

6416

U. S. COAST & GEODETIC SURVEY
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6416

Form 504
Rev. April 1935
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. 2 - 1938
Hydrographic }

State CALIFORNIA

LOCALITY
Northern Calif. Coast
~~Cape Mendocino, off~~

Off Eel River.

1938

CHIEFS OF PARTY
O. W. Swainson to June 15, 1938
F. E. Hardy from June 15 to Oct. 3, 1938
E. W. Rickelberg from Oct. 3, 1938.

U. S. GOVERNMENT PRINTING OFFICE

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. H6416

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 - 1938

REGISTER NO. H6416

State CALIFORNIA
 General locality Northern California Coast
~~CAPE MENDOCINO~~
 Locality OFF EEL RIVER
 Scale 1:10,000 Date of survey May 27-Oct. 11, 1938
 Vessel U.S.C. & G.S.S. GUIDE
 O.W. Swainson to June 15, 1938;
 Chief of Party F. H. Hardy from June 15 to October 3, 1938;
 E.W. Fickelberg from October 3, 1938.
 Surveyed by W. E. Malnate, G. M. Marchand, K. S. Ulm.
 Protracted by C. A. Schoene.
 Soundings penciled by C. A. Schoene.
 Soundings in fathoms feet
 Plane of reference M.L.L.W.
 Subdivision of wire dragged areas by
 Inked by Wallace A. Bruder 3/6/39
 Verified by Wallace A. Bruder 3/6/39
 Instructions dated May 31, 1934, Supplemental instructions dated May 2, 1935 and March 6, 1937.
 Remarks:

DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SHEET FIELD NO. 2-38 H-6416
PROJECT H.T.-206
NORTHERN COAST OF CALIFORNIA
U.S.C. & G.S.S. GUIDE
1938

INSTRUCTIONS: Instructions for this project were dated May 31, 1934, ✓
and supplemental instructions dated May 2, 1935 and March 6, 1937.

SURVEY METHODS: The soundings were taken by two launches: the ship's
starboard motorsailer and the port motorsailer. The starboard motor-
sailer was used entirely for hand lead sounding. The port motorsailer ✓
was used for wire sounding and hand-lead sounding. The positions were
determined by sextant fixes on shore objects. The shore objects were
located by triangulation and topography.

DISCREPANCIES: The following sections of lines run by the port motor-
sailer failed to agree with adjacent lines and were rerun under better
sea conditions, using hand-lead sounding in the port motorsailer. Pos-
itions 23A^{red} to 26A^{red} were replaced by positions 57F to 63F^{red}. Positions^{red}
109C to 111C^{red} were replaced by 24G to 26G^{red}. Positions^{red} 105C to 108C were
replaced by 50F to 55 F^{red}. All the work done on D day was replaced by the ✓
work done on F day. Preference was given to the rerun lines because
they were done under better sea conditions, and using hand-lead sounding,
and the results were more consistent and in better agreement with adj-
acent lines. A 9 fathom wire sounding between positions 37A and 38A,^{red}
by the port motorsailer was rejected as hand-lead soundings on F day
failed to verify it.

DANGERS: No dangers were found in the area covered by this sheet. ✓

CHANNELS: There are no channels in the area covered by this sheet. ✓

ANCHORAGES: There are no protected anchorages in the area covered by ✓
this sheet.

COMPARISON WITH PREVIOUS SURVEYS: Sheet No. H-1294 is the only previous
survey covering this area. Sheet No. 4999 slightly overlaps the north-
ern part of Sheet No. 2, but not enough for a good comparison. Sheet^{See par. 4 and 5, review.}
No. H-1294 shows depths which are in fair agreement with those shown on
this sheet. The occasional differences of as much as 2 fathoms are prob-
ably caused by the shifting of the sandy bottom, scouring out and filling
in. The depths shown by the earlier survey are generally shoaler than
those shown by the present survey. ✓

A 4 fathom sounding taken from Chart 5602, at Latitude 40° 38.7', From
Longitude 124° 19.3', was investigated, but no strong indications of its T-1816.
existence was found. The development was done on a day when there was
See par. 5
review.

a 6 to 10 foot swell running and the sea was breaking in 6 fathoms about 100 meters inshore from the 4 fathom spot. There was no sign of breakers near the 4 fathom spot, so it is believed that its existence is highly improbable. ✓

The 4 fathom spot was not covered by the wire drag strip. ✓

WIRE DRAG GROUNDINGS: There are no wire drag groundings in the area covered by this sheet. ✓

GEOGRAPHIC NAMES: There are no new geographic names on this sheet. ✓

STATISTICS: On separate sheet.

CONTROL AND DATUM: This sheet is on the Final Adjusted North American Datum of 1927. One of the triangulation stations was that of 1928 work. ✓
Topographic signals were taken from Sheets S & T, 1937, this vessel.

T-6615b T-6616a

Respectfully submitted,

Charles A. Schoene

Charles A. Schoene,

Aid,

U.S. Coast and Geodetic Survey.

Approved and forwarded:

E. W. Eickelberg

E. W. Eickelberg,

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

Commanding Ship GUIDE from October 3, 1938;

Preceded by Captain F. H. Hardy from 6-15-38 to 10-3-38;

Preceded by Comdr. O. W. Swainson from 5-1-38 to 6-15-38.

H6416

STATISTICS
to accompany
HYDROGRAPHIC SHEET FIELD NO. 2-38
1938

Launch.	Vol.	Date	Day Letter	No.Stat. Miles	No.Sdgs. H.L.	No.Sdgs. Wire.	No. Positions.
Stbd.	1	5-27-38	A	16.0	892		107
		5-29-38	B	17.2	654		114
		5-30-38	C	15.9	548		104
				<u>49.1</u>	<u>2094</u>		<u>325</u>
Stbd.	2	5-31-38	D	2.9	93		22
		9-27-38	E	10.3	344		79
		10-7-38	F	1.6	49		13
		10-8-38	G	11.2	290		79
		10-9-38	H	14.6	386		112
		10-11-38	J	10.9	253		109
				<u>51.5</u>	<u>1415</u>		<u>414</u>
Port	3	5-28-38	A	20.8		473	144
		5-29-38	B	13.6		332	114
				<u>34.4</u>		<u>805</u>	<u>258</u>
Port	4	5-30-38	C	14.2		317	111
		10-8-38	E	12.6	378		113
		10-9-38	F	8.9	285		78
				<u>35.7</u>	<u>663</u>	<u>317</u>	<u>302</u>
Port	5	10-11-38	G	11.9	223	73	90
				<u>11.9</u>	<u>223</u>	<u>73</u>	<u>90</u>
TOTALS				182.6	4395	1195	1389

AREA IS 11.4 SQUARE STATUTE MILES.

LIST OF SIGNALS USED ON
HYDROGRAPHIC SHEET FIELD NO. 2 - 1938.

H6416

Triangulation Stations:
SALT RIVER 1928.

From Topographic Sheet T - 37.

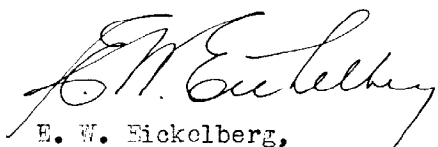
FLIP	DUCK	HEW
RAT	KEY	FOG
MILK	SMO	ABE
TEX	DOG	NUT.

From Topographic Sheet S - 37.

IRE	EEL	MAC
BET	CHIM	GAB
RIT	FOR	TER
SLO	SITE	SIG
RIV	VIL	NADA
JEP	BO	CEN
DAN	LAB	JAN
		SIX

STATEMENT
to accompany H-6416
HYDROGRAPHIC SHEET FIELD NO. 2 - 38.

The smooth sheet and records have been inspected and are approved.



E. W. Eickelberg,
Chief of Party, C. & G. S.,
Commanding Ship GUIDE from October 3, 1938;
Preceded by Captain F. H. Hardy from 6-15-38 to 10-3-38;
Preceded by Comdr. O. W. Swainson from 5-1-38 to 6-15-38.

Remarks

Decisions

	Remarks	Decisions
1	<i>a USGB decision</i>	<i>File No. 406243</i>
2		<i>.. 405243</i>
3		
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27		

GEOGRAPHIC NAMES

Survey No.

H#416

Name on Survey

	A, On Chart No. 5602	B, On previous survey	C, On U. S. quadrangle Maps	D, From local information	E, On local Maps	F, P. O. Guide or Map	G, Rand McNally Atlas	H, U. S. Light List	K	
<u>Eel River</u>	✓									1
<u>Centerville</u>	✓									2
										3
										4
										5
										6
										7
										8
										9
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										18
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										23
										24
<div style="border: 1px solid black; padding: 5px;"> Names underlined in red approved by <u>GHE</u> on 2/17/39 </div>										25
										26
										27
										28

HYDROGRAPHIC SURVEY NO. H6416

Smooth Sheet One

Boat Sheet Two

Records; Sounding 5 Vols., Wire Drag Vols., Bomb Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes

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)

Hydrography: Total Days 15 ; Last Date Oct. 11, 1938

Remarks _____

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. **H6416**

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

Number of positions on sheet	<i>.1389</i>
Number of positions checked	<i>...50</i>
Number of positions revised	<i>.....0</i>
Number of soundings recorded	<i>5590</i>
Number of soundings revised	<i>.....2</i>
Number of signals erroneously plotted or transferred	<i>.....0</i>
No. Sndgs. erroneously spaced	<i>...0</i>

Date: *Mar 6, 1939*

Verification by *Wallace A. Bruder* Time: *33^h 30^m*

Review by *J. A. McCormick*, March 23, 1939. Time: *14 hrs.*

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
 DESCRIPTIVE REPORT
~~PHOTOSTAT OF~~

} No. H **H6416**
~~No. T~~

{ received Feb. 2, 1939
 registered Feb. 10, 1939
 verified
 reviewed
 approved

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

ROUTE		Initial	Attention called to
20			
22			
24			
25			
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30			
40			
62			
63			
82			
83			
88			
90			

RETURN TO

82	T. B. Reed
----	------------

v JBR

lac

TIDE NOTE FOR HYDROGRAPHIC SHEET

February 21, 1939.

Division of Hydrography and Topography:

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

Plane of reference
~~Plane of reference~~ approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 6416

Locality Off Eel River, Northern California Coast.

Chief of Party: O.W. Swainson in 1938.
Plane of reference is mean lower low water reading
3.4 ft. on tide staff at Shelter Cove
7.1 ft. below B.M. 1.A
2.0 ft. on tide staff at North Jetty, Humboldt Bay
11.5 ft. below B.M. 1

Height of mean high water above plane of reference is 5.6 feet at
Shelter Cove; 5.8 feet at North Jetty.

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents.

- ① The records conform very well to the requirements of the General Instructions. ✓
- ② The usual depth curves were completely drawn. ✓
- ③ The field plotting was complete to the extent prescribed in the Hydrographic Manual; ✓
- ④ The office draftsman did not have to do over any part of the drafting done by the field party. ✓
- ⑤ At present there is only one contemporary adjacent sheet. This sheet H-6415 (1937-38) borders the complete western side of H-6416. The junction was not made due to H-6415 is not yet verified. See par. 4, review.
Field sheet number 1-38 borders the complete southern side. H-6420
At present there is no contemporary sheet on the northern side.

⑥ Remarks

The sounding lines have been literally "engraved" in the smooth sheet paper. In about 20 years this sheet will probably disintegrate into strips. It is recommended hereafter to use about a 5H pencil with ordinary pressure. Noted in review.

Punctuation should be omitted from bottom characteristics. If more than one classification, they should be separated by a space. Not mentioned in review.

By order of the Assist. Chief of Field Records the pencilled symbol for tide rips was left as put in by the field, and the word "Tide Rips" was lettered in the locality. D.K.
Further decision should be taken up by the reviewer.

$\phi 40^{\circ} 38.6'$ } There is a $1\frac{5}{6}$ fathom sand. that indicates
 $\lambda 124^{\circ} 18.9'$ } possibility of shallower water nearby. Close to shore.

Respectfully submitted,

Wallace A. Bruder 3/6/39

The shoreline in black was put on in ink by the verifier from T-4514 (1929) which was on the smooth sheet in pencil from the field. By the order of Asst. Chief of Field Records, this pencilled shoreline was carefully checked (and slightly revised in places) before inking. The mouth of Eel River has changed so much since 1929 that the sketch from the boat sheet of H-6416 has been shown in red as more exact location (1938).

W. A. Bruder 3/6/39

Control sheet T-6616 ⁷ (1938) on the northern half ✓
 and T-6615⁶ (1937-38) covers H-6416

See diagram 5602#2

Wire drag 6321 (1938) covers all of H-6416 except the northern tip which is covered by WD 6320 (1938). As per descriptive rept. H-6416, no shoal discoveries were found in dragging this area.

W. A. Bruder 3/6/39

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6416 (1938) FIELD NO. 2

Off Eel River, Northern California Coast, Calif.

Surveyed in May-Oct., 1938, Scale 1-10,000.

Instructions dated May 31, 1934; May 2, 1935; March 6, 1937 (GUIDE)

Hand Lead and Machine Soundings.

3 Point fixes on shore signals.

Chief of Party - O. W. Swainson, F. H. Hardy, E. W. Eickelberg.

Surveyed by - W. F. Malnate, G. M. Marchand, K. S. Ulm.

Protracted by - C. A. Schoene.

Soundings plotted by - C. A. Schoene.

Verified and inked by - W. A. Bruder.

1. Shoreline and Signals.

a. Shoreline originates with T-4514 (1929). The portion inked with a red dashed line at the mouth of Eel River was revised in accordance with sketched changes indicated on the boat sheet of the present survey.

b. Topographic signals originate with graphic control surveys T-6615b (1937) and T-6616a (1937).

2. Depth Curves.

The usual depth curves may be satisfactorily drawn.

3. Sounding Line Crossings.

Sounding line crossings are satisfactory.

4. Junctions with Contemporary Surveys.

a. The junction on the west with H-6415 (1937-38) is satisfactory. The junction on the south with H-6420 (1938) will be considered in the review of that survey.

b. There are no contemporary surveys on the north nor are any contemplated at the present time. The instructions for the project called for junction with H-4999 (1929) which overlaps the present survey on the north and contains some detached lines near the southern limits of the present work. Soundings from the older survey are in fair agreement with those on the present survey.

There are differences of 2 to 6 feet, however, the present survey being the shoaler. There is, a holiday a mile square where the present survey and H-6415 (1937-38) make a common junction with H-4999 (1929). This is not much greater than the holidays within the older survey, it being only a fragmentary survey at best and so rated by its reviewing officers. The holiday in question has been cleared with effective depths of 50 to 60 feet on H-6320 (1938) W.D. so there is no question of shoal dangers. The present survey should supersede H-4999 (1929) in the common area and beyond those limits the older survey will have to be supplemented by H-1294 (1875), discussed in par. 5b.

5. Comparison with Prior Surveys.

a. H-401 (1854).

This 1-375,000 scale reconnaissance survey covers the general area of the present survey but contains no information of sufficient detail for comparison. It should be disregarded in future charting of the common area.

b. H-1294 (1875), 1-20,000; T-1816 (1888), 1-20,000.

T-1816 contains hydrography at the mouth of the Eel River. As the mouth has shifted about $3/4$ mile to the south, there is a disagreement in depths in the common area, those on the present survey being the deeper by 1 to 2 fathoms. H-1294 covers the entire area of the present survey but is not as closely developed nor does it approach as closely to the beach. A mile offshore, depths on H-1294 are in good agreement with those on the present work. Inshore the discrepancies are similar to those with T-1816 off the old location of the river mouth. Off the present mouth, the present survey is the shoaler by 1 to 2 fathoms and maintains this difference to its southern limits. Because of these changes the present survey should supersede the old surveys in future charting of the common area.

6. Comparison with Wire Drag Surveys.

H-6320 (1938) W.D., H-6321 (1938) W.D.

These wire drag surveys cover the area of the present survey to within approximately $1/2$ mile of the beach. There are no conflicts between the effective drag depths and the hydrography.

7. Comparison with Chart 5602 (New Print dated Nov. 5, 1938).

Within the area of the present survey the chart is based entirely on surveys discussed in the foregoing paragraphs.

8. Condition of Survey.

- a. The sounding volumes are neat and legible.
- b. The descriptive report covers all items of importance.
- c. The field draftsman applied too much pressure to his pencil when joining positions on the overlay sheet, resulting in deep indentations on the smooth sheet which may become definite fractures after a few years. The field plotting was otherwise satisfactory.

9. Compliance with Instructions for the Project.

The present survey should have been carried to a more satisfactory junction with the older work (see par. 4b.).

10. Additional Field Work Recommended

Survey of the holidays discussed in par. 4b is desirable but not essential.

11. Superseded Old Surveys.

H-401 (1854) in part.	T-1816 (1838) entirely.
H-1294 (1875) in part.	H-4999 (1929) in part.

12. Reviewed by - J. A. Mc Cormick, March 23, 1939.

Inspected by - E. P. Ellis.

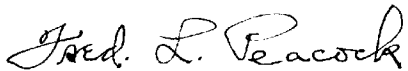
Examined and approved:



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



Chief, Division of Charts.



Chief, Division of Field Work.



Chief, Division of H. & T.

drawing of
applied to chart 5602 Oct. 9th 1939 J. S. L.