8026

Diag. Cht. Nos. 5402-2, 5502-2, & 5530-5.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. BO-1354 *Office No.* H-8026

LOCALITY

State California

General locality San Francisco Bay

Locality San Francisco International Airport to San Mateo Bridge

1954 55-56

CHIEF OF PARTY

C. A. George and H. G. Conerly

LIBRARY & ARCHIVES

DATE April 24, 1956

B-1870-1 (1)

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-8026

Field No. BO-1354

State California

General locality ~~South~~ San Francisco Bay

Locality San Francisco International Airport to San Mateo Bridge ~~North of San Mateo Bridge~~

Scale 1:10,000 Date of survey ~~November~~ Jan. 14 5 Jan. 27 1954 - ~~February~~ 1956

Instructions dated 25 February 1954, Supplemental 1 October 1955.

Vessel Launches 123 and CS-160

Chief of party C. A. George and Horace G. Conerly

Surveyed by C. D. Upham, H. L. Runge, K. A. Mac Donald and Horace G. Conerly.

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

Fathograms scaled by various

Fathograms checked by various

Protracted by C.R. Lehman

Soundings penciled by C.R. Lehman

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

REMARKS:

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

NOTES FOR DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SURVEY

REGISTERY NO. H-8026 FIELD NO. BO-1354

WEST COAST SHORE PARTY SCALE 1:10,000

PROJECT CS-~~356~~ 256 - C. A. GEORGE & H. G. CONERLY, CHIEF OF PARTY

SURVEYED BY: C. D. UPHAM, H. L. RUNGE AND K. A. MAC DONALD

PROJECT

Instructions for Project are for a new basic survey of South San Francisco Bay.

SURVEY LIMITS AND DATES

The sheet was to (1954-55) make a junction on the north with Sheet BO-1254 Registery No. H-8025 and H-6726; (44) in the west and southwest to the shore line; and the east and south to a satisfactory junction with sheets not yet completed. Review, par. 4.

Work began 14 January 1954 5 and the last day was 25 March 1955. The sheet has not been finished. (See Addenda to Desc. Report)

VESSEL AND EQUIPMENT

Launch No. 123 was used for all the hydrography. A fish was mounted on the port side, and an 808 J type fathometer was used for all but the few soundings that were taken with a handlead and pole.

TIDE AND CURRENT STATIONS

For tide reducers tide gages were in operation at Point San Bruno Lat. 37° 40.0, Long. 122° 23.4, and at San Mateo - Hayward Bridge Lat. 37° 35.0, Long. 122° 15.0.

No current stations were observed in the area.

SMOOTH SHEET

The smooth sheet is to be constructed and plotted by the Seattle Processing Office.

CONTROL

The major part of the control was previously established triangulation or photographically determined positions from the manuscripts and photos of the area (See details on sheet containing list of names used on sheet). Some additional control was obtained by theodolite intersections.

SHORELINE AND TOPOGRAPHY

Shoreline and topography for both the Boat Sheet and Smooth Sheet is from T-11066, T-11069 and T-11068. In the area surveyed the low water line has been determined by soundings. (1952-53) (unreviewed)

SOUNDINGS

Fathometer No. 154-SPX was used for all the soundings. For method of computation of corrections to fathometer soundings see separate fathometer report.

CONTROL OF HYDROGRAPHY

For fixing the positions of the launch sextant angles were used throughout.

ADEQUACY OF SURVEY

The sheet is not complete, however, except for one small area where soundings have been made, it is considered as adaquate. In the area approximately 1/2 mile south and west of station "POLE" lines crossing each other do not agree very well. It is possible that when the smooth sheet is plotted there will be better agreement. If the worse crossings were displaced a few meters there would be much better agreement. The whole area is of little importance and it is believed that the difference of depths do not warrant additional work, but that the shoaler soundings should be charted. Review, par. 2

CROSSLINES

Enough crosslines have been run to comply with the instructions.

COMPARISON WITH PRIOR SURVEYS

In general soundings agree fairly well with previous surveys but some of the soundings are reduced from predicted tides and it is believed that a better comparison can be made after the smooth sheet is plotted. The area along the west side of the sheet, in the shoals and mud flats, has changed some but most of it is in area where there is little traffic besides duck hunters and pulling boats with or without outboard motors. Review, par. 5

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

There are numerious duck blinds on the west side of the sheet, not shown on the chart. Some of them are shown on the photos and manuscripts and some are shown on the sheet. There are others, more being constructed and some in a state of decay. They are all west of a line through hydro station WET (which is a duck blind) and station SIG.

A dredge is working in an area centering around a point 1-1/4 miles north of the San Mateo Bridge draw span. She is picking up the old shells for use in the lime and cement plants. Work will go on for several years.

DANGERS AND SHOALS

Except in the area at the part of the sheet where there are numerous duck blinds in various states of repair, there are no new dangers or shoals. Some of the piles left from the broken down duck blinds are covered at high tide and become a hazard to small craft that might travel in the area.

The old oyster house shown on the chart 0.3 mile WSW of "POLE" is broken down and is hardly recognizable as a house.

AIDS TO NAVIGATION

Fixed aids to navigation located in the area of this sheet are listed on Form 567, and forwarded under separate cover.

APPLICABLE DATA

1 - Triangulation forwarded to Washington and a list of Geographic Positions forwarded to Processing Office.

2 - Special fathometer report, to be forwarded.

3 - Photos, to be forwarded to Washington Office.

4 - Photo manuscripts forwarded to Processing Office.

5 - Tidal levels, marigrams etc. forwarded to Washington Office.

6 - Fathograms forwarded to Processing Office.

7 - Boat Sheet, forwarded to Processing Office.

8 - Blueline Prints forwarded to Processing Office.

Submitted

Horace G. Conerly

Horace G. Conerly
Commander, USC&GS
OinC., West Coast
Shore Party

APPROVAL SHEET

HYDROGRAPHIC SHEET BO-1354 REG. H-8026

The records and boat sheet have been inspected and are approved.

Horace G. Conerly
Commander, USC&GS
Cinc., West Coast
Shore Party

TIDAL NOTE

TO ACCOMPANY HYDROGRAPHIC SHEET

FIELD BO-1354 - REG. H-8026

For tide reducers in the area of the sheet tide gages were maintained at San Mateo - Hayward Bridge Lat. 37° 35.0 Long. 122° 15.0, and at Point San Bruno, Lat. 37° 40.0 Long. 122° 23.4. The staff reading of MLLW at Point San Bruno was 3.7 ft., and at San Mateo - Hayward Bridge was 4.0 ft.

When the San Mateo - Hayward Bridge was in operation reducers were taken from the records direct with no correction for time or height. On days when it was not operating reducers were taken from the San Bruno gage and a correction of +10 minutes and ratio of 1.1 applied.

STATISTICS FOR HYDROGRAPHIC SURVEY

H-8026

Vol. No.	Day Letter	Date	No. Pos.	Stat. Miles Sdg.
		1955		
1	a	14 Jan.	14	3.0
1	b	18 Jan.	34	6.7
1	c	19 Jan.	30	4.7
2	d	20 Jan.	123	25.1
3	e	27 Jan.	66	10.9
3 & 4	f	28 Jan.	115	17.4
4	g	9 Feb.	51	7.9
4 & 5	h	14 Feb.	137	26.9
5 & 6	j	14 March	198	36.6
6	k	16 March	175	28.1
7	l	17 March	195	37.3
8	m	21 March	189	33.6
9	n	22 March	118	19.3
10	p	25 March	158	26.0
			1,603	283.5

Total area 8.5 square statute miles

ABSTRACT OF ECHO CORRECTIONS

SHEET BO-1354 REG. H-8026

Fathometer 154 SPX
Sheet H-8026 BO-1354
a,b,c,d,e,f days
14,18,19,20,27,28 January 1955

0 - 11	-0.4
- 31	-0.2

+ 0.4 phase correction when B Scale used.

Fathometer 154 SPX
g, h days
9th, 14th February 1955

0 - 38	-0.2

+ 0.4' phase correction when B Scale used.

Fathometer 154 SPX
j,k,l,m,n,p days
14,16,17,21 and 22 March 1955

0 - 10.5	-0.4
- 32.5	-0.6
- 39.0	-0.4
- 46.0	-0.2
-55.0	0.0

+ 0.4' phase correction when B Scale used.

ABSTRACT OF SMOOTH TIDES

SHEET H-8026 (BO-1354)

SAN MATEO BRIDGE TIDE GAGE

f day - 28 Jan.

1056	- 1109	- 2.6
	1119	- 2.8
	1129	- 3.0
	1138	- 3.2
	1148	- 3.4
	1157	- 3.6
	1204	- 3.8
	1213	- 4.0
	1223	- 4.2
	1233	- 4.4
	1243	- 4.6
	1255	- 4.8
	1304	- 5.0
	1315	- 5.2
	1329	- 5.4
	1341	- 5.6
	1400	- 5.8
	1418	- 6.0
	1440	- 6.2
	1548	- 6.4
	1611	- 6.2

g day - 9 Feb.

1329	- 1428	- 7.0
	1447	- 6.8
	1500	- 6.6
	1510	- 6.4
	1520	- 6.2
	1529	- 6.0
	1538	- 5.8
	1547	- 5.6
	1556	- 5.4
	1605	- 5.2
	1612	- 5.0

h day - 14 Feb.

0911	- 0920	- 3.2
	0932	- 3.0
	0943	- 2.8
	0954	- 2.6
	1007	- 2.4
	1020	- 2.2
	1037	- 2.0
	1100	- 1.8
	1130	- 1.6
	1315	- 1.4
	1337	- 1.6

h day - (Contd)

1337	- 1354	- 1.8
	1411	- 2.0
	1426	- 2.2
	1441	- 2.4
	1453	- 2.6
	1507	- 2.8
	1523	- 3.0
	1537	- 3.2

j day - 14 March

0909	- 0934	- 1.0
	1000	- 0.8
	1122	- 0.6
	1141	- 0.8
	1157	- 1.0
	1211	- 1.2
	1223	- 1.4
	1237	- 1.6
	1249	- 1.8
	1300	- 2.0
	1311	- 2.2
	1322	- 2.4
	1332	- 2.6
	1342	- 2.8
	1354	- 3.0
	1406	- 3.2
	1420	- 3.4
	1432	- 3.6
	1446	- 3.8
	1500	- 4.0
	1517	- 4.2
	1537	- 4.4

k day - 16 March

0904	- 0916	- 3.0
	0929	- 2.8
	0941	- 2.6
	0954	- 2.4
	1008	- 2.2
	1024	- 2.0
	1039	- 1.8
	1100	- 1.6
	1117	- 1.4
	1146	- 1.2
	1324	- 1.0
	1351	- 1.2
	1410	- 1.4
	1425	- 1.6

k day - (Contd)

1425	- 1438	- 1.8
	1452	- 2.0
	1506	- 2.2
	1517	- 2.4
	1528	- 2.6
	1540	- 2.8

ABSTRACT OF SMOOTH TIDES

SHEET H-8026 (BO-1354)

SAN MATEO BRIDGE TIDE GAGE

a day - 14 Jan.

1506 - 1530 - 5.2
1600 - 5.4
1722 - 5.6

b day - 18 Jan.

1406 - 1430 - 1.2
1500 - 1.0
1548 - 0.8

c day - 19 Jan.

0939 - 0954 - 7.0
1008 - 6.8
1020 - 6.6
1029 - 6.4
1037 - 6.2
1048 - 6.0
1056 - 5.8
1104 - 5.6
1112 - 5.4
1119 - 5.2
1127 - 5.0
1136 - 4.8
1144 - 4.6
1151 - 4.4
1200 - 4.2

d day - 20 Jan.

0800 - 0812 - 6.8
0830 - 7.0
0900 - 7.2
1000 - 7.4
1012 - 7.2
1023 - 7.0
1032 - 6.8
1040 - 6.6
1048 - 6.4
1056 - 6.2
1104 - 6.0
1112 - 5.8
1120 - 5.6
1128 - 5.4
1136 - 5.2
1145 - 5.0
1152 - 4.8
1200 - 4.6
1209 - 4.4

d day (contd)

1216 - 4.2
1209 - 1224 - 4.0
1233 - 3.8
1240 - 3.6
1249 - 3.4
1257 - 3.2
1304 - 3.0
1312 - 2.8
1320 - 2.6
1328 - 2.4
1338 - 2.2
1346 - 2.0
1355 - 1.8
1404 - 1.6
1415 - 1.4
1425 - 1.2
1436 - 1.0
1448 - 0.8
1500 - 0.6
1512 - 0.4
1524 - 0.2
1539 0.0
1600 + 0.2
1712 + 0.4

e day - 27 Jan.

0900 - 0918 - 1.8
0935 - 2.0
0948 - 2.2
1000 - 2.4
1014 - 2.6
1025 - 2.8
1036 - 3.0
1045 - 3.2
1055 - 3.4
1104 - 3.6
1114 - 3.8
1124 - 4.0
1133 - 4.2
1140 - 4.4
1149 - 4.6
1156 - 4.8
1204 - 5.0
1211 - 5.2

1400 - 1425 - 6.8
1512 - 6.6

ABSTRACT OF SMOOTH TIDES

SHEET H-8026 (BC-1354)

TIDE GAGES AT POINT SAN BRUNO & SAN MATEO BRIDGE

l day - 17 March
San Mateo Br.T.G.

0905 - 0909 - 4.2
0918 - 4.0
0927 - 3.8
0936 - 3.6
0943 - 3.4
0952 - 3.2
1000 - 3.0
1010 - 2.8
1019 - 2.6
1029 - 2.4
1039 - 2.2
1050 - 2.0
1108 - 1.8
1115 - 1.6
1126 - 1.4
1142 - 1.2
1200 - 1.0
1218 - 0.8
1241 - 0.6
1415 - 0.4
1437 - 0.6
1454 - 0.8
1509 - 1.0
1523 - 1.2
1536 - 1.4
1549 - 1.6

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m day - 21 March
Pt.San Bruno T.G.
+ 10 min. Corr.
1.1 range ratio applied

0853 - 0910 - 6.4
1048 - 6.6
1110 - 6.4
1121 - 6.2
1134 - 6.0
1145 - 5.8
1154 - 5.6
1202 - 5.4
1210 - 5.2
1216 - 5.0
1223 - 4.8
1230 - 4.6
1238 - 4.4
1244 - 4.2
1251 - 4.0
1258 - 3.8
1305 - 3.6

m day (Contd)

1305 - 1314 - 3.4
1321 - 3.2
1329 - 3.0
1337 - 2.8
1345 - 2.6
1353 - 2.4
1401 - 2.2
1410 - 2.0
1418 - 1.8
1425 - 1.6
1434 - 1.4
1442 - 1.2
1452 - 1.0
1501 - 0.8
1510 - 0.6
1523 - 0.4

---

n day - 22 March
Pt.San Bruno T.G.
+ 10 min. Corr.
1.1 range ratio applied

0857 - 0910 - 5.4
0921 - 5.6
0935 - 5.8
0952 - 6.0
1010 - 6.2
1030 - 6.4
1125 - 6.6
1145 - 6.4
1159 - 6.2
1210 - 6.0
1221 - 5.8
1230 - 5.6
1239 - 5.4

1331 - 1339 - 3.8
1346 - 3.6
1353 - 3.4
1400 - 3.2
1410 - 3.0
1416 - 2.8
1422 - 2.6
1430 - 2.4
1436 - 2.2

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p day - 25 March
Pt.San Bruno T.G.
+ 10 min Corr.
1.1 range ratio applied

1003 - 1007 - 2.8
1014 - 3.0
1021 - 3.2
1030 - 3.4
1035 - 3.6
1046 - 3.8
1055 - 4.0
1100 - 4.2
1110 - 4.4
1120 - 4.6
1130 - 4.8
1202 - 1218 - 5.6
1233 - 5.8
1254 - 6.0
1315 - 6.2
1422 - 6.4
1438 - 6.2
1452 - 6.0
1502 - 5.8
1508 - 5.6
1517 - 5.4
1526 - 5.2

Mat

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 27
Ed. April 1945

POSITION COMPUTATION, THIRD-ORDER TRIANGULATION

		°	′	″				
α	2 Pt San Mateo to 3 ~~San Francisco~~ San Francisco Mun. Airport Radar Ant.	126	57	51	α	3 to 2		
2d ∠	&	+124	45		3d ∠	&	−	
α	2 Pt. San Mateo to 1 Mat	02	13		α	3 to 1		
Δα					Δα			
		180	00	00.0			180	00 00.0
α′	1 to 2				α′	1 to 3		

First Angle of Triangle

	°	′			°	′	″		°	′	″		°	′	″
φ	37	35	889.4 m	2 Pt. San Mateo	λ	122	19	147.6 m	φ			3	λ		
Δφ		−	13.6 m	13.6 m.	Δλ		+	0.5	Δφ				Δλ		
φ′			875.8 m	1 Mat	λ′			148.1	φ′			1	λ′		

	Logarithms	Values in seconds		°	′	″		Logarithms	Values in seconds		°	′	″
s	1.13354	875.8 (49.1)	½(φ+φ′)				s			½(φ+φ′)			
Cos α	9.99967						Cos α						
B			s	1.13354		(587.9)	B			s			
h	1.13321	1st term 13.59 m	Sin α	8.58747		148.1	h		1st term	Sin α			
s²			A′				s²			A′			
Sin² α			Sec φ′				Sin² α			Sec φ′			
C			Δλ	9.72101		0.53 m	C			Δλ			″
		2d term +	Sin ½(φ+φ′)						2d term +	Sin ½(φ+φ′)			
h²			−Δα				h²			−Δα			
D							D						
		3d term +							3d term +				
		−Δφ							−Δφ				

16—44238-1 U. S. GOVERNMENT PRINTING OFFICE

ADDENDA TO DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SURVEY

FIELD NO. BO-1354 - REGISTERY NO. H-8026

WEST COAST SHORE PARTY

PROJECT 1256 SCALE 1:10,000

C. A. GEORGE AND HORACE G. CONERLY, CHIEF OF PARTY

PROJECT

Instructions are for a new basic survey of South San Francisco Bay.

SURVEY LIMITS AND DATES

The work done in the winter (1954-55) of 1955, (1941) 1956 extends to a junction on the north with Registery No. H-8025 and H-6726, to the west with the shore, to the south with the San Mateo Bridge and WCSP-1156, and to the east with Registery No. H-8027. (1955) H-8275 (1956)

Work on the last winter project began 4 January 1956 and ended 27 January 1956.

VESSEL AND EQUIPMENT

Launch CS-160 was used during the month of January 1956. An Edo fathometer with a transducer mounted on the starboard side was used for part of the soundings. For the other an 808 fathometer was used with the fish units mounted in the keel.

TIDE AND CURRENT STATIONS

For tide reducers a gage was maintained at the lift span of the San Mateo - Hayward Highway Bridge.

No current stations were observed.

SMOOTH SHEET

The Smooth Sheet is to be constructed and plotted by the Seattle Processing Office.

CONTROL

The major part of the control was previously established triangulation or photogrammetrically determined positions. See list of names sheet.

SHORELINE AND TOPOGRAPHY

Shoreline and topography is from T-11066, T-11069, and T-11068. (1952-53)

The low water line has been determined by soundings taken at high tide.

SOUNDINGS

Fathometer 152-SPX with a fish mounted in the launch keel and an Edo with transducer on starboard side was used for sounding.

CONTROL OF HYDROGRAPHY

The position of the launch was determined by sextant angles on previously located objects ashore and in the surveyed area.

ADEQUACY OF SURVEY

The survey is considered adequate for charting purposes. See note in original descriptive report under this same heading.

CROSSLINES

Enough crosslines have been run to compare the different days of work and crossings are satisfactory. *Review, par. 2*

COMPARISON WITH PRIOR SURVEYS

In general soundings are deeper than those shown on older surveys and compare favorably with recent work. However, since some of the soundings have been put on the boat sheet using predicted tides and no fathometer corrections it is believed that a better comparison can be made after the smooth sheet is plotted. *Review, par. 5*

COMPARISON WITH CHART

In general the depths are greater than those shown on the chart. However, the final reducers have not been applied to the soundings on the boat sheet. *Review, pars. 5 & 6*

The area enclosed by a green broken line on eastern part of the boat sheet is being dredged by the Ideal Cement Co. (See note on sheet). The company does not use any planned pattern of dredging and usually dredge to about 20 feet from the surface of the water regardless of tide. Some of the spoil pours over the side of the barge, being loaded, and will cause slight shoaling beside the deeper depths.

COMPARISON WITH CHART - Continued

The "Piles" shown on Chart 5531, 0.8 mile WNW of the San Mateo Bridge lift span is a pile structure with a privately maintained sounding board.

DANGERS AND SHOALS

Preliminary Review Note 8. (See Boat Sheet) *See Review, par. 5(2)*

Preliminary Review Piles on 5129, ~~1-3/4~~ miles north of lift span San Mateo Bridge. (See notes on boat sheet H-8027) *See H-8027 (1955) (1955*

Duck blinds as dangers to small craft was mentioned in the previous descriptive report of this sheet. There are a number of others in various states of repair west of station "Sak". The hydro signals in a curved line from "Sak" to Point San Mateo are all duck blinds and are the furthest offshore of those in the area. Others, inshore are under construction and some are abandoned and rotting down. The stub piles are sometimes above or below surface of water. *Sak at San Mateo Bridge*

There is group of concrete and wood piles in an oval shape extending west from signal "Stew". The long way of the oval is east and west and approx. 60 meters overall. Most of the piles now extend above all but the highest tides.

AIDS TO NAVIGATION

The only fixed aid to navigation in the new area is the sounding board called "San" on the sheet.

Horace G. Conerly
Commander, USC&GS
OinC., West Coast
Shore Party

STATISTICS FOR HYDROGRAPHIC SURVEY

FIELD NO. BO-1354 - REGISTERY NO. H-8026

Vol. No.	Day Letter	Date	H. L. Sdgs. No. Pos.	Stat.Miles Sdg.
11	q	4 January 1956	134	23.0
11 & 12	r	6 January 1956	119	23.5
12	s	13 January 1956	83	9.4
12 & 13	t	16 January 1956	185	23.6
13 & 14	u	18 January 1956	194	29.1
14 & 15	v	20 January 1956	150	23.7
15	w	27 January 1956	88	12.9
			953	145.2
		Season 1954 - 1955	1,603	283.5
		Totals for Sheet	2,556	428.7

Area, square statute miles 1954 - 1955	8.5
Area, square statute miles 1955 - 1956	7.1
Total for Sheet	15.6

ABSTRACT OF SMOOTH TIDES

TIDE GAGE AT SAN MATEO BRIDGE

SHEET BO-1354 - REG. H-8026

4 January 1956
"q" day

1023	- 1044	-2.4
	1219	-2.2
	1247	-2.4
	1308	-2.6
	1324	-2.8
	1340	-3.0
	1353	-3.2
	1407	-3.4
	1418	-3.6
	1430	-3.8
	1441	-4.0
	1455	-4.2
	1508	-4.4
	1522	-4.6

6 January 1956
"r" day

1115	- 1125	-3.2
	1134	-3.0
	1143	-2.8
	1154	-2.6
	1208	-2.4
	1222	-2.2
	1238	-2.0
	1300	-1.8
	1330	-1.6
	1500	-1.4
	1523	-1.6

13 January 1956
"s" day

1046	- 1100	-7.6
	1128	-7.8
	1227	-8.0
	1250	-7.8
	1304	-7.6

16 January 1956
"t" day

0944	- 0957	-3.8
	1008	-4.0
	1020	-4.2
	1032	-4.4
	1044	-4.6
	1055	-4.8
	1106	-5.0
	1117	-5.2
	1128	-5.4
	1140	-5.6
	1154	-5.8
	1205	-6.0
	1217	-6.2
	1232	-6.4
	1248	-6.6
	1315	-6.8
	1400	-7.0
	1437	-6.8
	1500	-6.6
	1512	-6.4
	1523	-6.2
	1535	-6.0
	1544	-5.8
	1554	-5.6
	1600	-5.4

18 January 1956
"u" day

0900	- 1020	-2.8
	1048	-3.0
	1113	-3.2
	1134	-3.4
	1153	-3.6
	1209	-3.8
	1225	-4.0
	1240	-4.2
	1253	-4.4
	1305	-4.6
	1318	-4.8
	1333	-5.0
	1350	-5.2
	1415	-5.4
	1500	-5.6
	1600	-5.8

20 January 1956
"v" day

0925	- 0940	-3.8
	1000	-3.6
	1020	-3.4
	1045	-3.2
	1240	-3.0
	1313	-3.2
	1339	-3.4
	1400	-3.6
	1423	-3.8
	1450	-4.0
	1511	-4.2
	1530	-4.4

27 January 1956
"w" day

1000	- 1009	-8.2
	1018	-8.4
	1028	-8.6
	1040	-8.8
	1053	-9.0
	1105	-9.2
	1200	-9.4
	1220	-9.2
	1234	-9.0
	1245	-8.8
	1257	-8.6
	1307	-8.4
	1314	-8.2
	1321	-8.0
	1327	-7.8
	1334	-7.6

APPROVAL SHEET

ADDENDA FOR DESCRIPTIVE REPORT

SHEET BO-1354 - REG. H-8026

The records and boat sheet have been inspected and are approved.

Horace G. Conerly

Horace G. Conerly
Commander, USC&GS
OinC., West Coast
Shore Party

ADDENDA TO DESCRIPTIVE REPORT

SHEET BO-1354 - REG. NO. H-8026

TIDAL NOTE

For tide reducers for the work done from December 1955 thru February 1956 a portable tide gage was maintained at the lift span of the San Mateo - Hayward Highway Bridge. No height or time correction was made for distance from the gage.

The reading of MLLW on the staff was 2.4 feet.

PROCESSING OFFICE NOTES

H-8026 BO-1354

SMOOTH SHEET

The smooth sheet projection was hand made and the control plotted and checked in the Seattle Processing Office using standard methods.

ADEQUACY OF SURVEY

In the area listed by the hydrographer under this heading as ½ mile South and West of station "POLE", there is still disagreement in the depths. The fathograms were checked but nothing could be found to make up the difference. There is some indication of grass on the fathogram and this may be the reason for the difference. No mention of grass was made in the sounding records however. Review, par. 2

At Lat. 37° 36.5' Long. 122° 15.5' there is an apparent discrepancy between this sheet and H-8027(1955) This is the area in which a dredge is picking up old oyster shell. In as much as there was a lapse of time of about nine months between the times the field work was done it is believed that the dredging operation is the reason for the difference in depth. Review, par. 4

Except for the difference noted above the depth curves can be adequately drawn.

Respectfully submitted

Clarence R. Lehman
Cartt. Comp. Aid C&GS

Examined and Approved

William M. Martin
William M. Martin
Cartographer-in-Charge S.P.O.

Approved and Forwarded

L. S. Hubbard
L. S. Hubbard, Captain, C&GS
Seattle District Officer

GEOGRAPHIC NAMES

Survey No. H-8026

Name on Survey	On Chart No. A	On previous survey No. B	On U. S. quadrangle Maps C	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
California										1
San Francisco Bay										2
Point San Bruno				(tide station)						3
Point San Mateo										4
San Mateo - Hayward Bridge				(tide station)						5
										6
SAN FRANCISCO INTERNATIONAL AIRPORT										7
			Names approved							8
			6-7-56 L. Heck							9
										10
										11
										12
										13
										14
										15
										16
										17
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										24
										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8026

Records accompenying survey:

Boat sheets 1...; sounding vols. 15...; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 9-Envelopes

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

.....

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

Number of positions on sheet		2556
Number of positions checked		336
Number of positions revised		26
Number of soundings revised (refers to depth only)		.....
Number of soundings erroneously spaced		176
Number of signals erroneously plotted or transferred		22
Topographic details	Time	.....
Junctions	Time	.....
Verification of soundings from graphic record	Time	21

Prelim. Verif. T.A. Dinsmore ---- 48 ---- 3-15-57

Verification by L.P. McBride.....Total time 144.. Date 12-27-57

Reviewed by T.A. Dinsmore..... Time 24..... Date 3-18-57

Addendum by ——— Fannie B. Powers - Time: 12hrs.. Date 7-16-65

M-2232-1

RHC

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~ 22 June 1956

Division of Charts: R. H. Carstens

Plane of reference approved in
15 volumes of sounding records for

HYDROGRAPHIC SHEET 8026

Locality South San Francisco Bay, California

Chief of Party: H. G. Conerly in 1955-1956
Plane of reference is Mean lower low water, reading
4.0 ft. on tide staff at San Mateo Bridge (1954-1955)
2.4 ft. ~~below B.M.~~
on tide staff at San Mateo Bridge (1955-1956)
15.4 ft. below B.M. 3 (1930)
3.7 ft. on tide staff at Point San Bruno
10.4 ft. below B.M. 6 (1952)

Height of mean high water above plane of reference is:
Point San Bruno = 6.3 ft.
San Mateo Bridge = 7.0 ft.

Condition of records satisfactory except as noted below:

NOTE: Tide reducers for the positions below have been revised in red and verified:

Vol.	Positions
10	17P - 155P

William Shafer
Chief, ~~Division of~~ Tides ~~and Currents~~ Branch

U. S. GOVERNMENT PRINTING OFFICE 877033

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8026 FIELD NO. BO-1354

California, San Francisco Bay, S. F. International Airport to San Mateo Bridge

Project No. CS-256

Surveyed - Jan. 1955 - Jan. 1956 Scale 1:10,000

Soundings: Control:

808 Fathometer
Edo Fathometer
Hand lead
Pole

Sextant fixes on shore signals

Chief of Party - C. A. George and H. G. Conerly
Surveyed by - C. D. Upham, H. L. Runge, K. A. MacDonald and H. G. Conerly
Protracted by - C. R. Lehman
Soundings plotted by - C. R. Lehman
Preliminary verification by - T. A. Dinsmore
Verified and inked by - R. D. McBride, Junctions completed and curves inked by F.B. Powers 7/15/65
Reviewed by - T. A. Dinsmore 18 March 1957
Inspected by - R. H. Carstens

1. Shoreline and Signals

The shoreline originates with the unreviewed manuscripts of air-photographic surveys T-11066, T-11068 and T-11069 of 1952-53.

The origin of the signals is given in the Descriptive Report.

2. Sounding Line Crossings

Depths at crossings are in adequate agreement. Short sections of several sounding lines were rejected where crossing discrepancies of 1 ft. could not be resolved in the inshore flats. The rejected hydrography did not impair the survey coverage in the affected areas.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated.

Shoal mud flats extend far offshore where they terminate abruptly at the banks of the natural channel. In lat. 37°35.84', long. 122°16.75', the bottom drops rapidly from depths of 6 to 40 ft. in about 40 meters. Except for the steep channel banks, the bottom is generally smooth and undulating.

4. Junctions with Contemporary Surveys

The present survey junctions adequately with H-8025 (1954-55) and H-6726 (1941) on the north.

The junctions with H-8027 (1955) on the east and H-8275 (1956) on the southeast will be considered in the reviews of those surveys.

The transfer of junctional soundings is deferred pending the complete verification of the present survey and adjoining contemporary surveys.

5. Comparison with Prior Surveys

a. H-628 (1857-58) 1:20,000

This early reconnaissance survey may be disregarded as lacking sufficient information for a comparison of any cartographic value.

b. H-2315 (1897) 1:20,000
H-2411 (1898-99) 1:20,000
H-2412 (1898) 1:10,000
H-5129 (1931) 1:20,000
H-5133 (1931) 1:10,000

These prior surveys covered the area of the present survey during the periods indicated. The surveys of 1931 were compared with and superseded the surveys of 1897-99. The latter surveys may therefore be disregarded. A comparison of the 1931 surveys and the present survey reveals generally only minor bottom changes of 1 - 2 ft., the present survey depths being slightly shoaler than the prior depths. An exception to this, however, occurs in the area north of the San Mateo bridge and east of the channel where present depths of 8 to 12 ft. supersede prior depths of 2 to 6 ft. because of changes caused by the dredging for shells by the Ideal Cement Company. On the west, the San Francisco International Airport has been built since the 1931 surveys.

The following discrepancies are noted:

(1) The 4-ft. sounding charted in lat. 37°36.26', long. 122°15.8', from H-5129 should be disregarded. Falling in present depths of 9 - 11 ft., present development clearly indicates that this area has deepened. Dredging in this locality was in progress at the time of the survey and is to continue for several years.

(2) A rock awash previously charted in lat. 37°35.25', long. 122°17.59', from H-2412 was carried forward to H-5129. Although investigated at low water and not found on H-5129, the review of that survey did not consider that the investigation conclusively disproved the existence of the rock. The above locality was again inspected at low water during the present survey with no evidence of a rock found. In view of the investigations of 1931 and 1956, the existence of the prior rock awash which falls in present depths of 2 ft. is considered to be discredited. The rock awash was removed from the chart at the time H-5129 was applied to the chart.

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

6. Comparison with Chart 5531 (Latest print date 8/20/56)

A. Hydrography

Charted hydrography originates principally with the previously discussed surveys which need no further consideration. A few soundings have been applied to the chart from the present survey prior to verification and review. When completely verified, the present survey will entirely supersede the charted information.

B. Aids to Navigation

The buoys charted in lat. 37°37.74', long. 122°21.19', and lat. 37°36.27', long. 122°20.32', were located 200 meters northeastward and 265 meters northwestward, respectively, on the present survey.

Numerous uncharted seadrome buoys marking the seaplane landing area were located on the present survey.

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

7. Condition of Survey

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

b. The preliminary verification and inspection indicates that the smooth plotting was generally accurate. The preliminary verification of the smooth sheet was generally confined to sounding-line crossings and unnatural bottom configuration. A pattern of sounding lines covering the general area have been verified and inked. Completion of the verification and inking is deferred until some future date at which time the depth curves will be inked and the junctional soundings transferred.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work

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

Examined and Approved:

Max C. Ricketts
Chief, Nautical Chart Branch

Charles A. Schanck
Chief, Division of Charts

Karl B. Jeffers
Chief, Hydrography Branch

Samuel B. Grenell
Chief, Division of Coastal Surveys

ADDENDUM TO REVIEW
H-8026 (1954)

Verified and inked by----------R. D. McBride
Review Addendum----------F. B. Powers 7/16/65
Inspected by----------R. H. Carstens 8/9/65

The verification of this survey has been completed. Soundings, depth curves and junctions have been completely inked.

Shoreline

Minor corrections were made to the shoreline from the reviewed photogrammetric surveys T-11066, T-11068 and T-11069 of 1952-53 during the addendum to H-8026.

Junctions with Contemporary Surveys

Adequate junctions were completed with H-6726 (1941) on the north and H-8275 (1956) at San Mateo Bridge on the southeast.

Comparison with Chart 5531 (latest print date 11/11/63)

The charted hydrography originates with the present survey after preliminary verification and review. Only minor differences of 1 foot between the charted and present depths are noted.

Condition of Survey

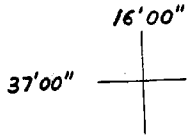
(a) Completion of the verification and inking reveals that the smooth plotting was well done.

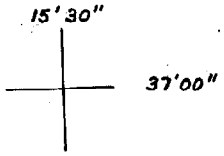
(b) The Descriptive Report is complete and comprehensive.

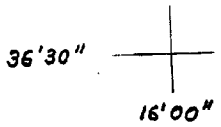
Approved:

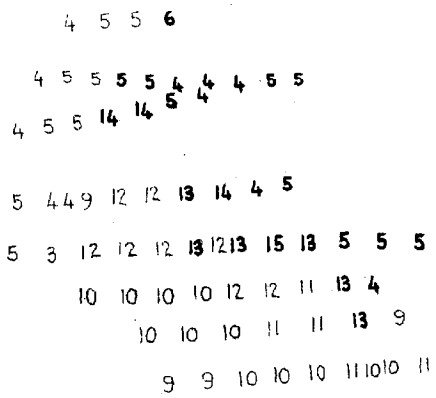
Lorne G. Taylor
Chief, Nautical Chart Division

H-8026

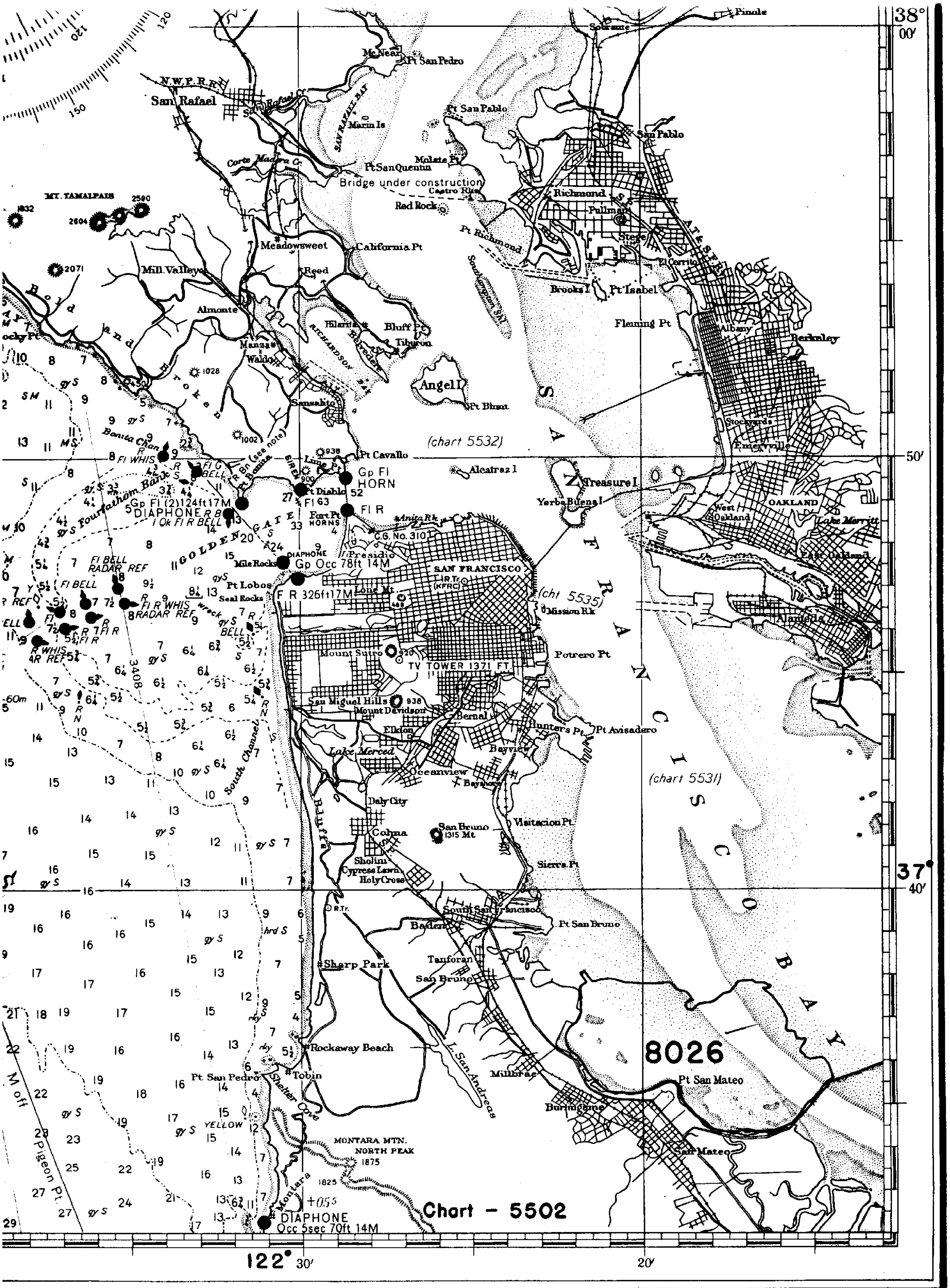








Inked sdgs. removed from S. Sheet.



38° 00′
Pinole
San Rafael
N.W.P.R.R.
Pt San Pedro
Marin Is
Pt San Pablo
San Pablo
Pt San Quentin
Molate Pt
Bridge under construction
Red Rock
MT. TAMALPAIS
Richmond
Pullman
Pt Richmond
Meadowsweet
California Pt
Mill Valley
Reed
Brooks I
Pt Isabel
El Cerrito
Almonte
Fleming Pt
Albany
Berkeley
Bluff Pt
Tiburon
Angel I
Pt Blunt
Sausalito
Stockyards
Emeryville
(chart 5532)
Pt Cavallo
Alcatraz I
50′
Treasure I
Yerba Buena I
Gp Fl HORN
Pt Diablo
Fl R
Gp Fl (2) 124ft 17M
DIAPHONE
Fort Pt
GOLDEN GATE
C.G. No. 310
Presidio
Mile Rocks
Gp Occ 78ft 14M
SAN FRANCISCO
Pt Lobos
Seal Rocks
F R 326ft 17M
Lone Mt.
(cht 5535)
Mission Rk
West Oakland
OAKLAND
Lake Merritt
East Oakland
Alameda
Mount Sutro
TV TOWER 1371 FT.
Potrero Pt
San Miguel Hills
Mount Davidson
Bernal
Hunters Pt
Pt Avisadero
Elkton
Bayview
Lake Merced
Oceanview
Baysho
(chart 5531)
Daly City
South Channel
Colma
San Bruno 1315 Mt
Visitacion Pt
Sierra Pt
Sholim
Cypress Lawn
Holy Cross
37° 40′
South San Francisco
Pt San Bruno
Baden
Tanforan
Sharp Park
San Bruno
Rockaway Beach
L. San Andreas
8026
Millbrae
Pt San Mateo
Tobin
Pt San Pedro
Shelter Cove
Burlingame
San Mateo
MONTARA MTN. NORTH PEAK 1875
Montara
DIAPHONE
Occ 5sec 70ft 14M
Chart - 5502
Pigeon Pt
SAN FRANCISCO BAY
122° 30′
20′

NAUTICAL CHARTS BRANCH

SURVEY NO. H8026

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
5-15-56	5531	J. J. Walker	Before ~~After~~ Verification and Review
			Examined - Prelim ~~nothing~~ applied some edge and dust blind note.
Nov 1957	Reconstr. 5531 5	L.A.M.	~~Before~~ After Verification and Review
			Before inking of depth curves
			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
			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.