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U. & G. SURVEY,
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Department of Commerce and Labor
COAST AND GEODETIC SURVEY

O. H. Tittmann
Superintendent.

State: *Cal.*

DESCRIPTIVE REPORT.

Hydro. Sheet No. *2987*

LOCALITY:

*San Francisco, Vicinity
of China Basin Ware-
houses*

1909

CHIEF OF PARTY:

W. C. Dibrell

2987

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DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SHEET NO.

(FIELD NO. 2), RESURVEY OFF CHINA BASIN WAREHOUSES,
FRANCISCO BAY, CAL, SCALE 1-2000

COAST AND
GEODETIC SURVEY
MAY 11 1909
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On this sheet is shown a resurvey of a portion of San Francisco Bay between Mission Rock and the adjacent water front. The water front, which has materially changed in recent years, was resurveyed and is correctly shown on this sheet. China Basin has been filled in out to the limits indicated on the hydrographic sheet.

2. Authority for hydrographic work in this locality was furnished by paragraph 3 of the Superintendent's Instructions of October 14, 1908, which reads as follows: "Locate a rock inside of Mission Rock, San Francisco Bay." No other information or directions were supplied.

3. Inquiries in San Francisco developed the fact that on June 1, 1908 Steamer "Meteor" struck on a submerged rock off the China Basin warehouse, and that on September 10, 1908 Steamer "Homer", while making her berth at China Basin warehouse, struck hard bottom and obtained a cast of the lead showing 15 feet.

4. The case of the "Homer" was easily disposed of. A reliable eye witness stated that the vessel was shifting from one wharf to the other, and, the officer in charge not having full knowledge of the locality, she "went ashore". According to the report of the master, the vessel was about 150 feet to southward of the northern Barnson - Hibbard warehouse and at a distance of from 100 to 150 feet from the line of the wharf. There never has been sufficient water in this locality for anything but a light draft vessel.

5. The Division Engineer of the Santa Fe Railroad furnished a blue print showing the position of the rock upon which the "Meteor" struck and adjacent soundings made by him. The least depth found was 15 feet at low water. The theory was advanced by a representative of the Barneson-Hibbard Warehouse Company that this rock is the same as the 12 1/2 foot rock shown upon the chart, and not a new rock as was at first supposed. As this seemed reasonable and as the water front has so changed as to make it difficult to decide the matter by plotting, I determined to make a thorough resurvey of the locality.

6. In making the resurvey but one rock was found, although the bottom is uneven over this rock. The least depth found is 15 feet at low water, corresponding in position closely to the fifteen foot spot found by the Santa Fe Engineer. Over the shoal area the examination is very thorough but nothing less than 15 feet could be found. The shoalest part seems to be near the 12 1/2 foot sounding of the chart, but exact comparisons cannot be made for the reasons previously stated.

7. Soundings were taken with hand lead from a pulling boat, and positions were determined by the ordinary method of sextant angles observed from the boat. In making the close examination the boat was anchored and allowed to swing to the tide. A drag was used to some extent in locating the rock. This consisted of three lengths of one inch iron pipe suspended with lead lines beneath three timbers of corresponding length, the drag being towed by lines made fast to pipe and float. It served to indicate the rock, but accurate work for ascertaining least depth could not well be done on account of the tidal current. The drag lines were not plotted, as the work was not sufficiently complete to have material

value.

8. The soundings have been plotted. They are in pencil excepting those over the shoal, which were inked to avoid confusion. The number of soundings shown here is much greater than required for charting purposes, but it was desired to show as well as possible how closely the soundings had been taken, and also it was considered advisable to show as completely as practicable the shape and extent of the rock, as there is some talk of blasting it out.

9. The meridian on this sheet was obtained by measuring the angle between Fourth Street and the pier heads on a plan of San Francisco water front furnished by the Board of State Harbor Commissioners, the direction of Fourth Street being taken from our chart. The meridian is possibly subject to a slight inaccuracy owing to the method used in its determination, but it is believed to fulfill the requirements for charting purposes. A direction was measured from station "Northwest" to the signal mast on Goat Island and it was intended to use this line for orientation, but it was afterwards found that the signal mast is not shown on the chart. It may be of interest to state that the sounding lines excepting a few near the wharf, are run with the tower of the Ferry Building as back range.

10. Station "Stack" (believed to be a ventilator) corresponds to a triangulation station shown on the old topographic sheet. This may be used for locating the sheet in geographic position. A projection has not been supplied owing to the large scale of the sheet.

11. It was noted that buoy numbered 4 on the chart is in reality marked 6.

12. Referring to my letter to the Superintendent dated March 5, 1909, and to his reply of March 12, 1909 it should be reported that inquiries were made of the U.S. Engineers in San Francisco concerning the 12 1/2 foot rock and they stated that it had not been removed.

13. In regard to the last paragraph of my letter above referred to, the relation of the buoys to the shoals developed by the resurvey is correctly shown upon the sheet. Assuming that the 15 foot rock of the sheet is the same as the 12 1/2 foot rock of the chart, the actual position of the buoy is a compromise between the position on the chart and the theoretical best position for guarding the shoal, the spar being colored red and therefore to be left to starboard in entering.

14. There is one sentence in the Superintendents letter of March 12th which seems to justify bringing out what I consider a very important matter. The sentence reads as follows: " It is impossible to show the buoy immediately over the shoalest sounding and it is therefore placed to one side on the chart, and possibly this slight displacement in position is what you refer to". It is admitted that a slight displacement in the absolute position of a buoy is of little concern to the navigator, but its relation to the danger that it is intended to guard is a matter of great importance and one that should not be left to the judgment of a draftsman unfamiliar with the piloting of vessels; for, a buoy that by its color or shape directs the pilot to pass on one side and that by its relative position on the chart directs him to pass on

(5)

the other side, is not an aid, but a menace to navigation, ~~and~~ This statement is particularly applicable to starboard (red) ^{and port (black) buoy}. As a matter of fact a buoy is seldom placed on the highest part of a shoal, but in water of moderate depth on one side. My remarks in this connection are of general nature and have no especial reference to the buoys in the vicinity of Mission Rock.

Respectfully submitted,

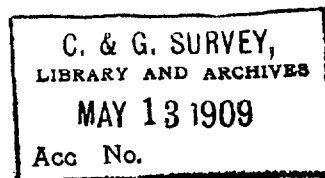


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Assistant, C. & G. Survey,

Commanding.

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DEPARTMENT OF COMMERCE AND LABOR



COAST AND GEODETIC SURVEY

O. H. Tittmann, Sup't.

Hydrographic Sheet No.

(Field No. 2)

Resurvey off China Basin Warehouses.

San Francisco Bay, Cal.

Steamer "Explorer".

Assistant Walter C. Dibrell, Chief of Party.

Begun: Jan. 4th, 1909

Completed: Mar. 31st, 1909

Scale 1 - 2000

Hydrography in charge of Walter C. Dibrell, Assistant,
and A. R. Hunter, W. O.

Positions and Soundings plotted by S. W. Tay, Aid.

Inked & verified by H. Simmons

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OBSERVERS.

Walter C. Dibrell, Assistant.

A. R. Hunter , W. O.

S. W. Tay , Aid.

W. B. Dunning , Aid.

Recorders.

S. W. Tay , Aid.

H. L. Hansen, Ch'f Wr.

William Duker, Sea.

Leadsman.

Emil Moen , Qmr. 1st cl.

Enoch Hanson, " 2nd "

Ernst Schulz, " " "

William Duker, " " "

B. Ramberg, " " " .

Tidal Observation at Fort Point,
San Francisco, Cal.

S T A T I S T I C S .

Date 1909	Vol.	Let.	Miles (Naut.)	Sdgs.	Angles	Boat
Jan. 4	1	a	0.5	72	88	Whaleboat & Gig
" 6	"	b	1.5	274	116	" " "
" 7	"	c	2.8	200	90	Whaleboat
" 9	"	d	5.3	461	196	"
Mar. 29	2	e	0.5	183	58	Whaleboat
" 30	"	f	1.5	504	150	"
" 31	"	g	1.0	328	98	"
Total	2	7	13.1 <i>13.1 (Std)</i>	2022	796	

Hyd Sheet No 2987

May 29, '09

A drag set to 24ft was used to locate the rock the position of which was afterwards developed without a drag. The least depth found within the area examined was 15 feet. The chart shows 12 $\frac{1}{2}$ feet in this locality.

No attempt was made to examine the two 17ft shoals northwest of the 15ft spot.

The remaining records are clear & well kept.

H. L. Simmons