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1910

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Department of Commerce and Labor
COAST AND GEODETIC SURVEY

O. H. Tittmann
Superintendent.

State: *California*

DESCRIPTIVE REPORT.

24 Sheet No. *3101*

LOCALITY:

*Approach to Port
San Luis*

1910

CHIEF OF PARTY:

M. C. Librell

3101

HYDROGRAPHIC SHEET NO

"D"

3101

APPROACH TO PORT SAN LUIS,

CALIFORNIA.

OBSERVERS:

Walter C. Dibrell, Assistant

S. W. Tay, "

A. R. Hunter, Watch Officer

W. B. Dunning, Aid

A. C. Baldwin, "

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RECORDERS:

W. B. Dunning, Aid.

H. L. Hansen, Chief Writer

William Duker, Writer 2 cl.

LEADSMEN:

Emil Moen, Quartermaster 1 class

B. Ramberg, " 2 "

John G. Hanson, " 2 "

Oscar Hanson " 2 "

Tide gauge at Port San Luis, California.

TIDE OBSERVERS:

Ed. Callaway, Seaman.

(1) 3101

DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC

C. & G. SURVEY,
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COAST AND
GEODETIC SURVEY

APR 13 1910

SHEET NO..... (FIELD LETTER "D"), APPROACH

APR 13 1910
RECEIVED
ASSISTANT IN CHARGE

TO PORT SAN LUIS, CALIFORNIA.

APR 13 1910

REFERRED TO:
Assistant in Charge.

SCALE 1 - 10 000

Leah

This sheet shows the hydrographic work done in the approach to Port San Luis while searching for a pinnacle rock reported in the spring of 1908, and includes also a portion of the general hydrography executed by the party along this coast during the season. No smooth sheet has been prepared by the field party and this report is made up from the boat sheet.

2. Following are the results of practical utility for the chart that will be shown by the finished sheet: Soundings covering an area of 3 1/4 miles by 1 to 1 1/2 miles (nautical) lying immediately outside the limits of the former hydrography of ^{Port} Point San Luis; and a pinnacle rock over which a least depth of 8 fathoms at low water was found, located within the limits of former hydrography, 2 1/2 kilometers (approxmiately) from the lighthouse with the latter bearing 17 degrees, true. In addition to the above, the boat sheet shows submarine sentory lines and wire drag lines run while searching for the rock. The only reason of course for plotting the sentry and drag work on the smooth sheet would be for the purpose of preserving a clear record of the work that has been done in the locality.

3. The soundings were made either with hand lead or with the Tanner sounding machine, ^{the} the majority with the machine. The lines run about east and west and the casts were made as close together in the line as it was practicable to obtain them. The lines are

spaced about 300 ^{miles} ~~miles~~ apart. The depth is regular as a rule and no features of special importance to navigation were developed. The nature of the bottom varies from sand and gravel to rocky. More than half of the area sounded over is also covered by submarine sentry lines, the kite set at 12 fathoms, and a small area is also overlapped by wire drag lines as well, the drag being set at 8 fathoms. As practically all of the soundings are greater than 20 fathoms, no tidal reduction is considered necessary. On the western and the inshore sides this sheet joins former hydrography, and on the eastern and offshore sides it joins sheet "F" of this party, executed during the same season.

4. Positions for the work of this sheet depend mainly upon angles observed to natural objects. One artificial signal, "Whale", was built on the highest part of Whale Island, and for the boat sheet it was assumed to be identical in position with the shack determined by the old triangulation. The light house was plotted on the boat sheet by means of two sextant cuts from off shore and a theodolite cut from "Whale". Both the lighthouse and "Whale" were later determined by triangulation. Positions of other objects used are furnished by the old topographic and hydrographic sheets or by the old triangulation. It may be of interest to the draftsman who plots the smooth sheet to know that most of the hydrographic positions on the boat sheet were plotted with a protractor the right arm of which was found to be about 12 minutes in error.

5. The first work taken up by the party in the vicinity of Fort San Luis was a search for the dangerous rock reported to lie in the approach, and by ~~far~~ the greater part of the work reprisen-

ted on the accompanying hydrographic sheet was devoted to that purpose. The rock was first reported to the Branch Hydrographic Office in San Francisco in April 1908 by Mr. George Ferguson, wharfinger for the Union Oil Co. at Port San Luis, his first information having been obtained from John Beck (now deceased), a fisherman of Avila. Mr. Ferguson gave as the least depth which he himself found on the rock as about 26 feet. The distance of the rock from Westdahl Rock buoy was estimated at $7/8$ mile and the direction was very vaguely given as "about south-east, more to the southward if anything".

6. As the rock was presumably a pinnacle rising from a nearly level bottom, there was little chance of getting a lead on top of it, even by running very careful sounding lines, so I attempted to find it with the submarine sentry, which was set at a depth of 12 fathoms. The lines were run about north and south, the front range for practically all sentry lines being the signal on Whale Island. The ship was run at half speed or full speed, and the spaces between the lines were split down until the lines average about 20 meters apart at the inner end and 35 meters at the outer end. A considerable area was included in the work on account of the uncertainty in the position as reported. Eight cross sentry lines were run near a range furnished me by James Beck, son of John Beck, who reported the rock to Mr. Ferguson. Pecho Rock is front range for these lines; they are not very close on account of the range not being adapted to fine work. It might be well to point out that it was not possible to get soundings while using the sentry, as the depth was over 20 fathoms and the sentry would not work properly at very slow speed.

7. Excepting in places where the depth is known to be near twelve fathoms, the sentry tripped but once, and this was while

turning at the inshore end of a line. I went over the ground here with great care using the hand lead from the ship, but found from 20 to 22 fathoms and no indication whatever of a rock or shoal. I therefore assumed that the sentry had not touched bottom but that the trigger had worked loose from frequent stopping at the ends of the lines. The ~~work~~^{rock} was afterward found in this same locality, however, with the wire drag, and undoubtedly the sentry was tripped by striking the rock. During the time that the sentry work was in progress conditions were unfavorable for wire drag work, the sea being very choppy excepting for short periods in the morning.

8. Failing to find the rock with the sentry I suspended the search for the time, hoping to get some further information in regard to its location, and the attention of the party was devoted to other work. Near the end of the season a spell of calm, foggy weather came on, which stopped offshore hydrography. At such times as the fog lifted sufficiently to work near the shore a wire drag was brought into use in renewing the search for the rock. At first no attempt was made to provide a complete wire drag outfit, as I thought it would not be possible with an untrained party in the limited time remaining before the close of the season to acquire a working proficiency in the use of the drag. A fisherman named John Simas pointed out a range on which he said the rock sought for was located; and, desiring to test this range more satisfactorily than could be done with the sentry, I weighted a piece of sounding wire about 530 feet long and towed it between the launch and the whaleboat. The wire was supported at intervals of 100 feet by pieces of marline 8 fathoms long attached to small floats consisting of short pieces

of scantling. The drag was found to work so well that it was improved upon from day to day, and after the first two or three days work an apparatus of a fair degree of efficiency was developed.

9. My experience in this work has lead me to appreciate the value of the wire drag in locating pinnacle rocks, the readiness with which a simple but effective apparatus may be assembled from materials ordinarily found on board a survey vessel, and the comparative ease with which it may be manipulated by an untrained party. Where the conditions permit, I shall in future use such an outfit in making examinations where pinnacles are reported.

10. A brief description of the drag used may have interest and value. The wire was ordinary stranded sounding wire and the length, 600 feet, seemed to be about right for the conditions. It was supported at the ends and at intermediate points 100 feet apart. The end buoys were built-up ^{wood} cubes, one foot on the edge, with a flag staff set in one corner and a screw-eye in the opposite for attaching the line supporting the wire. The corners were knocked off to diminish resistance in towing. The intermediate buoys were similar to the end buoys excepting that they were 6 inches on the edge. The towlines were ordinary heaving-lines and were attached to the ends of the wire. A short line made fast to the towline a few feet astern of the boat and carried up to the bow made it possible to control the steering of the boat. The ends of the wire were weighted with 18# leads, which seemed about right for the speed used. At intermediate points of support the wire was weighted about three pounds. This weight was found to be too great for the buoys used and they were sucked under much of the time when towing. The supporting lines were seized with sail twine ^{to} buckets spliced into the wire at the proper intervals, and when taking in the wire, the seizings were cut.

The launch sounding machine was mounted in the bow of the whale-boat on the sounding platform, and when suspending work for the day the wire was reeled in. It required about 12 minutes to ~~to~~ take in the entire drag. The setting of the drag usually took much longer, but this was due generally to accidental delays. The drag was towed between the launch and whaleboat, and positions were taken in each boat at intervals of five minutes. The boats were headed outward enough to give the wire a flat curve. Some difficulty was experienced in keeping the speed of the launch down to that of the whaleboat. Two pulling boats could work more evenly if there were sufficient number of men available to completely man them.

11. An area of about 0.8 square nautical mile was covered with the wire drag, which was set at 8 fathoms. That part covered during the first two days, however, is not considered as dragged to the depth at which the wire was set, as it was not sufficiently weighted at the ends. It is believed however that the wire would have indicated any danger to navigation.

12. As previously ^{stated} ~~stated~~, the rock was found by means of the drag. The least depth found on it with the lead was 8 fathoms, it being low water at the time. Some time was spent in sounding over the rock, the boat being hauled up to it by means of the wire, which was fast around the rock. The locality was covered several times with the drag set at 8 fathoms and it fouled twice, one of these times occurring at low water. Two or three times it passed over without fouling. When it fouled the rock the second time the wire was ^(afterward) raised 3 feet (making it 7 1/2 fathoms below the surface), and the area was gone over ^{twice} ~~two or three times~~ more. It did not foul again.

The conclusion seems warranted, therefore, that no dangers to navigation exist in that locality.

13. The rock is very small in extent and rises abruptly from a nearly level bottom. It appeared to be about 50 to 75 feet across at the base and is surrounded by a depth of 21 to 22 fathoms. But one pinnacle was found.

14. No explanation can be offered as to the discrepancy between the depth reported and that found. The following persons professing to have knowledge of the rock were consulted: George Ferguson, wharfinger at Port San Luis, Jas. Beck and John Simas, both fishermen of Avila. Mr. Ferguson stated that he had fished on the rock with John Beck and alone, that he found about 26 or 27 feet on the rock, using a fishing line and measuring fathoms by the spread of his arms. He said he found two pinnacles about 450 feet apart but was very uncertain about the distance between them. He could furnish no ranges. James Beck said he had fished on the rock, that there were three pinnacles about 20 or 30 yards apart. He did not give the depth of water on the rock, but when I stated that about four fathoms was the reported depth he said that there was more water than that. It is well known about Port San Luis that Jas. Beck and his father expected to make a large sum of money by furnishing the location of the rock; but when he was told that no reward could be paid, he furnished ranges which afterward were found to fit the 8 fathom rock. John Simas said he had fished on the rock, that he was sure of one range for it, that he did not know the depth on the rock. His range was gone over very carefully with both sentry and wire drag and nothing was found; it does not

pass near the 8 fathom rock.

15. At the suggestion of Assistant Westdahl an examination was made near So~~za~~^{za} Rock in the hope of verifying the location and least depth of the rock and of learning something of its nature. I dropped a whaleboat party there one morning while going out with the ship, but the sea picked up before they found the rock, and no subsequent opportunity for continuation^{ing} the examination was offered. The rock could best be found with the wire drag.

16. The wharf at Avila was located by the triangulation party, and it has been drawn in on the boat sheet. The extensive plant at Oilport is not in operation, and the wharf at that place is entirely carried away. A number of cuts were obtained to Westdahl Rock buoy by the hydrographic party; these will be found in the sounding records. The whistle buoy off the end of the breakwater was determined by the triangulation party, and it has been plotted on the boat sheet.

17. Tides were observed on a number of days at Port San Luis, but the readings have no important bearing on the hydrographic work. The old bench ~~work~~^{mark} could not be recovered. A new one was established and connected with the staff.

18. While working in the approach to Port San Luis, the current was found to set to eastward during north-westerly weather, which prevailed during nearly the whole of the season (latter part of January and the month of February). In the calm weather which was experienced during the latter part of the season (first half of March) the current generally was found to set in the opposite direction.

19. On the boat sheet the straight pencil lines are with few exceptions submarine sentry lines, the kite being set at 12 fathoms.

APR 2 6 1910
Acc No.

STATISTICS

HYDROGRAPHIC SURVEY "D"
3101

Date	Vol.	Let.	Miles (Stat.) Sdgs. of lines	Miles (Stat.) Marine Sentry	Miles (Stat.) Wire drag	Sdg's.	Angles	Boat
1910 Jan. 26	1	A		57.0		---	416	"Explorer"
" 27	1-2	B		58.0		---	394	"
" 28	2	C	6.0	36 42		107	320	"
" 29	2	D		24.0		---	182	"
Feb. 26	2-3	E	23.1	23.1		139	278	"
" 28	3	F	8.0	8.0		66	132	"
Mar. 1	3	G	11.0	11.0		133	162	"
" 5	3	H		10.0		---	84	"
" 8	1	a			1.2	---	50	Launch (& Whaleboat)
" 9	1	b			2.5	---	80	" "
" 10	1	c			2.6	---	76	" "
" 11	1	d			2.0	---	68	" "
" 12	1	e			6.6	---	140	" "
" 13	1	f			3.5	---	106	" "
Feb. 26	1	a.	2.3			95	190	Whaleboat
Mar. 8	2	a				---	32	Whaleboat (& launch)
" 9	2	b				---	80	" "
" 10	2	c				---	74	" "
" 11	2	d				16	102	" "
" 12	2	e				7	142	" "
" 13	2	f				3	116	" "
			50.4 2.8	185.0 233.1	18.4	566	3224	

{ Tanned & wire boat working in conjunction

Area covered by soundings -- 5.2 sq. stat. mi.
 " " " Marine sentry -- 5.0 " " "
 " " " Wire drag -- 1.0 " " "

All soundings shown in fathoms.

V.E.C.
May 26, 1910.

HYDROGRAPHIC SHEET 3101.

Approach to Port San Luis, California, by Asst.
W.C.Dibrell in 1910.

TIDES.

	Port San Luis
	ft.
Mean lower low water, or plane of reference on staff	1.5
Lowest tide observed " "	-0.3
Highest " " " "	8.4
Mean range of tide	3.7

Coast and Geodetic Survey
MAY 26 1910
TIDAL DIVISION.

Hyd Sheet No 3101*

June 28 1910

The survey was for the purpose of locating a reported rock. The search was made with the submarine sentry and wire drag and the area is very well covered.

The rock was first struck by the sentry and later by the wire drag. The least depth found over it with the hand lead was 8 fath.

The examination of Sledge Pk was not completed. The records are clear and well kept.

H. Simmons

Verified

Jan 7th, 1911.

R. L. Johnston
Draftsman