

3928

Diag. Cht. No. 5530-4

3928

Form 504
 DEPARTMENT OF COMMERCE
 U. S. COAST AND GEODETIC SURVEY

State: California

11-5613

DESCRIPTIVE REPORT.

3928

Sheet No. 3928 (Add'l. Work)

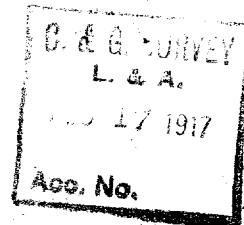
LOCALITY:

San Francisco Bay

1926

CHIEF OF PARTY:

S. O. Collier



DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY.

E. Lester Jones, Superintendent.

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SMOOTH SHEET No. 3928

of

EASTERN PART of SAN FRANCISCO BAY.

from

SOUTHAMPTON SHOAL to HUNTERS POINT.

SURVEYED by WIRE DRAG PARTY No. 4.

DECEMBER 1916

L.O. Colbert, Chief of Party.

Scale 1 : 20,000.

DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
E. Lester Jones, Superintendent.

DESCRIPTIVE REPORT TO accompany HYDROGRAPHIC
SOUNDING SHEET No. 2.

of

EASTERN PART of SAN FRANCISCO BAY from
SOUTHAMPTON SHOAL to HUNTERS POINT.

SURVEYED BY WIRE DRAG PARTY No. 4. DECEMBER 1916.

Limits of Sheet:-

The area covered by the sheet extends southward of a line from Southampton Shoal Light to Brooks Island. On the east the limits are defined by either the ends of the piers and moles, or they extend to the six foot curve on the flats. On the west the limits are shown by a line joining the east shore of Angel Island with Alcatraz Island and the ferries slips at San Francisco, then continuing along the shoreline to the southward along the wharves to about a mile north of Hunters Point, which is the beginning of the line forming the southern limits of the sheet.

Method of Survey:-

The lines in general run east and west about one mile apart. At the northern end of the sheet they average about six-hundred meters apart. These lines were run closer to determine the limits of the flats off Berkeley and Oakland and Alameda.

East of Goat Island the lines all end at the ferry slips and piers of Oakland and Alameda.

The sounding party was in charge of Mr. A. O. Lustie, Mate. The launch used was the " Lillian L. " chartered for wire drag purposes in the Bay, the Golden Gate and Bonita Channel.

Currents:-

While no current observations were made it was noticed that the times of slack water as given in the published tide tables were apparently correct.

Tidal Reducers:-

Tide were observed at the following staffs during the progress of this work; West Berkeley (Municipal Pier), Oakland Mole (Southern Pacific R.R. Slip), Alameda (San - Leandro Bay), and Hunters Point. The permanent Automatic Guage at Fort Point was also running continuously during this period.

The tidal data has been forwarded to the Office in accordance with my instructions. For this reason no soundings are reduced or plotted on the sheet. The corrections to the lead lines have been entered in the sounding books.

Page 3.

L.O.C. 1916.

Control:-

The signals used were originally located by triangulation or by the topographers during the revision of the shoreline.

Scale:-

The scale of the sheet is 1:20,000.

Respectfully Submitted,



Assistant, C. & G. Survey.

Chief, Wire Drag Party No. 4.

RIL

DIRECTOR
ADDRESS THE ~~COMMISSIONER~~
U. S. COAST AND GEODETIC SURVEY

AND REFER TO NO. 41-MFG

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

September 8, 1920.

FIELD RECORDS (C)

Division of Hydrography and Topography: 7

Division of Charts:

Tidal reductions are approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 3 9 2 8

San Francisco Bay, California.
F. G. Engle in 1920.

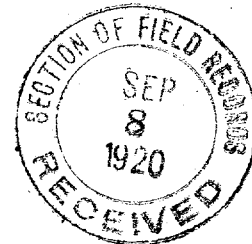
Plane of reference is
Mean lower low water, reading

- 4.05 ft. on tide staff at Municipal Pier, Alameda.
- 1.60 ft. on tide staff at Union Iron Works, San Francisco.
- 2.15 ft. on tide staff at Long Wharf, Goat Island.
- 2.00 ft. on tide staff at University Avenue Wharf, Berkeley.

Condition of records, satisfactory.



Chief, Section of Tides
and Currents.



VEC
May 9, 1917

HYDROGRAPHIC SHEET 3928.

San Francisco Bay, California, by party of Assistant
L. O. Colbert in 1916-17.

TIDES.

	Point Richmond Feet.	West Berkeley Feet.	Oakland Mole Feet.
Mean lower low water, or plane of reference on staff	5.3	3.8	3.8
Mean range of tide	4.1	4.2	4.4

Hydrographic Sheet 3928.

Positions protracted by Field Party. Soundings plotted and inked by S. L. R.

This survey was made principally to determine whether any material changes had taken place since the previous surveys; but great differences where very little change was to be expected, lead to the belief that this examination had been inaccurately made and a few additional cross lines should be run near the docks to check the results of this survey.

It is suggested that in order to facilitate the plotting, the shore line be transferred to all hydrographic sheets when the projection is made. Had this been done on this sheet, such an error as ^{that in which} position one D showing 18 feet of water falling well up on ~~the~~ a dock, would have been disclosed immediately.

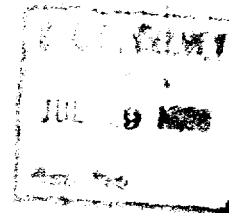
It is also suggested that a copy of the orders given to the chief of party concerning the scope and extent of the survey be included in the Descriptive Report. This would enable the draftsman to determine the completeness of a survey in a more intelligent manner than at present. Sometimes the Descriptive Report contains this information, but frequently it does not, and for this sheet, it was essential that the purpose of the survey be known to the draftsman.

Samuel L. Rosenberg.

May 23, 1917.

Soundings in feet.

3928



Additional work

3928

Form 504
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

State: *California*

11-5613

DESCRIPTIVE REPORT.

Hyd. Sheet No. *3928*

LOCALITY:

San Francisco Bay

Between Hunters Pt. and Pier 41,

Alcatraz & Angel Islands on the West

Side and Alameda to Pt. Richmond
on the East side.

1920

CHIEF OF PARTY:

F. G. Engle, H. G. Engr.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. 3928

Additional work

State . California

General locality San Francisco Bay

Locality San Francisco to Berkeley
~~General Part~~

Chief of party . . . F. G. Engle, H. & G. Engr.

Surveyed by . . . F. G. Engle, H. & G. E.

Date of survey . . Feb. 25, to April 13, 1920

Scale 1:20,000

Soundings in . . Feet

Plane of reference Mean of the Lower Low Waters

^{Partly} Protracted by F. G. Engle . Soundings in ^{ink} pencil by . L. A. Eggert

Inked by Verified by

Records accompanying sheet (check those forwarded):

Des. report, 3 Tide books, 10 Marigrams, 1 Boat sheets,

5 Sounding books, 0 Wire-drag books, _____ Photographs.

Data from other sources affecting sheet

Remarks: Three days work on sheet # 3928 is included with records accompanying sheet A.

Boat sheet only submitted, partly plotted. E.P.S.

Descriptive Report

To accompany Hydrographic sheet #3928 (Incomplete)

Revision in accordance with orders dated July 25, 1919,
by party of the U.S.S. MATOMA.

This sheet covers the area between Hunters Point to Pier 41, Alcatraz and Angel Islands on the West side and Alameda to Point Richmond on the East side. The instructions called for inshore development, on the West side, from Mission Rock to Hunters Point and on the East side, Alameda and the Berkeley shore including the approaches to the wharves off Oakland, the shoal North of Goat Island and Southampton Shoal. The central area was to be covered by split lines on Colbert's revision of this sheet.

2. The following work was completed. From Mission Rock to Hunters Point the inshore lines were run by motor sailor, extending out to Colbert's wire drag limits, using tide gauge at Hunters Point and Union Iron Works. The records of this work, d, e and i day, were by an oversight not separated from the records of work done on sheet A below Hunters Point.

3. On the East side the inshore work, by motor sailor, was carried from a junction with the work on sheet A off Alameda to the Key Route Ferry abreast of Goat Island. Here it was discontinued on the detachment of F. L. Peacock and subsequent orders to suspend work in San Francisco.

4. In the central area lines were run approximately 1/4 mile apart, splitting the lines run by Colbert in 1917. A bromide copy of his sheet was used as the ship boat-sheet and as the launch boat-sheet. The central area on sheet #3928 joins the work done between Hunters Point and Alameda on sheet A by the ship and extends Northward to Goat Island. North of Goat Island it extends almost to Hampton Shoal.

5. The inshore development North of Goat Island was also done by the ship, extending from the wire drag limits in to the six foot curve on the Berkeley shore. Within the dragged area split lines were run between Colbert's lines. No indication of the 33' spot rky., one mile east of Angel Island, shown on Colbert's sheet was found. The vicinity was not developed, however, before stopping work.

6. No changes of importance were found on this sheet. There are no channels leading to the Berkeley wharves, the bottom in this vicinity being very even and free from obstructions. However, drifting timber and piling often ground on the flats but do not remain. Lumber schooners dock at the wharf just north of the University Avenue Wharf by approaching and docking at high water. The University Avenue Wharf is little used except by lighters which are towed by gasoline launches.

7. An army engineer's blue print is forwarded with the bromide- boat sheet showing the Richmond project upon which the channel, already dredged, is shown in red shading. Two other army engineer's blue prints showing the depths in the Oakland Estuary, ^{and} inner harbor from a recent survey, are also forwarded. These cover the Estuary between the work done by motor sailor in San Leandro Bay and off the Bay entrance.

8. The Estuary, (now known as Oakland Estuary instead of San Antonio Creek) is crossed by a trolley and road draw bridge at Webster Street, Oakland and a R. R. draw bridge at Harrison Street. Vessels keep to the right in either direction and signal both bridges by blowing three blasts, followed by three more. The power line which crosses the Estuary at the inner end of the training walls has sufficient height for the tallest sparred vessels to pass under it. The Creek is crossed at Park Street, Alameda, by a trolley and road draw bridge, at Fruitvale Avenue, Oakland, by a R. R. draw bridge and at High Street by a road draw. A fixed bridge crosses from Oakland to Government Island near the eastern end.

9. The Third Street Channel, San Francisco, is crossed at Third Street by a double bascule bridge with a width of about 85 feet. The signal being four whistles. At Fourth Street it is crossed by a single bascule bridge, the signal being three whistles, and at 6th Street by a draw bridge, the signal, six whistles. Steam schooners drawing 11 - 12 feet go as far as Fifth Street, the depth above this point being only two or three feet at low water. The Basin between Third Street and Pier 46 has a depth of 12 - 14 feet.

10. A new channel has been dredged to 18 feet at Islais Creek and a concrete state wharf built on the southern side. It is crossed at the entrance by a double bascule bridge.

11. In connection with this sheet, it was found that the ~~Brooks~~ Brooks Island, was incorrectly plotted on the bromide. The light, Pier 41, has also been shifted from the center of the Pier to the S. E. corner.

Organization of Party

F. G. Engle, H. & G. E., Chief of Party, in charge R/
and plotting, ship.
L. A. Eggert, A. D., and R. F. A. Studds, Jr. H. & G. E.,
L/, ship.
De Witt T. Brown, W.O. 1-c, recording, ship.
F. L. Peacock, Jr. H. & G. E., in charge R/ & plotting, launch
L.A. Eggert, A. D., L/ " "
De Witt T. Brown, W. O. 1-c, recording " "

STATISTICS SHEET NO. 3938

INFORMATION ON TIDE STAFFS USED

Station, name.	Letters of days, on which used.
Alameda	a
Alameda	b
Alameda	c
Alameda	d
Union Iron Wks.	e
Union Iron Wks	A
Goat Island.	B
Goat Island.	C
Goat Island.	D
Goat Island.	f
Berkeley.	E
Berkeley.	F
Berkeley.	G
Goat Island.	H
Berkeley.	I

Following work included in records of sheet A.

Hunters Pt.	d
Hunters Pt.	e
Hunters Pt.	f

STATISTICS SHEET NO. 3928

For each volume.

Volume	Miles, statute.	Positions.	Angles.	Soundings.	Day letters.
1	37.5	221	440	2121	a, b, c, d, e.
2	75.9	343	685	1772	A, B, C, D.
3	29.1	183	365	1322	e, f.
4	59.0	270	542	1948	D, E, F, G.
5	41.8	210	420	1458	H, I.
Total	243.3	1227	2452	8627	
#					
1	8.3	62	124	263	d.
2	15.4	142	254	585	d, e.
3	6.8	61	67	183	i.
Total	273.8	1492	2897	9658	

This work is included in records for sheet A.

STATISTICS SHEET NO. 3928

For each day.

Date, 1920.	Letter.	Volume.	Position.	Soundings.	Miles, statute	Vessels.
Feb. 25	a	1	12	133	2.1	Launch
Feb. 26	b	1	24	838	15.2	Launch
March 16	c	1	36	310	5.9	Launch
March 17	d	1	71	671	11.4	Launch
March 18	e	1&3	117	916	18.5	Launch
March 19	f	3	84	575	13.5	Launch
Feb. 25	A	2	126	601	28.5	Ship
March 23	B	2	40	141	7.0	Ship
March 26	C	2	102	418	22.5	Ship
March 29	D	2+4	115	779	27.0	Ship
April 1	E	4	98	683	31.2	Ship
April 6	F	4	87	560	14.9	Ship
April 7	G	4	87	536	13.9	Ship
April 10	H	5	135	917	28.3	Ship
April 13	I	5	75	541	15.6	Ship
#	TOTAL		1227	3637	243.3	
October 14	d	1&2	109	522	15.6	Launch
October 15	e	2	95	326	8.1	Launch
October 21	i	3	61	183	6.8	Launch
	Total		1492	9658	273.8	

This work is included in records accompanying sheet A.

TIDAL INFORMATION

Sheet No. 3938

Station, location.	Plane of ref.	Readings on gauge.	
		Lowest tide observed	Highest tide obs.
Alameda, Municipal Electric Light plant wharf.	4.05	4.0	11.10
Goat Island, Long wharf.	3.15	2.00	7.65
West Berkeley, Long wharf.	3.35	2.00	7.90
Union Iron Works, (tabulated)	1.95	-0.05	9.80

UNIT FOR SOUNDINGS: Feet.

PLANE OF REFERENCE: Mean of the Lower Low Waters.

Hunters Point.

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

Section of Field Records.

Nov. 9, 1920

Taking & verifying H3928

1. The records were satisfactory as to recording and notes. Numerous corrections by the tidal sections to the reducers and reduced soundings were made, so that in many cases the soundings were scarcely legible.
2. In making deep soundings (up to 17 fthms) from the motor parlor the launch had to be reversed in making the sounding. This made the distance between positions irregular and the spacing of soundings between positions in these cases was according to recorded time of each sounding, assuming there was no time lost by stopping.
3. The protracting was generally good, not many positions requiring to be changed.
4. The plotting of soundings was excellent; time intervals were carefully adhered to.
5. The drafting conformed to the general instructions.
6. The work was plotted on H3928 upon which was already plotted the 1916 work of L. O. Colbert.
7. The following notes apply to this sheet.
 - (a) Position 63E (Vol. 4 p. 20) obstruction struck by lead at about 5 fthms. Plotted as 30 ft (minus tide reduction of 1.5 ft) by authority of Capt. Ellis.
 - (b) Where ever a shoaler sounding occurred over the previous survey (of 1916) the deep sndg. was erased to plot the shoaler depth.
 - (c) A mean of 2 positions was taken in plotting buoy No. 2, north of Goat Island (1.5) miles.
 - (d) Vol. 1 of sheet 4137 on 33a day, pile of rocks mentioned but no details given as to sunk or awash.
 - (e) Day letter of sheet 4137 records changed to green and plotted on 3928 as follows:
"d" to a
"e" to b
"i" to c

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

Report H 3928 (Cont'd)

(f.) The following positions of B day (green) were not plotted due to the fact that the wharves from which distances were estimated, are not shown on the sheet. A survey of the waterfront in this vicinity has been ordered and on receipt of information the positions can then be plotted.

1-16 incl.

16-18 "

22-24 "

30 & 31

35-37 "

44

48 & 49

55-58 "

58-61 "

Frank W. Albert.

Sheet No. 3928. As. New and Changed in name. Should be verified

(Bay town Id)

"Bay" (1916) Sheet 38 ✓

"Prog" Progress Statue 1916. Sheet 41 ✓

"Stack" Black Point 1916. Sheet 41 ✓

"Wast" Goat Id Wireless. 1910 Sheet 36 ✓

"Goat" 1916 Sheet 37 Originally "Goat" ✓

"Mor" 1913 Sheet 39 "Nat" ✓

"Borax" 1895. Borax Works round brick ^{Stack} Chimney Page 236 Cal. Triang. ✓

"Nep" spins on gold dome

"Pil" ~~exp~~ Truany Pt. Sheet 45 Comarati Dellar

"Nit" Transferred from Topographic Sheet + Boat Sheet
"Jeff" outer 94 bell 17 Club 10 3661 a

"Diro" ✓

"Ma" Truany Pt. Sheet 36

"Tri" Al
At outer of 3 brick Chmn

"Stack" 1909 Originally "Hunt" Sheet 44 ✓

"Pipe" Pipeworks Chimney 1895 Page 234 Cal. Triang. ✓

"Ba" Yerba Buena L. A. 1881-1894 Page 215 Cal. Triang. ✓

"Light" This is the light on pier 41 (Sheet 41) but field party notes a change from
E to N.E. Corner of wharf. (Transferred from Boat Sheet.) ✓

"L. nth" Angel Id Lt. #3 Sheet 41 Blunt Pt. Lt. 1916 ✓

"Unit" Union Iron Works Tank 1916 ^{Sheet} Page 39 Cal. Triang. ✓

"Ing" Sugar Refinery tank 1916 Sheet 38 ✓

"Steel" Tall Still Stack 1916. Sheet 38 ✓

"Ed." Edison Lt + Power Co. Stack. Page 231 Cal. Triang. ✓

Note to go on Sheet.

Signals lettered in blue used in 1920 work

Sheet # 3928 - Signals - (Cont'd)

"Black" (Butcherston Amokupstock)	Page 230	Cal. Triang ✓
"Vise" (Point Avisadero)	" 202	" ✓
"Fin" (Pinnacle Pt)	" 217	" ✓
"Shag" (South Shag Rock)	" 246	" ✓
"City" (City Hall dome) ✓	" 232	" ✓
"Txin" Taken from boat sheet. ✓		

The positions of objects checked in
blue pencil were verified.

F.M.A.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

February 18, 1921.

SECTION OF FIELD RECORDS.

Report on Hydrographic Sheet 3928.

Surveyed in 1920.

Chief of Party: F.G. Engle.

Party of Str. NATOMA.

Protracted by J. D. Torrey.

Soundings plotted by J.D.Torrey.

Verified and inked by F. M. Albert.

1. The records conform to the General Instructions.
2. The plan and extent of development fulfill the requirements of the General Instructions, except that there are practically no cross sounding lines.
3. The plan and extent of development satisfy the specific instructions except an unfinished area near Goat Island (which is to be done during 1921). Also the area between Southampton Shoal Lt. and Pt. San Pablo remains to be surveyed.
4. The sounding line crossings are adequate.
5. It was possible to completely draw the depth curves.
6. The sheets were sent into the office without having positions protracted and soundings plotted.
7. The junctions with adjacent sheets are satisfactory.
8. The 28 ft. sounding (marked "Obstruction") 1 mile east of Angel Island should be developed.
9. The junction between this sheet and No. 4137 is not all that might be desired. The upper edge of 4137 is dove-tailed into 3928. Three of the sounding books contain work on both sheets, which causes confusion in the records.
10. Rating of the work: - Character and scope of the surveying - Excellent.
11. Reviewed by E. P. Ellis, January, 1921.
12. Two copies of this report to be sent to Hydrography and Topography Division.

3928

U. S. SURVEY
L. O. A.
JUL 28 1921
AGE No.

3928

Form 504
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

State: *California*

11-5613

DESCRIPTIVE REPORT.

Hydrographic Sheet No. *3928*

LOCALITY:
San Francisco Bay
E. Shore, Goat Island
to Richmond

1921

CHIEF OF PARTY:
F. G. Engle.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. 3928 **3928**

*Additional work
1921*

State **CALIFORNIA**

General locality **San Francisco Bay**

Locality **E. Shore, Goat Island to Richmond**

Chief of party **F.G. Engle**

Surveyed by **R.P. Eyman, L.M. Zeskind**

Date of survey **Jan. - May, 1921**

Scale **1 to 20,000**

Soundings in **Feet**

Plane of reference **M.L.L.W.**

Protracted by Soundings in pencil by

Inked by Verified by

Records accompanying sheet (check those forwarded):

Des. report, 2 Tide books, Marigrams, 4 Boat sheets,

9 Sounding books, 2 Wire-drag books, Photographs.

Data from other sources affecting sheet **U.S. Engineer's**
blue print, Transport Docks; Paper tracing of Ellis Creek,
Richmond.

Remarks:

DESCRIPTIVE REPORT.

To accompany Hydrographic sheet 3928.

This report covers the work done by the party of the NATOMA in 1921, in accordance with instructions dated, November 24th., 1920 and February 23rd., 1921.

The inshore development on the east side of San Francisco Bay was extended from Oakland Estuary to Pt. Richmond, joining on the south end the work done by this party the previous year and on the north end the work on Hydrographic sheet 3929 and extending from shore to a junction with the ship work completed by this party in the previous year. The channel between Goat Island and the Oakland piers, the shoal north of Goat Island and the basins between Oakland piers were developed. Two zigzag lines were run between the moles bounding the outer end of Oakland Estuary as a check on the U.S. Army Engineers blueprint previously furnished.

Increased depths over those shown on chart are found on the south side of the Oakland pier near the outer end of the fill. Greater depths are also found in the inner end of the basin between the Oakland pier and the Key Route ferry pier. These are the results of dredging operations. A development was made by whaleboat, of the small boat channel passing close along shore on the north end of Goat Island across the shoal. This channel passes under a pier and can be used by pulling boats and small launches.

In the vicinity of the U.S. Army Transport docks a development was made on a scale 1 : 10,000 boatsheet to check the U.S. Engineers blueprint which is forwarded with the boat sheet. It had been called to my attention by the U.S. Engineers that our chart was in error in this locality and the necessary work was therefore done to make a satisfactory junction with the chart. These docks are used by transports drawing twenty-five feet. The changes noted consist of increased depths the result of dredging operations. Necessary signals for this work were located by plane table directly upon the boat sheet.

A tracing on paper of a print of Ellis Creek on file in the U.S. Engineers office is forwarded with the boat sheet. It shows the results of a recent hydrographic survey of the creek. It was not possible to obtain another print of this work.

In accordance with supplemental instructions dated February 23rd, wire drag lines were run over the positions of two soundings east of Angel Island shown on photostat of hydrographic sheet 3928. One of these soundings was obtained by the party of L.O. Colbert in 1917 and is 33 feet rocky the other was obtained by this party in 1920 and was recorded as an obstruction struck by the lead at 5 fathoms on a sounding of 8 fathoms. On March 23rd, a line was run with a wire drag 600 feet long with an effective depth of 39 feet at M.L.L.W covering the 33 foot spot without striking. In the vicinity of the other spot a strong head current

was encountered and there was some uncertainty that the drag passed over the critical point. Another line was therefore run on the next day covering the plotted position of the obstruction without striking. The effective depth on that day was 38 feet at M.L.L.W.

No additional work was done by the ship on this sheet as it was possible to make a satisfactory junction with the work on the north end by the lines run on sheet 3929.

Organization of Party.

R.P. Eyman, H & G Engr. in charge R[✓] and plotting.
L.M. Zeskind, Jr. H & G Engr. in charge R[✓] and Plotting.
J.R. Marion, Asst to Engr. Engineer and L[✓]
R.F.A. Studds. Jr. H & G Engr. L[✓]
H.M. Sipple, W.O. lcl. Recording.
C.P. Monaghan, QM. Leadsman.

F. G. Engle
F. G. ENGLE
H & G Engr.,
Commanding.

STATISTICS

Hydrographic sheet #3928

Date	Boat	Letter	Vol.	Miles Stat.	Soundings	Positions	Angles A
Jan. 20	24'M. sailer	G	1	15.3	525	100	200
Jan. 21	"	H	1	16.1	628	130	260
Feb. 1	"	I	1&2	20.0	695	162	324
Feb. 4	"	K	2	5.0	147	48	96
Feb. 8	"	L	2	17.2	572	133	266
Feb. 15	"	M	2	17.0	512	106	212
Feb. 17	"	N	2&3	18.5	685	129	258
Feb. 23	"	P	3	23.4	840	191	382
Feb. 24	"	Q	3	20.5	808	147	294
Feb. 25	"	R	4	18.1	784	138	276
Mar. 1	"	S	4	10.6	459	78	155
Mar. 3	"	T	4&5	19.8	913	165	330
Mar. 4	"	U	5	16.6	750	128	256
Mar. 8	"	V	5	17.5	728	127	254
Mar. 9	"	W	5&6	24.1	1003	180	360
Mar. 17	"	X	6	8.9	367	75	149
Mar. 18	"	Y	6	12.8	549	96	190
Apr. 1	"	Z	6&7	20.2	795	152	301
Apr. 11	"	A	8	11.7	342	106	162
May. 26	Whale-boat	A	i	3.0	333	69	145
Total:				313.3	12102	2391	4725

AND REFER TO NO. 41/VFB

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON August 2, 1921.



Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
11 volumes of sounding records for

HYDROGRAPHIC SHEET 3928 (additional work)

Locality: San Francisco Bay, Cal.

Chief of Party: F. G. Engle in 1921

Plane of reference is mean lower low water, reading

2.2 ft.	on	tide	staff	at	Landing	Wharf,	Goat	Island	
5.1	"	"	"	"	"	Standard	Oil	Dock,	Pt. Richmond
2.7	"	"	"	"	"	University	Ave.,	Wharf,	West Berkeley
5.6	"	"	"	"	"	Presidio	Wharf,	San	Francisco.

Condition of records: Satisfactory.

G. H. Rude

Chief, Division of Tides and Currents.

O. K.

These volumes were reduced and checked by the field party, so that only 3 hours were required for one computer to verify the tide reducers. Cooperation by field parties to this extent will mean a vast saving in time to the computing force of this division.

G. H. R.

Verification Report of Hyd. 3928.

The plotting as a whole was very good only two or three errors being found. The plotting of soundings was done equally as well.

The line 25-26 p (immediately north of Δ Tab crosses very poorly with that of 16-17 p. Soundings of 5 + 6 ft. fell between those of 21 & 24 ft. As the positions are plotted correctly these lesser soundings were left in pencil as they apparently are misplaced; the line no doubt should be further east.

The 11 and 12 ft. sdgs. northeast of Δ Hole are also questioned as they fall among a group of 6 ft. sdgs. The 30 ft. sdg. (314 miles south of Δ Fe) 138-1397 is also questioned.

The group of lines in the extreme n.w. section of the sheet whose positions are dependent on signal War are in doubt. They differ radically from those of the foot sheet. It was found that \odot War as plotted on foot sheet and smooth sheet differ by about 70 m. accounting for the difference in plotting. Whether this was due to an error in transferring or due to the smooth sheet position being obtained from other sources could not be discovered. As the bottom is relatively smooth here no great harm is done by any misplacement of lines.

It was practically impossible in the large percentage of this work to adjust the curves to conform to the 1916 and

1921 work. Most of the ^{old} curves were taken out and the new ones drawn to the 1921 work ignoring that of 1916. There is no doubt that this will add confusion to the sheet especially that section of north of Goat Id.

The whole area was well covered and joins well with Hyd. 3929 to the north. There is however a gap remaining in the area one mile east of and in the same latitude as a stamp. Two or three split lines should also have been run to the south of this area.

The small wire-dropped area to the north to disprove the doubtful 33 and 28 ft sdy. is shown with a blue tint. This area was also ~~dropped~~ dropped on wire sdy sheet 3967.

A sub-plan of the northern part of Goat Id. scale 1:10,000 was made as the development was too close to permit of plotting on a 20,000 scale.

Respectfully submitted,
Elsie Barr

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON

November 8, 1921.

SECTION OF FIELD RECORDS

REPORT ON HYDROGRAPHIC SHEET No. 3928.

Surveyed in 1921.

Chief of Party: F. G. Engle. Surveyed by R. P. Eymann and L. M. Zeskind.
Protracted by J. W. Cox and A. L. Shalowitz.
Soundings plotted by A. L. Shalowitz.
Verified and inked by A. Baer.

1. The records conform to the requirements of the General Instructions except that the data upon which the locations of the signals were based were unsatisfactory. There were differences in the names of signals, no data regarding several signals except the plotted positions on the boat sheets and the records of angles were incomplete. Also boats' courses were frequently omitted in the sounding books.
2. The plan and character of development fulfill the requirements of the General Instructions except that there are no check sounding lines. It should be noted however that the specific instructions did not require check lines.
3. The plan of development satisfies the specific instructions.
4. The sounding line crossings are not always satisfactory. The discrepancies are not of enough importance to invalidate the work.
5. The information is sufficient to permit the usual depth curves to be completely drawn.
6. All the plotting that is usually done in the field was done in the Field Records Section.
7. Comparison of the 1921 work with that done in 1916 and 1920 shows occasional differences in depths of 1 to 3 feet.
8. Several additional split lines should be run east of Southampton Shoal Light to fully cover the area included by this survey. The dredged channel at the approach to Ellis Slough should be further developed.

9. The area 1 mile east of Angel Island including 33 foot sounding (1916 survey) and 28 foot obstruction (1920 survey), was dragged to 35 feet in 1917 and 40 feet in 1921. As the drag failed in both instances to locate indications of the shoals they should both be removed from the sheet.
10. The character and scope of the survey are fair.
11. Reviewed by E. P. Ellis, October, 1921.

3928

3928

Form 504
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

State: California

11-5613

DESCRIPTIVE REPORT.

Hydrographic Sheet No. 3928(Addl Work)

LOCALITY:

San Francisco Bay

North Point

1925

CHIEF OF PARTY:

C.L. Garner

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. 3928 (Add'l Work)

State California.

General locality San Francisco Bay.

Locality North Point
~~Pier 35, 37, and 43.~~

Chief of party Clem L. Garner

Surveyed by M. O. Witherbee.

Date of survey March 1925.

Scale 1 : 10,000

Soundings in Feet.

Plane of reference M.L.L.W.

Protracted by M.O.W. Soundings in pencil by

Inked by Verified by

Records accompanying sheet (check those forwarded):

Des. report, * Tide books, Marigrams, * Boat sheets,
Sounding books, Wire-drag books, Photographs.

Data from other sources affecting sheet

Remarks:

Statistics:

58 Positions
190 Soundings.
5 Statute miles of line approx.

REPORT COVERING HYDROGRAPHIC EXAMINATION
OFF PIERS 43, 35 & 37, SAN FRANCISCO, CALIFORNIA.

INSTRUCTIONS DATED MARCH 13 and 23, 1925.

METHODS AND CONTROL:

Positions were secured by three-point fixes on triangulation stations and hydrographic signals previously determined and plotted geographically on boat sheet projection on scale of 1:10,000. In the few soundings between pier heads or where signals were obscured by the docks, distances are given from a well defined point.

All soundings are with hand lead, using 12-lb. lead with Samson mahogany bronze center line.

Soundings as shown on sheet are reduced from Coast and Geodetic Survey predicted tides.

RESULTS:

Depths found are in agreement with the reports of the Commanding Officer of M.S. THEODORE ROOSEVELT and the Commanding Officer of the Norwegian M.S. GEORGE WASHINGTON but positions are some what different. No smooth sheet has been made for this work.

The work was done by Lieut. M. O. Witherbee and this report is written by the Commanding Officer as no report was handed me previous to the detachment of Lieut. Witherbee from the DISCOVERER.

Respectfully submitted,



CLEM L. GARNER, H. & G. E.,
Chief of Party.

May 21, 1925

~~Division of Hydrography, U.S. Navy:~~

Division of Charts:

Tide reducers ^{and tidal reductions} are approved in
1 volumes of sounding records for

HYDROGRAPHIC SHEET ~~4450~~ 3928

GKM
6/21/02

Locality: San Francisco Bay, Calif.

Chief of Party: Olson L. Garner in 1925

Plane of reference is mean lower low water and is
5.6 ft. on tide staff at Presidio, San Francisco, Calif.

For reduction of soundings, condition of records satisfactory
except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks

Chief, Division of Tides and Currents.

WWB

February 17, 1926.

~~Division of Hydrography and Topography:~~

Division of Charts:

Tide reducers are approved in
one additional volume of sounding records for

HYDROGRAPHIC SHEET 3928

Locality: San Francisco Bay

Chief of Party: P.G. Whitney in 1926.
Plane of reference is
5.55ft. on tide staff at Presidio

For reduction of soundings, condition of records satisfactory
except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks



Chief, Division of Tides and Currents.

ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY

AND REFER TO No. 4-DEM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON

June 23, 1925.

SECTION OF FIELD RECORDS

Report on Verification of Additional
Work on Hydrographic Sheet No. 5928

Chief of Party, C. L. Garner.

Surveyed by M. O. Witherbee.

Date - March, 1925.

The records were complete and well kept.

The protracting was accurate.

The time intervals were carefully adhered to although the scale was too small to allow all the soundings to be plotted. The principal and most important soundings are the 26 ft. and the 29 ft. soundings, 86 meters and 125 meters, respectively, northwest of A Staff. This shoal has been sufficiently developed.



ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY

AND REFER TO No. 4-DEM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON

June 23, 1925.

SECTION OF FIELD RECORDS

Report on Verification of Additional
Work on Hydrographic Sheet No. 3928

Chief of Party, C. L. Garner.

Surveyed by M. O. Witherbee.

Date - March, 1925.

The records were complete and well kept.

The protracting was accurate.

The time intervals were carefully adhered to although the scale was too small to allow all the soundings to be plotted. The principal and most important soundings are the 26 ft. and the 29 ft. soundings, 86 meters and 125 meters, respectively, northwest of Δ Staff. This shoal has been sufficiently developed.

John C. MacFarland
Cartographic Draftsman.

E.P.B.

ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

AND REFER TO No. 4-DRM

WASHINGTON July 2, 1925.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 3928 (Additional Work)

Off Piers 35, 37, and 43, San Francisco Bay, California

Surveyed in 1925

Instructions dated March 13 and 23, 1925.

Chief of Party, Clem L. Garner.

Surveyed by Max O. Witherbee.

Protracted by H. R. Edmonston.

Soundings plotted by H. R. E.

Verified and inked by J. C. MacNab.

1. The work comprised a search for reported shoals off piers 35, 37, and 43.

The shoal between piers 35 and 37 was found approximately in the position reported. 26 ft. was the least depth found here. The present charted 25 is from a preliminary report. No shoal was found in the reported location off pier 43 but a 26 ft. sounding was obtained about 250 meters west of the light on the end of pier 41.

2. The work was done in conformity with the General Instructions and specific instructions.
3. The shoal off pier 35 was sufficiently developed. ~~but the 26 ft. sounding off pier 43 should have been closer developed on the south toward the pier.~~
4. The work was plotted in the office.
5. No additional work is required here.
6. Reviewed by A. L. Shalowitz, June, 1925.

A.L.S.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON February 23, 1926.

SECTION OF FIELD RECORDS

Report on Sheet No. Hyd. 3928 (Additional work)

Chief of Party, P. C. Whitney.

Surveyed by I. Rittenberg.

Protracted and soundings plotted by J. D. Torrey.

Verified and inked by H. E. MacEwen.

1. The records do not fully conform to the requirements of the General Instructions: The bottom characteristics were left off the records. In place of compass courses the note "ranges" in the "Boat's head by compass" column appears at the top of each page without further mention of the ranges. The recording of the sounding depths and the time intervals is confusing. The office draftsman could find no indication of a uniform plan followed by the field party to make the information given sufficiently clear. There are many indications of complete erasures, a practice contrary to general instructions, paragraph 304.
2. The plan and character of the development fulfill the requirements of the general instructions.
3. The plotting of soundings was completed in the office.
4. Due to uncertain information at the beginning of line (1 a to 4 a) it may be necessary to re-examine the 61 foot sounding on the old work.
5. Remarks:

The office draftsman would have been greatly aided in his work had the sounding records been prepared according to the prevailing standard.

6. Rating of work:

(a) Character and scope of surveying: fair.

Respectfully submitted.

H. E. MacEwen
Draftsman

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

February 25, 1926.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 3928 (Additional Work)

Vicinity of Goat Island, San Francisco Bay, California

Surveyed in 1926

Instructions dated October 23, 1925

Chief of Party, P. C. Whitney.

Surveyed by I. Rittenberg.

Protracted and soundings plotted by J. D. Torrey.

Verified and inked by H. E. MacEwen.

1. The records are defective due to obscurity and lack of uniformity in recording starting and stopping of the sounding boat and frequent failure to note the sounding on the proper line. Numerous original entries in the record were erased and some were marked over so that they were illegible. See Paragraph 304 of the General Instructions on this point.
2. The plan and character of development conform to the requirements of the General Instructions and satisfy the specific instructions.
3. At a conference between the Chiefs of Sections of Field Work and Field Records it was decided that this examination disproves the existence of the 61, 70 and 25 foot soundings of the 1916 survey, and that the new work should be substituted.
4. The plotting as well as the verification and inking were done in the office. It was very difficult owing to the defective recording noted in paragraph 1.
5. The character of the surveying is fair and the scope good.
6. Reviewed by E. P. Ellis, February, 1926.

