4547

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

State: California

11—5618

DESCRIPTIVE REPORT. #2 (?)

Hydrographic *Sheet No.* 4547

LOCALITY:

Southern Coast

San Pedro Channel

1926

CHIEF OF PARTY:

T. J. Maher

4547

U.S. COAST AND GEODETIC SURVEY

Col. E. Lester Jones, Director.

DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SHEET

COVERING APPROACHES TO SAN PEDRO, CAL.

Surveyed, March-April, 1926.

U.S.C. & G.S.S. GUIDE,
1926.

Thos. J. Maher,
Chief of Party.

4547

DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SHEET _____

COVERING APPROACHES TO SAN PEDRO, CALIFORNIA.

Surveyed, March-April, 1926.

Sounding Vols. refer to Sheet No. 2 only

Instructions.

This work was done in accordance with instructions dated January 12, 1926.

Description.

This work presents no unusual features. The survey is on a scale of 1:40,000, and Rude-Fischer tubes were used. Soundings are referred for tidal correction to the automatic gauge at San Pedro, Cal.

Control.

Control is based entirely on points determined by triangulation, with the exception of signal Nub at the end of one of the ridges at the southeastern end of Catalina Island, which was scaled from a photostat of the original topographic sheet of the Island, and the accuracy of which was later checked by sextant cuts in connection with other work.

White Stack is a very prominent object, may be seen a long way offshore, and often shows through the haze which at certain times prevents other objects from being visible.

Currents.

This work is along the edge of a flat which extends from the bight which forms San Pedro Harbor. The currents there, while not strong, are irregular and appear to be tidal in nature. A northwesterly set was frequently observed, but by no means general. The disposal of sewage so that

it will not be washed upon the beaches is one of the problems of considerable interest to the cities in this section, and for this reason no statement which could be considered definite should be made relative to currents, as local engineers are apt to place too much reliance on any statement made by this Bureau. I think, though, that a series of current observations in this section would be of material value to local interests.

The tides were not reduced in the field for the reason that tidal information had not been received by the Washington Office at the time this sheet was completed in the field. Such tidal data as was received by the field force from the Washington Office makes it necessary to use three different gauges, viz. San Pedro, Long Beach, and La Jolla, whereas if the ~~completion~~ plotting of the soundings is postponed until tidal data has been received from the San Pedro observer, the use of one gauge only will be necessary.

T. J. B. ahw

STATISTICS, SHEET NO. 4547.

Date 1926	Letter	Volume	Positions	Soundings	Stat.Mi.	Vessel.
March 31	A	1	96	172	51.2	GUIDE
April 1	B	1	133	172	45.0	"
2	C	1	155	226	59.0	"
3	D	2	45	49	16.0	"
6	E	2	87	138	36.0	"
12	F	2	64	122	25.1	"
28	G	2	15	34	6.5	"
29	H	2	101	141	36.2	"
30	J	3	12	12	3.5	"
TOTALS:	-	-	708	1066	278.5	-

Respectfully submitted,

Thos. J. Maher,
Chief of Party.

YWW B

(11)

March 1, 1927.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 4547

Locality: SOUTHERN CALIFORNIA.

Chief of Party: T. J. Maher
Plane of reference is M L L W
4.0 ft. on tide staff at Long Beach.

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.

G Rude

Chief, Division of Tides and Currents.

SECTION OF FIELD WORK

Report on Hydrographic Sheet No. 4547

Surveyed in 1926.

Chief of Party: Thos. J. Maher.

Surveyed by: Thos. J. Maher and G.C.Jones.

Protracted by: W.F.Malnate.

Soundings plotted by: R.C.Rowse.

Verified and Inked by: E.A.Deily.

1: The records confirm to the requirements of the General Instructions.

2: The usual depth curves can be drawn.

3: The sheet was clean and legible.

4: Rating of the work- (a) Character and scope of surveying -Good.

(b) Field drafting- very good.

Respectfully submitted,

Earle A. Deily.

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO NO. 11-DRM

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

December 9, 1927.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4547

San Pedro Channel, California

Surveyed in 1926

Instructions dated January 12, 1926 (GUIDE)

Chief of Party, T. J. Maher.

Surveyed by T. J. M. and G. C. Jones.

Protracted by W. F. Malnate.

Soundings plotted by R. C. Rowse.

Verified and inked by E. A. Deily.

1. The records conform to the requirements of the General Instructions.

2. The plan and character of development conform to the requirements of the General Instructions.

3. The plan and extent of development satisfy the specific instructions except that there are several small areas that should have had a few more lines to make the work conform to the spacing requirements.

4. The information on this sheet together with that on the adjoining sheets is sufficient for drawing the usual depth curves except the 100-fathom curve where additional soundings are required to definitely locate it.

5. There are no cross lines on this survey. A comparison of soundings on adjacent lines shows a generally good agreement with occasional differences of 1 to 3 fathoms. These may be due partly to inequalities in the contour of the bottom.

6. The protracting only was completed by the field party.

The plotting of soundings was deferred for the office on account of complete tidal data not being available at the time the work was completed in the field. (See Descriptive Report, page 2.)

7. A junction was effected with H. 4559.

The junction with the inshore sheet, H. 4162, is not satisfactory. There appears to be a constant difference of about 2 fathoms between the two sheets with the later survey, H.4547, being consistently shoaler. The soundings on the inshore sheet were taken with the hand lead and the trolley rig while those on the offshore sheet were taken with Rude-Fischer pressure tubes. It is believed the cause of the discrepancy lies in the fact that a proper allowance was not made for the distance between the capillary head and the lead which in the present case was 15 feet. This distance was taken into account in plotting the correction graph from the simultaneous readings, but was apparently not allowed for in the actual tube soundings. Were the tubes close to bottom when soundings were taken, this method would give correct results, but this is not believed to be the case and hence an allowance should be made in the tube soundings for the distance the tube is above the lead when the lead strikes the bottom. Otherwise the tube readings will be too shoal by this amount. This satisfactorily explains the discrepancies east of longitude 118° 13'. However, west of this longitude, although the same conditions prevailed and the same method was used, there is a good agreement between this sheet and the inshore sheet. Why this should be so is difficult to explain, unless an allowance was made for the distance between the capillary head and the lead before the tube sounding was recorded or perhaps the handling of the tubes on this day was such that at the time of sounding the tube was practically on the bottom. Test lines should be run in both portions of the sheet to determine the correct depths so that a modification might be made of the soundings on this sheet.

The junction with H. 4504 is satisfactory except that in the vicinity of latitude 33°.33 1/2', between longitude 118° 08' and 118° 14', a few lines should be run to better define the 100 fathom curve. Where soundings on the two sheets overlap the soundings on H. 4504 appear generally deeper from 1 to 2 fathoms. It should be noted that on this sheet the distance from capillary head to lead was only 4 feet. This would tend to bear out the theory advanced previously as to the cause of the discrepancy between this sheet (H. 4547) and H. 4162.

The junction with H. 4560 is satisfactory. The same condition prevailed as to distance of capillary head above lead as on 4547, varying from 4 to 15 feet. Therefore, as would be expected, the soundings on the eastern half of H. 4547 agree with those on H. 4560, whereas on the western half the soundings on H. 4560 are generally shoaler from 1 to 2 fathoms, which is to be expected if the soundings on H. 4547 in this area are correct.

The junction with H. 4224 (surveyed in 1922) is satisfactory.

The junction with the old survey, H. 1417, in the vicinity of Pt. Fermin Light is satisfactory.

8. In addition to those places mentioned above, the following additional work is required:

a. An examination of the 20 fathom sounding in latitude 33° 39 3/4', longitude 118° 16 1/2'.

b. Split lines to the 50 fathom curve in the vicinity of latitude 33° 37', longitude 118° 16'.

c. An examination of the 54 fathom sounding (from H. 4560) in the vicinity of latitude 33° 34 1/4', longitude 118° 13 1/2'.

d. A few split lines to the 50 fathom curve in the vicinity of latitude 33° 35', longitude 118° 12 1/2'.

e. An examination of the area in the vicinity of latitude 33° 37', longitude 118° 14' to determine whether a deep actually exists around the 20 fathom curve. This does not seem to be borne out by the inshore sheet, H. 4162.

f. A verification of the 20 fathom sounding in latitude 33° 35 3/4', longitude 118° 08 1/2'.

9. Character and scope of surveying - good.
Field drafting - very good.

10. Reviewed by A. L. Shalowitz, December, 1927.

Approved:

Chief, Section of Field Records (Charts)

L.O. Colbert

Chief, Section of Field Work (H. & T.)

Form 537
11—5813

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4547

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. .....

Reference to inside Title, no 2

REGISTER NO. 4547

State California

General locality Southern California

Locality San Pedro Channel

Scale 1:40,000 Date of survey March 31-April 30, 192 6.

Vessel Ship GUIDE.

Chief of Party Thos. J. Maher

Surveyed by Thos. J. Maher and G. C. Jones

Protracted by W. F. Malnate

Soundings penciled by .....

Soundings in fathoms feet

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by .....

Inked by .....

Verified by .....

Instructions dated January 12, 192 6.

Remarks: .....

.....

GPO

4547 Add'l Wk.

4547 Add'l Wk.

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

State: California

11—5613

DESCRIPTIVE REPORT.

Hydrographic Sheet No. 4547 Add'l Wk.

LOCALITY:

Southern California

San Pedro Channel

1928

CHIEF OF PARTY:

F. G. Engle, H.& G.Eng'r.

DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SHEET NO. 4557 - - - - - - - - - - SCALE: 1/40,000
ADDITIONAL WORK BY DISCOVERER IN 1928, F. G. ENGLE -COMMANDING.

The work on this sheet was done in accordance with Director's Instructions of Dec., 16, 1927, Par., 15(a), (b), ~~2b~~(c) and (d).

Soundings are by fathometer corrected by temperature curves and data filed with sheet No. 4560. Control was by visual fixes on triangulation points.

Due to almost continual haze in this region and the distance to other work the work on this sheet was done at different times when the opportunity presented. The 20 fathom sounding (b), was not developed on this account up to the time the season closed.

A sounding of 35 fathoms between Pos. 28 and 29 and soundings of 19 and 25 fathoms between Pos. 37 and 38 which occur on the slope of a submarine valley ~~which~~ are thought to be erroneous, that is, strays on the fathometer. In rapidly changing depth such as on the slope of a submarine valley difficulty has frequently been experienced in getting soundings with fathometer even with the most skillful handling of the hydrophone rheostats. The echoes from the bottom directly below the vessel may be weak due to large slope and if the resistence in the hydrophone circuit is cut materially the strays will appear. A persistent stray resembling a sounding may be a second or third echo or an echo from the distant slope of the valley. A vertical cast of 64 fathoms was taken very close to the 35 fathom sounding and indicates that the latter is an error of reading fathometer. This may still appear on the sheet, however

Respectfully submitted,

F. G. Engle,
H. & G. Engineer,
Chief of Party.

STATISTICS FOR SHEET NO. 4547

Date 1928	Letter	Volume	Positions	Soundings	Miles St.	Vessel
Jan.26	A	1	32	328	35.0	DISCOVERER
Feb.23	B	1	70	332	35.1	"
" 24	C	1	38	247	23.5	"
Apr.12	D	1 & 2	76	319	41.7	"
		TOTALS --	216	1226	135.3	

(11)

Copy for Section of Field Records files.

June 4, 1928.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
2 volumes of sounding records for

HYDROGRAPHIC SHEET 4547 add'l.

Locality: SOUTHERN CALIFORNIA.

Chief of Party: E. G. Engle, 1928.
Plane of reference is M L L W
3.5 ft. on tide staff at Los Angeles Harbor.

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.

Chief, Division of Tides and Currents.

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO No. 11-DRM

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

December 17, 1928.

SECTION OF FIELD RECORDS

Report on Additional Work on Hydro. Sheet 4547

San Pedro Channel

Surveyed in 1928

Instructions dated Dec. 16, 1927

Chief of Party, F. G. Engle.

Surveyed by F. G. Engle.

Protracted by G. R. Fish.

Soundings plotted by G. R. Fish and F. B. Kelly.

Verified and inked by F. B. Kelly.

1. The records conform to the requirements of the General Instructions except in the following instances.

   a. The general locality was not given in the record at the beginning and ending of the day's work.

   b. Very few bottom characteristics were given.

   c. No corrections were applied to echo soundings to get vertical depths.

2. The original work had to be changed in a number of instances due to new regulations regarding the conversion of whole fathoms.

3. Attention is called to the following:

   a. In lat. 33° 39', long. 118° 14', page 36, Vol. 2, orig. work, there are two soundings, one 20 fathoms and the other 22 fathoms. There is a tube sounding of 15.5 fathoms on this position and some difficulty was experienced with the wire and this 20 fathom sounding is probably in error. There is also a discrepancy between the V. C. and the tubes at the 22 fathom spot.

   b. At lat. 33° 40', long. 118° 16', page 16, Vol. 2, orig. work, the notes at this 20 fathom spot have been scratched out with an apparently 29-fathom original entry.

4. "D" day was not plotted in the field.

5. No attempt was made in the field to plot the soundings on times between fixes. In some instances these soundings had to be rejected due to ppor control. In all cases, however, though an attempt was made to plot them correctly according to time, their positions must be considered doubtful because of the absence of a boat sheet.

6. Considerable difficulty was experienced in the office in checking fixes, probably due to a poor protractor, great distance of signals and the personal equation involved.

7. The first 17 fixes on "D" day represent a dead reckoning line which had to be rejected.

8. Report by F. B. Kelly, November 7, 1928.

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO No. 11-DRM

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

December 17, 1928.

SECTION OF FIELD RECORDS

Report on Hydro. Sheet 4547 (Additional Work)

San Pedro Channel, California

Surveyed in 1928

Instructions dated December 16, 1927.

Chief of Party, F. G. Engle.

Surveyed by party of Steamer DISCOVERER.

Protracted by G. R. Fish.

Soundings plotted by G. R. Fish and F. B. Kelly.

Verified and inked by F. B. Kelly.

1. See cartographer's report regarding records and field plotting.

2. The sounding line crossings and junctions with adjoining sheets are adequate.

3. Several soundings of 16 fathoms or more on the southern edge of the submarine valley (33° 17 1/2', 118° 14') were omitted on recommendation of the Chief of Party and Chief, Section of Field Work as probable strays.

4. On recommendation of Chief, Section of Field Work, slope corrections were not applied to the fathometer soundings in the submarine valleys. Undoubtedly the maximum depths are greater than those shown.

5. Regarding the specific instructions:

   a. Par. 15 b 1:- Only one sounding line was run in the vicinity of the 20 fathom sounding (changed to 22 fathoms) at 33°36', 118° 08', the line passing 300 meters to the northward of the spot. No shoaling appears on the line but it is too far from the spot to throw any light on its authenticity.

   b. Par. 15 b 2:- The resurvey indicates the non-existence of the 20 fathom sounding at 33° 40', 118° 16', and it has been removed from the sheet.

c. Par. 15 b 3:- The following soundings approximately on parallel 33° 54' and between 118° 08' to 14' have been discredited by the new work and have been removed from the sheet: 54, 58, 68, 54, 54, 42, 50, 63, 74 and 67.

d. Par. 15 c:- The development in vicinity of the 22 fathom sounding at 33° 39', 118° 14' is adequate and the sounding should be retained.

e. Par. 15 d:- The test line called for demonstrates the correctness of the conclusion reached from a comparison with H. 4162 (see review of 1926 work) that the tube soundings east of 118° 13' are 2 fathoms too shoal, due to the tubes being attached 15 feet above the lead. Therefore all tube soundings in the following 1926 work have had 2 fathoms added: 23 to 96 A; all of B and C days and 3 to 9 D. This study shows conclusively the need of attaching the tubes as closely as possible to the lead.

6. No additional surveying is required except that noted in Par. 15 a.

7. The character and scope of the surveying and field drafting are excellent.

8. Reviewed by E. P. Ellis.

Approved:

Chief, Section of Field Records (Charts)

Chief, Section of Field Work (H. & T.)

Form 537
11—5812

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REG. NO. 4547 Add'l.Wk.

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 4547 Add'l.Wk.

REGISTER NO.

State CALIFORNIA

General locality SOUTHERN CALIFORNIA

Locality SAN PEDRO CHANNEL

Scale 1:40,000 Date of survey JAN. 26, -- APR. 12, 1928

Vessel DISCOVERER

Chief of Party F. G. ENGLE

Surveyed by F. G. ENGLE

Protracted by G. R. FISH

Soundings penciled by C. R. FISH

Soundings in fathoms ~~feet~~

Plane of reference MLLW

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated Dec. 16, 1927 ~~, 192—~~

Remarks:

GPO

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 4547 add'l

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet . . 216.

Number of positions checked . 101.

Number of positions revised . 64.

Number of soundings recorded . 1226.

Number of soundings revised . 410.

Number of signals erroneously plotted or transferred . . . . 0 . . .

Date: - - - November 7, 1928 - - - - - - -

Cartographer: - Francis B. Kelly - - - -