

4543

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

State: California.....

11-5613

DESCRIPTIVE REPORT.

Hydrographic Sheet No. 4543

LOCALITY:

Monterey Bay

Offshore

1924-25

CHIEF OF PARTY:

C.L. Garner

R E P O R T T O C O V E R

HYDROGRAPHIC SHEET NO. 3

MONTEREY BAY, CALIFORNIA

1924-5

Str. DISCOVERER

CLEM L. GARNER, Chief of Party

R E P O R T T O C O V E R
HYDROGRAPHIC SHEET NO. 3
MONTEREY BAY, CALIFORNIA

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Chignik, Alaska,
June 1, 1925.

GENERAL:

The work on this sheet comprises the deep sea hydrography between latitudes $36^{\circ} 30'$ and $37^{\circ} 05'$ and from the coast westward to longitude $123^{\circ} 12'$ in the vicinity of Monterey Bay.

This work is joined to the east by sheet No. 2 which covered the work of the approach of the submarine valley to Monterey Bay, and to a very small extent the two sheets overlap.

CONTROL:

With a few exceptions the shore ends of lines are determined by fixes on definite land objects. These were carried out to sea as far as possible and bearings or angles were taken even when there were only two objects. However, even under the most favorable conditions it was impossible to continue this control out beyond a distance of about 20 miles from the coast line.

All other control was by sun and star sights, though the latter were found to be almost useless in a number of cases as the horizon was not sufficiently definite.

This work was done, when weather conditions permitted, during both day and night, running on dead reckoning between the last sun sight position in the afternoon until control from land was secured in the morning. It was found considerably more advantageous to arrange the work so that the ship would be near the western limit of the work at about the time of the last sun sight and run by dead reckoning toward the coast in order that shore fixes might be secured in the early morning. Working in the opposite direction would place the ship out to the westward end of the line in the morning and if the weather was not favorable for sun sights it would be necessary to run another dead reckoning line eastward to the coast before either of the lines could be tied in, thus making the work more uncertain.

The spacing of lines and soundings as well as collecting specimens of bottom and water were done in accordance with the instructions for the work mentioned above and as a matter of fact many more specimens were secured than were called for since this did not add to the time of taking soundings.

These specimens were, in compliance with instructions from the office, shipped to the Scripps Institute at La Jolla, California. These were fully labeled as to depth and position and a section of chart No. 5402 giving positions transmitted.

In general all soundings of greater depth than 800 fathoms were made with detachable shot using the regular equipment which is standard for this work. During the first of the work, equipment amounting to about 4000 fathoms of piano wire, two specimen cups and Belknap detaching rods were lost due to inferior piano wire and untrained personnel at this character of work. It is probable that the larger amount was due to the latter cause.

The work done on November 10th and 11th was with northwest wind of force five where there was unavoidably considerable drift and the wire when bottom was secured was usually at an estimated angle of about 15° from the vertical and as noted in the sounding records it is believed that a value very nearly correct will be secured by deducting an amount which reduces this angular distance to the vertical, from the actual recorded depth. This work was done during this weather since it was the only work which could be done at that time and it was a means of breaking in the personnel which had largely changed from the Alaska Season. Other work near the coast was impossible because of too much sea. It was found that the percentage of days favorable for this character of work off shore are not numerous in this section during this time of the year.


RESULTS:

The results of this work did not develop any unusual or unexpected depths. The fishing bank reported by the Inspector, San Francisco Field Station, in his letter of Nov. 24, 1919, which was mentioned in the instructions, was not found to exist though several soundings were placed in this general vicinity. It is quite possible that such a bank would be out of its reported position by several miles as such vessels do not often accurately determine their positions. In such a case it would be expected to be further south. However, it is something of which there is no apparent knowledge around Monterey at the present time. The fishermen there do not go more than 10 miles from the coast, however, which may account for their not knowing about such. As far as was observed during the season there is no fishing as far out at sea as this at the present time.

It is respectfully suggested in this connection that the Sonic Depth Finder would be very efficacious in proving or disproving the existence of such a bank in a very short time since depths can be secured as often as desired while underway.

The usual statistical sheet is attached hereto.

Respectfully submitted,

A handwritten signature in cursive script, reading "Clem L. Garner".

CLEM L. GARNER,
Commanding, Str. DISCOVERER.

The DIRECTOR,
U. S. Coast and Geodetic Survey,
Washington, D. C.

NOTE:

As explained in the report covering this sheet the soundings taken on "A" day were made during a strong northwest wind of force 4-5 which resulted in an inclination of the wire with the vertical of 15 or 20 degrees. As the DISCOVERER lays to nearly in the trough of the sea this condition can not be avoided in soundings over 400 or 500 fathoms. (The ship lays to with the wind about 45° off the stern).

In plotting "A" day on the boat sheet these soundings have been corrected by one tenth (the approximate correction for 20 degree inclination) and are in pencil.

It is believed that all soundings are at a close approximation to the true positions, having been plotted first by dead reckoning and later corrected for differences where good sights clearly indicated a change. It was possible to tie the ends of all lines in with definite fixes except for the last of "G" day when a storm was starting and the connection necessarily had to be made by dead reckoning.

In this work it was found that the set was not constant in force or direction this distance off the coast and resulted in the crossing of lines as most conspicuous on "E" day

Clem L. Garner
Clem L. Garner.

As a considerable amount of this work was done with chart No. 5402 as boat sheet all of which has been replotted on the attached sheet, there is not any smooth sheet for this work.

STANDARD COMPASS DEVIATIONS
as determined on San Francisco Bay, Dec. 18,
1924, and for offshore hydrography - vicini-
ty of Monterey Bay, California.

<u>Compass Heading</u>	<u>Deviation</u>	<u>Magnetic Heading</u>
0	-1° 32'	358° 28'
15°	-1° 30'	343° 30'
30°	-1° 18'	33° 42'
45°	-1° 12'	43° 48'
60°	-1° 03'	59° 57'
75°	-0° 44'	74° 16'
90°	-0° 40'	89° 20'
105°	-0° 30'	104° 30'
120°	-0° 25'	119° 35'
135°	+0° 15'	135° 15'
150°	+0° 13'	150° 13'
165°	+0° 32'	165° 32'
180°	+0° 49'	180° 49'
195°	+0° 41'	195° 41'
210°	+0° 38'	210° 38'
225°	+0° 24'	225° 24'
240°	+0° 22'	240° 22'
255°	-0° 25'	254° 35'
270°	-0° 10'	269° 50'
285°	-0° 45'	284° 15'
300°	-1° 06'	298° 54'
315°	-1° 05'	313° 55'
330°	-1° 20'	328° 40'
345°	-1° 10'	343° 50'

Log. Factor, 1.06

Statistics Sheet

Hydrographic Sheet Number 3

Vol.	Day	Miles (statute)	Soundings	3 Pt. Fixes	Astro. Fixes
1	A	58	16	6	
1	B	94	23	10	
1	C	114	31	22	
1	E	82	24	9	
2	E	3	1	1	
2	F	82	22	6	
2	G	89	23	2	
3	D	34	21	21	
.....					
3	7	556	161	77	

Rept. on Hyd. Sheet 4543.

The character and completeness of the sounding records were found to be satisfactory in so far as it was possible to check and verify the work of this type of hydrographic work.

Most of the soundings are far offshore and only a small number of sounding positions are determined by three point fixes. These three point fixes were mostly all checked and found to be plotted satisfactorily. All other control was by sun and star sights and was checked by the field party.

The soundings between "5A" and "10A" were submitted in pencil as these soundings had a correction of 10% applied to them which awaited checking. The other soundings were submitted inked in. The pencilled soundings were checked and then were inked in by the verifier.

The bottom characters were omitted by the field party and were inked in by the Office verifier.

Respectfully submitted

G. Risegari

ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY

AND REFER TO No. 11-DRM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

October 8, 1926.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4543

Offshore, Monterey Bay, California

Surveyed in 1924 and 1925

Instructions dated October 6, 1924 and Dec. 20, 1924.

Chief of Party, C. L. Garner.

Surveyed by C. L. G.

Protracted by C. L. G.

Soundings plotted by C. L. G.

Inked by Field party and G. Risegari.

Verified by G. R.

1. The records conform to the requirements of the General Instructions.
2. The plan and character of the survey conform to the requirements of the General Instructions.
3. The plan and extent of development satisfy the written specific instructions except that the area at the mouth of the submarine valley should have been closer developed to the 1600 fathom curve. *Not essential*
4. The information is sufficient for drawing the usual depth curves.
5. The usual field plotting was done by the field party. As most of the work on this sheet was controlled by astronomic fixes, no checking of these was done in the office. The customary check, however, was given to all the soundings.
6. The junction with H. 4453 where the two overlap is satisfactory. The area in the vicinity of the 1000 fathom curve shown on H. 4453 should be closer sounded in order better to develop this deep.

7. Additional work will be required as mentioned in paragraphs 3 and 6.
8. The survey discloses no indication of a fishing bank reported to exist about 60 miles west of Pt. Pinos. As suggested by the Chief of Party the sonic depth finder would be very efficacious in determining the existence of such a bank.
9. Character and scope of surveying - ~~excellent~~ *good*
Field drafting - excellent.
10. Reviewed by A. L. Shalowitz, October, 1926.

Approved -
A. L. G.
SEP

June 24, 1926.

Division of Hydrography and Topography:

✓ Division of Charts:

Tide reducers are approved in
3 volumes of sounding records for
HYDROGRAPHIC SHEET NO. 4543

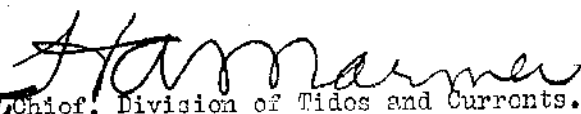
Locality: Off California Coast.

Chief of Party: C. L. Garner in 1924 and 1925.

Plane of reference is MLLW
5.55 ft. on tide staff at Presidio (allowance made for place of sounding.)

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 in 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.

Acty 
Chief, Division of Tides and Currents.

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.

4543

U. S. Coast and Geodetic Survey.

Register No. 4543³

State CALIFORNIA,

General locality MONTEREY BAY

Locality Offshore
~~DEEP SEA WORK WEST OF MONTEREY BAY~~

Chief of party CLEM L. GARNER

Surveyed by CLEM L. GARNER

Date of survey Nov. 1, 1924 to February 20, 1925.

Scale 1 : 200000

Soundings in Fathoms

Plane of reference M.L.L.W.

Protracted by C.L.G. Soundings in pencil by C.L.G.

Inked by Verified by

Records accompanying sheet (check those forwarded):

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

Sounding books, Wire-drag books, Photographs.

6 Vols. Position Observations

Data from other sources affecting sheet

None

Remarks: