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DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. 2513
Hydrographic }

State CALIFORNIA

LOCALITY

San Francisco Bay

California City Point to

Marin Islands

19#00-1

CHIEF OF PARTY

F. Westdahl

U. S. GOVERNMENT PRINTING OFFICE: 1934

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Descriptive Report

to accompany hydrographic sheet entitled

Treasury Department

U. S. Coast and Geodetic Survey

O. H. Tittmann, Superintendent

From Marin Islands to California City Point

San Francisco Bay

California

Ferdinand Westdahl, Assistant, Chief of Party

Steamer "M. C. Arthur"

January 15 to February 28, 1900

and April 5 to 12, 1901

Scale 10.000

This, like the adjoining sheet to the southward, is a resurvey and executed during the prevalence of very strong currents in the winter season. To do absolutely good work in this locality sounding should be carried on at slack water only. To run with the current results in obtaining too few soundings; to go against it in unreliable soundings. In the latter case, unknown to the leadsman and to the officers watching him, the line would be bent in a bow and record from four to eight feet more water than it ought to. If an attempt

were made to straighten up the line the lead would be immediately swept off the bottom. When time permitted to plot the soundings upon this sheet it was soon found that the lines run along the length of the channel did not cross right with the lines run the other way, and the plotting had to be suspended until some of those lines could be re-run, not before April of this year. Even in this reexamination, when every one connected with the work, officers and leadsmen, had been particularly warned and the soundings were watched carefully, some lines had to be rejected. Absolute proof of the unreliability of the soundings obtained while going against the current was had on one of these days. A line was run with the current until the launch arrived at a point on this line where the direction of the current gradually changed, necessitating changing the course accordingly to keep on the range. This brought the sounding line in contact with the propeller in hauling in the lead. To avoid fouling the line was broken, the launch run to the other end of it and proceeded on the same range against the current. When it arrived at the point of junction with the broken off line three feet more water was called out by the leadsman than recorded here but thirty minutes previously, and subsequent investigation of

the reduced soundings showed that all of them taken while going against the current gave three to six feet more water than the cross lines, whereas all of them taken while proceeding with the current agreed with the cross lines. It became apparent then that it was useless to attempt work against the ebb at least, and all subsequent corrective work was done at slack water or on the flood which was much weaker than the ebb. The lines run across the direction of the current agree with each other fairly well and are to be considered more reliable than the others. Nearly all suspicious lines have been re-run, but if any should have been overlooked, owing to lack of time, and the crossings do not agree I recommend that more weight be given to the soundings of the across channel lines for above reasons.

The projection has been furnished by the Office and has upon it the shore-line in pencil only. It has been left in pencil for the same reasons as on the adjoining sheet, a topographical resurvey having recently been made. The shoreline of Molate Island, or Red Rock which is its popular name, as given in pencil I know to be erroneous as none of the boat positions plot right, and the southernmost rock off it, upon which a preceding hydrographic party had erected a signal which I determined by triangulation and computed

its grographical position, falls when plotted upon another rock about twenty or thirty meters nearer the island. The penciled limits of the Molate Reef seem to be out the same amount. The most prominent rock upon it, visible at high water, was also determined by triangulation and falls off the limits to the southward. All the hydrographic signals used in the survey of this sheet were determined by triangulation, computed and plotted by grographical positions.

Dangers. The Whiting and Invincible rocks, marked by buoys, lie near the southern limit of this sheet and have been included in the description upon of the adjoining sheet to the southward. There has been some additional work done in searching for the shoalest water over these rocks on this sheet, and the buoys have been determined at slack water. Nothing less than 18 feet has been found by this party on the Whiting Rock after much search at slack water; and the least water found on the Invincible Rock is 7¼ feet. The work done with the ship in sweeping for the supposed danger to the southward of these rocks is shown on this sheet. The track of the vessel is shown in red because a drag was suspended under it from the swinging booms, reaching 30 feet under the surface, and nothing less than that depth can exist there.

Besides the above two rocks there is only one hidden danger to navigation on this sheet, the Molate Reef, popularly known as the "Hen and Chickens". At high water there are but two points showing above the surface, the larger one of which is situated in about the middle of the reef and projects about ten feet above high water: the smaller one, or rather two for it is a split rock, is situated near the southeast extremity of the rocky area. At low water there is quite an extensive area of flatrish ledges, with jagged edges, showing above the surface. Small steamers passing to the Eastward of Red Rock generally prefer the passage to the Eastward of this reef to avoid the current and because of the projecting split rock near its southeast extremity showing at all times above water. With increasing traffic in this bay it will doubtless be expedient to mark the submerged western end of it with a red buoy as the passage between it and Red Rock is used by large ships.

On the mudflats to the southward and westward of Point San Quentin the bottom is very soft and even a light lead sinks into it. I have drawn the low water line at the mouth of the slough in the northwest corner of it approximately as I have seen the mud exposed at low water and not according to the plotted

soundings. A number of bay craft come up this slough as far as △ Brick, which is a tall brick-chimney of an extensive plant for manufacturing brick. There is a draw in the R. R. trestle across this slough, and a few pleasure craft, houseboats, etc. lie above it. The other sloughs here are not used so far as I have seen.

The wharf at Point San Quentin is in ruins, decayed, and kept in repair only under the R. R. track. The small building shown upon it, the chimney of which is △ Fargo, is the express office and the terminal station of the narrow gauge railway hence by way of San Rafael to Sausalito.

Respectfully submitted
Ferdinand Westdahl
Asst. C. & G. Survey, Comdg