TP-00531

TP-00531

NOAA FORM 76-35
(3-76)

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

DESCRIPTIVE REPORT

Map No. TP-00531	*Edition No.* 1
Job No. CM-7704	
Map Classification FINAL, FIELD EDITED MAP	
Type of Survey SHORELINE	

LOCALITY

State
California

General Locality
San Francisco and San Pablo Bays

Locality
Point Avisadero

1977 TO 1979

REGISTRY IN ARCHIVES

DATE

*U.S. GOVERNMENT PRINTING OFFICE:1976-669-248

NOAA FORM 76-36A (3-72) — U. S. DEPARTMENT OF COMMERCE, NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.

DESCRIPTIVE REPORT - DATA RECORD

TYPE OF SURVEY: ☐ ORIGINAL ☐ RESURVEY ☐ REVISED

SURVEY TP-00531

MAP EDITION NO. (1)

MAP CLASS Final

JOB CM-7704

PHOTOGRAMMETRIC OFFICE: Coastal Mapping Division, Norfolk, VA

OFFICER-IN-CHARGE: Roy Matsushige, CDR, NOAA

LAST PRECEEDING MAP EDITION

TYPE OF SURVEY: ☐ ORIGINAL ☐ RESURVEY ☐ REVISED

JOB PH-

MAP CLASS

SURVEY DATES: 19__ TO 19__

I. INSTRUCTIONS DATED

1. OFFICE		2. FIELD
Aerotriangulation	April 13, 1977	Control - Premarking Feb. 7, 1977
Compilation	August 3, 1977	
Compilation Amendment 1	April 20, 1978	
Compilation Amendment 2	April 6, 1979	
Compilation Amendment 3	July 30, 1979	
Compilation	July 2, 1981	

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: California; ZONE: 3

5. SCALE: 1:10,000 — STATE: ; ZONE:

III. HISTORY OF OFFICE OPERATIONS

OPERATIONS		NAME	DATE
1. AEROTRIANGULATION METHOD: Analytic	BY	R. Kelly	July 1977
	LANDMARKS AND AIDS BY		
2. CONTROL AND BRIDGE POINTS METHOD: Coradomat	PLOTTED BY	S. Solbeck	July 1977
	CHECKED BY	S. Solbeck	July 1977
3. STEREOSCOPIC INSTRUMENT COMPILATION	PLANIMETRY BY	Jeff Moler	Sept. 1978
	CHECKED BY	Lowell Neterer, Jr.	Sept. 1978
INSTRUMENT: Wild B-8	CONTOURS BY	NA	
SCALE: 1:15,000	CHECKED BY	NA	
4. MANUSCRIPT DELINEATION	PLANIMETRY BY	Jeff Moler	Sept. 1978
	CHECKED BY	F. Mauldin	Nov. 1978
METHOD: Graphically Smooth Drafted	CONTOURS BY	None	
	CHECKED BY	None	
SCALE: 1:10,000	HYDRO SUPPORT DATA BY	Jeff Moler	Sept. 1978
	CHECKED BY	F. Mauldin	Nov. 1978
5. OFFICE INSPECTION PRIOR TO FIELD EDIT	BY	F. Mauldin	Nov. 1978
6. APPLICATION OF FIELD EDIT DATA	BY	G. Morris	Feb. 1981
	CHECKED BY	W. A. Richter	Feb. 1981
7. COMPILATION SECTION REVIEW	BY	J. Hancock	Feb. 1982
8. FINAL REVIEW	BY	J. Hancock	Feb. 1982
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH	BY	J. Hancock	Feb. 1982
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH	BY	R. Kelly	Apr. 1982
11. MAP REGISTERED - COASTAL SURVEY SECTION	BY	H. D. Wolfe	MAR 1982

NOAA FORM 76-36A — SUPERSEDES FORM C&GS 161 SERIES

U.S.G.P.O. 1972-769382/582 REG.#6

NOAA FORM 76-36B
(3-72)

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

TP-00531

COMPILATION SOURCES

1. COMPILATION PHOTOGRAPHY

CAMERA(S): Wild R. C. 10 "B" (B≒ 152.74 mm)

TIDE STAGE REFERENCE
- ☐ PREDICTED TIDES
- ☒ REFERENCE STATION RECORDS
- ☒ TIDE CONTROLLED PHOTOGRAPHY *

TYPES OF PHOTOGRAPHY LEGEND
- (C) COLOR
- (P) PANCHROMATIC
- (I) INFRARED

TIME REFERENCE
- ZONE: Pacific — ☒ STANDARD
- MERIDIAN: 120th — ☐ DAYLIGHT

NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE
77B(P)2524 - 2527	Mar 4, 1977	10:48	1:30,000	Not Computed
77B(P)3764 - 3767**	Mar 18, 1977	14:39	1:30,000	Not Computed
77B(I)3113, 3115, 3117*	Mar 10, 1977	11:45	1:30,000	0.50 ft. above MLLW
77B(I)2809, 2811, 2813*	Mar 5, 1977	10:16	1:30,000	0.37 ft. below MHW

REMARKS Photographs 77B(P)2524 thru 2527 were used for stereoscopic instrument compilation of the interior detail and the selection of pass points common to the hydro support and tide controlled infrared photography. **Hydro support photography.

2. SOURCE OF MEAN HIGH-WATER LINE:

The mean high water line was compiled graphically from the above listed tide coordinated infrared photography controlled with pass points selected and dropped during the stereo instrument compilation. Additions and modifications to the mean high water line may have resulted from the compilation of the field edit data listed on form 76-36C.

3. SOURCE OF MEAN LOW-WATER OR MEAN LOWER LOW-WATER LINE:

The mean lower low-water line was compiled graphically from the above listed tide coordinated infrared photography controlled with pass points selected and dropped during the stereo instrument compilation. Additions and modifications to the mean lower low water line may have resulted from the compilation of the field edit data listed on form 76-36C.

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
H-9844	1979-1981	None; see Review Report, item 64			
H-9819	1981				

5. FINAL JUNCTIONS

NORTH	EAST	SOUTH	WEST
TP-00529	TP-00532	TP-00534	No Survey

REMARKS There is no shoreline junction with TP-00532. TP-00534 is 1:20,000 scale; all other maps are 1:10,000 scale.

NOAA FORM 76-36C
(3-72)

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

TP-00531

HISTORY OF FIELD OPERATIONS

I. [X] FIELD INSPECTION OPERATION (Premarking) [ ] FIELD EDIT OPERATION.

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

II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED

2. VERTICAL CONTROL IDENTIFIED

None

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION
77B(P)2526	Crossing, 1955 (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 [X] NONE

6. BOUNDARY AND LIMITS: [ ] REPORT [X] NONE

7. SUPPLEMENTAL MAPS AND PLANS

None

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

1 - form 76-53, 1 field report

*U.S. GOVERNMENT PRINTING OFFICE: 1974 - 768-078

NOAA FORM 76-36C
(3-72)

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

TP-00531

HISTORY OF FIELD OPERATIONS

I. ☐ FIELD INSPECTION OPERATION ☒ FIELD EDIT OPERATION

OPERATION		NAME	DATE
1. CHIEF OF FIELD PARTY		D. Taylor	Aug. 1979
2. HORIZONTAL CONTROL	RECOVERED BY	F. Rosario	Aug. 1979
	ESTABLISHED BY	None	
	PRE-MARKED OR IDENTIFIED BY	None	
3. VERTICAL CONTROL	RECOVERED BY	None	
	ESTABLISHED BY	None	
	PRE-MARKED OR IDENTIFIED BY	None	
4. LANDMARKS AND AIDS TO NAVIGATION	RECOVERED (*Triangulation Stations*) BY	F. Rosario	Aug. 1979
	LOCATED (*Field Methods*) BY	None (See Field Edit Report)	
	IDENTIFIED BY	F. Rosario	July 1979
5. GEOGRAPHIC NAMES INVESTIGATION	TYPE OF INVESTIGATION: ☐ COMPLETE ☐ SPECIFIC NAMES ONLY ☒ NO INVESTIGATION — BY	None	
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY	None	
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY	NA	

II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED

None

2. VERTICAL CONTROL IDENTIFIED

None

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION

3. PHOTO NUMBERS (*Clarification of details*)

77B(P)3764, 3766

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

See below

PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME
77B(P)3766	Santa Fe Ferry Slip Fog Signal		

5. GEOGRAPHIC NAMES: ☐ REPORT ☒ NONE

6. 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*)

1 sounding volume containing fix and sketch data, 2 ozalid field edit sheets, 1 field edit report

*U.S. GOVERNMENT PRINTING OFFICE: 1974 - 768-078

NOAA FORM 76-36D
(3-72)

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

TP-00531

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	Nov. 1978	Class III manuscript	Feb. 1979	Nov. 1978
Field edit applied	Feb. 1981	Class I manuscript	None	Feb. 1981
Final Review	Feb. 1982	Final Map	Mar. 1982	Mar. 1982

II. LANDMARKS AND AIDS TO NAVIGATION

1. REPORTS TO MARINE CHART DIVISION, NAUTICAL DATA BRANCH

NUMBER	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS
4 Pages		Mar. 1982	Appropriate forms (76-40) are attached with this Descriptive Report; no forms were forwarded prior to final review.

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 **

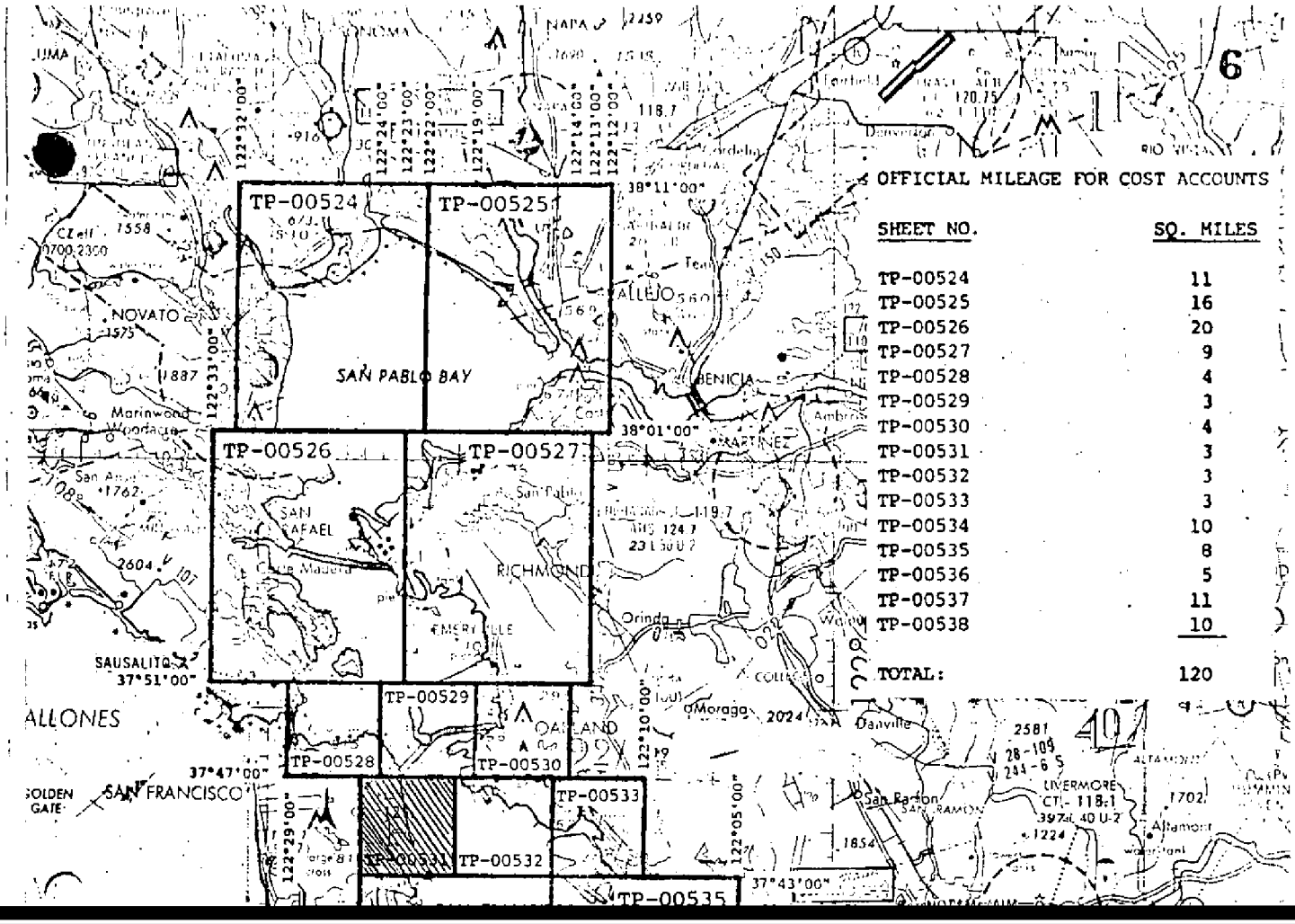
1. ☐ BRIDGING PHOTOGRAPHS; ☒ DUPLICATE BRIDGING REPORT; ☒ COMPUTER READOUTS.
2. ☒ CONTROL STATION IDENTIFICATION CARDS; ☒ FORM NOS ~~76-40~~ SUBMITTED BY FIELD PARTIES. (76-40)
3. ☒ SOURCE DATA *(except for Geographic Names Report)* AS LISTED IN SECTION II, NOAA FORM 76-36C. ACCOUNT FOR EXCEPTIONS: **TP-00530, TP-00531, TP-00532, ~~and~~ TP-00533, and TP-00534 and TP-00535 completes CM-7704. Data held for completion, is being forwarded to the Federal Record Center.
4. ☐ DATA TO FEDERAL RECORDS CENTER. DATE FORWARDED: SEPTEMBER 14, 1982

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

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

NOAA FORM 76-36D

*U.S. GOVERNMENT PRINTING OFFICE:1977-765-092



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 REPORT

TP-00531

This 1:10,000 scale final shoreline map 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 afterwards, a Revision Survey using 1981 photography is scheduled to facilitate hydrography that has not been accomplished and to provide Nautical Charts with current shoreline information.

This final shoreline map corresponds geographically with portions of hydrographic surveys H-9844 (1979-81) and H-9819 (1981). At the time of final review, processing of these hydrographic surveys had been deferred pending receipt of the final shoreline maps. A copy of this map was forwarded to the Hydrographic Surveys Division.

This final map is a 1:10,000 scale shoreline map that portrays a portion of the industrial shoreline in San Francisco Bay from China Basin to South Basin.

Field work prior to compilation was accomplished in March 1977; this involved the establishment of horizontal control in order to meet aerotriangulation requiremrnts. 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. At the time of final review, the 1981 revision survey photography, at 1:40,000 scale, became available and was used to evaluate the existing Class I map.

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

Compilation was performed at the Atlantic Marine Center in November 1978. The Class III manuscript was forwarded to the Pacific Marine Center for the combined field edit and hydrographic operation.

Field edit was performed in conjunction with hydrographic survey H-9844 in August 1979 by personnel assigned to the Pacific Hydrographic Party. References were made to the hydrographic survey for information concerning several of the navigational aids and various offshore features compiled on this shoreline map.

Application of field edit was performed at the Pacific Marine Center in February 1981. Copies of the Class I map were released to the Hydrographic Verification Branch for smooth sheet application. Processing of the corresponding hydrographic surveys have been deferred until receipt of this final map.

Final review, involving a complete evaluation of all office and field activities, was performed at the Atlantic Marine Center in February 1982.

A final Chart Maintenance Print was prepared during final review and forwarded to the Marine Charts Division. This information will supersede the previous Class III maintenance print submitted in February 1979. A copy of the Class I map was never forwarded to Marine Charts.

A copy of this final map was also forwarded to the Hydrographic Surveys Division as a "Hydrographic Maintenance Print." This print will indicate all revisions made to the previous Class I map. Accompanying the map copy will be an amended set of 76-40 forms for the navigational aids and landmarks.

The context of this Descriptive Report contains all pertinent information used to compile this Final Map except for the field records used to establish horizontal control and locate the nonfloating aids to navigation. The horizontal control data was previously forwarded to the National Geodetic Survey and the navigational aid records were submitted with contemporary hydrographic survey H-9844. Listings of these features are attached with this report on NOAA forms 76-40 and 76-41.

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-00531

There was no field inspection prior to compilation. Field work accomplished was limited to the recovery and establishment of 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: 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 eletronic 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.

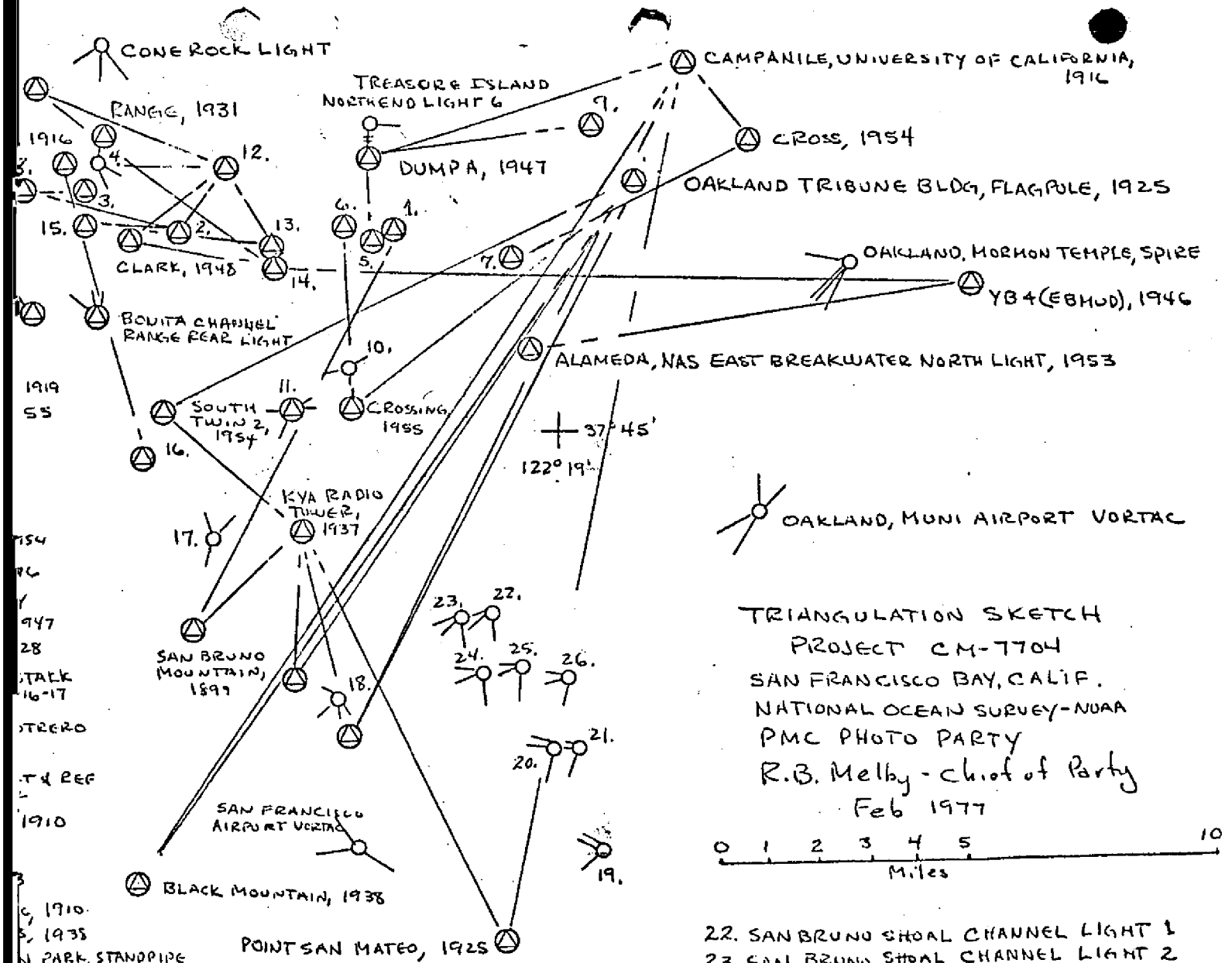
The coordinator would transmit time checks and receive tide staff readings of involved stations and filter and transmit to the aircraft the flight lines that were within the required tide ranges and maintain a summary of staff readings.

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

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

52

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

Robert B. Kelly

Approved and Forwarded:

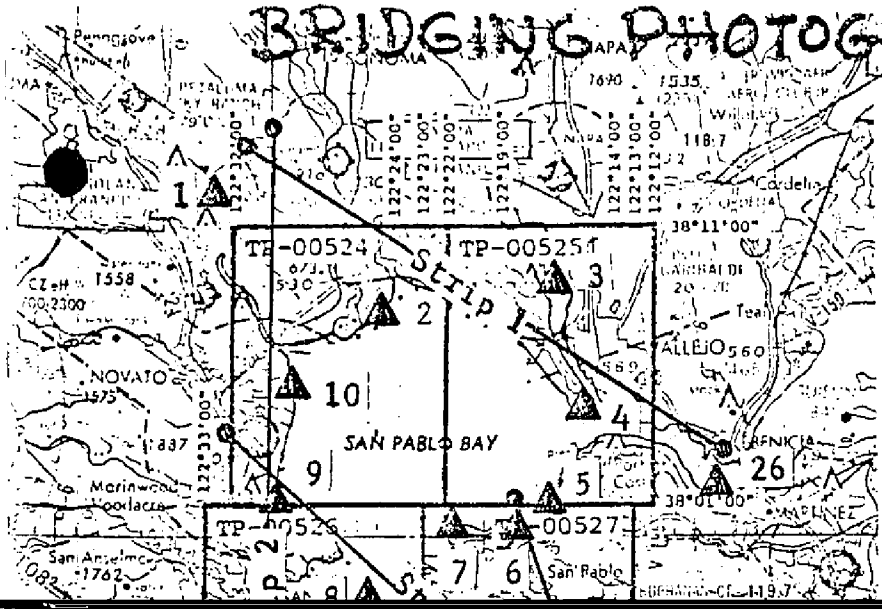
John D. Perrow Jr

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 BALD PRAK (EBMUD),1946 (- .15, .02)
26 BUCK, 1949 (-1.04,- .52)
27 MANZANITA (CADH), 1972 (-1.01,-1.09)

BRIDGING PHOTOGRAPHY



INDEX TO PHOTOGRAPHS

STRIP	1	77B	2577 - 2586
"	2	"	2629 - 2640
"	3	"	2565 - 2573
"	4	"	2598 - 2604
"	5	"	2644 - 2661
"	6	"	2619 - 2625

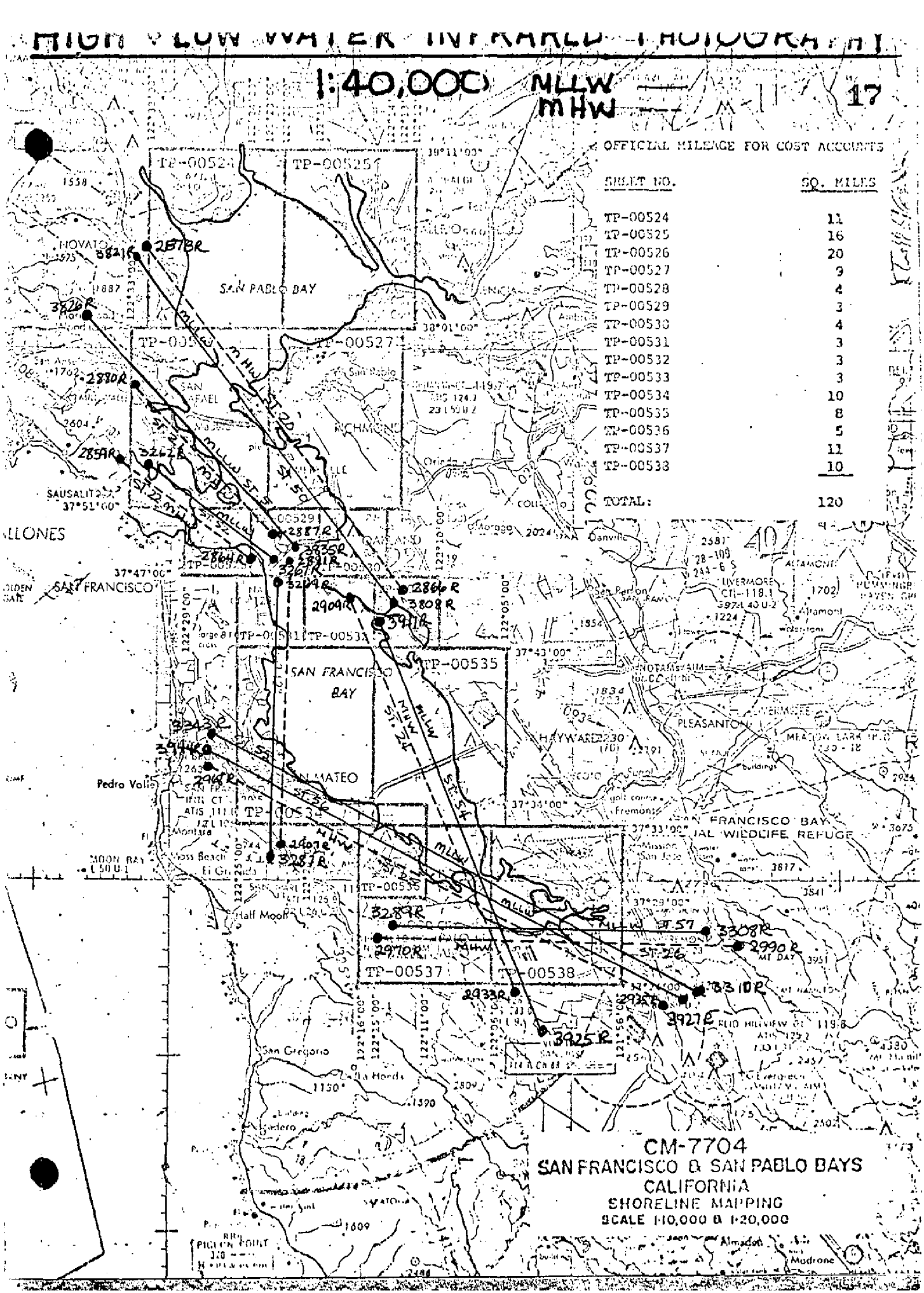
HIGH & LOW WATER INFRARED PHOTOGRAPH

1:40,000 MLLW ——
MHW - - -

17

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



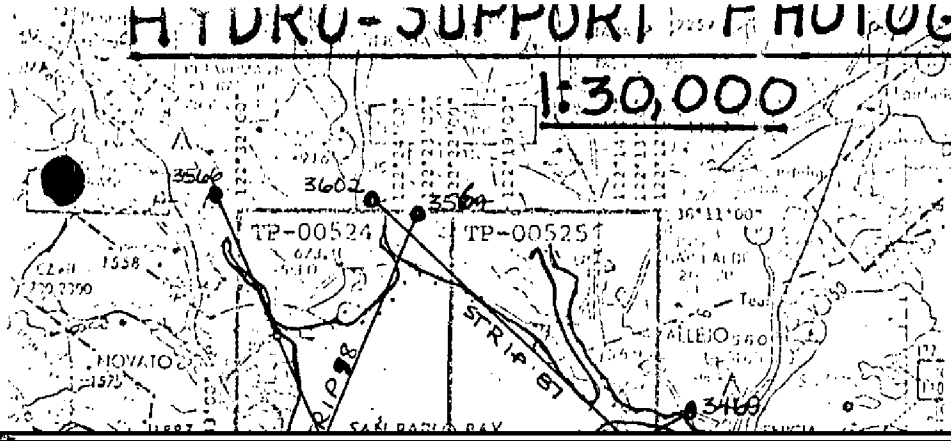
CM-7704
SAN FRANCISCO & SAN PABLO BAYS
CALIFORNIA
SHORELINE MAPPING
SCALE 1:10,000 & 1:20,000

HIGH & LOW WATER INFRARED PHOTOGRAPHY

HYDRO-SUPPORT PHOTOGRAPHY

1:30,000

19



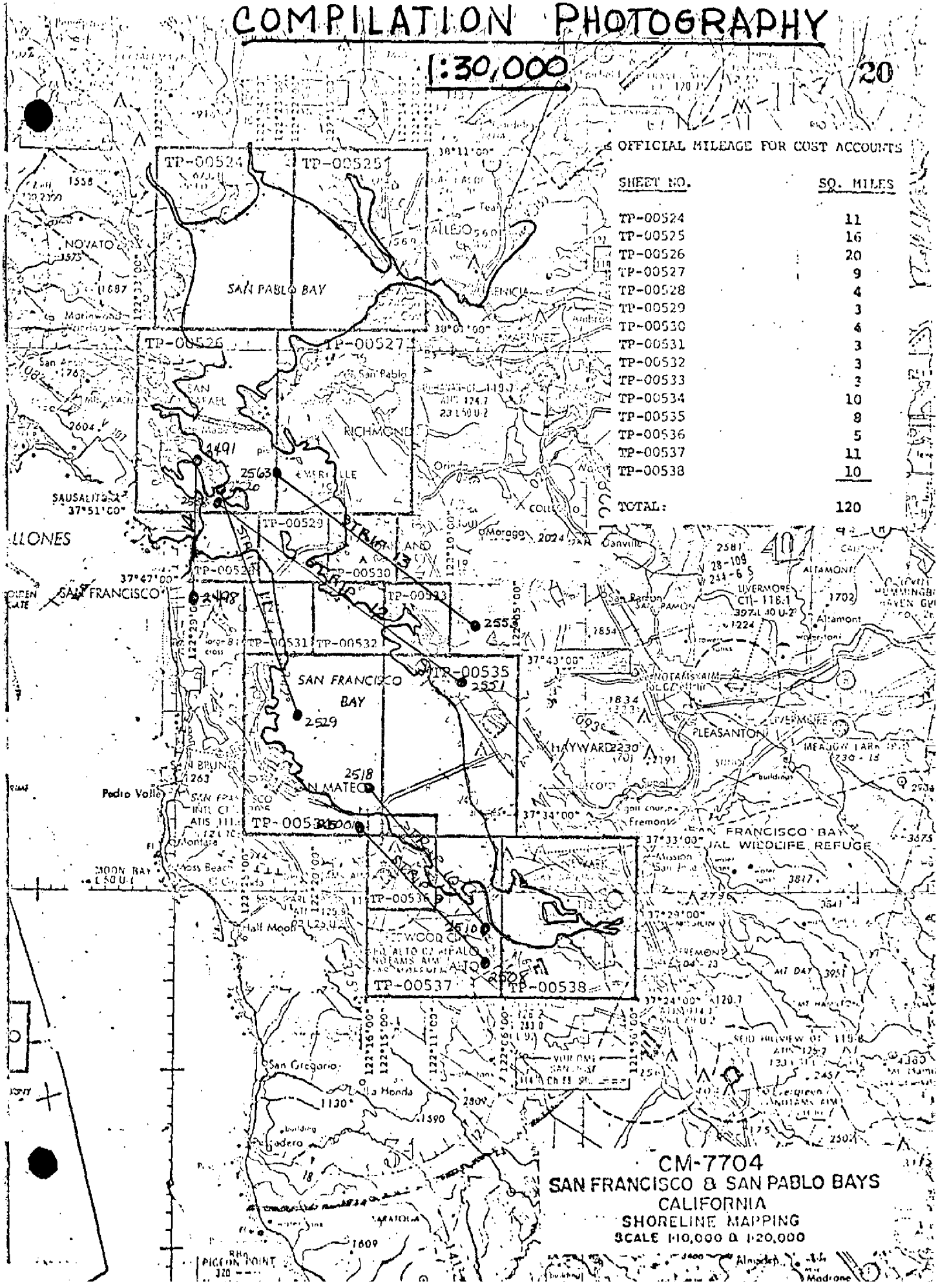
OFFICIAL MILEAGE FOR COST ACCOUNTS

SHEET NO.	SQ. MILES
TP-00524	11
TP-00525	16
TP-00526	20
TP-00527	9
TP-00528	4

COMPILATION PHOTOGRAPHY

1:30,000

20



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

NOAA FORM 76-41 (6-75)

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

DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.	JOB NO.	GEODETIC DATUM	ORIGINATING ACTIVITY
TP-ØØ531	CM-77Ø4	N.A. 1927	PMC-Photogrammetric Branch CPM-33

STATION NAME	SOURCE OF INFORMATION (Index)	AEROTRIANGULATION POINT NUMBER	COORDINATES IN FEET STATE California ZONE 3	GEOGRAPHIC POSITION φ LATITUDE λ LONGITUDE	Departures Front	Departures Back	REMARKS
			x=	φ	279.6	(1572.2)	
			y=	λ	773.8	(1[illegible])	
BUILDING 253, 1948	3712213		x= 1,462,696.Ø6	φ 37 -43 - 36.125	1,113.7	(7736.1)	
			y= 451,977.Ø3	λ122 -21 - 28.488	697.6	(1771.7)	
HUNTER EAST, 1941	3712213		x= 1,462,667.Ø6	φ 37 -43 - 44.719	1,378.7	(1471.1)	
			y= 452,846.99	λ122 -21 - 29.Ø64	711.7	(1757.6)	
HUNTERS POINT LIGHT,1953	371223	218	x= 1,462,885.65	φ 37 -43 - 44.737	1,379.2	(47Ø.6)	
			y= 452,844.47	λ122 -21 - 26.343	645.1	(1824.2)	
PIER 96 LIGHTER BASIN ENTRANCE LIGHT,1,1979 (Unadj. Field Position)	Hor. Control Hydro Survey H-9844 (1979-81)		x=	φ 37 -44 - 21.244	654.8	(1195.Ø)	
			y=	λ122 - 22 - ØØ.578	14.2	(1454.9)	
KSFO RADIO TOWER,1937	3712213	222	x= 1,456,88Ø.33	φ 37 -44 - 43.Ø55	1,327.4	(1522.4)	
			y= 458,863.92	λ122 -22 - 42.585	1,Ø42.6	(426.4)	
COLEMAN,1948	3712213	22Ø	x= 1,46Ø,ØØ2.34	φ 37 -43 - 39.365	1,213.6	(636.2)	
			y= 452,358.42	λ122 -22 - Ø2.1Ø6	51.6	(1417.7)	
SAN FRANCISCO AMERICAN SMELTING AND REFINING CORPORATION STACK,1942	371221		x=	φ 37 -44 - 56.432	1,739.8	(11Ø,Ø)	
			y=	λ122 -23 - 35.628	872.2	(596.7)	
SAN FRANCISCO ARMY STEET GAS TANK,1925	3712213	223	x= 1,451,367.12	φ 37 -44 - 57.Ø16	1,757.8	(92.Ø)	
			y= 46Ø,387.5Ø	λ122 -23 - 51.598	1,263.2	(22Ø5.7)	
SAN FRANCISCO PG AND E POTRERO PLANT STACK,1977			x= 1,456,3Ø3.6Ø	φ 37 -45 - 21.857	673.8	(1175.8)	
			y= 462,8Ø1.31	λ122 -22 - 5Ø.749	1,242.3	(2226.5)	

COMPUTED BY G.A.Morris	DATE 11/25/8Ø	COMPUTATION CHECKED BY W.A.Richter	DATE 12/1/8Ø
LISTED BY G.A.Morris	DATE 11/25/8Ø	LISTING CHECKED BY W.A.Richter	DATE 12/1/8Ø
HAND PLOTTING BY G.A.Morris	DATE 11/25/8Ø	HAND PLOTTING CHECKED BY W.A.Richter	DATE 12/1/8Ø

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

NOAA FORM 76-41
(6-75)

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

DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.	JOB NO.	GEODETIC DATUM	ORIGINATING ACTIVITY
TP-ØØ531	CM-77Ø4	N.A. 1927	PMC-Photogrammetric Branch CPM-33

STATION NAME	SOURCE OF INFORMATION (Index)	AEROTRIANGULATION POINT NUMBER	COORDINATES IN FEET STATE California ZONE 3	GEOGRAPHIC POSITION φ LATITUDE λ LONGITUDE	Departures REMARKS Front	Back
SAN FRANCISCO OBSTRUCTION LIGHT,1951	3712214		x= 1,452,932.9Ø	φ 37 - 45 -16.172	498.6	(1351.2)
			y= 462,293.67	λ 122 - 23 -32.586	797.7	(671.1)
WESTERN PACIFIC FERRY SLIP LIGHT,1979 (Unadj.Field Position)	Hor. Control Hydro Survey H-9844 (1979-81)		x=	φ 37 - 45 -14.Ø32	43276	(1417.2)
			y=	λ 122 -222 -44.898	1,Ø98.8	(369.6)
SAN FRANCISCO UNION IRON WORKS GAS TANK,1925	3712214		x= 1,455,197.9Ø	φ 37 - 45 -22.154	6683.Ø	(1166.8)
			y= 462,853.11	λ 122 - 23 -Ø4.528	11Ø.8	(1357.9)
SAN FRANCISCO SUGAR REFINERY BLACK TANK,1916	3712214		x= 1,455,766.46	φ 37 - 45 -22.245	685.8	(1164.Ø)
			y= 462,85Ø.87	λ 122 - 22 -57.449	1,4Ø6.3	(62.4)
MISSION ROCK SOUTHEAST CORNER LIGHT,1957	3712214	231	x= 1,456,513.29	φ 37 - 46 -19.362	596.9	(1252.9)
			y= 468,614.Ø2	λ 122 - 22 -49.593	13213.7	(254.7)
MISSION ROCK NORTHEAST CORNER LIGHT,1953	3712214		x= 1,456,436.56	φ 37 - 46 -28.73Ø	8885.7	(9964.1)
			y= 469,563.21	λ 122 - 22 -5Ø.786	1,242.9	(2225.5)
SAN FRANCISCO WILLIAM TAYLOR HOTEL,1932	3712214		x= 1,447,2Ø4.5Ø	φ 37 - 46 -52.178	1,6Ø87	(241.2)
			y= 472,122.43	λ 122 - 24 -46.4Ø3	1,135.5	(332.7)
SSAN FRANCISCO RADIO STATION KSAN TOWER,196Ø	3712214		x= 1,446,375.29	φ 37 - 46 -36.451	1,123.8	(7726.Ø)
			y= 1,47Ø,548.44	λ 122 - 24 -56.329	1,378.5	(89.8)
HUNTERS POINT NORTH END LIGHT,1953	3712214	221	x= 1,46Ø,923.62	φ 37 - 44 -Ø1.65Ø	55Ø.9	(1798.9)
			y= 454,594.44	λ 122 - 21 -51.195	1,253.6	(215.6)
HUNTER WEST,1941	3712213		x= 1,461,8ØØ.75	φ 37 - 43 -42.171	1,3ØØ.1	(549.7)
			y= 452,6Ø6.46	λ 122 - 21 -39.786	974.3	(495.Ø

COMPUTED BY G.A.Morris	DATE 11/25/8Ø	COMPUTATION CHECKED BY W.A.Richter	DATE 12/1/8Ø
LISTED BY G.A.Morris	DATE 11/25/8Ø	LISTING CHECKED BY W.A.Richter	DATE 12/1/8Ø
HAND PLOTTING BY G.A.Morris	DATE 11/25/8Ø	HAND PLOTTING CHECKED BY W.A.Richter	DATE 12/1/8Ø

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

NOAA FORM 76-41
(6-75)

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

DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.	JOB NO.	GEODETIC DATUM	ORIGINATING ACTIVITY
TP-00531	CM-7704	N.A.1927	PMC-Photogrammetric Branch CPM-33

STATION NAME	SOURCE OF INFORMATION (Index)	AEROTRIANGULATION POINT NUMBER	COORDINATES IN FEET STATE California ZONE 3	GEOGRAPHIC POSITION φ LATITUDE λ LONGITUDE	Departures REMARKS Front	Back
BUILDING 521,1948	371221		x= 1,460,515.85	φ 37 - 43 - 04.905	151.2	(1698.6)
			y= 448,862.14	λ 122 - 21 - 54.848	1,343.3	(126.2)
CROSSING,1955		622100	x= 1,456,335.59	φ 37 - 45 - 09.584	295.5	(1554.3)
			y= 461,558.61	λ 122 - 22 - 50.040	1,225.0	(243.8)
SUB POINT CROSSING,1955		622101	x=	φ 37 -445 - 05.64	174.0	(1675.8)
			y=	λ 122 -222 -557.00	1,395.0	(73.8)
SAN FRANCISCO PG AND E GAS TANK,1951		224	x= 1,452,875.55	φ 37 - 45 - 16.044	494.6	(1355.2)
			y= 462,281.88	λ 122 - 23 - 33.297	815.1	(653.7)
PIER 94 NORTH END LIGHT, 1979 (Unadj. Field Position)	Hor. Control Hydro Survey H-9844 (1979-81)		x=	φ 37 - 44 - 43.920	1,354.1	(495.8)
			y=	λ 122 - 22 - 17.913	438.6	(1030.4)
PIER 96 LIGHTER BASIN ENTRANCE LIGHT 2,1979 (Unadj. Field Position)	"		x=	φ 37 - 44 - 24.740	762.7	(1087.1)
			y=	λ 122 - 21 - 59.838	1,465.1	(04.0)
			x=	φ		
			y=	λ		
			x=	φ		
			y=	λ		
			x=	φ		
			y=	λ		
			x=	φ		
			y=	λ		

COMPUTED BY	G.A.Morris	DATE	11/25/80	COMPUTATION CHECKED BY W.A.Richter	DATE 12/1/80
LISTED BY	G.A.Morris	DATE	11/25/80	LISTING CHECKED BY W.A.Richter	DATE 12/1/80
HAND PLOTTING BY	G.A.Morris	DATE	11/25/80	HAND PLOTTING CHECKED BY W.A.Richter	DATE 12/1/80

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

COMPILATION REPORT

TP-00531

31. DELINEATION

Delineation was by instrument methods using the Wild B-8 stereoplotter. Compilation photography was adequate. The mean high water and the 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. See the attached Photogrammetric Plot Report, dated July 22, 1977.

33. SUPPLEMENTAL DATA

None

34. CONTOURS AND DRAINAGE

Contours are not applicable to the project. Drainage was delineated by the Wild B-8 stereoplotter and by office interpretation of the photographs.

35. SHORELINE AND ALONGSHORE DETAILS

Alongshore details were delineated by the Wild B-8 stereoplotter and by office interpretation of the photographs.

See form 76-36B, items 2 and 3 for delineation of the mean high water and mean lower low water lines.

36. OFFSHORE DETAILS

No unusual problems.

37. LANDMARKS AND AIDS

Preliminary 76-40 forms consisting of 1 page of Navigational Aids and 2 pages of Landmarks for charts were prepared for field edit.

38. CONTROL FOR FUTURE SURVEYS

None

TP-00531

39. JUNCTIONS

See the attached form 76-36B, item 5 of the Descriptive Report concerning junctions.

40. HORIZONTAL AND VERTICAL ACCURACY

See item #32.

46. COMPARISON WITH EXISTING MAPS

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

San Francisco South, Calif., 1956 photo revised 1968 and 1978
San Francisco North, Calif., 1956 photo revised 1968 and 1978
Hunters Point, Calif., 1956 photo revised 1968

47. COMPARISON WITH NAUTICAL CHARTS

A comparison was made with the following National Ocean Survey chart: No. 18650 scale 1:20,000, 32nd ed., July 3, 1976
No. 18649 scale 1:40,000, 44th ed., Jan. 29, 1977
No. 18652 scale 1:80,000, 16th ed., April 1979

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None

ITEMS TO BE CARRIED FOREWARD

None

Submitted by:
Jeff Moler
Cartographic Technician
Date: October 24, 1978

Approved:
for Albert C. Rauck, Jr.
Chief, Coastal Mapping Section

ADDENDUM TO THE COMPILATION REPORT-FIELD EDIT

TP-00531

Field edit was performed by the Pacific Hydrographic Party in August 1979. This data was applied to the manuscript by the Photogrammetric Branch at the Pacific Marine Center in February 1981.

An abundance of fix data was applied from photo signals selected by the field editor. In several cases manipulation of the photo signals was required in order to achieve check angle closures.

Field positions for the navigational aids listed in the field edit report were determined and submitted with the contemporary hydrographic survey, H-9844. The remarks in the field edit report describing the characteristics for the navigational aids should be evaluated by nautical charts.

The field editor used the singular and plural form of the term "pile" interchangeably. Application of the appropriate tense was based upon the photography and the documentation data submitted by the field editor.

The private navigational markers in India Basin that were field determined during field edit were physically changed and the positions relocated during the hydrographic survey. These features were not compiled; refer to the Field Edit Report for additional comments.

Jerry Hancock Jerry Hancock
Final Review
February 1982

NOAA FORM 75-74
(7-75)

U.S. DEPARTMENT OF COMMERCE
NOAA
NATIONAL OCEAN SURVEY

PHOTOGRAMMETRIC OFFICE REVIEW

TP - 00531

1. PROJECTION AND GRIDS	2. TITLE	3. MANUSCRIPT NUMBERS	4. MANUSCRIPT SIZE
FTM	FTM	FTM	FTM

CONTROL STATIONS

5. HORIZONTAL CONTROL STATIONS OF THIRD-ORDER OR HIGHER ACCURACY	6. RECOVERABLE HORIZONTAL STATIONS OF LESS THAN THIRD-ORDER ACCURACY *(Topographic stations)*	7. PHOTO HYDRO STATIONS
FTM	N.A.	N.A.

8. BENCH MARKS	9. PLOTTING OF SEXTANT FIXES	10. PHOTOGRAMMETRIC PLOT REPORT	11. DETAIL POINTS
N.A.	N.A.	FTM	FTM

ALONGSHORE AREAS *(Nautical Chart Data)*

12. SHORELINE	13. LOW-WATER LINE	14. ROCKS, SHOALS, ETC.	15. BRIDGES
FTM	FTM	FTM	FTM

16. AIDS TO NAVIGATION	17. LANDMARKS	18. OTHER ALONGSHORE PHYSICAL FEATURES	19. OTHER ALONGSHORE CULTURAL FEATURES
FTM	FTM	FTM	FTM

PHYSICAL FEATURES

20. WATER FEATURES	21. NATURAL GROUND COVER	22. PLANETABLE CONTOURS
FTM	N.A.	N.A.

23. STEREOSCOPIC INSTRUMENT CONTOURS	24. CONTOURS IN GENERAL	25. SPOT ELEVATIONS	26. OTHER PHYSICAL FEATURES
N.A.	N.A.	N.A.	FTM

CULTURAL FEATURES

27. ROADS	28. BUILDINGS	29. RAILROADS	30. OTHER CULTURAL FEATURES
FTM	FTM	FTM	FTM

BOUNDARIES

31. BOUNDARY LINES	32. PUBLIC LAND LINES
N.A.	N.A.

MISCELLANEOUS

33. GEOGRAPHIC NAMES	34. JUNCTIONS	35. LEGIBILITY OF THE MANUSCRIPT
FTM	FTM	FTM

36. DISCREPANCY OVERLAY	37. DESCRIPTIVE REPORT	38. FIELD INSPECTION PHOTOGRAPHS	39. FORMS
FTM	FTM	N.A.	FTM

40. REVIEWER	SUPERVISOR, REVIEW SECTION OR UNIT
F. Mauldin Oct. 27, 1978	Albert C. Rauck, Jr.

41. REMARKS *(See attached sheet)*

FIELD COMPLETION ADDITIONS AND CORRECTIONS TO THE MANUSCRIPT

42. Additions and corrections furnished by the field completion survey have been applied to the manuscript. The manuscript is now complete except as noted under item 43.

COMPILER	SUPERVISOR
G. Morris Date Feb. 1981	
Reviewer W. Richter Date Feb. 1981	J. W. Massey, Feb 1981

43. REMARKS

See Form 76-36C-- Item 8

PHOTOGRAMMETRIC OFFICE PRE-HYDRO AND FIELD EDIT REVIEW

28

TP-00531

PROJECTION AND GRIDS FM	TITLE FM	HORIZONTAL CONTROL FM	PHOTOGRAMMETRIC PLOT REPORT FM
DETAIL POINTS AND PASS POINTS FM	PROCESSED RATIOS FM	AIDS TO NAVIGATION FM	LANDMARKS FM
MEAN HIGH WATER LINE FM	LOW-WATER LINE FM	ROCKS, SHOALS, ETC. FM	ALONG SHORE AND OTHER PHYSICAL FEATURES FM

[redacted]

FIELD EDIT REPORT

TP-00531 Scale 1:10,000

OPR-L123-PHP-79

BAY AREA SURVEY EXPEDITION

SAN FRANCISCO BAY

CALIFORNIA

PACIFIC HYDROGRAPHIC PARTY

DIRK R. TAYLOR, LCDR. NOAA

CHIEF OF PARTY

INTRODUCTION

The field edit was accomplished between April and August 1979, julian days 101 to 236, by personnel of the Pacific Hydrographic Party. This manuscript covers an area from longitude 122° 20' 00"W to 122° 25' 00"W and latitude 37° 47' 00"N to 37° 43' 00"N.

METHODS

Field edit was conducted using a 16 foot aluminum skiff, NOAA Launches 1016 and 1214, and a light truck for transportation. It would have been desirable to field edit systematically from north to south but this was not practical. Factors such as weather, sea conditions, work schedules, and tidal cycles dictated which area was covered on any specific day.

The following photographs were used in conjunction with manuscript TP-00531:

NOS 18 MAR 77B 3764
NOS 18 MAR 77B 3765
NOS 18 MAR 77B 3766
NOS 18 MAR 77B 3767
NOS 18 MAR 77B 3496

The above cronopaque aerial photographs are at a scale of 1:10,000.

All fix data referring to items on TP-00531 was recorded in a single Field Edit volume (C&GS Form 275). Where necessary, sketches were also drawn. Items requiring simple yes or no answers were disposed of on the mylar Discrepancy Sheet. The mylar Field Edit Sheet contains the fix numbers with time, date, depths and/or elevations. However in areas of congestion, references were made directly to the Field Edit Volume. Two ozalid copies of this manuscript were used strictly as field work sheets. All resection work was accomplished with a Wild T-2 theodolite, serial number 35797.

Resections were necessary to determine the positions of various navigational aids that were not visible on the photography. These are discussed in the next section.

Other field edit items are identified and/or clarified on the

ADEQUACY AND COMPLETENESS OF COMPILATION

Generally, the shoreline compilation of this manuscript was complete and adequate. Most changes to compilation made during field edit were due to changes in features (construction, etc.) since the 1977 photography.

A large percentage of the high water detail is composed of piers, bulkheads, docks, marine railways, and ruins of such areas. Most of the remaining shoreline areas are mud or dirt banks, interspersed with riprap or areas under construction.

Most changes to compilation made during field edit are self explanatory as recorded on the manuscript. The following items require further clarification:

a) To the southwest of signal 778, in what is designated in violet as marine railways in ruins, reference should be made to the wire drag conducted during hydrographic operations on survey H-9844. A more offshore position of the easterly limits of the marine railways was determined by the hydrographer. The approximate area covered is latitude 37° 45.6' N, longitude 122° 22.1' W.

b) The locations of 3 privately maintained markers in India Basin, as determined by fix numbers 629, 630, and 631, have since been changed physically. Location of these 3 markers is approximately latitude 37° 44.2' N, longitude 122° 22.1' W. The new positions will be included in the hydrographic records of survey H-9844.

c) The charted obstruction in 19 feet of water at latitude 37° 43' 57" N, longitude 122° 21' 34" W, was included as Pre-survey Review item 18 on survey H-9819 and was adequately covered during that survey.

d) The two charted ponds at latitude 37° 43' 06" N, longitude 122° 22' 06" W are non existent and should be deleted from all affected charts. These ponds are not shown on TP-00531.

e) The charted rock at latitude 37° 43.1' N, longitude 122° 22.4 W on the 34th edition of chart 18650 appears to plot where a Field Edit rock was located (fix 645). However, this rock is located on one of several rocky ledges and does not appear to be of much greater significance than the others in the area. This rock bared 0.7 feet at 1550 Z on June 13, 1979, day 164. It is recommended that this area be designated as "Foul with rocky ledges". See foul limits on the field edit sheet.

f) Chart 18650, 34th edition shows two piles approximately 320

meters east of Double Rock in the South Basin. The position of the southern one is confirmed by fix 605. The northern one was searched for but not found, even during negative tides. It is recommended that the northern pile be deleted from the affected charts.

g) Most of the foreshore areas in the north and northwestern portions of South Basin are very shallow and composed of mud at least 8-10 inches thick. This was observed during days it was necessary to pole the skiff shoreward.

h) A charted pile at latitude 37° 44' 13.5" N, longitude 122° 22' 14.5" W is no longer there and should be deleted from the affected charts. This is in the area of India Basin.

i) Western Pacific Ferry Slip Light, 1953, listed as #655 in the Light List, volume 3, 1979, has been relocated to a new position closeby on the same north wing of the ferry slip. The old station was destroyed in a fire. It's new position was determined by resection and meets third order class 1 standards. See the section on Recommendations for geodectic positions of items that were resected and also the Horizontal Control Report that is to accompany Hydrographic Survey H-9844. (See Recommendations)

j) Pier 96 North End Light, listed as #657 in the Light List, volume 3, 1979 is not in position.

k) Pier 96 Lighter Basin Entrance Light 2, listed as #658 in the Light List, volume 3, 1979, located at the south end of the wharf has been resected to third order, class 1 standards. (See Recommendations)

l) Pier 96 Lighter Basin Entrance Light 1, listed as #659 in the Light List, volume 3, 1979 is now located near the southeast corner of the finger pier just south of Pier 96. It is not mounted on a dolphin as previously described. This light was resected to third order, class 1 standards. (See Recommendations)

m) Pier 46A Light, listed as #619 in the Light List, volume 3 1979 was resected.

n) Santa Fe Ferry Slip Fog Signal, listed as #622 in the Light List, volume 3, 1979, has been photo picked on photograph NOS 18 MAR 77B 3766. The published geographic position, however, incorrectly places the Horns location on the same wing of the ferry slip at the light. It is recommended that the correct location of the Horns be reflected on the affected charts. The position could not be determined by T-2 due to the un-steadiness of the pier.

GEOGRAPHIC NAMES

The geographic names compiled on this manuscript are adequate and correct.

MANUSCRIPT ACCURACY

Positions of items located on this manuscript were resected using the photogrammetric locations of various features and geodectic control stations and signals. Close agreement between redundant fixes on these items using various photo signals and geodectic stations confirmed the horizontal accuracy of the map compilation. Shoreline run during hydrographic survey operations on survey H-9844 provided an additional check along piers and wharves. No discrepancies in map accuracy were discovered during work incidental to this field edit.

RECOMMENDATIONS

It would have been highly desirable if matte ratio prints of the photos were made available for use during field inspection of the many

Western Pacific Ferry Slip Light, #655 in the Light List, volume 1, 1979, was resected to third order, class 1 standards. This was necessary because of a fire that had destroyed it's former location. It is recommended that this light be charted and it's location be described as "near southeast end of north wing of slip". It's geographic position is 37° 45' 14.032 N, longitude 122° 22' 44.898" W.

UNCHARTED DANGERS AND OBSTRUCTIONS TO NAVIGATION

a) The position of the wreck as determined by fix 612 should be shown on the chart as "position approximate". This wreck changes position depending on wind, sea, and tide conditions. The fix marks it's outermost position as of June 8, 1979, day 159. This does not preclude the possibility of the wreck swinging further offshore at a further date.

b) The wreck charted at latitude 37° ~~43'~~ 44' 11" N, longitude 122° 22' 19" W has since moved to a new position as determined by fix 626 and 627, where it bares at MLLW. It is recommended that the wreck be revised to a visible wreck as per the field edit sheet at it's new location. Fixes 632 and 633 determine the limits of submerged ruins near where the above wreck was charted.

c) The northwestern and western end of China Basin at approximately 37° 46' 14" N and 122° 23' 50" W have been determined to be extremely foul. Foul limits have been drawn from the riprap area to the northeast and extended to the bulkhead area to the southwest end of the basin.

Submitted by: Felipe L. Rosario

Approved and forwarded by:

Dirk R Taylor

Chief of Party

REVIEW REPORT TP-00531

SHORELINE

61. GENERAL STATEMENT:

An extensive final review was performed for this final shoreline map. For a schedule of the office and field operations, refer to 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:

San Francisco North, Calif., 1956, photorevised 1968 and 1973
San Francisco South, Calif., 1956, photorevised 1968 and 1973
Hunters Point, Calif., 1956, photorevised 1968.

No significant differences were noted.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

This final shoreline map corresponds geographically with portions of hydrographic surveys H-9844 (1979-81) and H-9819 (1981). No comparison was made as these hydrographic surveys have not been processed. Prior to final review, a Class I map copy was forwarded to the Hydrographic Verification Branch at PMC. Processing of the contemporary hydrographic surveys have been deferred pending receipt of this final map.

A copy of this final map labeled "Hydrographic Maintenance Print, indicating revisions to the previous Class I map, was prepared

and forwarded to the Hydrographic Surveys Division. This final map will supersede all previously forwarded information pertaining to TP-00531.

In addition, a complete set of amended 76-40 forms, nonfloating aids or landmarks for charts, will be resubmitted to the Hydrographic Surveys Division.

65. COMPARISON WITH NAUTICAL CHARTS:

A comparison was made with the following National Ocean Survey charts: No. 18650, 36 edition, 1:20,000 scale, dated June 7, 1980
No. 18649, 48 edition, 1:40,000 scale, dated February 14, 1981

There are five nonfloating aids to navigation delineated on this final shoreline map that were field located by ground survey methods during the hydrographic survey operation. All field records for the preliminary positions listed on the attached 76-40 forms were submitted with the hydrographic survey H-9844. No evaluation, other than a general photo comparison, was performed for these aids during final review.

There are several remarks and recommendations addressed in the field editors report concerning various chartable features corresponding to this map. The field edit report is contained in this Descriptive Report.

A final Chart Maintenance Print for this map was prepared during final review and forwarded to Nautical Charts. This information will supersede the previous Class III maintenance print submitted in February 1979 from the original compilation office at A.M.C. A copy of the unreviewed Class I map was never forwarded to Nautical Charts. Annotated remarks on the final Chart Maintenance Print will indicate discrepancies associated with the above listed charts.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:

This Final Map and accompanying Descriptive Report represent revised data as a result of final review and supersedes all previous map classifications.

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

Submitted by,

Jerry L. Hancock

Jerry L. Hancock
Final Reviewer

REVIEW REPORT TP-00531

SHORELINE

Approved for forwarding,

Billy H. Barnes
Chief, Photogrammetric Branch, AMC

Approved,

Chief, Photogrammetric Branch, Rockville

Chief, Photogrammetry Division

October 14, 1981

GEOGRAPHIC NAMES

FINAL NAME SHEET

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

TP-00531

Central Basin

China Basin

Hunters Point

India Basin

Islais Creek Channel

Lash Lighter Basin

Point Avisadero

Potrero Point

San Francisco

San Francisco Bay

South Basin

Approved by:

Charles E. Harrington

Charles E. Harrington
Chief Geographer, OA/C3x5

DISSEMINATION OF PROJECT MATERIAL

CM-7704

San Francisco and San Pablo Bays

NATIONAL ARCHIVES/FEDERAL RECORD

PACKAGE (BOX)

- Field Edit Ozalid(s)
- Engineer Plan(s)
- Field Sketch(es)
- NOAA Forms 76-40
- Master Station Lists
- Fix Vol(s) (275)
- NOAA Forms 76-41
- Revision Survey Photographs
- Field Edit Ratio Photographs
- Plot Report(s) (Duplicate copy(ies)

Project Completion Report

BUREAU ARCHIVES

- Registered Copy(ies) of Map(s)
- Descriptive Report(s) of Map(s)

REPRODUCTION DIVISION

- 8x Reduction Negative(s) of Map(s)

OFFICE OF STAFF GEOGRAPHER

- Geographer Name Standard(s)

MARINE CHART DIVISION

- Chart Maintenance Print(s) of Map(s)

NOAA FORM 76-40 (8-74)
Replaces C&GS Form 567.

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

NONFLOATING AIDS

FOR CHARTS

ORIGINATING ACTIVITY
- [ ] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [X] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

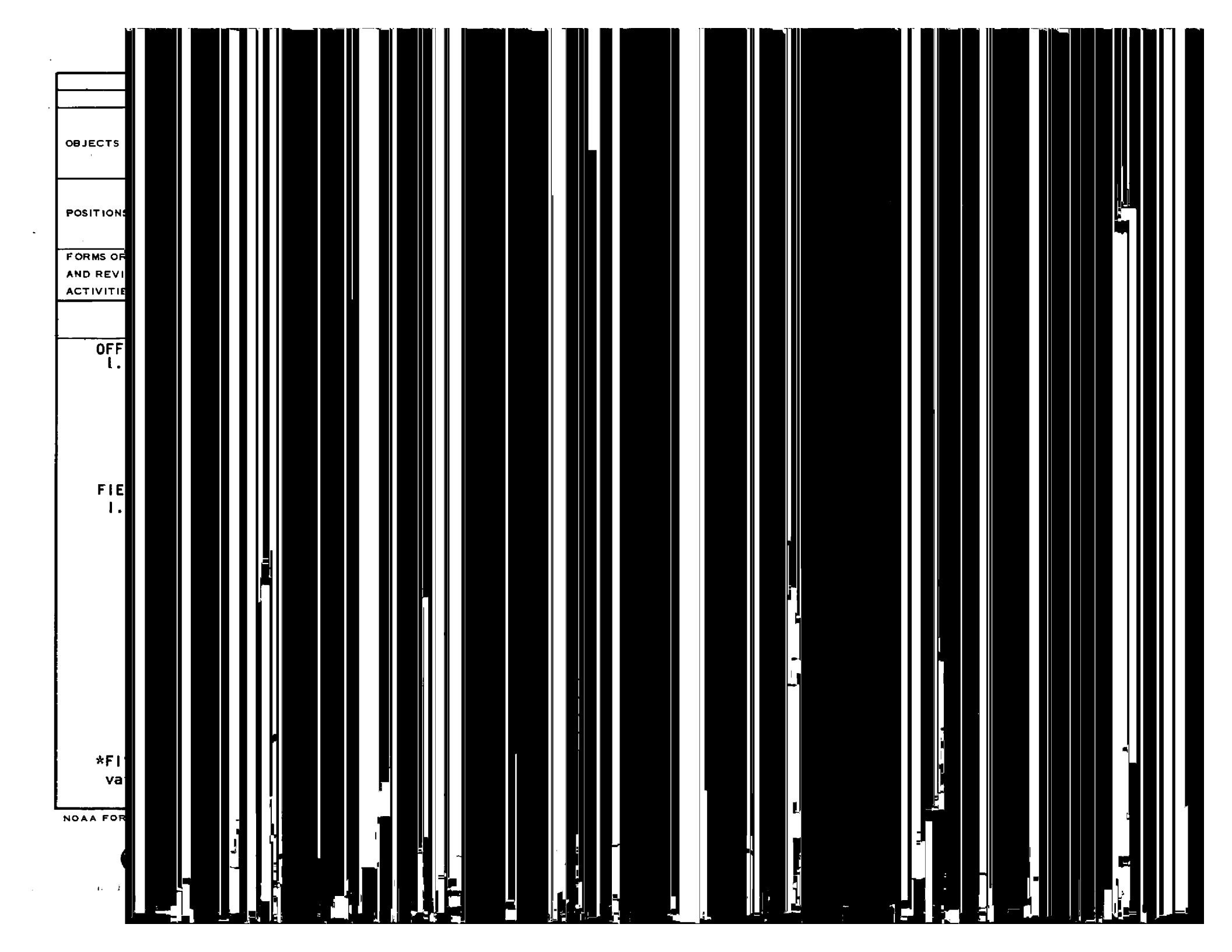
- [X] TO BE CHARTED
- [ ] TO BE REVISED
- [ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
PMC Photogrammetric Branch CPM33	CAlifornia	San Francisco and San Pablo Bay	11/20/80

The following objects HAVE [X] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
411	CM-7704	TP-00531	N.A. 1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
LIGHT * (HORN)	Pier Light 46A (Less than 3rd order) (No longer in 1981 Light List)	37-46	43.09 / 1328	122-23	01.03 / 25		F-4-6-L 1-29-80	18650 18649
LIGHT	(MISSION ROCK NORTHEAST CORNER LIGHT, 1953)	37-46	28.730 / 885.7	122-22	50.786 / 1242.9		Triang. Rec. 6/21/79	18650 18649
LIGHT	(MISSION ROCK SOUTHEAST CORNER LIGHT, 1957)	37-46	19.362 / 596.9	122-22	49.593 / 1213.7		Triang. Rec. 6/21/79	"
HORN	Santa Fe Ferry Slip Fog Signal	37-46	20.08 / 619	122-23	4.09 / 100		L-P-5 77B(P)3766 7/31/79	"
LIGHT *	(Western Pacific Ferry Slip Light, 1979); (Unadjusted Field Position)	37-45	14.032 / 432.6	122-22	44.898 / 1098.8		F-4-6-L 1/30/80	"
LIGHT *	(Pier 94 North End Light, 1979); (Unadjusted Field Positon)	37-44	43.920 / 1354.1	122-22	17.913 / 438.6		F-4-6-L 1/30/80	"
LIGHT *	(Pier 96 Lighter Basin Entrance Light 1, 1979); (Unadjusted Field Position)	37-44	21.244 / 654.8	122-22	00.578 / 14.2		F-4-6-L 1/28/80	"
LIGHT *	(Pier 96 Lighter Basin Entrance Light 2, 1979); (Unadjusted Field Position)	37-44	24.740 / 762.7	122-22	59.838 / 1465.1		F-4-6-L 1/28/80	"
LIGHT	(Hunters Point Light, 1953)	37-43	44.737 / 1379.2	122-21	26.343 / 645.1	77B(P)2528 Sept. 27, 1978	Triang. Rec. 6/21/79	"
*	Positional data for these Aids (5) submitted with Hydro Survey H-9844 (1979-81). These Aids in the Field Edit Report for this map.						See comments concerning	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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
- [ ] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [X] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

- [X] TO BE CHARTED
- [ ] TO BE REVISED
- [ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
PMC Photogrammetric Branch CPM33	California	San Francisco and San Pablo Bay	11/20/80

The following objects HAVE [X] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
411	CM-7704	TP-00531	N.A. 1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	POSITION LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	POSITION LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	METHOD AND DATE OF LOCATION FIELD	CHARTS AFFECTED
TANK		37-45	24.42 753	122-23	53.48 1309	77B(P)2524 Sept. 18, 1978	V-Vis 6/14/79	18650 18649
GAS TANK	(San Francisco P. G. and E. Gas Tank, 1951)	37-45	16.044 494.6	122-23	33.297 815.1	77B(P)2524 Sept. 18, 1978	Triang. Rec. 6/14/79	"
GAS TANK		37-45	27.25 840	122-23	04.66 114	77B(P)2525 Sept. 18, 1978	V-Vis 5/30/79	"
GAS TANK	(San Francisco Union Iron Works Gas Tank, 1925)	37-45	22.154 683.0	122-23	04.528 110.8	77B(P)2524 Sept. 18, 1978	Trian. Rec. 6/14/79	"
STACK	(San Francisco P. G. and E. Potrero Plant Stack, 1977)	37-45	21.857 673.8	122-22	50.749 1242.3	77B(P)2524 Sept. 18, 1978	F-3-6-L 3/77	"
GAS TANK	(San Francisco Army Street Gas Tank, 1925)	37-44	57.016 1757.8	122-23	51.598 1263.2	77B(P)2526 Sept. 22, 1978	Triang. Rec. 6/14/79	"
STACK	(San Francisco American Smelting and Refining Corporation Stack, 1942)	37-44	56.432 1739.8	122-23	35.628 872.2	77B(P)2526 Sept. 22, 1978	Triang. Rec. 6/14/79	"
RADIO TOWER	(KSFO Radio Tower, 1937)	37-44	43.055 1327.4	122-22	42.585 1042.6	77B(P)2526 Sept. 22, 1978	Triang. Rec. 5/21/79	"
STACK	N.W. of Three	37-44	16.87 520	122-22	31.45 770	77B(P) 2526 Sept. 22, 1978	V-Vis 5/21/79	"
STACK	Center of Three	37-44	15.83 488	122-22	29.53 723	77B(P)2526 Sept. 22, 1978	V-Vis 5/21/79	"

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	**NAME**	**ORIGINATOR**
OBJECTS INSPECTED FROM SEAWARD	F. Rosario, Survey Tech. D. Taylor, LCDR, NOAA	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	D. Taylor	FIELD ACTIVITY REPRESENTATIVE
	G. Morris, Carto. Tech.	OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	J. Hancock, Final Review, Feb. 1982	☒ 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

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

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

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

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.

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
- [ ] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [X] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

- [X] TO BE CHARTED
- [ ] TO BE REVISED
- [ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office): PMC Photogrammetric Branch CPM33

STATE: California

LOCALITY: San Francisco and San Pablo Bay

DATE: 11/20/80

The following objects HAVE [X] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
411	CM-7704	TP-00531	N.A. 1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
STACK	S. E. of Three	37-44	15.41 475	122-22	27.94 684	77B(P)2526 Sept. 22, 1978	V-Vis 5/21/79	18650 18649
TANK		37-43	39.99 1233	122-22	03.19 78	77B(P)2528 Sept. 21, 1978	V-Vis 5/21/79	"
TOWER		37-43	36.17 1115	122-21	31.16 763	77B(P)2528 Sept. 27, 1978	V-Vis 5/21/79	"

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	**NAME**	**ORIGINATOR**
OBJECTS INSPECTED FROM SEAWARD	F. Rosario, Survey Tech. D. Taylor, LCDR, NOAA	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	D. Taylor	FIELD ACTIVITY REPRESENTATIVE
	G. Morris, Carto. Tech.	OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	J. Hancock, Final Review, Feb. 1982	☒ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

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EXAMPLE: 75E(C)6042
8-12-75

FIELD

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F - Field	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field identified
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A. Field positions* require entry of method of location and date of field work.

EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

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

II. TRIANGULATION STATION RECOVERED

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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.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1974-665-073/1030 Region 6

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

NONFLOATING AIDS TO NAVIGATION FOR CHARTS

ORIGINATING ACTIVITY
- [X] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [ ] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

- [ ] TO BE CHARTED
- [ ] TO BE REVISED
- [X] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
Pacific Hydrographic Field Party	California	San Francisco and San Pablo Bays	Jan. 1980

The following objects HAVE [ ] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
411	CM-7704	TP-00531	N.A. 1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	POSITION LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	POSITION LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	METHOD AND DATE OF LOCATION FIELD	CHARTS AFFECTED
LIGHT	Pier 96 North End Light (priv. aid); destroyed, replaced by Pier 94 North End Lt.	37-44.6		122-22.2			Destroyed 1/28/80	18649 18650 18652

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	**NAME**	**ORIGINATOR**
OBJECTS INSPECTED FROM SEAWARD	Felipe L. Rosario, Survey Tech Dirk R. Taylor, LCDR, NOAA	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	D. Taylor	FIELD ACTIVITY REPRESENTATIVE
	G. Morris, Carto Tech.	OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	J. Hancock, Final Review, Feb. 1982	☒ 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

I. NEW POSITION DETERMINED OR VERIFIED
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1 - Triangulation	5 - Field identified
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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

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

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

II. TRIANGULATION STATION RECOVERED
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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.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1974-665-073/1030 Region 6