

6453

WIRE DRAG

6453 WIRE DRAG

Form 504 Rev. Dec. 1933	
DEPARTMENT OF COMMERCE U.S. COAST AND GEODETIC SURVEY R. S. PATTON, DIRECTOR	
DESCRIPTIVE REPORT	
Topographic Hydrographic	WIRE DRAG Sheet No. <u>2</u> Register No. H 6453
U. S. COAST & GEODETIC SURVEY LIBRARY AND ARCHIVES FEB 28 1940 Acc. No. _____	
State <u>California</u>	
LOCALITY	
<u>Approaches to Crescent City</u>	
<u>Harbor; Northern California</u>	
<u>Castle Rock south to Sister Rocks</u>	
<u>to Castle Rock</u>	
193 ⁹	
CHIEF OF PARTY	
<u>I. E. Rittenburg</u>	

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. 2 - 1939

REGISTER NO. H 6453

H6453

State California

General locality Northern Coast of California

Locality Sisters Rocks to Castle Ek.
Crescent City, approaches to

Scale 1:10,000 Date of survey June - Sept., 1939

Vessel Pacific Coast Wire Drag

Chief of Party I. E. Rittenburg

Surveyed by I. E. Rittenburg & W. J. Chovan

Protracted by I. E. Rittenburg

Soundings penciled by I. E. Rittenburg

Soundings in fathoms ~~feet~~ Effective depths in feet

Plane of reference Mean Lower Low Water

Subdivision of wire dragged areas by I. E. Rittenburg

Inked by I. E. Rittenburg

Verified by Francis B. Kelly

Instructions dated March 3, 1939, 19

Remarks: Dual Control - Visual Fixes - using Chartered launches

Florence (Guide launch) Virginia I (End Launch)

Descriptive Report
to accompany
Wire Drag Sheet Field No. 2, 1939
Registry # H 6453
Project # HT- 230
Coast of California
Pacific Coast Wire Drag Party
1939

Instructions Authority for this survey is contained in instructions from the Director, dated March 3, 1939, project # 230.

Character and limits of work

This sheet covers the approaches to Crescent City Harbor from Castle Rock south to Sister Rocks, about 6 miles south of Crescent City. The inshore limit of this survey was governed by the safe inshore limit of operation of the launches due to swell and dangers. This sheet extends 2 to 3 miles offshore to a junction with the 20,000 sheet of this area (registry number H 6455, field number 21-39). No work was done in Crescent City Harbor due to the closing of the field season in this area. This was not considered very essential as most of the harbor had already been dragged in 1929 by Lieut Ratti. (H-4921 W.D.)

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

The position interval was 5 minutes in most cases but was shortened as necessary to control the short lines and swings.

Effective depths ranged from 6 ft. to 66 ft.

Control and datum This sheet is on the final adjusted North American, 1927, datum. Triangulation control was established in 1859, 1869, 1871, 1913 and 1925. Topographic signals were taken from graphic control sheets field letters B, C and D, 1939 registry numbers ^{T-6675b and T-6676a} T 6676 a & b. Shoreline and offlying rocks were taken from the photostats of topographic surveys ^{T-4402 and T-4403} executed in 1928 and 1929. None of the topographic features shown on this sheet, with the exception of the sand barrier to Whalers Island, ^(on T-6676a) were located by this party.

Dates of surveys. This work was done by the chartered launches Florence and Virginia I, from June 19 to Sept. 9, 1939. The positions for this survey are shown in blue capitals.

Tidal reducers. Tide reducers for this sheet were taken from the records of the standard automatic tide gage at Crescent City, California. The necessary hourly heights were furnished this party by the Washington Office. For further tidal information see the attached tidal data sheet.

Junctions and overlaps.

This sheet joins wire drag sheet # H 6455 (field # 21-39) on the north and west, sheet # H 6454 (field # 3-39) on the south and sheet W.D. # 4921 in the vicinity of Crescent City Harbor. The junctions with these sheets are good. The overlaps of adjoining and adjacent lines is good with no technical splits due to insufficient overlaps.

Splits. There are 4 splits on this sheet, all but one unavoidable
These splits are listed below;

1. In lat. ~~43~~ 41-43.1 Long. 124-12.15 due to navigation buoy ✓
(Crescent City sea buoy) 16 fms. on H-4852
2. In Lat. 41-43.35, Long. 124-10.77 due to 1 1/6 fms. rock *which was plainly visible.*
3. In Lat. 41-43.7 Long. 124-10.72 due to presence of Rock ✓
south of Round Rock.
4. In Lat. 41-43.95 Long. 124-11.5 due to presence of Round Rock. ✓

Groundings. The grounding at position 7 C day between buoys 16 & 17 was not due to a shoal but was caused by the fact that 3 toggles had broken off the wire after setting out. This allowed the wire to sag & catch on bottom. Least depth found on investigating was 18 5/6 fathoms. This sounding is in fair agreement with the old surveys. The area in question was covered by 67 & 77 ft. on sheet H 6454 (field # 3-39) with a line run in a southerly direction (C day sheet 3). This spot was also covered by 39 ft. on this sheet with a line run in a northerly direction, and barely covered by another line with 61 feet, also run in a northerly direction. *See par. 3a, review.*

A table of groundings and clearances is given below.

Pos.No. Letter Day	Latitude & Longitude	Grounded Effective Depth	Least Sdg. Depth	Cleared Eff. Depth	Depth plotted	Remarks
	o ' "	feet	fms.	feet	fms.	
19 B	41 43.94	39 ✓	5 5/6 ✓	20 ✓	5 5/6 ✓	53 to 58 ft. on H-4865 ✓
1 b.	124 11.68					
2b, 3b.	43.97	39 ✓	5 1/6 & ✓	19 ✓	5 1/6 ✓	may be cleared @ 28 ft. 3 1/2 30m. south of pos. 16 45 to 66 ft. on H-4865.
	11.92		5 4/6 ✓			
30B, 4b	40.36	49 ✓	7 5/6 ✓	39 ✓	7 5/6 ✓	11 to 15 fms. on H-4852 and H-4865 ✓
	09.53					
5 b.	40.86	49 ✓	7 1/2 ✓	39 ✓	7 1/2 ✓	11 fms. on H-4865 ✓
	09.53					
7C, 1c	39.89	40 ✓	5 1/2 ✓	24 ✓	5 1/2 ✓	12 fms. on H-4865 ✓
	09.13					
2 c.	39.55	65 ✓	18 5/6 ✓	61	18 5/6 ✓	see notes in desc. report and 18 to 14 fms. on H-4852. par. 3a, review.
	10.70					
28C, 3c	40.76	61 ✓	10 ✓	43 ✓	10 ✓	13 to 14 fms. on H-4852 ✓
	10.40					
18 D, 1d	44.08	27 3/8 ✓	3 5/6 ✓	20 ✓	3 5/6 ✓	40 to 50 ft. on H-4865 ✓
	11.72					
22 E, 1e	43.95	28 ✓	3 4/6 ✓	19 ✓	3 4/6 ✓	45 to 60 ft. on H-4865 ✓
	11.91					
2 e,	43.96	28 ✓	4 2/6 ✓	19 ✓	4 2/6 ✓	Ditto. ✓
	11.94					
3 e,	43.30	58 ✓	8 1/2 ✓	44 ✓	8 1/2 ✓	72 to 90 ft. on H-4865 ✓
	11.75					
16 F, 1f	41.57	44 ✓	5 2/6 ✓	30 ✓	5 2/6 ✓	12 to 14 fms. on H-4852 and H-4865 ✓
	10.42					
15 G, 1g	40.22	38 ✓	10 5/6 ✓	59 ✓	10 5/6 ✓	see note in desc. report ✓ See in wire. 10' satisfactory. Par. 3a, review. 12 to 15 fms. on H-4852.
	10.18					
41 G, 2g	41.79	53 ✓	7 2/6 ✓	37 ✓	7 2/6 ✓	19 to 20 fms. on H-4852. ✓
	12.05					

Pos. No. Letter Day	Latitude & Longitude	Grounded Effective Depth	Least Sdg. Depth	Cleared Eff. Depth	Depth Plotted	Remarks.
	o ' "	feet	fms	feet	fms	
10H, 1h	41 42.88 ✓ 124 10.42 ✓	38 ✓	upright ✓	29 ✓	6 2/6 ✓	upright depth see report ✓ 58 to 63 ft. on H-4865
2 h,	42.81 ✓ 10.44 ✓	38 ✓	upright ✓	29 ✓	6 2/6 ✓	upright depth see report ✓ 63 to 65 ft. on H-4865
44 J, 1j,	40.87 ✓ 09.08 ✓	29 ✓	3 2/6 ✓	17 ✓	3 2/6 ✓	8 1/2 to 10 fms. on H-4965 ✓
2 j,	41.22 ✓ 08.99 ✓	24 ✓	upright ✓	17 ✓	4 ✓	upright depth ✓ 7 1/4 to 8 fms. on H-4965 ✓
15 K, 1k,	41.38 ✓ 09.31	30 ✓	2 ✓	9 ✓	2 ✓	9 1/2 fms. on H-4965 ✓
27 K, 2k.	41.47 ✓ 09.39 ✓	19 ✓	2 ✓	6 ✓	2 ✓	9 1/2 fms. on H-4965 ✓
3 k,	41.86 ✓ 11.04 ✓	30 ✓	14 1/6 ✓	49 ✓	14 1/6 ✓	see desc. report notes and 14 fms. on H-4952. par. 32, review
38 L, 1 l,	41.47 ✓ 09.39 ✓	8 * ✓	none ✓	6 ✓	none 2 fm. at 2k	* buoy ran out see desc. report
43 M, 1m	43.34 ✓ 10.66 ✓	29 & 18 ✓	1 1/6 ✓	not ✓	1 1/6 ✓	not cleared ✓ 14 to 40 ft. on H-4865 ✓
12 N, 1n	43.84 ³ ✓ 10.72 ✓	18 ✓	2 2/6 ✓	11 ✓	2 2/6 ✓	37 to 41 ft. on H-4865 ✓
24 N, 2n	43.85 ¹¹ ✓ 10.86 ✓	18 ✓	2 3/6 ✓	11 ✓	2 3/6 ✓	23 to 40 ft. on H-4865 ✓
43 N, 3&4n	43.93 ✓ 11.15 ✓	24 ✓	42/6 ^x & 3 4/6 ^x ✓	17 ✓	3 4/6 ✓	22 ft. on H-4865 ✓
9 P, 1p	44.01 ✓ 11.19 ✓	17 ✓	2 5/6 ✓	17 & 14 ✓	2 5/6 ✓	see desc report N day ✓ 20 to 26 ft. on H-4865

Notes on plotting. C day - end line at position 24 C with drag aground at 3 c. ✓

D day - do not plot positions 9 - 18 since line 11 - 18 was run to either prove or disprove the grounding on pos. 8 - 10, as buoy # 2 had run out. See note on page 37 Vol 1. Position 9 & 10 were not plotted because of buoy having run out. Grounding was proved. ✓

E-day - Line ends with drag aground on Chase Ledge and with towline aground on the 2 2/6 fms. sounding charted. Towline parted here. See notes for J day below. ✓

H day - Drag was aground in 2 places, at buoys 13 and 14. The drag parted before soundings could be made. A fix, however, was taken at buoy # 13 before the drag parted. The position of buoy 14 was plotted with the cuts and distances from end launch positions. ✓

J- day - At pos. 33 J the drag grounded around Chase Ledge. The position of the 3 1/2 fm. sdg. shown ~~xx~~ was taken from the photostats of the old surveys. It is suggested that the true position of this ledge be plotted from the original records in the office. The bight of the drag as shown ✓

on this sheet, may then have to be changed to conform to the new position of the shoal. This true position is not available in Oaland. ^{31 added from H-4865}

K day - end line at 25 . For remarks on grounding 3 k see note on page 21 Tender record. This spot, grounded with effective depth of 30 ft., was cleared with drags of 37, 46 and 49 feet. ^{Wire believed to have sagged. No shoal.}

L day - grounding on position 6 - 10 L-effective depth of 34 feet was evidently due to sag in the wire. Because of its proximity to ground of 3k there may be broken bottom here. However, this area is covered 5 times with depths of 30, 37, 46, 49 and 52 feet. The position of grounding must have been near buoy 18 in order for the drag to stretch around it. Buoy 18 was plotted on cut from End Launch pos. 7 L and a distance of 304.8 meters. A straight line was drawn from here to end buoy. Position 11 was rejected. The grounding on 33 was due to buoy number 3 having run out to 22 feet. Fix one l was taken at V of drag but no sounding could be obtained shoaler than the drag depth. It would appear from this fix that the 2 fathom rock position 2k, has been covered and a new rock found on the inclined section from 3 to 4. Due to the doubt occasioned by the buoy having run out etc., it is recommended that the line of drag go around grounding 2k as shown on sheet. This spot is covered on Q day with 6 feet. It is not believed that a new rock was found. ^{Accepted as same shoal as 2 fm. at 2k}

^{and 1m} M day - draw bight of drag straight from position 25.7 around grounds 1 and 2 n^o to end ~~launch~~ buoy position 15. Drag parted at 11.50 G.L. pos. 26 but end launch being aground could not have moved much. See note page 58 Vol. 2 as to time of parting. On line 27 - 43 M, toward end of day, the drag went stretch on some of the positions. Position 42 was connected to grounding 1 m with a straight line and then a straight line was carried to end buoy position.

N day - N buoy position 13 was connected with ~~ax straight line~~ end buoy position 7 even though times are slightly different, as End launch is anchored and therefore could not have moved much. The line 35 to 43 N passes over a 17 foot sounding on 1 p with an effective depth of 17 feet. The drag could not possibly have been aground at the position of 1p as it would not have stretched. This may have been due to the tide reducers having been applied in ^{Satisfactory} both cases ~~in~~ in even feet.

Q day - An error was inadvertently made this day in allowing for the tide reducers. Consequently while it was believed that the sounding of 2k had been cleared with 9 feet, an effective depth of only 6 feet was carried.

The Crescent City sea buoy was plotted on this sheet from the 3 cuts on page 56 Vol 1, sheet H 6455 (field number 21-39). See note there about change in position of buoy. ^{Changed before cuts were taken.}

Because of the veritable maze of line due to frequent groundings encountered, an area and depth tracing on vellum was made and is submitted with the sheet to aid in the verification. This A & D diagram shows only the area and depths. All soundings, both leadline and upright were omitted, as were the symbols for splits, as it was deemed advisable to omit these until after verification of the sheet was completed. The splits, however, are shown with pencil hachures. ^{To be destroyed when survey is approved. Many small changes made in subdivisions.}

Comparison with previous sheets and charts

There are no soundings on charts 5895 and 5702 or on surveys 4865 4965 and 4852, shoaler than the effective depths dragged on this survey.

Equipment The chartered launch Florence was used as guide launch and the ✓
chartered launch Virginia I was used as end launch. ✓
Standard wire drag equipment and methods were used throughout
this survey.

Respectfully submitted.

I. E. Rittenburg
I. E. Rittenburg, Lieut.,
Coast & Geodetic Survey.

Forarded and approved:

I. E. Rittenburg
I. E. Rittenburg, Chief of Party, C&GS.,
Pacific Coast Wire Drag Party.

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. **H6453**
.....
Wire drag

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

Number of positions on sheet 424
Number of positions checked 115
Number of positions revised 8
Number of soundings recorded 25
Number of soundings revised 0
Number of soundings erroneously spaced —
Number of signals erroneously plotted or transferred 0

Date: **April 8, 1940**

Verification by **Francis B. Kelly**

Time: **119 hrs.**

Review by **J.A. McCormick 4/11/40**

Time: **21 hrs.**

verification Report for H 6453 (1939) W.D.

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

The shoreline is taken from T 4402 & 3 (1925) ✓
and the signals are from T 6675 ~~at~~ & T 6676 ~~at~~ (1939) ✓

This survey is joined on the north & west by
H 6455 (1939) W.D. which has, as yet, not been verified. ✓

H 4921 (1929) W.D., a survey of Crescent Harbor overlaps
the present survey in the harbor & its outlines have
been shown on this survey. ✓

H 6454 (1939) W.D. & H 6456 (1939) W.D. both sufficiently
overlap this survey on the south. ✓

There were 25 soundings & groundings on this
survey all but 3 of which have been transferred to
the contemporary hydrographic surveys [H 4852 (1928)
H 4965 (1928) & H 4965 (1929)]. These 3 soundings were
in exact agreement with soundings in the area in
which they fell & so were not transferred.

The ~~three~~ ^{four} splits on this survey are as
described in the descriptive report.

Francis D. Kelly
April 8, 1940

STATEMENT
to accompany
WIRE DRAG SHEET FIELD NO. 2-39 (registry H6453)
1939.

The plotting and protracting of buoy positions was done
by Liut. I. E. Rittenburg

The drag areas were subdivided and inked by Lieut. I. E. Rittenburg

The completed smooth sheet has been inspected and approved.



I. E. Rittenburg,
Chief of Party, C&GS, Pacific Coast,
Wire Drag Party.

STATISTICS
to accompany
WIRE DRAG SHEEP FIELD NO. 2
Office registry No. H-~~125~~ 6453
1939

Date 1939	Day Letter	Volume	Statute Miles	Positions	Drag Length feet	Tender Soundings	Positions
June							
19	A	1	41	32	10,000	✓	
27	B		2.9	30	10,000	5✓	5
July 13	C		3.2	28	10,000	3✓	3
14	D		2.9	18	10,000	1✓	1
15	E	1	3.6	38	10,000	3✓	3
17	F		1.7	16	10,000	1✓	1
18	G	2	5.3	41	10,000 & 4200	2✓	2
22	H		1.1	13	10,000	2X	1
26	J		5.4	44	10,000	2X	1
27	K		2.8	27	10,000	3	3
28	L		5.2	28	10,000; 7,000 & 4000		
Aug. 12	M	2 & 3	4.0	42	5200 & 4500	1	1
14	N	3	3.3	43	2,400	4	4
22	P	3	1.0	17	1,800	1	1
Sept. 9	Q	3	1.0	7	4,000		
Totals			47.5	424		28	26
Area			20.0 square statute miles.				

HYDROGRAPHIC SURVEY NO. HS453

Smooth Sheet Yes

Boat Sheet 2

Records; Sounding 6 Vols., Wire Drag 1 Vols., Bomb Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes

Landmarks for Charts (Form 567) No

Statistics Yes

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) No

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

Hydrography: Total Days 15; Last Date Sept. 9, 1939

Remarks _____

Remarks

Decisions

	Remarks	Decisions
1		416 2 41
2		417 2 42
3		417 2 42
4		417 2 41
5		417 2 41
6		417 2 41
7		417 2 41
8	For title: also title chart 5895	417 2 41
9		417 2 41
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26		
27		
M 234		

GEOGRAPHIC NAMES

Survey No.

H6453

Wire Drag
Name on Survey

On Chart No.
On previous survey No.
On U. S. quadrangle Maps
From local information
On local Maps
P. O. Guide or Map
Rand McNally Atlas
U. S. Light List

	A	B	C	D	E	F	G	H	K
<u>Sister Rocks</u>									1
<u>Castle Rock</u> ✓									2
<u>White Rock</u> ✓									3
<u>Round Rock</u>									4
<u>Whaler Island</u> ✓									5
<u>Mussel Rock</u>									6
<u>Chase Ledge</u>									7
<u>Crescent City Harbor</u> ✓									8
<u>Steamboat Rock</u> ✓									9
									10
									11
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									25
									26
									27

Names underlined in red approved
by L. Heck on 4/22/40

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
 DESCRIPTIVE REPORT
 PHOTOSTAT OF

No. H
~~No. F~~

453
 Wire Drag

received Feb. 28, 1940
 registered March 2, 1940
 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			
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30			
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62			
63			
82			
83			
88			
90			

RETURN TO

82	T. B. Reed
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✓ TBR

TIDE NOTE FOR HYDROGRAPHIC SHEET

March 11, 1940

Division of Hydrography and Topography:

✓ Division of Charts: Attention: Mr. H. R. Edmonston

Plane of reference approved in
7 volumes of sounding records for
wire drag and

HYDROGRAPHIC SHEET 6453

Locality Sister Rocks to Castle Rock, Northern California Coast.

Chief of Party: I. E. Rittenburg in 1939
Plane of reference is mean lower low water reading
3.7 ft. on tide staff at Crescent City
12.8 ft. below B. M. 2

Height of mean high water above plane of reference is 6.2 feet.

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents.

DIVISION OF CHARTS

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6453(1939)W.D.FIELD NO. 2

California, Northern Coast, Sister Rocks to Castle Rock
Surveyed in June - September 1939, Scale 1:10,000
Instructions dated March 3, 1939 (I. E. Rittenburg)

Wire Drag

Dual Control

Chief of Party - I. E. Rittenburg.
Surveyed by - I. E. Rittenburg; W. J. Chovan.
Protracted by - I. E. Rittenburg.
Subdivision of wire dragged areas by - I. E. Rittenburg.
Inked by - I. E. Rittenburg.
Verified by - F. B. Kelly.
Reviewed by - J. A. McCormick, April 11, 1940.
Inspected by - H. R. Edmonston.

1. Shoreline and Signals.

Authorities for shoreline and signals are listed in the descriptive report, page 1.

2. Junctions with Wire Drag Surveys.

Junctions with wire drag surveys H-4921 (1929) at the entrance to Crescent City Harbor and with H-6454 and H-6456 of 1939 on the south are satisfactory. The junction with H-6455 (1939) on the west and northwest will be considered in the review of that survey.

3. Results of Survey.

a. Groundings.

The numerous groundings on the survey are discussed in detail in the descriptive report, pages 2 to 4. The field party's dispositions have been accepted in every case and but little additional discussion is necessary here. Attention is called to the fact that in four different instances failure of equipment caused the drag to sink and ground in depths much greater than the depth at which it was set. Two of these failures occurred within 300 meters of each other (lat. 41°41.8', long. 124°11.0') and, had the clearing depths not been considerably greater than the supposed effective depths at striking, such a coincidence most certainly would have resulted in the groundings being considered legitimate shoals. In one of

the four cases (lat. $41^{\circ}40.22'$, long. $124^{\circ}10.18'$) the drag was tested near the point of grounding and definitely found to have sagged to a depth in approximate agreement with the sounding obtained. From the foregoing it appears that standard practice should require drag tests in all cases where the shoalest sounding obtained exceeds the effective depth. Clearances on all shoals are accepted as satisfactory. In this connection it is noted that Chase Ledge, with a least depth of 3-1/2 fathoms in lat. $41^{\circ}43.0'$, long. $124^{\circ}11.3'$ on H-4865 (1928), was cleared with an effective depth of 17 feet on the present survey.

b. Effective Depths.

There are no conflicts between effective drag depths on the present survey and soundings on H-4852 (1928), H-4860 (1928), H-4865 (1928) and H-4965 (1929). Deeper effective depths appear desirable in some places but, as a whole, are satisfactory considering the shoals which had to be avoided.

c. Splits.

Four small splits are discussed in the descriptive report, page 2. Coverage is impossible for three and unnecessary for the fourth. Overlaps are ample.

4. Comparison with Chart 5702 (New Print of Oct. 14, 1939).
Chart 5895 (New Print of Dec. 13, 1939).

a. Hydrography.

There are no conflicts between charted depths and effective drag depths. Shoals found on the present survey have already been charted from advance information sent in by the field party. Charted depths differ slightly in depth and position from the verified values and in two cases at the entrance to Crescent City Harbor the clearing depths are charted instead of the actual soundings.

b. Aids to Navigation.

The position obtained on the present survey for Crescent City Whistle Buoy shows it to be substantially as charted. The can buoy charted in lat. $41^{\circ}43.9'$, long. $124^{\circ}11.9'$, was apparently placed after the survey to mark a shoal discovered by the drag.

5. Condition of Survey.

Satisfactory.

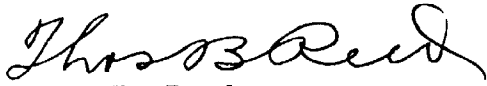
6. Compliance with Instructions for the Project.

Satisfactory.

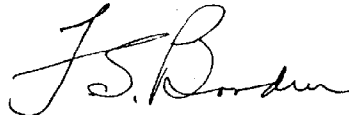
7. Additional Field Work Recommended.

None.

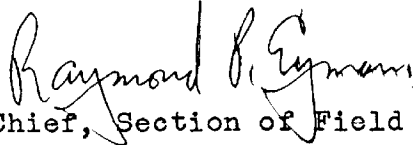
Examined and approved:



T. B. Reed,
Chief, Section of Field Records.



Chief, Division of Charts.



Chief, Section of Field Work.



Chief, Division of H. & T.

(from advance letter)

Applied to ch# 5052 from Dr# - 5702 9/3/40 P.B.C.

Applied to ch# 5895 on 7, 1940 G.H.S.

Applied to ch# 5702 - 2/12/41 - P.B.C.