

5671a  
5671b

Form 504  
Rev. Dec. 1933  
DEPARTMENT OF COMMERCE  
U.S. COAST AND GEODETIC SURVEY  
R. S. PATTON, DIRECTOR

## DESCRIPTIVE REPORT

~~XXXXXXXXXX~~ } Sheet No. 7. & 7a  
Hydrographic }

State California

### LOCALITY

California Coast

(a) Point Piedras Blancas to

Ragged Point

(b) WIRE DRAG Vicintty of Point  
Piedras Blancas

1934

CHIEF OF PARTY

F.H. Hardy

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

U. S. COAST & GEODETIC SURVEY  
LIBRARY AND ARCHIVES

FEB 27 1938

Acc. No. \_\_\_\_\_

REG. NO.

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. 7

REGISTER NO. 387.2

State California

General locality California Coast  
Point Piedras Blancas to Ragged Point

Locality Ragged Point to ~~Sandies~~ South of Point Piedras Blancas

Scale 1-10,000 Date of survey Oct. 5--Nov. 22, 19 34

Vessel GUIDE, Gig, and Motorsailer

Chief of Party E. H. Hardy

Surveyed by R.F.A. Studds, I.T. Sanders, and I. R. Rubottom

Protracted by C.A. Kester

Soundings penciled by T.M. Means

Soundings in fathoms feet

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by \_\_\_\_\_

Inked by R. H. Mc Carthy

Verified by L. B. BERES

Instructions dated April 4, 1932 --- May 31, 1934

Remarks: Visual Fix Hydrography. Soundings by Fathometer,  
Wire and Hand Lead.

DESCRIPTIVE REPORT  
to accompany  
HYDROGRAPHIC SHEET FIELD NO. 7  
Project H. T. 184  
Coast of California  
U.S.C. & G.S.S. GUIDE  
1934

INSTRUCTIONS:

Instructions for the hydrography on this sheet are dated April 4, 1932. The work was performed in accordance with the season's instructions dated May 31, 1934.

CHARACTER OF WORK:

The control for the hydrography on this sheet was by means of visual fixes. The soundings were obtained by the fathometer, by the wire, and by the hand lead. Six (6) wire soundings were taken by the ship for comparison with the fathometer.

The depth range is from less than 2 fathoms to 41 fathoms with the majority of the work being inside the 20 fathom curve.

Sounding line spacing is approximately 100 meters inside the 15 fathom curve and 150 to 200 meters outside the 15 fathom curve. Added development was done in shoal areas.

The position interval was usually two to three minutes, with supplemental positions at radical changes of course and speed.

The scale of this sheet is 1:10,000.

LIMITS:

The hydrography on this sheet covers an area of approximately 17 square statute miles, extending from Ragged Point (Latitude  $35^{\circ} 45.5'$ ) to approximately 2 miles south of Point Piedras Blancas (Latitude  $35^{\circ} 38.4'$ ).

The sheet is joined on the north by Launch Sheet Field No. 6 completed during the 1934 season, and on the southeast by Launch Sheet Field No. 11 completed during the 1933 season, and on the west by Ship sheet Field No. 42 and on the south by Ship Sheet Field No. 43 completed in 1933-34.

CONTROL:

Control for the hydrography on this sheet consisted of hydrographic signals over triangulation stations of the 1933 scheme executed by Lieutenant Charles Pierce, plotted on the North American 1927 Adjusted Datum; and topographic signals located by the topographic unit of the party of the Ship Guide.

DATES OF SURVEY:

Work on this sheet began on October 5, 1934 and was completed November 22, 1934.

A small area from Latitude  $35^{\circ} 42'$  to  $35^{\circ} 39.5'$  was dragged on October 19 and 20, 1934. Three soundings were taken on October 19, 1934.

TIDAL REDUCERS:

Tidal reducers for this work were obtained from the San Simeon Portable Automatic Tide Gage.

For further information on the subject of tides the reader is referred to the Season's Tidal Report.

APPARATUS CORRECTIONS:

The apparatus corrections on this sheet were applied only to fathometer soundings. These consisted of corrections for temperature, salinity, and comparative vertical casts.

The leadline and wire sheaves were checked through-out the season and found to be correct.

A report on this subject has been forwarded.

BOTTOM CHARACTERISTICS:

In general the bottom is rocky to the 10 fathom curve. In the shoal areas that were developed beyond the 10 fathom curve the bottom is rocky. In general beyond the 10 fathom curve with the exception of the rocky shoals the bottom is fine grey sand.

DANGERS AND SHOALS:

There is relatively deep water to the limits of the breakers (approximately 3 fathoms). From the breakers in to shore the area is foul with many sunken rocks and rocks awash. The breakers in some places are approximately one half mile off shore.

From the breakers to the 10 fathom curve, there are scattered through-out the length of this sheet, rocks awash, sunken rocks and rocky shoals developed, which are dangerous to navigation. From the 10 fathom curve off shore there appears to be no dangers except as follows.

In Latitude  $35^{\circ} 43.2'$  and Longitude  $121^{\circ} 19.8'$  there is 6 and four sixths fathoms in general depths of 15 fathoms. This is approximately a mile off shore.

In Latitude  $35^{\circ} 41.5'$  and Longitude  $121^{\circ} 18.5'$  there is 2 and five sixths fathoms in general depths of 10 to 12 fathoms. Approximately 500 meters southwest of the above soundings, an 8 fathom shoal was developed. Here the 10 fathom curve is approximately 1 and one third miles off shore.

DANGERS AND SHOALS: (cont.)

In Latitude 35° 41.0' and Longitude 121° 20.1' a rocky pinnacle was found by the wire drag. The least depth on the pinnacle was found to be 11 fathoms. ←

ANCHORAGES:

There are no suitable anchorages on this sheet.

JUNCTIONS:

The junctions with Launch Sheet Field No. 6 on the north completed during the 1934 season, Launch Sheet Field No. 11 on the south-east completed during the 1933 season and Ship Sheet Field No. 42 on the west and Ship Sheet Field No. 43 on the south, completed 1933-34 are uniformly good.

DISCREPANCIES:

The comparisons with Photostat H 1611B are generally good. difference from 1 to 2 fathoms for the most part are the greatest discrepancies except for the shoal areas developed by this survey.

In Latitude 35° 41.5' -- Longitude 121° 18.5' Photostat H 1611B shows 7 fathoms. This survey shows 2 5/6 fathoms. ←

In Latitude 35° 41.0' -- Longitude 121° 20.1' the 11 fathom shoal found by the Drag Party was not found on the previous survey (H1611B). ←

In Latitude 35° 43.2' -- Longitude 121° 19.9'. This survey found 6 4/6 fathoms -- H 1611B shows approximately 14 fathoms. ←

In Latitude 35° 44.<sup>65</sup> -- Longitude 121° 19.<sup>4</sup>' This survey shows a sunken rock located by the hydrographic party in approximately 6 fathoms of water. The previous survey H 1612 shows numerous sunken rocks and a sounding of 10 feet. ← *carried forward.*

It should be noted that numerous sunken rocks and rocks awash were located by the hydrographic party. ~~These rocks are shown in pencil.~~ Additional breakers located by the hydrographic party are also shown in pencil.

BOATS AND EQUIPMENT:

The inshore work was done by I. T. Sanders in charge of the Gig and I. R. Rubottom in charge of the Motorsailer. In general lines beyond the 20 fathom curve were run by the Ship, R. F. A. Studds in charge.

The large oscillator and the port forward hydrophone bank was used for all fathometer soundings.

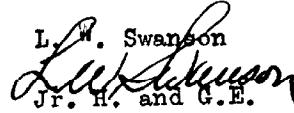
The starboard sounding machine was used for all vertical casts taken for fathometer comparisons.

BOATS AND EQUIPMENT (Cont.):

Angles were taken on the bridge of the ship on the inshore side.

Respectfully submitted,

L. W. Swanson

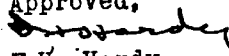


Jr. H. and G.E.

Coast and Geodetic Survey

Forwarded

Approved,



F. H. Hardy

H. and G.E.

Coast and Geodetic Survey



STATISTICS  
to accompany  
LAUNCH SHEET NO. 7

Date	Day	No. of Sdgs. Mach.	No. of Pos. H.L.	No. of Pos. Mach.	No. of Pos. H.L.	Stat. Miles of Soundings Mach.	Stat. Miles of Soundings H.L.	Stat. Miles to and from	Boat	V.C.
------	-----	-----------------------	---------------------	----------------------	---------------------	--------------------------------------	-------------------------------------	----------------------------	------	------

10-5	a		503		132		14.5	1.0	M. S.	
10-6	b		674		180		21.2	1.5	"	
10-7	c	161	263	71	73	10.5	12.0	0.4	"	
10-8	d	446	28	177	13	27.0	1.3	0.7	"	
10-25	e		648		173		20.4	1.8	"	
10-26	f	191	274	113	115	9.4	10.0	2.5	"	
10-30	g	102	24	59	10	5.15	0.8	2.0	"	

Total for										
M. S.		900	2414	420	696	52.05	80.2	9.9		

10-6	a	254		138		17.0		6.5	Gig	
10-7	b	170	8	119	8	10.25		6.0	"	
10-8	c	286		162		21.6		3.0	"	
10-19	d	175		95		10.4		5.5	"	
10-20	e	240		123		14.2		5.5	"	
10-25	f	424		212		20.8		2.0	"	

Total for										
Gig		1549	8	849	8	94.25		28.5		

Total for										
Launches		2449	2422	1269	704	146.3	80.2	38.4		

		Fath. R.L.D.	Fath. R.L.D.	Fath. R.L.D.			
10-26	A	1021	187	49.6	0.5	Ship	6
10-30	B	263	52	12.8		"	
11-22	C	127	26	5.5	49.8	"	

Total for							
Ship		1411	265	67.9	50.3		6

		Mach. & H.L. Fath.	Mach. & H.L. Fath.	Mach. & H.L. Fath.			
Total for		2449	2422	1269	704	146.3	80.2
Sheet		1411	265	67.9		50.3	6
		3860	2422	1534	704	214.2	80.2
						88.7	6

Area of Hydrography 17.0 square statute miles.

LIST OF SIGNALS  
to accompany  
HYDROGRAPHIC SHEET FIELD NO.7

TRIANGULATION

Hydrographic Name	Location
Hi	Large White Rock off Luis, 1933
Ged	Sharp Rock off Ragged Point, 1933
Rag	Ragged Point, 1873, 1932
Mile	Large Rock $\frac{1}{2}$ Mile South of Ragged Point, 1933
Sharp	Sharp Rock off Breaker Point, 1933
China	China, 1932, 1933
La	La Cruz Rock, 1933
Cruz	La Cruz, 1873, 1932
Tank	Evans Water Tank, 1933
Way	Hiway, 1932, 1933
Cas	Blancas, 1932
Blan	Piedras Blancas Lighthouse, 1873-90, 1932
Off	Large Rock off Lighthouse, 1933
Larg	Large Rock South of Lighthouse, 1933
Reef	Reef, 1932, 1933

TOPOGRAPHIC

Name	Topo Sheet	Name	Topo Sheet
Lit	F	Mix	G
Beach	F	Log	G
San	F	Gun	G
Point	F	Fox	G
Bac	G	Ex	G
Gul	G	Dud	G
Kip	G	Sig	G
Cup	G	Cop	G
Ax	G	Box	G
Ban	G	Sin	G
Rod	G	But	G
Quit	G	Grey	G
On	G	All	G
Nun	G		



Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5671a (1934) - FIELD NO. 7

Point Peidras Blancas to Ragged Point, California  
Surveyed in October - November, 1934  
Instructions dated April 4, 1932 - May 31, 1934 (GUIDE)

Hand Lead, Machine, and Fathometer Soundings - 3 Point Fixes on Shore  
Signals.

Chief of Party - F. H. Hardy.  
Surveyed by - R. F. Studds, I. T. Sanders, I. R. Rubottom.  
Protracted by - C. A. Kester.  
Soundings penciled by - T. M. Means.  
Verified and Inked by - L. B. Beres.

1. Condition of Records.

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

- a. No copy of Landmarks for Charts on Form 567 accompanied this particular sheet. Landmarks for area submitted.
- b. Reduced soundings in Vol. 4 and 5 were confusing due to recorder not properly indicating change from tenths of fathoms to feet.
- c. In a portion of the sounding records the reduced soundings were too faint. A softer pencil should have been used.
- d. Abrupt changes in depth, as at 138f (blue) where a single shoal sounding was recorded, should be okeyed at the time by the recorder.

The Descriptive Report is clear and comprehensive and adequately covers all matters of importance.

2. Compliance with Instructions for the Project.

The plan, extent and development of the survey comply with the instructions for the project, except that no general system of cross lines was run (par. 20, Instructions of April 4, 1932).

3. Sounding Line Crossings.

Crossings which occur on the sheet, as well as adjacent lines, are in excellent agreement.

4. Depth Curves.

The usual depth curves may be drawn within the limits of the survey, including most of the five fathom curve.

5. Junctions with Contemporary Surveys.

The junctions with H-5476 (1933) and H-5566 (1933) on the south, H-5567 (1934) on the west, and H-5642 (1934) on the north are excellent.

The contemporary wire drag examination, H-5671b (1934), covered a strip approximately a mile wide in an area outside the fifteen fathom curve from lat.  $35^{\circ}39.7'$  to lat.  $35^{\circ}42.0'$ , with an effective depth of 52 to 66 feet. The depths developed by hydrography are consistent with the effective depths of the drag.

6. Comparison with Prior Surveys.

a. H-290 (1851).

This was a reconnaissance only, on a small scale, but considering the great difference in scale, the few soundings falling within the area of the present survey are in fair agreement.

b. H-1611b (1884) and H-1612 (1884).

These surveys, on a 1-10,000 scale, cover the area of the present survey with fair development, and are in excellent agreement with it. The shoreline is very foul with many sunken rocks and rocks awash at considerable distances offshore. The present survey is more detailed and located numerous additional rocks and shoals. However, owing to the irregularity of the bottom and the fact that apparently these prior surveys were accomplished under more favorable weather conditions, numerous shoaler soundings and a number of rocks are shown on these surveys inside the present breaker line.

These soundings, inside the present limits of hydrography, appear in agreement with the present limiting lines and should be retained for any future large scale charting. This applies particularly to the small boat lee behind La Cruz Rock at lat.  $35^{\circ}42.5'$ , long.  $121^{\circ}18.6'$ .

Because of the number of inshore rocks and general foul area along this coast, only the outer rocks have been considered in this review. The others lying close inshore will be disposed of in the reviews of the contemporary <sup>topographic</sup> sheets, T-4850 (1934), T-4890 (1934), and T-4891 (1934).

The present designation for rocks awash was not followed and there was a more general use of the ledge symbol, as at lat.  $35^{\circ}40.75'$  and lat.  $35^{\circ}43.7'$ , where the present survey shows an area of rocky tips. In general, however, there is a very good agreement with the present survey.

Numerous shoaler soundings where the surrounding depths were in accord with the present ones and which were not disproved by the present survey were carried forward to H-5671a (1934).

The following were not carried forward:

- (1) The 2 rocks awash at lat.  $35^{\circ}41.45'$  and  $41.55'$ , long.  $121^{\circ}18.05'$  were considered to be erroneous interpretations of notes in the sounding record at pos. 17k (blue) referring to one rock which appears on H-5671a (1934).
- (2) Two sunken rocks at lat.  $35^{\circ}40.7'$  were plotted from notes in the sounding record (pos. 13e, green) which upon investigation were found to refer to the same rock, so that one rock only was carried forward.
- (3) A rock awash at lat.  $35^{\circ}42.7'$ , long.  $121^{\circ}19.0'$  was due to erroneous plotting of pos. 50e, green. Correctly plotted, this rock agrees with a rock awash on H-5671a (1934).
- (4) The wreck inshore at lat.  $35^{\circ}43.0'$ , long.  $121^{\circ}19.0'$  is now gone. See Descriptive Report of contemporary topographic sheet, T-4891 (1934).
- (5) The 3-1/4 fathom sounding (uncharted) at lat.  $35^{\circ}45.05'$ , long.  $121^{\circ}19.30'$  is an incorrect plotting of a 5-1/4 fathom sounding from H-1612 (1884) (pos. 4a, blue).

c. H-2076 (1890-91).

This survey, on a 1-20,000 scale, shows a single line of soundings normal to the beach at the northern edge of the present survey and this is in good agreement.

7. Comparison with Chart No. 5302.

a. Hydrography.

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.

b. Erroneous Sounding.

The 2 fathom sanded spot charted in lat.  $35^{\circ}44.3'$ , long.  $121^{\circ}19.4'$  is apparently a mischarting of the 2 foot sounding shown on H-1611b (1884) (pos. 6a to pos. 7a) in lat.  $35^{\circ}44.15'$ , long.  $121^{\circ}19.35'$ , since no other authority could be found for it. This sounding should be changed to 2/6 fathoms on the chart and its position should be shifted to conform to H-1611b (1884).

c. Aids to Navigation.

There are no floating aids to navigation within this area.

8. Field Plotting.

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

9. Additional Field Work Recommended.

This survey is complete, and no additional hydrography is required. However, in view of the irregularity of the bottom and the number of pinnacles being found by the wire drag on this coast, it is advisable to drag the area not covered by H-5671b, from the 20 fathom curve as far inshore as practicable.

10. Note to Compiler.

Attention is called to the erroneous 2 fathom sounding on chart 5302 at lat. 35°44.3', long. 121°19.4' discussed under par. 7b of this review.

11. Superseding Old Surveys.

Within the area covered the present survey, with the indicated additions from the previous surveys, supersedes the following surveys for charting purposes:

H- 290	(1851)	in part.	
H-1611b	(1884)	" "	(Except in areas between the shore-
H-1612	(1884)	" "	line and inshore limits of present
H-2076	(1890-91)	" "	survey).

12. Reviewed by - Harry T. Kelsh and R. L. Johnston, June 12, 1935.

Inspected by - A. L. Shalowitz.

Examined and approved:

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

*B. Borden*  
Chief, Section of Field Work.

*L. O. Lobnitz*  
Chief, Division of Charts.

*G. H. de*  
Chief, Division of H. & T.

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

U. S. COAST & GEODETIC SURVEY  
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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. 7a

REGISTER NO. 5671b

State California

General locality California Coast

Locality Vicinity of Point  
~~Regged Point to Piedras Piedras Blancas Point~~

Scale 1--10,000 Date of survey Oct. 19, 20, 19 34

Vessel Point Reys and Florence

Chief of Party F. H. Hardy

Surveyed by G. C. Jones

Protracted by C. A. Kester

Soundings penciled by \_\_\_\_\_

Soundings in fathoms ~~-feet-~~ Drag Depths in Feet

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by \_\_\_\_\_

Inked by R. H. Mc Carthy

Verified by Jame Cornick

Instructions dated April 4, 1932 May 31, 19 34

Remarks: Positions by visual fix. This sheet is  
supplemental to Hydrographic Launch Sheet Field No. 7, 1934

H 5671a

SUPPLEMENTAL WIRE DRAG DATA

In Latitude  $35^{\circ} 41'$ --Longitude  $121^{\circ} 20.3'$  [Reference Page 83 Fifth Edition 1934 Coast Pilot California, Oregon, and Washington) a breaker is reported to have been seen in heavy westerly swell about 3 miles (W  $\frac{1}{2}$  N mag.) from Piedras Blancas Light-house. The least depth found on subsequent search was 14 fathoms (25.6 m)].

Considerable time was spent developing the above shoal indication and 13 fathoms was the least depth found by the hydrographic party.

Because of the importance of this shoal, as it is in the steamer lanes, it was deemed necessary to drag this area in order to verify the depths found by the hydrographic party.

On October 19, 1934 this area was dragged. The Drag used was made up of sixteen five hundred foot sections set at an effective depth including lift for swell of 66 feet.

The Drag grounded between buoys No. 7 and No. 8 after approximately 50 minutes of dragging. Here soundings were taken. The least depth found was 11 fathoms. Only one of the three soundings recorded is plotted.

In order to be more certain that the only possible shoal in this location was found the area was covered again on October 20, 1934. The same length of drag was set out with an effective depth of 58 feet. There was no grounding on this day's work.

It is felt that the shoal referred to in the above mentioned Coast Pilot is developed and that the least depth was found.

Because this was supplemental to the hydrographic survey, and not feasible to plot on an insert <sup>of 1/2</sup> hydrographic sheet it has been plotted on a separate sheet. The hydrographic boat sheets were used in the field for this work. Wire drag records were made in the usual manner, and are forwarded with the launch sheet.

This work was done by the Wire Drag Party of the Ship GUIDE, Commander Jones in charge using the chartered launches POINT REYS and FLORENCE.

*L. W. Swanson*

L. W. Swanson,  
Jr. H & G Engineer,  
C. & G. Survey.

Approved:

Forwarded:

*F. H. Hardy*  
F. H. Hardy,

Chief of Party, C. & G. S.;

Commanding Ship GUIDE.

*Note: Above soundings have been copied from  
Tender Record into Sounding Vol #3 Pages 44-45 Launch  
Sheet Field No. 7*

LIST OF SIGNALS  
to accompany  
WIRE DRAG WORK ON  
HYDROGRAPHIC SHEET FIELD NO. 7a

TRIANGULATION

Hydrographic Name	Location
China	China, 1932, 1933
La	La Cruz Rock, 1933
Cruz	La Cruz, 1873, 1932
Tank	Evans Water Tank, 1933
Way	Hiway, 1932, 1933
Blan	Piedrag Blancas Lighthouse, 1883-90, 1932
Larg	Large Rock South of Lighthouse, 1933

TOPOGRAPHIC

Fox	Topo Sheet G, 1934
Ex	"
Dud	"
Sig	"
Box	"
But	"
Grey	"
All	"

STATISTICS FOR WIRE DRAG WORK, HYDROGRAPHIC SHEET 7a

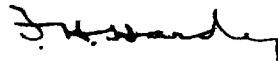
Day	Miles	Positions
A	1.5	22
B	3.5	55
Total	5.0	77

STATEMENT  
to accompany  
HYDROGRAPHIC SHEET FIELD NO. 7.-7a

The smooth plotting on this sheet was done by Mr. C. A. Keaster, Draftsman, and the pencilling of the soundings was done by Mr. T. M. Means, Draftsman, under the general supervision of Lieutenant (j.g.) L. W. Swanson.

Lieutenant Swanson has drawn the depth curves.

The completed smooth sheet has been inspected and is approved.



F. H. Hardy,  
Chief of Party, C. & G. Survey,  
Commanding Ship GUIDE.

Oakland, California.



5671a

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. 5671a

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

Number of positions on sheet	224.
Number of positions checked	246.
Number of positions revised	0.
Number of soundings recorded	6285
Number of soundings revised	41. + 117 fractions on 10 fathom soundings
Number of signals erroneously plotted or transferred	0.

Date: May 3, 1935

Verification by L. B. BERES

Time: 72 hrs

Review by H. T. Welsh

Time: 25 1/2 hrs

H-5671-b

Verification by

J. A. McCormick

Time 1 1/2 hrs

Review by

H. T. Welsh

Time 2 1/2 hrs

## VERIFIERS

## REPORT

REPORT ON H-5671a

SURVEYED OCT. 5 - NOV. 22 1934

CHIEF OF PARTY F.H. HARDY

SURVEYED BY- R.F.A. STUDDS, I.T. SANDERS

L.R. RUBOTTOM.

PROTRACTED BY C.A. KESTER.

SOUNDINGS PLOTTED BY T.M. MEANS.

VERIFIED and INKED BY - L.B. DERES

1. The records conform to the General Instructions
2. The usual depth curves <sup>including</sup> ~~with the exception of~~ the ten fathom curve cannot be drawn. <sup>and portions of the 5-fm curve</sup>  
The numerous rocks and the prevalence of breakers made it impossible to obtain the soundings necessary for the completion of the curves. ←
3. The field plotting was complete. ←
4. The drafting was complete & satisfactory ←
5. The junction with H-5476 is <sup>excellent</sup> ~~satisfactory~~ ←  
the junction with H-5642 (~~unavailable~~)  
<sup>is excellent</sup>
6. Remarks:

The soundings between fms 78b and 79b Vol I page 36 were not plotted because of inability to determine exact position of soundings due to stopping of boat and a faulty portul reading. ←

A prospective small boat anchorage was developed between fms 92c and 93c off signal bog and the Cruz Rock. ←

Soundings between fms 95c and 96c were

plotted in reverse order, these were corrected to conform to records.

Rock awash 60 m to foot off 145 f Vol V page 62 with an angle given in remarks column was interpreted as a cut on the rock referred to and coincided with a rock plotted on Topo. sheet. (at 45 to 144 f)

Vol V Sounding Records Pages 22-71 inclusive reduced soundings were too faintly recorded, a softer pencil should have been used.

Reduced soundings Vol IV and V sounding records were confusing because of recorder's oversight in not properly indicating the transformation from tenths of fathoms to feet, by crossing out the terms at the column heads which were not applicable to soundings.

Signal BOT which is a significant rock with a twenty foot elevation was omitted by the smooth sheet plotter.

Respectfully submitted

H. B. Beres.

May 3, 1935.

Verifier's Report on H-5671 b.

Records:

Records are complete except for the fact that soundings taken on shoal are recorded in records for H-5671 a. No bottom characteristics shown in record. ↙

Drafting:

Drafting is excellent. Field draftsman did not plot depth change at positions 21-23 B quite right but the error is small and is on the safe side so verifier did not change it. ↙

Remarks:

Towline lengths and length of drag were checked by verifier. Five positions were checked and all were O.K. ↙

June 12, 1935. Submitted,  
Jamel Cornick

Time: 1 1/2 hrs.

REPORT ON FATHOMETER CORRECTIONS.

1934.

Project H. T. 184

**SHEAVE CORRECTION:** During the 1934 field season only one sounding machine was used for taking vertical casts. This was the starboard machine, using Sheave No. H 319, with stranded wire. On November 17, 1934, this sheave was tested for a measured length of wire and found to be correct.

**THERMOMETER CORRECTIONS:** The thermometers used for the air, surface water, and deep sea temperatures were corrected from the data received from the Bureau of Standards. Curves were drawn and the corrections were applied to the readings.

**ABSTRACT AND CORRECTIONS, THERMOMETER CORRECTIONS AND SALINITIES:**  
Complete temperature and salinity data was abstracted from the field records and grouped under each field sheet. The maximum depth at which temperatures were taken was 220 fathoms.

**TEMPERATURE CURVES:** Temperature observations for the 1934 season were not sufficiently numerous to construct monthly temperature curves. Instead, a seasonal average curve was drawn. To compensate for the lack of sufficient data the 1933 average temperature curve was plotted in order to use it for the deeper depths where the seasonal variation in temperature is slight. This curve was plotted because during the 1933 season an extremely large number of temperatures were taken at all depths down to 1900 fathoms and a good average curve could be drawn which could be used for the 1934 season's temperatures below depths of 100 fathoms.

It should be noticed that two average 1934 curves have been drawn; one to be used for Ship Sheet 42 and the other to be applied to all ship work on all launch sheets of the current season. The average temperature curve for Sheet 42 was drawn from temperatures available in the earlier part of the season and was used because this sheet was sent in ahead of completed temperature data for Fathometer corrections. Also, in checking mean temperatures and salinities in the computation of Fathometer correction factors for Sheet 42, the weighted mean, where the depth layers jump from 95 - 100 to 120 fathoms was not taken, because for the most part, only shallow depths were encountered on this sheet except for a few cross lines which check quite well even if the shoal temperatures have been given greater weight. However, for all the rest of the ship work, instructions in the Hydrographic Manual were rigidly followed, and weighted means were used throughout.

To show temperature variations over a period of three years on the California Coast from San Francisco to Estero Bay, a monthly average curve for 1932 and 1933 for each month worked has been drawn, and each temperature taken in 1934 has been plotted on this sheet. This has been done for depths ranging to 170 fathoms at which point all curves begin to come in agreement. At this depth there is approximately half a degree range in the three year period. No real conclusions have been drawn because there is no set of longer than ten months, and it is felt that the data obtained is a matter of interest only.

**SALINITY CURVE:** This season salinity determinations were few in number due to the lack of ship work. Determinations of surface salinities, only, have been made, though a few sub-surface water samples have yet to be submitted to the Scripps Institute for analysis. To get sub-surface salinities the 1933 average salinity curve was plotted and used for this season's determinations. Surface salinities for both years agree quite well, though this year no correction was made for the hydrometer reading as in previous years due to the fact that no check could be made with a standard.

**COMPUTATION OF VELOCITY CORRECTIONS:** This table was constructed in the following manner;- Mean temperatures and salinities were computed by taking the sum of the observed temperatures and salinities down to the depth desired and calculating the mean weighted value of this sum.

To arrive at the Fathometer correction factor for the depth desired the mean temperature and salinity were read at that depth.

The correction to the Fathometer is obtained by multiplying the depth by the factor.

To obtain the point (depth) at which a change in correction occurs the following method was used:

Change points occur 0 to 0.02 fms. = 0 correction  
 0.02 - 0.12 " = 0.1 fm.  
 0.12 - 0.22 " = 0.2 fm., etc.

Example:

Depth	x	Correction factor	=	Correction to Fathometer.
77 fms.		0.0026		0.200
82 fms.		0.0028		0.230
	82 fms.	0.230		
		0.220		
	77 fms.	0.200		
Difference of 5 fms.		$\frac{20}{30}$	x 5 =	$\frac{100}{30}$ = 3.33 fathoms.

Add 3.33 fathoms to 77 fathoms making 80 fathoms, the point at which the correction becomes 0.3 fathom.

DIAL SPEED CORRECTION: No dial speed tests have been made this season. The 1932 dial speed of the Fathometer was 247.8 r.p.m. for red light direct. The 1933 dial speed was 247.5 r.p.m. for red light direct. The action of the middle reed and governor are such that the speed this season will no doubt be very close to the results of either 1932 or 1933. In other words, since the setting of the middle reed has not been changed we concluded that it was possible to use the 1933 dial speed correction. This is included in the report.

ABSTRACT OF FATHOMETER COMPARISONS: An abstract of wire soundings compared with Fathometer soundings corrected for velocity and dial speed is included in this report.

Fathometer soundings on any one hydrographic sheet were confined to only a few days work during, say, a single trip. Thus all wire comparisons and subsequent index correction can be computed separately for each sheet in a very simple manner. For any one sheet all factors, such as draft of ship, trim, and oscillator or hydrophone used, are the same for all work on that sheet. This being the case the average difference between the corrected Fathometer soundings and the wire soundings has been taken as the index correction for that sheet.

Where work has been done on two or more sheets during a single day, that days Fathometer comparisons have been used for each sheet worked.

COMBINED FATHOMETER CORRECTIONS: For each separate hydrographic sheet there were three separate Fathometer corrections combined. Each sheet had the same velocity correction and dial speed correction, except in a few cases where red light x 6 soundings were taken, whence a different dial speed correction had to be included. Each sheet had a different index correction, and this combined with the velocity and speed correction was used to reduce the Fathometer soundings for each sheet worked during the season.

Respectfully submitted,

*Allen E. Logan*

G. E. Logan  
Surveyor,

Coast and Geodetic Survey

Forwarded, approved:

*F. H. Hardy*

F. H. Hardy, Chief of Party,  
Coast and Geodetic Survey.

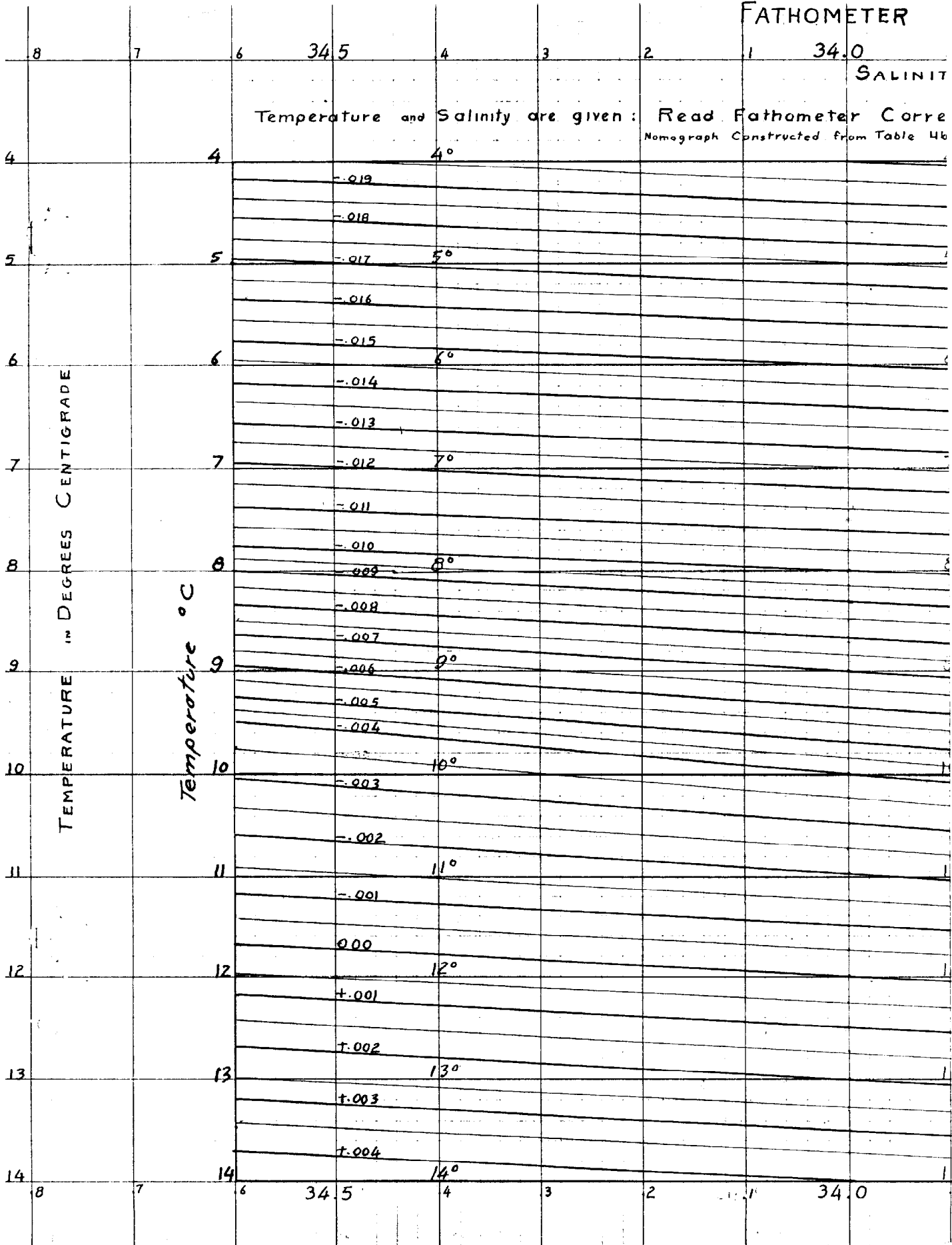




FATHOMETER CORRECTION  
FACTOR

CURVE

# FATHOMETER



# CORRECTION FACTOR

9	8	7	6	33 5	4	3	2	1	33 0
Y IN PARTS PER THOUSAND									
Correction Factor on slanting lines. Factor X Depth (fms.) = Correction (fms.)									
Page 159 Hydrographic Manual.									
4°	-020			4°					4
	-019							-020	
5°	-018			5°					5
	-017							-018	
	-016							-017	
6°	-015			6°					6
	-014							-015	
	-013							-014	
7°	-012			7°					7
	-011							-012	
	-010							-011	
8°	-009			8°					8
	-008							-009	
	-007							-008	
	-006							-007	
	-005							-006	
9°	-004			9°					9
	-003							-004	
	-002							-003	
	-001							-002	
10°	000			10°					10
	+001							000	
	+002							+001	
	+003							+002	
11°	+004			11°					11
								+003	
								+004	
12°				12°					12
								000	
								+001	
								+002	
13°				13°					13
								+001	
								+002	
								+003	
14°				14°					14
								+001	
								+002	
								+003	
9	8	7	6	33 5	4	3	2	1	33 0

Prepared by GEL.



## SPEED AND VELOCITY CORRECTIONS LAUNCH SHEETS (continued)

Sum (index corrections have not been applied)

Red Light Direct Depth Fms.	Corr. Fms.	Red Light x 6 Depth Fms.	Corr. Fms.
202	-2.6	236	-3.6
204	-2.7	239	-3.7
211	-2.8	245	-3.8
219	-2.9	251	-3.9
222	-3.0	252	-4.0
225	-3.1	259	-4.1
232	-3.2	260	-4.2
239	-3.3	266	
241	-3.4		
245	-3.5		
252	-3.6		
259			

ABSTRACT OF FATHOMETER COMPARISONS

Ship Work on 1934 Launch Sheets

Sheet No	Pos. No.	Date: 1934	Vol. & Page	Depth by: Fath.	Corrections: Speed Vel.:	Corrected: Fath. Rdg.	Depth by: Wire	Diff:								
1	6-A	6-24	1-5	31.5	-0.2 0	31.3	31.5	+0.2								
				35	-0.2 0	34.8	34.3	-0.5								
				37.1	-0.2 0	36.9	37	+0.1								
				37.5	-0.2 0	37.3	37.7	+0.4								
				38	-0.2 -0.1	37.7	37.9	+0.2	Index Corr.							
	72-A	6-24	1-16	18	-0.1 +0.1	18	17.7	-0.3	-0.1 Fm.							
				18.9	-0.1 +0.1	18.9	18.6	-0.3								
				19	-0.1 +0.1	19	18.9	-0.1								
				19.4	-0.1 +0.1	19.4	19.1	-0.3								
				19.3	-0.1 +0.1	19.3	19.1	-0.2								
	40-A	6-24	1-11	222	-1.5 -1.8	218.7	222	+3.3								
				2	1-A	8-18	1-5	126	-0.7 -0.7	124.6	124	-0.6	Index Corr.			
								126-A	8-18	1-27	46.7	-0.3 -0.1	46.3	46.9	+0.6	+0.1 Fm.
											46	-0.3 -0.1	45.6	46.4	+0.8	See also Pos
											44	-0.2 -0.1	43.7	44	+0.3	73 R Sheet
43.7	-0.2 -0.1	43.4	44.2								+0.8	42				
43.9	-0.2 -0.1	43.6	43.6	0												
	48-B	8-23	1-38	207	-1.4 -1.6	204.0	213	+9.0	RLx6							
				3	80-A	8-19	1-7	39.5	-0.2 -0.1	39.2	38.9	-0.3	Index Corr.			
								47	-0.3 -0.1	46.6	47.7	+1.1	-0.5 Fm. See			
								39.5	-0.2 -0.1	39.2	39.8	+0.6	also Pos. 87			
								37.5	-0.2 0	37.3	36.8	-0.5	C sheet 5 &			
36	-0.2 0	35.8	35.9					+0.1	Pos. 9V Sheet 42							
4	80-A	8-22	1-18	24.7	-0.1 0	24.6	24.6	0								
				26	-0.2 0	25.8	25.3	-0.5								
				26.2	-0.2 0	26.0	25.4	-0.6								
				25.8	-0.2 0	25.6	25.3	-0.3	Index Corr.							
				25.8	-0.2 0	25.6	25.4	-0.2	-0.1 Fm.							
	19-D	9-14	1-54	1-54	26	-0.2 0	25.8	25.7	-0.1	See Pos.						
					32.5	-0.2 0	32.3	32.1	-0.2	54 D Sheet						
					32	-0.2 0	31.8	31.4	-0.4	6						
					31.8	-0.2 0	31.6	31.3	-0.3							
					32	-0.2 0	31.8	31.6	-0.2							
5	1-A	9-7	1-4	33.5	-0.2 0	33.3	34.7	+1.4								
				33	-0.2 0	32.8	31.8	-1.0	Index Corr.							
				30	-0.2 0	29.8	29.5	-0.3	-0.5 Fm. See							
				29.5	-0.2 0	29.3	28.9	-0.4	also Pos 9V,							
				29	-0.2 0	28.8	28.9	+0.4	Sheet 42.							
	91-B	9-9	1-20	1-20	29.5	-0.2 0	29.3	27.4	-1.9							
					38	-0.2 -0.1	37.7	38.2	+0.5							
					38	-0.2 -0.1	38.7	37.4	-0.3							
					37.5	-0.2 0	37.3	36.4	-0.9							
					36	-0.2 0	35.8	36.0	+0.2							
				36	-0.2 0	35.8	36.1	+0.3								
				36	-0.2 0	35.8	34.9	+0.1								
				35	-0.2 0	34.8	34.9	+0.1								



ABSTRACT OF FATHOMETER COMPARISONS  
Ship Work on 1934 Launch Sheets

Sheet No.	Pos. No.	Date	Vol. & Page	Depth by Fath.	Corrections Speed	Vol. Fath.	Corrected Rdg.	Depth by Wire	Diff.	
5	B7-C	9-11	1-51	27	-0.2	0	26.8	25.8	-1.0	
				26.2	-0.2	0	26.0	25.2	-0.8	See also
				26.5	-0.2	0	26.3	25.4	-0.9	Sheet 3
				26.7	-0.2	0	26.5	25.3	-1.2	
				26.2	-0.2	0	26.0	25.3	-0.7	
				25.7	-0.2	0	25.5	24.9	-0.6	



ABSTRACT OF FATHOMETER CORRECTIONS  
*Comparisons*

Ship Sheet 42

Sheet No.	Pos. No.	Date 1934	Vol. & Page	Depth by Fathometer	Corrdotions Speed	Vel.	Corrected Fath. Rdg.	Depth by Wire	Difference	
42	73-R	8-24	3 - 66	40.2	-0.2	-0.1	39.9	39.9	0	Also
				42	-0.2	-0.1	41.7	40.3	-1.4	on
				42	-0.2	-0.1	41.7	41.1	-0.6	Sheet
				42	-0.2	-0.1	41.7	41.5	-0.2	2
				42.5	-0.2	-0.1	42.2	42.4	+0.2	
				44.5	-0.2	-0.1	42.2	43.8	+1.6	
18-S	9-6	4 - 7		28	-0.2	+0.1	27.9	28.4	+0.5	
				28.2	-0.2	+0.1	28.1	27.8	-0.3	
				28.5	-0.2	+0.1	28.4	28.3	-0.1	
				28.5	-0.2	+0.1	28.4	28.7	+0.3	
				28.5	-0.2	+0.1	28.4	28	-0.4	
				28.7	-0.2	+0.1	28.6	28.7	+0.1	
21-U	9-8	4-20		45	-0.3	-0.1	44.6	44.4	-0.2	
				45.2	-0.3	-0.1	44.8	44.6	-0.2	
				45	-0.3	-0.1	44.6	44.5	-0.1	
				45	-0.3	-0.1	44.6	44.5	-0.1	
				44.5	-0.2	-0.1	44.2	43.9	-0.3	
				44.5	-0.2	-0.1	44.2	44	-0.2	
9-V	9-11	4 - 29		27.5	-0.2	+0.1	27.4	26.7	-0.7	
				27	-0.2	+0.1	26.9	25.6	-1.3	also
				26.5	-0.2	+0.1	26.4	25.6	-0.8	on
				26	-0.2	+0.1	25.9	25.4	-0.5	Sheets
				25.8	-0.2	+0.1	25.7	25.3	-0.4	3 &
				25.5	-0.2	+0.1	25.4	25.5	+0.1	5

Index Correction -0.2 Fathoms.

COMBINED FATHOMETER CORRECTIONS

Index + Speed + Velocity

Red Light Direct					
Sheets	1,4,10	2	3,5	6,7	9 11
Depth	Index				
Fms.	-0.1	+0.1	-0.5	0	+0.6 +0.3
Corrections, Fms.					

Red Light x 6					
Sheets	1,4,10	2	3,5	6,7	9 11
Depth	Index				
Fms.	-0.1	+0.1	-0.5	0	+0.6 +0.3
Corrections, Fms.					

0					
11	-0.2	0	-0.6	-0.1	+0.5 +0.2
22	-0.1	+0.1	+0.5	0	+0.6 +0.3
25	-0.2	0	-0.6	-0.1	+0.5 +0.2
38	-0.3	-0.1	-0.7	-0.2	+0.4 +0.1
45	-0.4	-0.2	-0.8	-0.3	+0.3 0
59	-0.5	-0.3	-0.9	-0.4	+0.2 -0.1
65	-0.6	-0.4	-1.0	-0.5	+0.1 -0.2
78	-0.7	-0.5	-1.1	-0.6	0 -0.3
84	-0.8	-0.6	-1.2	-0.7	-0.1 -0.4
93	-0.9	-0.7	-1.3	-0.8	-0.2 -0.5
104	-1.0	-0.8	-1.4	-0.9	-0.3 -0.6
114	-1.2	-1.0	-1.6	-1.1	-0.5 -0.8
124	-1.3	-1.1	-1.7	-1.2	-0.6 -0.9
125	-1.4	-1.2	-1.8	-1.3	-0.7 -1.0
136	-1.5	-1.3	-1.9	-1.4	-0.8 -1.1
143	-1.6	-1.4	-2.0	-1.5	-0.9 -1.2
146	-1.7	-1.5	-2.1	-1.6	-1.0 -1.3
156	-1.8	-1.6	-2.2	-1.7	-1.1 -1.4
163	-1.9	-1.7	-2.3	-1.8	-1.2 -1.5
164	-2.0	-1.8	-2.4	-1.9	-1.3 -1.6
171	-2.1	-1.9	-2.5	-2.0	-1.4 -1.7
178	-2.2	-2.0	-2.6	-2.1	-1.5 -1.8
182	-2.3	-2.1	-2.7	-2.2	-1.6 -1.9
187	-2.4	-2.2	-2.8	-2.3	-1.7 -2.0
196	-2.5	-2.3	-2.9	-2.4	-1.8 -2.1
202	-2.6	-2.4	-3.0	-2.5	-1.9 -2.2
204	-2.7	-2.5	-3.1	-2.6	-2.0 -2.3
211	-2.8	-2.6	-3.2	-2.7	-2.1 -2.4
219	-2.9	-2.7	-3.3	-2.8	-2.2 -2.5
222	-3.0	-2.8	-3.4	-2.9	-2.3 -2.6
225	-3.1	-2.9	-3.5	-3.0	-2.4 -2.7
232	-3.2	-3.0	-3.6	-3.1	-2.5 -2.8
239	-3.3	-3.1	-3.7	-3.2	-2.6 -2.9
241	-3.4	-3.2	-3.8	-3.3	-2.7 -3.0

97					
104	-1.2	-1.0	-1.6	-1.1	-0.5 -0.8
112	-1.3	-1.1	-1.7	-1.2	-0.6 -0.9
114	-1.4	-1.2	-1.8	-1.3	-0.7 -1.0
125	-1.5	-1.3	-1.9	-1.4	-0.8 -1.1
128	-1.6	-1.4	-2.0	-1.5	-0.9 -1.2
136	-1.7	-1.5	-2.1	-1.6	-1.0 -1.3
143	-1.8	-1.6	-2.2	-1.7	-1.1 -1.4
146	-1.9	-1.7	-2.3	-1.8	-1.2 -1.5
156	-2.0	-1.8	-2.4	-1.9	-1.3 -1.6
159	-2.1	-1.9	-2.5	-2.0	-1.4 -1.7
164	-2.2	-2.0	-2.6	-2.1	-1.5 -1.8
171	-2.3	-2.1	-2.7	-2.2	-1.6 -1.9
174	-2.4	-2.2	-2.8	-2.3	-1.7 -2.0
178	-2.5	-2.3	-2.9	-2.4	-1.8 -2.1
187	-2.6	-2.4	-3.0	-2.5	-1.9 -2.2
189	-2.7	-2.5	-3.1	-2.6	-2.0 -2.3
196	-2.8	-2.6	-3.2	-2.7	-2.1 -2.4
204	-2.9	-2.7	-3.3	-2.8	-2.2 -2.5
205	-3.0	-2.8	-3.4	-2.9	-2.3 -2.6
211	-3.1	-2.9	-3.5	-3.0	-2.4 -2.7
219	-3.2	-3.0	-3.6	-3.1	-2.5 -2.8
220	-3.3	-3.1	-3.7	-3.2	-2.6 -2.9
225	-3.4	-3.2	-3.8	-3.3	-2.7 -3.0
232	-3.5	-3.3	-3.9	-3.4	-2.8 -3.1
236	-3.6	-3.4	-4.0	-3.5	-2.9 -3.2
239	-3.7	-3.5	-4.1	-3.6	-3.0 -3.3
245	-3.8	-3.6	-4.2	-3.7	-3.1 -3.4
251	-3.9	-3.7	-4.3	-3.8	-3.2 -3.5
252	-4.0	-3.8	-4.4	-3.9	-3.3 -3.6
259	-4.1	-3.9	-4.5	-4.0	-3.4 -3.7
260	-4.2	-4.0	-4.6	-4.1	-3.5 -3.8
266	-4.3	-4.1	-4.7	-4.2	-3.6 -3.9

COMBINED FATHOMETER CORRECTIONS IN FEET

Sheets 1, 4 & 10

Sheet 2

Sheets 3 & 5

R. L. Direct		R. L. x 6	
Depth	Corr.	Depth	Corr.
Fms.	Ft.	Fms.	Ft.
0		0	
	-1		
25		97	
	-2		-6
38		104	
	-3		-12
59		164	
	-4		-18
78		219	
	-5		-24
84		260	
	-6		-30
114		266	
	-12		
178			
	-18		
225			

R.L. Direct		R. L. x 6	
Depth	Corr.	Depth	Corr.
Fms.	Ft.	Fms.	Ft.
0		0	
	0		
25		97	
	-1		-6
45		114	
	-2		-12
59		174	
	-3		-18
78		225	
	-4		-24
93		266	
	-5		
104			
	-6		
125			
	-12		
187			

R.L. Direct		R. L. x 6	
Depth	Corr.	Depth	Corr.
Fms.	Ft.	Fms.	Ft.
0		0	
	-4		
11		97	
	-3		-12
22		143	
	-4		-18
38		196	
	-5		-24
45		245	
	-6		-30
65		266	
	-7		
84			
	-8		
93			
	-9		
103			
	-12		
156			
	-18		
211			
	-24		
241			

Sheets 6 & 7

Sheet 9

Sheet 11

0			
	-1		
11		97	
	0		-6
22		112	
			-12
		171	
	-1		-18
38		220	
	-2		-24
45		266	
	-3		
65			
	-4		
84			
	-5		
93			
	-6		
124			

0			
	+2		
11		97	
	+3		-6
22		146	
	+2		-12
38		204	
	+1		
59			
	0		
78			
	-1		
93			
	-2		
104			
	-6		
163			
	-12		
219			

0			
	+1		
25		97	
	0		-6
45		128	
	-1		-12
65		187	
	-2		-18
78		236	
	-3		
93			
	-4		
104			
	-6		
143			
	-12		
202			
	-18		
241			

## COMBINED FATHOMETER CORRECTIONS IN FEET

## CONVERSION TABLE

Reducers Subtracted		Reducers Added	
Fathoms	Feet	Fathoms	Feet
0.1		0.00	
0.2	1	0.12	0
0.3	2	0.12	1
		0.30	
0.4			
0.5	3	0.30	2
		0.50	
0.6			
0.7	4	0.50	3
		0.60	
0.8	5		
0.9			
1.0	6		

NOTE: The fathometer corrections on the preceding pages have been computed in fathoms, but to simplify and coordinate all reducers, they are entered in feet. This makes all reducers for fathometer, machine, and hand lead soundings uniform. At reduced depths greater than 100 fathoms, the reducers are entered in the foot equivalent of even fathoms, i.e., as 6, 12 and 18 feet, to preserve this uniformity.

FATHOMETER CORRECTIONS

Sheet 42.

Velocity Depth Fms.	Corr. Fms.	Red Light Direct Speed Depth Fms.	Corr. Fms.	Red Light x 6 Speed Depth Fms.	Corr. Fms.	Combined Correction R. L. Direct Fms. Fms.	Correction to be entered in volumes Fms. Fms.
0	0	0	-0.1	97	-0.7	0	Red Light Direct
8	0	25	-0.2	112	-0.8	8	0
30	+0.1	45	-0.3	128	-0.9	25	$-\frac{1}{2}$
41	0	65	-0.4	143	-1.0	30	0
62	-0.1	84	-0.5	159	-1.1	41	$-\frac{1}{2}$
80	-0.2	104	-0.6	174	-1.2	62	-1
98	-0.3	124	-0.7	189	-1.3	80	-1.4
114	-0.4	143	-0.8	205	-1.4	98	114
131	-0.5	163	-0.9	220	-1.5	114	-2
146	-0.6	182	-1.0	236	-1.6	131	202
160	-0.7	202	-1.1	251	-1.7	146	-3
182	-0.8	222	-1.2	266	-1.8	160	
193	-0.9	241	-1.3		-1.9	182	
217	-1.0	261	-1.4		-2.0	193	
227	-1.1		-1.5		-2.1	217	
236	-1.2		-1.6		-2.2	227	
245	-1.3		-1.7		-2.3	236	
256	-1.4		-1.8		-2.4		
260	-1.5		-1.9		-2.5		
			-2.0		-2.6		

A constant index correction of -0.2 fms. is added to the sum of velocity and speed corrections to obtain the combined correction.

## FATHOMETER CORRECTIONS (Continued)

Sheet 42.

Combined Correction Red Light x 6	
<u>Fms.</u>	<u>Fms.</u>
146	-1.9
159	-2.0
160	-2.1
174	-2.2
182	-2.3
189	-2.4
193	-2.5
205	-2.6
217	

LCC

F.E.

March 27, 1935.

Division of Hydrography and Topography:

✓ Division of Charts: *att. E. P. Ellis*

Tide Reducers are approved in  
6 volumes of sounding records for

HYDROGRAPHIC SHEET 5671 a+b

Locality Point Piedras Blancas to Ragged Point, California Coast

Chief of Party: F. H. Hardy in 1934  
Plane of reference is mean lower low water, reading  
1.3 ft. on tide staff at San Simeon  
20.0 ft. below B.M. 1

Height of mean higher high water above plane  
of reference is 5.2 feet.

Condition of records satisfactory except as noted below:

*H. A. Warner*  
Acting Chief, Division of Tides and Currents.

Date. May 3, 1935

GEOGRAPHIC NAMES

California

Survey No. 5671 a + b

Chart No. 5302

Diagram No. 5302

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>Point Piedras Blancas</u>	Same			
✓	<u>Harlech Castle Rock</u>	"			
✓	<u>La Cruz Rock</u>	"			
✓	<u>Ragged Point</u>	"			
	<u>Pt. Sierra Nevada</u>	"			



Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5671b (W.D.) FIELD NO. 7a

Vicinity of Point Piedras Blancas  
Surveyed in October 1934  
Instructions dated April 4, 1932-May 31, 1934

Wire Drag with hand lead Soundings - 3 Point fixes on shore signals

Chief of Party - F. H. Hardy.  
Surveyed by - G. C. Jones.  
Protracted by - C. A. Kester.  
Soundings penciled by - C. A. Kester.  
Verified and inked by - J. A. McCormick.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual and S. P. 118, except as follows:

- a. Position angles on shoal were not checked by taking an angle to a fourth object.
- b. No bottom characteristic for the shoal sounding found was noted.

The descriptive report is clear and comprehensive and adequately covers all matters of importance.

2. Compliance with Instructions for the Project.

The plan, character, and extent of the survey comply with the instructions for the project. The area covered is dragged to an adequate depth.

3. Junctions with Wire Drag Surveys.

This is a detached area, covered largely to disprove reference to "breaker in heavy westerly swell about 3 miles (W.  $\frac{1}{2}$  N. mag.) from Piedras Blancas Lighthouse reported on page 83, 5th edition 1934 Coast Pilot, Pacific Coast", and there are no junctions with other sheets as yet received in the office.

4. Comparison with Latest Hydrographic Surveys.

- a. H-5671a (1934) and H- 5567 (1934).

The present survey, H-5671b, covers portions of the above surveys. The effective drag depths are consistent with the depths shown on these surveys.

5. Comparison with Chart 5302.

The chart is on a scale too small to make comparison of any value.

6. Field Plotting.

The field plotting is very satisfactory.

7. Results of Survey.

This survey covers the area outside the general 15 fathom curve for an offshore distance of about 1 mile and shows the area to be clear of offshore dangers to navigation. The general effective depths are 52 to 66 feet. The following shoal was located in depths of 14 to 16 fathoms:

11 fathoms (66 feet) with a clearance depth of 58 feet  
in lat.  $35^{\circ}41.05'$ , long.  $121^{\circ}20.10'$ .

8. Additional Field Work Recommended.

The area covered and the effective drag depth amply disproves the reported breaker, and the developed depth is sufficient to allow this work to serve as a junction for the general wire drag work in this area.

9. Reviewed by - H. T. Kelsh, June 1935.

Inspected by - A. L. Shalowitz.

Examined and approved:

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

*J. S. Borden*  
Chief, Section of Field Work.

*L. D. Holbut.*  
Chief, Division of Charts.

*G. H. Glade*  
Chief, Division of H. & T.

25 Jan 7, 1936  
J. W. S.

H 5671 a & b Applied to drawing of chart 5302 - Feb 21, 1936 - J. W. S.