

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 (FINAL)	Edition No. 1
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.		TYPE OF SURVEY ☒ ORIGINAL ☐ RESURVEY ☐ REVISED		SURVEY TP-00525 MAP EDITION NO. (1) MAP CLASS III (FINAL) JOB #CM-7704	
DESCRIPTIVE REPORT - DATA RECORD							
PHOTOGRAMMETRIC OFFICE Atlantic Marine Center Coastal Mapping Division, Norfolk, Va.				LAST PRECEDING MAP EDITION TYPE OF SURVEY ☐ ORIGINAL ☐ RESURVEY ☐ REVISED			
OFFICER-IN-CHARGE Roy K. Matsushige, CDR.				JOB PH- MAP CLASS SURVEY DATES: 19__ TO 19__			
I. INSTRUCTIONS DATED							
1. OFFICE 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				2. FIELD 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				R. Kelly		July 1977	
METHOD: Analytic LANDMARKS AND AIDS BY							
2. CONTROL AND BRIDGE POINTS PLOTTED BY				S. Solbeck		July 1977	
METHOD: Coradomat CHECKED BY							
3. STEREOSCOPIC INSTRUMENT PLANIMETRY BY				D. Butler		Oct. 1977	
COMPILATION CHECKED BY				L. Neterer Jr.		Oct. 1977	
INSTRUMENT: Wild B-8				N.A.			
SCALE: 1:25,000				N.A.			
4. MANUSCRIPT DELINEATION PLANIMETRY BY				D. Butler		Nov. 1977	
CHECKED BY				F. Margiotta		July 1978	
METHOD: Graphic, smooth drafted				N.A.			
CHECKED BY				N.A.			
SCALE: 1:20,000 HYDRO SUPPORT DATA BY				D. Butler		Oct. 1977	
CHECKED BY				F. Margiotta		July 1978	
5. OFFICE INSPECTION PRIOR TO FIELD EDIT BY				F. Margiotta		July 1978	
6. APPLICATION OF FIELD EDIT DATA BY				None (Canceled)			
CHECKED BY							
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		Rev. 1981	
11. MAP REGISTERED - COASTAL SURVEY SECTION BY				H. D. Wone		MAR 1982	

TP-00525
COMPILATION SOURCES

1. COMPILATION PHOTOGRAPHY

CAMERA(S) Wild R.C. 10, "B" (B=152.74MM)		TYPES OF PHOTOGRAPHY LEGEND		TIME REFERENCE	
TIDE STAGE REFERENCE ☒ PREDICTED TIDES ☐ REFERENCE STATION RECORDS ☐ TIDE CONTROLLED PHOTOGRAPHY		(C) COLOR (P) PANCHROMATIC (I) INFRARED		ZONE Pacific MERIDIAN 120th ☒ 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	Sept. ^{DEC} 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	

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

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

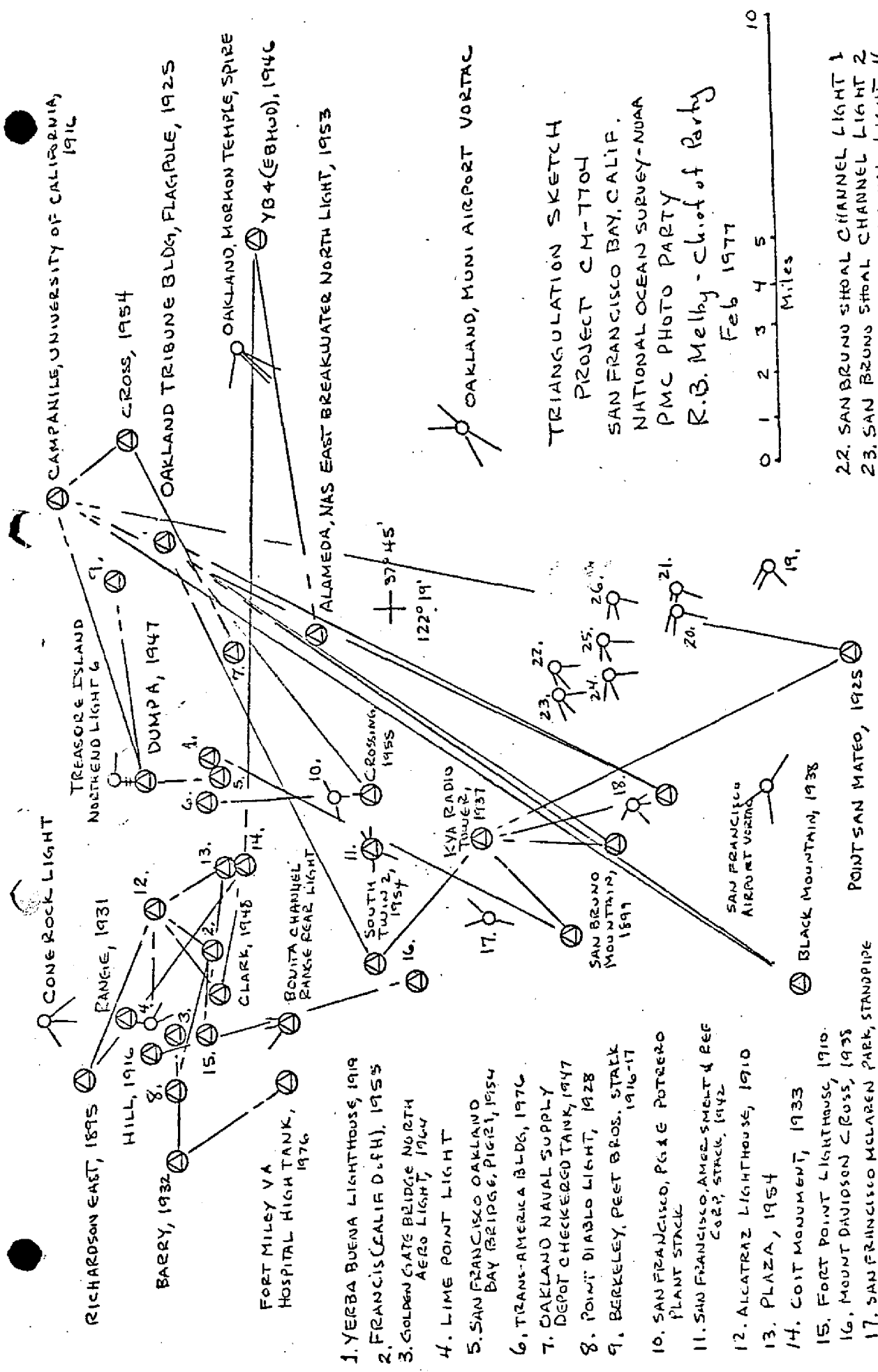
The coordinator would transmit time checks and receive tide staff readings of involved stations and filter and transmit to the aircraft the flight lines that were within the required tide ranges and maintain a summary of staff readings.

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

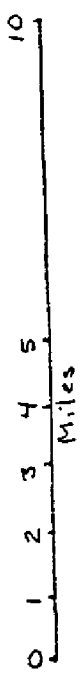
The operation was rather smooth as all observers were on station at the required time and no radio or transportation failures were experienced at the required times. The only difficulty encountered was an erratic tidal behavior during one series of projected favorable tides when during an unusual high 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.



TRIANGULATION SKETCH
 PROJECT CM-7704
 SAN FRANCISCO BAY, CALIF.
 NATIONAL OCEAN SURVEY-NOAA
 PMC PHOTO PARTY
 R.B. Melby - Chief of Party
 Feb 1977



1. YERBA BUENA LIGHTHOUSE, 1919
2. FRANCIS (CALIF D.F.H.), 1955
3. GOLDEN GATE BRIDGE NORTH AERO LIGHT, 1964
4. LIME POINT LIGHT
5. SAN FRANCISCO OAKLAND BAY BRIDGE, 1954
6. TRANS-AMERICA BLDG, 1976
7. OAKLAND NAVAL SUPPLY DEPOT CHECKERBOARD TANK, 1947
8. POINT DIABLO LIGHT, 1928
9. BERKELEY PEET BROS. STACK 1916-17
10. SAN FRANCISCO PAGE POTRERO PLANT STACK
11. SAN FRANCISCO AMES SMELT & REF CORP. STACK, 1942
12. ALCATRAZ LIGHTHOUSE, 1910
13. PLAZA, 1954
14. COIT MONUMENT, 1933
15. FORT POINT LIGHTHOUSE, 1910
16. MOUNT DAVIDSON CROSS, 1935
17. SAN FRANCISCO MCLAREN PARK STANDPIPE
18. SOUTH SAN FRANCISCO FORBES TOWER LIGHT
19. SOUTH SAN FRANCISCO BAY SOUTH CHANNEL LIGHT 8
20. SAN BRUNO SHOAL CHANNEL LIGHT 6
21. SAN BRUNO SHOAL CHANNEL LIGHT 5
22. SAN BRUNO SHOAL CHANNEL LIGHT 1
23. SAN BRUNO SHOAL CHANNEL LIGHT 2
24. SAN BRUNO SHOAL CHANNEL LIGHT 4
25. SAN BRUNO SHOAL CHANNEL LIGHT 3
26. SAN FRANCISCO BAY RADAR 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

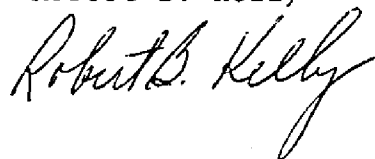
Local shoreline and USGS quadrangles were used to provide elevations for vertical adjustments of bridges.

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

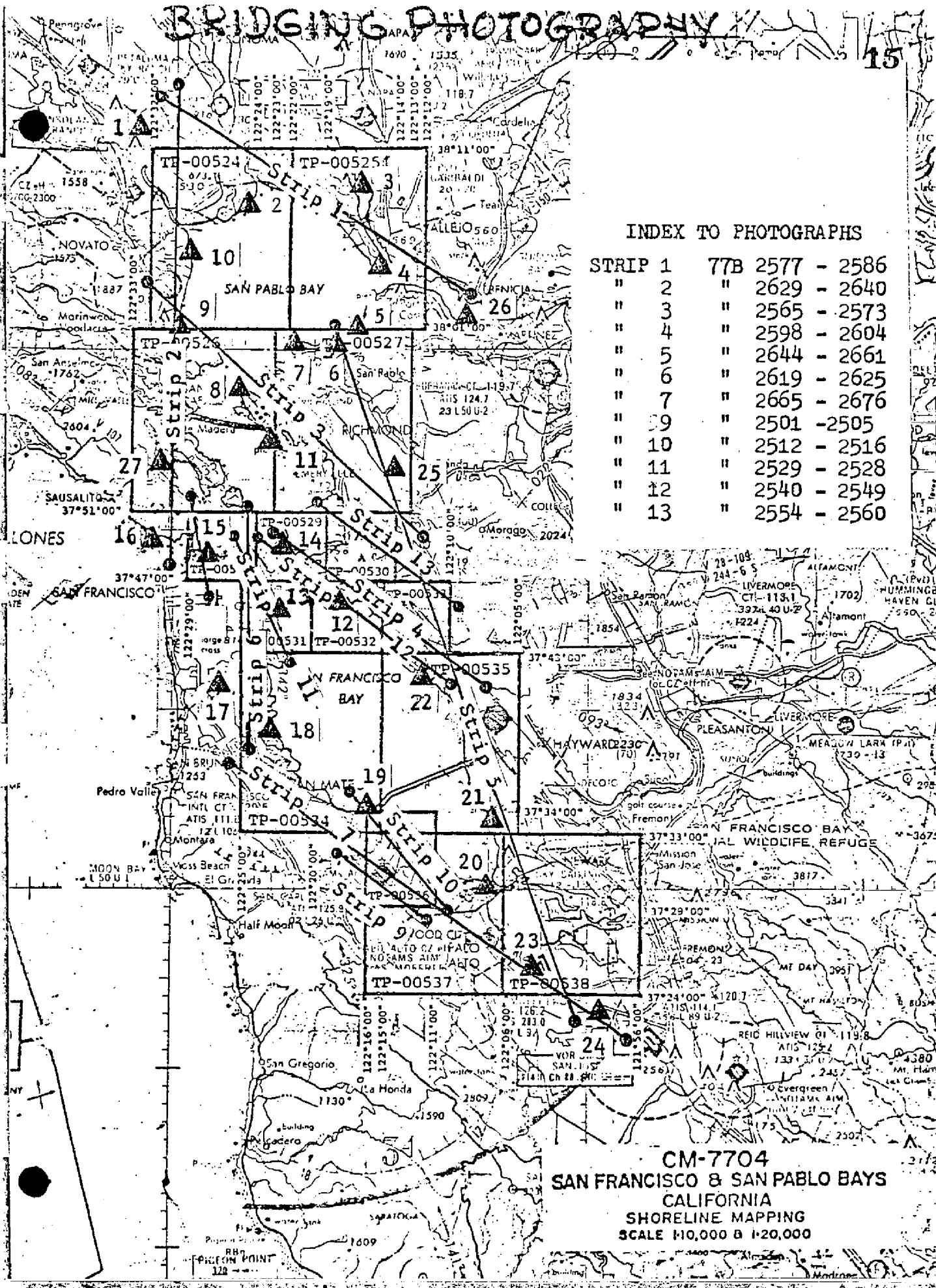
1 LAKEVILLE, SQUARE TANK ON HILL, 1951	TANK(1.04, -3.77)
	PANEL(-.25, .23)
2 BUG (SLC), 1951	COULD NOT SEE
3 SLAUGHTERHOUSE PT. 3, 1921	(-2.22, .52)
4 MARE ISLAND SOUTHEAST=, 1952	(3.02, -.23)
5 PINOLE HERCULES POWDER CO., TANK, 1947	(.38, -.17)
6 WILSON, 1852	(.08, -.10)
7 POINT PINOLE ATLAS DOCK, SHED 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)

BRIDGING PHOTOGRAPHY

15

INDEX TO PHOTOGRAPHS

STRIP 1	77B 2577 - 2586
" 2	" 2629 - 2640
" 3	" 2565 - 2573
" 4	" 2598 - 2604
" 5	" 2644 - 2661
" 6	" 2619 - 2625
" 7	" 2665 - 2676
" 9	" 2501 - 2505
" 10	" 2512 - 2516
" 11	" 2529 - 2528
" 12	" 2540 - 2549
" 13	" 2554 - 2560



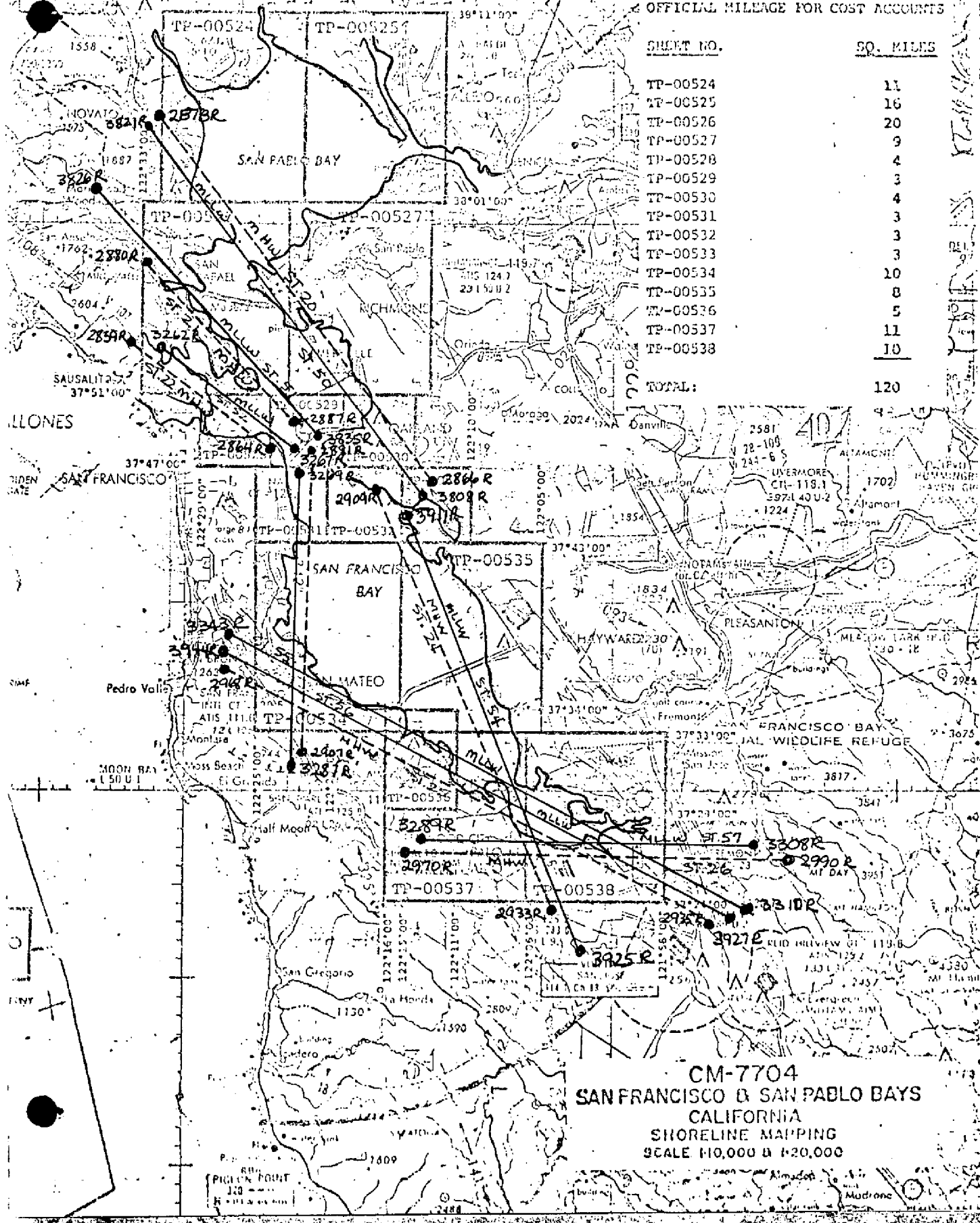
1:40,000

MLLW
MHW

16

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



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

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

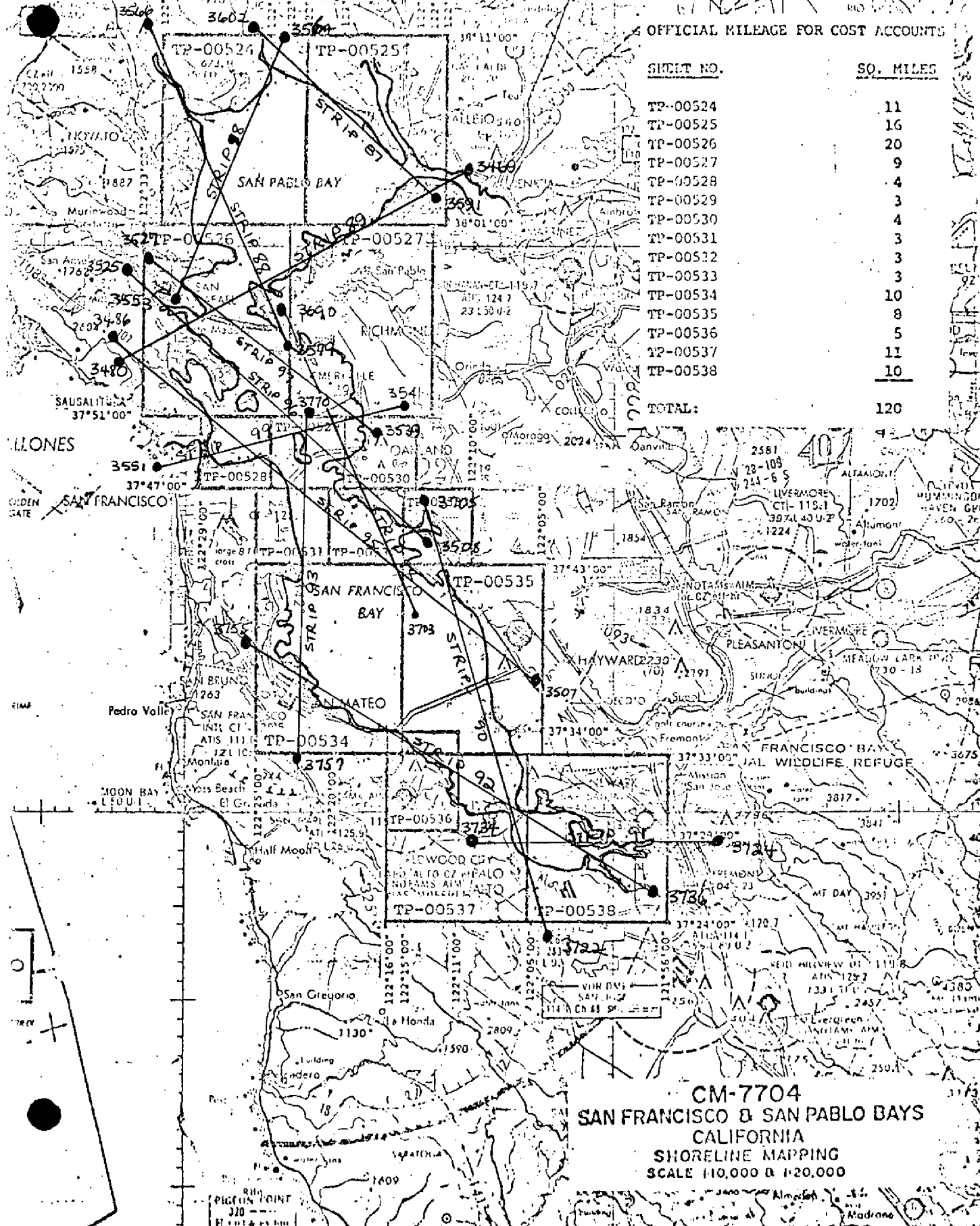
HYDRO-SUPPORT PHOTOGRAPHY

1:30,000

18

OFFICIAL MILEAGE FOR COST ACCOUNTS

SHEET NO.	SQ. MILES
TP-00524	11
TP-00525	16
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TP-00533	3
TP-00534	10
TP-00535	8
TP-00536	5
TP-00537	11
TP-00538	10
TOTAL:	120



COMPILATION PHOTOGRAPHY

1:30,000

19

OFFICIAL MILEAGE FOR COST ACCOUNTS

SHEET NO.

SQ. MILES

TP-00524	11
TP-00525	16
TP-00526	20
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TP-00535	8
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TP-00538	10

TOTAL: 120

CM-7704

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

DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.	JOB NO.	GEODETIC DATUM	ORIGINATING ACTIVITY	GEOGRAPHIC POSITION		REMARKS
TP-00525	Cm-7704	N.A. 1927	Coastal Mapping Div., A.M.C.	ϕ LATITUDE	λ LONGITUDE	Front M. Back M.
STATION NAME	SOURCE OF INFORMATION (Index)	AEROTRI-ANGULATION POINT NUMBER	COORDINATES IN FEET STATE California ZONE 3			
NAVY YARD SLOUGH, WEST TRANSMISSION TOWER, 1922	381222 Page 1225	57	X=	ϕ 38°09'09.145" -	282.0	1567.9
			Y=	λ 122°20'12.256" -	298.4	1163.5
NAVY YARD SLOUGH, EAST TRANSMISSION TOWER, 1922	" 1224		X=	ϕ 38°09'09.556" -	294.6	1555.3
			Y=	λ 122°20'02.214" -	53.9	1408.0
NAVY YARD SLOUGH 2, 1921	" 1124	58	X=	ϕ 38°09'24.448" -	753.8	1096.1
			Y=	λ 122°18'58.663" -	1428.3	33.5
NAPA RIVER BEACON 3, 1922	" 1216	59	X=	ϕ 38°10'13.59" -	419.0	1430.9
			Y=	λ 122°17'39.53" -	962.2	498.4
BOW OF OLD DESTROYER, 1942	" 1182	60	X=	ϕ 38°10'01.73" -	53.3	1796.6
			Y=	λ 122°17'11.86" -	288.7	1171.9
SLAUGHTERHOUSE POINT 3, 1921	" 1147	581100 61	X=	ϕ 38°09'16.922" -	521.7	1328.2
			Y=	λ 122°17'03.314" -	80.8	1380.1
NAPA RIVER, EAST TRANSMIS- SION TOWER, 1922	" 1219	62	X=	ϕ 38°09'15.975" -	492.5	1357.4
			Y=	λ 122°17'25.104" -	611.2	849.7
NAPA RIVER, WEST TRANSMISSION TOWER, 1922	" 1221		X=	ϕ 38°09'14.069" -	433.8	1416.1
			Y=	λ 122°18'11.761" -	286.3	1174.6
NAPA RIVER, CENTER TRANSMISSION TOWER, 1922	" 1220		X=	ϕ 38°09'15.043" -	463.8	1386.1
			Y=	λ 122°17'47.929" -	1167.0	293.9
LONG POND 2, 1921	" 1053		X=	ϕ 38°07'38.410" -	1184.3	665.6
			Y=	λ 122°19'29.080" -	708.3	754.1
COMPUTED BY Lowell O. Neterer, Jr.		8/25/77	COMPUTATION CHECKED BY David P. Butler		DATE 9/9/77	
LISTED BY A. C. Rauck, Jr.		5/11/77	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. 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

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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

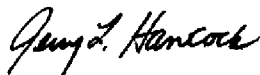
There is an abundance of charted nonfloating Aids to Navigation that fall within the limits of this map. Many of these aids could not be photo located and were characterized as: those falling beyond the photo coverage, those not visible on the photography and those that could not be distinguished from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

TP-00525

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:

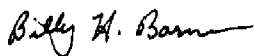
This map complies with the Project Instructions, and meets the requirements for Bureau Standards of Map Accuracy.

Submitted by:



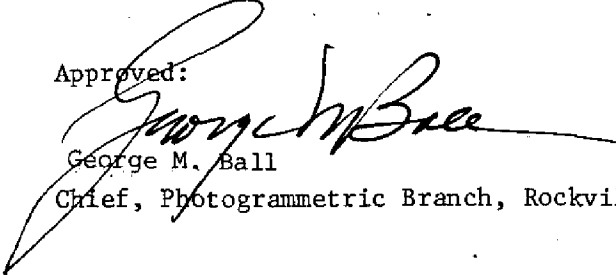
Jerry L. Hancock
Final Reviewer

Approved for forwarding:

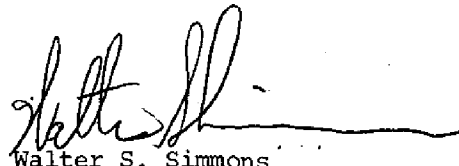


Billy H. Barnes
Chief, Photogrammetric Branch, AMC

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

NOAA FORM 76-40 (8-74)				U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION				ORIGINATING ACTIVITY			
NONFLOATING AIDS				FOR CHARTS							
REPLACES C&GS FORM 567.		REPORTING UNIT		STATE		LOCALITY		DATE			
		COAST & GEOD. SURVEYING DIV.		California		San Francisco and San Pablo Bays		Oct. 1977			
TO BE CHARTED		TO BE REVISED		TO BE DELETED		TO BE DELETED		TO BE DELETED		TO BE DELETED	
The following objects HAVE ☐ HAVE NOT ☒ been inspected from seaward to determine their value as landmarks.		JOB NUMBER		SURVEY NUMBER		DATUM					
OPR PROJECT NO.		CM-7704		TP-00525		N.A. 1927					
CHARTING NAME		DESCRIPTION		LATITUDE		LONGITUDE		METHOD AND DATE OF LOCATION		CHARTS AFFECTED	
		(Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses.)		D.M. Meters		D.P. Meters		(See instructions on reverse side)			
LIGHT	Napa River Light 11	38-10	59.77	122-18	40.84	77B(P) 2581	March 4, 1977	18652	18654		
LIGHT	Napa River Light 9	38-10	50.14	122-18	18.20	77B(P) 2581	March 4, 1977	"	"		
LIGHT	Napa River Light 8	38-10.8	36	122-17.9		Beyond photo limits		"	"		
LIGHT	Napa River Light 7	38-10	34.48	122-17	38.17	77B(P) 3587	March 18, 1977	"	"		
LIGHT	Pacific Gas and Electric Company, Tower Light (Napa River, Center Transmission Tower, 1922)	38-09	15.043	122-17	47.929	77B(P) 3587	March 18, 1977	"	"		
LIGHT	Napa River Light 3	38-08	28.96	122-16	57.61	77B(P) 3587	March 18, 1977	"	"		
DAYBEACON	Napa River Daybeacon 2	38-07	48.97	122-16	40.73	77B(P) 3586	March 18, 1977	"	"		
LIGHT	Vallejo Marina North Entrance Light 1 (Priv. aid)	38-06.6		122-16.3		Not vis		18652	18654	18655	
LIGHT	Vallejo Marina North Entrance Light 2 (Priv. aid)	38-06.6		122-16.3		Not vis		"	"	"	
											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.	

NONFLOATING AIDS										FOR CHARTS										U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION										ORIGINATING ACTIVITY																																																											
REPORTING UNIT (If 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)										LATITUDE ° / ' " D.M. Meters										LONGITUDE ° / ' " D.P. Meters										OFFICE										FIELD																																							
LIGHT										Mare Island Strait Light 2 (Carquinez Strait Light, 1951) *										38-04										11.012 122-14										37.096 904.2										77B(P) 3593 March 18, 1977										18652 18654 18655																													
AERO										(Carquinez Bridge Aviation Beacon, 1932)										38-03										39.651 122.5										28.932 705.3										Not vis										18652, 54 18656																													
BELL										Carquinez Strait Bridge Pier fog Signal (Priv. aid) **										38-03.7										122-13.5										Not vis										" " 18655, 56																																							
HORN										Carquinez Strait Bridge Pier fog Signal **										38-03.7										122-13.5										Not vis										" " 18655, 56																																							
BELL										Carquinez Strait Bridge Pier 2 Fog Signal (Priv. aid) **										38-03.9										122-13.5										Not vis										" " 18656																																							
LIGHT										Oleum Wharf East Light (N.E. corner) **										38-03.4										122-15.5										Not vis										18652 18654 18655																																							
LIGHT										Oleum Wharf East Light (Horn) (S.E. corner) **										38-03.3										122-15.5										Not vis										" " " "																																							
LIGHT										Oleum Wharf West Light (Bell) (N.W. corner) **										38-03.4										122-15.8										Not vis										" " " " " "																																							
LIGHT										Oleum Wharf West Light (S.W. corner) **										38-03.3										122-15.8										Not vis										" " " " " "																																							
*The photogrammetric position of this light differs slightly from the published G.P. which has been listed on the 76-40.																																																																																									
**The structures of these aids cannot be identified from the photography.																																																																																									

See the Compilation Report.

31

TYPE OF ACTION		RESPONSIBLE PERSONNEL	
		NAME	ORIGINATOR
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	☒ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'			
(Consult Photogrammetric Instructions No. 64.)			
OFFICE		FIELD (Cont'd)	
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		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		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	
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		III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75	
A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 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	
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 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 **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				ORIGINATING ACTIVITY			
NONFLOATING AIDS				FOR CHARTS				☐ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ PHOTO FIELD PARTY ☒ COMPILATION ACTIVITY ☐ FINAL REVIEWER ☐ QUALITY CONTROL & REVIEW GRP. ☐ COAST PILOT BRANCH (See reverse for responsible personnel)			
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 LATITUDE LONGITUDE ° / ' " D.M. Meters ° / ' " D.P. Meters		OFFICE		FIELD		CHARTS AFFECTED	
LIGHT	Sequoia Oil Wharf West Light (Priv. aid)	**	38-03.2	122-16.4		Not vis		18652			
HORN	Sequoia Oil Wharf Fog Signal (Pri. aid)	**	38-03.3	122-16.3		Not vis		18654			
LIGHT	Sequoia Oil Wharf East Light (Pri. aid)	**	38-03.3	122-16.2		Not vis		18655			
LIGHT	San Pablo Bay Light 19	**	38-04.2	122-15.1		Not vis		"			
LIGHT	San Pablo Bay Channel Light 9		38-02.5	122-21.1		Beyond photo limits		"			
LIGHT	San Pablo Bay Channel Light 10		38-02.3	122-21.0		"		"			
LIGHT	San Pablo Bay Channel Light 11		38-03.2	122-19.8		"		"			
LIGHT	San Pablo Bay Channel Light 12		38-03.0	122-19.8		"		"			
LIGHT	San Pablo Bay Channel Light 13		38-03.4	122-18.4		"		"			
**The structures of these aids cannot be identified from the photography. See the Compilation Report.											

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.	

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		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	
A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 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.			

NOAA FORM 76-40 (8-74) Replaces C&GS Form 567.				U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION				LANDMARKS FOR CHARTS				ORIGINATING ACTIVITY			
☒ TO BE CHARTED ☐ TO BE REVISED ☐ TO BE DELETED		REPORTING UNIT (Field Party, Ship or Office)	STATE	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)									
The following objects HAVE ☐ HAVE NOT ☒ been inspected from seaward to determine their value as landmarks.		JOB NUMBER	SURVEY NUMBER	DATUM		METHOD AND DATE OF LOCATION (See instructions on reverse side)		CHARTS AFFECTED							
OPR PROJECT NO.				N.A. 1927											
411		CM-7704		TP-00525											
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	LONGITUDE	D.M. Meters	D.P. Meters										
TANK /		38-01	17.32	122-17	13.53	77B(P) 3474 - March 18, 1977		18652 18654							
TOWER (FLAME)		38-01	40.38	122-16	29.15	77B(P) 3473		"							
STACK /	(Northerly of Six)	38-02	41.61	122-15	23.54	77B(P) 3472		"							
UNION 76 SIGN /		38-02	43.72	122-14	56.80	77B(P) 3472		"							
TOWER /	(Great Western Power Company, South Transmission Tower, 1922)	38-03	16.98	122-13	59.88	77B(P) 3592		18652, 54 18655, 56							
TOWER /	(Great Western Power Company, North Transmission Tower, 1922)	38-03	59.98	122-13	35.98	77B(P) 3471		"							
TOWER /		38-03	16.05	122-13	58.16	77B(P) 3592		"							
TOWER /		38-03	495		1418			"							
TOWER /		38-03	59.71	122-13	34.13	77B(P) 3471		"							
			1841		832			"							
								35							

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) 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 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	III. 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 II. 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.
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NOAA FORM 76-40 (8-74)										U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION										ORIGINATING ACTIVITY
LANDMARKS FOR CHARTS																				
REPORTING UNIT (Field Party, Ship or Office) Coastal Mapping Div. A.M.C., Norfolk, VA California										LOCALITY										DATE
STATE California										San Francisco and San Pablo Bays										Nov. 1977
OPR PROJECT NO. 411										DATUM N.A. 1927										
JOB NUMBER CM-7704										SURVEY NUMBER TP-00525										
CHARTING NAME STACK										DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses.) (Crockett, California and Hawaii Sugar Company, Stack, 1932)										CHARTS AFFECTED
SIGN (HOTEL)										38-03 24.988' 122-13 03.356' 81.8										18652, 54 18655, 56
TANK										38-06 10.70' 122-15 15.92' 388										18652 18654 18655
TOWER										38-07 00.811' 122-15 51.740' 1260.4										" " "
TOWER										38-05 04.54' 122-14 50.02' 1219										18654 18655 18656
TOWER										38-05 06.55' 122-15 12.19' 297										" " "
RADIO TOWER										38-07 02.192' 122-15 20.426' 497.6										18652
TOWER										38-09 15.975' 122-17 25.104' 611.2										18652 18654
TOWER										38-09 14.069' 122-18 11.761' 286.3										" "
TOWER										38-09 433.8										36

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) 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 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	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.	

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.		JOB NUMBER		SURVEY NUMBER		DATUM		METHOD AND DATE OF LOCATION (See instructions on reverse side)		CHARTS AFFECTED			
OPR PROJECT NO.		411		CM-7704		TP-00525		N.A. 1927		FIELD		18652 18654	
CHARTING NAME		DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)		LATITUDE		LONGITUDE		POSITION		ICE		CHARTS AFFECTED	
				D.M. Meters		D.P. Metets							
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	
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 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 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.	

