

TP- 00536

TP-00536

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. TR-00536

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

This map edition will not be field edit

LOCALITY

State California

General Locality San Francisco & San Pablo Bays

Locality ... Redwood Creek

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		SURVEY TP. 00536	
DESCRIPTIVE REPORT - DATA RECORD				☒ ORIGINAL		MAP EDITION NO. 1	
				☐ RESURVEY		MAP CLASS III, FINAL	
				☐ REVISED		JOB PH. CM-7704	
PHOTOGRAMMETRIC OFFICE				LAST PRECEDING MAP EDITION			
Coastal Mapping Division, Norfolk, Va.				TYPE OF SURVEY		JOB PH. _____	
OFFICER-IN-CHARGE				☐ ORIGINAL		MAP CLASS _____	
Roy K. Matsushige, CDR.				☐ RESURVEY		SURVEY DATES:	
				☐ REVISED		19__ TO 19__	
I. INSTRUCTIONS DATED							
1. OFFICE				2. FIELD			
Aerotriangulation April 13, 1977 ✓ Compilation Aug. 3, 1977 ✓ Amendment I April 20, 1978 ✓ Amendment II April 6, 1979 Compilation (Memo) July 2, 1981 ✓ Compilation Amendment III July 30, 1979 ✓				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				4. GRID(S)			
Lambert Conformal				STATE CA.		ZONE 3	
5. SCALE 1:10,000				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				I. Perkinson		Dec 1978	
COMPILATION CHECKED BY				R. Kravitz		Dec 1978	
INSTRUMENT: Wild B-8				N.A.			
SCALE: 1:15,000				N.A.			
4. MANUSCRIPT DELINEATION PLANIMETRY BY				I. Perkinson		Mar. 1979	
CHECKED BY				L. Neterer Jr.		July 1979	
METHOD: Graphic, smooth drafted				N.A.			
CHECKED BY				N.A.			
SCALE: 1:10,000 HYDRO SUPPORT DATA BY				I. Perkinson		Mar. 1979	
CHECKED BY				L. Neterer Jr.		July 1979	
5. OFFICE INSPECTION PRIOR TO FIELD EDIT BY				L. Neterer Jr.		July 1979	
6. APPLICATION OF FIELD EDIT DATA BY				None			
CHECKED BY							
7. COMPILATION SECTION REVIEW BY				L. Neterer Jr.		July 1979	
8. FINAL REVIEW BY				J. Hancock		Aug. 1981	
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH BY				J. Hancock		Aug. 1981	
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH BY				G. Fromm		Sept. 1981	
11. MAP REGISTERED - COASTAL SURVEY SECTION BY				H. D. Wolfe		MAR 1982	

COMPILATION SOURCES

TP-00536

1. COMPILATION PHOTOGRAPHY

CAMERA(S) Wild RC-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 B&W		ZONE Pacific	☒ STANDARD
				MERIDIAN 120th	☐ DAYLIGHT
NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE	
77B(P) 2513-2516 *	Mar 4, 1977	10:30	1:30,000	Not computed	
77B(P) 2502-2504 *	"	10:18	"	"	
77B(P) 3745-3748 **	Mar 18, 1977	14:23	"	"	
77B(I) 3884 & 3886	Mar 29, 1977	13:25	"	+.05 feet MLLW	
77B(I) 3875 & 3877	"	13:12	"	+.20 feet MLLW	
77B(I) 2852 & 2854	Mar 5, 1977	11:07	"	-.03 feet MHW	
77B(I) 2845 & 2847	"	10:56	"	-.17 feet MHW	
77B(I) 3868 & 3870	Mar 28, 1977	15:16	"	+.08 feet MLW	

REMARKS * Compilation photography; ** Hydro support photography
Infrared photography (MLW, MLLW & MHW) was ratioed to 1:10,000 scale.

2. SOURCE OF MEAN HIGH-WATER LINE: (MHW)

The mean high water line was compiled graphically using ratio prints of the appropriate tide-coordinated black-and-white infrared photographs listed above under Item 1.

3. SOURCE OF MEAN LOW-WATER LINE AND MEAN LOWER LOW-WATER LINE: (MLW MLLW)

The mean low water and the mean low water lines were compiled using the ratio prints of the appropriate tide-coordinated black-and-white infrared photographs listed above under Item 1. Refer paragraph #36 of the Compilation Report bound with this Descriptive Report.

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
TP-00534 & TP-00535	TP-00537	TP-00537	No survey

REMARKS

This 1:10,000 inset map is enclosed and junctions with three 1:20,000 scale maps: TP-00534, TP-00535 and TP-00537

TP-00536

HISTORY OF FIELD OPERATIONS

I. ☒ 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	None
3. VERTICAL CONTROL	RECOVERED BY ESTABLISHED BY PRE-MARKED OR IDENTIFIED BY	None
4. LANDMARKS AND AIDS TO NAVIGATION	RECOVERED (Triangulation Stations) BY LOCATED (Field Methods) BY IDENTIFIED BY	None
5. GEOGRAPHIC NAMES INVESTIGATION	TYPE OF INVESTIGATION ☐ COMPLETE ☐ SPECIFIC NAMES ONLY BY ☒ NO INVESTIGATION	
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY	
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY	

II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED

None

2. VERTICAL CONTROL IDENTIFIED

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION

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

None

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

Field Report

RECORD OF SURVEY USE

TP-00536

I. MANUSCRIPT COPIES

COMPILATION STAGES			DATE MANUSCRIPT FORWARDED	
DATA COMPILED	DATE	REMARKS	MARINE CHARTS	HYDRO SUPPORT
Compilation complete pending field edit	July 1979	Class III Manuscript	July 20, 1979	
Final Review, Class III	Aug. 1981	Final Class III Map, Field edit canceled	DECEMBER AUG. 5, 1981	

II. LANDMARKS AND AIDS TO NAVIGATION

1. REPORTS TO MARINE CHART DIVISION, NAUTICAL DATA BRANCH

NUMBER	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS

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

CM-7704

SAN FRANCISCO & SAN PABLO BAYS

CALIFORNIA

SHORELINE MAPPING

SCALE 1:10,000 & 1:20,000

SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORTS

TP-00536

This 1:10,000 shoreline 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 consist 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 Final Class III Map, of which field edit has not been accomplished, is the 1:10,000 inset map of Redwood Creek that incorporates portions of three 1:20,000 scale maps; TP-00534, TP-00535 and TP-00537.

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. An additional flight strip flown at MLW was also provided at 1:30,000 scale for TP-00536 in compliance with the special request by the California Department of Justice.

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

TP-00536

Compilation was performed at the Atlantic Marine Center in July 1979. 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 for this Final Class III Map was performed at the Atlantic Marine Center in August 1981. At this time, several apparent discrepancies were discovered; consequently, instrument recompilation of the 1977 photography and a comprehensive office review was performed to assure an accurate and complete photogrammetric 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-00536

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:

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 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.

CONE ROCK LIGHT

RICHARDSON EAST, 1895

HILL, 1916

BARRY, 1932

15.

14.

13.

12.

11.

10.

9.

8.

7.

6.

5.

4.

3.

2.

1.

16.

17.

18.

19.

20.

21.

22.

23.

24.

25.

26.

CLARK, 1948

BOVITA CHANNEL
RANGE REAR LIGHT

SOUTH
TOWER, 1954

CROSSING
1955

KVA RADIO
TOWER, 1937

SAN BRUNO
MOUNTAIN, 1894

SAN FRANCISCO
AIRPORT VORTAC

BLACK MOUNTAIN, 1938

POINT SAN MATEO, 1925

19.

20.

21.

22.

23.

24.

25.

26.

27.

28.

29.

30.

31.

32.

33.

34.

35.

36.

37.

38.

39.

TREASURE ISLAND
NORTHERN LIGHT 6

DUMPA, 1947

CROSS, 1954

OAKLAND TRIBUNE BLDG, FLAGPOLE, 1925

OAKLAND, MORMON TEMPLE, SPIRE

YB 4 (EBHOD), 1946

ALAMEDA, NAS EAST BREAKWATER NORTH LIGHT, 1953

OAKLAND, MUNI AIRPORT VORTAC

122° 19'

37° 45'

TRIANGULATION SKETCH

PROJECT CM-T704

SAN FRANCISCO BAY, CALIF.

NATIONAL OCEAN SURVEY-NOAA

PMC PHOTO PARTY

R.B. Melby - Chief of Party

Feb 1977

0 1 2 3 4 5 10

Miles

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

11

12. YERBA BUENA LIGHTHOUSE, 1919

13. FRANCIS (CALIF D.F.H.), 1955

14. GOLDEN GATE BRIDGE NORTH
AERO LIGHT, 1964

15. LIME POINT LIGHT

16. SAN FRANCISCO OAKLAND
BAY BRIDGE, PIG 21, 1954

CLARK, 1948

BOVITA CHANNEL
RANGE REAR LIGHT

SOUTH
TOWER, 1954

CROSSING
1955

KVA RADIO
TOWER, 1937

SAN BRUNO
MOUNTAIN, 1894

SAN FRANCISCO
AIRPORT VORTAC

BLACK MOUNTAIN, 1938

POINT SAN MATEO, 1925

19.

20.

21.

22.

23.

24.

25.

26.

27.

28.

29.

30.

31.

32.

33.

34.

35.

36.

37.

38.

39.

CAMPANILE, UNIVERSITY OF CALIFORNIA,
1916

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

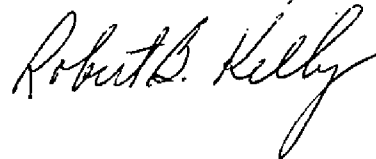
Local shoreline and USGS quadrangles were used to provide elevations for vertical adjustments of bridges.

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

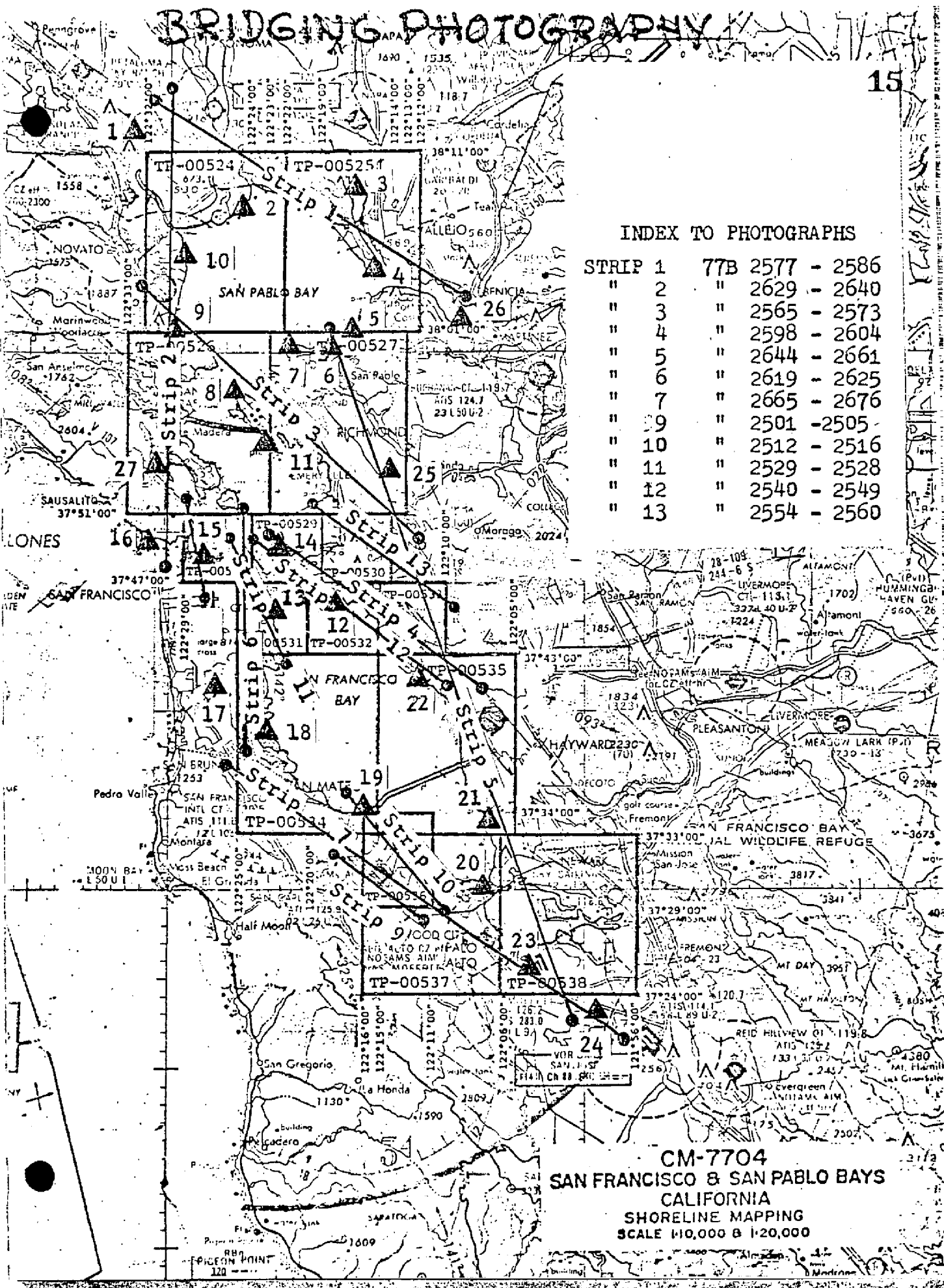
1 LAKEVILLE, SQUARE TANK ON HILL, 1951	TANK(1.04, -3.77)
	PANEL(-.25, .23)
2 BUG (SLC), 1951	COULD NOT SEE
3 SLAUGHTERHOUSE PT. 3, 1921	{ -2.22, .52 }
4 MARE ISLAND SOUTHEAST=, 1952	{ 3.02, -.23 }
5 PINOLE HERCULES POWDER CO., TANK, 1947	{ .38, -.17 }
6 WILSON, 1852	{ .08, -.10 }
7 POINT PINOLE ATLAS DOCK, SHED E. GABLE, 1950	COULD NOT SEE
8 SAN PABLO RIDGE, 1897	{ 2.14, -1.21 }
9 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



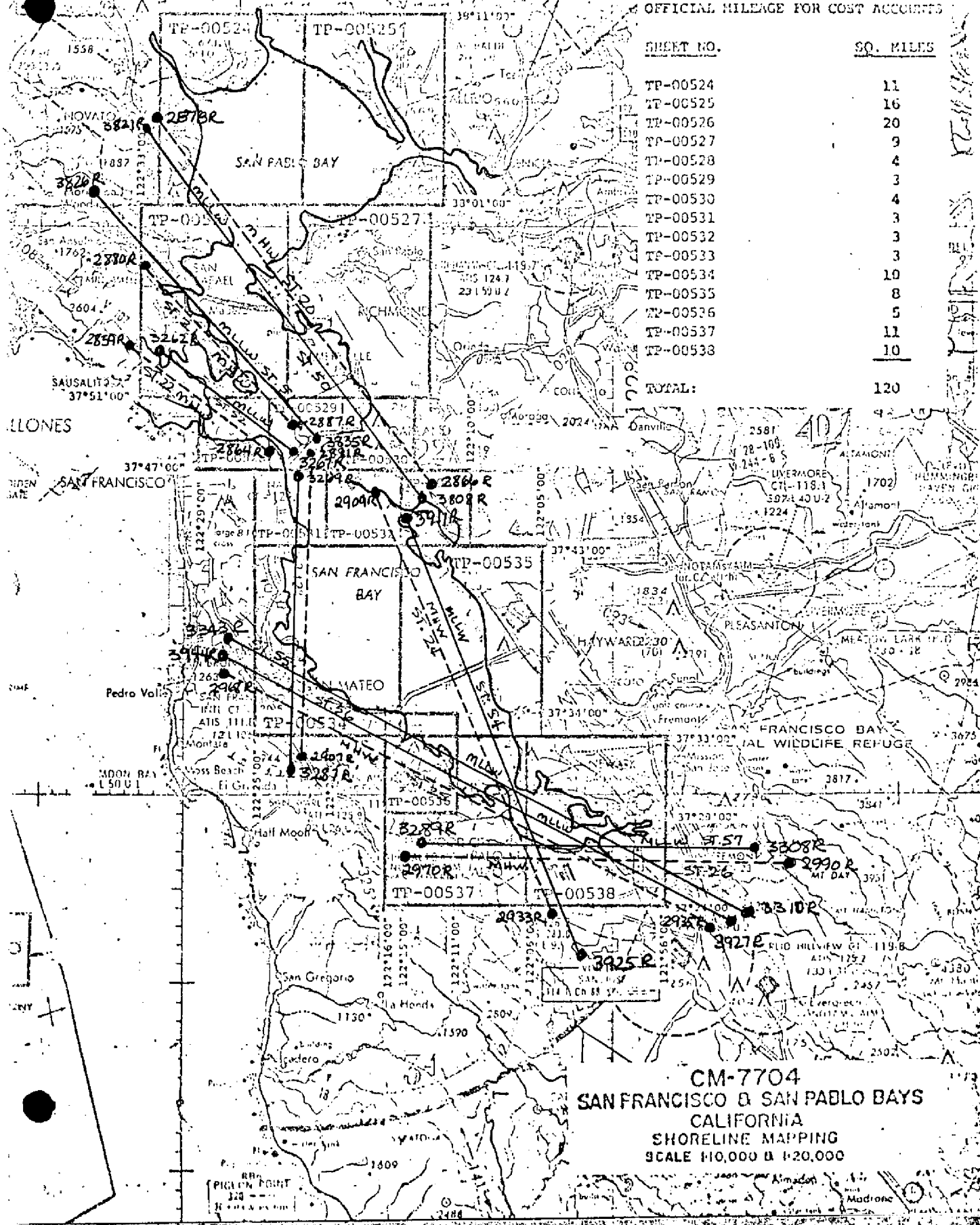
1:40,000

MLLW
m HW

16

OFFICIAL MILEAGE FOR COST ACCOUNTS

<u>SHEET NO.</u>	<u>SQ. MILES</u>
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
MHW
MLW

17

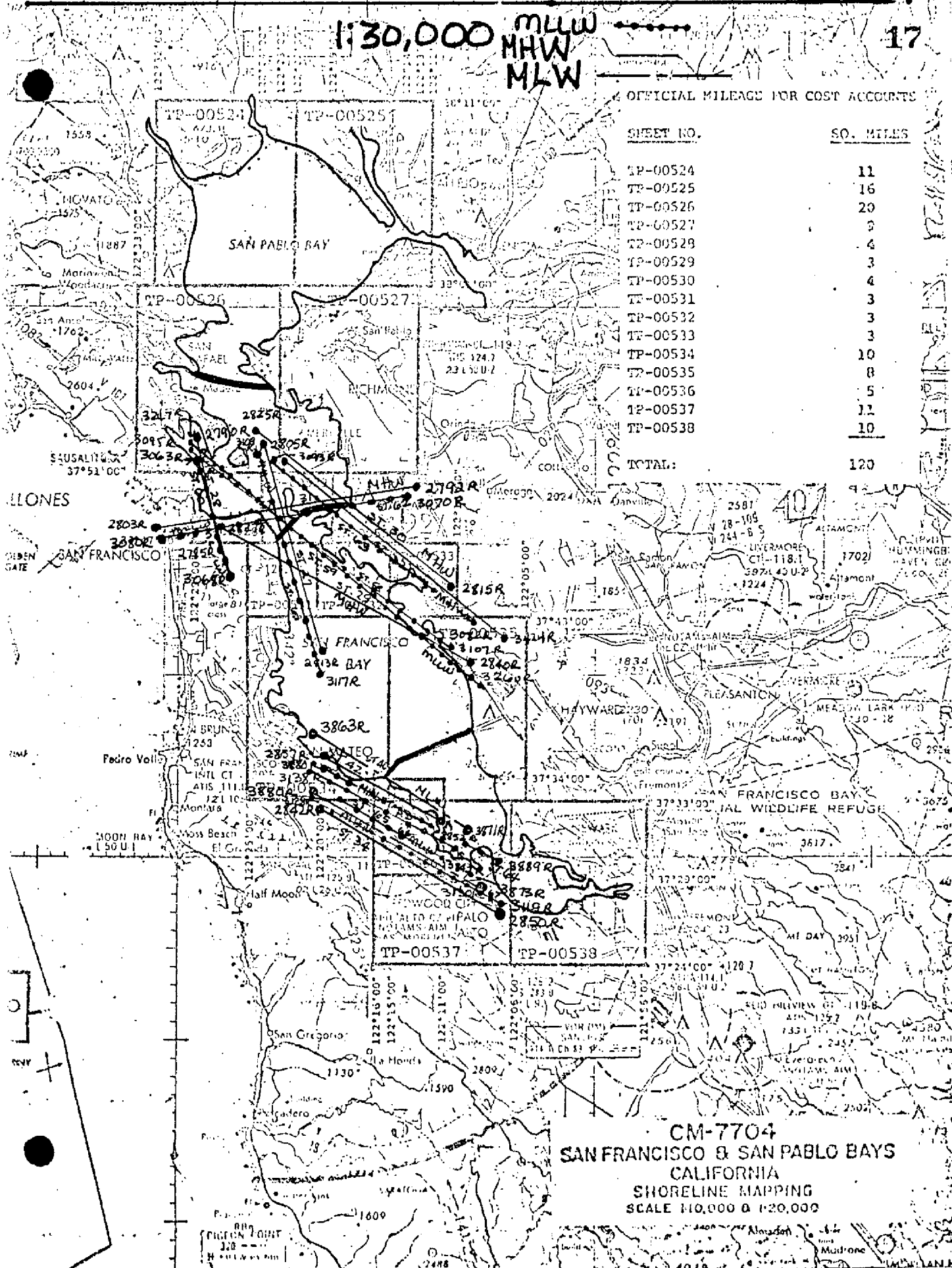
OFFICIAL MILEAGE FOR COST ACCOUNTS

SHEET NO.

SO. 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

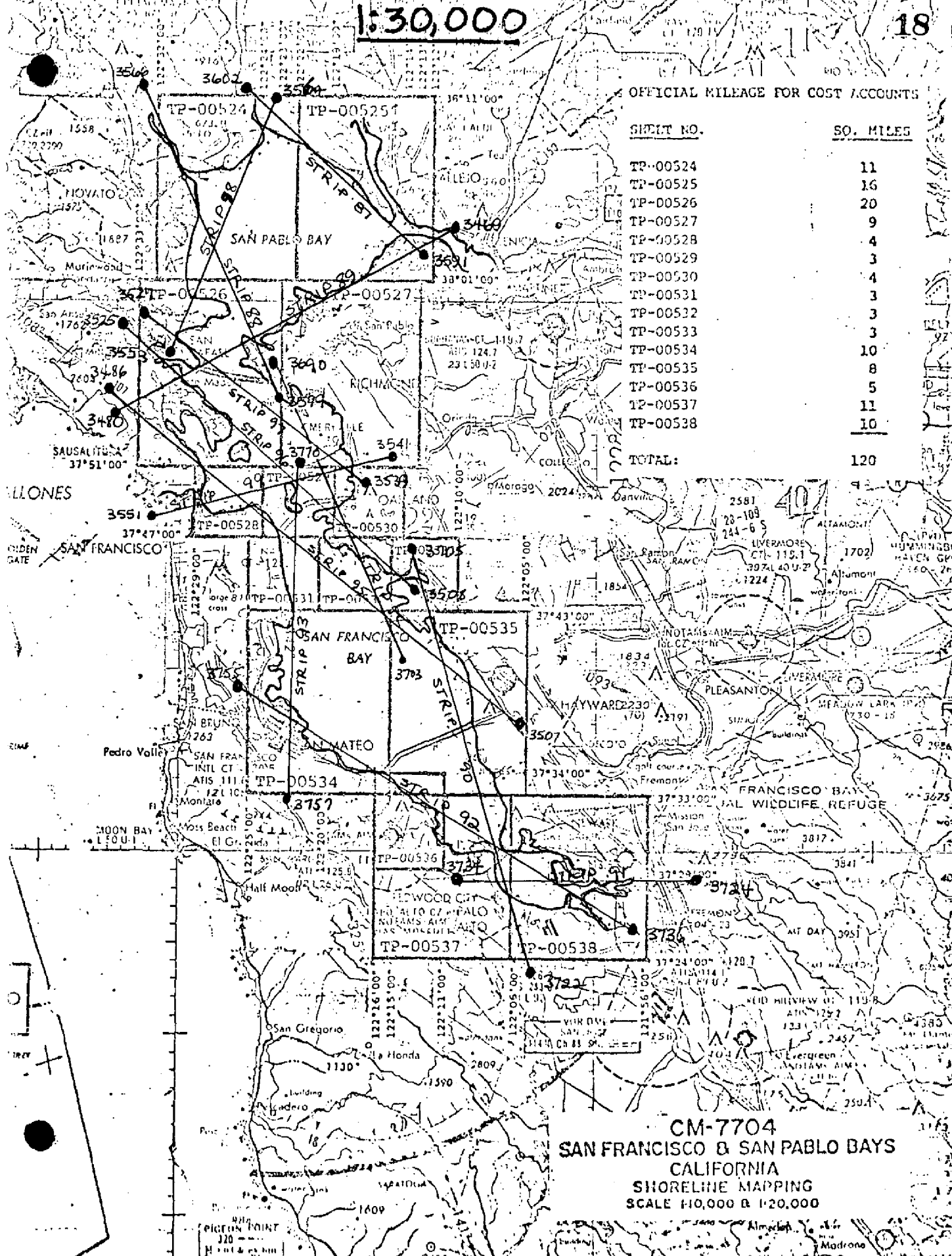
OFFICIAL MILEAGE FOR COST ACCOUNTS

SHEET NO.

SO. 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



COMPILATION PHOTOGRAPHY

1:30,000

19

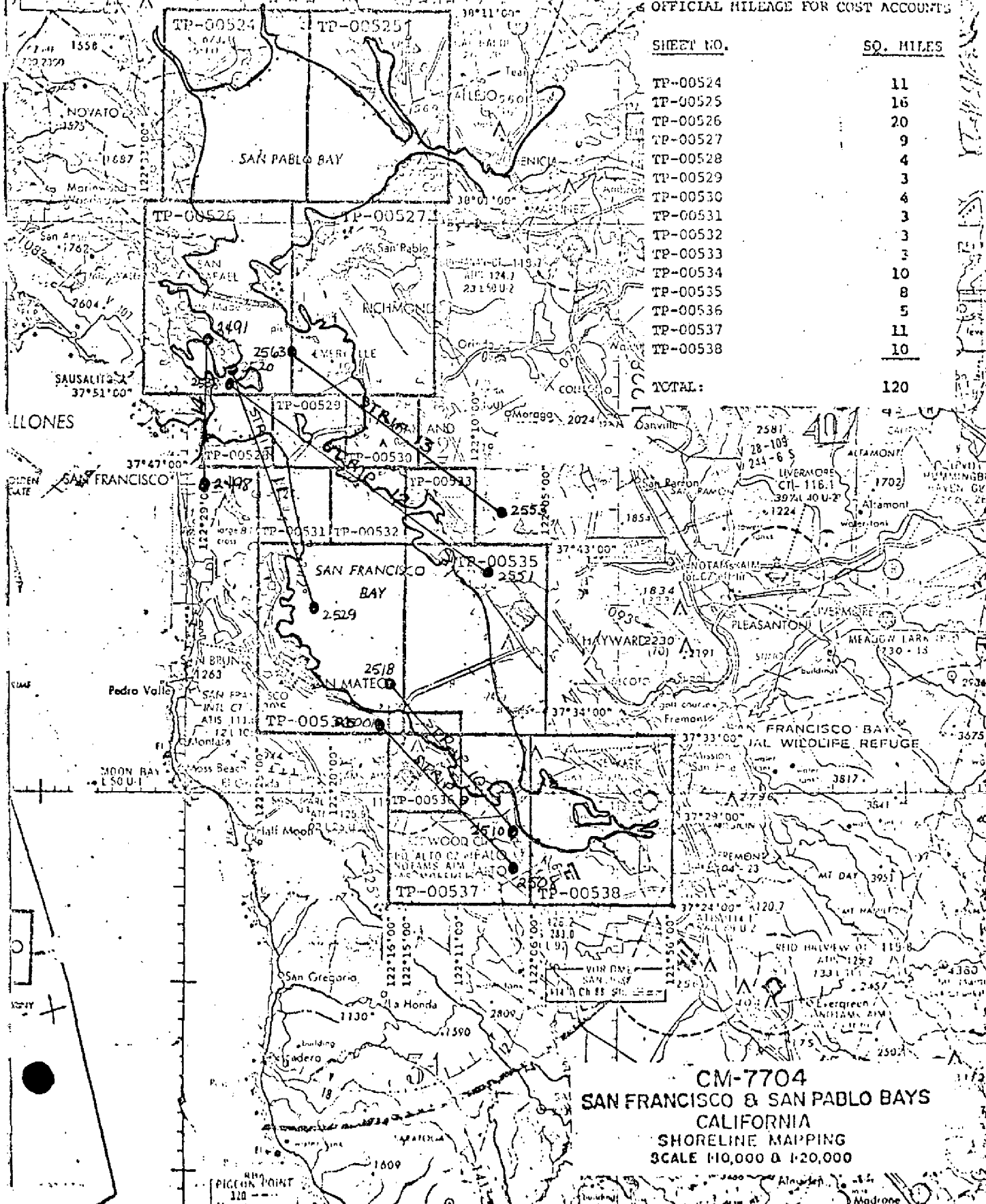
OFFICIAL MILEAGE FOR COST ACCOUNTS

SHEET NO.

SO. 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

DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.	STATION NAME	JOB NO.	GEOIDETIC DATUM		AEROTRI- ANGULATION POINT NUMBER	COORDINATES IN FEET		GEOGRAPHIC POSITION		REMARKS
			TP-00536	CM-7704		STATE California	ZONE 3	φ LATITUDE	λ LONGITUDE	
* Transmission Tower No. 8, 1931	371221	3061	x=	φ 37° 33' 02.830"	311	x=	φ 37° 32' 57.568"	λ 122° 15' 00.157"	1774.8 - 75.0 - 1247.7 - 225.1 -	
			y=	λ 122° 15' 00.157"		y=	λ 122° 14' 50.830"			87.2 - 1762.5 - 03.9 - 1469.0 -
* Transmission Tower No. 7, 1931	2084	"	x=	φ 37° 32' 57.568"	312	x=	φ 37° 32' 57.568"	λ 122° 14' 50.830"	1774.8 - 75.0 - 1247.7 - 225.1 -	
			y=	λ 122° 14' 50.830"		y=	λ 122° 13' 54.368"			1554.8 - 294.9 - 1334.6 - 138.2 -
K. P. O. Commercial Radio Station, East Tower, 1934	2049	"	x=	φ 37° 32' 57.568"	312	x=	φ 37° 32' 57.568"	λ 122° 13' 54.368"	1554.8 - 294.9 - 1334.6 - 138.2 -	
			y=	λ 122° 13' 54.368"		y=	λ 122° 13' 54.368"			1535.1 - 314.7 - 1423.8 - 49.0 -
Radio Station K. N. B. C. Tall Mast, 1955	2044	"	x=	φ 37° 32' 57.568"	312	x=	φ 37° 32' 57.568"	λ 122° 13' 54.368"	1535.1 - 314.7 - 1423.8 - 49.0 -	
			y=	λ 122° 13' 54.368"		y=	λ 122° 13' 54.368"			1535.1 - 314.7 - 1423.8 - 49.0 -
* Transmission Tower No. 9, 1931	2085	"	x=	φ 37° 32' 57.568"	312	x=	φ 37° 32' 57.568"	λ 122° 13' 54.368"	1535.1 - 314.7 - 1423.8 - 49.0 -	
			y=	λ 122° 13' 54.368"		y=	λ 122° 13' 54.368"			1535.1 - 314.7 - 1423.8 - 49.0 -
Windmill On Tank, 1931	2089	"	x=	φ 37° 32' 57.568"	312	x=	φ 37° 32' 57.568"	λ 122° 13' 54.368"	1535.1 - 314.7 - 1423.8 - 49.0 -	
			y=	λ 122° 13' 54.368"		y=	λ 122° 13' 54.368"			1535.1 - 314.7 - 1423.8 - 49.0 -
Windmill, 1931	2094	"	x=	φ 37° 32' 57.568"	312	x=	φ 37° 32' 57.568"	λ 122° 13' 54.368"	1535.1 - 314.7 - 1423.8 - 49.0 -	
			y=	λ 122° 13' 54.368"		y=	λ 122° 13' 54.368"			1535.1 - 314.7 - 1423.8 - 49.0 -
Marsh, 1925	2020	"	x=	φ 37° 32' 57.568"	315	x=	φ 37° 32' 57.568"	λ 122° 11' 42.707"	143.7 - 1706.0 - 1048.5 - 424.6 -	
			y=	λ 122° 11' 42.707"		y=	λ 122° 11' 42.707"			143.7 - 1706.0 - 1048.5 - 424.6 -
* Redwood Creek, North Side Transmission Tower, 1931	2063	"	x=	φ 37° 31' 57.071"	316	x=	φ 37° 31' 57.071"	λ 122° 12' 12.412"	874.6 - 975.1 - 304.8 - 1168.5 -	
			y=	λ 122° 12' 12.412"		y=	λ 122° 12' 12.412"			874.6 - 975.1 - 304.8 - 1168.5 -
* Redwood Creek, South Side Transmission Tower, 1931	2062	"	x=	φ 37° 31' 57.071"	317	x=	φ 37° 31' 57.071"	λ 122° 12' 12.412"	692.1 - 1157.7 - 49.3 - 1424.1 -	
			y=	λ 122° 12' 12.412"		y=	λ 122° 12' 12.412"			692.1 - 1157.7 - 49.3 - 1424.1 -
COMPUTED BY Lowell O. Neterer, Jr.			COMPUTATION CHECKED BY J. Moler			DATE 9/20/77	DATE 9/20/77			
LISTED BY A. C. Rauck, Jr.			LISTING CHECKED BY F. Margiotta			DATE 5/18/77	DATE			
HAND PLOTTING BY			HAND PLOTTING CHECKED BY F. Mauldin			DATE	DATE			

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

DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.	JOB NO.	GEODEIC DATUM		ORIGINATING ACTIVITY		REMARKS
		COORDINATES IN FEET STATE California ZONE 3	AEROTRI- ANGULATION POINT NUMBER	GEOGRAPHIC POSITION φ LATITUDE λ LONGITUDE	Coastal Mapping Div., AMC	
TP-00536	CM-7704	SOURCE OF INFORMATION (Index)				
Redwood City, Cement Works East Stack, 1925	371221 - 2058			φ 37° 30' 58.489" - λ 122° 12' 13.751" -		Front M. Back M. 1803.2 - 46.6 - 337.7 - 1135.8 -
Cement Plant, Square Bin, 1931	" 2059 -			φ 37° 31' 00.88" - λ 122° 12' 14.53" -		27.1 - 1822.6 - 356.8 - 1116.7 -
Wooden Windmill Vertical Vane, 1931	" 2088 -			φ 37° 31' 04.239" - λ 122° 11' 28.342" -		130.7 - 1719.1 - 696.0 - 1777.5 -
Redwood City, Courthouse Dome, 1931	371222 1106 -		295 -	φ 37° 29' 13.40" - λ 122° 13' 42.86" -		413.1 - 1436.6 - 1053.0 - 421.1 -
Redwood City, Franks Tannery Stack, 1925	" 1107 -			φ 37° 29' 31.110" - λ 122° 13' 25.484" -		959.1 - 890.6 - 626.0 - 847.9 -
Redwood City Tank, 1931	" 1129 -		296 -	φ 37° 29' 30.45" - λ 122° 13' 25.48" -		938.7 - 911.0 - 625.9 - 848.0 -
K. P. O. Commercial Radio Station, West Tower, 1934	" 2050 -			φ 37° 32' 49.047" - λ 122° 14' 01.584" -		1512.1 - 337.7 - 38.9 - 1434.4 -
				φ		
				λ		
				φ		
				λ		
				φ		
				λ		
*See Review Report item #65 Concerning these towers						
COMPUTED BY Lowell O. Neterer, Jr.						DATE 5/20/77
LISTED BY A. C. Rauck, Jr.						DATE 8/19/77
HAND PLOTTING BY						DATE Oct. 27, 1978

COMPILATION REPORT

TP-00536

31. DELINEATION

Delineation was by instrument methods using the Wild B-8 stereoplotter. Compilation photography was adequate. The mean high water, mean low water and mean lower low water lines were compiled graphically from the tide coordinated infrared ratio photos indicated on form 76-36B.

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. See item #31.

35. SHORELINE AND ALONGSHORE DETAILS

See item #31.

36. OFFSHORE DETAILS

In addition to the graphic compilation of the mean high water line and the mean lower low water line, the mean low water line was also delineated in the vicinity of Bird and Greco Islands. This was requested by the Department of Justice, State of California per their letter dated January 28, 1977 and the office project instructions.

37. LANDMARKS AND AIDS

Preliminary 76-40 forms consisting of three pages of Navigational Aids and one page of Landmarks for charts were prepared for field edit.

38. CONTROL FOR FUTURE SURVEYS

None

TP-00536

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 U.S.G.S. Quadangles:
Redwood Point, CA; 1:24,000 scale; 1959 photo revised 1968/1973
and San Mateo, CA; 1:24,000 scale; 1956 photo revised 1968/1973.

47. COMPARISON WITH NAUTICAL CHARTS

A comparison was made with the following National Ocean Survey chart: No. 18652, 1:40,000 scale, 16th Ed., March 26, 1977.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None

ITEMS TO BE CARRIED FORWARD

None

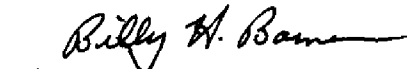
Submitted by:



Irene Perkinson
Cartographer

Date: March 30, 1979

Approved:


for

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

PHOTOGRAMMETRIC OFFICE PRE-HYDRO AND FIELD EDIT REVIEW

TP- 00536

PROJECTION AND GRIDS L. O. N.	TITLE L. O. N.	HORIZONTAL CONTROL L. O. N.	PHOTOGRAMMETRIC PLOT REPORT, L. O. N.
DETAIL POINTS AND PASS POINTS L. O. N.	PROCESSED RATIOS L. O. N.	AIDS TO NAVIGATION L. O. N.	LANDMARKS L. O. N.
MEAN HIGH WATER LINE L. O. N.	LOW-WATER LINE L. O. N.	ROCKS, SHOALS, ETC. L. O. N.	ALONG SHORE AND OTHER PHYSICAL FEATURES L. O. N.
WATER FEATURES L. O. N.	ALONG SHORE AND OTHER CULTURAL FEATURES L. O. N.	BRIDGES L. O. N.	ROADS L. O. N.
BUILDINGS L. O. N.	RAILROADS None.	CONTOURS AND SPOT ELEVATIONS NA	GEOGRAPHIC NAMES L. O. N.
JUNCTIONS L. O. N.	LEGIBILITY OF THE MANUSCRIPT L. O. N.	COMPILATION REPORT L. O. N.	FIELD EDIT OZALID L. O. N.
COMPARISON WITH NAUTICAL CHARTS L. O. N.	COMPARISON WITH PRIOR SURVEYS NA	COMPARISON WITH EXISTING MAPS L. O. N.	FIELD PRINTS AND OTHER COPIES L. O. N.
REVIEWER L. O. Neterer, Jr.	DATE July 1979	SUPERVISOR A. C. Rauck, Jr.	DATE July 1979

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

Class III, No field edit accomplished.

REVIEW REPORT TP-00536

SHORELINE

61. GENERAL STATEMENT:

An extensive final review was performed in order to meet map accuracy requirements for this Final Class III Map. See the Summary included in this Descriptive Report.

In compliance to the California Department of Justice request, see letter dated January 28, 1977, the mean low water line was compiled along the outer shoreline for this map.

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:

Not applicable

63. COMPARISON WITH MAPS OF OTHER AGENCIES:

A comparison was made with the following U.S.G.S. quadrangles: Redwood Point, CA; 1:24,000 scale; 1959, photo revised 1968 and 1973; and San Mateo, CA; 1:24,000 scale; 1956, photo revised 1968 and 1973. 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 Class III Map. See the Summary included in this Descriptive Report.

65. COMPARISON WITH NAUTICAL CHARTS:

A comparison was made with N. O. S. chart 18651, 31st edition, July 12/80, 1:40,000 scale and chart 18652, 20th edition, April 16/81, 1:40,000 / 1:80,000 scale.

Five of the six charted Landmark Towers extending from Redwood Creek to Belmont Slough are 1931 triangulation stations. Even though they were recovered in 1976, it is very likely they have been rebuilt. The two charted Towers crossing Redwood Creek apparently have been razed and rebuilt as both positions differ by approx. 80 ft. The two charted Towers crossing Steinberger Slough and the two charted Towers crossing Belmont Slough are possibly the original towers as their photo positions check reasonably well; however, definite verification will require a field investigation. Also these charted landmark towers are not the "tallest" as indicated by their descriptive name. In all cases, the tallest tower appears to be the most northerly tower of three.

TP-00536

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:

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

A Revision Survey is scheduled immediately after final review and registration of this map. Refer to Photogrammetry memo/instruction dated July 2, 1981.

Submitted by:

Jerry L. Hancock
Jerry L. Hancock
Final Reviewer

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

August 3, 1981

27

GEOGRAPHIC NAMES

FINAL NAME SHEET

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

TP-00536

Bair Island

Bay Slough

Belmont Channel

Belmont Slough

Bird Island

Brewer Island

Corkscrew Slough

Deepwater Slough

First Slough

Foster City

Greco Island

Phelps Slough

Port of Redwood City

Pulgas Creek

Redwood City

Redwood Creek

Redwood Point

San Francisco Bay

Smith Slough

Southern Pacific (RR)

Steinberger Slough

Westpoint Slough

Approved by:

Charles E. Harrington

Charles E. Harrington
Chief Geographer, OA/C3x5

Bill

Copies of pages
28 thru 31 have
been sent to the
Coast Guard
(12th Dist)
C.G. Hdqs.

4/28/82
D/E

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)		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)			
CHARTING NAME		DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses.)		JOB NUMBER		SURVEY NUMBER		DATUM		METHOD AND DATE OF LOCATION (See instructions on reverse side)		CHARTS AFFECTED	
OPR PROJECT NO.		JOB NUMBER		SURVEY NUMBER		DATUM		LATITUDE		LONGITUDE		FIELD	
								° / ' " D.M. Meters		° / ' " D.P. Meters			
			Redwood Creek										
LIGHT	-- Entrance Light 2.			37-33	11.3"	122-11	46.8'	77B	2513	VIS.		18651	
LIGHT	-- Entrance Light 3.			37-32	348.2'	122-11	1148.6'	77B	2513	VIS.		18652	
LIGHT	-- Entrance Light 4.			37-32	57.9'	122-11	31.8'					"	
LIGHT	-- Light 5.			37-32	1784'	122-11	780'					"	
LIGHT	-- Light 6.			37-32	49.6'	122-11	38.5'					"	
LIGHT	-- Light 7.			37-32	1530'	122-11	944'					"	
LIGHT	-- Light 8.			37-32	26.0'	122-11	30.0'					"	
LIGHT	-- Light 9.			37-32	802'	122-11	736'					"	
				37-32	25.8'	122-11	35.7'					"	
				37-32	795'	122-11	877'					"	
				37-32	00.2'	122-11	28.3'					"	
				37-32	07'	122-11	694'					"	
				37-32	01.4'	122-11	34.4'					"	
				37-32	44'	122-11	844'					"	
				37-31	43.1'	122-11	37.3'					"	
				37-31	1329'	122-11	916'					"	
												28	

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	No
POSITIONS DETERMINED AND/OR VERIFIED	I. PERKINSON 7/20/79
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW	J. HANCOCK, AMC 7/29/81
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 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	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				LOCALITY				DATE			
REPORTING UNIT (Field Party, Ship or Office)				STATE				DATE			
TO BE CHARTED				TO BE REVISED				TO BE DELETED			
A.M.C. Norfolk VA				California				San Francisco and San Pablo Bays			
The following objects HAVE ☐ BEEN INSPECTED FROM SEAWARD TO DETERMINE THEIR VALUE AS LANDMARKS.				DATE				DATE			
OPR PROJECT NO.				JOB NUMBER				DATE			
CM-7704				TP-00536				N.A. 1927			
DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)				POSITION				METHOD AND DATE OF LOCATION (See instructions on reverse side)			
CHARTING NAME				LATITUDE				LONGITUDE			
				° / ' " D.M. Meters				° / ' " D.P. Meters			
Redwood Creek											
Light 10.				37-31' 45.0' 122-11' 42.4' 77B 2513' VIS				18651 18652			
Daybeacon 11.				37-31' 31.3' 122-11' 53.0' 1302'				"			
Daybeacon 12. Not apparent on 1977 photography. Currently charted as Light 12.				37 31.6' 122-11' 1302'				"			
Light 13.				37-31' 15.5' 122-12' 13.6' 77B 2513' VIS				"			
Light 14.				37-31' 477' 122-12' 334' 77B 2513' VIS				"			
Light 15.				37-31' 18.3' 122-12' 17.7' 434'				"			
Daybeacon 18. Currently charted as Light 18				37-31' 03.7' 122-12' 19.8' 486'				"			
				37-31' 113' 122-12' 29.1' 77B 2513' VIS				"			
				45' 122-12' 714'				"			
								29			

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	No
POSITIONS DETERMINED AND/OR VERIFIED	I. Perkinson 7/20/79
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	J. Hancock, AMC 7/29/81
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	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 IIII. 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	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	No
POSITIONS DETERMINED AND/OR VERIFIED	
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW	I. Perkinson 7/20/79
ACTIVITIES	I. Hancock, AMC 7/29/81 (Consult Photogrammetric Instructions No. 64.)
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'	
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	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.
*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 LANDMARKS FOR CHARTS										ORIGINATING ACTIVITY	
REPORTING UNIT (Field Party, Ship or Office)		STATE		LOCALITY		DATE		METHOD AND DATE OF LOCATION (See instructions on reverse side)		CHARTS AFFECTED		ORIGINATING ACTIVITY									
TO BE CHARTED ☒ TO BE REVISED ☐ TO BE DELETED		AMC, Norfolk, VA		San Francisco and San Pablo Bays		7/20/79 7/29/81		OFFICE 77 B 3747 VIS		FIELD 77 B 3747 VIS											
The following objects HAVE ☐ HAVE NOT ☒ been inspected from seaward to determine their value as landmarks.		SURVEY NUMBER		LATITUDE		LONGITUDE		POSITION		D.P. Meters		CHARTS AFFECTED									
OPR PROJECT NO.		JOB NUMBER		LATITUDE		LONGITUDE		POSITION		D.P. Meters											
CHARTING NAME		DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)		LATITUDE		LONGITUDE		POSITION		D.P. Meters		CHARTS AFFECTED									
RADIO TOWER (KNER)	(RADIO STATION KNBC TALL MAST, 1955)	37 32	49.793	122 13	58.002	1423.8	77 B 3747 VIS	18651													
RADIO TOWER (KNER)	(KPO COMMERCIAL RADIO STATION, EAST TOWER, 1934)	37 32	50.434	122 13	54.368	1334.6	77 B 3747 VIS	18652													
DOMES	(REDWOOD CITY COURTHOUSE DOME, 1931)	37 29	13.40	122 13	42.86	1053.0	77 B 2503 VIS	"													
TALLER* TOWER	S.E. tower, Belmont Slough (TRANSMISSION TOWER No. 7, 1931)	37 32	57.568	122 14	50.830	1247.7	77 B 2514 VIS	"													
TALLER* TOWER	N.W. tower, Belmont Slough (TRANSMISSION TOWER No. 8, 1931)	37 33	02.830	122 15	00.157	03.9	77 B 2514 VIS	"													
TALLER* TOWER	S.E. tower, Steinberger Slough (TRANSMISSION TOWER No. 9, 1931)	37 32	15.394	122 13	35.933	882.2	77 B 2514 VIS	"													
TALLER* TOWER	N.W. tower, Steinberger Slough	37 32	21.3	122 13	46.6		77 B 2514 VIS	"													
TOWER*	N.W. tower, Redwood Creek (REDWOOD CREEK NORTH SIDE TRANSMISSION TOWER, 1931)	37 31.5		122 12.2			Tower appears rebuilt	destroyed and rebuilt													
TOWER*	S.E. tower, Redwood Creek (REDWOOD CREEK SOUTH SIDE TRANSMISSION TOWER, 1931)	37 31.4		122 12.0			Tower appears rebuilt.	destroyed and rebuilt.													
*See Review Report, Item #65 Concerning these Towers									31												

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	No
POSITIONS DETERMINED AND/OR VERIFIED	I. Perkinson 7/20/79
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	J. Hancock, AMC 7/29/81
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	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 **PHOTOGAMMETRIC 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.	



OFFICE OF THE ATTORNEY GENERAL

Department of Justice

STATE BUILDING, SAN FRANCISCO 94102

(415) 557-2210

January 28, 1977

Commander James Collins
National Ocean Survey
Rockville, Maryland 20852

Dear Commander Collins:

This letter is to confirm our conversation of January 27, 1977 respecting the upcoming NOS phytogrammetric survey of South San Francisco Bay.

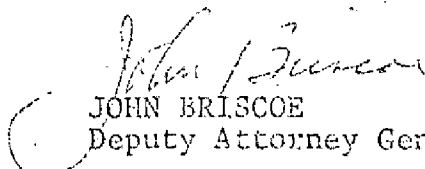
For costs reasons we have decided not to ask you to map the east shore at 1:10,000 scale, but we will be interested in obtaining the results of your 1:20,000 mapping, including the geodetic control data.

On the western shore of the south bay, however, we are interested in obtaining the mean low water line in the vicinity of Bird and Greco Islands at a scale of 1:10,000. (The attached portions of chart 5531 indicate the areas of our concern.) I understand that this portion of Greco was to be done at this scale as part of the Redwood Creek insert to 5531 in any event.

Thank you very much for the continuing courtesy, helpfulness of you and your agency.

Very truly yours,

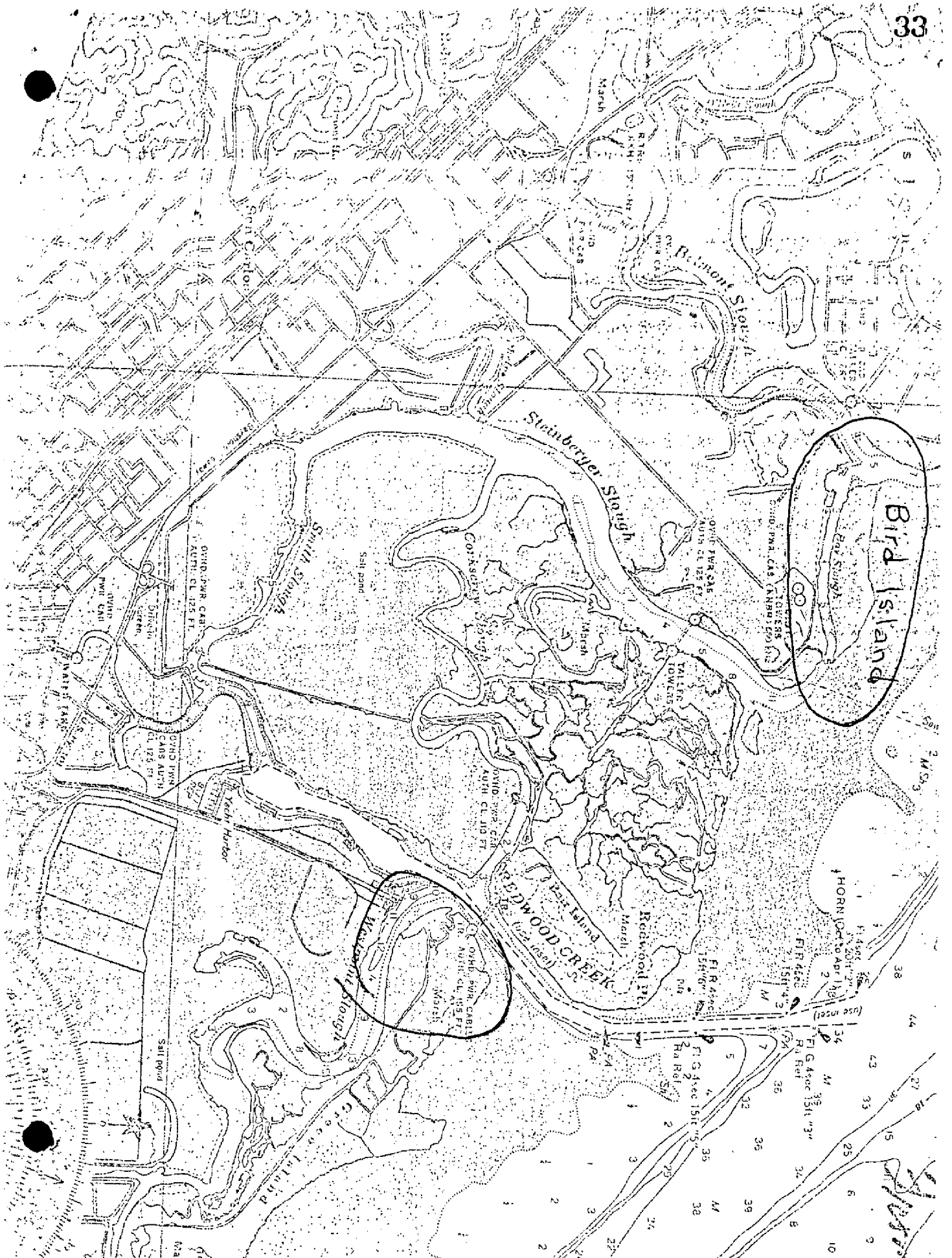
EVELLE J. YOUNGER
Attorney General


JOHN BRISCOE
Deputy Attorney General

JB:mw

cc: Cal Thurlow
N. Gregory Taylor
Walter Cook
Jim Dowden

Walt Young
prob with 4/4/87
No problem
2EA
will 5/1/87
e344
5-63442
e342
03441
32



13°

122°12' E

REDWOOD CREEK

Scale 1:20,000

SOUNDINGS IN FEET
AT MEAN LOWER LOW WATER

