

TP-00524

TP-00524

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-00524

Classification No. Class III Edition No. ... 1
(FINAL)

This map edition will not be field edit

LOCALITY

State California

General Locality San Francisco and San Pablo Bays

Locality ... Petaluma River

19 77 TO 19

REGISTRY IN ARCHIVES

DATE

18654 ✓

NOAA FORM 76-36A (3-72)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.		TYPE OF SURVEY ☒ ORIGINAL ☐ RESURVEY ☐ REVISED		SURVEY TP 00524 MAP EDITION NO. (1) MAP CLASS III (FINAL) JOB NO CM-7704	
DESCRIPTIVE REPORT - DATA RECORD				LAST PRECEDING MAP EDITION			
				TYPE OF SURVEY ☐ ORIGINAL ☐ RESURVEY ☐ REVISED		JOB PH- MAP CLASS SURVEY DATES: 19 TO 19	
PHOTOGRAMMETRIC OFFICE Coastal Mapping Division, Norfolk, Va.				OFFICER-IN-CHARGE Roy K. Matsushige, CDR.			
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 (Memo) July 2, 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				D. Butler		Nov. 1978	
INSTRUMENT: Wild B-8				J. Roderick		Nov. 1978	
SCALE: 1:25,000				N.A.			
4. MANUSCRIPT DELINEATION PLANIMETRY BY METHOD: Graphic, smooth drafted CHECKED BY				D. Butler		Nov. 1978	
SCALE: 1:20,000				J. Roderick		Dec. 1978	
HYDRO SUPPORT DATA BY				N.A.			
5. OFFICE INSPECTION PRIOR TO FIELD EDIT BY				D. Butler		Nov. 1978	
6. APPLICATION OF FIELD EDIT DATA BY				J. Roderick		Dec. 1978	
7. COMPILATION SECTION REVIEW Class III BY				J. Roderick		Dec. 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		Oct. 1981	
11. MAP REGISTERED - COASTAL SURVEY SECTION BY				H. D. Wolfe		MAR 1982	

TP-00524
COMPILATION SOURCES

1. COMPILATION PHOTOGRAPHY

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

NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE
77B(P)2634-2638 * (+)	Mar 4, 1977	13:55	1:50,000	4.9 Ft. above M.L.L.W.
77B(P)2582,2583 * (+)	Mar 4, 1977	12:31	1:50,000	5.9 Ft. above M.L.L.W.
77B(P)3557-3563** (+)	Mar 18, 1977	12:05	1:30,000	6.0 Ft. above M.L.L.W.
77B(P)3569-3571** (+)	Mar 18, 1977	12:16	1:30,000	6.0 Ft. above M.L.L.W.
77B(P)3598-3601** (+)	Mar 18, 1977	12:45	1:30,000	5.9 Ft. above M.L.L.W.
77B(I)2876,2878 (++)	Mar 5, 1977	11:52	1:40,000	M.H.W. (-0.04 Ft.)
77B(I)3819,3821 (++)	Mar 28, 1977	12:00	1:40,000	M.L.L.W. (+0.06 Ft.)

(+) M.H.W. at subordinate station for predicted tide stages = 5.5 Ft.

REMARKS

* Compilation photography. ** Hydro support photography.
(++) Infrared photography at M.L.L.W. and M.H.W.; ratioed to map scale of 1:20,000.

2. SOURCE OF MEAN HIGH-WATER LINE:

The mean high water line was compiled graphically from the above listed tide coordinated infrared photography, which covered only the southwest portion of the map. The remainder of the mean high water line for this map was compiled graphically from the compilation and hydro support photography. Predicted tide data was used to compute their M.H.W. datum stage.

3. SOURCE OF MEAN LOW-WATER LINE:

The mean lower low water line was compiled graphically from the above listed tide coordinated infrared photography, which covered only the southwest portion of the map. No other M.L.L.W. photography was available for the remaining map area.

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
No survey					

5. FINAL JUNCTIONS

NORTH	EAST	SOUTH	WEST
No survey	TP-00525	TP-00526	No survey

REMARKS

This map defines the northwest limit of the project.

NOAA FORM 76-36C
(3-72)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEYTP-00524
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	

II. SOURCE DATA

NOAA FORM 76-36D
(3-72)

TP-00524

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

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	Dec. 1978	Class III manuscript	Feb. 6, 1979	Feb. 6, 1979
Final Review, Class III	Sept. 1981	Final Class III Map, no field edit performed	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 Record 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)

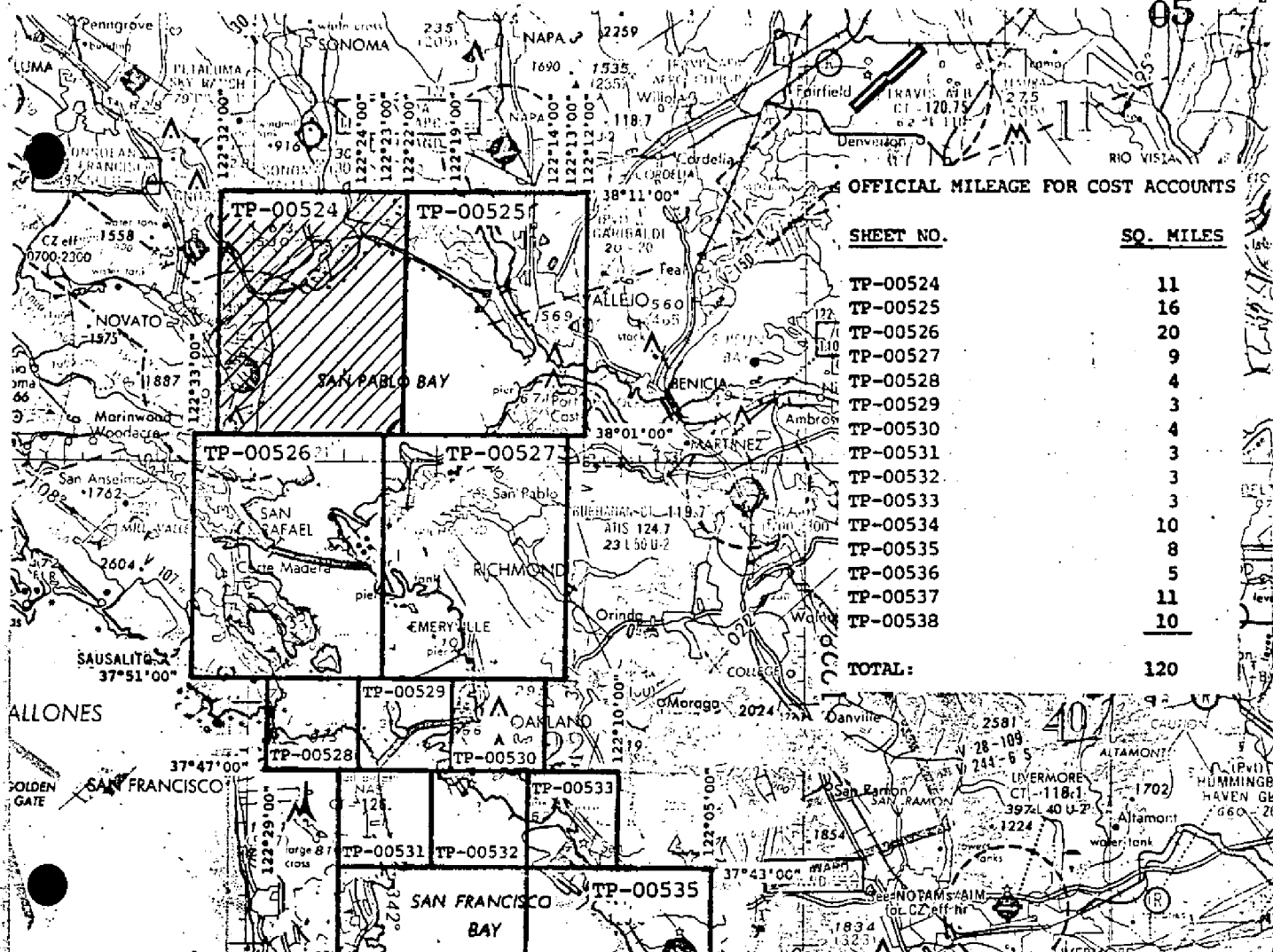
SECOND EDITION	SURVEY NUMBER TP - _____ (2)	JOB NUMBER PH - _____	TYPE OF SURVEY ☐ REVISED ☐ RESURVEY MAP CLASS ☒ II. ☐ III. ☐ IV. ☐ V. ☐ FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	
THIRD EDITION	SURVEY NUMBER TP - _____ (3)	JOB NUMBER PH - _____	TYPE OF SURVEY ☐ REVISED ☐ RESURVEY MAP CLASS ☐ II.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



SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORTS
TP-00524

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 northwest portion of San Pablo Bay. 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. Tide coordinated black and white infrared photography at MHW and MLLW was supplied using the "B" camera at 1:40,000 and 1:30,000 scales. Only the southwest portion of this map was furnished with tide coordinated photography. However, the remaining shoreline was graphically compiled from the hydro support photography as it was flown at mean high water based on predicted tide data.

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

Compilation was performed at the Atlantic Marine Center in December 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-00524

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.



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: *Robt. 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 triangulation 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

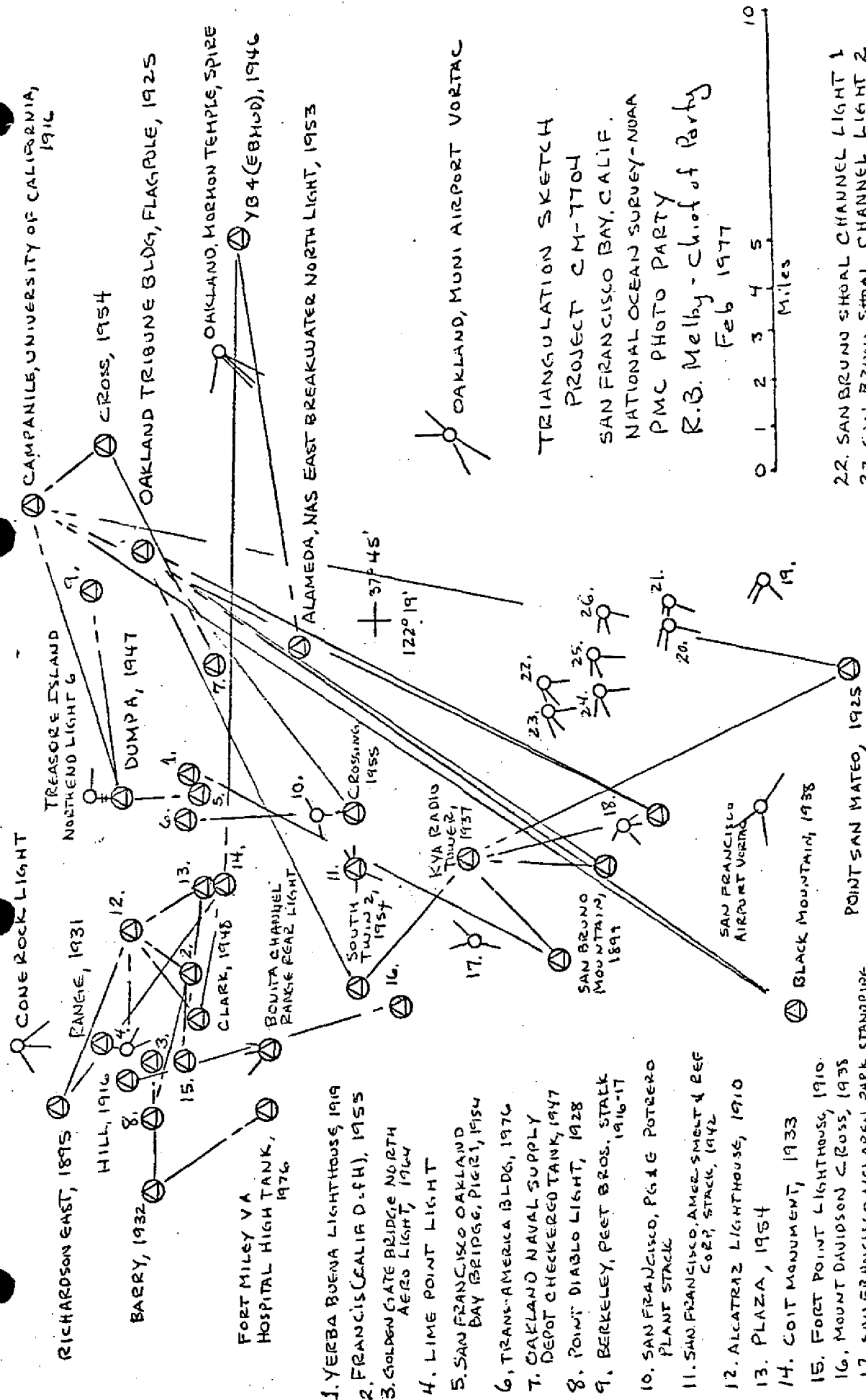
The coordinator would transmit time checks and receive tide staff readings of involved stations and filter and transmit to the aircraft the flight lines that were within the required tide ranges and maintain a summary of staff readings.

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

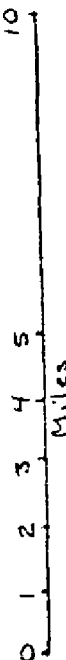
SAN FRANCISCO BAY, CALIF.

NATIONAL OCEAN SURVEY-NOAA

PMC PHOTO PARTY

R.B. Melby - Chief of Party

Feb 1977



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

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, PIER 1, 1954
6. TRANS-AMERICA BLDG, 1976
7. OAKLAND NAVAL SUPPLY DEPOT CHECKERED TANK, 1947
8. POINT DIABLO LIGHT, 1928
9. BERKELEY, PEET BROS. STACK, 1916-17
10. SAN FRANCISCO, PIGE POTRERO PLANT STACK
11. SAN FRANCISCO, AMER-SMELT & BEEF 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
20. SAN BRUNO SHOAL CHANNEL LIGHT 6
21. SAN BRUNO SHOAL CHANNEL LIGHT 5

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 aerotriangulation 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

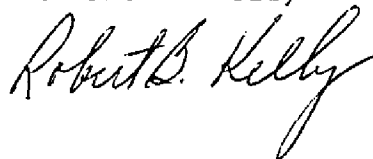
Local shoreline and USGS quadrangles were used to provide elevations for vertical adjustments of bridges.

25. Photography

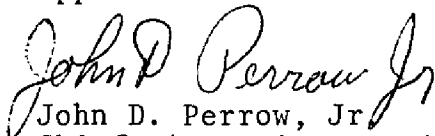
The photography was adequate as to placement of flight lines consistent quality, definition and absence of haze.

Submitted by:

Robert B. Kelly



Approved and Forwarded:



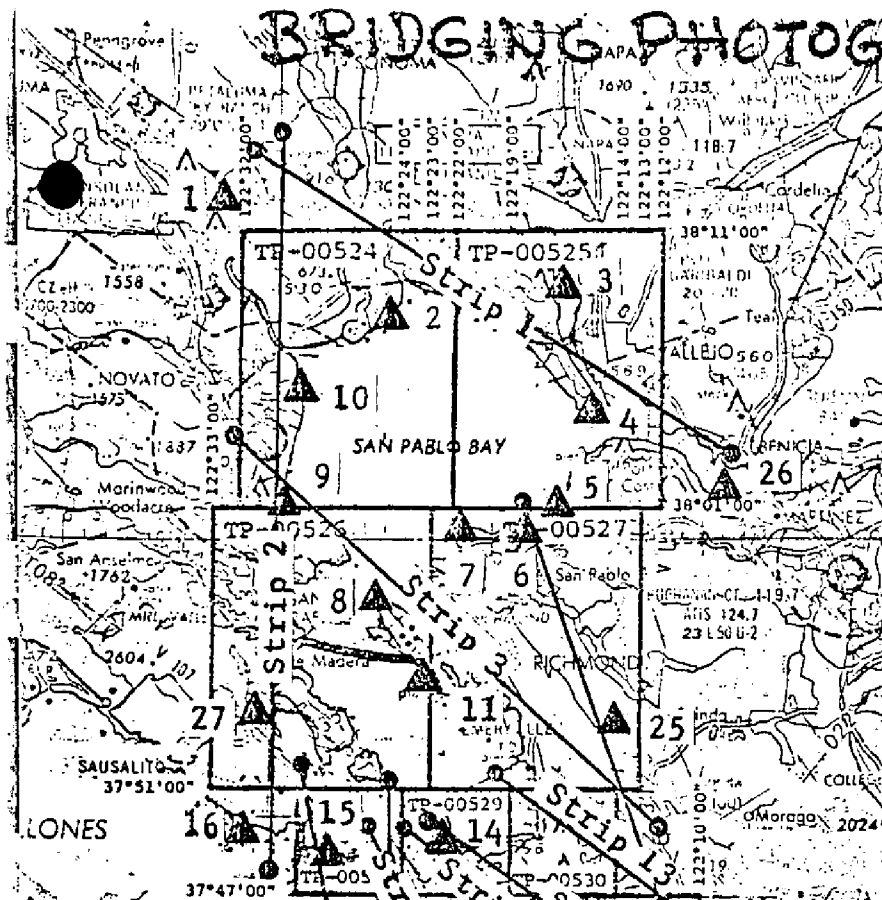
John D. Perrow, Jr.
Chief, Aerotriangulation Section

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 ABOUT POINT 2 1887 | { .65, .40 } |

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

HIGH FLOW WATER IN FAKED PHOTOGRAPHY

1:40,000

MLLW

mHW

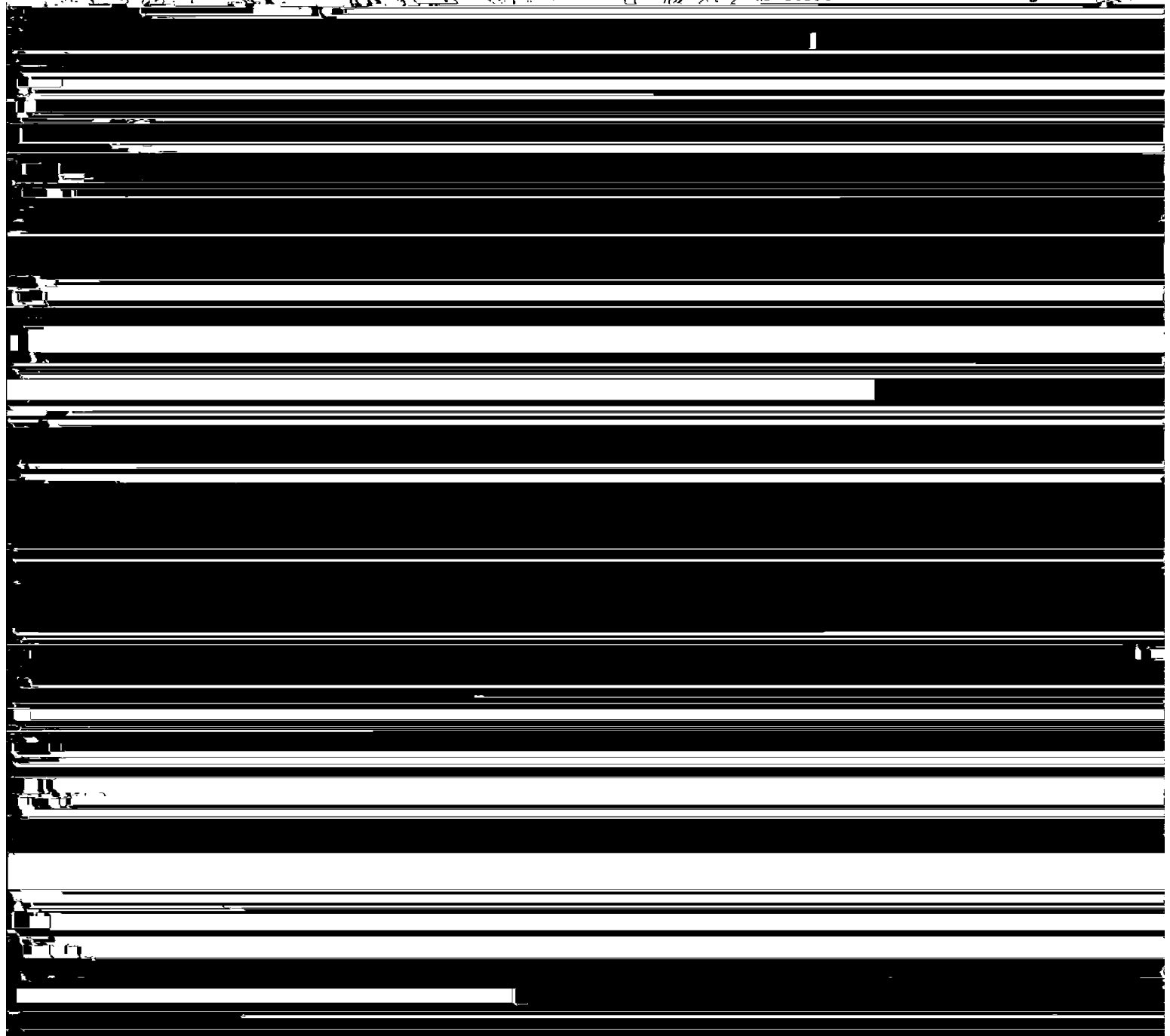
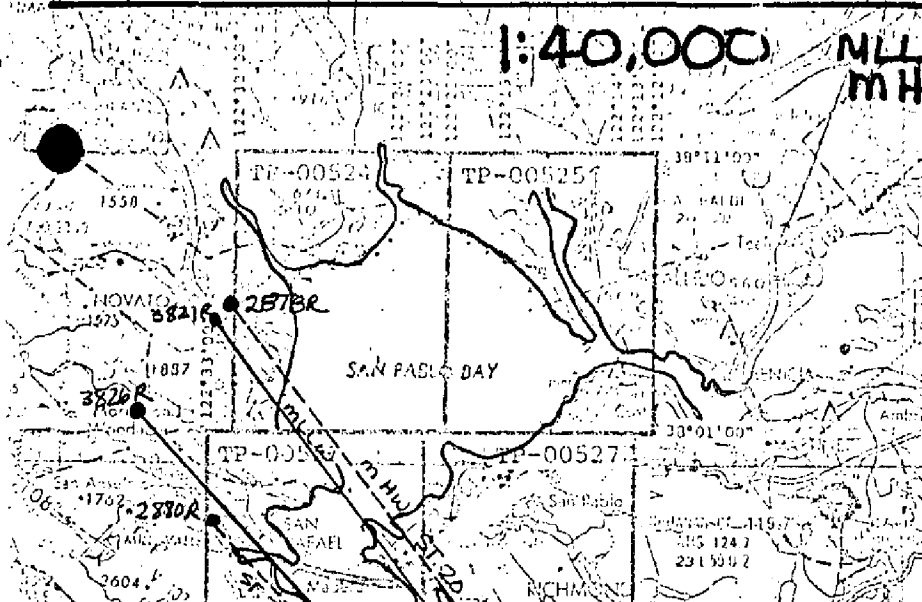
16

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



HIGH & LOW WATER INFRARED PHOTOGRAPHY

1:30,000 MLLW
MHW
MLW

17

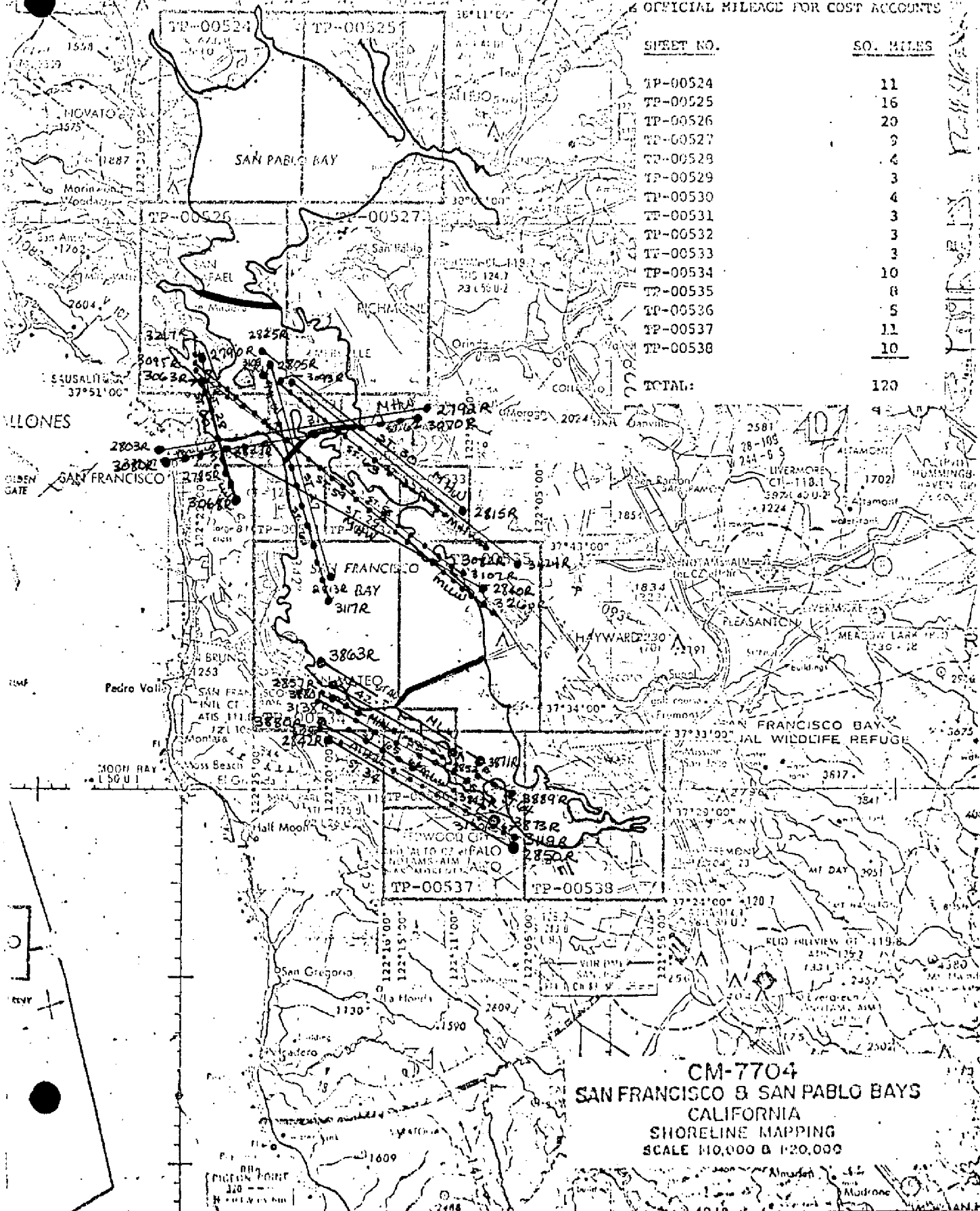
4 OFFICIAL MILEAGE FOR COST ACCOUNTS

SHEET NO.

SOL. 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



HYDRO-SUPPORT PHOTOGRAPHY

1:30,000

18

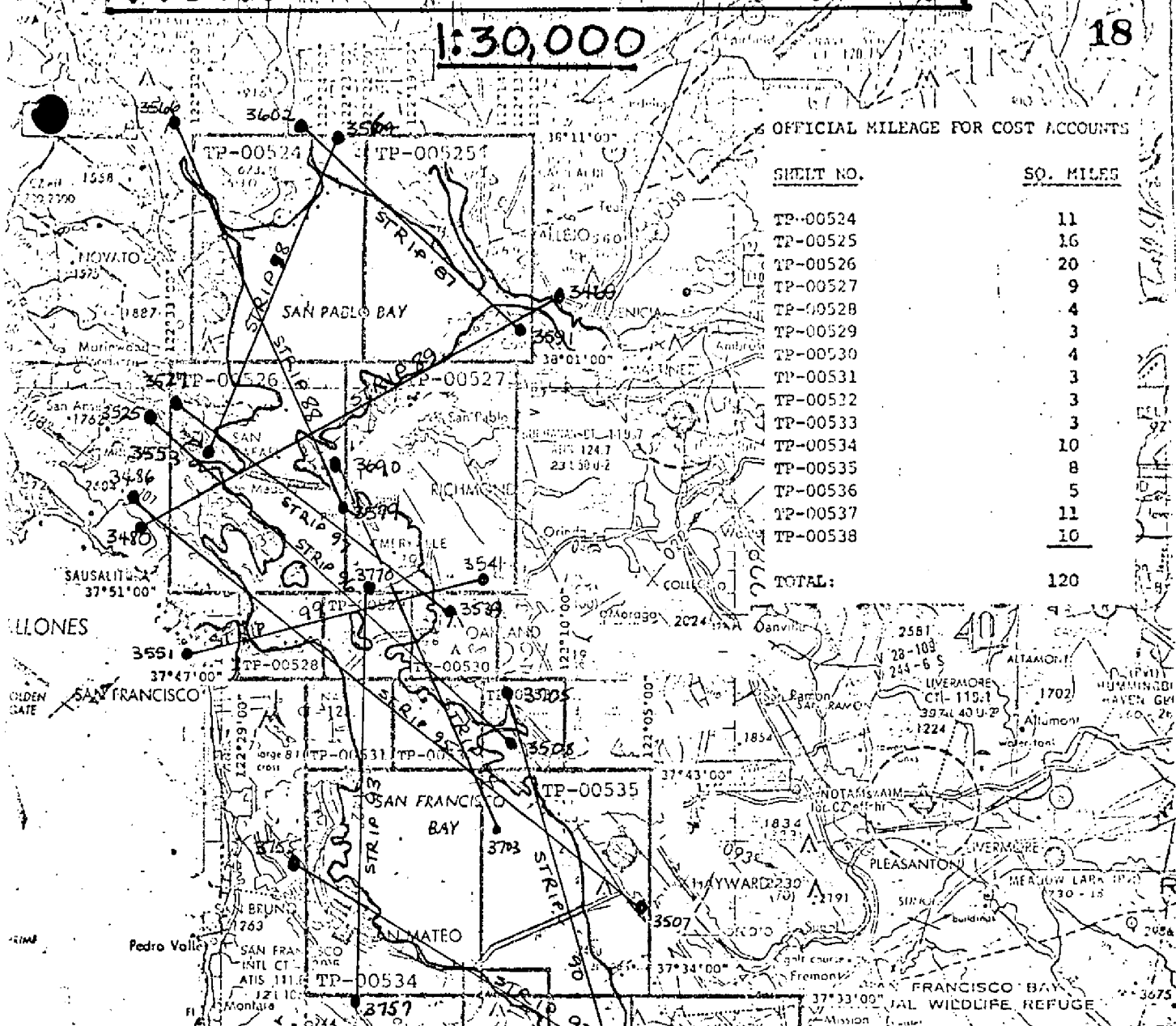
OFFICIAL MILEAGE FOR COST ACCOUNTS

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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
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TP-00527	9
TP-00528	4
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TP-00531	3
TP-00532	3
TP-00533	2
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 110,000 & 120,000

DESCRIPTIVE REPORT CONTROL RECORD

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

MAP NO.	STATION NAME	SOURCE OF INFORMATION (Index)	AEROTRIANGULATION POINT NUMBER	GEODEIC DATUM		GEOGRAPHIC POSITION		REMARKS
				STATE	ZONE	ϕ LATITUDE	λ LONGITUDE	
TP-00524 -		CM-7704 -		N. A. 1927		Coastal Mapping Div., A.M.C.		
	SONOMA CREEK, 1921	381222 - Page 1052	55	California	3		ϕ 38°08'34.660" - λ 122°22'02.556" -	Front M. Back M. 1068.6 - 781.3 - 62.2 - 1398.9 -
	SONOMA CREEK, WEST TRANSMISSION TOWER, 1922	" 1357 -	40				ϕ 38°09'19.930" - λ 122°24'29.222" -	614.5 - 1235.4 - 711.5 - 749.3 -
	SONOMA CREEK, EAST TRANSMISSION TOWER, 1922	" 1356 -	40				ϕ 38°09'17.912" - λ 122°24'08.856" -	552.3 - 1297.6 - 215.6 - 1245.2 -
	TOLAY CREEK, EAST TRANSMISSION TOWER, 1922	" 1041 -	41				ϕ 38°09'16.421" - λ 122°26'42.153" -	506.3 - 1343.6 - 1026.3 - 434.5 -
	TOLAY CREEK, WEST TRANSMISSION TOWER, 1922	" 1042 -	42				ϕ 38°09'10.900" - λ 122°26'51.371" -	336.1 - 1513.8 - 1250.8 - 210.1 -
	SEARS POINT, 1886	" 1037 -	53				ϕ 38°08'23.216" - λ 122°26'40.369" -	715.8 - 1134.1 - 983.1 - 478.1 -
	BUG (SLC), 1951 -	" 1039 -	583100 54				ϕ 38°07'35.715" - λ 122°25'32.467" -	1101.2 - 748.7 - 790.8 - 670.6 -
	PETALUMA CREEK, SOUTH TRANSMISSION TOWER, 1922	" 1034 -	147				ϕ 38°06'30.268" - λ 122°29'32.798" -	933.2 - 916.7 - 799.0 - 662.7 -
	PETALUMA CREEK, NORTH TRANSMISSION TOWER, 1922	" 1035 -	148				ϕ 38°06'47.062" - λ 122°29'25.890" -	1451.0 - 398.9 - 630.7 - 831.0 -
	PETALUMA CREEK, 1851	" 1030 -					ϕ 38°06'12.418" - λ 122°29'21.146" -	382.9 - 1467.0 - 515.2 - 946.6 -
COMPUTED BY Lowell O. Neterer, Jr.			8/29/77	COMPUTATION CHECKED BY A. C. Rauck, Jr.				DATE 9/15/77
LISTED BY A. C. Rauck, Jr.			8/11/77	HAND PLOTTING CHECKED BY F. Margis				DATE 8/16/77
HAND PLOTTING BY J. J. Moler			9/28/77	HAND PLOTTING CHECKED BY Lowell O. Neterer, Jr.				DATE 9/28/77

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

DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.	JOB NO.	STATION NAME	SOURCE OF INFORMATION (Index)	AEROTRIANGULATION POINT NUMBER	GEODETTIC DATUM		ORIGINATING ACTIVITY	
					COORDINATES IN FEET STATE ZONE	GEOGRAPHIC POSITION φ LATITUDE λ LONGITUDE	REMARKS Front M. Back M.	
TP-00524	CM-7704				N.A. 1927	Coastal Mapping Div., A.M.C.		
		NOVATO CREEK, NORTH TRANSMISSION TOWER, 1922	381222 Page 1287	149	X=	φ 38°05'32.495" -	1001.9 - 848.0	
					Y=	λ 122°29'47.856" -	1166.2 - 295.9	
		NOVATO CREEK, SOUTH TRANSMISSION TOWER, 1922	" 1288	150	X=	φ 38°05'25.978" -	801.0 - 1048.9	
					Y=	λ 122°29'49.109" -	1196.7 - 265.4	
		BILL, 1955	381223 1009		X=	φ 38°06'26.6791" -	822.6 - 1027.3	
					Y=	λ 122°30'14.7773" -	360.0 - 1101.8	
		NOVATO RADIO STATION KCBS, EAST MAST, 1951	" 1044	47	X=	φ 38°08'23.725" -	731.5 - 1118.4	
					Y=	λ 122°31'40.740" -	992.1 - 469.1	
		NOVATO RADIO STATION KCBS, WEST MAST, 1951	" 1045	47	X=	φ 38°08'23.028" -	710.0 - 1139.9	
					Y=	λ 122°31'49.979" -	1217.1 - 244.1	
		NOVATO RADIO STATION KCBS, NORTH MAST, 1951	" 1046	47	X=	φ 38°08'26.515" -	817.5 - 1032.4	
					Y=	λ 122°31'42.921" -	1045.2 - 415.9	
		NOVATO RADIO STATION KCBS, SOUTH MAST, 1951	" 1047	47	X=	φ 38°08'20.243" -	624.1 - 1225.8	
					Y=	λ 122°31'47.799" -	1164.0 - 297.1	
		SLEEPY HOLLOW, CERTIFIED MILK CO., NORTHWEST SILO, 1951	381222 1044		X=	φ 38°09'23.870" -	736.0 - 1114.0	
					Y=	λ 122°29'56.194" -	1368.1 - 92.7	
		GET (U.S.E.), 1951	" 1033	144	X=	φ 38°05'38.797" -	1196.2 - 653.7	
					Y=	λ 122°28'26.029" -	634.2 - 827.8	
		BEE (U.S.E.), 1951	" 1032	143	X=	φ 38°04'48.373" -	1491.4 - 358.5	
					Y=	λ 122°27'43.010" -	1048.2 - 414.2	
COMPUTED BY Lowell O. Neterer, Jr.				DATE	COMPUTATION CHECKED BY A. C. Rauck, Jr.			
LISTED BY A. C. Rauck, Jr.				DATE 9/15/77	LISTING CHECKED BY F. Margiotta			
HAND PLOTTING BY J. J. C. Moler				DATE 9/28/77	HAND PLOTTING CHECKED BY Lowell O. Neterer, Jr.			

DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.		JOB NO.		GEODEIC DATUM		ORIGINATING ACTIVITY		REMARKS	
TP-00524		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 ZONE	GEOGRAPHIC POSITION φ LATITUDE λ LONGITUDE					
SOW (U.S.E.), 1951 -	381222 Page 1255	142	X=	φ 38°03'49.98"-				1541.0-	308.9
			Y=	λ 122°26'52.96"-				1291.0-	171.7
HAMILTON FIELD STANDPIPE, 1951 -	381223 1162	139	X=	φ 38°03'18.837"-				580.8 -	1269.1
			Y=	λ 122°31'08.940"-				218.0 -	1244.8
HAMILTON FIELD HANGAR FACE, SOUTHEAST, 1951 -	" 1161	138	X=	φ 38°03'07.59"-				234.0 -	1615.9
			Y=	λ 122°30'23.65"-				576.6 -	886.3
HAMILTON FIELD, RESCUE CONTROL TOWER, 1951 -	381222 1205	137	X=	φ 38°02'53.811"-				1659.1 -	190.8
			Y=	λ 122°29'49.954"-				1218.0 -	244.9
HAMILTON FIELD 2, 1951 -	381223 1085	136	X=	φ 38°02'48.132"-				141484.0 -	365.9
			Y=	λ 122°30'23.375"-				570.0 -	893.0
GALLINAS, ST. VINCENTS ORPHANAGE, SPIRE, 1951 -	381223 1157	135	X=	φ 38°02'04.256"-				131.2 -	1718.7
			Y=	λ 122°31'32.586"-				794.5 -	668.5
RADIO TOWER, 1942 -	381222 1325	35	X=	φ 38°10'49.16"-				1515.8 -	334.2
			Y=	λ 122°23'54.03"-				1315.0 -	145.4
GALLINAS CREEK, NORTH TRANSMISSION TOWER, 1922	381223 1158	133	X=	φ 38°01'03.00"-				92.5 -	1757.4
			Y=	λ 122°30'03.16"-				77.1 -	1386.5
SK22 (U.S.N.), 1956 -	381222 1144	39	X=	φ 38°10'03.573"-				110.2 -	1739.7
			Y=	λ 122°22'35.921"-				874.4 -	586.2
ELEVENTH TOWER, EAST OF SONOMA CREEK, 1922 -	" 1054	56	X=	φ 38°09'06.64"-				204.7 -	1645.2
			Y=	λ 122°22'15.50"-				377.4 -	1083.5
COMPUTED BY L. O. Neterer, Jr.		DATE	COMPUTATION CHECKED BY A. C. Rauck, Jr.		DATE		9/15/77		
LISTED BY A. C. Rauck, Jr.		DATE	LISTING CHECKED BY F. Maigiotto		DATE		8/16/77		
HAND PLOTTING BY J. J. C. Moler		DATE	HAND PLOTTING CHECKED BY Lowell O. Neterer, Jr.		DATE		9/28/77		

COMPILATION REPORT

TP-00524

31. DELINEATION

Delineation was by instrument methods using the Wild B-8 stereo-plotter. The quality of the photography was adequate, but the coverage was limited. The mean high water and mean lower low water lines were compiled graphically only in the southwest portion of the map using the available tide coordinated infrared ratio photos indicated on form 76-36B. All other shoreline delineation of the mean high water line was compiled graphically from the hydro support photography; this was flown at mean high water based on predicted tide data.

See item #37 for the limited photo coverage concerning charted Aids to Navigation.

32. CONTROL

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

33. SUPPLEMENTAL DATA

None

34. CONTOURS AND DRAINAGE

Contours are not applicable to this project. Drainage was compiled by instrument methods.

35. SHORELINE AND ALONGSHORE DETAILS

See item #31

36. OFFSHORE DETAILS

Because of incomplete tide coordinated photograph coverage, as stated in item #31, delineation of the mean lower low water line could only be compiled south of Lat. $38^{\circ} 04.9'$.

37. LANDMARKS AND AIDS

Photo coverage was not available for the charted Aids to Navigation east of Long. $122^{\circ} 26'$. Preliminary 76-40 forms consisting of two pages of Navigational Aids and three pages of Landmarks for Charts were prepared for field edit.

38. CONTROL FOR FUTURE SURVEYS

None

TP-00524

39. JUNCTIONS

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

40. HORIZONTAL AND VERTICAL ACCURACY

See item #32.

46. COMPARISON WITH EXISTING MAPS

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

Petaluma Point, California, 1959, photo-revised 1968
Petaluma River, California, 1954, photo revised 1968 & 1973
Sears Point, California, 1951, photo revised 1968
Novato, California, 1954, photo revised 1968

47. COMPARISON WITH NAUTICAL CHARTS

A comparison was made with the following National Ocean Survey chart: No. 18654, scale 1:40,000, 25th ed., April 17, 1976.

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: December 1, 1978

Approved:

for Jim Byrd

Albert C. Rauck, Jr.
Chief, Coastal Mapping Section

PHOTOGRAMMETRIC OFFICE PRE-HYDRO AND FIELD EDIT REVIEW

25

TP-00524

1. PROJECTION AND GRIDS JDR	2. TITLE JDR	5. HORIZONTAL CONTROL JDR	11. DETAIL POINTS AND PASS POINTS JDR
12. SHORELINE JDR	13. LOW-WATER LINE JDR	14. ROCKS, SHOALS, ETC. JDR	20. WATER FEATURES JDR
15. BRIDGES JDR	16. AIDS TO NAVIGATION JDR	17. LANDMARKS JDR	18. and 26. ALONGSHORE AND OTHER PHYSICAL FEATURES JDR
19. and 30. ALONGSHORE AND OTHER CULTURAL FEATURES JDR	PROCESSED RATIOS JDR	27. ROADS JDR	28. BUILDINGS JDR
29. RAILROADS JDR	23. and 25. CONTOURS AND SPOT ELEVATIONS N.A.	33. GEOGRAPHIC NAMES JDR	34. JUNCTIONS JDR
35. LEGIBILITY OF THE MANUSCRIPT JDR	36. FIELD EDIT OZALID JDR	10. PHOTOGRAMMETRIC PLOT REPORT JDR	37. COMPILATION REPORT JDR
40. REVIEWER JoAnne Roderick Dec. 14, 1978		SUPERVISOR Albert Rauck Jr.	

41. REMARKS

PHOTOGRAMMETRIC OFFICE POST-HYDRO AND FIELD EDIT REVIEW

3. MANUSCRIPT NUMBERS	FORMAT STICK-UP	4. MANUSCRIPT SIZE	5. HORIZONTAL CONTROL
7. PHOTO HYDRO STATIONS	9. PLOTTING OF SEXTANT FIXES	12. SHORELINE	13. LOW-WATER LINE
14. ROCKS, SHOALS, ETC.	15. BRIDGES	16. AIDS TO NAVIGATION	17. LANDMARKS
18. PHYSICAL FEATURES	19. CULTURAL FEATURES	20. WATER FEATURES	PIPELINES, CABLES, ETC.
24. and 25. CONTOURS AND SPOT ELEVATIONS	27. ROADS	23. BUILDINGS	29. RAILROADS
33. GEOGRAPHIC NAMES	34. JUNCTIONS	38. FIELD EDIT PHOTOGRAPHS	36. FIELD EDIT OZALID
37. FIELD EDIT REPORT	GEOGRAPHIC FIX POSITIONS	39. FIELD FORMS	APPROVED TIDES

COMPILER	DATE	40. REVIEWER	DATE	SUPERVISOR
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43. REMARKS

REVIEW REPORT TP-00524

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 USGS quadrangles:
Petaluma Point, Calif., 1959, photo revised 1968
Petaluma River, Calif., 1954, photo revised 1968 and 1973
Sears Point, Calif., 1951, photo revised 1968
Novato, Calif., 1954, 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 NOS chart 18654, 30th edition, May 23/81, 1:40,000 scale and chart 18652, 20th edition, May 16/81, 1:80,000 scale.

Photo coverage was not provided for all of the charted nonfloating Aids to Navigation for this map. Individual listings for those beyond the photo limits are indicated on the submitted 76-40 forms included with this Descriptive Report.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:

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

Submitted by:

Jerry L. Hancock
Jerry L. Hancock
Final Reviewer

TP-00524

Approved for forwarding:

Billy H. Barnes
Billy H. Barnes
Chief, Photogrammetric Branch. AMC

Approved:

George M. Ball
George M. Ball
Chief, Photogrammetric Branch, Rockville

Walter S. Simmons
Walter S. Simmons
Chief, Photogrammetry Division

GEOGRAPHIC NAMES

FINAL NAME SHEET

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

TP-00524

Black John Slough	Novato Creek
Black Point (locality)	Petaluma Point
Camp Six	Petaluma River
Day Island	Radoni Creek
East Branch	Rainbow Slough
Gallinas Creek	San Pablo Bay
Green Point (locality)	Skagg Island
Hamilton Air Force Base	Sonoma Creek
Island No. 1	Story
Midshipman Point	Tolay Creek
Napa Slough	Tubbs
Northwestern Pacific (RR)	Tubbs 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				FOR CHARTS				ORIGINATING ACTIVITY			
NONFLOATING AIDS				STATE				LOCALITY				DATE			
REPORTING UNIT (Field Party, Ship or Office)				California				San Francisco and Pablo Rays				Dec. 1978			
TO BE CHARTED (Field Party, Ship or Office)				Coastal Mapping Div.											
TO BE REVISED				A.M.C. Norfolk, VA											
TO BE DELETED				H.A. 1000											
The following objects HAVE ☐ BEEN INSPECTED FROM SEAWARD TO DETERMINE THEIR VALUE AS LANDMARKS.				SURVEY NUMBER				DATUM				METHOD AND DATE OF LOCATION (See instructions on reverse side)			
OPR PROJECT NO.				JOB NUMBER				POSITION				CHARTS AFFECTED			
411				CM-7704				N.A. 1927							
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. Meters							
LIGHT	Petaluma River Entrance Light 1	38-02.9	122-25.9				Beyond photo limits				18652				
LIGHT	Petaluma River Entrance Light 2	38-03.0	122-25.2				"				"				
DAY- BEACON	Petaluma River Entrance Channel Daybeacon 3	38-03.5	122-25.7				"				"				
DAY- BEACON	Petaluma River Entrance Channel Daybeacon 4	38-03.5	122-25.4				"				"				
DAY- BEACON	Petaluma River Entrance Channel Daybeacon 5	38-04.3	122-25.6				"				"				
LIGHT	Petaluma River Entrance Channel Light 6	38-04.3	122-25.6				"				"				
DAY- BEACON	Petaluma River Entrance Channel Daybeacon 7	38-04.8	122-26.1				"				"				
DAY- BEACON	Petaluma River Entrance Channel Daybeacon 8	38-04.8	122-26.0				"				"				
DAY- BEACON	Petaluma River Entrance Channel Daybeacon 9	38-05	122-26	19.62	28.93	77B(P) 3560					"				
			605		705	Mar. 18, 1977					"				
													29		

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RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	David Butler
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	Jerry Hancock
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 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)				U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION				FOR CHARTS				ORIGINATING ACTIVITY			
NONFLOATING AIDS				REPORTING UNIT (Field Party, Ship or Office)				LOCALITY				DATE			
☒ TO BE CHARTED ☐ TO BE REVISED ☐ TO BE DELETED				Coastal Mapping Div. A.M.C. Norfolk, VA				San Francisco and San Pablo Bays				Dec. 1978			
The following objects HAVE ☐ HAVE NOT ☒ been inspected from seaward to determine their value as landmarks.				SURVEY NUMBER				DATUM				METHOD AND DATE OF LOCATION (See instructions on reverse side)			
OPR PROJECT NO.				JOB NUMBER				LATITUDE				LONGITUDE			
411				CM-7704 - TP-00524				N.A. 1927				OFFICE			
CHARTING NAME				DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses.)				POSITION				FIELD			
								LATITUDE				LONGITUDE			
								° / ' " D.M. Meters				° / ' " D.P. Meters			
LIGHT	Petaluma River Entrance Channel Light 10	38-05	20.66	122-26	25.56	77B(P) 3560	18652								
			637		623	Mar. 18, 1977	18654								
DAY-BEACON	Petaluma River Entrance Channel Daybeacon 11	38-05.8		122-26.9		NOT VIS	"								
DAY-BEACON	Petaluma River Entrance Channel Daybeacon 12	38-05.8		122-26.9		NOT VIS	"								
DAY-BEACON	Petaluma River Entrance Channel Daybeacon 13	38-06	18.91	122-27	18.80	77B(P) 3561	"								
			583		458	Mar. 18, 1977	"								
LIGHT	Petaluma River Entrance Channel Light 14	38-06	18.84	122-27	12.89	"	"								
			581		314	"	"								
DAY-BEACON	Petaluma River Entrance Channel Daybeacon 15	38-06	34.02	122-27	53.69	"	"								
			1049		1308	"	"								
LIGHT	Petaluma River Entrance Channel Light 16	38-06	36.58	122-27	52.83	"	"								
			1128		1287	"	"								
DAY-BEACON	Petaluma River Entrance Channel Daybeacon 17	38-06	37.20	122-28	22.17	"	"								
			1147		540	"	"								
DAY-BEACON	Petaluma River Entrance Channel Daybeacon 18	38-06.7		122-28.4		NOT VIS	"								
							"								
							30								

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	David Butler
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	Jerry Hancock
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 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.	

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RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	David Butler
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW	Jerry Hancock
ACTIVITIES	
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 V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection 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.	

TYPE OF
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FORMS ORIGINATED BY AND REVIEW GROUP A ACTIVITIES
OFFICE 1. OFFICE Enter t day, an identif EXAMPLE
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A. Field local EXAM
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TYPE OF ACTION	
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	
OFFICE	
1. OFFICE IDENTIFIED AND LOCATED Enter the number and date, day, and year) of the photo identify and locate the EXAMPLE: 75E(C)6042 8-12-75	
FIELD	
1. NEW POSITION DETERMINED Enter the applicable data: F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection P - Vis 5 - 6 - 7 - 8 -	
A. Field positions* require location and date of EXAMPLE: F-2-6-1 8-12-75	
*FIELD POSITIONS are determined based entirely upon	

