

5860

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



State: California

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. 53
Hydrographic }

LOCALITY
Santa Cruz Channel
~~Santa Rosa Island~~

Southern California Coast

193 5

CHIEF OF PARTY

O. W. Swainson

5860

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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. 58 **5860**

REGISTER NO.

State California

General locality Southern California Coast

Locality Santa Cruz Channel
~~Santa Rosa Island~~

Scale 1:40,000 Date of survey Feb. 5, 1935 - Aug. 2, 1935, 1935

Vessel PIONEER, Starboard and port motorsailers.

Chief of Party O. W. Swainson

Surveyed by O. W. Swainson, W. M. Scaife, H. J. Healy, G. M. Marchand,
M. E. Wennermark.

Protracted by Harold Clarke

Soundings penciled by G. A. Nelson and G. M. Marchand

Soundings in fathoms ~~1000~~

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by _____

Inked by W.R. Jackson

Verified by W.R. Jackson

Instructions dated June 23, 1934

Remarks: Project HT 197.

DESCRIPTIVE REPORT
TO ACCOMPANY SHEET FIELD NO. 53

U.S. C. & G.S.S. PIONEER

Scale 1:40,000

O. W. Swainson, Commanding

AUTHORITY

The hydrography accomplished on this sheet was done in accordance with instructions dated June 23, 1934, for Project No. HT 187.

LOCALITY

Southern California.

Santa Cruz Channel and north and south approaches thereto.

North of Santa Rosa Island.

South of Santa Rosa Island as far west as Longitude 120° 07'.

JUNCTIONS

The following junctions are made by this sheet:

On the north, with Sheet Field No. 82.

On the east, with Sheet Field No. 52.

On the west, with Sheet Field No. 42.

On the south, with Sheet Registry No. 4559.

On the inshore areas along Santa Cruz and Santa Rosa Island, with inshore sheets executed by Lieut. R. W. Knox.

The above listed junctions are satisfactory.

CONTROL

The hydrography was controlled by visual fixes on the following:

29 Triangulation Stations.

47 Topographic signals.

3 Hydrographic signals.

The locations of the topographic signals were furnished by Lieut. R. W. Knox.

The hydrographic signals were located by the PIONEER.

A list of the signals used is attached inside the front cover of Volume 1 of the sounding records.

SURVEY METHODS

The usual methods of visual fix hydrography were followed.

The fathometer was used on the sounding lines run by the ship. Comparative wire and fathometer soundings, temperatures, and bottom characteristics were also obtained, by the ship.

A considerable number of development lines were run by the ship, using the fathometer, and a considerable number of spots were developed by the ship's motor sailers, using handlead. Some of the development work done by the motor sailers was for the purpose of investigating questionable fathometer soundings or discrepancies between soundings on this sheet and on previous surveys.

BOTTOM CHARACTERISTICS

As the vertical casts were not distributed evenly over the area, and as no material differences were noted between bottom characteristics shown on the present and on previous surveys, it is recommended that the bottom characteristics of both the present and previous surveys be accepted.

DISCREPANCIES

If any discrepancies are found between the fathometer soundings on this sheet and the wire or handlead soundings on the inshore sheets of Lieut. Knox, it is recommended that the latter be given preference.

COMPARISON WITH PREVIOUS SURVEYS

In many instances shoaler soundings than those shown by the previous surveys were obtained by the new survey.

In the following instances shoaler soundings than obtained by the new survey are shown on the previous surveys:

Lat. $34^{\circ} 05.15'$, Long. $120^{\circ} 00.3'$ - 33 fathom sounding shown on previous survey (Sheet Register No. H 1334a). 44 fathoms obtained on new survey. 33 fathoms disproved by development (Positions 52 to 58Q-Ship). It is recommended that it be rejected.

Lat. $33^{\circ} 56.6'$, Long. $119^{\circ} 55.4'$ - $16\frac{1}{2}$ fathom sounding shown on previous survey (Sheet Register No. 1221a). This spot covered by Ship soundings (Pos. 26-27L; least depth 21 fathoms) and by development by port motor sailer (Pos. 1-22a, inclusive; all soundings $\frac{0}{19}$). It is recommended that the $16\frac{1}{2}$ sounding be rejected.

34-00.6
119-57.5
W.R.L

Except as explained above, the comparison with previous surveys is satisfactory.

Tracings of the old work embraced on this sheet (Register numbers 1221a, 1333a, and 1334a, and 1334b) reduced to scale of 1:40,000, are attached to the sheet.

OVERLAYS

Several spots developed by the ship's motor sailers and several development lines run by the ship are, for the sake of clarity, shown on three overlays on tracing cloth, which are attached to the ~~smooth sheet~~ *Dec. Report*.

FATHOMETER CORRECTIONS

The index corrections were computed and found to be the same as those used in the fathometer corrections for Sheet Field No. 51. Therefore the fathometer corrections for Sheet Field No. 51 were used on this sheet. A table of fathometer corrections is attached to this report and also inside the front cover of volume 1 of the sounding records. Computation of index corrections is attached to this report.

FRSD means the red light short dash of fathometer at fast speed.
FRLD means the red light from long dash of the fathometer at fast speed.
FRxS means the red light at slow speed. "Small and "Big" refer to small and large oscillator respectively. The numbers "1" and "2" mean tuned hydrophones; 3, 4, and 5 mean a particular hydrophone of the string of Navy "Rats".

SLOPE CORRECTIONS

No slope corrections were applied to the soundings on this sheet.

DANGERS

No dangers were found within the limits of this sheet.

EXPLANATORY REMARKS

One volume of sounding records containing development executed by the starboard motor sailer of this vessel, involving shoals and doubtful fathometer soundings near the junction of this sheet and the inshore sheets of Lieut. R. W. Knox, was turned over to Lieut. Knox for plotting on his inshore sheets. The boat sheet containing this development was also turned over to Lieut. Knox. This work is designated a, b, and c days (red) Starboard Motor Sailer, and is ~~not~~ plotted on this sheet (No. 53). *b blue*

W. R. J.

Two onion skin tracings of the smooth plotting (a and b days of the above record) were furnished this vessel by Lieut. Knox and are attached to the smooth sheet.

A tracing of the smooth plotting of c day of the above record was not furnished Lieut. Knox, as all of the work executed on that day was done to check doubtful fathometer soundings. See the following records:

Position 22E (Ship), Vol 2 - page 37. ✓

Position 16F (Ship), Vol. 3 - page 7. ✓

These doubtful ~~xx~~ fathometer soundings were proven to be strays. ✓ ✓

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

ABSTRACT OF VERTICAL CASTS
AND COMPUTATION OF INDEX CORRECTION .

Sheet No. 53.

Position	Vertical Cast	Fath. Reading.	Theoretical Correction	Corrected. Fath.	Index Correction
#1 Hyd., Big Osc., short dash-					
24A	42.2	40.8	1.2	42.0	+ .2
91A	46.2	44.0	1.2	45.2	1.0
113A	34.5	32.9	1.2	34.1	.4
6B	40.0	39.1	1.2	40.3	- .3-R
-	46.6	44.8	1.2	46.0	+ .6
1C	54.4	52.6	1.1	53.7	.7
1D	33.1	30.8	1.2	32.0	1.1
-	32.2	30.2	1.2	31.4	.9
61.F	48.1	45.5	1.1	46.6	1.5
90F	52.8	49.6	1.1	50.7	2.1-R
91F	51.8	49.2	1.1	50.3	1.5
110F	61.2	58.5	1.0	59.5	1.7
111F	60.6	58.4	1.0	59.4	1.2
112F	60.8	58.1	1.0	59.1	1.7
1H	21.7	20.1	1.0	21.1	.6
152H	29.0	26.4	1.1	27.5	1.5
1J	18.7	16.7	0.9	17.6	1.1
132J	54.8	52.8	1.1	53.9	.9
178J	18.9	16.4	0.9	17.3	1.6
	13.1	11.1	0.5	11.6	1.5
	11.5	9.6	0.3	9.9	1.6
29K	37.3	34.4	1.2	35.6	1.7
33L	25.9	23.8	1.1	24.9	1.0
	26.8	24.3	1.1	25.4	1.4
	29.3	26.9	1.1	28.0	1.3
68M	42.7	41.0	1.2	42.2	.5
90M	21.3	19.1	1.0	20.1	1.2
133M	33.0	30.7	1.2	31.9	1.1
155M	20.5	18.9	1.0	19.9	.6
23N	27.8	25.2	1.1	26.3	1.5
14-15P	54.6	52.4	1.1	53.5	1.1
				Average I.C.	1.13
#3 Hyd., Big Osc., short dash-					
-	20.9	20.3	0.3	20.6	0.3
	22.2	21.2	.3	21.5	0.7
	22.6	21.8	.3	22.1	0.5
	24.1	22.6	.4	23.0	1.1
24A	42.2	41.3	.8	42.1	.1-R
91A	46.2	45.1	.8	45.9	.3
113A	34.7	33.5	.7	34.2	.5
-	46.2	45.0	.8	45.8	.4
1D	32.2	30.3	.7	31.8	.4
61F	48.1	45.8	.8	46.6	1.3
112F	60.9	59.0	.7	59.7	1.2
1H	21.7	20.5	.3	20.8	.9
178J	18.9	17.0	.1	17.1	1.8
	13.1	11.5	-.7	10.8	2.3-R

ABSTRACT OF VERTICAL CASTS
AND COMPUTATION OF INDEX CORRECTION
(Continued)

Sheet No. 53.

. Position .	Vertical . Cast	Fath. Reading	.Theoretical. Correction	Corrected . F _a th.	Index Correction	
#3 Hyd., Big Osc., short dash (continued)						
	33L	26.5	24.5	.5	25.0	1.5
		26.9	25.0	.5	25.5	1.4
	90M	21.1	19.6	.3	19.9	1.2
#5 Hyd., Big Osc., short dash-						
	-	20.9	20.2	.3	20.5	0.4
		21.7	20.3	.3	20.6	1.1
		22.0	20.9	.3	21.2	.8
		22.6	21.8	.4	22.2	.4
		24.1	22.7	.4	23.1	1.0
	24A	42.2	41.3	.8	42.1	.1-R
	91 A	46.2	45.3	.8	46.1	.1-R
	113A	34.7	33.5	.7	34.2	.5
		46.2	45.0	.8	45.8	.4
	61F	48.1	45.5	.8	46.3	1.8
	112F	60.9	58.5	.7	59.2	1.7
					Average I.C., #3 & 5	<u>0.9</u>
#1 Hyd., Small Osc., short dash-						
	156J	172.8	173.0	-.7	172.3	+0.5
	29K	37.4	35.2	+1.6	36.8	+0.6
		37.5	36.2	+1.6	37.8	-0.3-R
					Average I.C.	<u>0.92*</u>

*This average from combination of vertical casts taken on sheets Nos. 53 and 83.

CHIEF OF PARTY'S NOTE

No further comments are necessary by me. I think the sheet is surveyed and plotted satisfactorily. Due to the very uneven character of the bottom, and the importance of the locality, the area should be wire dragged. ✓



O. W. Swainson,
Chief of Party,
Commanding Ship PIONEER.

STATISTICS
HYDROGRAPHIC SHEET FIELD NO. 53.

Date	Day	Statute Miles of Sdg. Lines	No. of Soundings		No. of Positions	Remarks
			Echo	V.C.		
2/5/35	A Red	81.0	941		113	Ship
2/6/35	B "	23.0	257		39	"
2/21/35	C "	28.9	335		30	"
2/22/35	D "	104.3	1208		172	"
2/23/35	E "	88.0	1021		161	"
2/24/35	F "	90.2	1011		171	"
2/25/35	G "	35.0	376		58	"
2/26/35	H "	95.5	1113		237	"
2/27/35	J "	113.7	1183		178	"
2/28/35	K "	118.5	1194		214	"
3/1/35	L "	17.7	187		33	"
3/6/35	M "	105.0	1108		168	"
3/7/35	N "	60.5	674		126	"
3/8/35	P "	29.2	363		52	"
8/2/35	Q "	79.9	823	8	149	"
3/6/35	a Blue	6.0		112	60	S.M.S.
3/7/35	b "	2.0		93	50	"
2/28/35	b _c Red Green	5.0		111	60	* Plotted on Sheet #25. R.W. Knox.
8/2/35	d Blue	5.0		117	117	S.M.S.
8/2/35	a Green			53	53	P.M.S. Develop- ment only.
Totals		1088.4	11794	494	2241	
			12288			

Note: There is no c Day (blue).

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	13-87½	+ 2	50-58	+ 2½	100-125	- 1
19½-32½	+ 1½	88-100	+ 1½	58½-90	+ 2	126-185	- 2
35-63	+ 2	101-149	+ 1	90½-100	+ 1½	186-240	- 3
63½-100	+ 1½	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	8½	+ 0.8
12	+ 0.2	9	+ 0.9
12½	+ 0.3	9½	+ 1.0
13	+ 0.4	10	+ 1.1
14	+ 0.5	10½	+ 1.2
14½	+ 0.6	11	+ 1.3
15	+ 0.7	11½	+ 1.4
15½	+ 0.8	12-12½	+ 1.5
16½	+ 0.9	13-13½	+ 1.6
17½	+ 1.0	14-14½	+ 1.7
18½	+ 1.1	15-15½	+ 1.8
19½	+ 1.2	16-17	+ 1.9
21	+ 1.3	17½-18½	+ 2.0
23	+ 1.4	19-21	+ 2.1
26	+ 1.5	21½-27	+ 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 is same as FR x 6.

H-5860

1. The records conform to the requirements of the General Instructions. ✓
2. The usual depth curves were completely drawn, except (a) The 10 fm. curve in Lat. 34-03 Long. 119-56.5 ✓
10 fm curve is now complete
3. The field plotting was completed to the extent prescribed in the Hydrographic Manual. ✓
4. No drafting was done over. ✓
5. The junctions with H-5861, H-5701, H-5696, H-5700, H-5699, and the North junction of H-5773 ✓ are satisfactory.

The junction with H-5850 and H-4559 were not inked. not yet verified

The junction with H-5695 was satisfactory except for the shoal soundings in Lat. 34-03 Long. 119-56.5 these soundings were placed on H-5695 and left in pencil. junction completed, fathometric sdps. accepted

The junction with H-5773 at Lat. 33-52 Long. 119-08 was not in agreement by about 5 fms. or a linear displacement of about 200 meters. The trouble seemed to be in the control for both shutters. ✓

108 D-128 D of H-5773 was replotted on H-5860, which had all the signals, and then transferred to H-5773.

On H-5860 the error was probably due to an error in properly identifying the left object.

In the records signal "West" was changed to "Bum", on about 18 fms. Whenever signal "Clue" was used the angle was rejected, on about 12 fms.

H-5773 was done in 1933.

The topography for the particular area in question was done in 1934.

H-5860 was done in 1935.

After a conference with C.K. Green, E.P. Ellis and A.L. Schalowitz, the junction was made using the replotted soundings on H-5773 and rejecting the overlapping soundings of H-5860 that were questionable.

6. Remarks.

Lat. 34-03.5 Long. 120-04.5 between positions 136-137 H a sounding of 9 fms. falls on a turn and is rather indefinite but should be plotted. Soundings rejected by field party.

Lat. 34-03.5 Long. 120-05. On position 221 H a sounding of 13 fms. has been rejected, by swimmers, this sounding falls in the center of a shoal and could be the high spot of the shoal, there being similar shoals in the vicinity.

Lat. 33-56.5 Long. 119-57.2 One sounding before
position 139 k had 2 fathoms at 18 fms. not recorded.

Lat. 33-57.8 Long. 119-53.8 Position 72 M has
a note "Right Wheel" and a course of 315°. According
to the records the turn was not made until
after the fix was taken, but according to the
Boat Sheet, the field plotting and the usual
procedure, the fix is taken after the turn has
been made and the ship is on course.

Respectfully Submitted

W. R. Jackson

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. .5860

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

Number of positions on sheet	.2241.
Number of positions checked	...63.
Number of positions revised	...13.
Number of soundings recorded	.12258.
Number of soundings revised	...65.
Number of signals erroneously plotted or transferred

Date: Nov. 15, 1935.

Verification by W.R. Jackson.

Review by

R. J. Christman

Time: 209 Hrs.

Time: 36 1/2 hrs

HYDROGRAPHIC SURVEY NO. 5860

Smooth Sheet yes

Boat Sheets 4

Sounding Records 9 Vols. _____

Descriptive Report yes

Title Sheet yes

List of Signals Vol 1

Landmarks for Charts (Form 567) yes

Statistics yes

Approved by Chief of Party yes

Recoverable Station Cards (Form 524) none

Special Chart for Lighthouse Service none
(Circular Nov. 30, 1933)

Remarks _____

TIDE NOTE FOR HYDROGRAPHIC SHEET

September 7, 1935

Division of Hydrography and Topography:

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

Tide Reducers are approved in
 9 volumes of sounding records for

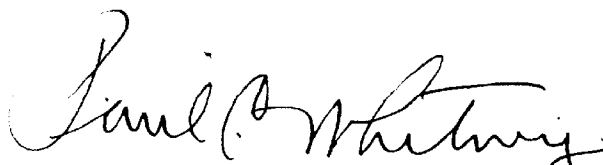
HYDROGRAPHIC SHEET 5860

Locality Santa Cruz Channel, Southern California

Chief of Party: O. W. Swainson in 1934-1935
 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

For August 2, 1935, Los Angeles predicted tides corrected to Prisoners Harbor, Santa Cruz Island were used.
 Height of mean high water above plane of reference is 4.6 feet at Santa Barbara; 4.3 feet at Prisoners Harbor.

Condition of records satisfactory except as noted below:


 Chief, Division of Tides and Currents.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5860 (1935) FIELD NO. 53

Santa Cruz Channel, Southern California Coast, California

Surveyed in Feb. - Aug. 1935.

Instructions dated June 23, 1934 (PIONEER)

Hand Lead and Machine Soundings. 3 Point fixes on shore signals.
Fathometer Soundings.

Chief of Party - O. W. Swainson.

Surveyed by - O. W. Swainson, W. M. Scaife, H. J. Healy, G. M. Marchand,
M. E. Wennermark.

Protracted by - Harold Clarke.

Soundings penciled by - G. A. Nelson, G. M. Marchand.

Verified and inked by - W. R. Jackson.

1. Condition of Records.

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

The Descriptive Report is complete and satisfactorily covers the items of importance.

2. Compliance with Instructions for the Project.

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

3. Shoreline and Signals.

This sheet shows offshore work only and no shoreline has been transferred to it.

Signals are recovered triangulation stations. Topographic signals from T-4906, T-4907, T-4910 and T-4911, surveys of 1934 by the parties of Lieutenant C. K. Green and R. W. Knox, and 3 hydrographic signals which were determined by sextant cuts from the ship and recorded in the sounding records of H-5860 (1935) and H-5773 (1933-5).

4. Sounding Line Crossings.

Sounding line crossings show good agreement, the differences being generally less than 4% of the depth.

5. Depth Curves.

Within the area covered, the usual depth curves may be satisfactorily drawn.

6. Junction with contemporary Surveys.

The sheet joins the following inshore surveys by the parties of C. K. Green and R. W. Knox, H-5695 (1934-5) and H-5699 (1934-5) on Santa Cruz Island, H-5696 (1934-5), H-5700 (1934-5) and H-5701 (1934-5) on Santa Rosa Island, and H-5683 (1934-5) on San Miguel Island. Although there is no general overlapping of the surveys and there is a small gap (about 300 by 500 meters in latitude $34^{\circ} 01.7'$, longitude $120^{\circ} 00.7'$) at the junction with H-5696 (1934-5) the junctions in general are satisfactory. Because of the general good agreement with adjacent soundings, the fathometer soundings have been accepted where they show shoaler water than was found by the lead line examination of the several shoal areas at the junctions between the surveys.

The offshore junctions with H-5861 (1934-5), H-5773 (1933-5) and H-4559 (1925-6) are satisfactory.

The junction with H-5850 (1932-~~3~~⁵) to the east will be considered in the review of that sheet.

7. Comparison with Prior Surveys.a. H-289 (1851).

This is a reconnaissance survey on a very small scale and does not show any information inconsistent with the later surveys. The present survey (H-5860 of 1935) should supersede the above survey for charting purposes.

b. H-1045 (1869), H-1370 (1877).

These surveys, scale 1:100,000, overlap the present survey in the northern part of Santa Cruz Channel and in the deep water along the northern edge of the sheet. The agreement in depth is good except that there are a few questionable soundings (about 10 fathoms too deep) none of which, however, appear on the present charts. Because of the larger scale and closer development of the present survey, H-5860 (1935) should supersede the above surveys for charting except that the bottom characteristics should be retained. Some of them have been transferred to the present survey in color.

c. H-1221a (1873-4)	H-1333a (1875-6)
H-1221b (1874)	H-1334a (1875-6)
H-1323a (1875-6)	H-1334b (1875-6)

These surveys, scale 1:20,000 are the authority for the present charting of the area under consideration. The agreement in

depth with the present survey is good, the differences noted being usually less than the variation on the crossing lines of the above surveys. In most cases the present survey finds less water on the shoaler areas than the least depth shown on the older surveys though the positions are not in agreement, the soundings in several instances falling in deeper areas on the present survey. None of these soundings have been carried forward to the present survey because of uncertain control; no regular system of lines was followed on these surveys and many of the positions depend on tangents to the islands. Although on smaller scale, the present survey shows a much closer development of the area and should supersede the above surveys for charting purposes. Bottom characteristics from these surveys have been transferred to the present survey in color.

- (1) The 16 fathom (charted) in latitude $34^{\circ} 00.6'$, longitude $119^{\circ} 57.5'$ comes from H-1221a (1873-4). The present survey shows 21 fathoms and an examination with the port motor sailer in the vicinity shows no bottom at 19. The original record shows a 17 fathom between a 27 fathom and a 26 fathom all taken at 10 minute intervals with the deep sea lead, which shows depths about 2 fathoms deeper than adjacent soundings taken with the hand lead. It is probable that the depth was read 10 fathoms too shoal as this difference would bring it into harmony with adjacent soundings on the old survey and into fair agreement with the present survey. The sounding should be considered erroneous and no longer charted.
- (2) The 33 fathom (charted) in latitude $34^{\circ} 05.15'$, longitude $120^{\circ} 00.30'$ from H-1334a (1875-6) was probably recorded 10 fathoms too shoal. The original record shows "34 gn M" between a 45-1/2 and a 42. An examination with the fathometer during the present survey, although not placing a sounding exactly on the charted 33, shows regular bottom at 44 to 45 fathoms. The 33 fathom should be considered erroneous and no longer used in charting.

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

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.

9. Field Plotting.

The field plotting was satisfactory.

10. Additional Field Work Recommended.

The survey is complete and satisfactory and no further general hydrography is required. However, if wire drag surveys are undertaken as recommended for the adjoining sheets, such survey should include the areas on this sheet out to at least the 20 fathom curve.

11. Superseding Old Surveys.

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

H-289 (1851) in part	H-1323a (1875-6) in part
H-1045 (1869) " "	H-1333a (1875-6) " "
H-1370 (1877) " "	H-1334a (1875-6) " "
H-1221a (1873-4) " "	H-1334b (1875-6) " "
H-1221b (1874) " "	

12. Reviewed by - R. J. Christman, Nov. 21, 1935.

Inspected by - A. L. Shalowitz.

Examined and approved:

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

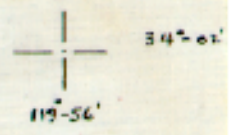
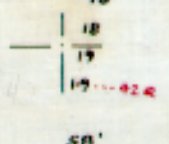
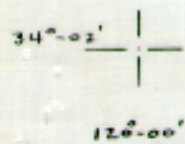
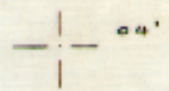
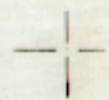
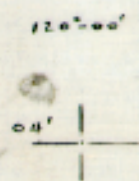
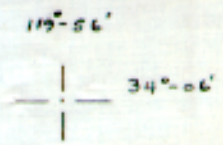
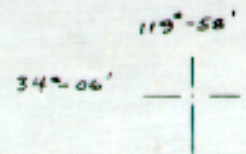
L. O. Pollock
Chief, Division of Charts.

F. S. Borden
Chief, Section of Field Work.

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

Applied to Chart 5116 - Jan 1936 L. O. Pollock
Applied to Chart 5115 - Feb 1936 L. O. Pollock
" " " 5202 - Mar 1936 L. O. Pollock
" " " 5101 - May 1936 R.M.Z.
" " " 5066 - Jan 1964 R.K.D.

2



Overlay "Q" day Pos. 29 to 42 inc Ship Sheet No.53

5860

120° 00'
33°-56'

58'

119° 56'
33°-56'

33-56

3

24 31 34 53
52 29 50 49
50

54'

46 37 38
22 22 39
23 22 20 40
48 41 42 43 44 45

54

54'

31 33 35
23a 29a
31 31a
24 26
25a 31 30 27
29 28

All soundings 23a to 35a - 19 fms
incl.

5860

Overlay for Sheet No. 53

"a" day P.M.S.

33°-52'

120° 00'

58'

119° 52' 33°-52'

119° 56'

25 Jan 15, 1936
SUN