

5920

~~CONFIDENTIAL~~

Diag'd. on Diag. Ch. No. 5530-4

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Air Photo Compilation
(Shoreline)

Field No. 262C Office No. T-5920

LOCALITY

State California

General locality San Francisco Bay

Locality San Francisco

1941-'44

CHIEF OF PARTY

E.H. Pagenhart

LIBRARY & ARCHIVES

DATE May 25 - 1949

B-1870-1 (1)

5920

~~CONFIDENTIAL~~

Project No. (II): 262 C
San Francisco, Cal. Chief of Party: E.H. Pagenhart
Tampa, Florida Chief of Party: J.C. Boze

Instructions dated (II) (III):
Compilation Scale: 1:10,000

Geographic Datum (III): N.A. 1927 Scale Factor (III):

Reference Datum (III): K.Y.A. Radio Tower, 1937 Datum Plane (III):
Lat: 37°42' 58" 177 Long: 122°23' 38" 291 Adjusted
(1793.6 m.) (937.8 m.)

PHOTOGRAPHS (III)

Number	Date	Time	Scale	Stage of Tide
5498	5-18-41	11:20	1:10,000	+ 0.9
5499	"	11:20	"	+ 0.9
5500	"	11:20	"	+ 0.9
5501	"	11:20	"	+ 0.9
14036	6-2-43	2:10	"	
6321	9-3-41	10:54	"	+ 6.2
6322	"	10:54	"	+ 6.2
6498	"	4:48	"	+ 2.1
6499	"	4:48	"	+ 2.1

San Francisco Bay
Tide Range: 4.8 - 5.2 Spring Range: 6.6 - 7.0

Camera: (Kind or source): Nine lens
Field Inspection by: E.H. Pagenhart & Party Date: April-July 1944
Date of Mean High-water line Location (III): Between " " "
Projection & Grids ruled by (III): J.T. & P.J.H. Date: Aug. 17, 1944
" & " checked by: B.R.C. & J.T. Date: Aug. 22, 1944
Control Plotted by: D.G. Singleton Date: Nov. 1944
Control checked by: M.M. Slavney Date: Nov. 1944
Radial Plot by: M.M. Slavney Date: Dec. 15, 1944
Detailed by: R. Dossett Date: Feb. 1945
Reviewed in compilation office by: J.A. Giles Date: March 1945
Registered: 16 Nov. 1949

STATISTICS (III)

Land Area (to statute miles): 4 (approximate)
Shoreline (More than 200 meters to opposite shore): 15 Stat. Mi.
Shoreline (Less than 200 meters to opposite shore): 0.8 " "
Number of recognizable Topographic features (contoured): 6
Number of recognizable Hydrographic features (contoured): 0

Field Inspection Report

Field inspection for the area of T-5920 is contained in a special report on Field Inspection of Air Photographs, Project 262C, by E. H. Pagenhart. This report covers sheets T-5920-22-23 and is filed in the Division of Photogrammetry General Files.

MAIN RADIAL PLOT

T- 5920

Project - CS 262 C.

The projection for this sheet was received in this office on August 25, 1944. Control was plotted and checked by the beam compass and meter bar method by members of the control section.

Circles with a 14-inch diameter were drawn on each photograph for the purpose of utilizing the central portions of each photograph in preference to the extreme edges.

Control was plotted and checked on each photograph without reference to the 14-inch circle. Secondary control was selected in 5-inch quadrilaterals inside the 14-inch circle, except in cases where lack of adequate photograph coverage made it necessary to use all of each photograph.

Azimuths were drawn on the photographs by means of the stereoscope and radial liner method.

All photographs were printed on unmounted positive paper; therefore, it was necessary to eliminate the effect of paper distortion. This was accomplished by means of a distortion templet constructed from nonshrinking vinylite material.

The regular discussion for the main radial plot follows:

(A) CONTROL DENSITY

Control was found to be adequate for a strong plot on this sheet. However, by using some control which appeared on Sheet No. T-5923 (north of T-5920), an excellent junction was assured. The following control was used for the plot:

- SAN FRANCISCO
- Gray Incinerator Chimney 1916
 - K.F.S.O. Radio Tower 1937
 - Hunter East 1941
 - K.Y.A. Radio Tower 1937
 - San Bruno Mtn. Middle Trans. Tower 1932
 - San Bruno Mtn. East Trans. Tower 1932
 - Elevated Tank (conical) Roof 1938
 - Red Brick Chimney 1938
 - *McKinley 1932

- *Union Iron Works Tank 1916-17
- *Mt. Davidson Cross 1938
- *San Bruno Mtn.
- *Du Pont Tank
- *Mills Field Airport, Windvane Staff

* Used in plot, although outside sheet limits.

(B) PHOTOGRAPHS

The following nine lens photographs were used:

*6319	6498	5498	5501
*6321	*6499	5499	*5502
6322	5497	5500	

* Used in plot, although outside sheet limits.

Photograph coverage was sufficiently good on the north half of this sheet to consider the results of the radial plot as good. However, on the southern half, it was possible to obtain only two point intersections with no third ray for a check. For this reason it must be assumed that this portion of the sheet is subject to change. While there is no way of knowing the extent of any possible error in geographic position, it is believed that the extreme caution used in picking secondary and primary control in this area has held any such error to a minimum.

(C) CLOSURE AND ADJUSTMENT

Regular procedure was followed in laying this plot. Templets with strongest fixes were laid first, followed by templets with progressively weaker fixes. All three point intersections were very good.

(D) AREAS OF QUESTIONABLE ACCURACY

This subject was covered in the paragraph headed "Photographs".

(E) GENERAL

Secondary control was shown on the projection with double blue circles of 2.8 mm. and 1.5 m. radii. Photograph centers were shown with double blue circles of 4.0 mm. and 2.8 mm. radii. The sheet was turned over to the draftsman for the location of additional control or detailing points.

Forwarded by:

J. C. Rose
J. C. Bose
Chief of Party.

Respectfully submitted,

Bennie H. Lyon
By: *William A. Casare*
Bennie H. Lyon
Chief Aero. Map Draftsman

DESCRIPTIVE REPORT
To Accompany
SHEET NO. T- 5920

26. & 27. CONTROL AND RADIAL PLOT

See report submitted by B. H. Lyon, Chief Aeronautical Draftsman, which has been incorporated in this report.

Attention is called to a letter from Capt. E. H. Pagenhart, dated February 27, 1945 stating that all necessary notes and forms covering the triangulation and topographic stations have been forwarded to the Washington Office.

28. DETAILING

The detailing of this sheet has been done according to the current instructions for this project.

The photographs used in this compilation were sufficiently clear and of reasonably good scale; however, with the exception of photograph 14036 they were all made in 1941. Photograph 14036, made in 1943, showed many changes in detail as compared with those made in 1941. These changes were particularly notable in the vicinity of Hunters Point, where the draftsman has left a portion of the shoreline at the SE. corner incomplete. This shoreline has been drafted with a dashed line and labeled "approximate". Insufficient photographic coverage made it impossible to control this area.

A comparison of the 1941 series of photographs with photograph 14036 and large scale photographs Nos. 11440 and 11441 = 10/27/42 showed other changes in building structure. In so far as was possible, photograph 14036, the latest coverage, was used to delineate these changes wherever they occurred, particularly in the north half of the sheet.

Just NW. of Hunters Point, where the highway curves to the south, a new housing project appears on photograph 14036. Since this does not appear on the other photographs, it could not be sufficiently controlled to insure accuracy of the position of the buildings. This area has been outlined with a dashed line and labeled "New Housing Project". Two other areas SW. of Hunters Point were noted by the field inspector as "New Housing Projects" and they have been treated as noted above.

Opposite Bayshore the field inspector has noted by diagram on field print 5500 a new rip rap bulkhead, filled inshore. This has been drafted as shown on the field print; however, it is recommended that this be checked by the field party or hydrographic party for accuracy of position.

Near the middle of this sheet, opposite the Southern Pacific R.R. yard (lat. $37^{\circ}42'$), the shoreline has undergone a change. The shoreline has been extended by fill seaward and southward. This change has been drafted as shown on the field print 5499 and is labeled "approximate".

The control of the south half of this sheet is weak. Insufficient photographic coverage made it impossible to obtain better than two-point radial intersections in the lower half, except for a small area in the vicinity of Oyster Point. From Sierra Point northwestward for approximately one-half minute, there was coverage of one photograph only. The shoreline at this point is good, due to the excellent scale of photograph 5499; however, the near inshore detail, including the highway and railroad, must be considered approximate. This inshore area shows considerable elevation and without radial point control is likely to be out of position. All of the shoreline from Oyster Point southward is controlled by two-cut radial points.

29. SUPPLEMENTAL DATA

The new construction at Hunters Point was taken from plans of this area received from the Navy Yard, Mare Island, California.

The detail of the construction in this area was transferred to the compilation by pantographic method. The X and Y coordinates, as given on the plans, were first plotted on the sheet. After reducing the detail of the plans by pantograph to the correct scale on a separate sheet, it was transferred to the compilation by holding the plotted X and Y control. Where possible (with available photographic coverage), check radial points were cut in. These check points indicated good position of detail. It is believed that the majority of the area falls within the allowable limits of error. Only that detail authorized or constructed on the plans was transferred. All proposed construction and the lower shoreline were ignored.

32. DETAILS OFFSHORE FROM THE HIGH-WATER LINE

Attention is called to two wrecks or grounded hulks not recovered by the field party. South of the K.S.F.O. Radio Tower, near the opposite shoreline, the field party has indicated several hulks on field photographs Nos. 11440 and 11441. Two additional ones were noted on the photographs by the reviewer and they have been located, drafted, and labeled, "Hulks not recovered by Field Party". Further investigation of these should be made by the hydrographic party.

Attention is called to the islet geographically named "Double Rock". All previous surveys and charts show this as a single islet with a continuous shoreline. A study of the 9-lens photographs taken at high water (field photograph 11440) shows two separate and distinct islets. They have been drafted accordingly as two. Such portions of the islet as may be bare at half tide or low tide should be investigated by the hydrographic party.

34. LANDMARKS AND AIDS TO NAVIGATION

All landmarks have been listed on form 567 and made a part of this report. No (non-floating) aids to navigation were recovered by the field party.

Attention is called to a light at Point Avisadero. This light on the dock appears on charts 5532, 5535, 5531 labeled "Horn, Fl. R ev. 10 sec". This aid to navigation was not recovered by the field party. It is probable that it may have been destroyed or moved during the new construction in that area. It is recommended that this be investigated by the hydrographic party.

This chart is not original but was taken from 567 extracted from this report and turned over to navigation about March 4/30/45. CHT letter 296 (1945)

Three landmarks "Stack"(American Smelting and Refining Corp. stack), "White Chimneys"(133), and "Water Tank"(134) were recovered on a section of nautical charts Nos. 5532 and 5535 by field party but were not listed. These landmarks have been listed on form 567 giving position of triangulation station "American Smelting and Refining Corp. Stack, 1942" and positions scaled from survey sheet.

35. HYDROGRAPHIC CONTROL

Instructions to field party dated February 8, 1944 state that no hydrographic stations be selected by them.

37. BRIDGES

The bridge clearances for the bascule bridge across Islais Creek were taken from The U. S. Coast Pilot, 1934 edition.

This office received from the San Francisco Dept. of Public Works a list of clearances for bridges in that area; however, inasmuch as they gave the vertical clearances as 0.0 feet, while the U. S. Coast Pilot gave this clearance as 1½ feet, it was deemed advisable to use the measurements as given by the latter. The two sources of information given above were in agreement as to the horizontal clearances.

38. BENCH MARKS

Pricking cards for two bench marks, Tidal BM-3(Pt. San Bruno) and BM L-571(So. San Francisco) were received from the

field. These cards referred to field photograph 14039, which has never been received by this office. As it was impracticable to attempt to locate these stations on office photographs without the field photographs for proper identification, they have been left off this compilation.

BM W-568 and BM X-568 were recovered on a 1:5,000 scale photograph and could not be identified on the office photographs of smaller scale; consequently they could not be shown on this sheet.

44. COMPARISON WITH EXISTING TOPOGRAPHIC QUADRANGLES


A photostatic copy of a section of Topographic Survey T-2206, made by this bureau in 1895 on scale of 1:10,000, and the San Mateo Quadrangle of the U. S. Geological Survey were the only topographic surveys available for a comparison in this area. Such radical changes have occurred in both shoreline and inshore detail since the date of these surveys that no comparison has been attempted.

45. COMPARISON WITH NAUTICAL CHARTS

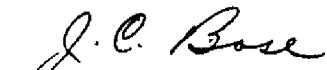
A comparison was made with U.S. Coast and Geodetic Survey nautical charts 5535, published December 1943 (revised to 7/13/44) and 5531, published November 1942 (revised to 5/30/44).

The only outstanding discrepancies noted are as follows:
(1) The islet "Double Rock" shown on both chart 5535 and chart 5531 as a single islet with a continuous shoreline has been drafted as two separate and distinct islets on this compilation. An explanation of this has been made under item No. 32 of this report. (2) Just south of Candlestick Point a new rip rap bulkhead, filled inshore, has been drafted. This does not appear on chart 5531 which covers the shoreline in this area. (3) There are also several wrecks in this area which do not appear on the charts.

Respectfully submitted,


Rudolph Dosssett
Prim. Photo. Aid.

Approved and forwarded.


Lieut. Comdr. J. C. Bose
Chief of Party.

D.M.s and D.P.s - Sheet T-5920
(For smooth copies sent to Washington from California)

Station	Latitude	Longitude
Hunter Point Tidal B.M.2,1917	37°43' 1394 meters	122°21' 659 meters
B.M. G-571, 1939	37°40' 1048 meters	122°23' 572 meters
B.M. W-568)	Recovered on 1:5,000 scale photograph, not identifiable on smaller scale.	
B.M. X-568)		

Scaled by Rudolph Dossett Mar.1945
Checked by Russell J. Pate,Mar.1945

Note:

Other positions for Topo. stations will be found on Form No. 567 which
accompanies this report.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

FOR COAST PILOT SECTION
TO BE CHARTED }
~~TO BE DELETED~~ } STRIKE OUT ONE

LANDMARKS FOR CHARTS

Tampa Photogrammetric Office

1101 E. Broadway, Tampa 5, Fla. April 3 1945

I recommend that the following objects which ~~have~~ have not) been inspected from seaward to determine their value as landmarks, be charted on (~~deleted from~~) the charts indicated.

The positions given have been checked after listing.

Lt. Comdr. J. C. BOBE

Chief of Party.

GENERAL LOCALITY	NAME AND DESCRIPTION	POSITION				METHOD OF LOCATION	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
		LATITUDE		LONGITUDE							
		D. M. METERS	O. I.	D. P. METERS	DATUM						
SAN FRANCISCO BAY	1 TWIN BLACK STACKS (146)	37 41	1706	122 24	525	N.A. Radial Plot	1944	X		5532	
	2 TOWER (Center of Three) (San Bruno Mt. Middle Transmission Tower)	37 41	1701	122 24	534	"	"	X		5531	
	BLACK WATER TANK (157)	37 40	940.6	122 24	600.3	" Triang. Radial Plot	1932 1931-1944	X		5531	
	WATER TANK (154)	37 39	1276	122 23	1159	"	"	X		"	
	TWIN STACKS (158)	37 39	1208	122 23	1316	"	"	X		"	
	WATER TANK (152)	37 39	1060	122 23	1259	"	"	X		"	
	CHIMNEY (151)	37 39	1076	122 23	1244	"	"	X		"	
	WATER TANK (153)	37 39	423	122 23	57	"	"	X		"	
	CITY HALL DOME (So. San Francisco) ELEVATED TANK, CONICAL ROOF, 1938	37 39	148	122 23	351	"	"	X		"	
	STACK (Red Brick Chimney)	37 39	224	122 23	1227	"	"	X		"	
	STACK (Red Brick Chimney)	37 39	690	122 24	1056	"	"	X		"	
STACK (Red Brick Chimney)	37 39	220.6	122 22	1203.6	"	Triang.	1938	X		"	
STACK (Red Brick Chimney)	37 39	88.2	122 22	1193.6	"	"	"	X		"	
<i>Original list extracted and sent to Nautical Chart #130/45 Egg Chart Letter 296 (1945)</i>											

This form shall be prepared in accordance with 1934 Field Memorandum, "LANDMARKS FOR CHARTS." Positions of charted landmarks and nonfloating aids to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

FOR COAST PILOT SECTION

~~TO BE CHARTED~~ } STRIKE OUT ONE
TO BE DELETED }

LANDMARKS FOR CHARTS

Tempa Photogrammetric Office
1101 E. Broadway, Tampa 5, Fla. April 3, 1945

I recommend that the following objects which ~~have~~ (have not) been inspected from seaward to determine their value as landmarks, be ~~stricken~~ (deleted from) the charts indicated.

The positions given have been checked after listing.

Lt. Comdr. J. C. Bose

Chief of Party.

GENERAL LOCALITY	NAME AND DESCRIPTION	POSITION				METHOD OF LOCATION	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
		LATITUDE		LONGITUDE							
		°	'	°	'						
	SAN FRANCISCO BAY										
	WATER TANK - Appx. Position	37	39	122	23	730		X			5531
						(appx)					

This form shall be prepared in accordance with 1934 Field Memorandum, "LANDMARKS FOR CHARTS." Positions of charted landmarks and nonfloating aids to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

FOR COAST PILOT SECTION

LANDMARKS FOR CHARTS

TO BE CHARTED
~~TO BE DELETED~~

STRIKE OUT ONE

Tampa Photogrammetric Office
1101 E. Broadway, Tampa 5, Fla.

April 3, 1945

I recommend that the following objects which ~~have~~ (have not) been inspected from seaward to determine their value as landmarks, be charted on (~~deleted from~~) the charts indicated.

The positions given have been checked after listing.

Lt. Comdr. J. C. Bose

GENERAL LOCALITY	NAME AND DESCRIPTION	POSITION				METHOD OF LOCATION	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED			
		LATITUDE		LONGITUDE								DATUM		
		°	'	°	'								D. P. METERS	
SAN FRANCISCO BAY														
	STACK (American Smelting and Refining Corp. Stack)	37	44	1739.3	122	23	672.4	N.A. 1927	Triang.	1942	X			5535 5532 5535
	GAS TANK	37	44	1756	122	23	1264	"	"	1925	X			5532 5535
	RADIO TOWER (K.S.F.O. Radio Tower)	37	44	1327.4	122	22	1042.6	"	"	1937	X			5532 5535
	WHITE CHIMNEYS (Two Chimneys) (133)	37	44	520	122	22	807	"	Radial Plot	1944	X			5532 5535
	WATER TANK (134)	37	44	449	122	22	880	"	"	1944	X			5532 5535
	TANK (147) RADIO TOWER (K.Y.A. Radio Mast)	37	44	51	122	23	1068	"	"	1944	X			5532 5535
	WATER TANK (144)	37	42	1793.6	122	23	937.8	"	Triang. Radial Plot	1937	X			5531 5535
	BLACK STACK (145)	37	42	429	122	24	779	"	"	1944	X			5531 5532
		37	42	273	122	24	466	"	"	1944	X			5535 5531 5532

Chief of Party

This form shall be prepared in accordance with 1934 Field Memorandum, "LANDMARKS FOR CHARTS." Positions of charted landmarks and nonfloating aids to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

Review Report
Shoreline Survey T-5920

27 Radial Plot

The main radial plot was checked during this review. It was found that the area north of $37^{\circ} 42'$ can be considered as within the limits of prescribed accuracy for this project. However, insufficient photographic coverage south of $37^{\circ} 42'$ resulted in two cut intersections which do not provide a check on the plot and subsequently all points located by radial line method are subject to possible error in their true geographic position.

28 Detailing and Field Inspection

Insufficient photographic coverage in numerous areas of coastline requires that these areas be considered approximate. To a great extent, this approximation is the result of new construction of a rip rap bulkhead opposite Bayshore, $37^{\circ} 42' 30'' \angle$ and fills in progress at the time of photographing from $37^{\circ} 42' \angle$ to approximately $37^{\circ} 42' 30'' \angle$ and over the entire southern shore of Hunters Point. These and other possible errors are fully designated on the map manuscript and explained under paragraph 28 Detailing in the Descriptive Report. Field Inspection was probably as complete as possible at the time it was made. Although further inspection is necessary to establish shoreline location.

44 Comparison with previous topographic and hydrographic surveys.

Hydrographic 4137 - 1:20,000 - 1919-20
6794 - 1:10,000 - 1941-42

Since the last hydrographic survey, there have been numerous changes as a result of new construction of rip raps and fill. Thus, there is little opportunity of comparison. ~~T-5920 supercedes previous surveys.~~

T-4640 - 1:10,000 - 1931

Topographic 3796 - 1:10,000 - 1919; 3661 b and c - 1:10,000 - 1919-20 and 1929 respectively; 2206 - 1:10,000 - 1895; 2481 - 1:10,000 - 1899, superseded by T-5920 *for charting purposes.*

45 Comparison with Nautical Charts

Refer to item 45 of the Compilation Report. T-5920 has not been applied to nautical charts as of the date of this review.

46 Security Classification See attached letter.
~~This page does not contain classified information.~~

Reviewed by:

Under the direction of:

R. J. Tallman
R. J. Tallman 5/15/45 *RJM*

A. V. Griffith
Chief, Review Section *RJM*

Approved by:

B.J. Jones 11/49
Tech. Assistant to the Chief
Division of Photogrammetry

O.S. Reading
Chief, Div. of Photogrammetry

A. Edmonston
Chief, Nautical Chart Branch
Division of Charts

W.M. Scaife 1949
Chief, Div. of Coastal Surveys

T-5920

17 March 1950

Rear Admiral K.T. Adams
Acting Director
United States Coast and Geodetic Survey
Department of Commerce

Dear Admiral Adams:

Your memorandum, file No. 731-aal, dated 12 December 1949, addressed to the Director of Intelligence, United States Air Force, forwarding seventeen (17) maps for security clearance, was referred to the Assistant Chief of Staff, G-2 for action.

There is no objection to the publication of the following maps as unclassified:

T-5920 Point Avisadero - Point San Bruno
T-5929 San Quentin - California City
T-5931 Davis Point - Pinole Point
T-5936 Vallejo, California

Provided minor deletions are made as indicated on each map, there is no objection to publication of the following maps as unclassified:

T-5922 (R&S) San Francisco Bay and Oakland Area, California
T-5923 San Francisco Bay and Oakland Area, California
T-5924 (R&W) San Francisco Bay and Oakland Area, California
T-5928 San Francisco Bay and Oakland Area, California
T-5939 San Pablo Bay Area, California
T-5941 Suisan Bay Area, California
T-5942 (2 sheets) Suisan Bay Area, California
T-5943 Suisan Bay Area, California

The remainder of the maps forwarded with your memorandum have not yet been returned from the field agencies where they were sent for examination. Follow up action has been taken requesting that the return of the maps be expedited.

Sincerely,

1 Incl
12 maps
(as listed above)

ERNEST A. BARLOW
Colonel, GSC
Chief, Security & Training Division
the Assistant Chief of Staff, G2