7898

Diag. Cht. No. 5530-5

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. BO-1351 *Office No.* H-7898

LOCALITY

State California

General locality San Pablo Bay

Locality Pinole Point
to
Davis Point

1951

CHIEF OF PARTY

Roswell C. Bolstad

LIBRARY & ARCHIVES

DATE FEB 17 1953

B-1870-1 (1)

7898

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-7898

Field No. BO-1351

State CALIFORNIA

General locality SAN PABLO BAY

Locality PINOLE PT. TO DAVIS PT.

Scale 1:10,000 Date of survey 26 April - 19 September 1951

Instructions dated 24 April 1947 and 3 April 1951

Vessel Ship BOWIE

Chief of party R.C. Bolstad

Surveyed by R.M. Stone

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

Fathograms scaled by R.H. Berg; F.W. Lingenfelter; E.A. Cazier; G.E. Haraden

Fathograms checked by (F.W. Lingenfelter; A.L. Brougham; R.H. Berg; E.A. Cazier; F.H. Bauer; H.C. Applequist)

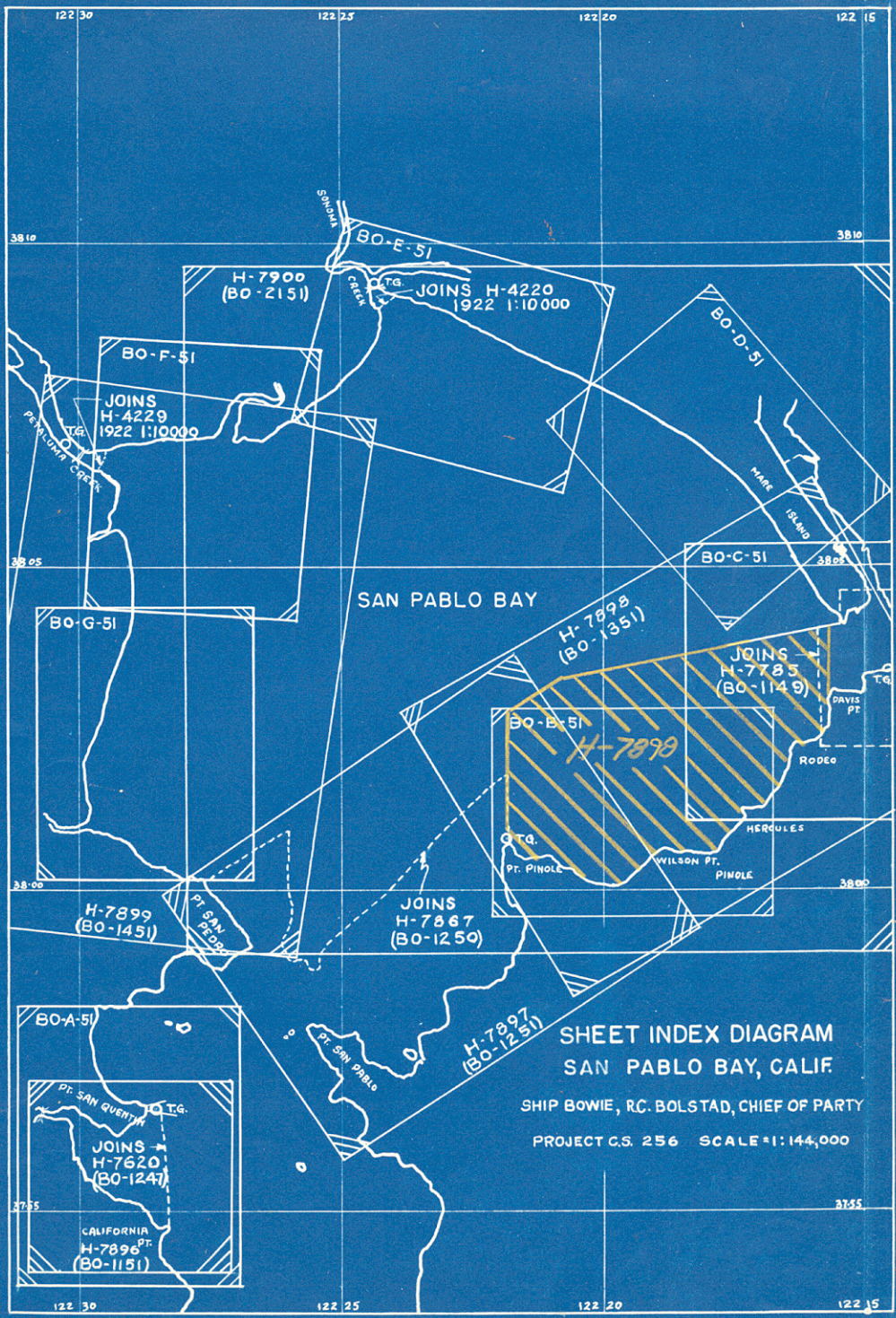
Protracted by Clarence R. Lehman

Soundings penciled by Clarence R. Lehman

Soundings in ~~fathoms~~ feet at ~~MLW~~ MLLW

REMARKS:

U. S. GOVERNMENT PRINTING OFFICE 693019



SHEET INDEX DIAGRAM
SAN PABLO BAY, CALIF.

SHIP BOWIE, R.C. BOLSTAD, CHIEF OF PARTY

PROJECT C.S. 256 SCALE = 1: 144,000

DESCRIPTIVE REPORT

to accompany

Hydrographic Survey No. H-7898
(Field No. BO-1351)

San Pablo Bay, Pinole Pt. to Davis Pt.
Scale 1:10,000 April - Sept., 1951
Ship BOWIE R. C. Bolstad
Chief of Party

R. M. Stone
Officer In Charge
Of Hydrography

PROJECT:

The Hydrographic Survey was executed in accordance with the Director's Instructions dated 16 November 1940, Reference No. 22 mjc, 1995 PI1, supplemental instructions dated 24 April 1947, Reference No. 22/MEK; S-2-BOWIE, and supplemental instructions dated 3 April 1951, Reference No. 22-JR; S-2-BO, for Project CS-256.

SURVEY LIMITS AND DATES:

This survey covers the southeast part of San Pablo Bay, from Pinole Point to Davis Point. (Refer to "Sheet Index Diagram" appended to this report).

This surgey joins Sheet H-7785, (Field No. BO-1149), Scale 1:10,000, on the east. (1949-50)

Field work began on 26 April 1951 and ended on 19 September 1951.

VESSELS AND EQUIPMENT:

All launch hydrography was done with Launch 113, a 26 foot Army Mine Yawl. Two days of skiff hydrography was done with a 16 foot skiff, contracted from Dow Relio's Yacht Harbor, Carquinez Strait. From 26 April to 30 June, 1951 Launch 113 was based at the Point San Pablo Yacht Harbor. From 1 July to the end of the survey, the launch was based at Dow Relio's Yacht Harbor, Carquinez Strait, Lat. 38° 03'.4; Long. 122° 13'.6

Type 808-J Fathometer No. S-111 was used in Launch 113. Pole soundings were obtained when doing skiff hydrography.

TIDE AND CURRENT STATIONS:

See discussion under Tide Note attached.

No current stations were occupied.

CONTROL STATIONS:

Triangulation control was furnished by stations listed in the publication "Geographic Positions of Triangulation Stations, California, Zones VII and XV", and by triangulation observed during 1950 and 1951, C. A. George and R. C. Bolstad, Chiefs of Party, respectively.

A copy of the Geographic Position Abstract, pertaining to the 1950 and 1951 field computations, is included with the field records of this survey.

Topographic stations were taken from ~~Topographic~~ Graphic Control Surveys BO-B-51 and BO-C-51. Graphic Control surveys have been destroyed.

Additional topographic stations used in conjunction with this survey are as follows:

Signal Name	Latitude	Longitude	Origin
CAR	38° 03' 294 meters	122° 15' 946 meters	BO-A-49, (T-7133) 1949
DAN	38° 03' 305 do	122° 15' 864 do	BO-A-49, (T-7133) 1949
KIM	37° 59' 1748 do	122° 21' 878 do	BO-F-50

A "List of Stations" is appended to this report. and.

SHORELINE AND TOPOGRAPHY:

The shoreline was transferred from Planimetric Sheets, Nos. T-5931 and T-5936. (1943-44) (1941-42) supplemented by graphic control surveys BO-B and C-51

SOUNDINGS:

Soundings were measured by 808-J Fathometer No. S-111. Numerous bottom specimens were taken and the locations are shown on the boat sheet by a red circle.

An abstract of bar check comparisons and velocity corrections is appended to this report.

CONTROL OF HYDROGRAPHY:

Hydrography on this survey was controlled by sextant angles taken between objects located by triangulation and topography.

ADEQUACY OF SURVEY:

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

The junction and overlap with Hydrographic Survey H-7785 (1950), (Field No. BO-1149) is satisfactory.

The depth curves can be adequately drawn at the junction.

CROSSLINES:

Crosslines consist of approximately 8 per cent of the lines run.

Actual tides were used in the reduction of all soundings shown on the boat sheet.

COMPARISON WITH PRIOR SURVEYS:

A comparison was made with the following prior surveys:

H-4275, (1921-22), Scale 1:20,000
H-4279, (1921-22), Scale 1:10,000
H-4276, (1921-22), Scale 1:20,000

(See P-5 of Review)

Prior Survey H-4275 and H-4276 agree in general with the present survey with the exception of the Pinole Shoal Channel area which has been dredged to a controlling depth of 35 feet. (See P-6C of Review)

In comparing the present survey with prior survey H-4279, the present survey indicates a considerable change in the location of the zero curve in the area east of Pinole Point. See P56 of Review.

COMPARISON WITH CHARTS:

Chart 5533 covers this area.

The Notes under the previous paragraph also apply to Comparison with Charts.

The following items were investigated for Preliminary Review of Chart 5533:

No. 8 DOLPHINS AND LIGHTS:

Position: Lat. 38° 03.'78; Long. 122° 16.'58
Source: Chart letter 14 (1947)

COMPARISON WITH CHARTS:(CONT'D):

No. 8 DOLPHINS AND LIGHTS (CONT'D):

Comment: Subject dolphins and lights are in existance and in good condition. These dolphins and lights were established during the year 1946. The east and west end dolphins were located via topography during 1951 by this survey party. Refer to topographic Sheet BO-C-51.
The navigation lights are listed in the Pacific Coast Light List as the following:
#477.5 San Pablo Bay Dolphins West End (Qk. Fl.W.)
#477.7 San Pablo Bay Dolphins East End (Qk. Fl.W.)

Recommend: Objects are properly charted and should be retained.

No. 9 RADAR TARGET:

Position: Lat. 38° 02.65; Long. 122° 16.~~32~~ 29 H7898
Source: Chart letter 78 (1946)
Comment: Subject radar target is in existance and in good condition. This object was located by sextant fix during the course of hydrography, Sheet No. H-7898, (Field No. BO-1351), Pos. 30s, date 7-16-51, and Pos. 66aa, date 9-11-51, depth 7.5 feet; Lat 38° 02.67; Long. 122° 16.29.

Recommend: Object is properly charted and should be retained.

No. 10 PILES:

Position: Vicinity of Lat. 38° 00.8~~8~~; Long. 122° 21.~~65~~ 7
Source: T-4022 (1921)
Comment: The three piles shown on the 10th edition of Chart 5533, in vicinity of Pinole Point do not exist. A careful search of this area gave no indication of these piling.

Recommend: Removal from chart.

No.11 WRECKS:

Position: Lat. 38° 03.~~42~~ 35; Long. 122° 19.0 10
Source: Notice to Mariners 13 (1947)
Comment: Extensive development in this area gave indication of possibly ~~three~~ 2 wrecks in this position. Refer to Hydrographic Sheet H-7898, (Field No. BO-1351), ba Day, 19 September 1951. The least depth found over these wrecks was 14.~~5~~ 0 feet, (Pos 40 ba and 41ba) at Lat 38° 03.3~~9~~ 8; Long. 122° 19.0~~8~~ 5

Recommend: The "Wreck" symbol should be retained on the chart. The least depth should also be shown.
charted "wrecks 14"

DANGERS AND SHOALS:

The area indicated by the "Wreck" symbol on Chart 5533, at Lat. 38° 03.42'; Long. 122° 19.0', was developed extensively. A least depth of 14.9 feet was obtained, (Pos. 40 ba and 41ba). Notice to Mariners 13 (1947) state that three LCVP's went down in this area.

COAST PILOT INFORMATION:

The following change is recommended, effecting the sixth edition of the Pacific Coast, U.S. Coast Pilot:

Page 138; Line 38. - delete the remainder of the sentence and add: "in 1951, the controlling depth was 35 feet",

AID TO NAVIGATION:

The report on fixed aids to navigation was prepared on Form 567 and forwarded to the Washington Office on 26 March 1952.

The following floating aids to navigation were located on this survey:

Latitude	Longitude	Depth	Pos.	Day	Launch	Date	Floating Aid
38 02.50	122 21.08	37 ft.	1	c	113	5-8-51	San Pablo Bay Lighted Buoy 7 Fl. G. 4 sec.
38 02.40	122 20.98	32	2	c	113	5-8-51	San Pablo Bay Lighted buoy 8 Fl. R. 4 sec.
38 03.15	122 19.78	25.5	1	g	113	5-28-51	San Pablo Bay Lighted Buoy 9 Qk. Fl. W.
38 02.97	122 19.75	31.5	2	g	113	5-28-51	San Pablo Bay Lighted Buoy 10 Fl. R. 4 Sec.
38.03.37	122 18.40	31.5	61	w	113	8-6-51	San Pablo Bay Lighted Buoy 11 Fl. G. 4 sec.
38 03.27	122 18.33	38	62	w	113	8-6-51	San Pablo Bay Lighted Buoy 12 Fl. R. 4 sec.
38 03.59	122 17.06	38	2	q	113	6-29-51	San Pablo Bay Lighted Buoy 13 Fl. W. 4 sec.
38 03.46	122 17.02	40	1	q	113	6-29-51	San Pablo Bay Lighted Buoy 14 Fl. R. 4 sec.
38 02.67	122 16.29	7.5	30	s	113	7-16-51	RADAR TARGET
			66	aa	113	9-11-51	do do

LANDMARKS FOR CHARTS:

No additional landmarks for charts are recommended.

GEOGRAPHIC NAMES:

No change or additions to the geographic names shown on Charts 5533 and 5534 are recommended.

VELOCITY CORRECTIONS:

Velocity corrections have been determined by bar checks. An abstract of the velocity corrections applied to the echo soundings is included in this report.

Respectively submitted,

R. M. Stone

R. M. Stone
Lieut. Comdr., USC&GS

APPROVED:

Robert A. Marshall

Robert A. Marshall
Commander, USC&GS
Commanding Officer
Ship BOWIE

H 7898
BO 1351

San Pablo Bay, California.

Processing Office Notes.

The smooth sheet was made by hand on Whatman paper. Control and shore line are as explained in report by field party. Adjusted triangulation data ~~are~~ from Pages 31, 36 and 101 of the lithographed GP's.

Other things pertinent have already been discussed by the field party.

Edgar E. Smith
Cart. Engr.

2/10/53

VELOCITY CORRECTIONS
Sheet H-7898, (BO-1351)
Launch No. 113
Fathometer No. S-111

DAY LETTER	DATE	"A" Scale 10	20	30	40	50	"B" Scale 40	50	60	70	"C" Scale 70 feet	
a	4-26-51	0.0	0.0	0.0	0.0							
b	4-27-51	0.0	0.0	0.0	0.0		-1.0					
		0.0	0.0	0.0	0.0		-1.0					
c	5-8-51	0.0	0.0	0.0								
		0.0	0.0		0.0							
d	5-15-51	0.0	0.0	0.0	0.0		-1.0					
e	5-21-51	0.0	0.0	0.0								
f	5-23-51	0.0	0.0									
		0.0	0.0	0.0	0.0							
g	5-28-51	0.0	0.0	0.0	0.0		-1.0					
		0.0	0.0	0.0								
h	5-31-51	0.0	0.0	0.0	0.0		-1.0					
j	6-7-51	0.0	0.0	0.0								
		0.0	0.0	0.0	0.0	0.0	-1.0	-1.0	-1.0	-1.0	-2.0	Same as J Day BO-1251 Vol 6 pp 33
k	6-21-51	0.0	0.0	0.0	0.0		-1.0					
		0.0	0.0	0.0	0.0		-1.0					
l	6-22-51	0.0	0.0	0.0	0.0		-1.0					
		0.0	0.0	0.0	0.0		-1.0					
m	6-26-51	-0.2	-0.2	-0.3	-0.3		-1.2					
		-0.2	-0.2	-0.2								
		-0.2	-0.1	-0.2	0.0	0.0	-1.0	-1.0				
		0.0	0.0	-0.2	0.0		-1.0					
n	6-27-51	0.0	0.0	0.0	0.0		-1.0					
		0.0	0.0	0.0								
p	6-28-51	0.0	0.0	0.0	0.0							
		0.0	0.0									
q	6-29-51	0.0	0.0	0.0	-0.2		-1.2(R)					
		0.0	-0.1	-0.2	-0.2	0.0	-1.4(R)	-1.0(R)				

DAY LETTER	DATE	"A" Scale 10	20	30	40	50	"B" Scale 40	50	60	70	"C" Scale 70 feet
r	7-12-51	0.0	0.0	0.0	0.0	0.0					
		0.0	0.0	0.0	0.0						
s	7-16-51	0.0	0.0								
t	7-18-51	0.0	0.0	0.0							
		0.0	0.0	0.0	0.0		-1.0				
u	7-25-51	0.0	0.0	0.0	0.0		(-1.6) R				
		0.0	0.0								
v	7-30-51	0.0	0.0	0.0	0.0		(-2.0) R				
		0.0	0.0	0.0	0.0		-1.4				
w	8-6-51	0.0	0.0	0.0							
		0.0	0.0	0.0	0.0						
x	8-13-51	0.0	0.0	0.0	0.0						
		0.0	0.0	0.0	0.0		-1.0				
y	8-14-51	0.0	0.0	0.0							
		0.0	0.0	0.0	0.0	0.0	-1.0	-1.0			
z	8-15-51	0.0	0.0	0.0	0.0		-1.0				
		0.0	0.0	0.0	0.0		-1.0				
aa	9-11-51	0.0	0.0	(Refer to Vol. 6 [c Day], Page 16, Sheet BO-2151)							
		0.0									
ba	9-19-51	0.0	0.0								

ABSTRACT OF VELOCITY CORRECTIONS

Field No.(BO - 1351)

Office No.(H - 7898)

Launch No. 113

Fathometer No. S-111

(Initial ---- 2.6 feet)

DAY	DEPTH	CORRECTION
(a) through (l)	"A" Scale 0 - 55	0.0 feet
26 April -- 22 June	"B" Scale 35 - 90	-1.0 "
	"C" Scale 70 ----	-2.0 "
(m) day only	"A" Scale 0 - 35	-0.2 feet
26 June	35 - 55	0.0 "
	"B" Scale 35 - 90	-1.0 "
(n) through (p)	"A" Scale 0 - 55	0.0 feet
27 June -- 28 June	"B" Scale 35 - 90	-1.0 "
(q) day only	"A" Scale 0 - 35	0.0 feet
29 June	35 - 55	-0.2 "
(r) through (ba)	"A" Scale 0 - 55	0.0 feet
12 July -- 19 Sept.	"B" Scale 35 - 90	-1.0 "

LIST OF STATIONS ON H-7898, (BO-1351) Sheet 1 of 2

Name Used in Hydrographic Survey	Origin of Station	Triangulation Zone
AIM	(BO - B - 51) G.C. surveys of 1951 have been destroyed	
ART	(BO - B - 51)	
AXE	(BO - C - 51)	
BIT	(BO - C - 51)	
BLACK	HERCULES POWDER CO. BLACK STACK, 1950	
CAM	(BO - C - 51)	
CAR	(BO - A - 49), T-7133	
CON	HERCULES POWDER CO. CONCRETE STACK, 1950	
COP	(BO - B - 51)	
CRY	(BO - B - 51)	
DAN	(BO - A - 49), T-7133	
DAW	(BO - C - 51)	
DAY	(BO - B - 51)	
DIM	(BO - B - 51)	
EBB	(BO - B - 51)	
ELM	(BO - C - 51)	
END	END, 1951	
FAR	(BO - B - 51)	
FOG	(BO - B - 51)	
FOUND	FOUND, 1950	
FOX	(BO - C - 51)	
GIANT	GIANT, ATLAS POWDER CO. TANK, 1932	XV
HEM	(BO - C - 51)	
HER	PINOLE, HERCULES POWDER CO. TANK, 1947	XV
HIS	(BO - C - 51)	
IRK	(BO - B - 51)	
IRON	LONE TREE POINT IRON ROD, 1903 - 06	VII
ITS	(BO - B - 51)	
JAR	(BO - B - 51)	
JAZ	(BO - C - 51)	
KIL	(BO - C - 51)	
KIM	(BO - B - 51)	
LOG	(BO - B - 51)	
MAL	(BO - B - 51)	
NEW	(BO - B - 51)	
OIL	(BO - B - 51)	
OLE	OLEUM UNION OIL CO. STACK, 1932	VII
PIE	(BO - C - 51)	
POLE	HERCULES POWDER CO. POLE ON DOCK, 1950	
RAN	CARQUINEZ STRAIT RANGE TARGET NO. 1, 1932	VII
RAT	(BO - B - 51)	

LIST OF STATIONS ON H-7898, (BO-1351) Sheet 2 of 2

Name Used in Hydrographic Survey	Origin of Station	Triangulation Zone
SHED	ATLAS DOCK, EAST GABLE SHED, 1950	
STACK	CONCRETE STACK, 1938	VII
TAP	(BO - C - 51)	
TAR	CARQUINEZ STRAIT RANGE TARGET NO. 2, 1932	VII
TAX	(BO - B - 51)	
TREE	(BO - C - 51)	
UTE	(BO - C - 51)	
VAL	(BO - C - 51)	
WAX	(BO - C - 51)	
WHO	(BO - B - 51)	
YAK	(BO - C - 51)	
YES	(BO - B - 51)	
ZAG	(BO - B - 51)	

STATISTICS

for

HYDROGRAPHIC SURVEY, (BO-1351), H-7898

Project CS-256 Year 1951
San Pablo Bay Ship BOWIE

Vol. No.	Day Letter	DATE	No. of Pos.	Stat. Miles of Sdgs.	Launch No.
1	a	4-26-51	126	18.5	113
1	b	4-27-51	63	9.2	"
2	c	5-8-51	192	29.3	"
2	d	5-15-51	28	3.7	"
2 & 3	e	5-21-51	135	22.2	"
3 & 4	f	5-23-51	182	29.1	"
4	g	5-28-51	119	18.1	"
4	h	5-31-51	30	5.3	"
5	j	6-7-51	44	5.9	"
5	k	6-21-51	85	14.6	"
5 & 6	l	6-22-51	153	24.0	"
6	m	6-26-51	77	10.9	"
6 & 7	n	6-27-51	121	17.1	"
7	p	6-28-51	177	25.4	"
8	q	6-29-51	158	22.9	"
8 & 9	r	7-12-51	98	16.2	"
9	s	7-16-51	30	4.6	"
9 & 10	t	7-18-51	186	29.2	"
10	u	7-25-51	150	14.6	"
10 & 12	v	7-30-51	202	31.1	"
11	a	7-26-51	153	7.5	Skiff
11	b	7-27-51	88	6.9	"
12	w	8-6-51	136	19.4	113
13	x	8-13-51	240	29.9	"
14	y	8-14-51	88	9.2	"
14	z	8-15-51	107	15.0	"
14	aa	9-11-51	66	4.8	"
15	ba	9-19-51	62	6.2	"
TOTAL (Sheet H-7898)			3296	450.8	
TOTAL FOR LAUNCH NO. 113			3055	436.4	
TOTAL FOR SKIFF			241	14.4	

TOTAL AREA OF HYDROGRAPHY -- 17.37 square statute miles

/by GEH .

TIDE NOTE

To Accompany

HYDROGRAPHIC SURVEY, (BO-1351), H-7898

San Pablo Bay Project CS-256
Pinole Pt. to Davis Pt. Year 1951

Two tide gages were used in the reduction of soundings on this sheet.

The Pinole Pt. tide gage at Latitude 38° 00.8, Longitude 122° 21.8 was used for the reduction of all soundings west of Longitude 122° 19.0. The value of mean lower low water on the tide staff was 2.91 feet.

The Selby, Carquinez Strait, tide gage, at Latitude 38°03.5, Longitude 122° 14.5, was used for the reduction of all soundings east of Longitude 122° 19.0. The value of mean lower low water on the tide staff was 1.99 feet.

Notations were made in the hydrographic records relative to tide zone limits on days when both zones were involved.

Hourly heights were scaled from marigrams for the period of time hydrography was done.

The hourly heights with their respective reducers are submitted on Form No. 362 under separate cover.

Ford

H 7898

BO 1351

San Pablo Bay,California.

List of geographic names
penciled on smooth sheet.

San Pablo Bay

Pinole Point

Pinole Shoal

APPROVAL SHEET

Hydrographic Survey No. H-7898, (BO-1351)

San Pablo Bay

Pinole Point to Davis Point

Project CS-256

The records for this hydrographic sheet have been examined and found to be complete.

The smooth sheet has not been plotted at the time of writing this report.

This survey is complete, adequate in detail and is approved.

Roswell C. Bolstad,
Commander, USC&GS,
Commanding Ship BOWIE

FORM 537a
(9-24-47)

DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

REGISTER NO. T -

TOPOGRAPHIC TITLE SHEET

FIELD NO.S BO - B - 51
BO - C - 51

Each Planetable and Graphic Control Sheet should be accompanied by this form, completed so far as practicable, when forwarded to the Washington Office.

STATE
CALIFORNIA

GENERAL LOCALITY
SAN PABLO BAY

LOCALITY
POINT PINOLE TO CARQUINEZ STRAIT

SCALE
1 : 10,000

DATE OF SURVEY
June-July, 1951

VESSEL
U. S. C. & G. S. S. BOWIE

CHIEF OF PARTY
R. C. BOLSTAD

SURVEYED BY
H. C. APPLEQUIST

INKED BY
H. C. APPLEQUIST

HEIGHTS IN FEET ABOVE MHW OR _____ ☐ TO GROUND ☐ TO TOPS OF TREES

CONTOUR APPROXIMATE CONTOUR FORM LINE INTERVAL _____ FEET

PROJECT NUMBER
CS - 256

REMARKS
GRAPHIC CONTROL SHEETS
Applied to H-7898(1951), H-7867(1950)

12136

DESCRIPTIVE REPORT
to accompany
GRAPHIC CONTROL SHEETS FIELD BO-B-51 and BO-C-51

Graphic control surveys of the south side of San Pablo Bay on scales of 1:10,000.

These two surveys are on opposite sides of a single aluminum mounted sheet.

A. PROJECT:

This survey was executed in accordance with the Director's Instructions dated 16 November 1940, Supplemental Instructions dated 24 April 1947 and 3 April 1951, Project CS-256.

B. SURVEY LIMITS AND DATES:

These surveys cover the area from Point Pinole to Davis Point on the South side of San Pablo Bay and from the southeasterly point of Mare Island northwest for approximately 1.5 miles.

Field work was done during the months of June and July, 1951.

C. CONTROL:

These surveys were controlled by existing triangulation as published in Vol. VII, Geographic Positions, California, supplemented by additional triangulation by this party in 1950 and 1951. Previously located intersection stations such as tanks, stacks, etd., were checked by planetable cuts.

D. SURVEY METHODS:

Only standard survey methods were used. No traverses were run. Planetable setups were located by three point fixes or resection. The majority of the signals were located by three or more cuts. The remainder were located by rod readings or a combination of rod readings and cuts.

E. SHORELINE:

The shoreline was transferred from the planimetric sheets covering this area to the topographic sheets. At the setups wherever it was practicable to rod in the shoreline, this was done. The shoreline rodded in, is shown in ink on the sheet.

DESCRIPTIVE REPORT - TO ACCOMPANY GRAPHIC CONTROL SHEET FIELD BO-B-51 and BO-C-51 (Cont'd)

F. COMPARISON WITH PREVIOUS SURVEYS:

The available previous (1943-44) surveys (1941-42) consisted of planimetric sheets Nos. T-5931 and T-5936. The shoreline was transferred from these sheets to the topographic sheets, in pencil, and verified where possible. In general the agreement was satisfactory for charting purposes. On Sheet BO-C-51 in the Mare Island area at the northernmost part of the sheet, a new levee has been constructed changing the high water line. The portion on this sheet is shown in ink. A restricted print of the Mare Island Naval Shipyard which shows this new construction is being forwarded to the Washington Office.

In the area southwest of Mare Island there appears to have been considerable silting and the grass line is considerably farther out than shown on the aerial photograph, No. 5443. This grass line is not shown on the topographic sheet. New aerial photographs should be obtained for this vicinity.

This area not shown on H 7898.

SUBMITTED:

H C Applequist
H.C. Applequist
Lieut. Commander, USC&GS

APPROVED:

Roswell C. Bolstad
Roswell C. Bolstad
Commander, USC&GS
Commanding Officer
Ship BOWIE

RECOVERABLE TOPOGRAPHIC STATIONS

SHEET BO-B-51

EBB	38	00	949		MAL	38	01	40
	122	21	518			122	17	584
FOG	38	00	1842		OIL	38	00	185
	122	18	291	214		122	20	62
IRK	38	00	1358		ZAG	38	00	1238
	122	17	983			122	18	1341

SHEET BO-C-51

CAM	38	02	530		TOY	38	05	84
	122	16	183			122	15	1103
HEM	38	02	1556		VAL	38	01	1244
	122	15	945			122	16	1241
LUM	38	02	1341		VET	38	04	1671
	122	14	1403			122	15	1061
PIE	38	01	501		WAX	38	01	1470
	122	17	310			122	16	638
SUB	38	01	607					
	122	16	1260					

RHK

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~ 19 March 1953

Division of Charts: R. H. Carstens

Plane of reference approved in 15
volumes of sounding records for

HYDROGRAPHIC SHEET 7898

Locality San Pablo Bay, California

Chief of Party: R. C. Bolstad in 1951
Plane of reference is mean lower low water, reading
2.9 ft. on tide staff at Pinole Point
26.8 ft. below B. M. 1 (1931)

2.0 ft. on tide staff at Selby .
12.3 ft. below B. M. 1 (1932)

Height of mean high water above plane of reference is 5.5 feet.

Condition of records satisfactory except as noted below:

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

U. S. GOVERNMENT PRINTING OFFICE 877933

GEOGRAPHIC NAMES

Survey No. H-7898

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 Pablo Bay										2
Pinole Point										3
Wilson Point										4
Davis Point										5
Pinole Shoal										6
Lone Tree Pt.										7
					Names underlined in red are approved					8
					3-19-53. L. Heck					9
										10
										11
										12
										13
										14
										15
										16
										17
										18
										19
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										23
										24
										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7898...

Records accompanying survey:

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

bomb vols. .....; graphic recorder rolls 13 Env.;

special reports, etc. 1 Smooth Sheet; 1 Descriptive Report;...........

....

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

Number of positions on sheet		3296 3296
Number of positions checked		48 384
Number of positions revised		7 1
Number of soundings revised (refers to depth only)		3 0
Number of soundings erroneously spaced		0 70
Number of signals erroneously plotted or transferred		0 ✓
Topographic details	Time	10 ✓
Junctions	Time	3 ✓
Verification of soundings from graphic record	Time	7 16

Prelim. Verif. by: [signature]

Verification by J. C. Chambers ....Total time 76 212 Date 5-6-52 2-15-56

Reviewed by [signature] .... Time 45 38 Date 5-19-52 4/19/56

Addendum by [signature]

M-2232-1

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7898 FIELD NO. BO-1351

California, San Pablo Bay, Pinole Pt. to Davis Pt.

Project No. CS-256

Surveyed in April - September 1951 Scale 1:10,000

Soundings:

808 Fathometer
Pole

Control:

Sextant fixes on shore signals

Chief of Party - R. C. Bolstad
Surveyed by - R. M. Stone
Protracted by - C. R. Lehman
Soundings plotted by - C. R. Lehman
Preliminary verification by - I. M. Zeskind
Verified and inked by -
Reviewed by - I. M. Zeskind, 19 May 1952
Inspected by - R. H. Carstens

1. Shoreline and Control

The shoreline originates with air-photographic surveys T-5931 (1943-44) and T-5936 (1941-42), supplemented by graphic control surveys BO-B and C-51. The shoreline and inshore detail transferred to the smooth sheet from the graphic control surveys are shown in red.

The source 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 supplemented by the 3-ft. curve are adequately delineated.

The bottom is generally smooth.

4. Junctions with Contemporary Surveys

Adequate junctions were effected with surveys H-7785 (1949-50) on the east, with H-7867 (1950) on the southwest and with H-7897 (1951) on the west. The junction with H-7900 on the north will be considered in the review of that survey.

5. Comparison with Prior Surveys

a. H-524 (1856) 1:20,000
H-758 (1862) 1:20,000
H-781 (1863) 1:20,000
H-1444 (1878-79) 1:20,000
H-1801 (1887) 1:20,000
H-2266 (1896) 1:10,000
H-2338 (1896-98) 1:20,000
H-2394 (1897-99) 1:20,000

These prior surveys cover the area of the present survey. A comparison between the prior and present surveys reveals changes in bottom configuration which are attributed to natural and artificial changes such as the action of the current on the bottom, accretion and erosion of the shoreline, the construction and alteration of piers, the construction of a levee, and dredging operations. A general shoaling of 1-4 ft. has occurred in the mud flats on the south side of the Bay inshore from 6-ft. depths, as for example, in lat. 38° 00.82', long. 122° 19.10', where a prior depth of 5 ft. falls in present depths of 1 ft. In the area between the present 6-ft. curve and the south side of the dredged channel, the bottom has deepened as much as 10 ft., as for example, in lat. 38° 03.01', long. 122° 18.02', where a prior depth of 20 ft. falls in present depths of 30 ft. North of the dredged channel, the bottom has shoaled as much as 7 ft., as for example, in lat. 38° 03.48', long. 122° 19.90', where a prior depth of 20 ft. falls in present depths of 13-14 ft. An example of a change in the shoreline occurs in the vicinity of lat. 38° 02.75', long. 122° 15.68', where the shoreline has accreted as much as 300 meters.

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

b. H-4275 (1921-22) 1:20,000
H-4276 (1923) 1:20,000
H-4279 (1921-22) 1:10,000
H-4280 (1922) 1:10,000

These prior surveys cover the area of the present survey. A comparison between the prior surveys and the present survey reveals in general only minor differences of 2-3 ft.

in depths, except in the vicinity of the dredged channel in the northern portion of the survey and in the vicinity of some of the piers. In these areas the changes in depths are greater. Some examples of these greater differences in depths are as follows:

(1) North of the dredged channel in lat. 38° 03.85', long. 122° 16.77', a prior depth of 30 ft. falls in present depths of 18-19 ft.

(2) Present survey depths in the dredged channel are as much as 9 ft. deeper than depths in this area prior to dredging the channel.

(3) Present depths along the north side of the pier at Davis Point are as much as 25 ft. deeper than prior depths.

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

6. Comparison with Chart 5525 (Latest print date 11/3/52)
Chart 5533 (Latest print date 7/14/52)

A. Hydrography

The charted hydrography originates principally with the previously discussed prior surveys which need no further consideration, with a critical sounding from the present survey and with Corps of Engineers' surveys, the latest one of which is dated 1947 (Bp. 42498). Only minor differences of 1-3 ft. in depths were noted. Attention, however, is directed to the following:

1. The piers charted in lat. 38° 00.73', long. 122° 17.80' and lat. 38° 01.33', long. 122° 16.90', respectively, are not shown on survey T-5931 (1943-44) or graphic control surveys BO-B and C-51. They are considered to be non-existent.

2. The 3 piles charted at Pinole Point in the vicinity of lat. 38° 00.8', long. 122° 21.6', were not found after a careful search during the present survey. The hydrographer's recommendation on page 4 of the Descriptive Report to delete these piles is concurred in.

3. The 19 ft. charted in lat. 38° 02.93', long. 122° 19.48' and the 21 ft. charted in lat. 38° 03.13', long. 122° 18.61' from the Corps of Engineers' survey of 1947 (Bp. 42498) fall in a flat area of mud and sand bottom where present depths, 7 ft. deeper, discredit the existence of these shoals. The Corps of Engineers soundings of 19 and 21 are probably in error because of faulty fathometer operation or fathogram interpre-

tation and should be disregarded.

The present survey supersedes the charted hydrography.

B. Aids to Navigation

The present survey positions of aids to navigation are in substantial agreement with the charted positions and adequately mark the features intended, except that buoy FLG "7" charted in accordance with H.O.N. to M. 33 (1952) was moved 220 meters northeastward subsequent to the present survey.

C. Controlling Depth

Present survey depths in the surveyed portion of the dredged channel are in harmony with the charted controlling depth of 33 ft. (U.S. Corps of Engineers' survey of 1952, Bp. 49059, Chart Letter 548, 1952). The charted information is subsequent to and supersedes the present survey.

7. Condition of Survey

a. The survey has been given only a preliminary verification in accordance with recently adopted procedure. A complete statement concerning the condition of the survey will be made after the survey has been completely verified.

b. The Descriptive Report is complete and comprehensive.

c. Shoreline changes from graphic control surveys originally inked on the smooth sheet in black have been revised to red color in the Washington Office.

8. Compliance with Project Instructions

The present survey adequately complies with the Project Instructions.

9. Field Work Recommended

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

H. R. Edmonston
Chief, Nautical Chart Branch

G. R. Fish
Chief, Section of Hydrography

Examined and approved:

H. Arnold Karo
Chief, Division of Charts

Earl O. Heaton
Chief, Division of Coastal Surveys

ADDENDUM TO REVIEW

H-7898 (1951)

Verified and inked by - J. C. Chambers (Norfolk)
Review Addendum by - L. V. Evans III 4/19/56
Inspected by - R. H. Carstens

The verification of this survey has been completed. The soundings and depth curves have been completely inked and junctional soundings have been transferred to or from adjoining surveys.

Junctions with Contemporary Surveys

Adequate junctions were made with H-7785 (1949-50) on the east, H-7867 (1950) on the southwest, H-7897 (1951) on the west and H-7900 (1951) on the north.

Comparison with Chart 5525 (latest print date 5/16/55)
Chart 5533 (latest print date 4/18/55)

The charted hydrography originates with the present survey, after preliminary verification and review, except in the vicinity of the large pier at Davis Point, lat. 38°03.3', long. 122°15.7', where dredging and shoaling have taken place since the survey was made. Charted hydrography (from a Union Oil Company after-dredging survey of 1952, Bp. 49985) reflects the dredging near the pier, and also reveals shoaling of as much as 5 ft. at lat. 38°03.4', long. 122°16', just northwest of the dredged area. The present survey is superseded in the common area by the later data of Bp. 49985.

Charted controlling depths of 33 and 34 ft. in the Pinole Shoal dredged channel are from a Corps of Engineers survey of 1953-54, Bp. 51556 and CL 605 (1954), which supersedes the present survey.

The 29-ft. sounding charted in lat. 38°03.2', long. 122°17.3' was found to have been plotted incorrectly. Its true position, about 300 meters south of the charted position, is well within the 30-ft. curve. The charted "29" and its isolated curve should be deleted from the chart.

No other additional application of the present survey to the listed charts is necessary.

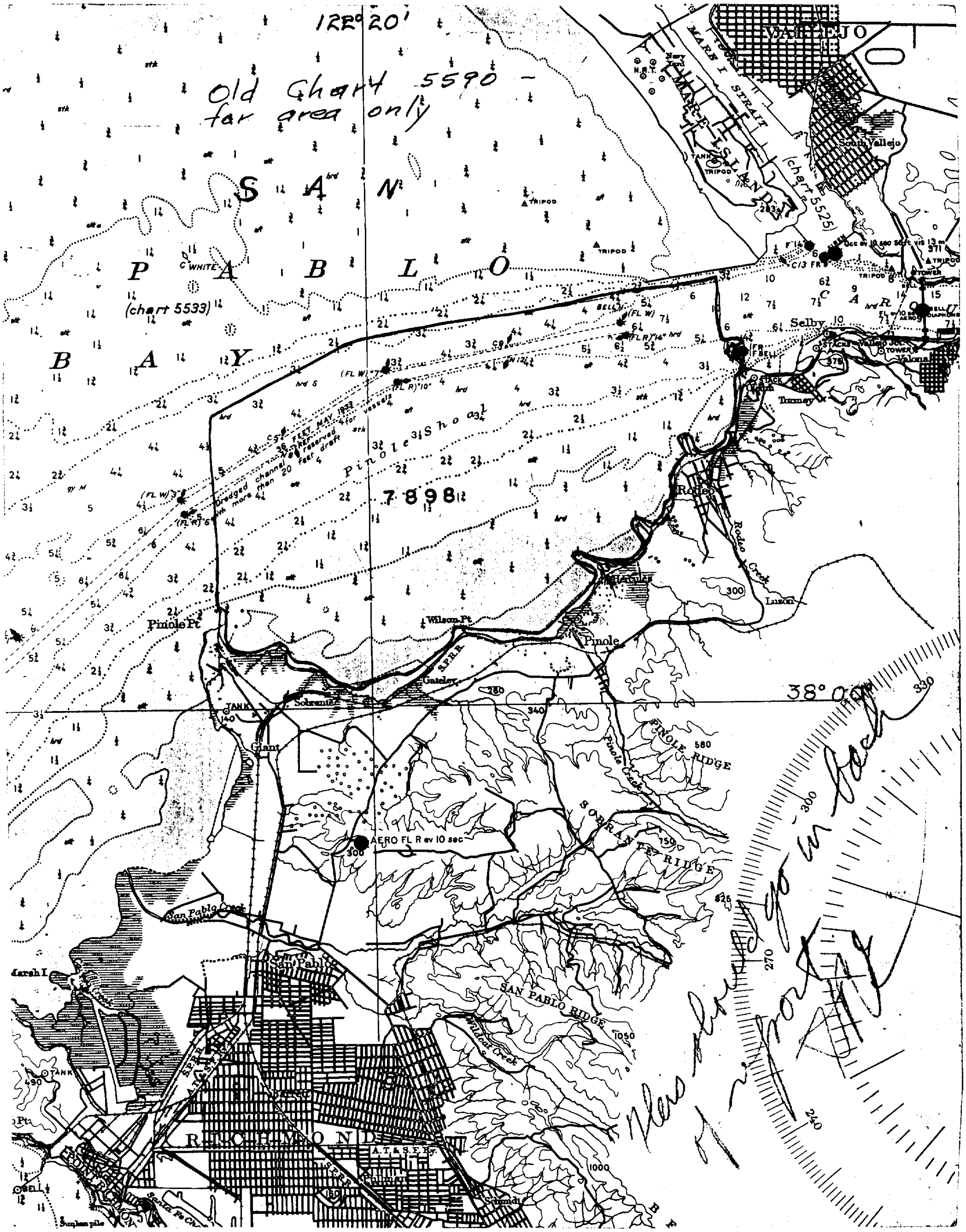
Condition of Survey

The completion of the verification reveals that the smooth plotting was satisfactory.

Approved:

E.K. McCarthy

Chief, Chart Division


122°20'
Old Chart 5590 -
for area only
SAN PABLO BAY
(chart 5533)
(chart 5525)
VALLEJO
MARE I. STRAIT
MARE ISLAND
South Vallejo
CARQUINEZ
Selby
Valona
Tormey
Pinole Shoal
7898
Rodeo
Rodeo Creek
Hercules
Luzon
Pinole Pt
Wilson Pt
Pinole
Gateley
Sobrante
Giant
38°00'
PINOLE RIDGE
Pinole Creek
SOBRANTE RIDGE
AERO FL R ev 10 sec
San Pablo Creek
San Pablo
SAN PABLO RIDGE
Wildcat Creek
RICHMOND
Marsh I
TRIPOD
TANK
S.P.R.R.
A.T.&S.F.Ry.

NAUTICAL CHARTS BRANCH

SURVEY NO. H-7898

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
8-7-53	5525	R. K. DeLaubenfels	Completely applied ~~Before~~ After Verification and Review preliminary
9/18/53	5533	H. MacSwain	~~Before~~ After Partial Verification and Review (2 shoal sdgs only)
11-4-53	5533	R. K. DeLaubenfels	Completely applied ~~Before~~ After Verification and Review To reconstruction preliminary
			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.