11063 THRU 11077

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Diag. Cht. Nos. 5402-2 & 5530-4.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Shoreline (Photogrammetric)

Field No. Ph-102 *Office No.* T-11063 thru T-11077

LOCALITY

State California

General locality San Francisco Bay

Locality South San Francisco

19 52-53

CHIEF OF PARTY

F.A.Riddell, Chief of Field Party

F.Natella, Chief of Field Party

LIBRARY & ARCHIVES

DATE November 25, 1959

8-1870-1 (1)

NAUTICAL CHARTS BRANCH

SURVEY NO. T-11063 thru T-11077

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

T-11077. Geographic Names.

Alviso Slough

California (for title)

Guadalupe River (not Slough, a BGN decision)
correction applies also to title of sheet

Jagel Slough

Mountain View Slough

San Francisco Bay (for title)

Names approved 2-18-57.
L. Heck

GEOGRAPHIC NAMES

T-11076

San Francisco Bay vicinity, Calif.

Alviso Slough

Coyote Creek

Gray Goose Slough

Mud Slough

Southern Pacific RR

Names approved
4-3-57
acw

-74

T-11074. Geographic Names.

California (for title)

Menlo Park Sanitary District Pumping Station

Ravenswood Slough
Redwood City
Redwood Creek

San Francisco Bay (for title)

U.S. 101 Bypass

Westpoint Slough

Names approved 2-18-57
H. Heck

GEOGRAPHIC NAMES

T 10073 San Francisco Bay vicinity, Calif.

Beard Creek

Coyote Hills

Dumbarton Bridge

Dumbarton Highway

Jarvis Landing

Newark Slough

Plummer Creek

San Francisco Bay

Southern Pacific R.R.

Names approved
4-4-57
a.g.w.

T-11072. Geographic Names.

Belmont Slough

California

Corkscrew Slough

Deepwater Slough

Phelps Slough

Ravenswood Point
Ravenswood Slough
Redwood Creek
Redwood Point

San Carlos-Belmont Airport
San Francisco Bay
Smith Slough
Steinbergen Slough

U.S. 101 Bypass

Westpoint Slough

Names approved 2-13-57
L. Heck

T-11071. Geographic Names.

Belmont Channel
Belmont Slough

California

El Camino Real U S 101

O'Neill Slough

Phelps Slough

San Carlos-Belmont Airport
San Francisco Bay (title only)
San Mateo Airport
San Mateo Slough

U.S. 101 Bypass

Names approved 2-13-57
L. Heck

GEOGRAPHIC NAMES

T-11070 San Francisco Bay vicinity, Calif.

Alameda Creek

Coyote Hills Slough

Mt. Eden Slough

Plummer Slough

San Francisco Bay

San Mateo Toll Bridge

Names approved
4-10-57
ajw

T-11068 Geographic Names.

Burlingame

California

Millbrae

San Bruno
San Francisco Bay
San Francisco International Airport

U S 101 By Pass

Names approved 10-19-56
L. Heck

GEOGRAPHIC NAMES

T- 11067 San Francisco Bay vicinity, Calif.

Hayward Landing

Hayward Municipal Airport

Johnson Landing

Roberts Landing

Russell

San Francisco Bay

San Lorenzo

West San Lorenzo

Names approved
4-10-57
ajw

T-11066. Geographic Names.

Brisbane

California

Oyster Point

Point San Bruno

San Francisco Bay
San Francisco International Airport
Sierra Point
Southern Pacific

U.S. 101 By Pass

Names approved Oct. 4, 1956.
L. Heck

T-11065. Geographic Names

Bay Farm Island

California

Eastshore Freeway (preferably one word)

Mulford Landing

Oakland Municipal Airport

San Francisco Bay
San Leandro Bay
San Leandro Creek
Southern Pacific

Names approved 4-30-57.
L. Heck

GEOGRAPHIC NAMES

T ~~11062~~ T 11064 pg. 2

Central Basin

Mission Rock

Potrero Nuevo

Potrero Pt.

San Francisco Bay

Names approved

9-24-56

A.J.W.

T-11064. Geographic Names.

Bayshore
Bayview

Candlestick Point

Double Rock

Hunters Point

Islais Creek

Point Avisadero

San Francisco Bay

South Basin
Southern Pacific

By-Pass U.S. 101

Names approved 9-25-56
L. Heck, Lt.

c2

Review Report

Shoreline Survey T-11077

April 2, 1957

62. Comparison with Registered Topographic Surveys

T-676	1:10,000	1857	T-4644b	1:10,000	1931
T-2315	1:10,000	1897	T-4646	1:10,000	1931

T-1107 supersedes these prior surveys for nautical charting for the area it encompasses.

63. Comparison with Maps of Other Agencies

Milpitas, Calif.(USGS)	1:24,000	1953
Mountain View, Calif. (USGS)	1:24,000	1953

No significant differences were noted.

64. Comparison with Contemporary Hydrographic Surveys

Blue Print No.53679	1:10,000	1956

The shoreline and hydrographic control points were transferred from T-11077 prior to sounding. The mean high-water line and soundings are in agreement.

65. Comparison with Nautical Charts

5531	1:40,000	1950	Revised 8/22/55

Minor differnces exist inthe shoreline and alongshore features.

66. Adequacy of Results and Future Surveys

Refer to the Review Summary included in the Descriptive Report.

REVIEWED BY:

S. G. Blankenbaker

S. G. Blankenbaker

APPROVED BY:

L C Lunde

Chief, Review & Drafting Section

Chief, Nautical Chart Branch

Chief, Photogrammetry Division

10 Nov. 57

Chief, Coastal Surveys Division

Review Report

Shoreline Survey T-11076

April 3, 1957

62. Comparison with Registered Topographic Surveys

T-2258	1:10,000	1896	T-4646	1:10,000	1931
T-2315	1:10,000	1897	T-4647	1:10,000	1931

T-11076 supersedes these prior surveys for natuical charting for the area it encompasses.

63. Comparison with Maps of Other Agencies

Milpitas Calif.(USGS) 1:24,000 1953

No significant differences were noted.

64. Comparison with Contemporary Hydrographic Surveys

Blue Print No. 53679 1:10,000 1956

The shoreline and hydrographic control points were transferred from T-11076 prior to sounding. The MHW line and soundings are in agreement.

65. Comparison with Nautical Charts

5531 1:40,000 1950 Revised 8/22/55

Minor differences exist in the shoreline and alongshore features.

66. Adequacy of Results and Future Surveys

Refer to the Review Summary included in the Descriptive Report.

REVIEWED BY:

S. G. Blankenbaker

S. G. Blankenbaker

APPROVED BY:

L C Lande

Chief, Review and Drafting Section
Photogrammetry Division

Mark Gilbert

Chief, Nautical Chart Branch

H W Adams

Chief, Photogrammetry Division

10 Nov. 57

Chief, Coastal Surveys Division

60

APPROVED BY:

L C Landy
Chief, Review & Drafting Section
Photogrammetry Division

Max Shalett
Chief, Nautical Chart Branch

L W Swanson
Chief, Photogrammetry Division
10 Nov '54

Chief, Coastal Surveys Division

Review Report

Shoreline Survey T-11075

February 26, 1957 (Review Date)

62. Comparison with Registered Topographic Surveys

4606	1:10,000	1931	4644b	1:10,000	1931
4626	1:10,000	1931	4646	1:10,000	1931
4627	1:10,000	1931	4647	1:10,000	1931
4644a	1:10,000	1931	4648	1:10,000	1932

T-11075 supercedes these prior surveys for nautical charting for the area it encompasses.

63. Comparison with Maps of Other Agencies

Mountain View Calif. (USGS) 1:24,000 1953

No significant differences were noted.

64. Comparison with Contemporary Hydrographic Surveys

H-8281	1956	(Blue Print 53678)
H-8282	1956	(Blue Print 53679)

The Smooth Sheets and Descriptive Reports were not available at the time of review. Comparisons were made with the blue line prints of the Boat Sheets. The shoreline and signals were transferred to the Boat Sheets from T-11075 prior to sounding. The mean high-water line and soundings are in agreement.

65. Comparison with Nautical Charts

5531 1:40,000 1950 Revised 8/22/55

Minor differences exist in alongshore features.

66. Adequacy of Results and Future Surveys

Refer to the Review Summary included in the Descriptive Report.

REVIEWED BY:

S. G. Blankenbaker

S. G. Blankenbaker

Review Report

Shoreline Survey T-11074

February 20, 1957

62. Comparison with Registered Topographic Surveys

2311	1:10,000	1897	4643	1:10,000	1932
2312	1:10,000	1897	4644a	1:10,000	1932
4606	1:10,000	1931			

T-11074 supersedes these prior surveys for natuical charting for the area it encompasses.

63. Comparison with Maps of Other Agencies

Palo Alto, Calif. (USGS) 1:24,000 1953

No significant differences were noted.

64. Comparison with Contemporary Hydrographic Surveys

H-8275	1:10,000	1956
H-8210	1:10,000	1956

The shoreline and hydrographic control points were transferred from T-11074 prior to sounding. The mean high-water line and soundings are in agreement.

65. Comparison with Nautical Charts

5531 1:40,000 1950 Revised 8/22/55

Minor differences exist in alongshore features.

66. Adequacy of Results and Future Surveys

Refer to the Review Summary included in the Descriptive Report.

REVIEWED BY:

S. G. Blankenbaker

S. G. Blankenbaker

APPROVED BY:

L C Lande

Chief, Review & Drafting Section

Chief, Nautical Charts Branch

Chief, Photogrammetry Division

10 Nov 57

Chief, Coastal Surveys Division

58

APPROVED BY:

L C Landy
Chief, Review and Drafting Section
Photogrammetry Division

May Hackett
Chief, Nautical Charts Branch

L W Swanson
Chief, Photogrammetry Division
10 Nov. 54

Chief, Coastal Surveys Division

57

Review Report

Shoreline Survey T-11073

April 8, 1957

62. Comparison with Registered Topographic Surveys

2353	1:10,000	1896	4604	1:10,000	1931
2358	1:10,000	1896	4626	1:10,000	1931
			4648	1:10,000	1932

Triangulation stations Red Hill, 1854, 1932 and South Red Hill, 1896, 1931 were plotted incorrectly on T-4648 resulting in errors of as much as 40 ft. in the position of features in the area.

T-11073 supersedes these prior surveys for nautical charting for the area it encompasses.

63. Comparison with Maps of Other Agencies

Newark, Calif. (USGS)	1:24,000	1948
Redwood, Calif. (USGS)	1:24,000	1948

No significant differences were noted.

64. Comparison with Contemporary Hydrographic Surveys

H-8210	1:10,000	1956	BP-8281-1956

The shoreline and hydrographic control points were transferred from T-11073 prior to sounding. The MHW line and sounding are in agreement. Changes in the MHW line made during review are shown in red on T-11073.

65. Comparison with Nautical Charts

5531	1:40,000	1950	Revised 8/22/55

Minor differences exist in the shoreline and alongshore features.

66. Adequacy of Results and Future Surveys

Refer to the Review Summary included in the Descriptive Report.

REVIEWED BY:

S. G. Blankenbaker

S. G. Blankenbaker

APPROVED BY:

Chief, Review & Drafting Section
Photogrammetry Division

Chief, Nautical Chart Branch

Chief, Photogrammetry Division
10 Nov 59

Chief, Coastal Surveys Division

Review Report

Shoreline Survey T-11072

February 15, 1957

62. Comparison with Registered Topographic Surveys

2310	1:10,000	1897-98	4606	1:10,000	1931
2311	1:10,000	1897	4642	1:10,000	1931
4605	1:10,000	1930-31	4643	1:10,000	1932

T-11072 supersedes these prior surveys for nautical charting for the area it encompasses.

63. Comparison with Maps of Other Agencies

Redwood Point Calif. (USGS) 1:24,000 1946

No significant differences were noted.

64. Comparison with Contemporary Hydrographic Surveys

H-8275 1:10,000 1956

The shoreline was transferred from T-11072 prior to sounding. The smooth sheet was not verified prior to the review of T-11072. Several minor descrepancies involving soundings crossing the MHW line were brought to the attention of the Nautical Chart Review Section. The descrepancies can be resolved by changing the sounding lines during verification.

The shoreline was transferred from T-11072 prior to sounding.

65. Comparison with Nautical Charts

5531 1:40,000 1950 Revised 8/22/55

Minor differences in alongshore features exist.

66. Adequacy of Results and Future Surveys

Refer to the Review Summary included in the Descriptive Report.

REVIEWED BY:

S. G. Blankenbaker

S. G. Blankenbaker

Review Report

Shoreline Survey T-11071

February 13, 1957

62. Comparison with Registered Topographic Surveys

433	1:10,000	1853	2311	1:10,000	1897
665	1:10,000	1857	4605	1:10,000	1930-31
664	1:10,000	1857	4642	1:10,000	1931
2310	1:10,000	1897-98			

T-11071 supersedes these prior surveys for nautical charting for the area it encompasses.

63. Comparison with Maps of Other Agencies

San Mateo, Calif. (USGS) 1:24,000 1947

No significant differences were noted.

64. Comparison with Contemporary Hydrographic Surveys

H-8275 1:10,000 1956

Inapplicable except for a short section of Belmont Slough. The shoreline was transferred from T-11071 prior to sounding. The surveys are in agreement.

65. Comparison with Nautical Charts

5531 1:40,000 1950 revised 8/22/55

Minor differences in alongshore features exist.

66. Adequacy of Results and Future Surveys

Refer to the Review Summary included in the Descriptive Report.

REVIEWED BY:

S. G. Blankenbaker

S. G. Blankenbaker

APPROVED BY:

L C Lande

Chief, Review & Drafting Section
Photogrammetry Division

Chief, Nautical Chart Branch

Chief, Photogrammetry Division 10 Nov '59

Chief, Coastal Surveys Division

54

Review Report

Shoreline Survey T-11070

April 10, 1957

62. Comparison with Registered Topographic Surveys

2353	1:10,000	1896	4604	1:10,000	1931
2252	1:10,000	1896	4646	1:10,000	1932
			4649	1:10,000	1932

T-11070 supersedes these prior surveys for nautical charting for the area it encompasses.

63. Comparison with Maps of Other Agencies

Redwood Point, Calif. (USGS)	1:24,000	1946
Newark, Calif.(USGS)	1:24,000	1947

No significant differences were noted.

64. Comparison with Contemporary Hydrographic Surveys

H-8210 1:10,000 1955

The shoreline and hydrographic control points were transferred from T-11070 prior to sounding. The MHW line and soundins are in agreement.

65. Comparison with Nautical Charts.

5531 1:40,000 1950 Revised 8/22/55

Minor differences exist in shoreline and alongshore features.

66. Adequacy of Results and Future Surveys

Refer to the Review Summary included in the Descriptive Report.

REVIEWED BY:

S. G. Blankenship

S. G. Blankenship

APPROVED BY:

L C Landy

Chief, Review & Drafting Section
Photogrammetry Division

Chief, Nautical Charts Branch

10 Nov 57

Chief, Photogrammetry Division

Chief, Coastal Surveys Division

53

APPROVED BY:

L C Landy

Chief, Review & Drafting Section
Photogrammetry Division

Mark Blackett

Chief, Nautical Charts Branch
Charts Division

H W Swanson

Chief, Photogrammetry Division

10 Nov 53

Chief, Coastal Surveys Division

Review Report

Shoreline Survey T-11069

November 16, 1956

62. Comparison with Registered Topographic Surveys

432	1:10,000	1853	4605	1:10,000	1930-31
2310	1:10,000	1897-98	4642	1:10,000	1931

T-11069 supersedes these prior surveys for nautical charting for the area it encompasses.

63. Comparison with Maps of Other Agencies

San Mateo Calif. (USGS) 1:24,000 1947
No significant differences were noted.

San Mateo Calif. 1599 111 (AMS) 1:50,000 1947

The map was compiled from older sources and is outdated.

64. Comparison with Contemporary Hydrographic Surveys

H-8026 1:10,000 1954-55

The shoreline and hydrographic control points were transferred from T-11069 prior to sounding. The two surveys are in agreement except for minor shoreline changes made during review.

H-8275 1:10,000 1956

The shoreline and hydrographic control points were transferred from T-11069 prior to sounding. The surveys are in agreement.

65. Comparison with Nautical Charts

5531 1:40,000 1950 Revised 8/22/55

Minor differences exist in alongshore features.

66. Adequacy of Results and Future Surveys

Refer to the Review Summary included in the Descriptive Report.

REVIEWED BY:

S. G. Blankenbaker

S. G. Blankenbaker

Chief, Photogrammetry Division

10 Nov 59

Chief, Coastal Surveys Division

Review Report

Shoreline Survey T-11068

October 29,1956

62. Comparison with Registered Topographic Surveys

T-460	1:10,000	1854	T-4641	1:10,000	1932
T-2207	1:10,000	1894-95			
T-4439	1:10,000	1929			
T-4603	1:10,000	1930			

T-11068 supersedes these prior surveys for ~~nutical~~ nautical charting for the area it encompasses.

63. Comparison with Maps of Other Agencies

San Mateo Calif (USGS)	1:24,000	1947
Montara Mountain Calif.(USGS)	1:24,000	1947

No significant differences were noted.

San Mateo Calif. 1559 III (AMS)	1:50,000	1947

The map was compiled from older sources and is outdated.

64. Comparison with Contemporary Hydrographic Surveys

H-8026	1:10,000	1954-55

The Shoreline and hydrographic control points were transferred from T-11068 prior to sounding. The two surveys are in aggreement.

65. Comparison with Nautical Charts.

5531	1:40,000	1950	Revised 8/22/55

Minor differences exist in alongshore features.

66. Adequacy of Results and Future Surveys

Refer to the Review Summary included in the Descriptive Report.

REVIEWED BY:

S. G. Blankenbaker

S. G. Blankenbaker

APPROVED BY:

L C Landy

Chief, Review & Drafting Section
Photogrammetry Division

Chief, Nautical Chart Branch
Charts Division

Roads were delineated at the Explosives Manufacturing Plant north of Roberts Landing. None of the numerous buildings were shown.

REVIEWED BY:

S. G. Blankenbaker

S. G. Blankenbaker

APPROVED BY:

L C Landy

Chief, Review & Drafting Section
Photogrammetry Division

Mary B Ricketts

Chief, Nautical Charts Branch

T W Swanson

Chief, Photogrammetry Division

1 Nov 59

Chief, Coastal Surveys Divison

Review Report

Shoreline Survey T-11067

April 30, 1957

62. Comparison with Registered Topographic Surveys

T-2252	1:10,000	1896	T-4610	1:10,000	1930
			T-4649	1:10,000	1932

T-11067 supersedes these prior surveys for nautical charting for the area it encompasses.

63. Comparison with Maps of Other Agencies.

San Leandro, Calif.(USGS)	1:24,000	1947
Hayward, Calif.(USGS)	1:24,000	1947

No significant differences were noted.

64. Comparison with Contemporary Hydrographic Surveys

H-8027 1:20,000 1955

The shoreline and hydrographic control points were transferred from T-11067 prior to sounding. The surveys are in agreement.

65. Comparison with Nautical Charts

5531 1:40,000 1950 revised 8/22/55

Minor differences exist in shoreline and alongshore features.

66. Adequacy of Results and Future Surveys

Refer to the Review Summary included in the Descriptive Report.

No check has been made during review of the positions of the individual poles (transmission line running paralled to shore) indicated on the manuscript by blue circles. Due to the slim angle cuts obtained from the nine-lens photographs, Navy single photographs (date unknown) were incorporated and used for additional cuts on the poles. Apparently no use was made of the poles during the contemporary hydrographic survey.

Changes in the area evident on the Navy photography (taken later than the nine-lens photography) include a wide canal at Hayward Landing which was added during review.

Reviewed by:

A. G. Blankenhaker

Approved by:

L. C. Landy
Chief, Review & Drafting Section
Photogrammetry Division

Mark B. Pickett
Chief, Nautical Chart Branch

R. W. Swanson
Chief, Photogrammetry Division
10 Nov. 59

Chief, Coastal Surveys Division

Review Report

Shoreline Survey T-11066

October 15, 1956

62. Comparison with Registered Topographic Surveys

T-460	1:10,000	1854	T-4640	1:10,000	1931
T-2206	1:10,000	1895	T-4641	1:10,000	1932
T-3796	1:10,000	1919	T-5920	1:10,000	1944
T-4603	1:10,000	1930			

T-1106 supersedes these prior surveys for ~~natuical~~ nautical charting for the area it encompasses.

T-7047(Graphic control) 1:5,000 1950

The shoreline details common to the two surveys are in agreement.

63. Comparison with Maps of Other Agencies

San Mateo, Calif. 1559 111 (AMS) 1:50,000 1947

The map was compiled from older sources and is outdated.

San Francisco South,, Calif.(USGS) 1:24,000 1947

No significant differences were noted.

64. Comparison with Contemporary Hydrographic Surveys

H-8025 1:10,000 1954-55

The shoreline and hydrographic control points were transferred from T-11064 prior to sounding. The two surveys are in agreement.

65. Comparison with Nautical Charts

5531 1:40,000 1950 revised 8/22/55

Nautical chart 5531 shows a row of piling extending approximately 200 meters offshore from the north side of Point San Bruno. Except for the platform on end of piling (as indicated by the field inspector) approximately 200 meters offshore, no piling is visible on the photographs covering the area.

66. Adequacy of Results and Future Surveys

Refer to the Review Summary included in the Descriptive Report U.S.C.&G.S. 1:30,000 scale single lens photographs taken in 1956 were available at the time of the review. An offshore fill for new highway constructions, extending from the Southern Pacific R.R. yards to Sierra Point is visible on the photographs. Other changes were noted. These were not applied to T11066.

45

REVIEWED BY:

S. G. Blankenbaker
S. G. Blankenbaker

APPROVED BY:

L C Lundy
Chief, Review & Drafting Section
Photogrammetry Division

Max Ricketts
Chief, Nautical Charts Branch

T W Swanson
Chief, Photogrammetry Division
1 Nov '59

Chief, Coastal Surveys Division

Review Report

Shoreline Survey T-11065

July 9, 1957

62. Comparison with Registered Topographic Surveys

T-2195	1:10,000	1895	T-4610	1:10,000	1931
T-2486	1:10,000	1900	T-4650	1:10,000	1932
T-4429	1:10,000	1929	T-6898a	1:10,000	1940

T-11065 supersedes these prior surveys for nautical charting for the area it encompasses.

63. Comparison with Maps of Other Agencies

San Leandro, Calif.(USGS) 1:24,000 1947

No significant differences were noted.

64. Comparison with Contemporary Hydrographic Surveys

H-8027	1:20,000	1955
H-8024	1:10,000	1954

The shoreline and hydrographic control points were transferred from T-11065 prior to sounding. Minor shoreline changes made during review are shown in red. There are no conflicts with soundings.

65. Comparison with Nautical Charts

5531	1:40,000	Revised 8/22/55
5532	1:40,000	Revised 2/6/56
5535	1:20,000	Revised 4/30/56

Minor differences exist in shoreline and alongshore features.

66. Adequacy of Results and Future Surveys

Refer to the Review Summary included in the Descriptive Report.

The bridge across the entrance to San Leandro Bay was the lone feature applied from the available Navy Reserve photography (date unknown).

There is a discrepancy in the offshore limits of the double row of piling at Lat. 37° 43' 50" - long. 122° 22' 16". The limits of the pilings delineated on T-11064 is based on field inspection (field photograph no. 39320) [and extends farther off shore. There is not indication on the field photograph as to the method used to determine the offshore limits of the piling. It is recommended that the off shore limits of this piling be taken from T 11064.

HØ8025 1:10,000 1954-55

The surveys are in agreement. The shoreline on sheet H-8025 was transferred from T-11064.

65. Comparison with Nautical Charts

5535	1:20,000	1943	latest correction	4/30/56
5531	1:40,000	1950	Revised	8/22/55
5532	1:40,000	1956	Revised	2/6/56

Numerous minor differences were noted in the MHW line and cultural features.

66. Adequacy of Results and Future Surveys

Refer to the Review. Summary included in the Descriptive Report

67. Landmarks

The horizontal position of the photo(-topo) Point Ellipsoidal Tank 1953 (submitted as a landmark) plots approximately 1.5mm S.E. of the plotted position of Triangulation Station San Francisco Potereo Hill Tank, 1925 (landmark on nautical charts). Apparently the old landmark tank was destroyed.

REVIEWED BY:

S. G. Blankenbaker

S. G. Blankenbaker

L C Landy

Chief, Review & Drafting Section
Photogrammetry Division

Mark Ricketts

Chief, Nautical Chart Branch

Chief, Photogrammetry Division

1 Nov '59

Chief, Coastal Surveys Division

Review Report

Shoreline Survey T-11064

September 26, 1956

61. General Statement

The map limits were changed during final review and now include a part of the map designated T-11062 in the original sheet layout.

62. Comparison with Registered Topographic Surveys

T-352	1:10,000	1852	T-2942	1:10,000	1909
T-398	1:10,000	1853	T-3661	1:10,000	1917
T-687	1:10,000	1857	T-3796	1:10,000	1916
T-1629	1:10,000	1882	T-4640	1:10,000	1931
T-2205	1:10,000	1895	T-6897	1:10,000	1942
T-2206	1:10,000	1895	T-5920	1:10,000	1944
T-2482	1:10,000	1899	T-5923	1:10,000	1945

T-11064 supersedes these prior surveys for nautical charting for the area it encompasses.

T-7001 (a&b) 1:5,000 1954

Minor differences exist in the MHW line delineations due to the differences in the time and scale of the two surveys. T 7001 is about 1 year later than T11064 and should be used for chart compilation for the area it covers.

63. Comparison with Maps of Other Agencies

San Mateo, Calif. 1559 111 (AMS) 1:50,000 1947

The map is compiled from older sources and is outdated.

San Francisco South, Calif. 1:24,000 1947 (USGS)
San Francisco North, Calif. 1:24,000 1947 (USGS)

No significant differences were noted.

64. Comparison with Contemporary Hydrographic Surveys

H-8023 1:5,000 1954

The source of the shoreline and topographic details delineated on H-8023 is Topographic Survey T-7001 (a&b) accomplished in 1954. Differences exist due to differences in time and scale.

The map limits are NOT changed

The westerly portion of T11062 is now lost but planetable survey T7001a & b (1954) 1:5000 covers much of the area.

C M. 3/65

APPROVED BY:

L C Lundy

Chief, Review and Drafting Sec.
Photogrammetry Division

Mary S. Tuckett

Chief, Nautical Chart Branch

F W Swanson

Chief, Photogrammetry Division

1 Nov 59

Chief, Coastal Surveys Division

-40-

Review Report

Shoreline Survey T-11063

July 15, 1957

62. Comparison With Registered Topographic Surveys

2195	1:10,000	1895	4650	1:10,000	1931
2486	1:10,000	1900	4670	1:10,000	1932
4429	1:10,000	1929			

T-11063 supersedes these prior surveys for nautical charting for the area it encompasses.

63. Comparison with Maps of Other Agencies

Oakland East, Calif.(USGS) 1:24,000 1947

No significant differences were noted.

64. Comparison with Contemporary Hydrographic Surveys

Inapplicable

65. Comparison with Nautical Charts

5535 1:20,000 56 4/30

Minor differences exist in shoreline and alongshore features.

66. Adequacy of Results and Future Surveys

Refer to the Review Summary included in the Descriptive Report.

Single lens U.S.Navy Reserve photography taken later than the nine lens photos was available during compilation. Apparently no attempt was made to bring the manuscript up to the date of the more recent photography (exact date unknown). The only features taken from the Navy photographs, during field review were several large alongshore buildings. Other new buildings and road changes are apparent on the more recent photography.

REVIEWED BY:

S. G. Blankenbaker

S. G. Blankenbaker

No. 5532 - Scale, 1:40,000, published July 1947,
last date 6/23/52
No. 5535 - Scale, 1:20,000, published July 1943,
last date 6/23/52

Items to be carried forward

None.

48. Geographic Names:

The geographic names shown on the map manuscripts were obtained from nautical charts listed in previous paragraph.

Approved and Forwarded:

Fred Natella
Officer-in-Charge

Respectfully submitted:

J. Edward Deal Jr.

J. Edward Deal, Jr.
Cartographer

38. Control for Future Surveys:

One Hundred and Thirteen Recoverable Topographic Stations were located throughout the project for which Forms 524 are submitted.

Any pertinent information relative to photo-hydro control and recoverable topographic stations is included in "Notes to the Hydrographer" which has been prepared for each map manuscript and included within this descriptive report.

Lists of photo-hydro stations and recoverable topographic stations have been prepared for each map manuscript and are included under Item 49 of this report.

39. Junctions:

Complete and satisfactory junctions have been made between all map manuscripts in this project.

40. Horizontal and Vertical Accuracy:

Vertical accuracy is not applicable. There is no area of any map manuscript in this project which is considered to be of subnormal accuracy.

46. Comparison With Existing Maps:

Comparison was made with prints made from U.S.C.& G.S. shoreline surveys as follows:

T-4640, T-4641, T-4642, T-4643, T-4644, T-4646, T-4647, T-4648, T-4649, T-4650 and T-4670, all at a scale, 1:10,000 and compiled during 1931 and 1932.

T-5920 through T-5926 all at a scale, 1:10,000 and compiled during 1944 and 1945.

A visual comparison was made with all topographic quadrangles listed under Item 33, "Supplemental Data".

47. Comparison With Nautical Charts:

Comparison was made with nautical charts as follows:

No. 5531 - Scale, 1:40,000, published Jan. 1950,
last date 3/17/52

34. Contours and Drainage:

Contours are not applicable. Drainage was detailed as indicated by field inspection and by stereoscopic examination of the photographs.

35. Shoreline and Alongshore Details:

The mean high-water line and the apparent shoreline were clearly indicated by field inspection. These features were carefully interpreted by stereoscopic examination of the photographs and a refinement of the locations shown on the field photographs was made prior to compilation. Several of the field inspection personnel were on assignment in the Portland Office at the time of compilation and they were available for clarification of any doubtful shoreline condition.

No low-water lines were indicated by field inspection and because the photographs were taken at about mean high-water the approximate low-water line could not be determined in the compilation office.

36. Offshore Details:

Other than the conditions discussed under Item 31: "Delineation", relative to the San Mateo Bridge there were no other problems for offshore details.

37. Landmarks and Aids:

Forms 567 covering Landmarks and Fixed Aids to Navigation for Project Ph-102 were submitted to the Washington Office on 15 April 1954.

Several of the aids to navigation were located by sextant fix and Air Photographic Plot.

The Elevations above mean high-water in feet were computed for all landmarks for which the field inspection unit furnished the necessary data.

manuscripts as isolated portions of detail. In each instance they have been tied into the planimetry shown on the latest topographic quadrangle of the area.

32. Control:

Refer to Item 23 of the Photogrammetric Plot Report and to correspondence attached to this report.

33. Supplemental Data:

Listed under Item 46, "Comparison with existing maps", are numerous planimetric maps of this bureau, compiled in 1931, 1932, 1944 and 1945 which were furnished this office as supplemental data. No information was taken from these maps. The following topographic quadrangles were compared with the 1952 photographs and any planimetry not appearing on the quadrangles and which was needed for the present shoreline compilations, was detailed as isolated portions of planimetry. These quadrangles will be needed to complete the map manuscripts when they are applied to new nautical charts.

War Dept., Corps of Engineers, U. S. Army

15 min. quadrangle-San Mateo, Calif. - Scale 1:62,500 - 1941
15 min. quadrangle-Halfmoon Bay, Calif.-Scale 1:62,500 - 1943

U. S. Geological Survey

15 min. quadrangle-San Jose, Calif. - Scale 1:62,500 - 1941
15 min. quadrangle-Concord, Calif. - Scale 1:62,500 - 1915
7½ min. quadrangle-San Mateo, Calif. - Scale 1:24,000 - 1947
7½ min. quadrangle-Hayward, Calif. - Scale 1:24,000 - 1950

Army Map Service

15 min. quadrangle-San Francisco, Calif. - Scale 1:50,000 - 1948
15 min. quadrangle-Concord, Calif. - Scale 1:50,000 - 1948
15 min. quadrangle-Hayward, Calif. - Scale 1:50,000 - 1948
15 min. quadrangle-Palo Alto, Calif. - Scale 1:50,000 - 1950
15 min. quadrangle-Halfmoon Bay, Calif. - Scale 1:50,000 - 1942

~~54~~. 35

COMPILATION REPORT

Map Manuscripts T-11062 thru T-11077

Project Ph-102

31. Delineation:

Graphic methods were used for the compilation of these map manuscripts.

At numerous places throughout the project the photograph coverage was insufficient for a positive location of photogrammetric points because of the slim angles obtained at many of the intersections of radials. Where this condition occurred the locations of the points were determined as follows:

A photograph was selected on which several of these doubtful points appeared in the center chamber. A tracing was made from this photograph of all photogrammetric points in the center chamber and the doubtful points were circled in red ink and the well located points were circled in black ink. By use of the vertical projector the tracing of the photograph was brought into the map manuscript scale by coinciding the well located points which were common to both the tracing and map manuscript. By holding this orientation the locations of the doubtful points could usually be determined at the place where the center of the circles in red ink fell on the radials of the slim angle intersections drawn on the map manuscripts. Difficulties from slightly tilted photographs were adjusted by bringing small portions of the tracing into scale at one time. Photogrammetric points affected by relief displacement were considered and eliminated from the process when they were too far out from the principal point.

The angle intersection of the San Mateo Bridge was not included in the photograph coverage. This place was detailed on Map Manuscript T-11069 by extending the location of the graphic compilation of the center line of the bridge at both the east and west shorelines of the bay through the plotted positions of triangulation stations located offshore along the center line of the bridge. Where these two extended lines crossed fixed the location of the center lines at the angle intersection. This point should be considered doubtful because an extension of about 2.5 miles was required from the east shore over the joined map manuscripts T-11069 and T-11070.

The photographs were compared with the latest topographic quadrangles of the area and the changes noted in planimetric detail since the time of the compilation of the quadrangle were noted. These changes or revisions were compiled and appear on the map

PHOTOGRAMMETRIC PLOT REPORT

RADIAL PLOT "C"

21. Area covered.

This radial plot covers the west shoreline of South San Francisco Bay from Visitation Point to Dumbarton Bridge and includes the shorelines of Belmont Slough, Steinbergen Slough, Redwood Creek, Westpoint Slough and Ravenswood Slough. It is referred to as Radial Plot "C" and comprises Map Manuscripts T-11068, T-11069, T-11071, T-11072 and T-11074. & T-11066

T-11066,

22 thru 25.

The same methods were used to run this radial plot as described under these items in the photogrammetric plot report for Radial Plot "A".

Approved:

Fred Natella

Fred Natella
Officer-in-Charge

Respectfully submitted:

J. Edward Deal, Jr.

J. Edward Deal, Jr.
Cartographer

PHOTOGRAMMETRIC PLOT REPORT

RADIAL PLOT "B"

21. Area covered.

This radial plot covers the east shoreline of South San Francisco Bay, California from Roberts Landing to Guadalupe Slough, the south shoreline of San Francisco Bay from Guadalupe Slough westerly to Dumbarton Bridge and the shorelines of Coyote Creek, Guadalupe Slough, Alviso Slough and Jagel Slough. It is referred to as Radial Plot "B" and comprises Map Manuscripts T-~~11066~~ 11067, T-11070, T-11073 and T-11075 thru T-11077.

22 thru 25.

The same methods were used to run this radial plot as described under these items in the photogrammetric report for Radial Plot "A".

Approved:

Fred Natella

Fred Natella
Officer-in-Charge

Respectfully submitted:

J. Edward Deal Jr.

J. Edward Deal, Jr.
Cartographer

only where it was possible to identify their ground position on the photo-graph.

Approved:

Fred Natella

Fred Natella
Officer-in-Charge

Respectfully submitted:

J. Edward Deal Jr.

J. Edward Deal Jr.
Cartographer

ning of the radial plot it was evident that the radials, which could not be satisfactorily corrected, were contributing to slightly imperfect intersections for some of the photogrammetric points. This condition was taken into account when the location of any point in question was pricked on the map manuscripts.

The templets were oriented and fastened with small pieces of scotch masking tape directly on the four joined map manuscripts. Radials to identified horizontal control stations held excellently to their plotted positions and very good locations of photogrammetric points were obtained.

The assembled radial plot was turned face down and the locations of the photogrammetric points and principal points were pricked and circled in ink on the reverse side of the map manuscripts. The light table, recently installed in the center of the radial plot table and a strong magnifying glass were employed for more accurate work.

The plot was then turned face up and the templets dismantled. Each templet was then individually oriented to see that every radial was at least tangent to the point located. To assure the same junction for any future joining of sheets the points falling in the margins of the four map manuscripts were circled on the face of the plot. The manuscripts were then dismantled and the points falling in the margins were circled in ink on the reverse sides.

23. Adequacy of control.

The horizontal control stations provided were adequate and identified satisfactorily.

24. Supplemental data.

None

25. Photography.

The photography was adequate except for places along the flight lines of 39277 thru 39280 and 39319 thru 39321 where slim angle intersections of radials were obtained. The latitude location of all points having slim angle intersections was obtained by use of the vertical projector. Several well located points in the center chamber of a photographs, on which the points in doubt fell, were brought into the scale of the map manuscript. The latitude location of all other ground points in that center chamber was then pricked on the longitude location established by the slim angle intersection of radials. The locations of elevated objects were pricked

PHOTOGRAMMETRIC PLOT REPORT

RADIAL PLOT "A"

MAP MANUSCRIPTS T-11062 thru T-11065

Project Ph-102

21. Area covered.

This radial plot covers the west shoreline of the southern part of San Francisco Bay from North Point to Visitation Point, the east shorelinefrom Oakland Inner Harbor to Mulford Landing and the shorelines of Oakland Inner Harbor (Oakland Estuary). It is referred to as Radial Plot "A", Project Ph-102 and comprises Map Manuscripts T-11062 thru T-11065.

22. Method.

Furnished for the compilation work were four map manuscripts of acetate material, each ruled with a polyconic projection in one-half minute intervals and California State Coordinate Grids, Zone 3 in 5000 ft. intervals for its respective area. All control stations were plotted, the plotting was checked and the four map manuscripts were joined together with cellulose tape by matching common meridians and parallels. Probably, because of slight material distortion, the polyconic projections did not match perfectly at the junctions. When any two sheets were joined, the best match possible was made where the shorelines crossed. This permitted the greatest discrepancy in the match to fall either in the water area or at the extreme interior area where planimetry will not be compiled. Fortunately, most of the identified control stations fall within the limits where good junctions between the projections were possible.

Nine lens photographs, taken in September 1952, were used for the radial plot.

Image identifications of horizontal control stations and all photogrammetric points were transferred to each photograph on which they appeared by use of the prism stereoscope.

Templets were made on sheets of .005 inch clear acetate using Master Calibration Templet No. 36269 for the correction of any transforming errors or paper distortion found in the photograph.

On each photograph one fiducial mark did not appear in chambers No. 1, No. 5, and No. 9. This caused some difficulty in making a satisfactory adjustment when drawing certain radials on the templets and during the run-

of the new highway net may be mapped on contemporary surveys by the U. S. Geological Survey, which were in progress in the Palo Alto area while this party was in the field.

13. Geographic Names

Detailed investigation of geographic names was not specified. The principal discrepancy noted is that the charted name "Point San Mateo" was never heard in local usage. The accepted name for the feature is "Coyote Point". Certain differences such as the substitution of "Oakland Estuary" for the "Oakland Inner Harbor" were noted, but both forms are in use.

14. Special reports and supplemental data.

No special reports are being submitted in connection with this project.

15. Deficiencies

Deficiencies in bridge and cable clearance data have been due to lack of equipment. The party had no small boat or plane table in the field.

Possible deficiencies in recoveries were due to a misunderstanding of the instruction that a systematic recovery was not required. Directions to R.M.s have been omitted in some cases where the station was occupied eccentrically, occupied at night, etc. Several distances to R.M.s have also been omitted.

There is a possible dearth of control in the vicinity of Moffett Field Naval Air Station. A reasonable solution is believed possible with the control furnished, but the photogrammetrist locating hydro signals might very will identify another couple of points in this area, either as additional control, or as a horizontal accuracy test.

Noted and forwarded:

Fred Natella

Fred Natella
Comdr., USC&G Survey
Chief of Party

Respectfully submitted:

Ray H. Skelton II
Photo. Engineer

Quad 11073

Dumbarton Highway Bridge, Tidal Bench Mark 9 (1931)
" " " " " " 5 (1930)
" " " " " " U 150 (1932)

Quad 11074

None

Quad 11075

Palo Alto Yacht Harbor, Mayfield Slough, Tidal Bench Mark 1 (1931)
" " " " " " " " " 2 (1931)
Southern Pacific Railroad Bridge, Dumbarton Point, Tidal Bench Mark 4 (1923)
" " " " " " " Bench Mark 6 (1923)

Quad 11076

None

Quad 11077

None

12. Other interior features.

(a) Road classification

Roads have been classified in accordance with paragraph 5441A of the Topographic Manual. The notation on the photograph has been d.f.l. (double full line) for roads to be delineated with the Class 5 Road symbol, and d.d.l. (double dashed line) for roads to be delineated with the class 7 road symbol.

In general, only landmark buildings have been delineated. Individual buildings have been shown along the shoreline, where they are relatively separated and relatively distinguishable, but in cases where they are crowded together in highly developed residential areas they have not been delineated.

Bridges have been discussed above.

The principal landing fields in the area are the Alameda Naval Air Station, the Oakland Municipal Airport, the San Francisco International Airport, and the Hayward Airport. A unit of the California National Guard is based at the Hayward Airport. There are small facilities for light aircraft at Palo Alto and San Mateo.

There has been extensive new highway development on both sides of the bay. Most of this is obvious from the photographs. Portions

Quad 11064 (cont)

Hunters Point Bench Mark 169 (1917) (Tidal Bench Mark 2 1917)
" " " " 170 (1917)
" " " " 4 (1941)
Hunter East Bench Mark (1941)

Quad 11065

Oakland Municipal Airport, Bench Mark 3 (1936)
" " " " " 4 (1936)
" " " " " 5 (1936)
" " " " " 6 (1936)

Quad 11066

BM G 571 1939
BM J 571 1939
Point San Bruno, Bench Mark 3 (1897)
" " " " " 5 (1941)

Quad 11067

None

Quad 11068

None

Quad 11069

BM M 476
San Mateo Bridge, Tidal Bench Mark Y 109 A 7 (1912)
" " " " " " Z 109 (1932)
" " " " " " A 110 (1932)
San Mateo, San Mateo Junior College, Tidal Bench Mark 1 (1945)

Quad 11070

None

Quad 11071

None

Quad 11072

Smith Slough, Tidal Bench Mark 3 (1931)

Photo-Hydro Station Number :	Photo Number:	Hydro Signal Book Number:
	Quad 11076	
7601 - 7604	39263	Vol. 6
	Quad 11077	
7701 - 7704	39230	" 7

A total of 295 photo-hydro stations were selected.

(b) Topographic stations. (statistics revised to agree with new sheet layout)

Previously located topographic stations in the area were reidentified for location by the new plot. The establishment of new topographic stations was restricted to the identification and description of readily identifiable and recoverable natural objects, and to the recovery, description, and identification of Tidal Bench Marks or other monumented vertical control suitable for use as topographic stations. The list of topographic stations not reported on Form 567 follows:

Quad 11062

Alameda Naval Air Station, Bench Mark 6 (1938)
" " " " " " 7 (1939)
" " " " " " 8 (1939)
" " " " Tidal Bench Mark 9, 1939
" " " " Bench Mark 10 (1942)
" " " " " " "U.S.N. CARRIER"
Potrero Point, Tidal Bench Mark 4 1938
" " " " " 127
" " " " " G 109

T11064

Quad ~~11063~~ 11062 (cont.)

BM Oakland 6 1932 11062
BM Oakland 7 1932 11063
B 53 (USGS) 1944 11062
Oakland Inner Harbor, Tidal Bench Mark "Oakland 5 1932" 11062
" " " " " " 12 (1936) 11062
" " " " " " 11 (1936) "
" " " " " " "B 54 (USGS)" "
" " " " " " "Post 1 (1936)" "
" " " " " " 24 (USGS) "

Quad 11064

BM F 571 1939

Photo-hydro Station Number	Photo Number	Hydro Signal Book Number
	Quad 11068	
6801 - 6825	39211	Vol. 3
	Quad 11069	
6901 - 6902	39212	" 3
6903 - 6911	39213	" 3
	Quad 11070	
7001	39274	" 3
	Quad 11071	
	No photo-hydro stations.	
	Quad 11072	
7201 - 7213	39218	" 5
7214 - 7227	39217	" 5
7228 - 7235	39216	" 5
7236 - 7245	39217	" 5
	Quad 11073	
7301	39269	" 5
7302	39235	" 5
7303 - 7305, also landmarks and topographic stations		
	Quad 11074	
7401	39235	" 4
7402 - 7406	39218	" 4
7407 - 7408	39218	" 4
7409 - 7413	39217	" 4
	Quad 11075	
7501 - 7511	39231	" 6
7512 - 7517	39222	" 6
7518	39221	" 6
7519 - 7524	39222	" 6
7525 - 7542	39220	" 6
7543 - 7546	39235	" 6
7547 - 7549	39220	" 6
7550 - 7557	39268	" 6

A number of triangulation intersection stations, topographic stations, and landmarks for charts may also be used for hydrographic stations.

Photo-hydro station number:	Photo Number	Hydro Signal Book Number:
	Quad 11062	
11064 6201	39319	Vol. 2
6202 - 6209	39318	" 2
6210 - 6211	39307	" 2
6301 - 6307	39306	
6308 - 6315	39280	
	Quad 11063	
~~6301 - 6307~~	~~39306~~	Vol. 2
~~6308 - 6318~~	~~39280~~	" 2
6319 - 6322	39279	" 2
6316 - 6318	39280	
	Quad 11064	
6401 - 6422	39320	" 1
6423 - 6425	39319	" 1
	Quad 11065	
6501 - 6509	39279	" 2
6510 - 6511	39280	" 2
6512 - 6515	39279	" 2
6516	39278	" 2
6517	39277	" 2
	Quad 11066	
6601 - 6617	39323	" 2
6618 - omitted		
6619 - 6623	39323	" 2
6624 - 6644	39322	" 2
6645 omitted		
6646 - 6652	39322	" 2
6653 - omitted		
6654 - 6656	39322	" 2
	Quad 11067	
6701 - 6702	39277	" 2
6703	39276	" 2
6704 - 6705	39275	" 2

triangulation, although several have been noted for location as topographic stations. Several privately maintained aids and the light at the Coyote Creek entrance in the extreme south end of the bay were located by sextant fixes. These lights are all on piles or dolphins.

(e) Floating aids to navigation.

Floating aids to navigation were not located.

10. Boundaries, Monuments, and Lines

Not applicable.

11. Other control

(a) Photo-hydro stations.

Photo-hydro stations that are natural objects, and that can be recovered and identified within a year have been selected. These photo-hydro stations have been given a numeral designation, the first two digits of which are the last two digits of the quad number, and the last two digits of which give the number of the photo-hydro station selected within the sheet. Thus, 6708, 6709, 6710, and 6711 would be the eighth, ninth, tenth, and eleventh photo-hydro stations selected in quad 11067. The photo-hydro stations are pricked, and the number and a very brief description of the station have been added in blue ink on the photograph. In addition, sketch books are furnished in which field sketches of the stations have been made, and descriptions added. Because of the weather and expedience, work was begun on the project in the area near the field office, and it has been rather difficult to keep the books going in consecutive order around the bay. An index to the hydrographic station, showing the notebook in which they appear, and the photo where they are identified, is given below.

The selection of photo-hydro stations presented no problem in the heavily cultured areas around San Francisco and Oakland, but in the extreme south end of the bay there is a dearth of natural objects to use for hydro stations. On the west shore of the south end of the bay there are several transmission lines. Each seaward tower of these lines has been listed as a hydrographic station, principally to insure the accurate location of each tower. After consultation with the hydrographer, it is contempleted that these towers may be used for fixes to locate hydrographci signals in more suitable locations. On the east side of the bay there are no transmission lines, and very little detail of any kind, and there are not nearly so many photo-hydro stations selected.

no offshore rocks in the project. The only offshore features are about thirty to forty duck blinds, mostly in the area between San Francisco International Airport and Point San Mateo. There are only a few others in the vicinity of Point San Bruno, and across the bay. The oyster industry in the bay has yielded to oil pollution problems and there are no oyster houses remaining. The piling may still remain in some cases. Where readily discernable on the photographs it has been noted. In other cases, it must be located by the hydrographer.

9. Landmarks and aids.

(a) Landmarks for nautical charts.

Form 567 has been prepared for the project, listing all landmarks in the project.

(b) Outstanding interior landmarks.

Since this is a shoreline survey extensive investigation of interior landmarks has not been made. Some of the landmarks submitted for nautical charting might very well be considered interior landmarks, but they are on high ground, or are high structures, and are readily visible from seaward. The only exceptions possible are the Moffett Field blimp hangars, which have not been submitted as landmarks because they lie outside the neat limits of the chart.

(c) Aeronautical aids.

The following listed aeronautical aids are to be located:

Oakland VOR (Hydrographic station 6510), identified on Photo 39280
Oakland ILS MM, identified on Photo 39278
Oakland ILS OM, identified on Photo 39277
San Francisco ILS OM, identified on Photo 39214

No pricking cards have been submitted for these facilities. The Hayward Airport Beacon was located as a topographic station. The San Francisco Airport Beacon, the Alameda Naval Air Station Beacon, and the Oakland Municipal Airport Beacon were located by triangulation. Radar antenna, presumably for GCA systems, or possibly only for surveillance, were located by triangulation at Oakland Municipal Airport and at San Francisco International Airport. The center mast of the old radio range was located at Oakland. An airway beacon at Newark charted as a "position doubtful" was located by resection.

(d) Fixed aids to navigation.

Most of the fixed aids to navigation have been located by

(g) Other shoreline structures

There is a new transmission line under construction across the south bay paralleling the San Mateo Bridge and about 150 feet south of the bridge. Most of the transmission towers were completed by the time the party left the field, but progress on construction was such that the line could not have been located until just about the time the party left the field. This party did locate new transmission towers on the shoreline on the approaches to this crossing. It is unlikely that the transmission line will impair the vertical clearance at the San Mateo Bridge lift, but this should probably be checked.

Vertical clearance of the tramsmission lines crossing at Coyote Creek is not likely to be critical, since there is only ~~two~~ 4 to ~~three~~ 7 feet of water charted under the cable.

The transmission line crossing at Redwood Creek was fouled by a ship this spring, and the vertical clearance should be investigated further. This will be done most practicable by plane table, which this party did not have in the field.

Bridge clearances were noted in most cases where this could easily be done from the bridge structure. Clearance of the San Mateo Bridge, the Dumbarton Highway and Railroad Bridges, and the Islais Creek Bridge in San Francisco were not verified. The very large clearances on the first three bridges are probably unchanged, but the clearance at the Islais Creek Bridge should probably be checked. A new bridge is under construction between Alameda and Bay Farm Island. Construction was not sufficiently advanced to permit measurement of clearances.

The only other alongshore structures are the extensive dike system in the south bay for ponding salt water for the Leslie Salt Company operations. These dikes average six to eight feet in height along the shoreline. Appropriate notes have been made on the photographs. Remaining marsh land is constantly being claimed and diked for salt ponds. Several of these changes have taken place since the date of photography. These changes are noted on the photographs. The former proposed port development between Belmont Slough and Steinbergen Slough has been given over to salt ponds. The old South Shore Port at the head of Jagel's Slough has been abandoned and Jagel's Slough has been diked off for salt ponds.

8. Offshore features

No offshore features were visited by this party. There are

(f) Submarine cables

An effort was made to note locations of submarine cables where the crossings were prominently posted. No contact with the U. S. Engineers was made regarding details of cable crossings, and further investigations should be made by the hydrographer, or by the photogrammetrist assigned for location of hydrographic signals.

inspection in most details has been in compliance with paragraph 542 of the Topographic Manual. On the west side of the bay from San Francisco to the San Mateo Bridge, the inspectors inked the apparent shoreline in blue ink, but the practice was discontinued in other portions of the project.

(b) Mean lower low water line.

Complete delineation of the mean lower low water line appeared impracticable. The very nature of the mean lower low water line makes this very difficult. In very highly developed pier areas of course, the mean high water and the mean lower low water lines are the same, but in other parts of the bay the mean lower low water line may be as much as a mile and a half offshore across the mud flats. The line of zero soundings will probably give the most consistent mean lower low water available.

(c) The foreshore.

The foreshore is mostly mud all over the bay. The mean high water line is marked by a fairly well-defined berm, even where there is marsh inshore and the mean high water line gives way to apparent shoreline. This berm is a low bank, possible six inches above mean high water. There is an abrupt drop at the berm of about two feet to a mud bottom which extends seaward. In the south part of the bay there are extensive shell deposits, but there are only a few isolated banks of shell on the foreshore. These seem to be of artificial origin, and show as white spots on the photographs. There is almost no rocky beach in the project. There are a few rocks at the headlands formed by Candlestick Point, Sierra Point, Point San Bruno, and Point San Mateo. There is a short stretch of gravel beach between Hunters Point and Candlestick Point, and a short stretch of sandy beach west of Point San Mateo, but these are overlain with mud offshore. The whole aspect of the foreshore all around the bay is muddy.

(d) Bluffs and cliffs.

The only bluffs along the shoreline in the project area are the headlands at Candlestick Point, Sierra Point, Point San Bruno, and Point San Mateo. Best estimates of these heights can be obtained from topographic maps available.

(e) Docks, wharves, piers, landings, etc.

There are extensive dock and pier facilities along the San Francisco waterfront, the Oakland Estuary or Oakland Inner Harbor, and the San Francisco Naval Shipyard, and the Alameda Naval Air Station, although these last are available only for the use of naval vessels. Elsewhere in the project there are smaller facilities at Oyster Point, Point San Bruno, Redwood City, and Palo Alto.

Vertical control surveys were apparently not contemplated by the instructions, but a very small amount of vertical work was done to provide data for top elevations for landmarks for charts as required by Forms 524 and 567.

Elevations have been established for the tops of some landmarks by occupying either triangulation stations or other points for which a topographic location is to be determined. In the case of triangulation stations the height of instrument can be determined from an observation upon some identified object in the water. The distance to the object must be scaled or computed, and applying the vertical angle to the distance, the height of the instrument above the water follows. The time of such observations is noted so that the tidal reduction may be applied. In other cases, identifiable points in the immediate vicinity of bench marks were occupied, usually the substitute station which was given to provide the topographic location of the bench mark. The height of instrument was determined by direct observation of rod held on the bench mark. In other cases any identifiable point was occupied, and the height of instrument determined by a direct reading upon a rod held at the water surface. The time in this case was recorded for tidal reduction. From instrument stations whose height of instrument was established by any of these methods, vertical angles were observed to the tops of objects selected as landmarks for charts. Some of these objects were located by triangulation, others may have only topographic positions. The distances from instrument station to the object may be scaled for this purpose, but in some cases they may also be computed, although this seems quite laborious. Top elevations for a number of landmarks may be determined in this manner, but complete data to determine the height of the landmark above ground is not furnished. The data is by no means complete. Since no vertical control surveys were requested by instructions these observations are incidental to other work. There is in general no check furnished on the elevation.

5. Contours and drainage.

Inapplicable.

6. Woodland cover

There is a very small amount of woodland in the area. The delineation of woodland is readily apparent from the photographs.

7. Shoreline and alongshore features

(a) The mean high water line.

The mean high water line has been delineated throughout its length, except where it was quite obvious around piers, etc. The

B.M.	Established by:	Accuracy
11072		
Smith Slough, Bench Mark 1 (1931)	USC&GS	Tidal
" " " " 2 (1931)	"	"
" " " " 3 (1931)	"	"
11073		
Dumbarton Highway Bridge, Bench Mark 9 (1931)	"	"
" " " " " K 175 1934	"	
" " " " " L 175 1934	"	
" " " " " M 175 1934	"	
" " " " " 4 (1930)	"	"
" " " " " 5 (1930)	"	"
" " " " " U 150 (1933)	"	
11074		
None		
11075		
Palo Alto Yacht Harbor, Mayfield Slough, Bench Mark 1 (1931)	"	"
" " " " " " Bench Mark 2 (1931)	"	"
" " " " " " Bench Mark 3 (1931)	"	"
Southern Pacific Railroad Bridge, Dumbarton Point, Bench Mark 2 (1923)	"	"
" " " " Dumbarton Point, Bench Mark 4 (1923)	"	"
" " " " Dumbarton Point, Bench Mark 5 (1923)	"	"
" " " " Dumbarton Point, Bench Mark 6 (1923)	"	"
11076		
None		
11077		
Alviso, Alviso Slough, Bench Mark 2 (1930)	"	"

(b), (c), and (d). Not applicable.

(e) Determination of elevations of tops of landmarks for Charts.

~~13.~~ 19

B.M.	Established by:	Accuracy
11065		
Oakland Municipal Airport, Bench Mark 3 (1936)	USC&GS	Tidal
" " " " " 4 (1936)	"	"
" " " " " 5 (1936)	"	"
" " " " " 6 (1936)	"	"
11066		
G 571 1939	"	
J 571 1939	"	
Point San Bruno Bench Mark 3 (1897) [DELETED FROM MANUSCRIPT DURING WASH OFFICE REVIEW]	"	Tidal
" " " " " 5 (1941)	"	"
11067		
None		
11068		
None		
11069		
M 476 1951	USC&GS	
San Mateo Bridge, Tidal Bench Mark Y 109 A 7 (1912)	"	Tidal
" " " " " " X 109 (1932)	"	"
" " " " " " Z 109 (1932)	"	"
" " " " " " R.M.2 BRIDGE (1939)	"	"
" " " " " " A 110 (1932)	"	"
San Mateo, San Mateo Junior College, Bench Mark 1 (1945)	"	"
" " " " " " Bench Mark 2 (1945)	"	"
" " " " " " Bench Mark 3 (1945)	"	"
11070		
None		
11071		
None		

B.M.	Established by:	Accuracy
11062 (cont)	USC&GS	
Alameda Naval Air Station Bench Mark 8 (1939)	USC&GS	Tidal
" " " " " " 9 (1939)	"	"
" " " " " " 10 (1942)	"	"
" " " " " " "U.S.N.CARRIER"	"	"
Oakland Inner Harbor, Tidal Bench Mark 14 (1936)	"	"
" " " " " " 16 (1936)	"	"
Potrero Point, Bench Mark 47 (1895)	"	"
" " " " 112 (1907)	"	"
" " " " 127 (	"	"
" " " " 1 (1938) T-11064	"	"
" " " " 2 (1938)	"	"
" " " " 3 (1938)	"	"
" " " " 4 (1938)	"	"
" " " " 5 (1938)	"	"
" " " " G109 (1932)	"	"
~~11063~~ 11062 (cont.)		
Alameda, Municipal Electric Light Plant, Bench Mark 5 (1920)	"	"
Alameda, Municipal Electric Light Plant, Bench Mark OTIS PARK (1948) 11062	"	"
Alameda, Municipal Electric Light Plant, Bench Mark PARK JOSE (1948)	"	"
Oakland 6 1932	"	"
Oakland 7 1932 11063	"	"
B 53 (USGS) 1944	USGS	
Oakland Inner Harbor, Tidal Bench Mark "Oakland 5 1932"	USC&GS	Tidal
Oakland Inner Harbor, Tidal Bench Mark 11 (1936)	"	"
" " " " " " 12 (1936)	"	"
" " " " " " 24 USGS	USGS	"
" " " " " " B 54 (USGS)	"	"
" " " " " " Port 1 (1936)	USC&GS	"
Oakland, Park Street Bridge, Bench Mark 1 (1932)	" 11063	"
" " " " " " 2 (1932)	" 11063	"
11064		
F 571 1939 T	USC&GS	
~~Hunters Point Tidal Bench Mark 2 (1917)~~ (BM 169 1917)	"	Tidal
" " " " " 170 (1917)	"	"
" " " " " 4 (1941) *	"	"
" " " " " 5 (1941) *	"	"
Bench Mark Hunter East (1941)	"	"

11062

* TBM points deleted during review. Positions available on 524 forms

Quad 11077

Tank, Bayside Canning Co. 1931 - Lost - The old tank has been replaced by a new one on the same foundation. As triangulation the position seems questionable, but the station has been identified for use in the plot.

(f) Quality of identification.

The quality of identification is noted on each pricking card. So far as the selection of the substitute station is concerned, there is no known questionable station, but several points had to be designated doubtful owing to poor image quality near the edge of a photograph.

The identity of one station, Cupola on Weathered Colored Warehouse on Point, 1931, as a triangulation station could not be positively established. The station does not appear on the triangulation diagram or in the list of geographic positions. However, it does appear in the descriptions of triangulation stations, and it is shown on the 1932 planimetric manuscript with a triangulation station symbol. The station is desirable as control, and the position should be obtained if possible. In any case, the station is of value to the hydrographer, and if no position is available it should be located as a topographic station.

4. Vertical Control

In general, this section is not applicable on this survey. However, certain vertical control stations had previously been located as topographic stations. These were recovered and reidentified for location by the new plot, and in addition, some tidal bench marks and some geodetic leveling bench marks were located as topographic stations. No specific instructions about the tidal bench marks were issued, but in general they were located with topographic accuracy, except where they were so close together that the location of extra topographic stations was of limited value. Even though the extra marks were of no use as topographic stations, an extra effort was made to recover them if the party was in the immediate area.

(a) The following bench marks were recovered:

B.M.		Established by:	Accuracy
11062			
Alameda Naval Air Station Bench Mark	6 (1938)	USC&GS	Tidal
" " " " "	7 (1939)	"	"

11068

Stations established, not identified

San Francisco Airport, Obstruction Light, Center, new Control Tower

11073

Station established and identified	Photo
Newark, Aero Light	39270

(b) No datum adjustments were made by the field party.

(c) All control used has been established or located by the Coast and Geodetic Survey.

(d) Stations to be identified for control of the plot were not specified by instructions. It is believed an adequate selection has been made to control the plot. Possibly near the southeast corner of the project the selection of stations identified is not the optimum, but it appears sufficient for a solution.

(e) Not all stations in the area were searched for. According to paragraph 6 of the instructions, systematic recovery of all stations was not required. Since the distribution of control and the systematic recovery of all stations was not required, exhaustive search for stations not readily recoverable was not made. A true picture of control in the area cannot be obtained by review of the recovery notes of this project. Sufficiently extensive search for non-recoverable stations to warrant calling them "lost" was made in only a few cases. The following stations have been listed as "lost".

Quad 11065

BAR 1931 - The station is not essential to the plot, but it is the only station along the shoreline for a considerable distance. Extensive search was made, but it could not be recovered. There has probably been considerable change in the area owing to modifications of the dikes.

Quad 11072

Ohio Bldg. Babylon Pavilion, 1931 - Lost - The building is in ruins.

Windmill 1931

~~9.~~ 12

Stations established and identified

	Photo
Alameda Naval Air Station, Channel, East Breakwater, North Light	39306
" " " " " " " South Light	39306
" " " " " ,, Inner Basin, East Light	39307
" " " " " " " West Light	39307
" " " " " West Breakwater, East Light	39306
" " " " " " " West Light	39306
~~Mission Rock, South East Corner Light~~	~~39318~~
Oakland Inner Harbor, South Jetty Light	39307

Stations established, not identified

Alameda Naval Air station Channel, Light 7
" " " " " Range Front Light
" " " " " Range Rear Light
~~Mission Rock, North East Corner Light~~

11064

Stations established and identified

	Photo
Mission Rock, South East corner Light	39318
Hunters Point Light	39320
Hunters Point North End Light	39320
Hunters Point South End Light	39320

Stations established, not identified
Mission Rock, North East Corner Light

11065

Stations established and identified

	Photo
Oakland Municipal Airport Beacon	39279

Stations Established, not identified

Oakland Municipal Airport, Radar Tower
" " " Center of Five Radio Range Towers

11066

Stations established and identified

	Photo
San Francisco Airport, North Side Light	39323
" " " Radar Antenna	39323
" " " South Side Light	39323

11068

Stations established and identified

	Photo
San Francisco Airport, Aero Light	39323

the San Mateo Bridge is given over mostly to evaporating basins of the Leslie Salt Co. The salt water is successively circulated across evaporating beds being moved closer to the final evaporating beds as the concentration increases. The movement is generally from northwest to southeast along both sides of the bay. The salt plant is in Newark, and brine is passed under the bay to the plant by an aqueduct paralleling the Dumbarton Bridge.

Moffett Field, a Naval Air Station, lies south of the project, and just south of the neat limits of Chart 5531. The blimp hangars at Moffett Field are the largest structures in the area, and dominate the whole lower bay.

Ridges parallel the bay several miles inshore on both sides. San Bruno Mountain extends to the shoreline on the west side of the bay, and there are lower ridges at Hunters Point, and Candlestick Point. There is an isolated hill at Point San Mateo. Otherwise there is no appreciable relief along the west side of the bay.

Except for the Coyote Hills, there is no relief on the east shore of the bay. The Coyote Hills are northeast of the Dumbarton Bridges.

Shoreline inspection was done mostly by walking the shoreline. The party was placed at a serious disadvantage in not having its own light skiff available. Small boats available from the BOWIE or the PIONEER were too heavy for manhandling. A small boat was available for hire intermittently, but the party was in competition with the Pacific Gas and Electric Company in hiring small craft. Small boats were borrowed on several occasions from the Palo Alto Yacht Club.

Photograph coverage of the area was complete and adequate. A couple of vertical photographs over the San Francisco Naval Shipyard would have been desirable, but not essential.

3. Horizontal Control

(a) Supplemental control established during the field inspection:

The only horizontal control established during the field inspection were fixed aids to navigation on permanent structures, which were located according to the instructions. The stations established are listed below according to the quadrangle in which they fall, and if identified the appropriate photograph is listed.

11062

Stations established and identified	Photo
Alameda Naval Air Station, Beacon	39307

SHORELINE INSPECTION REPORT

FOR

PROJECT PH-102

South San Francisco Bay, California

2. Aerial Field Inspection

This is a shoreline mapping project, and interior inspection was confined to a strip along the shoreline, varying in width according to the type of culture, showing relatively more interior detail in areas of sparse culture.

The San Francisco shoreline is a highly developed metropolitan waterfront, with large piers and piersheds serviced by good streets and railroads. Passing to the south, development is restricted by shoal water offshore except at Point Avisadero or Hunters Point, which extends well into the bay, and where the San Francisco Naval Shipyard is located. Below Hunters Point the only shoreline developments are at the heads of small channels at Oyster Point, Point San Bruno, San Francisco Airport, and Redwood Creek. Other marked channels in the south bay area will accomodate small craft only.

The shoreline of the Oakland Inner Harbor, or "Oakland Estuary" is a very highly industrialized shoreline serving piers, shipyards, and military supply depots. Below Alameda, shoal water offshore precludes any shoreline development.

On the west side of the bay there are heavy industrial developments inshore as far south as South San Francisco. These plants are serviced by the Southern Pacific Railroad, which runs along the west side of the bay.

Below South San Francisco most of the development is residential and light industry. There are only occasional larger industrial plants, such as the cement plant at Redwood City and the Hiller Helicopter plant at Palo Alto.

The San Francisco International Airport is situated east of San Bruno on the bay shore. The Oakland Municipal Airport is situated on Bay Farm Island southeast of Alameda. Below the Oakland Airport there is very little development immediately inshore from mean high water, but there is heavy industry farther inshore in San Leandro. Hayward and San Lorenzo are essentially suburban residential areas with some light industry and food processing plants.

The area immediately inshore on both sides of the bay below

The following data is included in the project completion report :

(1) Notes to the hydrographer — Listed by Map No.
(2) Lists of recoverable topo. Stas. — " " " "
(3) Lists of photo-hydro Stas — " " " "
~~(4) Field inspection report~~
(5) 567 Forms

Items registered under these surveys will include positive impressions on cronar of the scribed copies of the manuscripts and a combined Descriptive Report for surveys T-11063 through T-11077. A separate Descriptive Report will be registered under T-11062.

Summary to Accompany Descriptive Report

T-11062 through 11077

This project comprised of shoreline surveys at 1:10,000 scale covers the San Francisco Bay alongshore area from the south end of the bay to Mission Rock on the west shore and to Oakland Outer Harbor on the east shore. The main purpose of the project was to provide shoreline and horizontal control for hydrographic surveys.

Field work in advance of compilation accomplished in the winter of 1952-53 consisted of recovery and identification of control, shoreline inspection, selection of photo-hydro stations and the identification of aids to navigation and landmarks. 1952 nine-lens photographs were used in field work.

Three radial plots were assembled covering the 16 manuscripts in the project. The 1952 photographs were used in radial plotting and in graphic compilation.

The field inspection report for the entire project is included in the Descriptive Report for T-11063 through T-11077. There is a separate Descriptive Report for T-11062.

A few shoreline corrections were applied from Navy photography taken between 1953 and 1955 (date unknown). The corrections are mentioned in the individual review reports.

Deficiencies: These maps comply with National Standards of Map Accuracy. The maps are for Bureau use for hydrographic surveys and as base maps for nautical chart construction. The maps comply with instructions and are adequate for Bureau requirements insofar as they accomplish the main purpose of the project i. e., they provided shoreline and horizontal control data for hydrographic surveys. Deficiencies in field work are discussed in general in Item 15 in the field inspection report. Deficiencies discussed in detail in the field inspection report are:

(1) Bridge and cable clearances
(2) Elevations of landmarks
(3) Submarine cables

The compilation office compared the photographs with existing GS quads during compilation and compiled new interior features such as roads as isolated features. A later set of GS quadrangles is now available for chart construction for interior details.

SHORELINE MAPPING PROJECT ~~PH-102~~ 27140-6

CALIFORNIA, San Francisco Bay

PH-102

Compiled at scale of 1:10,000 from nine-lens photographs taken September 1952.
(Refer to Air-Photo Index 57-A) Final Sheet layout (2)

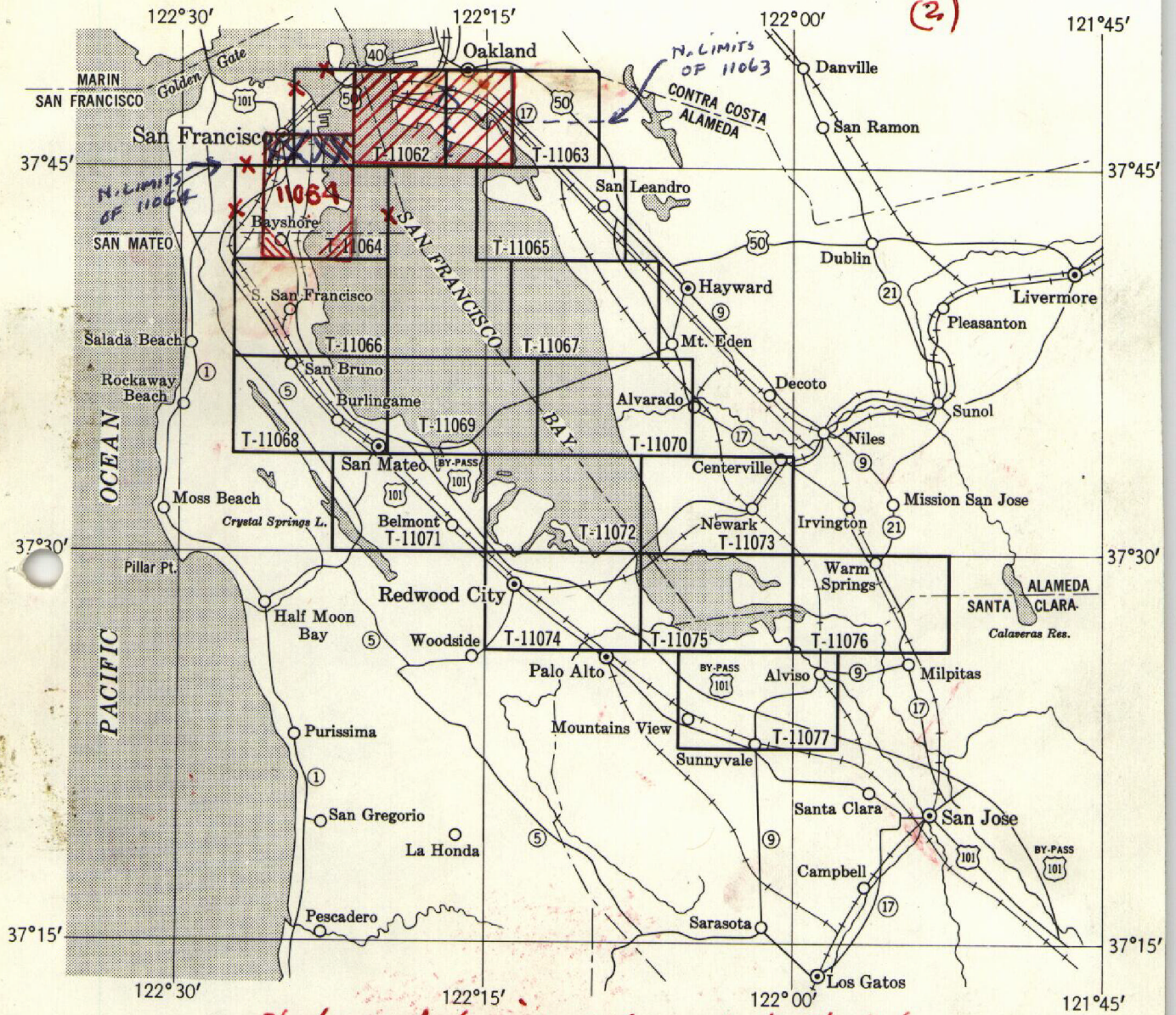


Photo and horizontal control sketch; included in the project completion report.

OFFICIAL MILEAGE FOR COST ACCOUNTS

Sheet No.	Sq. Miles Area	Lin. Miles Shoreline	Sheet No.	Sq. Miles Area	Lin. Miles Shoreline
T-11062	4	4	T-11070	5	13
T-11063	2	4	T-11071	3	12
T-11064	4	7	T-11072	6	40
T-11065	5	12	T-11073	9	18
T-11066	4	7	T-11074	6	13
T-11067	5	13	T-11075	11	35
T-11068	4	5	T-11076	10	18
T-11069	3	12	T-11077	9	12
			TOTALS	90	225

Camera (kind or source) (III): U.S.C. & G.S. 9 lens, Focal length 8.25 inches. 5.

PHOTOGRAPHS (III)

Number	Date	Time	Scale	Stage of Tide
39209 thru 39224	9/23/52	12:21 to 12:31	1:10,000	All flights are
39225 thru 39228	9/23/52	12:38 to 12:43	1:10,000	within 1.0 ± of
39264 thru 39282	9/23/52	13:07 to 13:19	1:10,000	Mean High Water
39304 thru 39311	9/23/52	13:37 to 13:41	1:10,000	for South San
39316 thru 39323	9/23/52	13:51 to 13:55	1:10,000	Francisco Bay.

Navy photography taken after 1955 (date not known)
Refer to the review summary

Tide (III)

		Ratio of Ranges	Mean Range	Diurnal ~~Spring~~ Range
Reference Station:	San Francisco, Golden Gate, California		3.9	5.7
Subordinate Station:	Alameda, California	1.2	4.7	6.4
Subordinate Station:	Alviso Slough, California	1.8	7.1	8.9

Washington Office Review by (IV): S.G. Blankenbaker Date: 1956-1957

Final Drafting by (IV): Date:

Drafting verified for reproduction by (IV): Date:

Proof Edit by (IV): Date:

Land Area (Sq. Statute Miles) (III): 68 (land area compiled adjacent to shoreline)
Shoreline (More than 200 meters to opposite shore) (III): 128.5 statute miles
Shoreline (Less than 200 meters to opposite shore) (III): 118.3 (measured along ℄ stream)
Control Leveling - Miles (II):
Number of Triangulation Stations searched for (II): 122 Recovered: 112 Identified: 110
Number of BMs searched for (II): Recovered: 72 Identified: 45
Number of Recoverable Photo Stations established (III): 113 107
Number of Temporary Photo Hydro Stations established (III): ~~295~~ 293

Remarks:

M-2618-12(4)

DATA RECORD

Field Inspection by (II): **Lt. (jg) Wm. Kachel, Ray H. Skelton II, J. H. Winniford** — Date: **Winter 1952-1953**

Planetable contouring by (II): — Date:

Completion Surveys by (II): — Date:

Mean High Water Location (III) (State date and method of location): **Located in field and identified on field photographs during winter 1952-1953. This location refined by stereoscope study of photographs at the Photogrammetric Office and transferred by graphic compilation to map manuscripts.**

Projection and Grids ruled by (IV): — Date:

Projection and Grids checked by (IV): — Date:

Control plotted by (III): **Comdr. Fred A. Riddell** — Date: **Aug. Sept. 1953**

Control checked by (III): **J. E. Deal** — Date: **Aug. Sept. 1953**

Radial Plot or Stereoscopic Control extension by (III): **J. L. Harris & J. E. Deal** — Date: **Radial Plot "A" (9/5/[illegible]) Radial Plot "B" [illegible] Radial Plot "C" [illegible]**

Stereoscopic Instrument compilation (III): Planimetry — Date:

Contours — Date:

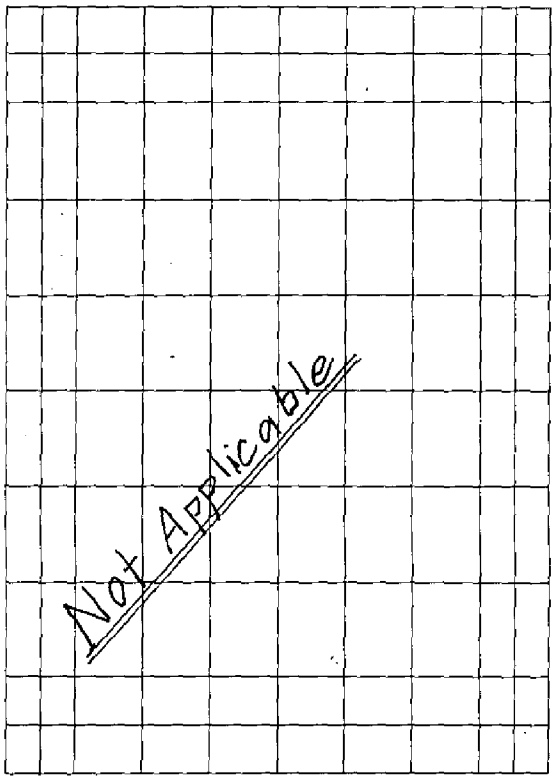
Manuscript delineated by (III): **See reverse side this page** — Date:

Photogrammetric Office Review by (III): **See reverse side this page** — Date:

Elevations on Manuscript checked by (II) (III): — Date:

Map No.	Delineation	Date	Reviewed By:	Date
T-11062	C. C. Wiebe	12/1/53	J.L. Harris	4/9/54
T-11063	L. L. Graves & J. L. Harris	4/7/54	J.E. Deal	5/4/54
T-11064	C.C. Wiebe	4/16/54	J.E. Deal	4/19/54
T-11065	V. B. Serena & D. N. Williams	4/2/54	J.E. Deal	4/6/54
T-11066	C. C. Wiebe & D. N. Williams	3/24/54	J.E. Deal	3/25/54
T-11067	J. E. Deal	2/3/54	J. L. Harris	4/19/54
T-11068	D. N. Williams	1/25/54	J. E. Deal	2/12/54
T-11069	Ens.W.F. Glover	2/12/54	J. E. Deal	2/25/54
T-11070	D. N. Williams	12/23/53	J. E. Deal	1/5/54
T-11071	D. N. Williams	2/9/54	J. L. Harris	2/18/54
T-11072	J. L. Harris	2/17/54	J. E. Deal	3/4/54
T-11073	J. E. Deal	3/29/54	J. L. Harris	4/1/54
T-11074	L. L. Graves	2/18/54	J. E. Deal	3/10/54
T-11075	L. L. Graves & J. L. Harris	3/16/54	J. E. Deal	3/24/54
T-11076	D. N. Williams	2/26/54	J. E. Deal	3/12/54
T-11077	L. L. Graves	4/5/54	J. E. Deal	4/7/54

3.



Areas contoured by various personnel
(Show name within area)
(II) (III)

DATA RECORD

T - 11062 thru 11077
T-11062 to be registered later.

Project No. (II): Ph-102 Quadrangle Name (IV):

Field Office (II): San Francisco, California Chief of Party: Fred A. Riddell and Fred Natella

Photogrammetric Office (III): Portland, Oregon Officer-in-Charge: Fred A. Riddell and Fred Natella

Instructions dated (II) (III): 21 November 1952 Copy filed in Division of Photogrammetry (IV)

Method of Compilation (III): Graphic

Manuscript Scale (III): 1:10,000 Stereoscopic Plotting Instrument Scale (III):

Scale Factor (III): None

Date received in Washington Office (IV): 9|28|54 Date reported to Nautical Chart Branch (IV): 10|5|54

Applied to Chart No. Date: Date registered (IV): 14 OCT 1958

Publication Scale (IV): Publication date (IV):

Geographic Datum (III): N.A. 1927 Vertical Datum (III):

Mean sea level except as follows:
Elevations shown as (25) refer to mean high water
Elevations shown as (5) refer to sounding datum
i.e., mean low water or mean lower low water

Reference Station (III): See reverse side of this page

Lat.: Long.: Adjusted / Unadjusted

Plane Coordinates (IV): State: Zone:

Y= X=

Roman numerals indicate whether the item is to be entered by (II) Field Party, (III) Photogrammetric Office, or (IV) Washington Office.

When entering names of personnel on this record give the surname and initials, not initials only.

M-2618-12(4)

Reference Stations

* T-11062: ALAMEDA, 1947	Lat.	37°	46' 20.965"	646.4m
	Long.	122°	17' 13.362"	327.0m
T-11063: PARK-JOSE, 1947	Lat.	37°	45' 39.830"	1228.0m
	Long.	122°	14' 40.522"	991.9m
T-11064: COLEMAN, 1948	Lat.	37°	43' 39.365"	1213.6m
	Long.	122°	22' 02.106"	51.6m
T-11065: TABLE, 1935	Lat.	37°	43' 22.131"	682.3m
	Long.	122°	12' 13.794"	337.8m
T-11066: PT.SAN BRUNO, 1925	Lat.	37°	39' 12.095"	372.9m
	Long.	122°	23' 01.817"	44.5m
T-11067: HAYWARD, 1925	Lat.	37°	38' 40.725"	1255.6m
	Long.	122°	09' 19.851"	486.7m
T-11068: BAYSHORE, 1938	Lat.	37°	36' 07.854"	242.1m
	Long.	122°	22' 10.838"	265.9m
T-11069: POINT SAN MATEO, 1925	Lat.	37°	35' 28.848"	889.4m
	Long.	122°	19' 06.017"	147.6m
T-11070: LESLIE 2, 1947	Lat.	37°	37' 11.914"	367.3m
	Long.	122°	06' 09.261"	80.0m
T-11071: HIGHWAY, 1930	Lat.	37°	32' 34.234"	1055.4m
	Long.	122°	17' 06.581"	161.6m
T-11072: MARSH, 1925	Lat.	37°	32' 04.661"	143.7m
	Long.	122°	11' 42.707"	1048.5m
T-11073: SOUTH RED HILL, 1896	Lat.	37°	32' 18.369"	566.3m
	Long.	122°	04' 52.701"	1293.8m
T-11074: DUM, 1930	Lat.	37°	29' 52.702"	1624.7m
	Long.	122°	07' 43.309"	1063.8m
T-11075: VERAS, 1931 R.M. 1	Lat.	37°	29' 21.146"	651.9m
	Long.	122°	03' 06.330"	155.5m
T-11076: GOOSE, 1931	Lat.	37°	27' 51.775"	1596.2m
	Long.	121°	59' 41.225"	1013.1m
T-11077: Same as T-11076				

* Separate Descriptive Report for this Manuscript