

8355

Diag. Cht. No. 5502-2.

Form 504

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. WCFP-1357 Office No. H-8355

LOCALITY

State California

General locality Tomales Bay

Locality Tom Point to Indian Beach

19 57

CHIEF OF PARTY

A. L. Wardwell

LIBRARY & ARCHIVES

DATE December 1, 1957

USCOMM-DC 5087

8355

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- 8355

Field No. WCFP 1357

State CALIFORNIA

General locality TOMALES BAY

Locality ~~GENERAL PART~~ Tom Point to Indian Beach

Scale 1:10000 Date of survey 19 March - 13 May 1957

Instructions dated 22 August 1956

Vessel Launch No. CS 160

Chief of party CDR. Arthur L. Wardwell

Surveyed by ENS. J.K. Richards, ENS. P.J. Taetz

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

Fathograms scaled by A.W. Brain, H.D. Lantzy, L.T. Brown

Fathograms checked by J.K. Richards, P.J. Taetz, A.L. Wardwell,
A.E. Eichelberger

Protracted by ENS. Philip J. Taetz

Soundings penciled by Ens. Philip J. Taetz

Soundings in ~~fathoms~~ feet at MLW MLLW AND ARE TRUE DEPTHS

REMARKS:

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.....
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.....

K.W.W. 6/4/92

202

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SURVEY
FIELD NO. WCFP 1357 - REGISTRY NO. H- 8355

TOMALES BAY, CALIFORNIA
PROJECT 13890

DATE OF SURVEY: 1957
SCALE: 1:10,000

WEST COAST FIELD PARTY - CDR. ARTHUR L. WARDWELL, CHIEF OF PARTY

SURVEYED BY: ENS. P.J. TAETZ, ENS. J.K. RICHARDS

PROJECT

The work was done in accordance with instructions from the Assistant Director for project number 13890 dated 22 August 1956.

SURVEY LIMITS AND DATES

The general locality of this survey is Tomales Bay, California. The survey includes the central part of Tomales Bay beginning approx. at latitude $38^{\circ} 08:30'$ and extending northward to approx. latitude $38^{\circ} 13.00'$.

Field work began on 19 March 1957 and was completed 13 May 1957.

Junction is made on the south with sheet WCFP 1457, Reg. No. H- 8356, and on the north with sheet WCFP 1257, Reg. No. H- 8354(1957)

VESSEL AND EQUIPMENT

Launch CS.160 and a skiff were used for all sounding lines. All fathometer soundings were taken aboard the launch with an 808 J type fathometer, No. 152 SPX, with a keel mounted acoustic unit. All soundings taken from the skiff were pole soundings.

TIDE AND CURRENT STATIONS

Tidal control for this survey was furnished by a portable tide gage installed at Blakes Landing. See TIDE NOTE in this report. An abstract of smooth tide reducers is included in this report.

No current stations were occupied.

SMOOTH SHEET

The projection was made by hand at C. & G. S. ship's base in Seattle.

The shoreline was transferred to the smooth sheet from blue-line tracings currently compiled by the Tampa Photogrammetric Office. The shoreline and all attached topographic features such as buildings and piers were not inked on the smooth sheet. All details in the water area however, such as rocks, which originated with the manuscripts were inked on the sheet.

*Inking completed
in Wash. Off.*

CONTROL STATIONS

Signal DUC was located by the hydrographic party with a three point fix and check angles. This signal was an anchored floating duck blind which was considered temporary in nature. The remainder of the signals were located by photogrammetric methods on manuscripts T- 10413, T- 10414, and T- 10415. Signal UNC was a marked topographic station, but no geographic position was available. The position shown in the manuscript was found to be incorrect. The correct location was determined photogrammetrically and was plotted on the boat sheet. Inadvertantly, the corrected location was not plotted on the manuscript. This was discovered when the control was transferred to the smooth sheet, therefore making it necessary to scale the position from the boat sheet. This location was later verified by a letter from the Tampa Photogrammetric Office.

SHORELINE AND TOPOGRAPHY

The shoreline was taken from manuscripts T- 10413, T- 10414, and T- 10415.

In some cases the hydrographic location of rocks awash did not agree exactly with the photogrammetric location. Where the rocks were located by actual three - point fixes by the hydrographic party, the hydrographic locations were used on the smooth sheet.

There was some discrepancy between the photogrammetric and hydrographic locations of the abandoned oyster pen fences east of Tom Point and east of the entrance to Walker Creek. The hydrographic locations were believed to be more accurate and were therefore used on the smooth sheet.

Use topo positions for inshore end

SOUNDINGS

Soundings were taken with fathometer and/or pole. The initial on the fathometer was held at three feet during the sounding. Fathometer corrections were obtained by a series of bar checks and phase comparisons, described in a separate fathometer report which has been forwarded to the Director. An abstract of echo corrections is attached to this report.

The low-water line was obtained in most cases, by walking along the shoreline at a zero tide and taking sextant fixes at the water's edge.

CONTROL OF HYDROGRAPHY

Standard three point fixes to previously located control stations were used for control of all hydrography.

ADEQUACY OF SURVEY

This survey is considered complete and adequate for charting purposes, and should supercede all previous surveys.

Tracings of the soundings and depth curves at the north and south limits of the sheet were made and compared with sheets WCFP 1257, H- 8354, and WCFP 1457, H- 8356. The junctions were found to be satisfactory. No excessive differences in soundings exist, and the depth curves can be adequately drawn between the three sheets.

CROSSLINES

The crosslines run were 11.5 % of the total sounding lines. All crossings were satisfactory.

COMPARISON WITH PRIOR SURVEYS

Comparison of this sheet with survey H- 5165, 1:10,000, 1931 and H- 5163, 1:10,000, 1931 shows very little change in depths and relative shape of depth curves in the channel areas. However, considerable shoaling has taken place in the area southeast of Tom Point and around the entrance to Walker Creek. *Review*

COMPARISON WITH CHART

Chart 5603 (Nov. 1934) has no significant differences from the present survey other than those indicated in the preceding paragraph.

DANGERS AND SHOALS

The only significant uncharted danger found was an 11 foot rock sounding, pos. 1 s, latitude $38^{\circ} 10.78'$ and longitude $122^{\circ} 55.05'$. Several less important sunken rocks were located at pos. 9, 10, 11, & 12 11, latitude $38^{\circ} 10.31'$ and longitude $122^{\circ} 54.27'$; pos. 4&5 11, latitude $38^{\circ} 11.03'$ and longitude $122^{\circ} 54.70'$; and pos. 3 11, latitude $38^{\circ} 11.15'$ and longitude $122^{\circ} 54.74'$.

AIDS TO NAVIGATION

There were no fixed aids to navigation on this sheet. All floating aids to navigation in the area were located by the hydrographic party, and are listed below:

BUOY	LAT. & LONG.	DEPTH (ft)	POS. NO.	DATE OF LOC.
Hog Island Buoy (black & red) horiz. striped)	$38^{\circ} 12.07'$ $122^{\circ} 56.57'$	23	153 k	15 April 1957
"C" "7"	$38^{\circ} 11.78'$ $122^{\circ} 56.55'$	9.5	154 k	15 April 1957
"N" "10"	$38^{\circ} 11.29'$ $122^{\circ} 55.79'$	16	68 d	28 March 1957

A report has been sent to the San Francisco District Headquarters of the Coast Guard showing the location of the above listed aids to navigation.

There is a submerged communication cable with termini at signals CAB and FEW. The smooth sheet location of this cable was taken from the manuscript.

LANDMARKS FOR CHARTS

There are two landmarks within the limits of this survey.
They are as follows:

CHARTING NAME	DESCRIPTION	LAT.&LONG.	DATE OF LOC.
HOUSE	Stucco house with red tile hip roof. Ht. = 24 (154)	38° 08' 21 ¹ +1387m (463) 122° 52' 28 ² +1181m (280)	1957 C.L. 1029 (1958)
TANK	White cylindrical tank with flat top. Ht. = 8 (107)	38° 09' 21 ¹ +62m (0789) 122° 54' 28 ² +564m (896.7)	1957 C.L. 1029 (1958)

Both are plotted on the smooth sheet and have been submitted
on form 567.

TABULATION OF APPLICABLE DATA

1. Blakes Landing Tide Station marigrams, Nos. 1 through 11 forwarded to the Director 7 February 1957, Nos. 12 through 26 sent 2 July 1957.
2. Blakes Landing Tide Station Report forwarded to the Director 1 February 1957. Level data for installation of Blakes Landing Tide Station sent to the Director 6 February 1957. Level data for removal of Blakes Landing Tide Station sent to the Director 18 November 1957.
Abstract of tide reducers attached to this report.
2. Office photographs forwarded to the Director 19 July 1957.
3. Photo manuscripts and blue-line prints to be forwarded to the Director.
4. Special fathometer report sent to the Director 15 November 1957.
Abstract of fathometer corrections attached to this report.
5. Fathograms to be forwarded to the Director.
6. Sounding volumes to be forwarded to the Director.
7. Boat sheet to be forwarded to the Director.
8. Copies of old surveys to be sent to the Director.

Respectfully Submitted,

Philip J. Taet
Philip J. Taet
Ensign, C&GS

STATISTICS FOR HYDROGRAPHIC SURVEY

FIELD NO. WCFP 1357 - REGISTRY NO. H- 8355

LAUNCH CS 160 - PROJECT 13890

Vol.No.	Day Letter	Date	No.Pos.	H.L.& Pole Sdgs.	Stat.Miles	Method
1	a	19 March	112	12	15.6	L
1	b	21 "	71	3	9.7	L
1	c	27 "	25	0	3.8	L
2	d	28 "	76	15	10.6	L
2 & 3	e	2 April	155	25	19.8	L
3	f	3 "	87	53	10.9	L
3	g	4 "	9	0	0.0	S
3	h	5 "	65	17	0.0	W S
3	j	12 "	21	13	2.6	L
3 & 4	k	15 "	154	101	19.2	L
4	l	18 "	134	16	10.4	W L
5	ll	18 "	13	8	0.0	S
4	m	19 "	42	0	0.0	W
5	mm	19 "	84	56	0.0	W
5	n	22 "	76	14	0.0	S W
6	nn	22 "	35	0	0.0	W
6	p	23 "	22	0	3.3	L
6	q	26 "	53	12	5.1	L
5	r	10 May	11	1	1.3	L
6	s	13 "	1	0	0.0	L
			<u>1246</u>	<u>346</u>	<u>112.4</u>	

Total area, square statute miles = 5.54

L Launch

S Skiff

W Walking shoreline

TIDE NOTE FOR HYDROGRAPHIC SURVEY

FIELD NO. WCFP 1357 - REGISTRY NO. H- 8355

A portable automatic tide gage, located at Blakes Landing (Pier south of) was used for tide reducers for all soundings on this sheet. The geographic position of the tide station is: latitude $38^{\circ} 11.43'$; longitude $122^{\circ} 55.00'$.

The MLLW value on the tide staff was 2.7 feet. The sheet was divided into two zones. Tide zone "A" included all of the area east of longitude $122^{\circ} 56.00'$. The observed tides were applied direct in this zone. Tide zone "B" included all of the area west of longitude $122^{\circ} 56.00'$ and a minus 30 minute time correction was applied to the observed tides.

ABSTRACT OF SMOOTH TIDE REDUCERS

BLAKES LANDING TIDE GAGE

SHEET WCFP 1357 REGISTRY NO. H- 8355

Tide Zone "A" = Blakes Landing Tide Gage Direct.
 Tide Zone "B" = Blakes Landing Tide Gage minus 30 min. time corr.

"a" day, 19 Mar.
 Tide Zone "A"

0900-0948 0.0 ft.
 -1010 - 0.2
 -1027 - 0.4
 -1041 - 0.6
 -1055 - 0.8
 -1106 - 1.0
 -1119 - 1.2
 -1130 - 1.4
 -1142 - 1.6
 -1154 - 1.8
 -1208 - 2.0
 -1220 - 2.2
 -1233 - 2.4
 -1245 - 2.6
 -1300 - 2.8
 -1313 - 3.0
 -1328 - 3.2
 -1343 - 3.4
 -1400 - 3.6
 -1420 - 3.8
 -1500 - 4.0

"a" day, 19 Mar.
 Tide Zone "B"

1258-1312 - 3.4
 -1330 - 3.6

"b" day, 21 Mar.
 Tide Zone "A"

1228-1247 - 0.2
 -1304 - 0.4
 -1320 - 0.6
 -1334 - 0.8
 -1349 - 1.0
 -1403 - 1.2
 -1419 - 1.4
 -1435 - 1.6

"c" day, 27 Mar.
 Tide Zone "A"

1300-1312 - 1.8 ft.
 -1328 - 1.6

"c" day, 27 Mar.
 Tide Zone "B"

1240-1257 - 1.6
 -1314 - 1.4

"d" day, 28 Mar.
 Tide Zone "A"

1300-1317 - 2.4
 -1332 - 2.2
 -1349 - 2.0
 -1403 - 1.8
 -1422 - 1.6
 -1441 - 1.4
 -1500 - 1.2
 -1520 - 1.0

"d" day, 28 Mar.
 Tide Zone "B"

1300-1317 - 2.0

"e" day, 2 Apr.
 Tide Zone "A"

0943-1000 - 0.8 ft.
 -1014 - 1.0
 -1030 - 1.2
 -1044 - 1.4
 -1100 - 1.6
 -1115 - 1.8
 -1132 - 2.0
 -1149 - 2.2
 -1203 - 2.4
 -1219 - 2.6
 -1237 - 2.8
 -1255 - 3.0
 -1321 - 3.2
 -1424 - 3.4
 -1500 - 3.2

"e" day, 2 Apr.
 Tide Zone "B"

1430-1457 - 3.0
 -1520 - 2.8
 -1539 - 2.6

"f" day, 3 Apr.
 Tide Zone "B"

1319-1530 - 3.2
 -1553 - 3.0
 -1615 - 2.8

"g" day, 4 Apr.
 Tide Zone "A"

0900-1030 / 0.2

COMBINED CORRECTIONS FOR PATHOMETER 132 APX
 when being used in Launch GS 160, Winter 1956 - 1957

Project 13890 Tumbles & Bodega Bays

<u>"A" Scale</u>		<u>"B" Scale</u>		<u>"C" Scale</u>	
Fathometer Reading (ft.)	Correction (ft.)	Fathometer Reading (ft.)	Correction (ft.)	Fathometer Reading (ft.)	Correction (ft.)
5.0-14.7	-0.2				
-31.7	-0.1				
-38.8	0.0				
-43.8	+0.1	37.3-42.3	+1.6		
-48.1	+0.2	-46.6	+1.7		
-52.3	+0.3	-50.8	+1.8		
-56.3	+0.4	-54.8	+1.9		
-60.2	+0.5	-58.7	+2.0		
		-63.2	+2.1		
		-67.0	+2.2	63.7-69.6	+1.6
		-67.7	+2.3	-92.0	+1.7

See H-8353 for
 fathometer report

ABSTRACT OF SMOOTH TIDE REDUCERS

BLAKES LANDING TIDE GAGE

SHEET WCFP 1357 REGISTRY NO. H- 8355

"h" day, 5 Apr.
Tide Zone "A"

1249-1305 - 0.8 ft.
-1320 - 1.0
-1336 - 1.2
-1352 - 1.4
-1409 - 1.6
-1425 - 1.8
-1443 - 2.0
-1500 - 2.2

"h" day, 5 Apr.
Tide Zone "B"

0900-0930 / 0.2
-1050 / 0.4
-1112 / 0.2
-1130 0.0
-1148 - 0.2
-1203 - 0.4
-1219 - 0.6

"j" day, 12 Apr.
Tide Zone "A"

1440-1500 - 1.2
-1515 - 1.0

"j" day, 12 Apr.
Tide Zone "B"

1410-1430 - 1.2
-1447 - 1.0

"k" day, 15 Apr.
Tide Zone "A"

0922-0935 - 0.8 ft.
-0948 - 1.0
-1000 - 1.2
-1013 - 1.4
-1025 - 1.6
-1036 - 1.8
-1047 - 2.0
-1058 - 2.2
-1109 / 2.4
-1121 - 2.6
-1132 - 2.8
-1145 - 3.0
-1200 - 3.2
-1214 - 3.4
-1232 - 3.6

"k" day, 15 Apr.
Tide Zone "B"

1300-1312 - 4.0
-1345 - 3.8
-1405 - 3.6
-1423 - 3.4
-1440 - 3.2
-1452 - 3.0
-1508 - 2.8
-1520 - 2.6
-1537 - 2.4
-1550 - 2.2

"l" day, 18 Apr.
Tide Zone "A"

0900-0920 0.0 ft.
-1035 / 0.2
-1100 0.0
1222-1236 - 1.4
-1250 - 1.6
-1303 - 1.8
-1314 - 2.0
-1327 - 2.2
-1340 - 2.4
-1357 - 2.6
-1414 - 2.8
-1430 - 3.0
-1450 - 3.2
-1517 - 3.4
-1600 - 3.6

"l" day, 18 Apr.
Tide Zone "A"

0900-0920 0.0
-1035 / 0.2
-1100 0.0

"m" day, 19 Apr.
Tide Zone "A"

0930-0957 0.0
-1130 / 0.2

"mm" day, 19 Apr.
Tide Zone "A"

1150-1209 - 0.2
1316-1329 - 1.4
-1342 - 1.6
-1356 - 1.8
-1410 - 2.0
-1425 - 2.2
-1440 - 2.4

ABSTRACT OF SMOOTH TIDE REDUCERS

BLAKES LANDING TIDE GAGE

SHEET WCFP 1357 REGISTRY NO. H- 8355

"mm" day, 19 Apr.
Tide Zone "B"

0926-1059 / 0.2 ft.
-1120 0.0
-1136 - 0.2
-1152 - 0.4
-1207 - 0.6

"p" day, 23 Apr.
Tide Zone "B"

1230-1426 - 0.4 ft.
-1435 - 0.6

"q" day, 26 Apr.
Tide Zone "A"

1250-1310 - 2.0
-1331 - 1.8
-1355 - 1.6
-1420 - 1.4
-1448 - 1.2
-1600 - 1.0

"n" day, 22 Apr.
Tide Zone "A"

0951-1012 - 1.4
-1030 - 1.2
-1050 - 1.0
-1113 - 0.8
-1138 - 0.6
-1206 - 0.4
-1354 - 0.2

"q" day, 26 Apr.
Tide Zone "B"

1420-1611 - 1.0

"n" day, 22 Apr.
Tide Zone "B"

0918-0938 - 1.4
-1000 - 1.2
-1020 - 1.0
-1030 - 0.8

"r" day, 10 May
Tide Zone "A"

1349-1416 - 1.4

"nn" day, 22 Apr.
Tide Zone "A"

1206-1354 - 0.2

"r" day, 10 May
Tide Zone "B"

1327-1346 - 1.4
-1416 - 1.2

"p" day, 23 Apr.
Tide Zone "A"

1300-1450 - 0.4

"s" day, 13 May
Tide Zone "A"

1212-1300 - 4.2

LIST OF SIGNALS USED

FIELD NO. WCFP 1357 REGISTRY NO. H- 8355

Hydrographic Name	Origin of Signal
ABE	Manuscript T- 10415
AMY	Manuscript T- 10415
ART	Manuscript T- 10415
AXE	Manuscript T- 10415
BED	Manuscript T- 10415
BUS	Manuscript T- 10415
CAB	Manuscript T- 10415
CAT	Manuscript T- 10415
CRY	Manuscript T- 10415
DIP	Manuscript T- 10415
DUC	3 pt. fix "f" day Vol. 3 page 28
EAR	Manuscript T- 10415
ELM	Manuscript T- 10415
EVA	Manuscript T- 10413
FEW	Manuscript T- 10415
FOG	Manuscript T- 10415
GAB	Manuscript T- 10415
GIL	Manuscript T- 10414
HOG	Manuscript T- 10414
HOP	Manuscript T- 10415
LAX	Manuscript T- 10414
LOW	Manuscript T- 10415

LIST OF SIGNALS USED

FIELD NO. WCFP 1357 REGISTRY NO. H- 8355

Hydrographic Name	Origin of Signal
NOR	Manuscript T- 10415
OBI	Manuscript T- 10413
OIL	Manuscript T- 10413
OLD	Manuscript T- 10413
OUT	Manuscript T- 10413
PIE	Manuscript T- 10413
PRO	Manuscript T- 10413
PEL	Manuscript T- 10414
RAM	Manuscript T- 10413
ROT	Manuscript T- 10413
SIP	Manuscript T- 10413
SKY	Manuscript T- 10413
TIN	Manuscript T- 10415
TUB	Manuscript T- 10414
UNC(1931) marked	Manuscript T- 10413
WAR	Manuscript T- 10414
WIG	Manuscript T- 10414
YEL	Manuscript T- 10414
YET	Manuscript T- 10414

SPECIAL REPORT ON PRELIMINARY REVIEW

PROJECT 13890

HYDROGRAPHIC SHEETS NO. ✓

WCFP 1157, H-8353

WCFP 1257, H-8354

WCFP 1357, H-8355

WCFP 1457, H-8356

All questionable areas shown on the Preliminary Review were investigated in the field by the hydrographic party, with the exception of the doubtful 13 foot rock sounding on sheet WCFP 1257 at latitude $38^{\circ} 15.62'$, longitude $122^{\circ} 58.62'$. This area could not be thoroughly investigated because of rough water. *H-8354*

The development of the other areas is shown on the respective smooth sheets. All shoal soundings in question were verified, and, in some cases, shoaler soundings were found.

The unsurveyed foul area indicated in the vicinity of latitude $38^{\circ} 14.25'$, longitude $122^{\circ} 59.10'$ was investigated to some extent, but rough water prevented a thorough job.

The condition of the oyster pens in the south end of Tomales Bay was described on sheet WCFP 1457. *H-8356*

All shoreline features such as docks and piers were verified by the field inspection party from the photogrammetry division.

Respectfully submitted,

Philip J. Taetz
Philip J. Taetz
Ensign, C&GS

Curtis LeFevre
Superior Seattle
District

APPROVAL SHEET

HYDROGRAPHIC SURVEY WCFP 1357, H- 8355

This survey is complete and adequate for charting purposes, and no additional work is necessary. The Chief of Party kept close personal supervision over the work.

Curtis LeFever

Curtis LeFever

Captain, C&GS
Seattle District Supervisor

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. *H-8355.*

Records accompanying survey:

Boat sheets *..1..*; sounding vols. *...6..*; wire drag vols. *.....*;
 bomb vols. *.....*; graphic recorder rolls *..6..* Envelopes
 special reports, etc. *1-Smooth sheet and 1-Descriptive report.*

*Loose material filed in vault: blue-line tracings and
 blackline impression.*

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

Number of positions on sheet		<i>1246.</i>
Number of positions checked		<i>125.</i>
Number of positions revised		<i>none.</i>
Number of soundings revised (refers to depth only)		<i>12.</i>
Number of soundings erroneously spaced		<i>none.</i>
Number of signals erroneously plotted or transferred		<i>none.</i>
Topographic details	Time	<i>.....</i>
Junctions	Time	<i>..9...</i>
Verification of soundings from graphic record	Time	<i>..17...</i>

Verification by *WILLIAM L. HIGLEY* Total time *..98...* Date *8/14/58*

Reviewed by *[Signature]* Time *..67...* Date *12 May 1963*

GEOGRAPHIC NAMES

Survey No. H-8355

Name on Survey	Source									
	A	B	C	D	E	F	G	H	K	
	On Chart No.	On Previous survey No.	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List		
<u>California</u>									BGN	1
<u>Tomaes Bay</u>										2
<u>Tom Point</u> ✓										3
<u>Walker Creek</u>									BGN	4
<u>White Gulch</u>										5
<u>Hog Island</u>										6
<u>Blakes Landing</u>				(tide station)						7
<u>Indian Beach</u> ✓										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27
										M 234

Names approved 12-20-57

L. HECK

OFFICE OF CARTOGRAPHY

REVIEW SECTION -- NAUTICAL CHART DIVISION

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8355

FIELD NO. WCFP-1357

California - Tomales Bay - Tom Point to Indian Beach

SURVEYED: 19 March - 13 May 1957

SCALE 1:10,000

PROJECT NO. 13890

SOUNDINGS: 808 Depth Recorder
Sounding Pole

CONTROL: Sextant fixes
on shore signals

Chief of Party ----- A. L. Wardwell
Surveyed by ----- P. J. Taetz, J. K. Richards
Protracted by ----- P. J. Taetz
Soundings plotted by ----- P. J. Taetz
Verified and inked by ----- W. L. Higley
Reviewed by ----- L. S. Straw
Inspected by ----- R. H. Carstens .

DATE: 5/12/60

1. Shoreline and Control

The shoreline originates with reviewed air-photographic surveys T-10413, T-10414, and T-10415 of 1955-57.

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

2. Sounding Line Crossings

The cross lines are adequate and the depths at crossings, considering the irregular bottom, are in satisfactory agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated. The bottom is irregular from Pelican Point to Tom Point where depths in the channels range from 16 to 60 feet; elsewhere it is fairly even except for 30 to 50 ft. deep areas off points of land on each side of the bay.

4. Junctions with Contemporary Surveys

The junction on the north at Tom Point with H-8354 (1957) is satisfactory. The junction with H-8356 (1957) at Indian Beach will be considered in the review of that survey.

5. Comparison with Prior Surveys

H-756 (1860), 1:10,000
 H-757 (1861), 1:10,000
 H-4177 (1921), 1:10,000
 H-5163 (1931), 1:10,000
 H-5165 (1931), 1:10,000

The 1860-61 surveys in the area common with the present survey contain about half as many soundings as the present work. Comparisons between the early and later surveys reveal many changes most of which are natural but some are artificial. For example, the mud flats off the mouth of Walker Creek have extended progressively southwestward for over $\frac{1}{2}$ -mile as shown by the former and present position of the low water curve, and have completely filled an extensive 15- to 20-foot deep area lying 100 to 500 meters southwest of Preston Point as shown on H-757 (1861).

The 8-ft. crooked channel $\frac{1}{2}$ -mile north of Hog Island did not exist in 1861, but was first shown on H-4177 (1921). The development on H-5163 in 1931 was insufficient in this area to delimit the channel, however the present survey shows its position to be in approximate agreement with the 1921 survey (H-4177).

Changes in the low water line east of Tom Point and on the eastern shore at the mouth of Walker Creek are due in part to the construction of oyster pens.

There are five 5- and 6-ft. isolated soundings shown on H-757 (1861) about .4 of a mile south of Hog Island, (between lat. $38^{\circ}11.54'$ and $38^{\circ}11.44'$ - long. $122^{\circ}55.82'$ and $122^{\circ}56.06'$) that fall on or close to the axis of the 12-foot shoal and the 5- and 6-foot soundings in lat. $38^{\circ}11.42'$, long. $122^{\circ}55.82'$ on the present survey. Differences in depths from 1 to 2 ft. and in some places as much as 3 to 4 ft. occur on the shoal between successive surveys. Although the bottom is indicated as hard on the 1921 survey (H-4177), it is labeled coarse gray sand on the 1931 survey (H-5163). The 12-foot shoal extends over 100 meters farther southeast (lat. $38^{\circ}11.37'$ - long. $122^{\circ}55.73'$) on the present survey than shown on the most recent prior survey (H-5163 (1931)). Because of the changeable nature of the bottom in this immediate area, the 5- and 6-ft. soundings on H-757 (1861) should be disregarded.

A 6-ft. spot in lat. $38^{\circ}11.57'$, long. $122^{\circ}55.54'$ on H-757 (1861) falls between sounding lines where the depths are 9 to 11 feet on the present survey. Depths of 7 feet were obtained in 1931 on a line running over this spot with surrounding soundings in fair agreement with the present survey. The 6-ft. soundings from H-757 (1861) should be disregarded. Two 7-ft. soundings from H-5163 (1931) are carried forward to supplement the present work.

The large triangular shoal .3 of a mile west of Hog Island with depths from 1 to 4 feet has been subject to practically no change from the time of the earliest surveys to the present. Some soundings from the most recent prior survey, H-5163 (1931), have been carried forward to augment those of the present survey. Additional soundings have also been carried forward in lat. $38^{\circ}12.24'$, long. $122^{\circ}56.74'$ and lat. $38^{\circ}11.38'$, long. $122^{\circ}56.00'$ for the same reason.

Much of Tomales Bay covered by the present survey has shoaled only about one foot in the past 100 years. Except for the area off Preston Point mentioned above, depressions in the bottom have filled with sediment as much as 2-feet or more.

The present work shows three important features which are not shown on the prior surveys:

- (1) The 9-foot shoal extending eastward from the westward shore toward the navigable channel, lat. $38^{\circ}12.23'$, long. $122^{\circ}56.71'$.
- (2) The 11-foot rock half way between the east and west shore in lat. $38^{\circ}10.78'$, long. $122^{\circ}55.05'$.
- (3) The 11-foot isolated shoal in lat. $38^{\circ}12.45'$, long. $122^{\circ}57.14'$.

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

6. Comparison with Chart 5603 (latest print date 9/14/59)

A. Hydrography

About 70% of the charted hydrography originates with the prior surveys discussed in paragraph 5, the balance is from the partial application of the present survey before verification and review. Differences in depths of 1 to 2 ft. exist between the charted information and the present survey, except for the 11-ft. sounding in lat. $38^{\circ}12.45'$, long. $122^{\circ}57.14'$ which was not applied to the chart.

The present survey with the indicated additions from prior surveys is adequate to supersede the charted hydrography within the common area.

B. Aids to Navigation

The survey positions of aids to navigation are in substantial agreement with the charted positions and adequately mark the features intended.

7. Condition of the Survey

- a. The sounding records and the Descriptive Report are complete and comprehensive.
- b. The smooth plotting was well done.

8. Compliance with the Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work Recommended.

This is a good basic survey and no additional field work is required.

Examined and Approved:

Chief, *J. E. Waugh* 12/14/60
Nautical Chart Division

Thomas B. Perry
Assistant Director,
Office of Cartography

Louis F. Woodcock
Projects Officer,
Operations Division

K. J. Crady
Assistant Director,
Office of Oceanography

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens

15 Jan. 1958

Plane of reference approved in
6 volumes of sounding records for

HYDROGRAPHIC SHEET 8355

Locality Tomales Bay, California

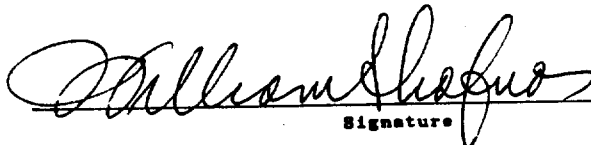
Chief of Party: A. L. Wardwell in 1957

Plane of reference is mean lower low water, reading
2.7ft. on tide staff ^{South of} at Blakes Landing .

53.1ft. below B.M. 1 (1956)

Height of mean high water above plane of reference is 4.3 feet.

Condition of records satisfactory except as noted below:


Signature

Chief, Tides Branch

