6116



6116

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R. S. Patton, *Director*

*State:* California

# DESCRIPTIVE REPORT

~~Topographic~~
*Hydrographic* } *Sheet No.* 40-1

LOCALITY
Southern California
Dana Point & Vicinity
~~Vicinity~~ ~~San Juan Point~~

*193* 5

CHIEF OF PARTY

E. W. Swainson

U. S. GOVERNMENT PRINTING OFFICE: 1933

Form 537
11—5812

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY



# 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. 40 - 1o - 6/16

REGISTER NO.

State California

General locality Southern California

Locality ~~Vicinity San Juan Point~~ Dana Pt. & Vicinity 6/11/36

Scale 1:40,000 Date of survey June, 1935

Vessel Str. PIONEER

Chief of Party O. W. Swainson

Surveyed by O. W. Swainson, R. R. Moore, G. M. Marchand, H. J. Healy.

Protracted by G. A. Nelson, H. J. Healy

Soundings penciled by R. R. Moore

Soundings in fathoms ~~feet~~

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by

Inked by G. Risegari

Verified by G. R.

Instructions dated June 23, 1934

Remarks:

GPO

Field Record. ...ction (Charts)

HYDROGRAPHIC SHEET NO. H6116

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

| | |
|---|---|
| Number of positions on sheet | 1023 |
| Number of positions checked | 36. |
| Number of positions revised | 1 |
| Number of soundings recorded | 11,040 |
| Number of soundings revised | 10 |
| Number of signals erroneously plotted or transferred | ✓ |

Date: Sept. 4, 1936
C. J. McKenney
Verification by L. Pisegna
Review by Harold W. Murray
Ver. Cor. by "

Time: 28 hrs } 65
37 hrs. }
17½ "
5½ "

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6116 (1935) FIELD NO. 40-1

Dana Point and Vicinity
Southern California, California
Surveyed in 1935 - Scale 1-40,000
Instructions dated June 23, 1934 (PIONEER)

Fathometer Soundings. 3 Point fixes on shore signals.

Chief of Party - O. W. Swainson
Surveyed by - O. W. S., R. R. Moore, G. M. Marchand and H. J. Healy
Protracted by - G. A. Nelson and H. J. Healy
Soundings plotted by - R. R. Moore
Verified and inked by - G. Risegari and C. F. McKenney

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual except as follows:

a. Degree and minute symbols were not indicated on the latitude and longitude figures. This was accomplished in the office.

b. The 13 fathom sounding discussed in paragraph 10b of this review should have been plotted on the smooth sheet and boat sheet by the field party.

The Descriptive Report is clear and comprehensive and satisfactorily covers all items of importance.

2. Compliance with Instructions for the Project.

The plan, character and extent of the survey satisfy the instructions for the project except that the holidays discussed in paragraphs 6c and 6d of this review should have been eliminated and the two soundings discussed in paragraphs 6b and 10b of this review should have been investigated.

3. Shoreline and Signals.

a. This is an offshore survey and contains no topography.

b. The signals used are from topographic sheets: T-4896 (1934), T-4895 (1934), T-4894 (1934), T-4893 (1934), T-4892 (1934), supplemented by a number of hydrographic signals located by 3-point fixes recorded in the sounding records.

4. Sounding Line Crossings.

Depth agreement at sounding line crossings is very satisfactory.

5. Depth Curves.

Within the limits of the survey the usual depth curves may be satisfactorily drawn.

6. Junctions with Surveys.

a. The junction on the north with H-5602 (1934) is satisfactory except that a number of fathometer soundings on the present survey vary 1 to 2 fathoms deeper than the machine soundings on the adjoining survey.

b. The junctions on the northeast with H-5603 (1934), H-5604 (1934) and H-5605 (1934) are satisfactory except that the 12 fathom sounding on the present survey (lat. 33°24.9', long. 117°39.5') which falls at the edge of the junction with H-5604 (1934) and in general depths of 15 fathoms, even bottom, should have been investigated. (See Descriptive Report, page 1, "Discrepancies").

c. The junctions on the east and southeast with the machine soundings of H-5606 (1934) and H-4368 (1924) are satisfactory except that in the vicinity of lat. 33°16.6', long. 117° 31.5', a holiday of approximately 1/5 square mile exists between the three surveys. The area is fairly well sounded by the 1928 fathometer work done on the 1 to 120,000 scale survey, H-4560 (1926-28). This work is generally in good agreement with the present survey but when enlarged to a 1 to 10,000 scale on the inshore sheet, H-5606 (1934) depths are noticeably 1 to 2 fathoms shoaler. In view of the agreement existing between the present survey and the 1928 work, the 1928 soundings have been carried forward to the present survey and may be used for small scale charting purposes in this area. Their use in large scale charting, however, is not particularly advisable and they should be used as sparingly as possible.

d. The junctions on the east, south and west with H-6117 (1935), H-6118 (1935), and H-6115 (1934-35) are satisfactory except that an additional line of soundings run in the vicinity of lat. 33°30.2', and extending from long. 118°00.5' to Long. 118°03.6' would have eliminated a holiday of approximately 3½ square miles existing between the present survey, H-6118(1935) and H-6115 (1934-35). Accomplished. See H-6118 (1937) Add. Ltr.

7. Comparison with Prior Surveys.

a. H-289 (1851).

This is a reconnaissance survey on a scale of 1 to 375,000. It contains no information not adequately covered by the present survey.

b. H-1783 (1887).

Three sounding lines from this 1 to 10,000 scale survey cover a small portion of the present survey in the area between lat. 33°24', long. 117°39' and lat. 33°26', long. 117°43'. These are in good agreement with the present survey.

c. H-1907 (1889) and H-1908 (1889).

These 1 to 20,000 scale inshore surveys cover the area inside the 25 fathom curve with an occasional sounding line extending out to the 20 fathom curve. The depths are in good agreement with the present survey.

d. H-4368 (1924).

This 1 to 40,000 scale survey covers a small portion of the present survey in the vicinity of lat. 33°16', long. 117°34'. Depths inside the 100 fathom curve were obtained with a sounding machine; those outside the 100 fathom curve were obtained with the sonic depth finder. A portion of the machine soundings have been transferred to the present survey as an overlap and are discussed in paragraph 6c of this review. The few sonic soundings are in fairly good agreement with the present survey.

e. H-4366 (1924 & 1928), H-4504 (1925) and H-4560 (1926 & 1928).

These surveys are on scales of 1 to 160,000 and 1 to 120,000 and cover the greater portion of the present survey. Soundings obtained on the 1924-26 work are mainly sonic or tube, those on the 1928 work are fathometer. Agreement of the fathometer work with the present survey is generally good. Agreement of the sonic or tube soundings with the present survey is good in some areas but only fair in others, differences of 10 to 20 fathoms being noted in a number of instances. In view of the larger scale, closer development and greater probable accuracy of the present survey, the 1924-28 work should be entirely superseded for charting purposes.

8. Comparison with Chart 5101 (New Print dated Mar. 28, 1936).

Within the area of the present survey, the chart is based on surveys discussed in the foregoing paragraphs and contains no additional information that needs consideration in this review.

9. Field Plotting.

Field protracting and plotting were very accurate and conform to the requirements of the Hydrographic Manual.

10. Additional Field Work Recommended.

For Future Consideration.

Accomplished See H-6118 (1937) Ad. Wk.

Aside from the holidays discussed in paragraphs 6c and 6d of this review, the survey is complete and no additional work is required at this time. However, when work is resumed in this locality, the following soundings should be investigated.

a. The 12 fathom sounding (lat. 33°24.9", long. 117°39.5') discussed in paragraph 6b of this review. (See Descriptive Report, page 1, "Discrepancies").

b. The 13 fathom sounding (line 4 to 5F) falling in depths of 17½ fathoms in lat. 33°19.7', long. 117°34.2'. This sounding originates with a field note "13 fathoms (few flashes) between" entered in the remarks column opposite two successive soundings (16.8 and 18.4 fathoms, reduced) obtained on line and was not plotted by the field party. Smooth sheet plotting and reduction of the sounding (13.4 fathoms, reduced) was accomplished in the office.

11. Superseding Previous Surveys.

Within the area covered, the present survey supersedes the following surveys for charting purposes:

| | |
|---|---|
| H-289 (1851) | in part |
| H-1783 (1887) | " " |
| H-1907 (1889) | " " |
| H-1908 (1889) | " " |
| H-4366 (1924-28) | " " |
| H-4368 (1924) | " ", sonic soundings only. |
| H-4504 (1925) | " " |
| H-4560 (1926-28) | " " |

12. Reviewed by - Harold W. Murray, Sept. 17, 1936.

Inspected by - R. J. Christman, Sept. 21, 1936.

C. K. Green Examined and approved:

C. K. Green,
Chief, Section of Field Records.

R. O. Dobbert
Chief, Division of Charts.

Fred L. Peacock
Chief, Section of Field Work

G. Rude
Chief, Division of H. & T.

# Report on H. 6116 (-1935)



1. The records are neat and legible and conform to the requirements of the Hydrographic Manual, except as noted in the review. A 13 fathom sounding was entered in the remarks column of sounding volume No. 3, pos. 4-5 F, page 6, ~~pos. 57~~, but was not entered in the "Soundings" column in the record where an asterisk is shown. This addition as well as the reduction of the 13 was accomplished in the office.

The 13 falls between a 17 and 18 in approximate lat. 33°-19.7' long. 117°-34.2'.

2. The usual depth curves can be satisfactorily drawn.

3. Field protracting and plotting was well done and required only a very few minor changes.

4.(a) The junction with H. 5602 (1934) on the northeast shows differences in depths on the present survey as much as 2 fathoms greater ~~on the present survey~~ than those on H. 5602 (1934), particularly in the northern portion of the overlap. In other parts the agreement of the depths is generally good with an occasional discrepancy. These discrepancies may be due to the fact that the present survey employed the fathometer while H. 5602 (1934) took wire soundings.

(b). The junction with H-5603 (1934) on the east is satisfactory.
(c). " " " H-5604 (1934) " " " " " "
(d). " " " H-5605 (1934) " " " " "
(e). " " " H-5606 (1934) " " southeast " "
(f). " " " H-6117 (1935) " " " " "
(g). " " " H-6118 (1935) " " west " "
(h). " " " H-6115 (1934-35) " " north " "

Additional details noted in Review

5. No shoreline is shown on this sheet since it is an offshore survey.

The topographic signals are from T-4896 (1934) T-4895 (1934) T-4894 (1934) T-4893 (1934) and T-4892 (1934).

The hydrographic signals were determined by the present party and are recorded in the sounding volumes.

6 Attention of Reviewer:

The discrepancy at pos. 6-7E, mentioned in D.R. page 1, is undoubtedly due to the field party advancing positions 6, 7 and 8E, one minute (see note in Vol. 2 pos. 8E, which states "Probably 1 min. error in clock at start of day"). However, See note next page

Report on H-6116.

6 cont.

by plotting the soundings in their original recorded positions the crossings are satisfactory. The soundings have been changed accordingly to the original positions. Soundings between pos. 1E and the error noted at the time of 6 hr. 56 min. (pos. 8 & 9E) advanced 1 min. This disposition is supported by the fact that agreement of soundings and delineation of depth curves in connection with cross lines and adjacent lines on the present survey as well as the overlapping soundings from H-6115 (1934-35) is materially improved.

Respectfully submitted

S. Risegari Sept. 4, 1936

(1)

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SHEET FIELD NO. 40-1.

AUTHORITY

This survey was made in accordance with instructions to the Commanding Officer of the Str. PIONEER for Project No. HT 187, dated June 23, 1934.

LOCALITY

This is a resurvey of the area extending seven to eleven miles offshore from the limit of the recent inshore hydrography of Lieut. R. W. Knox extending from latitude 33° 18' to latitude 33° 34'.

SURVEY METHODS AND CONTROL

Standard methods were used for the survey. The soundings were made by the PIONEER using the fathometer, supplemented by a number of vertical casts made for the purpose of comparisons between the wire and fathometer and for obtaining temperatures and bottom samples.

The hydrography was controlled by three point fixes on triangulation, hydrographic, and topographic signals located ashore. A list of signals used is attached inside the cover sheet of Volume 1 of the sounding records.

DISCREPANCIES

Pos. 11 - 12 G, crossing 6 - 7 E, in latitude 33° 29.5', longitude 117° 51.3', there is a discrepancy of about 10 fathoms in a little over 300 fathoms. (improved – see Verification report for solution.)

Attention is called to a 12 fathom fathometer sounding immediately after Pos. 5D in latitude 33° ~~25'~~ 24.4', longitude 117° 39.4', on the line of junction between this survey and the recent inshore survey of Lieut. R. W. Knox. This sounding was marked "O. K." in the record at the time it was taken, but no development was attempted as it was believed at that time to be within the limits of Lieut. Knox's work. It is 2 to 3 fathoms shoaler than the surrounding depths. (mentioned in rev.)

In general along the junction with the work of Lieut. Knox north of San Juan Point the fathometer soundings appear to be about a fathom deeper and south of San Juan Point the fathometer soundings are in satisfactory agreement. (Noticeable on H-5602 (1934), not very apparent on H-5603 (1934) Knox)

JUNCTIONS

This sheet joins the recent inshore work of Lieut. Knox on the northeast, Sheets Field Nos. 48 and 80-1 of the PIONEER on the northwest, Sheet Field No. 80-1 of the PIONEER on the southwest, and Sheet Field No. 40-2 of the PIONEER on the southeast.

Junctions with adjacent sheets are satisfactory with the exceptions mentioned under DISCREPANCIES and noted in the Review, par. 6. Knox.

(2)

## COMPARISON WITH PREVIOUS SURVEYS

This area was covered by Sheet Register No. 4560 which was executed by sonic depth finder beyond the 100 fathom curve. The soundings of the present survey are in satisfactory agreement with the wire soundings on the previous survey, but there are numerous discrepancies between the present survey and the sonic soundings of the previous survey.

Discussed in Rev.

## DANGERS

No dangers were found within the limits of this sheet.

## TIDES

The tidal reducers were computed from the tidal data for Los Angeles Harbor.

## STATISTICS

A table of statistics is attached to this report.

## FATHOMETER CORRECTIONS

A list of fathometer corrections is attached inside the cover sheet of Volume 1 of the sounding records.

Respectfully submitted:

W. M. Scaife,
H. & G. Engineer.

Approved and forwarded:

R. R. Moore,
H. & G. Engineer,
Chief of Party.

STATISTICS

SHEET FIELD NO. 40-2.

| Date | Day | Vol. | Statute miles of sounding lines | No. of soundings | | | No. of Positions |
|---|---|---|---|---|---|---|---|
| | | | | Fath. | Wire | Total | |
| 6/3/35 | A | 1 | 67.1 | 715 | | 715 | 119 |
| 6/4/35 | B | 1 | 45.8 | 417 | 2 | 419 | 77 |
| 6/5/35 | C | 1 & 2 | 73.9 | 805 | | 805 | 143 |
| 6/6/35 | D | 2 | 146.3 | 1216 | 1 | 1217 | 205 |
| 6/7/35 | E | 2 | 122.4 | 704 | 1 | 705 | 142 |
| 6/11/35 | F | 3 | 92.2 | 748 | | 748 | 125 |
| 6/12/35 | G | 3 | 107.0 | 603 | 5 | 608 | 136 |
| 6/14/35 | H | 3 | 24.7 | 111 | | 111 | 28 |
| 6/17/35 | J | 3 | 4.0 | 22 | 1 | 23 | 6 |
| 6/27/35 | K | 3 | 33.1 | 168 | 1 | 169 | 42 |
| Totals: | | | 716.5 | 5509 | 11 | 5520 | 1023 |

(4)

# TIDAL NOTE

The tidal reducers were computed from the tidal data for Los Angeles Harbor. Tidal reduction curves for this sheet are attached to this report.

CHIEF OF PARTY'S REPORT OF INSPECTION

The positions were plotted by Lieut. (j.g.) H. J. Healy and Lieut. (j.g.) G. A. Nelson. The position numbers are not plotted as neatly as they might have been and this was called to their attention. The soundings were plotted by myself.

It is recommended that the 12 fathom sounding in latitude 33° 25', longitude 117° 39.4' be verified.

R. R. Moore,
H. & G. Engineer,
Chief of Party.

HYDROGRAPHIC SURVEY NO. H6116

Smooth Sheet Yes

Boat Sheet Yes - 1

Sounding Records Yes - 3 Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes

Landmarks for Charts (Form 567) No

Statistics Yes

Approved by Chief of Party No accepted

Recoverable Station Cards (Form 524) No

Special Chart for Lighthouse Service (Circular Nov. 30, 1933) No floating aids

Remarks

RAE

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Ed. Feb. 1935

# TIDE NOTE FOR HYDROGRAPHIC SHEET

June 5, 1936

Division of Hydrography and Topography:

✓ Division of Charts: Att: Mr. E. P. Ellis

Tide Reducers are approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET 6116

Locality Vicinity of San Juan Point, Southern California.

Chief of Party: O. W. Swainson in 1935
Plane of reference is mean lower low water reading
3.6 ft. on tide staff at Los Angeles Harbor (Berth 60)
14.0 ft. below B.M. g

Height of mean high water above plane of reference is 4.7 ft.

Condition of records satisfactory except as noted below:

Paul Schureman

Acting Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE

GEOGRAPHIC NAMES

Survey No. H6116

| Name on Survey | A On Chart No. | B On previous survey No. 5101 | C On U. S. quadrangle Maps | D From local information | E T 1045 ~~On local Maps~~ (1852) | F | G P. O. Guide or Map | H Rand McNally Atlas | K U. S. Light List USCP | |
|---|---|---|---|---|---|---|---|---|---|---|
| Dana Sanctum Point | * | | ✓ | ✓ | — | | ✓ | | ✓ | 1 |
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| | | | | | | | | | | 23 |
| referred USBGN 6/17/36 | | | Sanctum Pt Dana Pt | | | | | | | 24 |
| | | | | | | | | | | 25 |
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| | | | | | | | | | | 27 |

M 234

| | Remarks | Decisions |
|---|---|---|
| 1 | USGS, "Capistrano" 9444, NOS "San Juan Capistrano Pt. T 1645 NOS "San Juan Capistrano Pt", and has | |
| 2 | "Dana" as name of signal inside | |
| 3 | T 5417 (1934) has "Dana Point" (SEE REPT) | |
| 4 | U. S. Light List has Dana Point. | |
| 5 | | |
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| 25 | | |
| 26 | | |
| 27 | "Dana Cove" is shown just inside (SE) of San Juan Capistrano Pt. by U.S.C.S. "Capistrano" 9444. | |

M 234

FORM M-238

# MEMORANDUM

## IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT
~~PHOTOSTAT OF~~

No. H 6116
~~No. T~~

received MAY 12 1936
registered JUN 1 1936
verified
reviewed
approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

| ROUTE | | Initial | Attention called to |
|---|---|---|---|
| 20 | | | |
| 22 | | | |
| 24 | | | |
| 25 | | | |
| 26 | | | |
| 30 | | | |
| 40 | | | |
| 62 | | | |
| 63 | | | |
| ✓ 82 | Shalowitz | A.H. | D. R. par. 1 – page 2 |
| 83 | | | |
| 88 | | | |
| 90 | | | |
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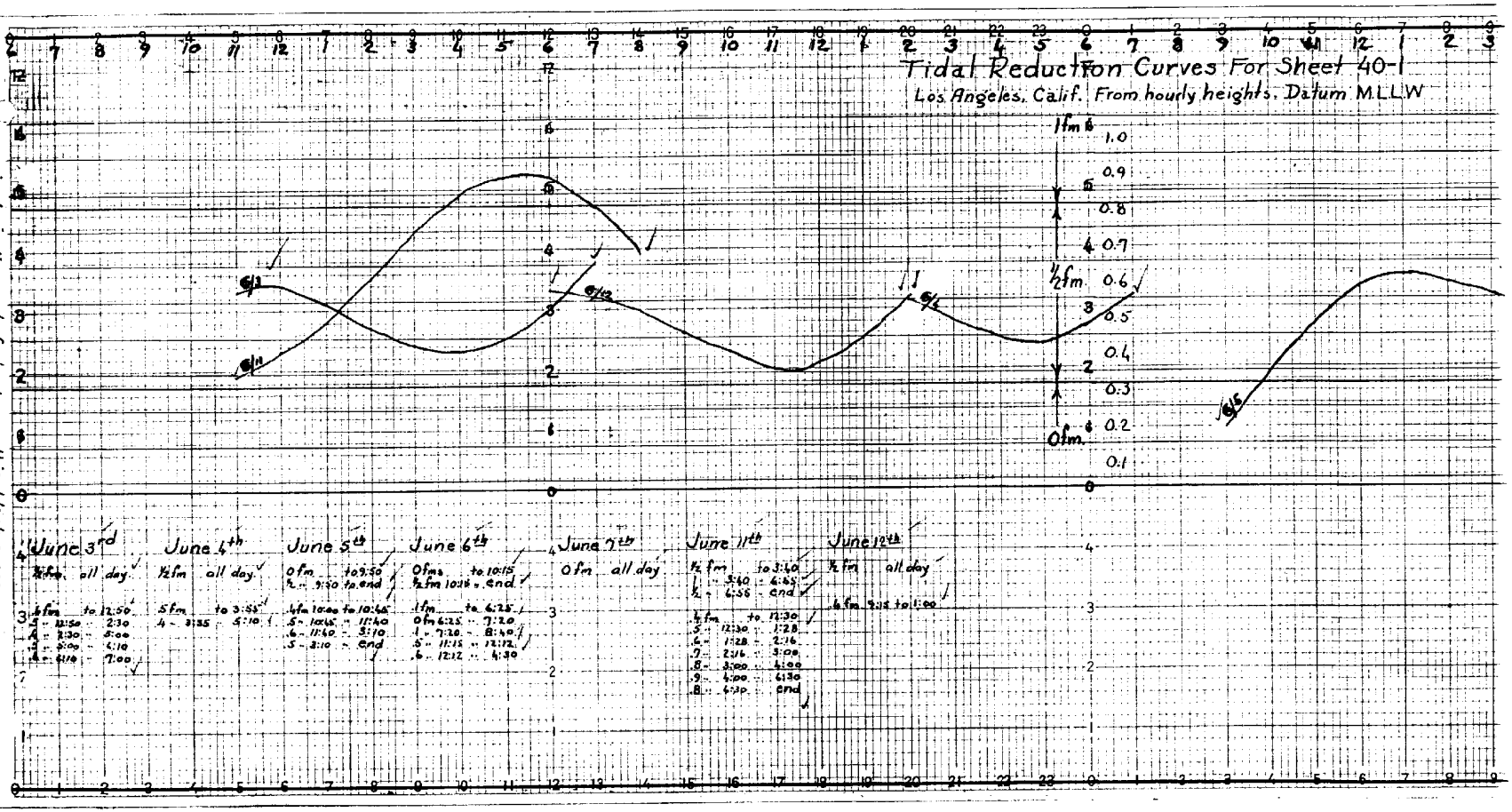
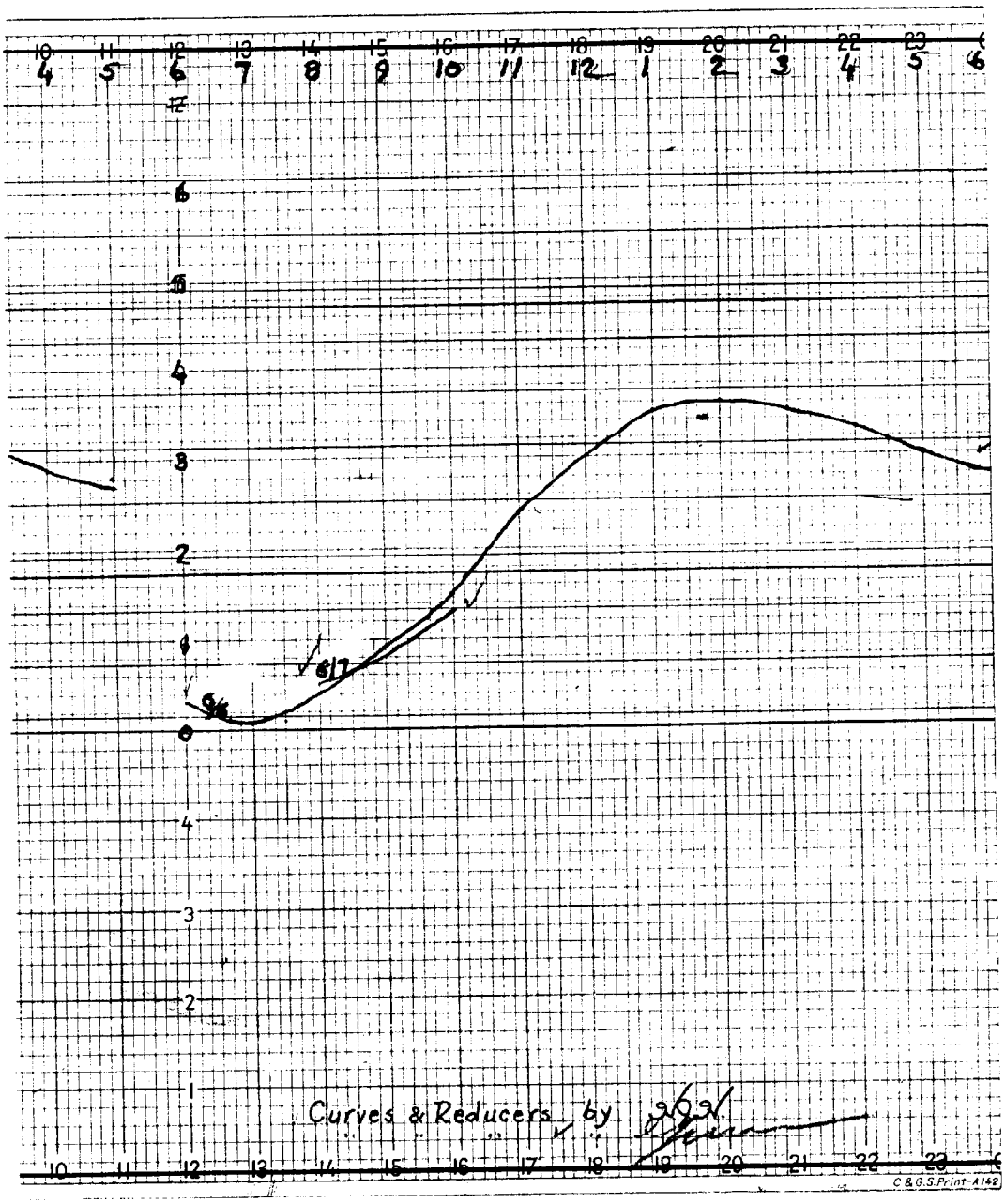
RETURN TO

| | |
|---|---|
| 82 | |

C. K. Green


Tidal Reduction Curves For Sheet 40-1
Los Angeles, Calif. From hourly heights. Datum M.L.L.W
1fm
½fm
0fm
June 3rd
½fm all day
June 4th
½fm all day
June 5th
0fm to 9:50
½ " 9:50 to end
June 6th
0fms to 10:15
½fm 10:15 " End
June 7th
0fm all day
June 11th
½ fm to 3:40
1 " 3:40 " 6:55
½ " 6:55 " end
June 12th
½ fm all day
½fm 9:25 to 1:00
Lap other end of sheet over this blank space
Scale 1:22½ (Maximum tide 2½ ft.) Use Pulley Gear 96, Screw Gear 72


Curves & Reducers by
C & G.S.Print-A142

Applied to Chart 5101 - Mar 8, 1937 - L.M.Z.
" " " 5142 1950 L.A.M.

Fully Applied to Chart 5142 Dec. 10, 1970 JeffStuart
(5142 extended 3 minutes. Eastward).

FULLY applied chart 1574 3/9/77 RBK