

5849

U. S. COAST & GEODETIC SURVEY
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Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

W. B. Patton, Director

State: *California*

DESCRIPTIVE REPORT

Topographic } Sheet No. 51
Hydrographic }

LOCALITY

~~Southern California Coast~~

Santa Barbara Channel

Offshore Point Hueneme

193 4

CHIEF OF PARTY

O. W. Swainson

5849

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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REG. NO.

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. 51

REGISTER NO. 5849

State California

General locality ~~Southern California~~ Santa Barbara Channel

Locality ~~Santa Barbara Channel~~ Offshore Point Hueneme

Scale 1:40,000 Date of survey Aug. - Sept., 19 34

Vessel Str. PIONEER

Chief of Party O. W. Swainson

Surveyed by O. W. Swainson

Protracted by E. M. Prudames (Draftsman)

Soundings penciled by Harold Clarke (Surveyor)

Soundings in fathoms feet

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by _____

Inked by McKenney

Verified by John G. Reed

Instructions dated November 18, 19 32

Remarks: _____

DESCRIPTIVE REPORT
TO ACCOMPANY HYDROGRAPHIC SHEET FIELD NO. 51

Scale 1:40,000

O. W. Swainson, H. & G. Engineer

AUTHORITY

The survey of this area is authorized in instructions to the Commanding Officer for Project No. 120, dated November 18, 1932. ✓

LOCALITY

Santa Barbara Channel directly north of Anacapa Island. On the northeast and south it makes a junction with the inshore work surveyed by Lieut. C. K. Green and on the west makes a junction with sheet Registry No. 5030, surveyed by Lieut. L. D. Graham. ✓

CONTROL

The hydrography on this sheet was controlled by visual fixes on triangulation and topographic signals. ✓

SURVEY METHODS

The fathometer was used to obtain the soundings. In the shoal depths soundings were observed every thirty seconds except when looking for shoal soundings, when they were observed every fifteen seconds. Over 100 fathoms soundings were observed every minute. A few shoal soundings were obtained in Latitude 34° 09', Longitude 119° 20'. Two buoys were dropped, one at position 60 E and one at position 67E. Mr. Marchand spent one hour and forty-seven minutes around buoy No. 1 and the least depth obtained was 17 fathoms, 2 feet. Mr. Healy spent 1 hour and 35 minutes around buoy No. 2 and the least depth observed was 17 fathoms. The shoal sounding obtained by the fathometer were rejected as strays. ✓

Vertical casts were taken to obtain data for fathometer corrections, also for bottom characteristics. ✓

DANGERS

There are no dangers within the limits of this sheet. ✓

COMPARISON WITH PREVIOUS SURVEY

This survey makes a satisfactory junction with inshore sheet Registry Nos. 5420, 5446, and 5445. Also with sheet Registry No. 5030. A satisfactory junction is also made with Field Sheet No. 83. ✓

The survey also compares favorably with H1403 dated 1878. ✓

FATHOMETER CORRECTIONS

Report on fathometer corrections is attached to the report. The reducers were entered in tenths of fathoms up to 39 fathoms. Over 39 fathoms the half fathom unit was used. ✓

Henry J. Healy
O. W. Swainson,
H. & G. Engineer.

FATHOMETER CORRECTIONS

Sheet No. 51.

The computation of the theoretical corrections is shown in the report for sheet No. 46. Since the temperatures and salinities in the two areas did not differ markedly, the same theoretical velocities, and hence the same theoretical corrections, can be applied to both sheets.

The computation of the Index Corrections is shown in Table 2 and the computation of the Final Corrections in Table 3. No computation of Index Correction for No. 1 hydrophone-small Oscillator, FRx6 is shown but since repeated comparison shows that the FRx6 soundings are constantly $2\frac{1}{2}$ fathoms deeper than the FRSD soundings, the FRx6 correction is $2\frac{1}{2}$ fathoms less than the FRSD.

The table of Final Corrections was made up from the attached graph.

The fathometer scale was uniform over the entire range.

ABSTRACT OF VERTICAL CASTS

Table 1.

Sheet No. 51.

Date	Pos.	Day	Vertical Cast	Big Oscillator		Miscellaneous
				#1 Hyd.	#3 Hyd.	
				FRSD	FRSD	
8/28/34	None	A	11.2	9.9	10.5	
			11.2	9.8	10.2	
			11.2	9.9	10.2	
			11.1	9.7	10.2	
			14.0	12.2	12.8	
			14.0	12.1	12.8	
8/30/34	69	B	22.4	21.2	21.6	
			22.9	21.5		
	None	B	12.3		12.0	
			12.3	11.2		
9/25/34	20	C	13.6	12.0	13.0	
			13.5	11.9	12.8	
	40	C	93.0			(90.5 #1-Sm FRSD) (91.0 " " LD)
9/26/34	12	D	14.5		14.0	
			14.6		14.0	
			14.6		13.8	
			14.7		14.0	
	55	D	117.9	116.0	117.0	(116.5 #1-Sm FRSD) (118.0 " " LD)
9/26/34	71	D	18.4		17.4	(116.0 #2-Sm ?)
			18.6		17.2	
			18.7		17.3	
			18.6		17.3	
	104	D	85.3		85.5	(85.0 #1-Sm FRSD) (86.0 " " LD)
	126	D	117.2		115.8 SD)	(116.0 #1-Sm FRSD) (116.2 LD) (116.8 " " LD)
	134	D	26.2		25.0	
			26.3		24.8	
			26.0		24.6	
	150	D	70.5		69;2	69.0 #1-Sml FRSD
9/27/34	30	E	127.9			(126.5 " ") (127.0 " " LD)
	90	E	17.9		17.2	
			17.5		17.5	
			17.4		17.4	
	97	E	91.0		86.2	(86.5 #1-Sml FRSD)
			88.8		84.0	(84.0 " ")
			86.2		83.2	(83.0 " ")
	120	E	128.0			(126.5 " ") (128.0 " " LD)

On Slope

COMPUTATION OF INDEX CORRECTION
Sheet No. 51.

Table 2.

Date	Pos. & Day	V. C.	#1 Hydro. Big Osc. FRSD				#3 Hydro. Big Osc. FRSD			
			Fath. Rdg.	Theor. Cor'n.	Crt'd. Fath.	I. C.	Fath. Rdg.	Theor. Cor'n.	Crt'd. Fath.	I. C.
8/28/34	--A	11.2	9.9	+0.2	10.1	+1.1	10.5	-1.0	9.5	+1.7R
		11.2	9.8	+0.2	10.0	+1.2	10.2	-1.0	9.2	+2.0R
		11.2	9.9	+0.2	10.1	+1.1	10.2	-1.0	9.2	+2.0R
		11.1	9.7	+0.2	9.9	+1.2	10.2	-1.0	9.2	+1.9R
		14.0	12.2	+0.7	12.9	+1.1	12.8	-0.6	12.2	+1.8R
		14.0	12.1	+0.7	12.8	+1.2	12.8	-0.6	12.2	+1.8R
8/30/34	69B	22.4	21.2	+1.1	22.3	+0.1R	21.6	+0.3	21.9	+0.5
		22.9	21.5	+1.1	22.6	+0.3R				
	--B	12.3					12.0	-0.8	11.2	+1.1
		12.3	11.2	+0.5	11.7	+0.6				
9/25/34	20C	13.6	12.0	+0.6	12.6	+1.0	13.0	-0.6	12.4	+1.2
		13.5	11.9	+0.6	12.5	+1.0	12.8	-0.6	12.2	+1.3
Average Index Correction						+1.05				
			#1 Small FRSD							
9/26/34	40C	93.0	90.5	+0.8	91.3	+1.7				
	12D	14.5					14.0	-0.5	13.5	+1.0
		14.6					14.0	-0.5	13.5	+1.1
		14.6					13.8	-0.5	13.3	+1.3
		14.7					14.0	-0.5	13.5	+1.2
	55D	117.9	116.5	+0.4	116.9	+1.0	117.0	+0.1	117.1	+0.8
	71D	18.4					17.4	0	17.4	+1.0
		18.6					17.2	+0.1	17.3	+1.3
		18.7					17.3	+0.1	17.4	+1.3
		18.6					17.3	+0.1	17.4	+1.2
	104D	85.3	85.0	+0.9	85.9	-0.6R	85.5	+0.5	86.0	-0.7R
	134D	117.2	116.0	+0.4	116.4	+0.8	116.2	+0.1	116.3	+0.9
		26.2					25.0	+0.4	25.4	+0.8
		26.3					24.8	+0.4	25.2	+1.1
		26.0				24.6	+0.4	25.0	+1.0	
150D	70.5	69.0	+1.1	70.1	+0.4	69.2	+0.7	69.9	+0.6	
9/27/34	30E	127.9	126.5	+0.3	126.8	+1.1				
	90E	17.9					17.2	0	17.2	+0.7
		17.5					17.5	0	17.5	OR
		17.4					17.4	0	17.4	OR
120E	128.0	126.5	+0.3	126.8	+1.2	Average Index Cor'n			+1.02	
Average Index Cor'n						+1.0				

COMPUTATION OF FINAL CORRECTION
Sheet No. 51.

Table 3.

DEPTH (Fms)	#1 Small FRSD			#1 Big FRSD			#1 Small FRx6			#3 Big FRSD		
	Th. Crn.	I.C.	Final Cor'n	Th. Crn.	I.C.	Final Cor'n	Th. Crn.	I.C.	Final Cor'n	Th. Crn.	I.C.	Final Cor'n
12				+0.44	+1.05	+1.49				-0.83	+1.02	+0.19
17				0.88		1.93				-0.07		0.95
22				1.07		2.12				+0.32		1.34
32				1.19		2.24				0.68		1.70
42				1.19		2.24				0.80		1.82
52	+1.38	+1.0	+2.4	1.10		2.15	+1.38	-1.5	-0.1	0.79		1.81
62	1.24		2.2	1.01		2.06	1.24		-0.3	0.75		1.77
82	0.96		1.9	0.79		1.84	0.96		-0.6	0.58		1.60
102	0.65		1.6	0.50		1.55	0.65		-0.9	0.35		1.37
122	0.4		1.4	0.3		1.3	0.4		-1.1	0.1		1.1
152	-0.2		0.8	-0.3		0.7	-0.2		-1.7	-0.4		+0.6
202	-1.1		-0.1	-1.2		-0.2	-1.1		-2.6	-1.3		-0.3
252	-2.0		-1.0	-2.0		-1.0	-2.0		-3.5			
302	-2.8		-1.8	-2.8		-1.8	-2.8		-4.3			
402	-4.4		-3.4	-4.4		-3.4	-4.4		-5.9			
502	-6.3		-5.3	-6.3		-5.3	-6.3		-7.8			

FINAL FATHOMETER CORRECTIONS

HYDROGRAPHIC SHEET FIELD NO. 51.

#3 & 4 Big FRSD		#1 & 2 Big FRSD		#1 Small FRSD		#1 Small FR x 6	
Depth	Cor'n.	Depth	Cor'n.	Depth	Cor'n.	Depth	Cor'n.
14- 19	+1	13- 87 $\frac{1}{2}$	+2	50- 58	+ 2 $\frac{1}{2}$	100-125	-1
19 $\frac{1}{2}$ - 32 $\frac{1}{2}$	+ 1 $\frac{1}{2}$	88-100	+1 $\frac{1}{2}$	58 $\frac{1}{2}$ - 90	+2	126-185	-2
33- 63	+2	101-149	+1	90 $\frac{1}{2}$ -100	+1 $\frac{1}{2}$	186-240	-3
63 $\frac{1}{2}$ -100	+1 $\frac{1}{2}$	150-200	0	101-152	+1	241-305	-4
101-140	+1	201-265	-1	153-210	0	306-365	-5
141-200	0	266-320	-2	211-270	-1	366-430	-6
		321-385	-3	271-335	-2	431-485	-7
		386-440	-4	336-400	-3	486-545	-8
				401-455	-4		
				456-505	-5		

#3 & 4 Big FRSD		#1 Big FRSD	
Depth	Cor'n.	Depth	Cor'n.
11	+0.1	8 $\frac{1}{2}$	+0.8
12	+0.2	9	+0.9
12 $\frac{1}{2}$	+0.3	9 $\frac{1}{2}$	+1.0
13	+0.4	10	+1.1
14	+0.5	10 $\frac{1}{2}$	+1.2
14 $\frac{1}{2}$	+0.6	11	+1.3
15	+0.7	11 $\frac{1}{2}$	+1.4
15 $\frac{1}{2}$	+0.8	12-12 $\frac{1}{2}$	+1.5
16 $\frac{1}{2}$	+0.9	13-13 $\frac{1}{2}$	+1.6
17 $\frac{1}{2}$	+1.0	14-14 $\frac{1}{2}$	+1.7
18 $\frac{1}{2}$	+1.1	15-15 $\frac{1}{2}$	+1.8
19 $\frac{1}{2}$	+1.2	16-17	+1.9
21	+1.3	17 $\frac{1}{2}$ -18 $\frac{1}{2}$	+2.0
23	+1.4	19-21	+2.1
26	+1.5	21 $\frac{1}{2}$ -27	+2.2

An additional correction of 2 $\frac{1}{2}$ fathoms for No. 1 Big is applied for Long Dash or FR x 6.
No. 1 Small FRID = FR x 6.

STATISTICS

HYDROGRAPHIC SHEET FIELD NO. 51

Date	Day	Statute Miles of Soundings	No. of Soundings	No. of Positions
8/28/34	A	38.8	428	68
8/30/34	B	39.8	438	69
9/25/34	C	39.5	347	58
9/26/34	D	105.0	1467	167
9/27/34	E	103.1	1326	171
Totals:	5	326.2	4006	533

CHIEF OF PARTY'S REPORT
OF INSPECTION OF RECORDS AND SHEET.

This sheet was protracted by E. M. Prudames, draftsman,
and the soundings penciled by H. Clarke, Surveyor.

Lieutenant (j.g.) H. J. Healy examined the records and
smooth sheet very carefully, bringing to my attention any
points of doubt or discrepancy for action. Lieutenant Healy
also wrote the descriptive report.



O. W. Swainson,
Chief of Party, C. & G. S.
Commanding PIONEER.

FINAL FATHOMETER CORRECTIONS
SHEET 51

#1 HYD (TUNED)
SMALL OSC.
FR*6

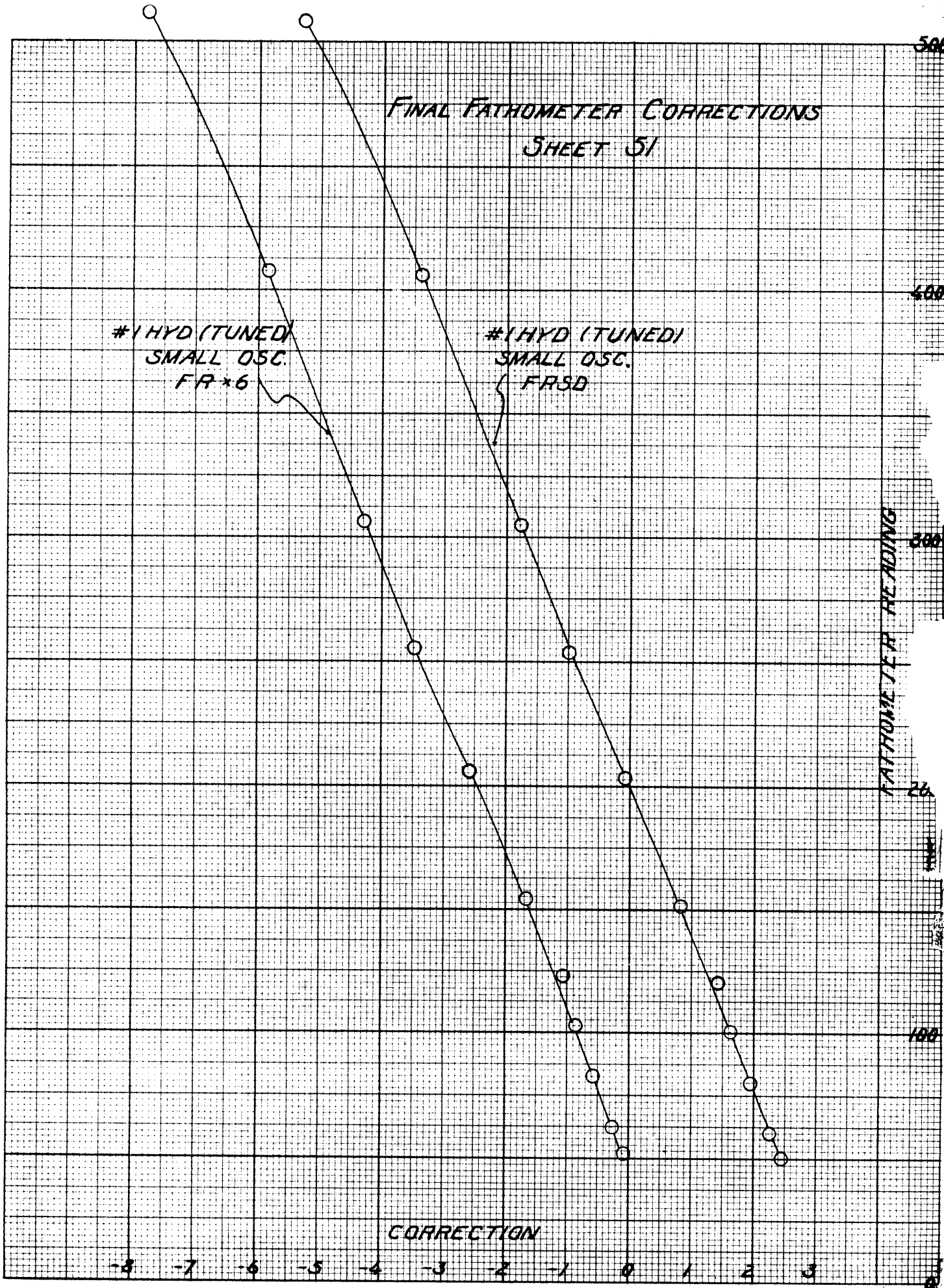
#1 HYD (TUNED)
SMALL OSC.
FRSD

FATHOMETER READING

CORRECTION

-8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3

500
400
300
200
100



Final Fathometer Corrections Sheet 51

#3 Hyd (Navy rat) Big osc.

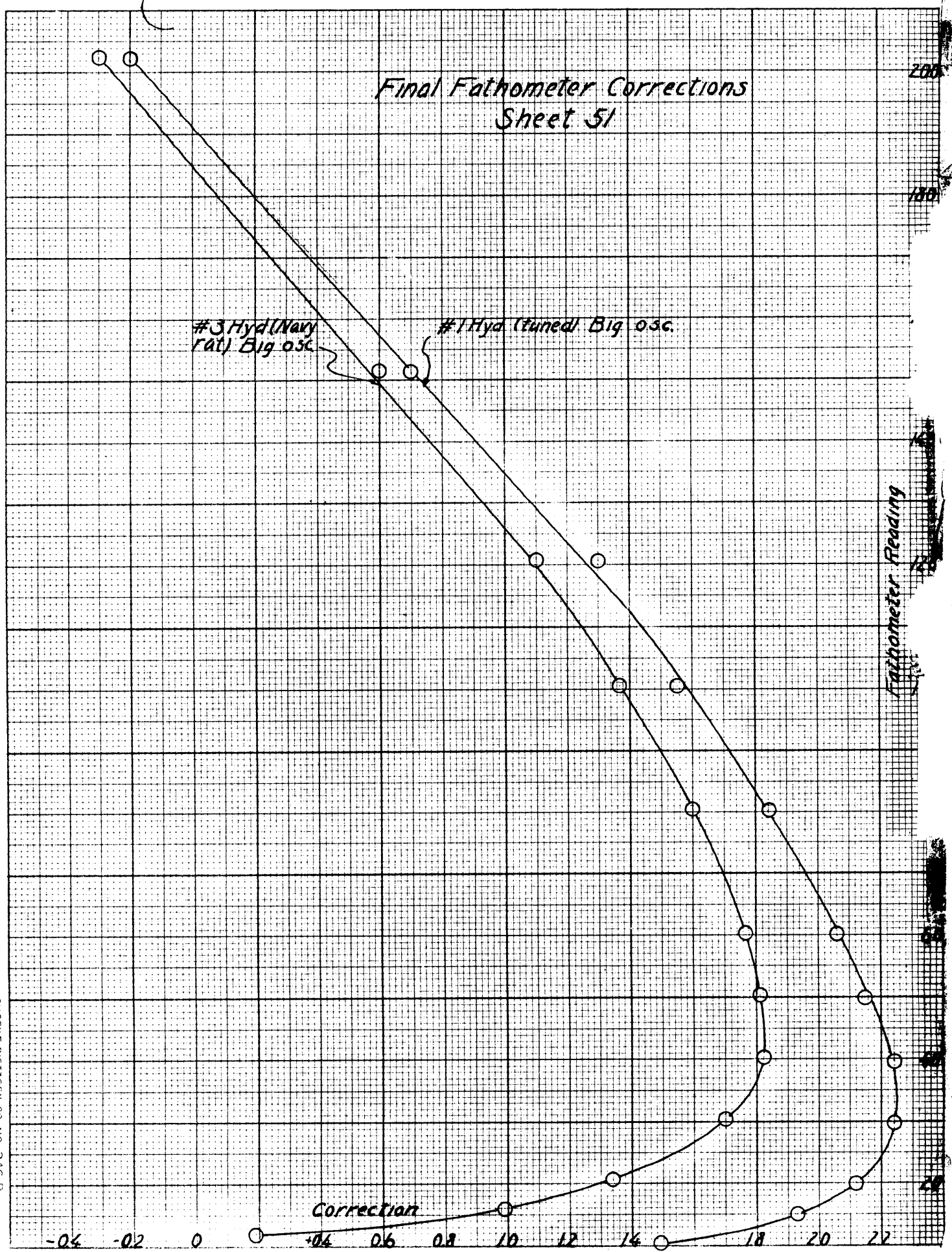
#1 Hyd (tuned) Big osc.

Fathometer Reading

Correction

-0.4 -0.2 0 0.4 0.6 0.8 1.0 1.2 1.4 1.8 2.0 2.2

EUGENE DIEZGEN CO. NO. 346 B



HYDROGRAPHIC SURVEY NO. 5849

Smooth Sheet 1

Boat Sheet 1

Sounding Records 3 Vols. _____

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes in Vol.1

Landmarks for Charts (Form 567) None

Statistics Yes

Approved by Chief of Party O. W. Swainson

Recoverable Station Cards (Form 524) None

Special Chart for Lighthouse Service (Circular Nov. 30, 1933) None *no floating aids*

Remarks _____

Field Records Section (Charts).

HYDROGRAPHIC SHEET NO.5849

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

Number of positions on sheet	.533
Number of positions checked	...36
Number of positions revised	none
Number of soundings recorded	.4006
Number of soundings revised 15
Number of signals erroneously plotted or transferred	none

Date: Nov 21, 1935

Verification by

John G. Reed

Time: 21 hrs,

Review by

R. J. Christman

Time: 6 hrs

Survey No. H5849

GEOGRAPHIC NAMES CALIFORNIA

Date. Aug. 6, 1935

Chart No. 5202

Diagram No. 5202-2

Approved by the Division of Geographic Names, Department of Interior. ✖

Referred to the Division of Geographic Names, Department of Interior. R

Under investigation. Q

Status	Name on Survey	Name on Chart	New Names in local use	Names assigned by Field	Location
	-----	<u>Santa Barbara Channel</u> ✓			
	-----	<u>Point Hueneme</u> ✓			
		APPROVED NAMES UNDERLINED IN RED <i>H. L. F. F. F.</i>			

August 10, 1935.

TIDE NOTE FOR HYDROGRAPHIC SHEET

✓ Division of Hydrography and Topography:

Division of Charts: Mr. E. P. Ellis

Tide Reducers are approved in
3 volumes of sounding records for

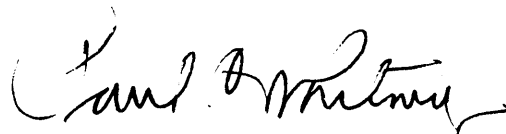
HYDROGRAPHIC SHEET 5849

Locality Offshore Point Hueneme, California.

Chief of Party: O. W. Swainson in 1934
Plane of reference is mean lower low water reading
3.6 ft. on tide staff at Santa Barbara
16.5 ft. below B.M. 1

Height of mean high water above plane of reference is 4.6 feet.

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents.

Verification H-5849

1. Records conform to requirements of Hydro. Manual.
2. Field drafting was excellent. ✓
3. The inking, except overlap and comparative soundings was done by Mr McKenny. except as follows, -
"A", "B" and "C" lay to 39c ~~was a~~ ~~lay~~ position
38E to 60E^{industrial} were inked by the writer.
4. The junctions are complete and satisfactory and are as follows:
H-5030 (1930) on the west and north,
H-5420 (1933) " " East
H-5851 (1934) " " southeast ✓
H-5446 (1933-34) " " south
H-5445 (1933) " " "
5. The survey is on the N.A. (1927) datum and the reference station is adjusted and has been so marked.
6. The reference D Sta. was shown by the field party on the smooth sheet as by the name "Court". The correct name was found to be "Ventura Court House". The correct name is now shown on the smooth sheet.
John B. Hall, Nov. 21, 1935

g Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5849 (1934) FIELD NO. 51

Offshore Point Hueneme, Santa Barbara Channel, California.
Surveyed in Aug. - Sept. 1934
Instructions dated Nov. 18, 1932 (PIONEER)

Fathometer Soundings.

3 Point fixes on shore signals.

Chief of Party - O. W. Swainson.
Surveyed by - O. W. Swainson.
Protracted by - E. M. Prudames.
Soundings penciled by - Harold Clarke.
Verified and inked by - J. G. Ladd and C. F. McKenney.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual.

The Descriptive Report satisfactorily covers all items of importance.

2. Compliance with Instructions for the Project.

The plan and extent of development are in accordance with the instructions for the project.

3. Shoreline and Signals.

This is an offshore sheet and no shoreline is shown on it.

The signals are recovered triangulation stations and topographic stations, the locations for the latter being furnished by the party of C. K. Green from T-4847, T-4817, T-4823, T-4824 and T-4841 surveyed during 1933.

4. Sounding Line Crossings.

Sounding lines cross satisfactorily, the difference generally being less than 4% of the depth.

5. Depth Curves.

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

6. Junction with Contemporary Surveys.

This survey joins H-5420 (1933) and H-5446 (1933-4) on the east, H-5851 (1934-5), H-5446 (1933-4) and H-5445 (1933) on the south, and H-5030 (1930) on the west and north. All the junctions are satisfactory.

7. Comparison with Prior Surveys.

H-1403 (1878).

This survey, scale 1:40,000 is the only prior survey of the area under consideration. Although the general agreement in depth with the present survey is good, the soundings on H-5849 (1934) inside the 100 fathom curve are slightly shoaler (1 to 2 fathoms) while those in the deeper area show depths up to 10 fathoms greater than the above survey. Additional bottom characteristics from H-1403 (1878) have been shown on H-5849 (1934) in color. Because of the closer development on the present survey H-5849 (1934) should supersede the above survey for future charting purposes.

8. Comparison with Chart 5202, (New print dated May 14, 1935).

Hydrography.

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

9. Field Plotting.

The field plotting was very satisfactory.

10. Additional Field Work Recommended.

The survey is complete and no further work is required.

11. Superseding Old Surveys.

Within the area covered, the present survey, with indicated bottom characteristics from the prior survey supersedes the following survey for charting purposes.

H-1403 (1878) in part.

12. Reviewed by R. J. Christman, Nov. 23, 1935.

Inspected by - A. L. Shalowitz.

Examined and approved:

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

L. O. Polbat
Chief, Division of Charts.

F. W. Dun
Chief, Section of Field Work.

Glunde
Chief, Division of H. & T.

Applied to Chart 5114 - Feb 24, 1936 - J. J. Johnson
" " " 5202 - Mar 24, 1936 - R. M. Jesmond

25 June 17, 1936
C.M.F.

Applied to Chart 5101 - May 1936 C.M.F.

Applied to Comp-Chart 5007 - Aug. 24, 1940 - P.B.L.

Completely applied Ch 5120 - HWB - 1/28/58

Soundings added outside 120 ft curve on
Ch 5007 4-10-58 R.K.D. - Chart 5120
used where possible.

