

TP-00525

TP-00525

NOAA FORM 76-35

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT

Type of Survey Shoreline

Job No. CM-7704 Map No. TP-00525

Classification No. III Edition No. 1
(FINAL)

~~This map edition will not be field edit~~

LOCALITY

State California

General Locality San Francisco & San Pablo Bays

Locality Mare Island

19 77 TO 19

REGISTRY IN ARCHIVES

DATE

NOAA FORM 76-36A (3-72)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.	
DESCRIPTIVE REPORT - DATA RECORD		TYPE OF SURVEY ☒ ORIGINAL ☐ RESURVEY ☐ REVISED	
PHOTOGRAMMETRIC OFFICE Atlantic Marine Center Coastal Mapping Division, Norfolk, Va.		SURVEY TP-00525 MAP EDITION NO. (1) MAP CLASS III (FINAL) JOB #CM-7704	
OFFICER-IN-CHARGE Roy K. Matsushige, CDR.		LAST PRECEDING MAP EDITION TYPE OF SURVEY ☐ ORIGINAL ☐ RESURVEY ☐ REVISED JOB PH- MAP CLASS SURVEY DATES: 19__ TO 19__	
I. INSTRUCTIONS DATED			
1. OFFICE		2. FIELD	
Aerotriangulation April 13, 1977 Compilation Aug. 3, 1977 Amendment I April 20, 1978 Amendment II April 6, 1979 Amendment III July 30, 1979 Compilation July 12, 1981		Control-Premarking Feb. 7, 1977	
II. DATUMS			
1. HORIZONTAL: ☒ 1927 NORTH AMERICAN		OTHER (Specify)	
2. VERTICAL: ☒ MEAN HIGH-WATER ☐ MEAN LOW-WATER ☐ MEAN LOWER LOW-WATER ☐ MEAN SEA LEVEL		OTHER (Specify)	
3. MAP PROJECTION Lambert Conformal		4. GRID(S) STATE CA ZONE 3	
5. SCALE 1:20,000		STATE ZONE	
III. HISTORY OF OFFICE OPERATIONS			
OPERATIONS		NAME	
DATE			
1. AEROTRIANGULATION BY METHOD: Analytic LANDMARKS AND AIDS BY		R. Kelly July 1977	
2. CONTROL AND BRIDGE POINTS PLOTTED BY METHOD: Coradomat CHECKED BY		S. Solbeck July 1977	
3. STEREOSCOPIC INSTRUMENT PLANIMETRY BY COMPILATION CHECKED BY INSTRUMENT: Wild B-8 CONTOURS BY SCALE: 1:25,000 CHECKED BY		D. Butler Oct. 1977 L. Neterer Jr. Oct. 1977 N.A. N.A.	
4. MANUSCRIPT DELINEATION PLANIMETRY BY CHECKED BY METHOD: Graphic, smooth drafted CONTOURS BY CHECKED BY SCALE: 1:20,000 HYDRO SUPPORT DATA BY CHECKED BY		D. Butler Nov. 1977 F. Margiotta July 1978 N.A. N.A. D. Butler Oct. 1977 F. Margiotta July 1978	
5. OFFICE INSPECTION PRIOR TO FIELD EDIT BY		F. Margiotta July 1978	
6. APPLICATION OF FIELD EDIT DATA BY CHECKED BY		None (Canceled)	
7. COMPILATION SECTION REVIEW Class III BY		F. Margiotta July 1978	
8. FINAL REVIEW Class III BY		J. Hancock Sept 1981	
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH BY		J. Hancock Sept 1981	
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH BY		R. Kelly Dec. 1981	
11. MAP REGISTERED - COASTAL SURVEY SECTION BY		H. D. Wone MAR 1982	

NOAA FORM 76-36B (3-72)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY			
TP-00525 COMPILATION SOURCES					
1. COMPILATION PHOTOGRAPHY					
CAMERA(S) Wild R.C. 10, "B" (B=152.74MM)		TYPES OF PHOTOGRAPHY LEGEND (C) COLOR (P) PANCHROMATIC (I) INFRARED		TIME REFERENCE ZONE Pacific MERIDIAN 120th	
TIDE STAGE REFERENCE ☒ PREDICTED TIDES ☐ REFERENCE STATION RECORDS ☐ TIDE CONTROLLED PHOTOGRAPHY				☒ STANDARD ☐ DAYLIGHT	
NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE	
77B(P)2577-2582 *	Mar 4, 1977	12:31	1:50,000	5.9 Ft. above M.L.L.W.	
77B(P)2644-2645 *	Mar 4, 1977	14:15	1:50,000	4.3 Ft. above M.L.L.W.	
77B(P)3470-3474 **	Mar18, 1977	10:50	1:30,000	5.3 Ft. above M.L.L.W.	
77B(P)3582-3587 **	Mar18, 1977	12:29	1:30,000	5.8 Ft. above M.L.L.W.	
77B(P)3591-3597 **	Mar18, 1977	12:45	1:30,000	5.8 Ft. above M.L.L.W.	
REMARKS Mean High Water at subordinate station =5.5 Ft. * Compilation photography **Hydro support photography					
2. SOURCE OF MEAN HIGH-WATER LINE:					
The mean high water line was compiled by instrument methods with the stereo-plotter using the above listed compilation photography, and graphically using ratio photo 77B(P)3473 (hydro support)					
3. SOURCE OF MEAN LOWER LOW-WATER LINE:					
The mean lower low water line was not compiled as none of the above listed photos were at or near (- 1.0 Ft.) mean lower low water. There was no infrared photography available at the time of compilation.					
4. CONTEMPORARY HYDROGRAPHIC SURVEYS (List only those surveys that are sources for photogrammetric survey information.)					
SURVEY NUMBER	DATE(S)	SURVEY COPY USED	SURVEY NUMBER	DATE(S)	SURVEY COPY USED
5. FINAL JUNCTIONS					
NORTH	EAST		SOUTH		WEST
No survey	TP-01057 CM-7823		TP-00527		TP-00524
REMARKS This map defines the northeast limit of the project.					

TP-00525
HISTORY OF FIELD OPERATIONSI. ☒ FIELD INSPECTION OPERATION (Premarking) ☐ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	R. Melby	Feb. 1977
2. HORIZONTAL CONTROL	RECOVERED BY " " "	" " "
	ESTABLISHED BY " " "	" " "
	PRE-MARKED OR IDENTIFIED BY L. Riggers	Feb. 1977
3. VERTICAL CONTROL	RECOVERED BY N.A.	
	ESTABLISHED BY N.A.	
	PRE-MARKED OR IDENTIFIED BY N.A.	
4. LANDMARKS AND AIDS TO NAVIGATION	RECOVERED (Triangulation Stations) BY None	
	LOCATED (Field Methods) BY None	
	IDENTIFIED BY None	
5. GEOGRAPHIC NAMES INVESTIGATION	TYPE OF INVESTIGATION ☐ COMPLETE ☐ SPECIFIC NAMES ONLY BY ☒ NO INVESTIGATION	
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY None	
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY N.A.	

II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED

Premark

2. VERTICAL CONTROL IDENTIFIED

None

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION
77B(P)2580	Slaughterhouse Point 3, 1921		
77B(P)2579	Mare Island Southeast, 1852 RM 5 (Sub Pt.)		

3. PHOTO NUMBERS (Clarification of details)

None

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

None

PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME

5. GEOGRAPHIC NAMES: ☐ REPORT ☒ NONE6. BOUNDARY AND LIMITS: ☐ REPORT ☒ NONE

7. SUPPLEMENTAL MAPS AND PLANS

8. OTHER FIELD RECORDS (Sketch books, etc. DO NOT list data submitted to the Geodesy Division)

2-Forms 76-53, 1 Field Report

NOAA FORM 76-36D
(3-72)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

TP-00525

RECORD OF SURVEY USE

I. MANUSCRIPT COPIES

COMPILATION STAGES			DATE MANUSCRIPT FORWARDED	
DATA COMPILED	DATE	REMARKS	MARINE CHARTS	HYDRO SUPPORT
Compilation complete pending field edit	July 1978	Class III manuscript	Aug. 7, 1978	Sept. 19, 1978
Final Review, Class III	Sept. 1981	Final Class III Map, no field edit performed	DEC Sept. 1981	

II. LANDMARKS AND AIDS TO NAVIGATION

1. REPORTS TO MARINE CHART DIVISION, NAUTICAL DATA BRANCH

NUMBER	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS
			Appropriate forms (76-40) are attached with this Descriptive Report.

2. ☐ REPORT TO MARINE CHART DIVISION, COAST PILOT BRANCH. DATE FORWARDED: _____3. ☐ REPORT TO AERONAUTICAL CHART DIVISION, AERONAUTICAL DATA SECTION. DATE FORWARDED: _____

III. FEDERAL RECORDS CENTER DATA

1. ☒ BRIDGING PHOTOGRAPHS; ☒ DUPLICATE BRIDGING REPORT; ☒ COMPUTER READOUTS.2. ☒ CONTROL STATION IDENTIFICATION CARDS; ☐ FORM NOS 567 SUBMITTED BY FIELD PARTIES.3. ☒ SOURCE DATA (except for Geographic Names Report) AS LISTED IN SECTION II, NOAA FORM 76-36C.ACCOUNT FOR EXCEPTIONS: Federal Records Center data for this map will be held
by Photogrammetry Division and not forwarded until completion of all CM-7704 maps.

Maps will be registered as received.

4. ☐ DATA TO FEDERAL RECORDS CENTER. DATE FORWARDED: 12/8/81

IV. SURVEY EDITIONS (This section shall be completed each time a new map edition is registered)

SECOND EDITION	SURVEY NUMBER TP - _____ (2)	JOB NUMBER PH - _____	TYPE OF SURVEY ☐ REVISED ☐ RESURVEY MAP CLASS ☐ II. ☐ III. ☐ IV. ☐ V. ☐ FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	
THIRD EDITION	SURVEY NUMBER TP - _____ (3)	JOB NUMBER PH - _____	TYPE OF SURVEY ☐ REVISED ☐ RESURVEY MAP CLASS ☐ II. ☐ III. ☐ IV. ☐ V. ☐ FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	
FOURTH EDITION	SURVEY NUMBER TP - _____ (4)	JOB NUMBER PH - _____	TYPE OF SURVEY ☐ REVISED ☐ RESURVEY MAP CLASS ☐ II. ☐ III. ☐ IV. ☐ V. ☐ FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	

UMA

10/10/10

10/10/10

10/10/10

10/10/10

10/10/10

10/10/10

10/10/10

10/10/10

10/10/10

SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORTS
TP-00525

This 1:20,000 scale manuscript is one of fifteen maps, TP-00524 thru TP-00538 that comprise project CM-7704, San Francisco and San Pablo Bays, California. This project consists of eight 1:20,000 maps, six 1:10,000 maps featuring San Francisco Bay entrance and one 1:10,000 inset map of the Redwood Creek area.

The initial purpose of this project was to provide data in support of hydrographic operations beginning in the Fall of 1978. However, due to rapid cultural coast development, field activity has been temporarily delayed. Photogrammetry memo/instruction dated July 2, 1981, has reassigned this project, in its present stage, for final review and registration. Registration will include 10 Final Maps and 5 Final Class III Maps. Immediately afterward, a Revision Survey using 1981 photography is scheduled to facilitate hydrography and to provide Nautical Charts with current shoreline information.

This 1:20,000 scale Final Class III Map, of which field edit has not been accomplished, features the northeast portion of San Pablo Bay, including the entrance to Carquinez Strait. This map defines the northern limit for the project.

Field work prior to compilation was accomplished in March 1977; this involved the establishment of horizontal control in order to meet aerotriangulation requirements. During this period, ground support was provided for obtaining tide-coordinated photography and several of the project's navigational aids and landmarks for Charts were field determined.

Photo coverage was provided in March 1977 for aerotriangulation and compilation using panchromatic film with the "B" camera at 1:50,000 and 1:30,000 scales. Hydro support photography was taken using panchromatic film with the "B" camera at 1:30,000 scale. With the exception of TP-00525 and part of TP-00524, tide coordinated black and white infrared photography at MHW and MLLW was supplied for the project using the "B" camera at 1:40,000 and 1:30,000 scales. It was discovered during final review that 1979 tide coordinated photo coverage had been flown to accommodate this map. Since the initial compilation was prior to the 1979 photography, it is anticipated that this source will be used during the 1981 Revision Survey.

Analytic aerotriangulation was adequately provided by the Washington Science Center in July 1977.

Compilation was performed at the Atlantic Marine Center in July 1978. The Class III manuscript was forwarded to PMC for the combined field edit

and hydrographic operations. However, these functions have been temporarily canceled due to active cultural and shoreline changes that have developed since the 1977 photography. It is anticipated that current data will be furnished to the hydrographer and Nautical Charts through the 1981 Revision Survey.

Final review was performed at the Atlantic Marine Center in September 1981. At this time a comprehensive examination and office edit was accomplished to assure an accurate and complete photogrammetric map. The context of this Descriptive Report contains all the pertinent information used to compile this Final Class III Map.

The original base manuscript and all pertinent data was forwarded to the Washington Science Center for final registration and preparation for the 1981 Revision Survey.

FIELD INSPECTION

TP-00525

There was no field inspection prior to compilation. Field work accomplished was limited to the premarking and establishment of the horizontal control necessary for the aerotriangulation of the project.



09

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Pacific Marine Center

April 4, 1977

CPM17/RBM

TO: C3415 Coastal Mapping

FROM:

Robert B. Melby 4/5/77
Robert B. Melby
Chief, PMC Photo Party

SUBJECT: Field Operations Project CM-7704, San Francisco and San Pablo Bays, California

Horizontal Control:

Twenty-five horizontal control stations were paneled for aerial photography as indicated on the project diagram that was furnished to the photo-field party. A majority of the stations were paneled by the sub. pt. method as the stations did not lend themselves to being paneled direct. Distances up to about 2 miles were determined to the sub. points (panels), utilizing a Ranger III, laser distance measuring instrument. It was rapid, accurate and unaffected by electronic disturbances, normal to a high population and/or industrial area like the project encompassed.

Vandalism was a problem, in regard to panels, as several were disturbed and required relaying or substituting with photo identifiable points.

Several aids to navigation and landmarks for charts were located by third-order tirangulation intersection methods. The aids to navigation (lights) marking the channel through San Bruno shoal would have been difficult to positively photo-identify.

All photo-panels were removed after photography to verify their being in place at the required time and to maintain a "cleanup" policy. All panels were in place by March 1, 1977.

Tide Controlled Photography:

The South San Francisco Bay shoreline was photography and controlled by nine, preselected tide stations. With the aid of the Pacific Tide Party, California Boundary Project, all nine stations were manned at the same time. A coordination point was selected in the southeast section of the City of Oakland that was capable of direct F.M. radio communications with all the stations and the photo-mission aircraft.



C3415 Coastal Mapping
April 4, 1977
Page 2

The coordinator would transmit time checks and receive tide staff readings of involved stations and filter and transmit to the aircraft the flight lines that were within the required tide ranges and maintain a summary of staff readings.

Because of the elevation of the coordination site a Motorola Walkie-Talkie was sufficient to maintain communications to all sites and the aircraft.

The operation was rather smooth as all observers were on station at the required time and no radio or transportation failures were experienced at the required times. The only difficulty encountered was an erratic tidal behavior during one series of projected favorable tides when during an unusual high pressure atmospheric condition the predicted tide range decreased by about 0.7 foot, causing stations to go out of range and greatly altering the tidal pattern.

Recommendations:

It is recommended that the field data, tidal predictions, etc., be furnished to the field units, with ample advance time to allow a thorough research and planning of the field phases of the project.

SENIA,
312

E, 1925

EMPLE, SPIRE

(1900), 1946

953

VORTAC

H

F.

NOAA

Barby

10

LIGHT 1
LIGHT 2
LIGHT 4
LIGHT 3
TOWER

PHOTOGRAMMETRIC PLOT REPORT
SAN FRANCISCO & SAN PABLO BAYS
CALIFORNIA

Job CM-7704

July 22, 1977

21. Area Covered

This report covers eight 1:20,000 sheets, TP-00524, TP-00525, TP-00526, TP-00527, TP-00534, TP-00535, TP-00537, TP-00538, and seven 1:10,000 sheets TP-00528, TP-00529, TP-00530, TP-00531, TP-00532, TP-00533, and TP-00536 of San Francisco Bay and San Pablo Bay, California

22. Method

Seven strips of 1:50,000 scale panchromatic photography, taken with the "B" camera were bridged by analytic aero-triangulation methods and adjusted to ground on the California Zone 3. Common pass points were positioned between the 1:50,000 scale and 1:30,000 scale panchromatic photography, also taken with the "B" camera to provide horizontal control for compilation of the 1:10,000 and 1:20,000 scale maps.

Tide-coordinated supplemental photography, 1:30,000 and 1:40,000 scale MHW and MLLW were tied to the 1:50,000 scale bridging photography for shoreline compilation of 1:10,000 and 1:20,000 scale maps by means of positioning common points for ratio prints.

The 1:30,000 scale hydro support photography was also tied to 1:50,000 scale bridging photography by common points to determine the exact ratios. Tie points were used to augment datum between bridging strips. After running a strip adjustment on strip 5, it was found, for no apparent reason, that the control and tie points did not fit. This was resolved by running a block adjustment. Ruling of manuscripts and plotting of points was done on the Coradomat. A list was forwarded with this job, CM-7704, to AMC for selection of ratios to be ordered.

23. Adequacy of Control

The horizontal control provided was adequate except for Bench Mark H - 111, 1932 paneled substation, which did not hold in strips 5 and 7. The home station was plotted on a USGS quadrangle and did not fall in the area given in the description. All other control held within the accuracy required by National Standards of Maps at 1:10,000 and 1:20,000 scale.

24. Supplemental Data

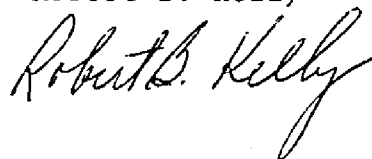
Local shoreline and USGS quadrangles were used to provide elevations for vertical adjustments of bridges.

25. Photography

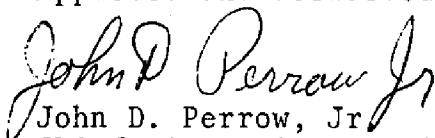
The photography was adequate as to placement of flight lines consistent quality, definition and absence of haze.

Submitted by:

Robert B. Kelly



Approved and Forwarded:



John D. Perrow, Jr.
Chief, Aerotriangulation Section

KEY TO NUMBERED CONTROL
STATIONS USED IN ADJUSTMENT
AND CLOSURES

1 LAKEVILLE, SQUARE TANK ON HILL, 1951	TANK(1.04, -3.77)
	PANEL(-.25, .23)
2 BUG (SLC), 1951	COULD NOT SEE
3 SLAUGHTERHOUSE PT. 3, 1921	(-2.22, .52)
4 MARE ISLAND SOUTHEAST=, 1952	(3.02, -.23)
5 PINOLE HERCULES POWDER CO., TANK, 1947	(.38, -.17)
6 WILSON, 1852	(.08, -.10)
7 POINT PINOLE ATLAS DOCK, SHED E. GABLE, 1950	COULD NOT SEE
8 SAN PABLO RIDGE, 1897	(2.14, -1.21)
9 GROVE POINT 2, 1887	(-.65, .49)
10 PETALUMA CREEK, 1851	(1.70, -.24)
11 RICHARD, 1932	(-2.08, .91)
12 ALAMRDA N.A.S. E: BREAKWATER N. LT. 1953	(.00, .00)
13 CROSSING, 1955	(-.09, -.42)
14 T I C9, 1947	(.00, .00)
15 CLARK, 1948	(.45, .74)
16 BARRY, 1932	(-3.36, -.98)
17 SAN BRUNO MTN. (RADIO STA. KNBC MAST), 1899	(.03, .49)
18 POINT SAN BRUNO, 1925	(.04, -.19)
19 GUANO ISLAND, 1851	(3.33, -1.50)
20 DUM, 1930	(-1.31, 1.01)
21 RED HILL, 1851	(-.05, .01)
22 SAN, 1947	(.27, .20)
23 BENCH MARK H 111, 1932	DID NOT FIT ADJUSTMENT
24 COFFIN 2, 1974	(.07, -.02)
25 BALDOPRAK (EBMUD), 1946	(-.15, .02)
26 BUCK, 1949	(-1.04, -.52)
27 MANZANITA (CADH), 1972	(-1.01, -1.09)

1. The first part of the report is a general overview of the project. It describes the objectives, the scope, and the methodology used. It also provides a brief history of the project and its significance.

2. The second part of the report is a detailed description of the project. It includes a description of the project's goals, the project's organization, and the project's progress. It also includes a description of the project's results and a discussion of the project's impact.

3. The third part of the report is a discussion of the project's results. It includes a discussion of the project's findings, a discussion of the project's conclusions, and a discussion of the project's recommendations. It also includes a discussion of the project's limitations and a discussion of the project's future work.

4. The fourth part of the report is a conclusion. It summarizes the project's findings, conclusions, and recommendations. It also discusses the project's limitations and future work.

5. The fifth part of the report is a bibliography. It lists the sources used in the project, including books, articles, and websites. It also lists the sources used in the project's literature review.

6. The sixth part of the report is an appendix. It includes a list of the project's participants, a list of the project's sponsors, and a list of the project's advisors. It also includes a list of the project's contacts and a list of the project's references.

1:40,000

MLLW

MHW

16

HIGH & LOW WATER INFRARED PHOTOGRAPHY

1:30,000 MLLW
MLW
MLW

17

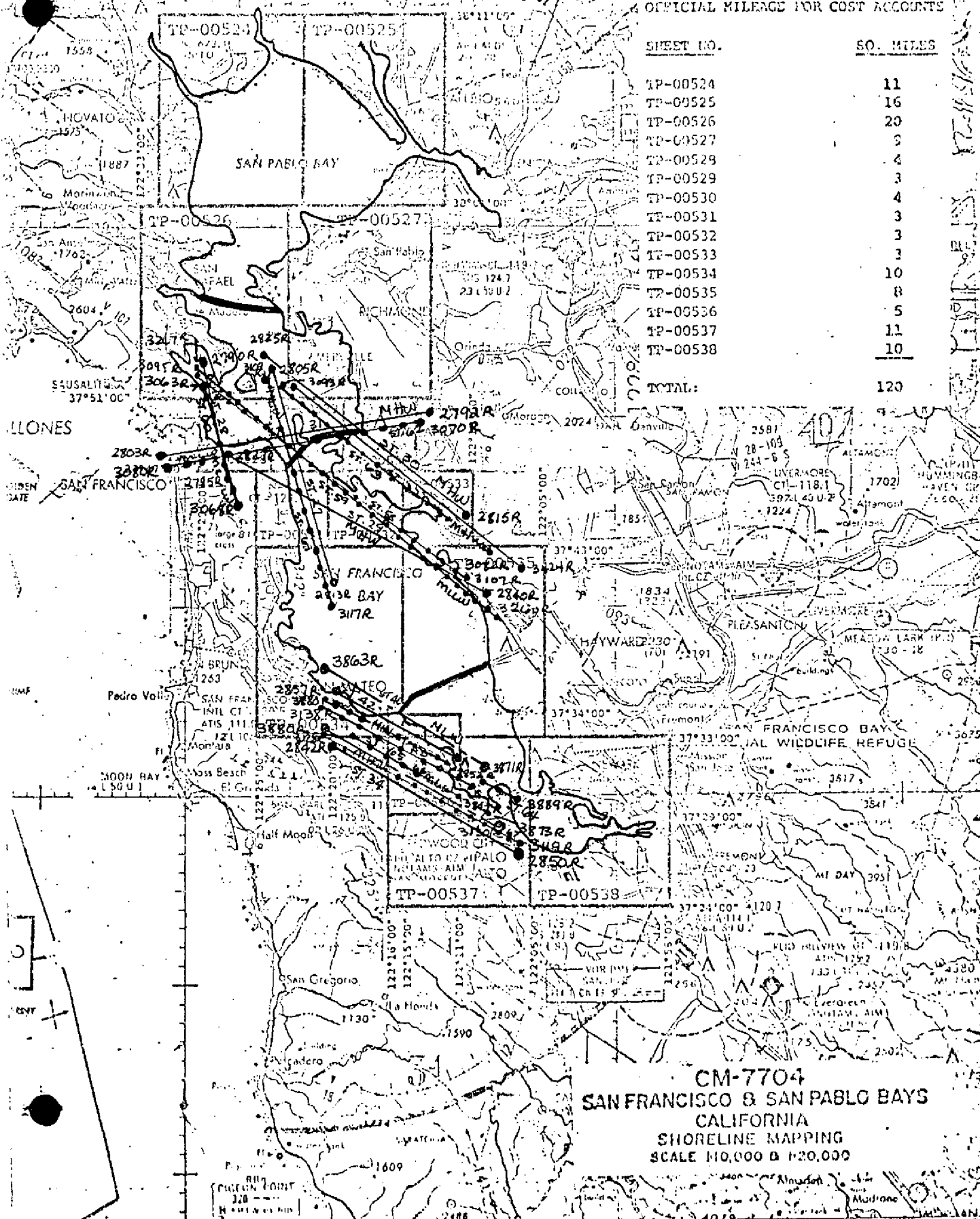
OFFICIAL MILEAGE FOR COST ACCOUNTS

SHEET NO.

SO. MILES

TP-00524	11
TP-00525	16
TP-00526	20
TP-00527	2
TP-00528	4
TP-00529	3
TP-00530	4
TP-00531	3
TP-00532	3
TP-00533	3
TP-00534	10
TP-00535	8
TP-00536	5
TP-00537	11
TP-00538	10

TOTAL: 120



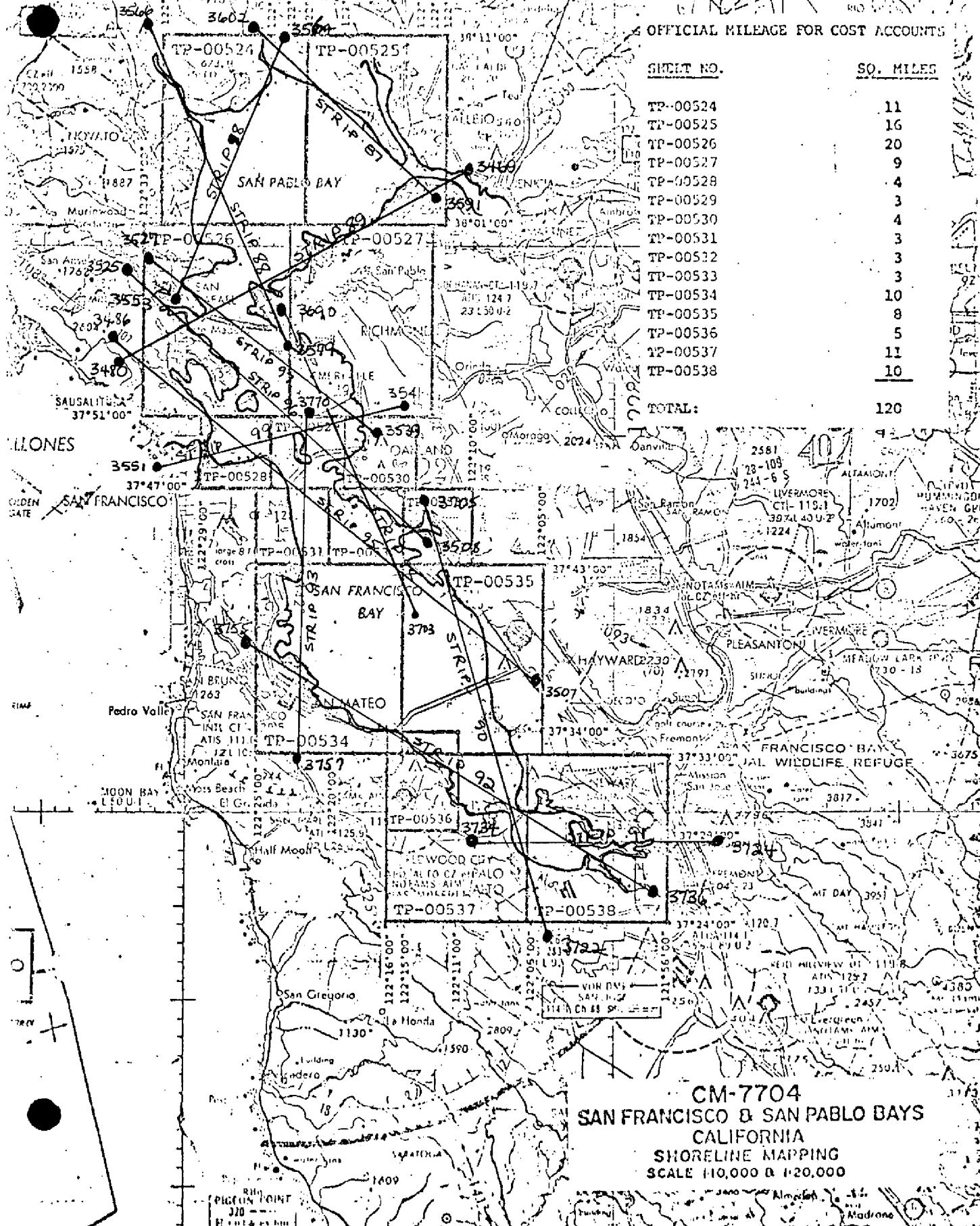
HYDRO-SUPPORT PHOTOGRAPHY

1:30,000

18

OFFICIAL MILEAGE FOR COST ACCOUNTS

SHEET NO.	SQ. MILES
TP-00524	11
TP-00525	16
TP-00526	20
TP-00527	9
TP-00528	4
TP-00529	3
TP-00530	4
TP-00531	3
TP-00532	3
TP-00533	3
TP-00534	10
TP-00535	8
TP-00536	5
TP-00537	11
TP-00538	10
TOTAL:	120



CM-7704
SAN FRANCISCO & SAN PABLO BAYS
CALIFORNIA
SHORELINE MAPPING
SCALE 1:10,000 & 1:20,000

COMPILATION PHOTOGRAPHY

1:30,000

19

TP-00524

TP-005251

30°11'00"

OFFICIAL MILEAGE FOR COST ACCOUNTS

SHEET NO.

SO. MILES

PTIVE REPORT CONTROL RECORD

GEODETTIC DATUM N.A. 1927		ORIGINATING ACTIVITY Coastal Mapping Div., A.M.C.		
STATION NUMBER	COORDINATES IN FEET STATE California ZONE 3		GEOGRAPHIC POSITION φ LATITUDE λ LONGITUDE	REMARKS Front M. Back M.
		X=		φ 38°09'09.145" -
	Y=		λ 122°20'12.256" -	298.4 1163.5
	X=		φ 38°09'09.556" -	294.6 1555.3
	Y=		λ 122°20'02.214" -	53.9 1408.0
	X=		φ 38°09'24.448" -	753.8 1096.1
	Y=		λ 122°18'58.663" -	1428.3 33.5
	X=		φ 38°10'13.59" -	419.0 1430.9
	Y=		λ 122°17'39.53" -	962.2 498.4
	X=		φ 38°10'01.73" -	53.3 1796.6
	Y=		λ 122°17'11.86" -	288.7 1171.9
	X= 1,486,966.69 -		φ 38°09'16.922" -	521.7 1328.2
	Y= 607,379.98 -		λ 122°17'03.314" -	80.8 1380.1
	X=		φ 38°09'15.975" -	492.5 1357.4
	Y=		λ 122°17'25.104" -	611.2 849.7
	X=		φ 38°09'14.069" -	433.8 1416.1
	Y=		λ 122°18'11.761" -	286.3 1174.6
	X=		φ 38°09'15.043" -	463.8 1386.1
	Y=		λ 122°17'47.929" -	1167.0 293.9
	X=		φ 38°07'38.410" -	1184.3 665.6
	Y=		λ 122°19'29.080" -	708.3 754.1
COMPUTATION CHECKED BY David P. Butler				
LISTING CHECKED BY F. Margiotta				
HAND PLOTTING CHECKED BY				
DATE				9/9/77
DATE				8/17/77
DATE				

DESCRIPTIVE REPORT CONTROL RECORD

MAP NO. TP-00525	JOB NO. CM-7704	STATION NAME	SOURCE OF INFORMATION (Index)	AEROTRI- ANGULATION POINT NUMBER	GEODETIC DATUM N.A. 1927		ORIGINATING ACTIVITY Coastal Mapping Div., A.M.C.		REMARKS Front M. Back M.
					COORDINATES IN FEET STATE California ZONE 3	GEOGRAPHIC POSITION φ LATITUDE λ LONGITUDE			
VALLEJO, RADIO STATION - KNBA, MAST, 1959	"	1027	68	x=	φ 38°07'02.192" -			67.6	1782.3
				y=	λ 122°15'20.426" -			497.6	964.0
VALLEJO, PARK CIRCLE, TANK, 1959	"	1014	69	x=	φ 38°07'00.811" -			25.0	1824.9
				y=	λ 122°15'51.740" -			1260.4	201.2
MARE ISLAND RADAR, TARGET, 1951	"	1208	70	x=	φ 38°06'03.724" -			114.8	1735.1
				y=	λ 122°19'39.200" -			955.1	506.8
VALLEJO, ST. VINCENT'S SCHOOL, FLAGPOLE, 1932	"	1026	71	x=	φ 38°06'19.249" -			593.5	1256.4
				y=	λ 122°15'30.650" -			746.7	715.1
VALLEJO COUNTY RADIO MAST, 1959	"	1025	73	x=	φ 38°06'09.714" -			299.5	1550.4
				y=	λ 122°14'18.415" -			448.7	1013.2
SOUTH VALLEJO, SPERRY FLOUR CO., WATER TANK 1932	"	1254	579110 80	x=	φ 38°04'53.55" -			1651.1	198.8
				y=	λ 122°14'32.31" -			787.5	674.9
VALLEJO, BUSH STREET TANK, 1959	"	1024	82	x=	φ 38°04'51.894" -			1600.0	249.9
				y=	λ 122°12'54.723" -			1333.7	128.7
GREAT WESTERN POWER CO., NORTH TRANSMISSION TOWER, 1922	"	1198	84	x=	φ 38°03'59.983" -			1849.4	0.5
				y=	λ 122°13'35.985" -			877.2	585.4
GREAT WESTERN POWER CO., SOUTH TRANSMISSION TOWER, 1922	"	1199	85	x=	φ 38°03'16.987" -			523.7	1326.2
				y=	λ 122°13'59.889" -			1460.1	2.8
				x=	φ				
				y=	λ				
COMPUTED BY Lowell O. Neterer, Jr.			8/25/77	COMPUTATION CHECKED BY D. Butler				DATE	9/9/77
LISTED BY A. C. Rauck			5/16/77	LISTING CHECKED BY F. Margiotta				DATE	8/17/77
HAND PLOTTING BY				HAND PLOTTING CHECKED BY				DATE	

SUPERSEDES NOAA FORM 76-41, 2-71 EDITION WHICH IS OBSOLETE.

DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.	JOB NO.	GEODETIC DATUM	ORIGINATING ACTIVITY	REMARKS	
TP-00525	CM-7704	N.A. 1927	Coastal Mapping Div., A.M.C.	Front M. Back M.	
STATION NAME	SOURCE OF INFORMATION (Index)	AEROTRI-ANGULATION POINT NUMBER	COORDINATES IN FEET STATE California ZONE 3	GEOGRAPHIC POSITION φ LATITUDE λ LONGITUDE	REMARKS
CARQUINEZ BRIDGE AVIATION BEACON 1932 -	381222 Page 1184	86	x= y=	φ 38°03'39.651" - λ 122°13'28.932" -	1222.5 627.4 705.3 757.4
CROCKETT, CALIFORNIA AND HAWAII SUGAR COMPANY STACK, 1932	" 1189	87	x= y=	φ 38°03'24.988" - λ 122°13'03.356" -	770.4 1079.5 81.8 1381.0
SELBY, STACK NO. 2, 1911 -	" 1248	90	x= y=	φ 38°03'18.667" - λ 122°14'44.867" -	575.5 1274.4 1093.9 369.0
OLEUM, OUTER OIL TANK, 1911	" 1229	92	x= y=	φ 38°03'03.096" - λ 122°15'25.080" -	95.5 1754.4 611.5 851.4
CARQUINEZ STRAIT LIGHT, 1951	" 1185	93	x= y=	φ 38°04'11.012" - λ 122°14'37.096" -	339.5 1510.4 904.2 558.4
MARE ISLAND SOUTHEAST, 1852	" 1115	94	x= y=	φ 38°04'36.342" - λ 122°15'14.142" -	1120.5 729.4 344.7 1117.7
CARQUINEZ STRAIT RANGE TARGET NO. 2, 1932	" 1188	96	x= y=	φ 38°04'40.120" - λ 122°18'08.926" -	1237.0 612.9 217.6 1244.8
CARQUINEZ STRAIT RANGE TARGET NO. 1, 1932	" 1187	97	x= y=	φ 38°04'17.037" - λ 122°17'17.535" -	525.3 1324.6 427.4 1035.1
END, 1951 -	" 1088	98	x= y=	φ 38°03'48.384" - λ 122°17'41.398" -	1491.8 358.1 1009.2 453.5
PINOLE, HERCULES POWDER CO., POLE ON DOCK, 1950	" 1235	101	x= y=	φ 38°01'22.92" - λ 122°17'29.84" -	706.7 1143.2 727.8 735.7
COMPUTED BY Lowell O. Neterer, Jr.		DATE 8/29/77	COMPUTATION CHECKED BY D. Butler		DATE 9/9/77
LISTED BY A. C. Rauck, Jr.		DATE 5/16/77	LISTING CHECKED BY F. Margiotta		DATE 8/17/77
HAND PLOTTING BY		DATE	HAND PLOTTING CHECKED BY		DATE

COMPILATION REPORT

TP-00525
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31. DELINEATION

Delineation was by instrument methods using the Wild B-8 stereoplotter. Line Tree Point ($38^{\circ}02.3''$, $122^{\circ}16.3''$) was compiled graphically from the hydro support photography due to insufficient coverage of the compilation photography. A portion of the shoreline of the Napa River ($38^{\circ}10.5''$, $122^{\circ}17''$) was not compiled due to the lack of photo coverage.

32. CONTROL

Refer to the Photogrammetric Plot Report, dated July 22, 1977. Horizontal control was adequate.

33. SUPPLEMENTAL DATA

None.

34. CONTOURS AND DRAINAGE

Contours are not applicable to the project. Drainage was delineated by instrument methods using the Wild B-8 stereoplotter.

35. SHORELINE AND ALONGSHORE DETAILS

See item #32. A mean lower-low water line was not compiled due to the absence of tide coordinated photography for this map.

See item #31 concerning delineation of the mean high water line.

36. OFFSHORE DETAILS

San Pablo Bay Channel Lights 9, 10, 11, 12, 13, and 14 could not be compiled because they exist beyond the limits of the photography.

The same is true for Napa River Light 8.

37. LANDMARKS AND AIDS

There were 25 charted landmarks and 40 charted aids within the mapping limits of this manuscript. Among these, 25 landmarks and 13 aids were located photogrammetrically. Several aids could not be photo

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positioned as they are indistinctly located on structures such as piers, wharfs, etc; subsequently, these aids will require field photo identification.

39. JUNCTIONS

Refer to the Data Record Form 76-36B, item 5.

40. HORIZONTAL AND VERTICAL ACCURACY

Refer to the Photogrammetric Plot Report, dated July 22, 1977.

46. COMPARISON WITH EXISTING MAPS

A comparison was made with the following U.S. Geological Survey Quadrangles:

Cordelia, California, 1951, photo revised 1968, scale 1:24,000
Cuttings Wharf, California, 1949, photo revised 1968, scale 1:24,000
Benicia, California, 1959 photo revised 1968, scale 1:24,000
Mare Island, California, 1959, photo revised 1968, scale 1:24,000

47. COMPARISON WITH NAUTICAL CHARTS

A comparison was made with the following National Ocean Survey charts:

No. 18654, scale 1:40,000, 30th ed., May 23, 1981; No. 18652 scale 1:40,000 16th ed., dated March 26, 1977; and No. 18655, scale 1:10,000, 47th & 51st ed., dated November 13, 1976 and May 2, 1981 respectively.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None

ITEMS TO BE CARRIED FORWARD

None

Submitted by:

David P. Butler
David P. Butler
Cartographic Technician

Date: November 10, 1977

Approved:

for *Jim Byrd*
Albert C. Rauck, Jr.
Chief, Coastal Mapping Section

PHOTOGRAMMETRIC OFFICE PRE-HYDRO AND FIELD EDIT REVIEW

TP-00525

PROJECTION AND GRIDS FPM	TITLE FPM	HORIZONTAL CONTROL FPM	PHOTOGRAMMETRIC PLOT REPORT FPM
DETAIL POINTS AND PASS POINTS FPM	PROCESSED RATIOS FPM	AIDS TO NAVIGATION FPM	LANDMARKS FPM
MEAN HIGH WATER LINE FPM	LOW-WATER LINE FPM	ROCKS, SHOALS, ETC. FPM	ALONG SHORE AND OTHER PHYSICAL FEATURES FPM
WATER FEATURES FPM	ALONG SHORE AND OTHER CULTURAL FEATURES FPM	*BRIDGES FPM	ROADS FPM
BUILDINGS FPM	RAILROADS FPM	CONTOURS AND SPOT ELEVATIONS NONE.	GEOGRAPHIC NAMES FPM
JUNCTIONS FPM	LEGIBILITY OF THE MANUSCRIPT FPM	COMPILATION REPORT FPM	FIELD EDIT OZALID FPM
COMPARISON WITH NAUTICAL CHARTS FPM	COMPARISON WITH PRIOR SURVEYS NONE	COMPARISON WITH EXISTING MAPS FPM	FIELD PRINTS AND OTHER COPIES FPM
REVIEWER F.P. Margiotta	DATE July 1978	SUPERVISOR A.C. Rauck Jr.	DATE

REMARKS

PHOTOGRAMMETRIC OFFICE POST-HYDRO AND FIELD EDIT REVIEW

MANUSCRIPT NUMBERS	FORMAT STICK-UP	MANUSCRIPT SIZE	HORIZONTAL CONTROL
PHOTO HYDRO STATIONS	PLOTTING OF SEXTANT FIXES	AIDS TO NAVIGATION	LANDMARKS
MEAN HIGH WATER LINE	LOW-WATER LINE	ROCKS, SHOALS, ETC.	ALONG SHORE AND OTHER PHYSICAL FEATURES
WATER FEATURES	ALONG SHORE AND OTHER CULTURAL FEATURES	PIPELINES, CABLES, ETC.	BRIDGES
ROADS	BUILDINGS	RAILROADS	CONTOURS AND SPOT ELEVATIONS
GEOGRAPHIC NAMES	JUNCTIONS	FIELD EDIT PHOTOGRAPHS	FIELD EDIT OZALID
GEOGRAPHIC FIX POSITIONS	FIELD FORMS	FIELD EDIT REPORT	APPROVED TIDES
CHART MAINTENANCE PRINT AND OTHER COPIES	PREPARATION FOR FINAL REVIEW	COMPILER	DATE
REVIEWER	DATE	SUPERVISOR	DATE

REMARKS

REVIEW REPORT TP-00525

SHORELINE

61. GENERAL STATEMENT:

An extensive final review was performed for this Final Class III Map. See the Summary included in this Descriptive Report.

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:

Not applicable

63. COMPARISON WITH MAPS OF OTHER AGENCIES:

A comparison was made with the following 1:24,000 scale U.S.G.S. quadrangles:

Cuttings Wharf, Calif., 1949, photo revised 1968

Mare Island, Calif., 1959, photo revised 1968

Benica, Calif., 1959, photo revised 1968

No significant differences were noted.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

The intended contemporary hydrographic survey has been temporarily postponed pending the assigned 1981 Revision Survey of this Final Class III Map. See the Summary included in this Descriptive Report.

65. COMPARISON WITH NAUTICAL CHARTS:

A comparison was made with the following NOS charts:

#18655, 51st Edition, May 2/81, 1:10,000 scale

#18654, 30th Edition, May 23/81, 1:40,000 scale

#18652, 20th Edition, May 16/81, 1:80,000 scale

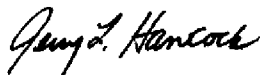
There is an abundance of charted nonfloating Aids to Navigation that fall within the limits of this map. Many of these aids could not be photo located and were characterized as: those falling beyond the photo coverage, those not visible on the photography and those that could not be distinguished from surrounding cultural detail. Individual listings and their specific characteristic are indicated on the submitted 76-40 forms included with this Descriptive Report.

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66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:

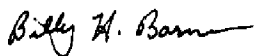
This map complies with the Project Instructions, and meets the requirements for Bureau Standards of Map Accuracy.

Submitted by:



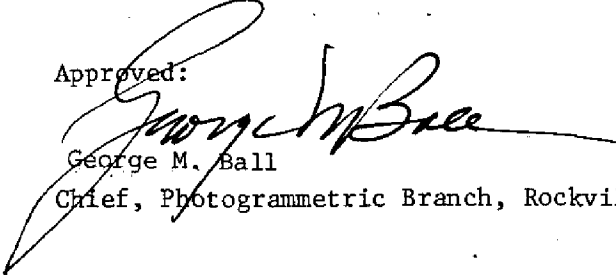
Jerry L. Hancock
Final Reviewer

Approved for forwarding:



Billy H. Barnes
Chief, Photogrammetric Branch, AMC

Approved:


George M. Ball

Chief, Photogrammetric Branch, Rockville



Walter S. Simmons

Chief, Photogrammetry Division

GEOGRAPHIC NAMES

FINAL NAME SHEET

CM-7704 (San Francisco and San Pablo Bay, California)

TP-00525

Austin Creek	Mare Island Strait
Carquinez Heights.	Morrow Cove
Craquinez Strait	Napa River
China Slough	Napa Slough
Crockett	Oleum
Davis Point	Rodeo
Devils Slough	Russ Island
Dutchman Slough	San Pablo Bay
Eckley (Added during Final Review) <i>JEH</i>	Sears Point
Elliot Cove	Selby
Glencove	Semple Point
Glen Cove	Slaughterhouse Point
Hercules	Southern Pacific
Island No. 1	South Slough
Island No. 2	Tormey
Knight Island	Vallejo
Knights	Vallejo Heights
Little Island	Valona
Lone Tree Point	White Slough
Mare Island	

Approved by:

*Charles E. Harrington*Charles E. Harrington
Chief Geographer, OA/C3x5

U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION CHARTS				ORIGINATING ACTIVITY	
LOCALITY		DATE	☐ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ PHOTO FIELD PARTY ☒ COMPILATION ACTIVITY ☐ FINAL REVIEWER ☐ QUALITY CONTROL & REVIEW GRP. ☐ COAST PILOT BRANCH (See reverse for responsible personnel)		
San Francisco and San Pablo Bays		Oct. 1977			
Determine their value as landmarks.					
1927					
POSITION		METHOD AND DATE OF LOCATION (See instructions on reverse side)		CHARTS AFFECTED	
DE	LONGITUDE	OFFICE	FIELD		
//	° /				
M. Meters	D.P. Meters				
9.77	40.84	77B(P) 2581		18652	
843	122-18 994	March 4, 1977		18654	
0.14	18.20	77B(P) 2581		"	
546	122-18 443	March 4, 1977		"	
		Beyond photo limits		"	
	122-17.9			"	
4.48	42.09	77B(P) 3587		"	
063	38.17	March 18, 1977		"	
	122-17 929				
5.043	47.929	77B(P) 3587		"	
63.8	1167.0	March 18, 1977		"	
8.96	57.61	77B(P) 3587		"	
93	1403	March 18, 1977		"	
6.10	38	77B(P) 3586		"	
18.97	40.73	March 18, 1977		"	
510	992				
		Not vis		18652	
	122-16.3			18654	
		Not vis		18655	
	122-16.3			"	
				"	
				"	
				30	

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	☐ PHOTO FIELD PARTY ☐ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER (Specify)
POSITIONS DETERMINED AND/OR VERIFIED	FIELD ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	D. Butler, Cartographic Technician Jerry L. Hancock (Sept. 17, 1981) ☒ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION' (Consult Photogrammetric Instructions No. 64.)	
OFFICE 1. OFFICE IDENTIFIED AND LOCATED OBJECTS Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75	FIELD (Cont'd) B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object. EXAMPLE: P-8-V 8-12-75 74L(C)2982
FIELD 1. NEW POSITION DETERMINED OR VERIFIED Enter the applicable data by symbols as follows: F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection P - Photogrammetric Vis - Visually 5 - Field identified 6 - Theodolite 7 - Planetable 8 - Sextant A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75	11. TRIANGULATION STATION RECOVERED When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 8-12-75 111. POSITION VERIFIED VISUALLY ON PHOTOGRAPH Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75 **PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.
*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.	

U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION FOR CHARTS				ORIGINATING ACTIVITY	
LOCALITY		DATE		☐ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ PHOTO FIELD PARTY ☒ COMPILATION ACTIVITY ☐ FINAL REVIEWER ☐ QUALITY CONTROL & REVIEW GRP. ☐ COAST PILOT BRANCH (See reverse for responsible personnel)	
San Francisco and San Pablo Bays		Oct. 1977			
Award to determine their value as landmarks.					
DATUM					
N.A. 1927					
POSITION		METHOD AND DATE OF LOCATION (See instructions on reverse side)		CHARTS AFFECTED	
LATITUDE		OFFICE		FIELD	
° /	° /				
D.M. Meters	D.P. Meters				
38-04	11.012	77B(P) 3593		18652	
	339.5	March 18, 1977		18654	
				18655	
38-03	39.651	Not vis		18652, 54	
	1222.5			18656	
38-03.7		Not vis		" "	
	122-13.5			18655, 56	
38-03.7		Not vis		" "	
	122-13.5			18655, 56	
38-03.9		Not vis		" "	
	122-13.5			18656	
38-03.4		Not vis		18652	
	122-15.5			18654	
				18655	
38-03.3		Not vis		"	
	122-15.5			"	
				"	
38-03.4		Not vis		"	
	122-15.8			"	
				"	
38-03.3		Not vis		"	
	122-15.8			"	
				"	
is slightly from				31	
p-40.					
ed from the photography.					

TYPE OF ACTION		RESPONSIBLE PERSONNEL
NAME		
OBJECTS INSPECTED FROM SEAWARD		
POSITIONS DETERMINED AND/OR VERIFIED		
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	D. Butler, Cartographic Technician	
	Jerry L. Hancock	Sept. 17, 1981
INSTRUCTIONS FOR ENTRIES UNDER METHOD AND DATE		
(Consult Photogrammetric Instructions No. 6)		
OFFICE I. OFFICE IDENTIFIED AND LOCATED OBJECTS Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75		
FIELD I. NEW POSITION DETERMINED OR VERIFIED Enter the applicable data by symbols as follows: F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection P - Photogrammetric Vis - Visually 5 - Field identified 6 - Theodolite 7 - Planetable 8 - Sextant A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75		
FIELD (Cont'd) B. Photogrammetric entry of date of photograph EXAMPLE:		
II. TRIANGULATION When a triangulation record is with EXAMPLE:		
III. POSITION Enter 'V' EXAMPLE:		
**PHOTOGRAMMETRIC entirely, or by photogrammetry		
*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.		

NOAA FORM 76-40 (8-74) Replaces C&GS Form 567.				U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION FOR CHARTS				ORIGINATING ACTIVITY	
NONFLOATING AIDS		REPORTING UNIT (Field Party, Ship or Office) Coastal Mapping Div. A.M.C., Norfolk, VA		STATE California		LOCALITY San Francisco and San Pablo Bays		DATE Oct. 1977	
OPR PROJECT NO. 411		JOB NUMBER CM-7704		SURVEY NUMBER TP-00525		DATUM N.A. 1927		METHOD AND DATE OF LOCATION (See instructions on reverse side)	
CHARTING NAME		DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses.)		POSITION		LONGITUDE		CHARTS AFFECTED	
				LATITUDE		LONGITUDE			
				° / ' / " D.M. Meters		° / ' / " D.P. Meters			
LIGHT	Vallejo Marina South Entrance Light 1 (Priv. aid)	38-06.5	122-16.2					Not vis	18652 18654 18655
LIGHT	Vallejo Marina South Entrance Light 2 (Priv. aid)	38-06.5	122-16.2					Not vis	" " "
LIGHT	Vallejo Yacht Club North Light (Priv. aid)	38-06.3	122-16.0					Not vis	" " "
LIGHT	Vallejo Yacht Club South Light (Priv. aid)	38-06.3	122-16.0					Not vis	" " "
LIGHT	Sperry Flour Wharf North End Light (Priv. aid)	38-04.9	122-14.7					Not vis	" " "
LIGHT	Sperry Flour Wharf South End Light (Priv. aid)	38-04	122-14	46.77 1442	41.56 1013			77B(P) 3593 March 18, 1977	" " "
LIGHT	Mare Island Strait Light 3	38-04	122-14	32.50 1002	45.66 1113			77B(P) 3593 March 18, 1977	" " "
LIGHT	Mare Island Strait Light 4	38-04	122-14	31.10 959	33.19 809			77B(P) 3593 March 18, 1977	" " "
LIGHT	Mare Island Strait Light 1	38-04	122-14	15.79 487	47.55 1159			77B(P) 3593 March 18, 1977	" " "
	★ Aids no longer charted or listed at time of Final Review.								32

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	D. Butler, Cartographic Technician
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	Jerry L. Hancock. Sept. 17, 1981
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION' (Consult Photogrammetric Instructions No. 64.)	
OFFICE 1. OFFICE IDENTIFIED AND LOCATED OBJECTS Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75	FIELD (Cont'd) 8. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object. EXAMPLE: P-8-V 8-12-75 74L(C)2982
FIELD I. NEW POSITION DETERMINED OR VERIFIED Enter the applicable data by symbols as follows: F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection P - Photogrammetric Vis - Visually 5 - Field identified 6 - Theodolite 7 - Planetable 8 - Sextant A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75	II. TRIANGULATION STATION RECOVERED When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 8-12-75 III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75 **PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.
*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.	

NOAA FORM 76-40 (8-74) Replaces C&GS Form 567.				U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION				FOR CHARTS				ORIGINATING ACTIVITY			
NONFLOATING AIDS		REPORTING UNIT (Field Party, Ship or Office) Coastal Mapping Div. A.M.C., Norfolk, VA		STATE California		LOCALITY San Francisco and San Pablo Bays		DATE Oct. 1977		☐ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ PHOTO FIELD PARTY ☒ COMPILATION ACTIVITY ☐ FINAL REVIEWER ☐ QUALITY CONTROL & REVIEW GRP. ☐ COAST PILOT BRANCH (See reverse for responsible personnel)					
OPR PROJECT NO. 411		JOB NUMBER CM-7704		SURVEY NUMBER TP-00525		DATUM N.A. 1927		METHOD AND DATE OF LOCATION (See instructions on reverse side)		CHARTS AFFECTED					
CHARTING NAME		DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)		POSITION		LONGITUDE		OFFICE		FIELD					
				LATITUDE		D.M. Meters									
				° /		° /									
				D.M. Meters		D.P. Meters									
LIGHT /	San Pablo Bay Channel Light 14 /	38-03.3	122-18.4					Beyond photo limits		18652 18654 18655					
LIGHT /	San Pablo Bay Channel Light 15 /	38-03.5	122-17.4					Not vis		" " "					
TARGET /	(Carquinez Strait Range Target No. 1, 1932)	38-04	122-17	17.037 525.3	17.535 427.4			77B(P) 3594 Mar. 18, 1977		" " "					
TARGET /	(Carquinez Strait Range Target No. 2, 1932)	38-04	122-18	40.120 1237.0	08.926 217.6			77B(P) 3594 Mar. 18, 1977		" " "					
										34					

RESPONSIBLE PERSONNEL		ORIGINATOR	
TYPE OF ACTION	NAME		
OBJECTS INSPECTED FROM SEAWARD		☐ PHOTO FIELD PARTY ☐ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER (Specify)	
POSITIONS DETERMINED AND/OR VERIFIED		FIELD ACTIVITY REPRESENTATIVE	
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	D. Butler, Cartographic Technician	OFFICE ACTIVITY REPRESENTATIVE	
	Jerry L. Hancock Sept. 17, 1981	☒ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE	
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'			
(Consult Photogrammetric Instructions No. 64.)			
OFFICE I. OFFICE IDENTIFIED AND LOCATED OBJECTS Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75		FIELD (Cont'd) B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object. EXAMPLE: P-8-V 8-12-75 74L(C)2982	
FIELD I. NEW POSITION DETERMINED OR VERIFIED Enter the applicable data by symbols as follows: F - Field P - Photogrammetric L - Located Vis - Visually V - Verified 1 - Triangulation 5 - Field identified 2 - Traverse 6 - Theodolite 3 - Intersection 7 - Planetable 4 - Resection 8 - Sextant A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75		II. TRIANGULATION STATION RECOVERED When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 8-12-75 III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75	
*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.		**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.	

Replaces C&GS Form 567.

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
LANDMARKS FOR CHARTS

[illegible]

TYPE OF ACTION
OBJECTS INSPECTED FROM SEAWARD
POSITIONS DETERMINED AND/OR VER
FORMS ORIGINATED BY QUALITY CON AND REVIEW GROUP AND FINAL REVI ACTIVITIES
OFFICE 1. OFFICE IDENTIFIED Enter the number of day, and year) of identify and locat EXAMPLE: 75E(C)6 8-12-75
FIELD 1. NEW POSITION DETER Enter the applica F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection
A. Field positions location and d EXAMPLE: F-2-1 8-12-
*FIELD POSITIONS are vations based entire

NOAA FORM 76-40 (8-74) Replaces C&GS Form 567.							
LANDMARKS FOR CHARTS							
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION							
REPORTING UNIT (Field Party, Ship or Office)				LOCALITY		DATE	
☒ TO BE CHARTED	☐ TO BE REVISED	☐ TO BE DELETED	A.M.C., Norfolk, VA	San Francisco and San Pablo Bays		Nov. 1977	
The following objects HAVE ☐ HAD NOT ☒			SURVEY NUMBER	DATUM			
JOB NUMBER			TP-00525	N.A. 1927			
OPR PROJECT NO. 411	CN-7704						
CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses.)	POSITION			METHOD AND DATE OF LOCATION (See instructions on reverse side)	AFFECTED CHARTS	
		LATITUDE ° / ' D.M. Meters	LONGITUDE ° / ' D.P. Meters				
STACK /	(Crockett, California and Hawaii Sugar Company, Stack, 1932)	38-03	24.988 / 770.4	122-13 81.8	77B(P) 3471 / March 18, 1977	18652, 54 18655, 56	
SIGN (HOTEL) /	X	38-06	10.70 / 330	122-15 388	77B(P) 3586 / "	18652 18654 18655	
TANK /	(Vallejo, Park Circle Tank, 1959)	38-07	00.811 / 25.0	122-15 1260.4	77B(P) 3586 / "	" " "	
TOWER /	X	38-05	04.54 / 140	/ 122-14	77B(P) 3593 / "	18654 18655 18656	
TOWER /	X	38-05	06.55 / 202	122-15 297	77B(P) 3593 / "	" " "	
RADIO TOWER /	(Vallejo, Radio Station, K.N.B.A., Mast, 1959)	38-07	02.192 / 67.6	122-15 497.6	77B(P) 3586 / "	18652	
TOWER /	(Napa River, East Transmission Tower, 1922)	38-09	15.975 / 492.5	122-17 611.2	77B(P) 3587 / "	18652 18654	
TOWER	(Napa River, West Transmission Tower, 1922)	38-09	14.069 / 433.8	122-18 286.3	77B(P) 3587 / "	" "	
						36	

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	☐ ☐ ☐
POSITIONS DETERMINED AND/OR VERIFIED	☐ ☐ ☐
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	D. Butler, Cartographic Technician Jerry L. Hancock Sept. 17, 1981 ☒ FILE ☐ OFF
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION' (Consult Photogrammetric Instructions No. 64.)	
OFFICE I. OFFICE IDENTIFIED AND LOCATED OBJECTS Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75	FIELD (Cont'd) B. Photogrammetric field entry of method of loc date of field work and graph used to locate c EXAMPLE: P-8-V 8-12-75 74L(C)2982
FIELD I. NEW POSITION DETERMINED OR VERIFIED Enter the applicable data by symbols as follows: F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection P - Photogrammetric Vis - Visually 5 - Field identified 6 - Theodolite 7 - Planetable 8 - Sextant A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75	II. TRIANGULATION STATION RE When a landmark or aid w angulation station is re Rec.' with date of recov EXAMPLE: Triang. Rec. 8-12-75 III. POSITION VERIFIED VISUAL Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75 **PHOTOGRAMMETRIC FIELD POSIT entirely, or in part, upon by photogrammetric methods.
*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.	

Replaces C&GS Form 567.

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
LANDMARKS FOR CHARTS

REPORTING UNIT (Field Party, Ship or Office)				LOCALITY		DATE		ORIGINATING ACTIVITY					
TO BE CHARTED		TO BE REVISED		TO BE DELETED		San Francisco and San Pablo Bays		Nov. 1977		☐ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ PHOTO FIELD PARTY ☒ COMPILATION ACTIVITY ☐ FINAL REVIEWER ☐ QUALITY CONTROL & REVIEW GRP. ☐ COAST PILOT BRANCH			
The following objects HAVE ☐ HAVE NOT ☒ been inspected from seaward to determine their value as landmarks.		SURVEY NUMBER		DATUM		POSITION		METHOD AND DATE OF LOCATION (See instructions on reverse side)		CHARTS AFFECTED			
OPR PROJECT NO.		JOB NUMBER		LATITUDE		LONGITUDE		FIELD					
411		CM-7704		N.A. 1927		N.A. 1927		FIELD					
CHARTING NAME		DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)		LATITUDE		LONGITUDE		FIELD					
				D.M. Meters		D.P. Metets		FIELD					
TOWER		(Navy Yard Slough, West Transmission Tower, 1922)		38-09	09.145 282.0	122-20	12.256 298.4	77B 3597 - March 18, 1977		18652 18654			
TOWER		(Navy Yard Slough, East Transmission Tower, 1922)		38-09	09.556 294.6	122-20	02.214 53.9	77B 3597 - March 18, 1977		"			
STACK				38-06	00.84 26	122-16	13.34 325	77B(P) 3595 - March 18, 1977		18652 18654 18655			
R. TOWER				38-05	58.35 1799	122-16	25.49 621	77B(P) 3594 - March 18, 1977		"			
STACK				38-05	32.69 1008	122-15	52.36 1276	77B(P) 3594 - March 18, 1977		"			
STACK				38-05	26.11 805	122-15	50.27 1225	77B(P) 3594 - "		"			
TANK				38-05	02.92 90	122-15	45.54 1110	77B(P) 3593 - "		"			
TANK				38-04	54.55 1682	122-15	32.00 780	77B(P) 3593 - "		"			
TANK				38-04	51.54 1589	122-15	32.13 783	77B(P) 3593 - "		"			
											37		

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	D. Butler, Cartographic Technician
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	Jerry L. Hancock Sept. 17, 1981
INSTRUCTIONS FOR ENTRIES UNDER METHOD AND DATE OF LOCATION (Consult Photogrammetric Instructions No. 64.)	
OFFICE I. OFFICE IDENTIFIED AND LOCATED OBJECTS Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75	FIELD (Cont'd) 8. Photogrammetric entry of method date of field graph used to EXAMPLE: P-8 8-1 74L
FIELD I. NEW POSITION DETERMINED OR VERIFIED Enter the applicable data by symbols as follows: F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection P - Photogrammetric Vis - Visually 5 - Field Identified 6 - Theodolite 7 - Planetable 8 - Sextant A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75	II. TRIANGULATION When a landmark angulation stat Rec. with date EXAMPLE: Trian 8-12- III. POSITION VERIFIED Enter 'V+Vis.' EXAMPLE: V-Vis 8-12- **PHOTOGRAMMETRIC FIELD entirely, or in part by photogrammetric
*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.	

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. TP-00525

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.

2. In "Remarks" column cross out words that do not apply.

3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
10151	12-22-63	D. K. Hunter	Full Part Before After Verification Review Inspection Signed Via