

TP-00537

TP-00537

NOAA FORM 76-35 (3-76) U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
DESCRIPTIVE REPORT	
Map No. TP-00537	Edition No. 1
Job No. CM-7704	
Map Classification CLASS III (FINAL)	
Type of Survey SHORELINE	
LOCALITY	
State California	
General Locality San Francisco and San Pablo Bays	
Locality Ravenswood Slough	
1977 TO 19	
REGISTRY IN ARCHIVES	
DATE	

NOAA FORM 76-36A (3-72)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.	
DESCRIPTIVE REPORT - DATA RECORD		TYPE OF SURVEY ☒ ORIGINAL ☐ RESURVEY ☐ REVISED	
PHOTOGRAMMETRIC OFFICE Coastal Mapping Division, Norfolk, Va.		SURVEY TP-00537 MAP EDITION NO. (1) MAP CLASS III, FINAL JOB YH -CM-7704	
OFFICER-IN-CHARGE Roy K. Matsushige, CDR.		LAST PRECEDING MAP EDITION TYPE OF SURVEY ☐ ORIGINAL ☐ RESURVEY ☐ REVISED JOB PH. _____ MAP CLASS _____ SURVEY DATES: 19__ TO 19__	
I. INSTRUCTIONS DATED			
1. OFFICE		2. FIELD	
Aerotriangulation April 13, 1977 Compilation Aug. 3, 1977 Amendment I April 20, 1978 Amendment II April 6, 1979 Amendment III July 30, 1979 Compilation (Memo) July 2, 1981		Control- Premarking Feb. 7, 1977	
II. DATUMS			
1. HORIZONTAL: ☒ 1927 NORTH AMERICAN		OTHER (Specify)	
2. VERTICAL: ☒ MEAN HIGH-WATER ☐ MEAN LOW-WATER ☒ MEAN LOWER LOW-WATER ☐ MEAN SEA LEVEL		OTHER (Specify)	
3. MAP PROJECTION Lambert Conformal		4. GRID(S) STATE CA ZONE 3	
5. SCALE 1:20,000		STATE ZONE	
III. HISTORY OF OFFICE OPERATIONS			
OPERATIONS		NAME	DATE
1. AEROTRIANGULATION BY METHOD: Analytic LANDMARKS AND AIDS BY		R. Kelly	July 1977
2. CONTROL AND BRIDGE POINTS PLOTTED BY METHOD: Coradomat CHECKED BY		S. Solebeck	July 1977
3. STEREOSCOPIC INSTRUMENT PLANIMETRY BY COMPILATION CHECKED BY		J. Moler	Dec. 1978
INSTRUMENT: Wild B-8 SCALE: 1:25,000		R. Kravitz	Dec. 1978
4. MANUSCRIPT DELINEATION PLANIMETRY BY CHECKED BY		J. Moler	Dec. 1978
METHOD: Graphic, smooth drafted SCALE: 1:20,000		C. Blood	Feb. 1979
HYDRO SUPPORT DATA BY CHECKED BY		J. Moler	Dec. 1978
5. OFFICE INSPECTION PRIOR TO FIELD EDIT BY		C. Blood	Feb. 1979
6. APPLICATION OF FIELD EDIT DATA BY CHECKED BY		None	
7. COMPILATION SECTION REVIEW Class III BY		C. Blood	Feb. 1979
8. FINAL REVIEW Class III 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	MAP 1982

COMPILATION SOURCES

TP-00537

1. COMPILATION PHOTOGRAPHY

CAMERA(S) Wild RC-10(B) (B=152.74MM.)		TYPES OF PHOTOGRAPHY LEGEND (C) COLOR (P) PANCHROMATIC (I) INFRARED		TIME REFERENCE	
TIDE STAGE REFERENCE ☐ PREDICTED TIDES ☒ REFERENCE STATION RECORDS ☒ TIDE CONTROLLED PHOTOGRAPHY				ZONE Pacific	☒ STANDARD
				MERIDIAN 120th	☐ DAYLIGHT
NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE	
77B(P) 2668-2671 *	Mar 4, 1977	14:31	1:50,000	Not computed	
77B(P) 2656 & 2657 *	Mar 4, 1977	14:15	1:50,000	Not computed	
77B(P) 3742-3745 **	Mar 18, 1977	14:23	1:30,000	Not computed	
77B(P) 3716-3718 **	Mar 18, 1977	13:52	1:30,000	Not computed	
77B(I) 3934 & 3936	Mar 29, 1977	14:39	1:40,000	-.04 Ft. MLLW	
77B(I) 3918	Mar 29, 1977	14:21	1:40,000	-.09 Ft. MLLW	
77B(I) 2948, 2950, 2952	Mar 5, 1977	12:54	1:40,000	+.13 Ft. MHW	
77B(P) 3731 **	Mar 18, 1977	14:05	1:30,000	Not computed	

REMARKS * Compilation photography; ** Hydro support photography;
Infrared photography (MLLW and MHW) was ratioed to 1:20,000 scale.

2. SOURCE OF MEAN HIGH-WATER LINE:

The mean high water line was compiled graphically using ratio prints 1:20,000 scale of the appropriate tide-coordinated black-and-white infrared photographs listed above under Item I.

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

The mean lower low water line was compiled graphically using ratio prints 1:20,000 scale of the appropriated tide-coordinated black-and-white infrared photographs listed above under Item I.

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-00536 & TP-00535	TP-00538	No survey	No Survey
REMARKS The northwest portion of this map is represented by the 1:10,000 inset map, TP-00536.			

NOAA FORM 76-36C
(3-72)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEYTP-00537
HISTORY OF FIELD OPERATIONSI. ☒ FIELD INSPECTION OPERATION (Premarking) ☐ FIELD EDIT OPERATION

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

II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED

Premark

2. VERTICAL CONTROL IDENTIFIED

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION
77B(P) 2669 77B(P) 2670	DUM, 1930 (Sub Pt.)		

3. PHOTO NUMBERS (Clarification of details)

None

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

None

PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME

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

7. SUPPLEMENTAL MAPS AND PLANS

None

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

1 - form 76-53, 2 - form 77-53, 1 Field Report

RECORD OF SURVEY USE

TP-00537

I. MANUSCRIPT COPIES

COMPILATION STAGES			DATE MANUSCRIPT FORWARDED	
DATA COMPILED	DATE	REMARKS	MARINE CHARTS	HYDRO SUPPORT
Compilation complete, pending field edit.	Feb 1979	Class III manuscript	Feb 6, 1979	
Final Review, Class III	Aug 1981	Final Class III Map Field edit canceled	Aug ^{Dec.} 1981	

II. LANDMARKS AND AIDS TO NAVIGATION

1. REPORTS TO MARINE CHART DIVISION, NAUTICAL DATA BRANCH

NUMBER	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS

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

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	
	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	

SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORTS
TP-00537

This 1:20,000 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 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/instrucción dated July 2, 1981, has reassigned this project, in its present stage, for final review and registration. Registration will include 10 Final Maps and 5 Final Class III Maps. Immediately afterward, a Revision Survey using 1981 photography is scheduled to facilitate hydrography and to provide Nautical Charts with current shoreline information.

This 1:20,000 scale Final Class III Map, of which field edit has not been accomplished, features the waterway between Ravenswood Point and Dumbarton Point. The northwest portion of this map is represented by a 1:10,000 inset map, TP-00536.

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.

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

TP-00537

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

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

FIELD INSPECTION

TP-00537

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.



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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.

CAMPANILE, UNIVERSITY OF CALIFORNIA,
1916

CONE ROCK LIGHT

HARDSON EAST, 1895

RANGER, 1931

HILL, 1916

BARRY, 1932

RT MILEY VA

SPITAL HIGH TANK, 1976

BUENA LIGHTHOUSE, 1919

KIS (CALIF D.F.H.), 1955

GATE BRIDGE NORTH

AERO LIGHT, 1964

E POINT LIGHT

FRANCISCO OAKLAND

BAY BRIDGE, 1912

AMERICA BLDG, 1976

LAND NAVAL SUPPLY

T CHECKERED TANK, 1947

DIABLO LIGHT, 1928

KELEY, PEET BROE. STACK

1916-17

FRANCISCO, PG & E POTRERO

NT STACK

FRANCISCO, AMESMELT & REF

CORP, STACK, 1942

ATRAZ LIGHTHOUSE, 1910

AZA, 1954

IT MONUMENT, 1933

PT POINT LIGHTHOUSE, 1910

SUNT DAVIDSON C.ROSS, 1935

IN FRANCISCO MCLAREN PARK, STANDPIPE

UTH SAN FRANCISCO, FORBES TOWER, LIGHT

SOUTH SAN FRANCISCO BAY, SOUTH CHANNEL LIGHT 8

SAN BRUNO SHOAL CHANNEL LIGHT 6

SAN BRUNO SHOAL CHANNEL LIGHT 5

TREASURE ISLAND

NORTHEND LIGHT 6

DUMPA, 1947

CROSS, 1954

OAKLAND TRIBUNE BLDG, FLAGPOLE, 1925

OAKLAND, MORMON TEMPLE, SPIRE

YB 4 (EBHUB), 1946

ALAMEDA, NAS EAST BREAKWATER NORTH LIGHT, 1953

OAKLAND, MUNI AIRPORT VORTAC

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

PHOTOGRAMMETRIC PLOT REPORT
SAN FRANCISCO & SAN PABLO BAYS
CALIFORNIA

Job CM-7704

July 22, 1977

21. Area Covered

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

22. Method

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

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

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

23. Adequacy of Control

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

24. Supplemental Data

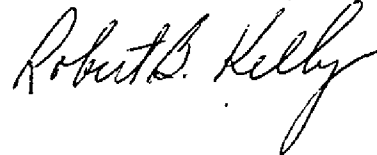
Local shoreline and USGS quadrangles were used to provide elevations for vertical adjustments of bridges.

25. Photography

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

Submitted by:

Robert B. Kelly



Approved and Forwarded:



John D. Perrow, Jr.
Chief, Aerotriangulation Section

KEY TO NUMBERED CONTROL
STATIONS USED IN ADJUSTMENT
AND CLOSURES

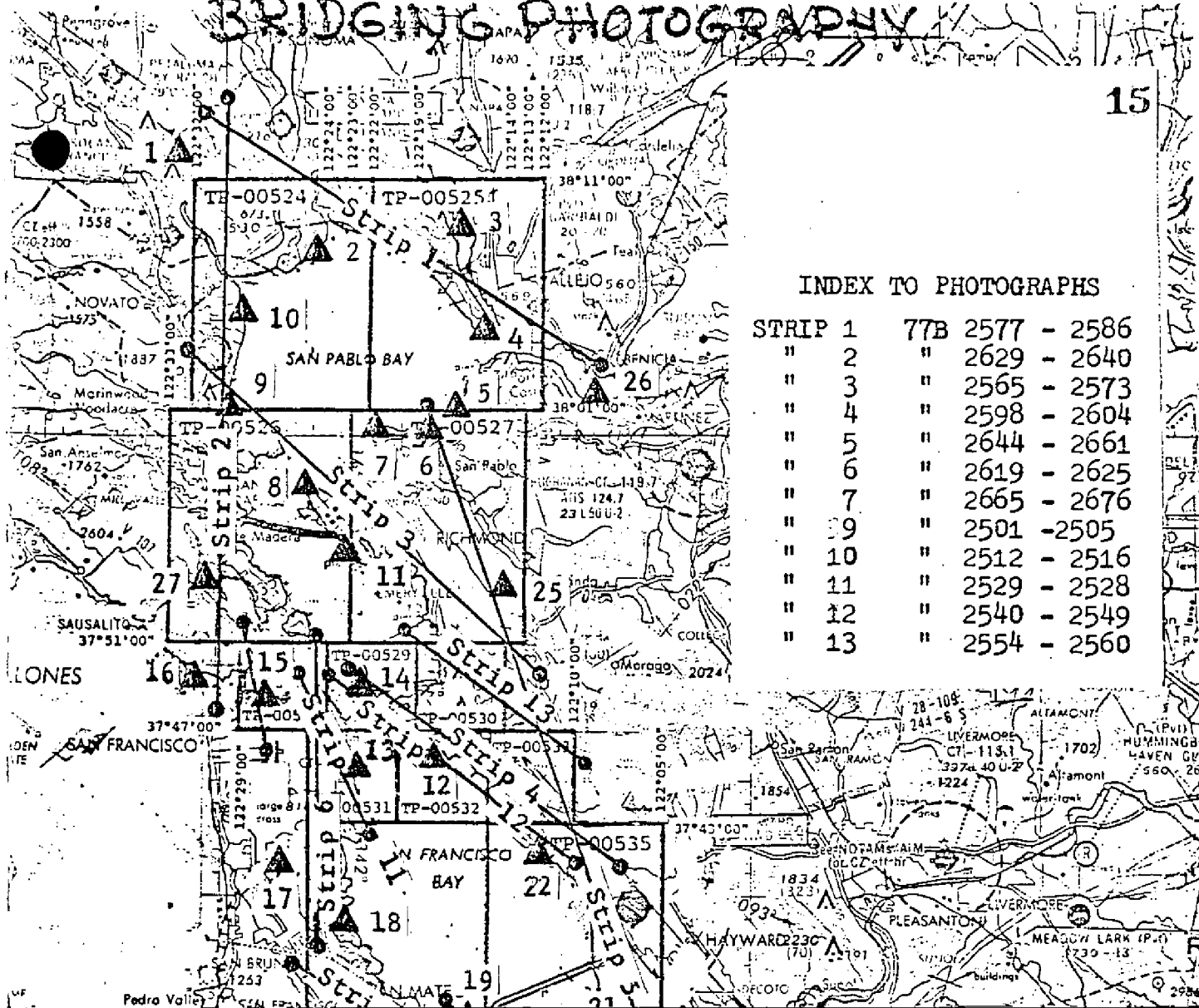
- 1 LAKEVILLE, SQUARE TANK ON HILL, 1951 TANK(1.04, -3.77)
PANEL(-.25, .23)
- 2 BUG (SLC), 1951 COULD NOT SEE
- 3 SLAUGHTERHOUSE PT. 3, 1921 { -2.22, .52 }
- 4 MARE ISLAND SOUTHEAST=, 1952 { 3.02, -.23 }
- 5 PINOLE HERCULES POWDER CO., TANK, 1947 { .38, -.17 }
- 6 WILSON, 1852 { .08, -.10 }
- 7 POINT PINOLE ATLAS DOCK, SHED E. GABLE, 1950 COULD NOT SEE
- 8 SAN PABLO RIDGE, 1897 { 2.14, -1.21 }
- 9 GROVE POINT 2, 1887 { -.65, .49 }
- 10 DETAILER, 1887, 1951

BRIDGING PHOTOGRAPHY

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INDEX TO PHOTOGRAPHS

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



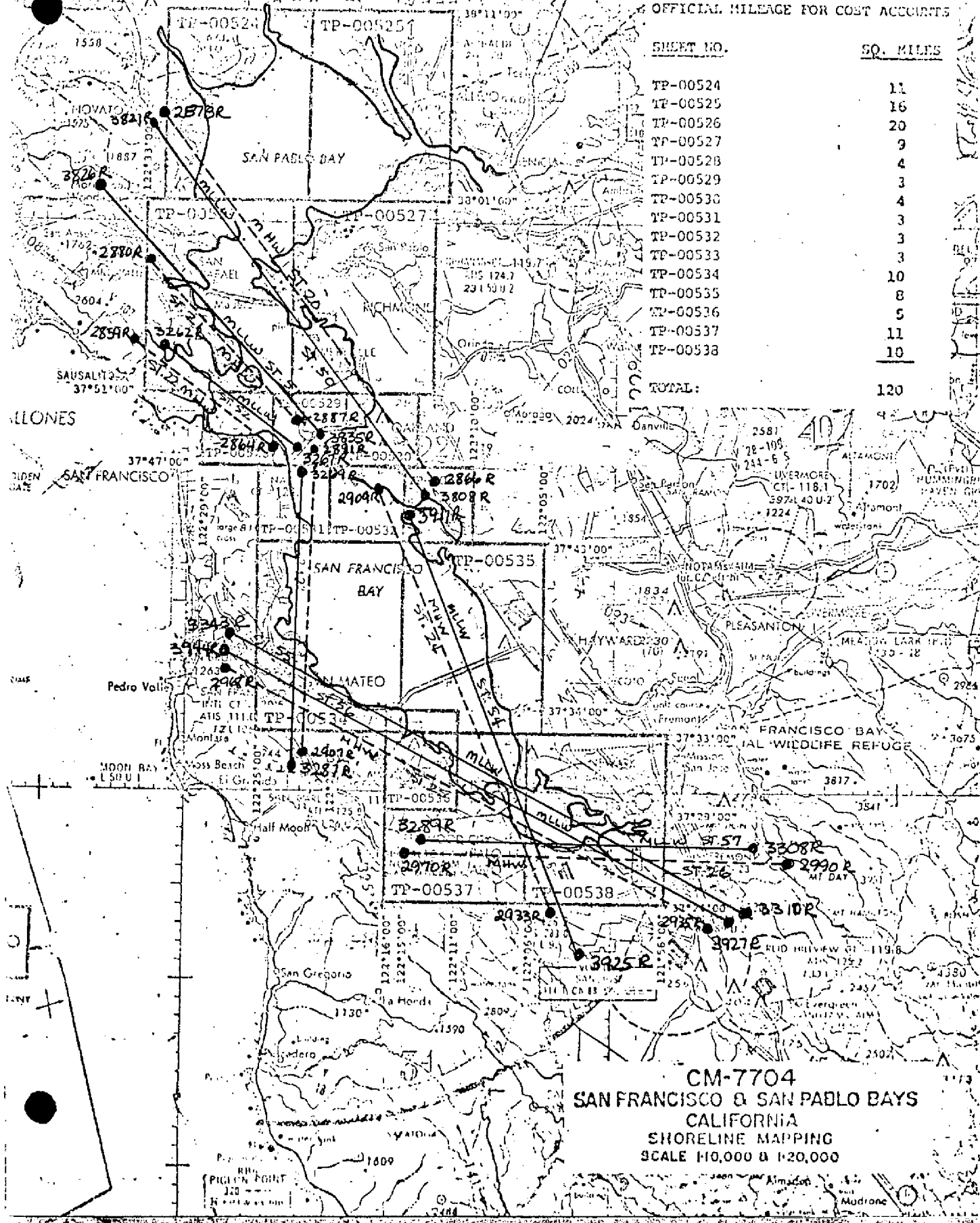
1:40,000

MLLW
mHW

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OFFICIAL MILEAGE FOR COST ACCOUNTS

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



HIGH & LOW WATER INFRARED PHOTOGRAPHY

1:30,000 MLLW
MHW
MLW

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OFFICIAL MILEAGE FOR COST ACCOUNTS

SHEET NO.

SQ. MILES

TP-00524

11

TP-00525

16

TP-00526

20

HYDRO-SUPPORT PHOTOGRAPHY

1:30,000

18

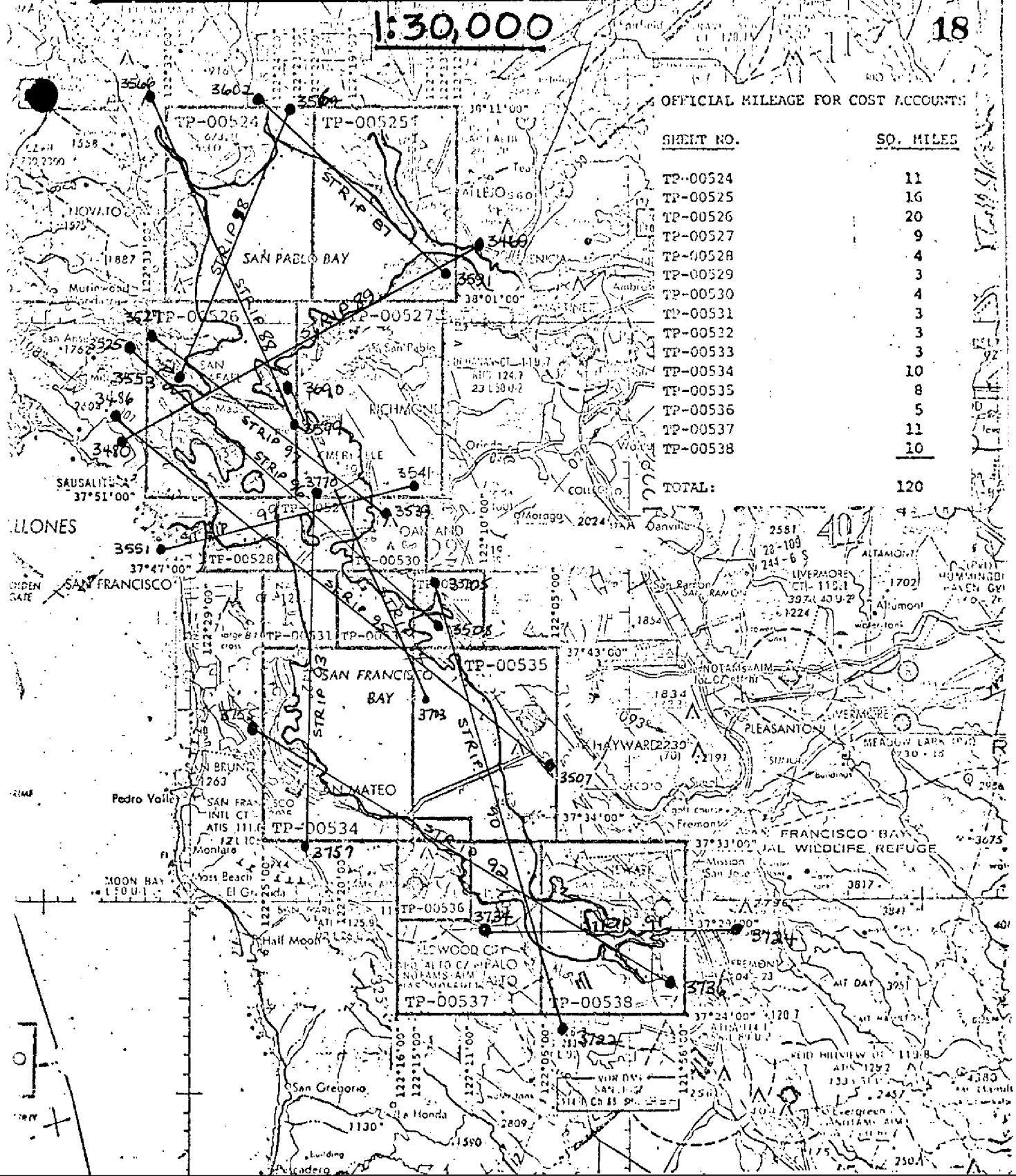
OFFICIAL MILEAGE FOR COST ACCOUNTS

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

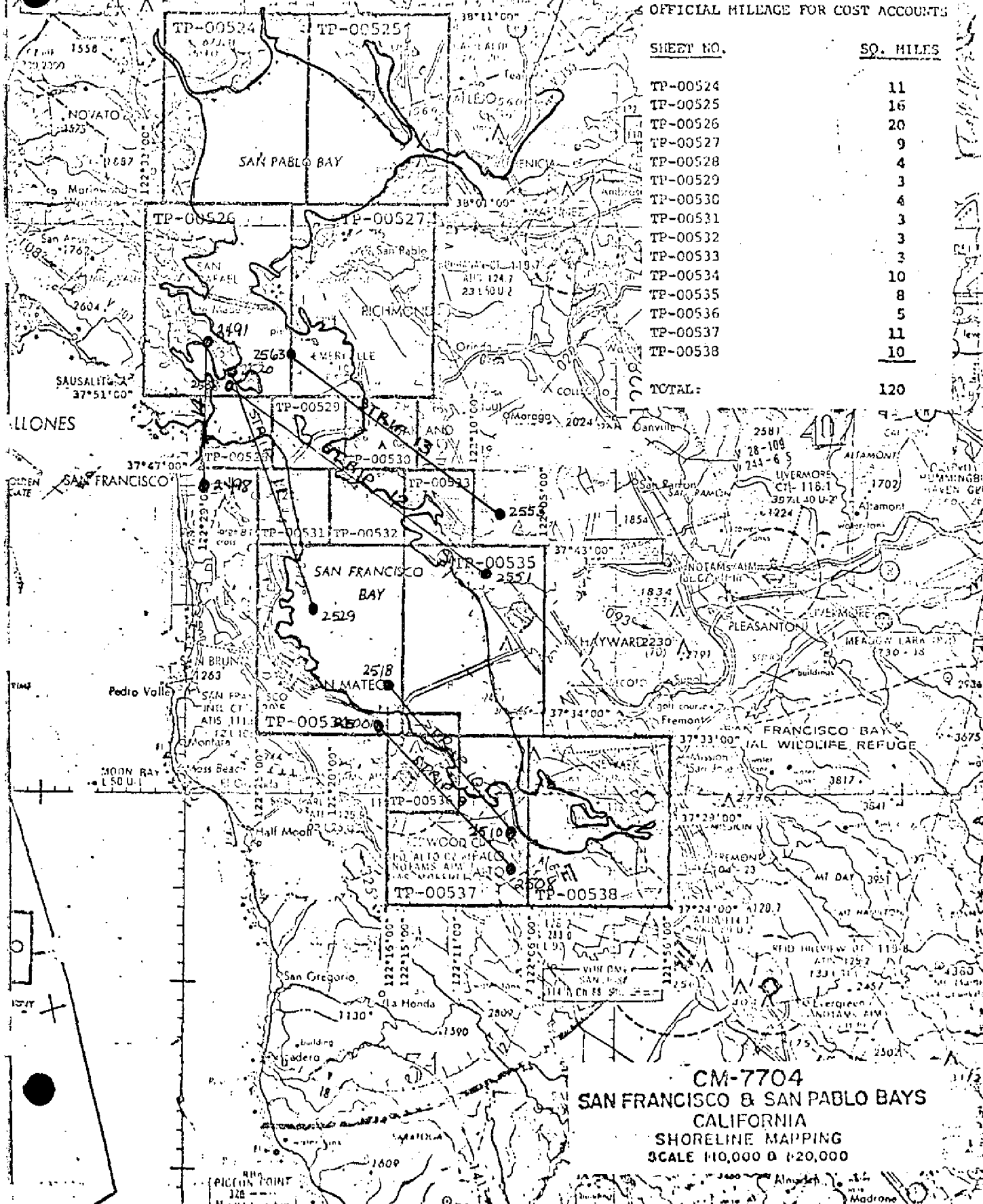
19

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



COMPILATION REPORT

TP-00537

31. DELINEATION

Delineation was by instrument methods using the Wild B-8 stereoplotter. Compilation photography was adequate. The mean high 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

No unusual problems.

37. LANDMARKS AND AIDS

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

38. CONTROL FOR FUTURE SURVEYS

None

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. Quadrangles:

Redwood Point, CA; 1:24,000 scale; 1959, photo revised 1968/1973
Palo Alto, CA; 1:24,000 scale; 1961, photo revised 1968/1973
Mountain View, CA; 1:24,000 scale; 1961, photo revised 1968/1973
Newark, CA; 1:24,000 scale; 1959, photo revised 1968/1973

47. COMPARISON WITH NAUTICAL CHARTS

A comparison was made with the following National Ocean
Survey charts: No. 18652, 1:40,000/1:80,000 scale, 16th Ed.,
March 26, 1977; No. 18651, 1:40,000 scale, 29th Ed, Aug 12, 1978.

ITEM TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None

ITEMS TO BE CARRIED FORWARD

None

Submitted by:

for *Jeff Moler*
Jeff Moler
Cartographic Technician

Date: December 19, 1978

Approved:

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

PHOTOGRAMMETRIC OFFICE PRE-HYDRO AND FIELD EDIT REVIEW

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TP- 00537

PROJECTION AND GRIDS C.B.	TITLE C.B.	HORIZONTAL CONTROL C.B.	PHOTOGRAMMETRIC PLOT REPORT, C.B.
DETAIL POINTS AND PASS POINTS C.B.	PROCESSED RATIOS C.B.	AIDS TO NAVIGATION C.B.	LANDMARKS C.B.
MEAN HIGH WATER LINE C.B.	LOW-WATER LINE C.B.	ROCKS, SHOALS, ETC. C.B.	ALONG SHORE AND OTHER PHYSICAL FEATURES C.B.
WATER FEATURES C.B.	ALONG SHORE AND OTHER CULTURAL FEATURES C.B.	BRIDGES C.B.	ROADS C.B.
BUILDINGS C.B.	RAILROADS NONE	CONTOURS AND SPOT ELEVATIONS NONE	GEOGRAPHIC NAMES C.B.
JUNCTIONS C.B.	LEGIBILITY OF THE MANUSCRIPT C.B.	COMPILATION REPORT C.B.	FIELD EDIT OZALID C.B.
COMPARISON WITH NAUTICAL CHARTS C.B.	COMPARISON WITH PRIOR SURVEYS NONE	COMPARISON WITH EXISTING MAPS C.B.	FIELD PRINTS AND OTHER COPIES C.B.
REVIEWER 77 Charles Blood	DATE Feb. 1979	SUPERVISOR A. C. Rauck Jr.	DATE Feb. 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 manuscript, no field edit accomplished.

REVIEW REPORT TP-00537
SHORELINE

61. GENERAL STATEMENT:

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

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:

Not applicable.

63. COMPARISON WITH MAPS OF OTHER AGENCIES:

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

Redwood Point, CA; 1959, photo revised 1968 and 1973
Palo Alto, CA; 1961, photo revised 1968 and 1973
Mountain View, CA; 1961, photo revised 1968 and 1973
Newark, CA; 1959, photo revised 1968 and 1973

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

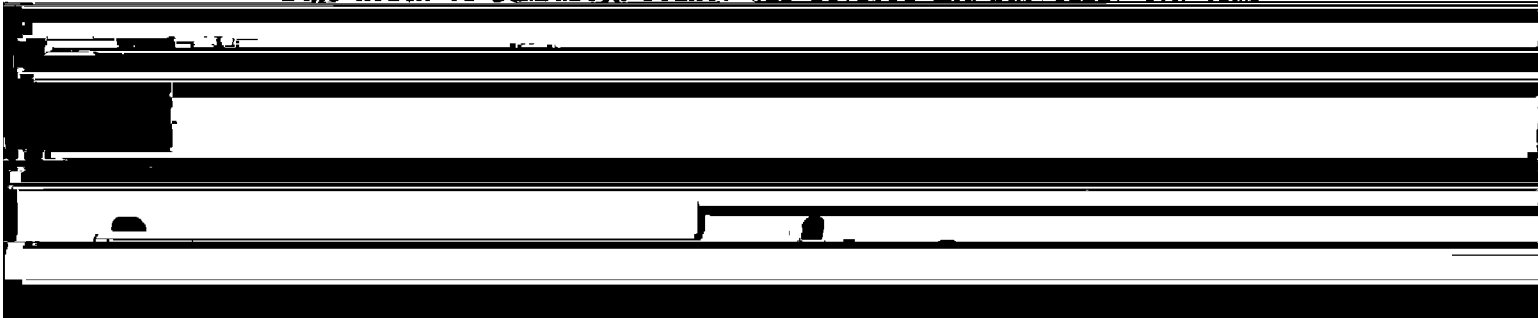
The intended contemporary hydrographic survey has been temporarily postponed pending the assigned 1981 Revision Survey of this Class III Map. See the Summary included in this Descriptive Report.

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.

A previously mapped "rock" located on the northeast end of Hetch Hetchy Aqueduct off Dumbarton Point is very indefinite and was redefined during final review as an "obstruction." This "rock" now appears on current chart 18652 and apparently was transferred from the original Class III map. The exact terminology based on photo interpretation for this object cannot be concluded and will require field classification.

Based on interpretation of the infrared photography, the MLLW line north of Dumbarton Point, was revised and basically conforms



TP-00537

Because of the penetrating qualities of infrared photography and the gentle gradient of the foreshore, identification of a distinct and consistent MLLW line was restricted. Hydrographic development of the MLLW line should be consulted for the final delineation of this feature.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:

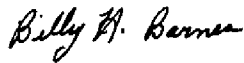
This map complies with the Project Instructions, and meets the requirements for Bureau Standards of Map Accuracy.

Submitted by:



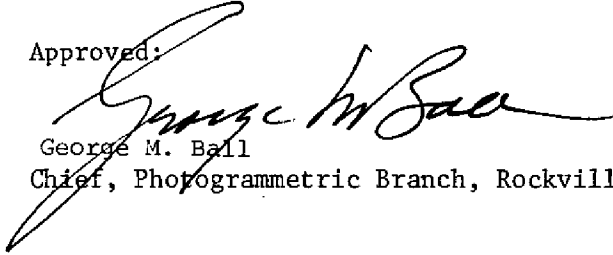
Jerry L. Hancock
Final Reviewer

Approved for forwarding:



Billy H. Barnes
Chief, Photogrammetric Branch, AMC

Approved:



George M. Ball
Chief, Photogrammetric Branch, Rockville



Walter S. Simmons
Chief, Photogrammetry Division

GEOGRAPHIC NAMES

FINAL NAME SHEET

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

TP-00537

Cooley Landing

Dumbarton Point

East Palo Alto

Flood Slough

Greco Island

Hetch Hetchy Aqueduct

Mayfield Slough

Palò Alto Municipal Airport

Ravenswood Point

Ravenswood Slough

Sand Point

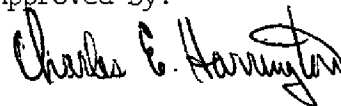
San Francisco Bay

San Francisquito Creek

Southern Pacific (RR)

Westpoint Slough

Approved by:



Charles E. Harrington
Chief Geographer, OA/C3x5

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	J. Hancock
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'	
(Consult Photogrammetric Instructions No. 64.)	
OFFICE I. OFFICE IDENTIFIED AND LOCATED OBJECTS Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75	FIELD (Cont'd) B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object. EXAMPLE: P-8-V 8-12-75 74L(C)2982
FIELD I. NEW POSITION DETERMINED OR VERIFIED Enter the applicable data by symbols as follows: F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection P - Photogrammetric Vis - Visually 5 - Field identified 6 - Theodolite 7 - Planetable 8 - Sextant A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75	III. 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						☐ 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		TO BE DELETED		The following objects HAVE ☐ HAVE NOT ☒ been inspected from seaward to determine their value as landmarks.		DATE									
COASTAL MAPPING DIV.		A.M. C. Norfolk, VA		California		San Francisco and San Pablo Bays		Feb. 1979									
JOB NUMBER		SURVEY NUMBER		DATUM		POSITION		METHOD AND DATE OF LOCATION (See instructions on reverse side)				CHARTS AFFECTED					
CM-7704		TP-00537		N.A. 1927		LATITUDE		LONGITUDE		OFFICE				FIELD			
CHARTING NAME		DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses.)		LATITUDE		LONGITUDE		OFFICE				FIELD					
				° / ' " D.M. Meters		° / ' " D.P. Meters											
TOWER	Tallest of 3 towers	37-30	17.0	122-10	03.5	77B(P)	2669	3/4/77	18651	18652							
TALLER TOWER	Tallest of 3 towers	37-30	13.8	122-09	55.0	77B(P)	2669	3/4/77	"	"							
TALLER TOWER	Tallest of 3 towers	37-30	10.7	122-09	47.2	77B(P)	2669	3/4/77	"	"							
TOWER	Tallest of 3 towers	37-30	06.2	122-09	35.7	77B(P)	2669	3/4/77	"	"							
R. TR.	(K.I.B.E.), 1220 KHZ	37-29	00.0	122-08	05.5	77B(P)	2669	3/4/77	"	"							
TR	Southside	37-30	13.1	122-07	20.4	77B(P)	2669	3/4/77	"	"							
TR	Northside	37-30	28.5	122-06	57.1	77B(P)	2669	3/4/77	"	"							
TOWER	(Dumbarton Highway Bridge East Tower, 1931)	37-30	21.620	122-07	00.847	77B(P)	2669	3/4/77	"	"							
TOWER	(Dumbarton Highway Bridge West Tower, 1931)	37-30	20.072	122-07	03.080	77B(P)	2669	3/4/77	"	"							
			618.8		756				"	"							
									"	"							

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	J. Moler
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW	J. Hancock
ACTIVITIES	
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'	
(Consult Photogrammetric Instructions No. 64.)	
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FIELD I. NEW POSITION DETERMINED OR VERIFIED Enter the applicable data by symbols as follows: F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection P - Photogrammetric Vis - Visually 5 - Field identified 6 - Theodolite 7 - Planetable 8 - Sextant A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75	II. TRIANGULATION STATION RECOVERED When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 8-12-75 III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75 **PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.
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RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	
POSITIONS DETERMINED AND/OR VERIFIED	J. Moler
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	J. Hancock
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'	
(Consult Photogrammetric Instructions No. 64.)	
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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.
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