
54.0	- -	minus 0.8			

These corrections were obtained from bar checks.

LIST OF SIGNALS
 Used on Survey SU-05150
 H-7874 (1950)

TRIANGULATION STATIONS

TOPOGRAPHIC STATIONS

Signal Name	Origin	Signal Name	Origin
CHIN	Chiniak Northeast Base/	LAC	T-6695 1939
BERT	ABBERT 1939	ROC	T-6695 1939
EWE	EWE 1933		
CLE	CIRCLE USN		
FRO	RANGE MARKER NO. 1		
REAR	RANGE MARKER NO. 2		
TRAP	TRAP 1933		

HYDROGRAPHIC STATIONS

YEL
 RED
 LIT

STATISTICS
H-7874 (1950)
 SHEET SU-05150

Date 1950	Vol. No.	Day Ltr.	No. of Pos.	Miles - Sounding Lines	
				Statute	Nautical
20 September	1 & 2	a	264	24.7	21.5
21 September	2 & 3	b	225	16.3	14.2
24 September	3 & 4	c	98	9.3	8.1
25 September	4	d	73	5.5	4.8
TOTALS			660	55.8	48.6

AREA: In square statute miles - 0.74

GEOGRAPHIC NAMES

Survey No. H-7874

Name on Survey	Source										
	A	B	C	D	E	F	G	H	K		
<u>Alaska</u>											1
<u>Kodiak Island</u>	} Title										2
<u>Womens Bay</u>									BGN		3
<u>Kodiak</u>											4
NYMAN PENINSULA											5
ZAIMKA ISLAND											6
<u>BLODGETT ISLAND</u>											7
											8
											9
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											M 234

Names underlined in red are approved. 1-25-51

L. Heck

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7874

Records accompanying survey:

Boat sheets ...; sounding vols. 4....; wire drag vols. 1....;
 bomb vols.; graphic recorder rolls 2 envelopes;
 special reports, etc. 1 overlay tracing

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

Number of positions on sheet	..660..
Number of positions checked	..40..
Number of positions revised	..1..
Number of soundings revised (refers to depth only)	..11..
Number of soundings erroneously spaced	..2..
Number of signals erroneously plotted or transferred
Topographic details	Time ..30..
Junctions	Time
Verification of soundings from graphic record	Time ..2..

Verification by *D.R. Engle* Total time 1.5.. Date 5-18-51

Reviewed by *J.A. Dinmore* Time 24 hrs. Date 12 June 1951

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7874

FIELD NO. SU-05150

Alaska, Kodiak Island, Womens Bay

Project No. Special
Surveys dated 16 August 1950

Surveyed in September 1950

Scale 1:5,000

Soundings:

Control:

808 Fathometer

Sextant fixes on shore signals

Chief of Party - G. E. Boothe
Surveyed by - C. R. Reed
Protracted by - C. A. Schoene
Soundings plotted by - C. A. Schoene
Verified and inked by - D. R. Engle
Reviewed by - T. A. Dinsmore, 12 June 1951
Inspected by - R. H. Carstens

1. Shoreline and Control

The shoreline originates with topographic surveys T-6695, T-6696 and T-6697 of 1939 and was applied in the Washington Office for the purpose of identifying the area.

The origin 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 are adequately delineated.

Except for lumpiness in portions of the dredged channel the bottom is generally smooth.

4. Adjoining Surveys

No contemporary surveys adjoin the present survey. However, charted information from surveys by this Bureau in 1939 and the U. S. Navy in 1943 will adequately join the present survey.

5. Comparison with Prior Surveys

- a.
- H-2929 (1907) 1:20,000
- H-5440 (1933) 1:20,000

These prior surveys have been compared with and superseded by H-6479 and H-6481 of 1939. Further consideration of the above surveys is therefore deemed unnecessary in the present review.

- b.
- H-6479 (1939) 1:5,000
- H-6481 (1939) 1:10,000

These prior surveys cover the area of the present survey. A comparison between the prior and present surveys reveals appreciable changes in bottom. Conspicuous examples of differences in depths are shown in the following comparison:

<u>Prior Depth</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Present Depth</u>
8	57° 44.48'	152° 27.17'	30
22	57° 44.56'	152° 27.31'	30
23	57° 43.85'	152° 28.27'	31
22	57° 43.72'	152° 28.47'	32
16	57° 43.74'	152° 28.93'	8

The deepening indicated in the first four examples has resulted from dredging. In the last example, spoil disposal has apparently caused the shoaler present depth. In the natural channel southwestward from Zaimka Island, present depths are generally 1 to 5 ft. less than prior depths.

The present survey is adequate to supersede the prior surveys within the common area.

- c.
- H-6480 W.D. (1939) 1:5,000

This wire-drag survey covers most of the present survey area. In the vicinity of lat. 57° 43.57', long. 152° 29.17', present depths of 27 to 31 feet were previously cleared by an effective drag depth of 32 feet. This conflict confirms the shoaling in the natural channel mentioned in the preceding paragraph. The prior clearance depth should be disregarded where it conflicts with the shoaler depths on the present survey. Except as noted, present depths are in harmony with the effective drag depths.

6. Comparison with Chart 8546 (Latest print date 1/8/51)A. Hydrography

Charted hydrography originates principally with the previously discussed surveys and U. S. Navy surveys of 1943-44. Critical information only has been applied to the chart from the present survey prior to verification and review.

Attention is directed to the following charted items:

- (1) The two 29-ft. soundings charted in lat. $57^{\circ} 43.40'$, long. $152^{\circ} 30.00'$, and lat. $57^{\circ} 43.62'$, long. $152^{\circ} 29.37'$, respectively, from Bp. 38349 (1943) should be deleted from the chart. These soundings fall in 39-ft. depths on both the prior and present surveys. The bottom is smooth and of gradual slope. The 29-ft. soundings are considered to be in error by 10 ft.
- (2) The 16-ft. sounding charted in lat. $57^{\circ} 43.79'$, long. $153^{\circ} 28.22'$, from Bp. 38345 (1943) should be disregarded. Falling in present depths of 30 feet, this prior sounding is considered to be out of position and should actually fall on the in-shore slope about 75 meters eastward where comparable depths obtain on the present survey. The position of the charted 16 was also cleared by an effective depth of 27 ft. by the marline sweep on the present survey.
- (3) The pile charted in lat. $57^{\circ} 44.35'$, long. $152^{\circ} 27.58'$, from Bp. 36228 (1941) should be disregarded. Although the marline sweep work on the present survey did not cover this area, it is believed that the pile has been removed either in connection with dredging operations or by the ice conditions considered responsible for the destruction of the line of piling extending southwestward. The hydrographer states that the pile was not visible during the present survey and recommends its deletion from the chart.
- (4) The note "Broken piling may exist in this area" and the dashed line delimiting the area originate with Chart Letter 88 (1948). The sweeping of this area to a maximum effective depth by marline sweep operations on the present survey appears to adequately disprove the existence of piling in the area. It is, therefore, recommended that the note and delimiting line be removed from the chart.

- (5) It is noted that the following features located on the present survey do not presently appear on the chart:

Dolphin in lat. $57^{\circ} 44.87'$, long. $152^{\circ} 27.61'$.

Dock in lat. $57^{\circ} 43.46'$, long. $152^{\circ} 28.09'$.

The present survey supersedes the charted information.

B. Aids to Navigation

The buoy located in lat. $57^{\circ} 43.46'$, long. $152^{\circ} 29.23'$, on the present survey is about 65 meters east of its charted position. The charted position more adequately marks the 23-ft. shoal in the vicinity.

Except as noted, aids to navigation located on the present survey are in substantial agreement with the charted aids and adequately serve the purpose intended.

C. Dredged Channel

The charted controlling depth of 26 ft., June 1949 originates with Chart Letter 785 (1949). No conflicts are noted between present survey depths and the charted controlling depth within the marked channel.

7. Condition of Survey

- a. The sounding records and Descriptive Report are complete and comprehensive.
- b. The smooth plotting was accurately done.
- c. During the present survey, an investigation was made of the area along the eastern and southern sides of the channel, the purpose of which was to verify or disprove the existence of broken piling. The area was swept fairly close to the bottom by a marline sweep towed between two dories. Two groundings occurred during this work. In lat. $57^{\circ} 43.40'$, long. $152^{\circ} 29.30'$, the sweep while set at an effective depth of 20 feet grounded in comparable depths and in lat. $57^{\circ} 43.42'$, long. $152^{\circ} 29.22'$, at an effective depth of 14 feet, the sweep also grounded in like depths. No obstructions are considered to exist within the area swept.

The marline sweep work is shown on a tracing attached to the Descriptive Report.

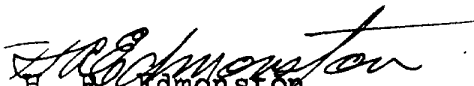
8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.


9. Additional Field Work

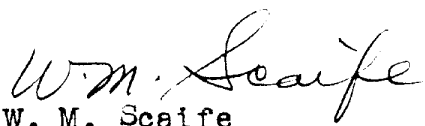
This survey adequately serves the purpose intended and no additional field work is required.

Examined and approved:


H. R. Edmonston
Chief, Nautical Chart Branch


H. Arnold Karo
Chief, Division of Charts


L. S. Hubbard
Chief, Section of Hydrography


W. M. Scaife
Chief, Division of Coastal Surveys

EHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~

26 January 1951

Division of Charts: R. H. Carstens

Plane of reference approved in 5
volumes of sounding ~~records for~~

and wire drag records for

HYDROGRAPHIC SHEET 7874

Locality Womens Bay, Alaska

Chief of Party: G. E. Boothe in 1950
Plane of reference is mean lower low water, reading
5.0 ft. on tide staff at Womens Bay (N.O.B.)
15.1 ft. below B. M. 4 (1949)

Height of mean high water above plane of reference is 7.9 feet.

Condition of records satisfactory except as noted below:

E. C. McKay

Section

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

