

7706

Diag. Cht. No. 5530-4

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. Bo-05148 Office No. H-7706

LOCALITY

CALIFORNIA

State

SAN FRANCISCO BAY

General locality

SAN FRANCISCO NORTH WATERFRONT

Locality

194 8-'49

CHIEF OF PARTY

W.M.GIBSON

LIBRARY & ARCHIVES

DATE 19 OCT. 1949

7706

Oct. 19, 1949

Form 537
(Ed. June 1946)

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REG. NO. 7706

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. E-7706

Field No. Bo-05148

State CALIFORNIA

General locality SAN FRANCISCO BAY

Locality NORTH SIDE OF SAN FRANCISCO WATERFRONT
NORTH

Scale 1:5000 Date of survey 8 SEPT. to 11 JAN. 1949
1948

Instructions dated 16 NOV. 1940 and SUPPLEMENTAL INSTRUCTIONS 24 APR. 1947

Vessel BOWLE

Chief of party W.M. GIBSON

Surveyed by PHILIP A. WEBER

Soundings taken by ~~BERG~~, graphic recorder, ~~BERG~~

Fathograms scaled by P.A. WEBER & R.H. BERG

Fathograms checked by P.A. WEBER & R.H. BERG

Protracted by ANDREW ANNINOS

Soundings penciled by ANDREW ANNINOS

Soundings in ~~XXXXX~~ feet at ~~MLLW~~ MLLW

REMARKS:

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET

(Field No. BO 05148)

Survey of area on north side of San Francisco Waterfront from vicinity of Pier 41 west to Crissy Field Pier and from the beach to approximately 1/4 mile north, in San Francisco Bay on a scale of 1:5000, by personnel of Ship BOWIE, W. M. Gibson, Chief of Party.

A. PROJECT:

The survey was executed in accordance with the Director's instructions dated 16 November 1940 and Supplemental instructions dated 24 April 1947. Project No. CS-256.

B. SURVEY LIMITS AND DATES:

The survey covers the area on north side of San Francisco Waterfront from vicinity of Pier 41 westerly to Crissy Field Pier; and from the beach to approximately 1/4 mile north.

The work on this sheet makes a junction with Sheet BO-1347^{H-7621(1947)} (scale 1:10000 surveyed in 1947) on the north; and BO-05248 (scale 1:5000 surveyed in 1948) at east end of sheet. Hydrography was^{H-7716(1948)} commenced 8 September 1948 and final work done 11 January 1949.

C. VESSEL AND EQUIPMENT:

Launch #133 was used for the complete sheet and operated from the ship. Fathometer 808-J, type No. S-112 used for whole sheet.

D. TIDE AND CURRENT STATIONS:

All soundings were reduced using data from tide station at Fort Point Coast Guard Station without time or height correction.

No current stations were occupied.

F. CONTROL STATIONS:

The positions of the following triangulation stations were obtained from the publication "Geographic Positions of Triangulation Stations, California VII, San Francisco and Vicinity."

F. CONTROL STATIONS: - continued

COIT MONUMENT	1933	ST. FRANCIS YACHT	
SAN FRANCISCO		CLUB FLAGPOLE	1929
BLACK POINT STACK	1916-17	ST. FRANCIS YACHT	
SAN FRANCISCO		CLUB NAVAL BEACON	1932
P. G. & E. CHIMNEY	1925	SAN FRANCISCO FINE	
ALCATRAZ LIGHTHOUSE	1910	ARTS BLDG. DOME	1925

Other control used:
TURK 1948

All topographic signals were transferred from BO-A-48. T-7120(1948)

Hydrographic signal SKI, Vol 4.

G. SHORELINE AND TOPOGRAPHY:

Shoreline for the sheet was transferred partly from topographic sheet BO-A-48 and partly from planimetric map, north half of T 5923(1941-45) T-7120(1948) § T-5922(1941-45)

H. SOUNDINGS:

Soundings were obtained by fathometer type 808-J, No. S-112. The fathometer operated successfully for the depths sounded.

I. CONTROL OF HYDROGRAPHY:

Hydrography was controlled by fixing the positions from observed sextant angles between shore objects which had previously been located by triangulation, topography or sextant fixes taken at the signals.

J. ADEQUACY OF SURVEY:

This survey is believed to be complete and adequate to supersede prior surveys for charting.

Satisfactory junctions were made with sheet BO-1347 to the north and BO-05248 at east end of sheet. H-7621

K. ~~CROSS~~ LINES:

No regular system of cross lines was run due to the small area covered. However, where charted soundings were investigated, lines were run across the regular scheme of sounding lines.

L. COMPARISON WITH PRIOR SURVEYS:

No prior surveys were available for comparison. ✓

M. COMPARISON WITH CHART: (See Review, par. 6, for Comparison w/Chart 5535)

Soundings shown on chart 5532 were compared with this survey and the following noted.

No. 1 Lat. $37^{\circ} 48.73$, Long. $122^{\circ} 24.75$.

Chart shows 28'. Extensive development in the area 64 - 99 'f' and 64 - 77 'g' indicates nothing less than 36' in the immediate vicinity. The bottom is sand and shell and has probably scoured out. Reference is made to report for sheet BO-1347 in which it was stated that this charted sounding could not be verified.

Disregard
28' soundg. to be deleted.
see L. 909 (1949) 11-18-49
738
Sdg. has been deleted from chart 5535 per c.t. 909 (1949)

It is recommended that the source for this sounding be investigated and compared with this survey and also BO-1347. If control, tide reducers and method of sounding are found to be acceptable, then it is recommended that the vicinity be wire dragged as the sounding lies in an area where ships maneuver to get into the piers.

(Bp. 28732, 1935) H-7621

✓ No. 2 Lat. $37^{\circ} 48.7$, Long. $122^{\circ} 25.0$

Chart shows 25'. Extensive development in the area 48 - 63 'f' and 78 - 100 'g' shows nothing less than 29' in the immediate vicinity. About 120 meters SE there is a 24' sounding. Bottom is sand and has probably scoured.

Disregard
Review, par. 5

Recommend present survey supersede charted sounding. ✓

✓ No. 3 Lat. $37^{\circ} 48.7$, Long. $122^{\circ} 24.85$.

Chart shows 26'. Present survey shows 26' about 50 meters to the west and 24' about 90 meters to west.
* from Bp. 41088 (1946)

Disregard
24' from pres. survey now charted nearby

Recommend present survey supersede charted sounding. ✓

✓ No. 4 Lat. $37^{\circ} 48.7$, Long. $122^{\circ} 24.95$.

Chart shows 35'. Present survey shows 26' in the immediate vicinity.

Disregard 35';
Superseded by 29' on chart from pres. survey

Recommend present survey supersede charted sounding. ✓

✓ No. 5 Lat. $37^{\circ} 48.45$, Long. $122^{\circ} 25.95$.

Chart shows 9'. Present survey shows 9'. Intensive investigation positions 30 - 39 'f' and ten minutes drifting in vicinity failed to obtain anything shoaler. (prior & pres. depths agree)

~~Recommend retention on chart, Probably a lone piling.~~ Disregard

No. 6 Lat. $37^{\circ} 48.55$, Long. $122^{\circ} 26.20$.

Chart shows 34'. Survey shows 31' in immediate vicinity, with ~~34' about 90 meters to SW.~~

Disregard; 31 ft. from pres. survey now charted.

Recommend present survey supersede charted sounding. ✓

M. COMPARISON WITH CHART:

- ✓ No. 7 Lat. 37° 48.4, Long. 122° 26.6
 Chart shows 7'. Present survey shows 11' in immediate vicinity. Review, par. 6
 It is possible that this 7' sounding exists as it was impossible to get closer into shore because of yachts in the berths at St. Francis Yacht club.
- ✓ No. 8 Lat. 37° 48.⁴¹/₂, Long. 122° 27.02' also shows 34 ft. } prior and
 Chart shows 34'. Present survey shows nothing less than 45' in } pres. depths
 the immediate vicinity. ~~Intensive development, 43-63 ft, shows~~ } in agreement
~~no indication. Since this area is in close proximity to Anita Rock,~~
 it is recommended that present survey supercede charted sounding.
- ✓ No. 9 Lat. 37° 48.45, Long. 122° 27.05.
 Chart shows *9'. Present survey indicates nothing less than 25' *Disregard
 in immediate vicinity. It is possible the sounding is in error or
 displaced. Because of intensive development in area, it is recommended
 that present survey supersede charted sounding. (9' ft. sdq. considered displaced)
 (Does not appear on Chart 5535)
- ✓ No. 10 Lat. 37° 48.5, Long. 122° 26.65.
 On chart 5535, there is an obstruction charted. However, this Obstr. has
 does not appear on latest copy of Chart 5532. This obstruction was been deleted
 originally a dolphin off the St. Francis Yacht Club but according to from chart.
 Captain Allen, Harbormaster, it had been removed about April 1948.

N. SHOALS AND DANGERS:

No new shoals or dangers were discovered during this survey. ✓

O. COAST PILOT INFORMATION:

The Coast Pilot information was made by the Chief of Party and forwarded to the Washington Office under date of 15 November 1948.

P. AIDS TO NAVIGATION:

NAME	LATITUDE	LONGITUDE	POS. NO. VOL. NO.	DEPTH	DATE
Marina Jetty			63-4 b		
Buoy 4	37° 48.55	122° 26.0	Vol 2	40'	9/9/48
(Yacht Hbr. Entrance Buoy #2)					
→ Red Buoy #2	37° 48.5	122° 26.3	69-70 b		
			Vol 2	42'	9/9/48
Yacht Race Course Buoy 3	37° 48.51'	122° 26.72	13-e		
			Vol. 4	43'	9/20/48

Q. LANDMARKS FOR CHARTS:

The landmarks as shown on Chart 5532 are adequate and should be continued. No new landmarks were located. ✓

Philip A. Weber
 Philip A. Weber,
 Lt. Comdr. USC & GS

ECHO SOUNDING CORRECTIONS

BO-05148

8 September 1948 - 11 January 1949

Ship BOWIE

W. M. Gibson, Chief of Party.

SPEED:

There follows a list of speed tests for the indicator used on the sheet and the days on which hydrography was carried on, using Fathometer type 808-J, No. S-112:

Indicator S-112 used: 9/8-10, 9/13, 9/20/48, 10/18/48 & 1/11/49

9/15/48	Speed	0.1% slow - foot scale
"	"	0.25% fast - fathom scale
10/18/48	"	5 mins/25.4 cm correct foot scale
"	"	10 mins/8.445 cm, 0.24% slow - fathom scale
11/16/48	"	5 mins/25.35 cm, 0.2% slow - foot scale
"	"	30 mins/25.40 cm, correct fathom scale
1/11/49	"	10 mins/50.72 cm, 0.15% slow foot scale.
"	"	30 mins/25.41 cm, correct fathom scale.

SETTLEMENT AND SQUAT:

Corrections are not necessary for settlement or squat of the sounding launch as speeds were selected to eliminate them.

VELOCITY CORRECTIONS:

The initial was set by means of a shallow bar check at about 12 feet. It was found that the initial setting varied during each days work for reasons unknown, unless the paper was not running true. The amount of variance from the morning initial setting was entered in blank correction column of the sounding record as an initial correction. All bar comparisons were reduced to the morning initial and an average of the bar comparisons plotted as a velocity correction curve for the depths sounded. Corrections by bar checks were made on 'f' and 'g' days.

On 'a', 'b', 'c' and 'd', corrections were obtained by means of temperatures and salinities, the correction being zero for depths 0 - 70 feet.

W M Gibson
W. M. Gibson,
Commander, USC & GS
Chief of Party.

LIST OF SIGNALS USED H-7706

Triangulation Stations

Hydro. Name

COIT MONUMENT, 1933	COIT
SAN FRANCISCO, <u>BLACK</u> POINT, STACK, 1916-17	BLACK
SAN FRANCISCO, P.G.&E. CHY., 1925	TRIC
ALCATRAZ L.H., 1910-1932	AL
ST. FRANCIS, <u>YACHT</u> CLUB, FLAGPOLE 1929-30	YACHT
ST. FRANCIS, <u>YACHT</u> CLUB, NAVAL BEACON, 1932	CLUB
SAN FRANCISCO, <u>FINE</u> ARTS BLDG., DOME, 1925-30	FINE
TURK, 1948	TURK

Topographic Signals

From T-7120 Bo-A-48

Abe	Cal	Fad	Hod	Mob	Ris	Up
Aim	Car	Fan	Ill	Mug	Rit	Van
Ale	Cas	Fap	Is	Mut	Rod	Vat
Am	Cat	Far	It	Ned	Rol	Vic
An	Cof	Fat	Jo	Nes	Roy	Wac
Arm	Coo	Fil	Joe	Ney	Rul	Was
Art	Cop	Fre	Jug	No	Rut	Win
As	Cri	Fun	Kil	Nut	Saw	Won
At	Day	Gay	Kis	On	Say	Wow
Bal	Din	Get	Lag	Pea	Set	Yam
Bat	Doc	Gil	Lam	Pen	Sin	Yar
Bet	Dog	Hab	Lat	Pet	Sut	Yel
Bil	Dol	Had	Lil	Pie	Tab	Yes
Bow	Dov	Hal	Lon	Pil	Tie	Yet
Boy	Duc	Hen	Lop	Pol	Til	
Bum	Dud	Her	Lot	Pum	Ton	
But	Duz	Hi	Lou	Ran	Tow	
Buz	Eat	Hid	Mal	Raw	Tru	
By	Ed	Hil	Mas	Red	Tub	

Hydrographic Signals

Source of Signals

Ski

H-7706 Vol. 4, Page 35

STATISTICS - SHEET BO-05148

DATE	VOL. NO.	DAY LETTER	NO. H.L. SDGS.	NO. POS.	STAT. MILES	BOAT USED
9/8/48	1,2	a	---	154	8.9	133
9/9/48	2	b	---	74	4.9	133
9/10/48	2,3	c	---	96	6.7	133
9/13/48	3,4	d	---	144	10.9	133
9/20/48	4	e	(bottom samples)	67	---	133
10/18/48	5,6	f	---	140	7.2	133
1/11/49	6	g	---	103	5.1	133
TOTALS	6			778	43.7	
9/7/48	7	a	209	17	0.3	Dock Sdg.
9/21/48	7	b	368	24	0.8	Dock Sdg.
9/22/48	7	c	263	16	0.4	Dock Sdg.
TOTALS	1		840	57	1.5	
TOTALS (Sheet)	7		840	835	45.2	

Area = 0.53 sq. stat. miles

APPROVAL SHEET

BO-05148

19 January 1949

Approved and forwarded. This sheet covers an area subject to silting. The State Board of Harbor Commissioners attempt to maintain certain project depths. They make frequent hydrographic surveys between the piers. They have been requested to furnish copies of all their surveys for chart correction or other purposes. This survey has been frequently inspected and is considered complete and adequate. I have personally derived the fathometer corrections.

Wm Gibson
W. M. Gibson,
Chief of Party.

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY
WESTERN DISTRICT HEADQUARTERS

114 CUSTOMHOUSE

SAN FRANCISCO 26, CALIFORNIA

2 August 1950

REFER TO FILE
NO.

To: Supervisor, Western District
U. S. Coast and Geodetic Survey
114 Customhouse
San Francisco 26, California

Subject: Shoal Sounding, Aquatic Park, San Francisco,
California

Reference: Director's Letter 22-sro, D-1-W, 26 July 1950

In accordance with instructions contained in referenced letter, an examination of the area in which the submerged buoy is shown on field sheet H 7706 was made on 2 August 1950, at the time of morning lowwater, by Mr. de Graaf and myself.

A small boat was borrowed from the Sea Scout installation and the spot was located by means of sextant fix on the following objects shown on the section of the photostat of H 7706.

At 19 - 23
Bet
BLACK 30 - 26

A check angle of 109 - 41 was taken from triangulation station Coit Tower to BLACK

Approximately an hour and one half was spent in dragging a lead over the area without encountering an obstruction. Several people who have been acquainted with the basin for several years were questioned and none of them had any knowledge of a sunken buoy. Mr. G. L. Lynch, caretaker of the Boy Scouts installation, was one of those questioned. Small sailing craft, drawing up to five feet of water use the basin and there has been no report of striking an object. We were also informed that the basin has been almost all, if not entirely, dragged with grappling hooks, by the Sea Scouts, in searching for anchors.

In view of the above facts it appears that no obstruction exists in this area.

Forwarded: *Raymond M. Stone*
Raymond M. Stone
Supervisor, Western District

C. A. Kester
C. A. Kester
Nautical Scientist

ADDENDUM

To Accompany

HYDROGRAPHIC SURVEY H-7706 (Field No. Bo-05148)

Topographic Detail

Lat. 37°-48.6', Long. 122°-24.85' - Coast Guard pier.

The west side of this pier was changed to agree with sketch in Vol. 7, page 4. ✓ shown in red on smooth sheet

Lat. 37°-48.48', Long. 122°-26.7'.

Detached structures, shown at this position on air-photo compilation T-5922, ~~were~~^{was} not mentioned in records or shown on boat or field topographic sheets. The off-shore structure was not transferred to the smooth sheet. Concur; sdg. lines crossed here; appears to have been a floating structure which has since been removed.

General

(1947)
From H-7621 (Bo-1347) Descriptive report -

"The chart shows Anita Rock in Lat. 37°-48.5 Long. 122°-27.15 baring at low water. A thorough investigation was made of the area and the least depth found was 4 ft. at MLLW."

Review,
par. C A.

Note: The smooth plot of H-7621 shows a least depth of 3½ ft. on Anita Rock. (Subject to verification by the Washington Office.)

3½ ft. from revised tide reducers.

← verified, O.K.

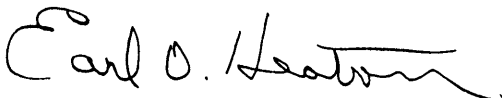
Respectfully submitted,



Hugh L. Proffitt
Cartographer

Norfolk, Virginia
6 October 1949

Approved and forwarded.



Earl O. Heaton
Supervisor, SE Dist.

7706

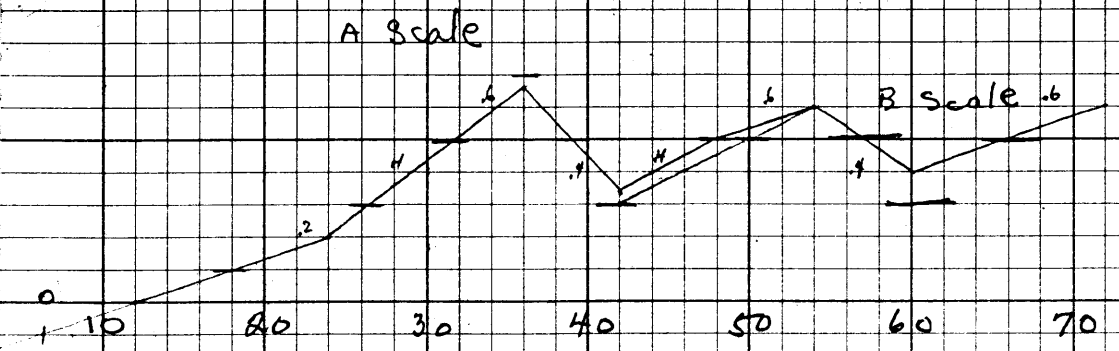
Velocity Corrus.
Phase Error Included
A day sheet 05148
10/18/48

Launch 183

A Scale	Corrn
6.0 - 18.0	0.0
18.1 - 26.5	-0.2
26.6 - 31.5	-0.4
31.6 - 39.0	-0.6
39.1 - 48.0	-0.4
48.1 - 55.0	-0.6

B Scale	Corrn
420 - 500	-0.4
50.1 - 57.0	-0.6
57.1 - 65.8	-0.4
65.9 -	-0.6

1.0



H 7705

Fathometer Corrections 5-112
of day sheet 05148

A Scale

	10.0	-0.2
	15.8	-0.4
2.0	21.6	-0.6
	27.8	-0.8
	33.8	-1.0
	38.2	-0.8

B Scale

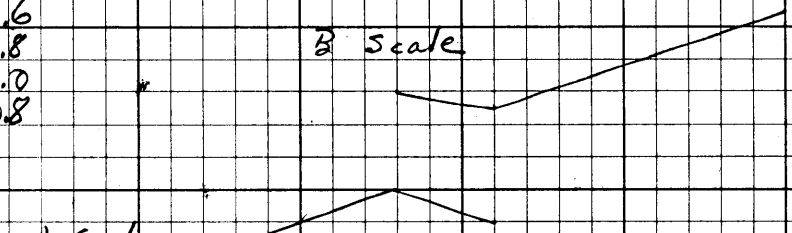
B Scale

	36.0	-1.6
	48.2	-1.8
	54.4	-2.0
	60.0	-2.2

1.0

A Scale

0 10 20 30 40 50 60



TIDE NOTE FOR HYDROGRAPHIC SHEET

31 October 1949

~~Division of Hydrography and Topography~~

Division of Charts: R. H. Carstens

Plane of reference approved in
7 volumes of sounding records for

HYDROGRAPHIC SHEET 7706

Locality San Francisco Bay, California

Chief of Party: W. M. Gibson in 1948-49
Plane of reference is mean lower low water, reading
5.6 ft. on tide staff at San Francisco (Presidio)
13.4 ft. below B. M. 180 (1936)

Height of mean high water above plane of reference is 6.2 feet.

Condition of records satisfactory except as noted below:

E. C. McKay
Section
Chief, ~~Division of Tides and Currents.~~

GEOGRAPHIC NAMES

Survey No. H-7706

Name on Survey										
	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>				(for title)					USFR	1
<u>San Francisco Bay</u>				" "						2
										3
<u>Crissy Field Pier</u>										4
<u>Anita Rock</u>										5
<u>Yacht Harbor</u>										6
<u>Black Point</u>										7
<u>Aquatic Park</u>										8
<u>North Point</u>										9
										10
										11
										12
										13
										14
<u>Presidio</u>				(location of tide gauge)						15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

Names underlined in red are approved.
11-3-49 L Healy

(see chart 5535 for placement of names)

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7706

Records accompanying survey:

Boat sheets ¹.....; sounding vols. ⁷.....; wire drag vols.;
 bomb vols.; graphic recorder rolls ⁵envel.....;
 special reports, etc.

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

Number of positions on sheet		835.....
Number of positions checked		465.....
Number of positions revised		4.....
Number of soundings revised (refers to depth only)		15.....
Number of soundings erroneously spaced		26.....
Number of signals erroneously plotted or transferred		0.....
Topographic details	Time	8.....
Junctions	Time	0.....
Verification of soundings from graphic record	Time	30.....
Verification by <i>Roland E. Latta</i>	Total time	109.....
	Date	2 March 1950.....
Reviewed by <i>J. A. Winsmore</i>	Time	20 hrs.
	Date	24 May 1950.....

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7706

FIELD NO. BO-05148

California, San Francisco Bay, San Francisco North Water-
front

Surveyed in Sept. 1948-Jan. 1949

Scale 1:5,000

Project No. CS-256

Soundings:

Control:

808 Fathometer
Hand lead

Sextant fixes on shore signals

Chief of Party - W. M. Gibson
Surveyed by - P. A. Weber
Protracted by - A. Anninos
Soundings plotted by - A. Anninos
Verified and inked by - R. E. Latta
Reviewed by - T. A. Dinsmore, 24 May 1950
Inspected by - R. H. Carstens

1. Shoreline and Signals

The source of the shoreline and signals is given in the Descriptive Report. Minor shoreline revisions shown in red are from the present survey.

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 in areas which were foul with obstructions or inaccessible because of anchored ships.

Dredging in the berthing areas has created minor bottom irregularities. Except where these irregularities occur the bottom is relatively smooth.

4. Junctions with Contemporary Surveys

The junctions with H-7621 (1947) on the north and west and H-7716 (1948) on the east will be considered in the reviews of those surveys.

5. Comparison with Prior Surveys

H-347 (1853)	1:10,000	H-1214a (1871-73)	1:20,000
H-462 (1855)	1:10,000	H-1297 (1874)	1:10,000
H-464 (1855)	1:20,000	H-2254 (1895-96)	1:10,000
H-604 (1857)	1:10,000	H-3928 (1916-26)	1:20,000

These surveys comprise previous coverage over the area of the present survey during the periods indicated. Dredging and extensive waterfront improvements have created radical changes in this area since the time of the prior surveys. A detailed comparison between the prior and present surveys would serve no useful cartographic purpose.

The 25-ft. sounding charted in lat. $37^{\circ} 48.7'$, long. $122^{\circ} 25.0'$, from H-3928 (ad. wk. of 1926) should be disregarded. This area has been dredged several times since the time of the prior survey. In the vicinity, a least depth of 29-ft. obtained on the present survey is adequate for charting.

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

6. Comparison with Chart 5535 (Latest print date 3/27/50)A. Hydrography

Charted hydrography originates with the previously discussed surveys, Corps of Engineers surveys to 1946, various chart letters and partial application of the present survey before verification and review.

Attention is directed to the following charted information:

- (1) The obstruction (submerged buoy covered by 2 ft. at M.L.L.W.) charted in lat. $37^{\circ} 48.57'$, long. $122^{\circ} 25.45'$, originates with the present survey before verification and review. A thorough investigation made of the above locality on 2 August 1950 disclosed no obstruction (see copy of letter dated 2 August 1950 attached to Descriptive Report). The previously determined obstruction is now considered to be nonexistent and should, therefore, be removed from the chart.
- (2) The 7-ft. sounding charted in lat. $37^{\circ} 48.40'$, long. $122^{\circ} 26.62'$, the source of which is not readily ascertainable should be disregarded in its charted position. Depths of 7 ft. may exist closer inshore where the present survey failed to sound because of moored yachts. However, present development with 11-ft. depths is adequate to disprove the prior depth in its charted position.

- (3) The note "numerous piling" charted in Aquatic Park originates with Corps of Engineers blueprint 39934 (1944) which shows an extensive pattern of piling and dolphins. The piling and dolphins were established by the U. S. Army for the mooring of small craft during the war. Inasmuch as the present survey shows only a few dolphins on the east and several piling on the south, it appears probable that most of the piling previously indicated have been subsequently removed. It is recommended that the subject note be removed from the chart.
- (4) The 3-ft. sounding (on Anita Rock) charted in lat. $37^{\circ} 48.50'$, long. $122^{\circ} 27.15'$, falling in 6-ft. depths on the present survey originates with H-7621 (1947). The 3-ft. sounding has been verified and will appear on the present survey when the junction between these two surveys is made.

Except as noted in the preceding paragraph, the present survey supersedes the charted information.

B. Aids to Navigation

The buoy charted in lat. $37^{\circ} 48.50'$, long. $122^{\circ} 26.34'$, is about 60 meters WSW of the position determined on the present survey. The charted position serves better to mark the feature intended.

The buoy located in lat. $37^{\circ} 48.51'$, long. $122^{\circ} 26.72'$, on the present survey is not charted. However, it is understood that this buoy is a temporary yacht course buoy which is not maintained regularly and whose position is changed from year to year.

Other aids to navigation on the present survey are in substantial agreement with those charted and adequately mark the features intended.

7. Condition of Survey

- a. The sounding records and Descriptive Report are complete and comprehensive.
- b. The smooth plotting was neat and accurately done.
- c. A least depth of 3 ft. on Anita Rock was determined during development of this shoal on H-7621 (1947) and will appear on the present survey when the junction between these two surveys is made.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

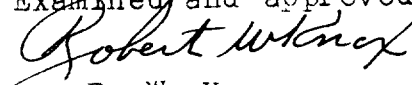
9. Additional Field Work

This is a basic survey and no additional field work is recommended. Because this area is subject to silting, considerable dredging is required and frequent hydrographic surveys are accomplished in the berthing areas by the State Harbor Commissioners of California. According to the Chief of Party, the State Harbor Commissioners have been requested to furnish copies of their surveys to this Bureau for chart correction and other purposes.

Examined and approved:


H. R. Edmonston

Chief, Nautical Chart Branch


R. W. Knox

Chief, Division of Charts


L. S. Hubbard

Chief, Section of Hydrography


W. M. Scaife

Chief, Division of Coastal Surveys

NAUTICAL CHARTS BRANCH

SURVEY NO. H 7706

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
1/6/50	5535		Before <u>After</u> Verification and Review
		J.A. McGinn	Partially applied.
1/24/50	5532	H.F. Steymen	Before After Verification and Review Partially
			applied thru chart 5535 draw #17
5/6/55	5532	J.T. Evans	Before <u>After</u> Verification and Review ^{Complete application} Reconstruction
9/11/57	^{Reconstructed} 5535	J.A. McGinn	Before <u>After</u> Verification and Review
			Before <u>After</u> Verification and Review
			Before <u>After</u> Verification and Review
			Before <u>After</u> Verification and Review
			Before <u>After</u> Verification and Review
			Before <u>After</u> Verification and Review
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			Before <u>After</u> Verification and Review
			Before <u>After</u> Verification and Review
			Before <u>After</u> 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.