

6205

U. S. COAST & GEODETIC SURVEY
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Rev. April 1925
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

~~Topographic~~
Hydrographic } Sheet No. 9.

State WASHINGTON

LOCALITY
PUGET SOUND
HAMBERSLEY INLET

~~PUGET SOUND~~

1936.

CHIEF OF PARTY

G. C. JONES

U. S. GOVERNMENT PRINTING OFFICE

349

6205

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. 9.

REGISTER NO. H 6205

State Washington
General locality Puget Sound
Locality Hammersley Inlet
Scale 1:10,000 Date of survey October, 1936.
Vessel U.S.C. & G.S.S. EXPLORER
Chief of Party G. C. Jones
Surveyed by W. Weidlich
Protracted by W. Weidlich
Soundings penciled by W. Weidlich
Soundings in fathoms ~~feet~~ and fractions thereof.
Plane of reference M.L.L.W.
Subdivision of wire dragged areas by
Inked by L. A. McGarr
Verified by L. A. McGarr
Instructions dated March 29, 1934.
Remarks:

DESCRIPTIVE REPORT
TO ACCOMPANY HYDROGRAPHIC SHEET NO. 9
HAMMERSLEY INLET, PUGET SOUND,
WASHINGTON

1936

G. C. JONES, H. & G. E., C. & G. S.,

CHIEF OF PARTY

CONTROL:

Triangulation and topography in advance furnished the necessary control.

TIDES:

Due to the great difference in time of tide at Arcadia Point just outside the Inlet and at Shelton, an attempt was made to determine time differences at various points and apply corrections in such manner that the error would not exceed 6 minutes or the jump when changing staffs would not exceed 12 minutes, amounting to a difference in reference plane of about 0.5 feet. A staff was placed at Church Point (Longitude $123^{\circ} 00.7'$) and the specified 5 day comparison made. Another staff was placed at triangulation station PAST and observed through a high and a low for time difference only. No plane of reference was determined for this staff and observations thereon were not used in reducing records, but the indicated time difference was applied to the Arcadia gage.

Lines were drawn on the boat sheet in red and the time corrections to be applied to the two gages (Arcadia and Shelton) and the staff (Church Point) noted. Reducers were then entered accordingly.

CHARACTERISTICS OF BOTTOM:

The bottom in general is very irregular in Hammersley Inlet, rocky, sandy with gravel and muddy at the heads of the numerous indentations in the shoreline.

In Oakland Bay, and at its head, the bottom in general is muddy with occasional sand and gravel.

LOW WATER LINE:

The low water line was established in practically all cases at the beginning and end of the lines. There are, however, exception, especially near the south shores of Hammerley Inlet, where the lines run parallel to the shore, end at log rafts, piling, wharves, fleets and other obstructions.

DEPTH CURVES:

The depth curves are very erratic, and in some cases it is practically impossible to draw all the curves without obliterating the soundings.

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DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SHEET NO. 9, H-6205

HAMMERSLEY INLET, PUGET SOUND,

WASHINGTON

1936

AUTHORITY:

The hydrography on this sheet was executed under instructions of the Director, U. S. Coast and Geodetic Survey, dated March 29, 1934, Project No. H.T. - 171.

SCALE:

The scale is 1:10,000 and the soundings are in fathoms and fractions thereof.

LIMITS:

This survey covers the whole navigable area west of Longitude $122^{\circ} 57'$, and connects at its eastern limit with hydrographic sheet No. 8 (1:10,000).
H-6204

METHODS:

The approved methods of the service were used throughout.

The Launch "Delta" was used for all the work ~~and~~ indicated by red letters.

All soundings are hand lead soundings and are up and down casts.

The sounding lines run with the channel in easterly and westerly directions, except in the channel near Skookum Point where the lines run in a north-north-west and south-south-east direction. The lines are spaced 50 meters and less apart, except in Oakland Bay, north of Shelton, where the spacing is about 100 meters.

On account of the very strong current on "a" and "b" days the lines were run against the current, which at that time had an estimated velocity of from 3 to 4 knots. On other days when the current was much weaker, the regular system of running sounding lines was followed, however, changing localities, depending upon the strength of the current.

The intervals between positions are irregular at times, which was unavoidable as during the work numerous counter eddies were experienced.

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gsk

No attempt was made to draw a curve off Skookum Point where station FOSSE is located. Within a few yards of the steep bank soundings of 12 and 13 fathoms were obtained.

Curves added in office where space permitted.

KELP:

This area is free of kelp.

COMPARISON WITH PREVIOUS SURVEYS:

In view of the fact that this survey is much closer than previous surveys, a fair comparison can not be made. The depth in the channel south of Skookum Point was reduced by several feet. Additional details noted in Revy par. 7.

GEOGRAPHIC NAMES:

All new geographic names are hereby referred to topographic field sheets No. "M" and "S", which cover this entire territory.

T-6538 T-6544

DANGERS AND OBSTRUCTIONS:

The shoal west of Cape Horn (signal NIK) at the east limit of the sheet and the shoal east of Libby Point Light will be removed by the U. S. Army Engineers and operations began May 3, 1937, according to information received from the U. S. Army Engineers.

No. 1: A narrow gravel spit extends for about 300 meters west from Libby Point Light and bares from 1 to 3 feet at M.L.L.W. Lat. 47° 12' 0", Long. 122° 59' 5"

No. 2: A narrow shoal with ^{two} least depths found of 4 feet at M.L.L.W. lies about 200 meters southeast of station FOSSE (Skookum Point). This shoal is about 300 meters long and 40 meters in width and is surrounded by somewhat deeper water. The bottom is sand and gravel. Lat. 47° 12' 2", Long. 123° 00'

No. 3: A sand and gravel spit extends for about 375 meters in a north-westerly direction from station FOSSE and bares from 1 to 3 feet at M.L.L.W. Shoal area extends for about 100 meters in northerly and about 200 meters in westerly direction from the spit. East of the spit the water is deep and drops off to depths of 12 and 13 fathoms. The channel west of the spit is clear in mid-channel with depths ranging from 2-1/8 to 9 1/4 fathoms. Lat. 47° 12' 3", Long. 123° 00' 4"

1/6

No. 4: The body of water west of Eagle Point (station EAGLE) near the numerous piles and dolphins is comparatively shallow and the low water line will be found about 100 meters west of the dolphins. (Signals LOT, HAR, CRAW and FORD).
offshore end of the Lat. 47° 12.4, Long 123° 05.0

No. 5: The east face of the wharf near signal END has a controlling depth of 1-1/2 fathoms. Bottom is sticky and muddy. See sketch, volume 4, page 4. The float as shown on this sketch is not shown on the topographic sheet. Measurements were not taken by the hydrographic party and the soundings obtained at this float are shown on the smooth sheet, with distance estimated.
 Lat. 47° 12.9, Long. 123° 05.1

Float not plotted.
 Not a permanent feature. H.W.U.

No. 6: The narrow channel connecting Oakland Bay with the head of the bay has a controlling depth of 2 feet at M.L.L.W. at the center. Bottom is very irregular, but greater depths, up to 5 feet may be had near the east shores, at times almost touching the overhanging trees.
Not a controlling depth Approx. Lat. 47° 14.5 Long. 123° 02.3

The head of the bay is of no commercial importance except for the numerous oyster beds, and for mooring of log rafts.

CURRENTS:

No current observations were taken in this locality except from observations while sounding. The estimated velocity of the current is from 3 to 6 knots, runs with the channel with numerous counter eddies. Heavy swirls were encountered in the vicinity of Cape Horn (signal NIK) and Skookum Point.

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REMARKS:

This body of water is navigated by shallow draft vessels only and by tugboats with log rafts and barges in tow. Local knowledge is required and it is not advisable for strangers to negotiate this passage except with rising tides after half tide.

Shallow draft vessels load and discharge alongside the pier at the south shore of Shelton near signal FAN and enter with rising tide.

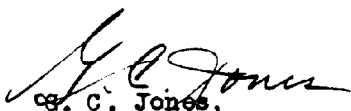
Respectfully submitted,

W. Weidlich
 W. Weidlich,
 Mate, C. & G. S.,
 U.S.C. & G.S.S. EXPLORER.

Blue print, U. S. Engineers Office,
Seattle, Washington, is attached to this report. Duplicate of Bp. 29904(1936) on file in
this office and has therefore been
destroyed. No idg's charted, not considered
in Review. H.W.M.

Sheets and all records connected
therewith, examined and approved. *report approved*

forwarded


C. C. Jones,
Commanding Officer,
U.S.C. & G.S.S. EXPLORER.

STATISTICS

HYDROGRAPHIC SHEET NO. 9

DATE	VOL.	DAY	BOAT	STAT.		SOUNDINGS HAND	NAUT. MILES RUN		
				MILES	POS.		TO & FROM	MISC.	TOTAL
Oct. 8	1	a	Delta	8.1	95	489	3.0	3.0	13.0
" 10	1	b	"	11.0	115	597	3.5	6.0	19.1
" 11	1	c	"	12.9	143	671	3.0	2.0	16.2
" 14	2	d	"	17.0	152	738	7.5	3.2	25.5
" 15	2	e	"	13.3	160	733	7.0	4.7	23.3
" 16	2&3	f	"	16.1	152	726	11.0	2.7	27.8
" 17	3	g	"	17.5	158	789	10.0	0.0	25.0
" 18	4	h	"	<u>12.7</u>	<u>141</u>	<u>562</u>	<u>6.0</u>	<u>7.0</u>	<u>24.0</u>
Total:				108.6	1116	5305	51.0	28.6	173.9

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. **H6205**

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

Number of positions on sheet	..111.4
Number of positions checked	...60.
Number of positions revised	...16.
Number of soundings recorded	...5305
Number of soundings revised	...50.
Number of signals erroneously plotted or transferred

Date: *Nov. 8, 1937*

Verification by *Leonard A. McNamee* Time: *50 hours.*

Review by *Harold W. Murray* Time: *16 1/2 "*

Ver. cor. by *"* Time: *3 "*

H. W. 3

HYDROGRAPHIC SURVEY NO. H6205

Smooth Sheet Yes

Boat Sheet Yes

Sounding Records 4 Vols. _____

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes (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 _____ HYDROGRAPHY

Total Days 8

Last Date Oct. 18, 1936

VERIFIER'S REPORT ON H-6205 (1936)

The records conform to the requirements of the Hydrographic Manual instructions except that the name of the leadman has not been entered on the first page of each day's work. ✓

Only the five ^{and ten-} fathom depth curves can be completely drawn. Additional soundings are required in order to delineate the incomplete curves. The low water line could not be completed from the low water lines shown on T-6538 (1936) and T-6544 (1936) as the low water line shown on these topographic surveys has been transferred from the hydrographic survey H-6205 (1936). (See note on T-6538 and T-6544.) The low water line has been revised on H-6205 during the verification and it is no longer in agreement with the low water line on T-6538 and T-6544. Important differences corrected. H.W.M.

Line 37 - 46 "e" day (red) had to be replotted in this office. There had been no coordination of soundings and positions previous to the rearrangement of this line. ✓

The shoreline and signals of H-6205 (1936) originate with T-6538 (1936) and T-6544 (1936). The shoreline has been roughly transferred. The more important discrepancies were corrected. H.W.M.

Two discrepancies of soundings occur. One at lat. $47^{\circ} 14.5$ long. $123^{\circ} 02.6$ shows $2/6$ fathom on line 116-117 "g" as compared to zero on line 86 - 87 "h".

The other at lat. $47^{\circ} 14.55$ long. $123^{\circ} 02.25$ shows a zero at position 118 "g" as compared to $5/6$ fathom on line 50 - 51 "h".

Shoal spots plotted, sharp slope in bottom.

There is a large scale sketch of the detail of docks and floats at lat $47^{\circ} 12.$ long $123^{\circ} 05.1$ in vol. 4, pages 3,4. See report page 4. Not plotted on smooth sheet. Temporary structure.

Of the 50 soundings revised, 6 were revised because of incorrect reductions and the remainder for other errors. ✓

Junctions. This survey joins H-6204 (1936) on the east. This junction will be completed after the verification of H-6204 is completed. ✓

Leonard A. McGann
Leonard A. McGann
November 9, 1936.

Remarks

Decisions

1		USGB decision
2		see T-6538
3		" "
4		" "
5		" "
6		" "
7		" "
8		" "
9		" "
10		" "
11		" "
12		see T-6544
13		" "
14	For Title	USGB decision Puget Ed.
15	" "	" "
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
M 234		

GEOGRAPHIC NAMES

Survey No. H-6205

Name on Survey	On Chart No. 6460		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								
<u>Hammersley Inlet</u>	✓									1
<u>Cape Horn</u>	✓									2
<u>Cape Cod</u>	✓									3
<u>Cannery Pt</u>	✓									4
<u>Libby Pt</u>	✓									5
<u>Skookum Pt</u>	✓									6
<u>Church Pt</u>	✓									7
<u>Miller Pt</u>	✓									8
<u>Munson Pt</u>	✓									9
<u>Eagle Pt</u>	✓									10
<u>Shelton</u>	✓									11
<u>Oakland Bay</u>	✓									12
<u>Chapman Cove</u>	✓									13
<u>Puget sd</u>	✓									14
<u>Washington</u>	✓									15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

Names underlined in red approved
 by JHE on 6/10/37

L.A.C.

CS
Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Ed. Feb. 1935

TIDE NOTE FOR HYDROGRAPHIC SHEET

June 11, 1937.

Division of Hydrography and Topography:

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

Tide Reducers are approved in
4 volumes of sounding records for

HYDROGRAPHIC SHEET 6205

Locality Hammersley Inlet, Puget Sound, Washington

Chief of Party: G.C. Jones in 1936.

Plane of reference is mean lower low water, reading

- 5.0 ft. on tide staff at Arcadia
- 15.7 ft. below B.M. 2
- 1.9 ft. on tide staff at Church Point
- 12.7 ft. below B. M. 1
- 4.0 ft. on tide staff at Shelton.
- 20.5 ft. below B. M. 2

Height of mean high water above plane of reference is 14.0 feet at
Arcadia; 13.9 feet at Church Point; 13.4 feet at Shelton.

Condition of records satisfactory except as noted below:



Acting Chief, Division of Tides and Currents.

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
 DESCRIPTIVE REPORT } No. H -6205
~~PHOTOSTATIC COPY~~ } ~~No. H -6205~~

{ received May 20, 1937
 registered June 3, 1937
 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		<i>sent notice</i>
26		
✓ 30	<i>WS</i>	<i>page 4 & 1 & 2</i>
40		
62		
63		
82		
83		
88		
90		

RETURN TO

82	C. K. Green
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Pages 1 and 4

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6205 (1936) FIELD NO. 9

Hammersley Inlet, Puget Sound, Washington
Surveyed in October 1936, Scale 1:10,000
Instructions dated March 29, 1934 (EXPLORER)

Hand Lead Soundings.

3 Point fixes on shore signals.

Chief of Party - G. C. Jones.
Surveyed by - W. Weidlich.
Protracted by - W. Weidlich.
Soundings plotted by - W. Weidlich.
Verified and inked by - L. A. McGann.

1. Condition of Records.

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

- a. The name of the leadsman was not entered at the beginning of each day's work. (Par. 64).
- b. Differences of as much as 20 m. were noted in the transfer of portions of the high water line from the topographic sheet to the hydrographic sheet. The more important of these were corrected in the office.

The Descriptive Report is clear, very comprehensive and satisfactorily covers all items of importance. It is suggested, however, that references to specific items such as shoals, etc. (See Descriptive Report, pages 3 and 4 "Dangers and Obstructions") be accompanied by the geographic positions to facilitate spotting on the smooth sheet.

2. Compliance with Instructions for the Project.

The plan, character and extent of the survey satisfy the Instructions for the Project, except as follows:

- a. The single 5/6 fathom sounding falling in depths of 1-5/6 fathoms in lat. 47° 13.4', long. 123° 03.8' should have been investigated. Although the Descriptive Report (page 4, item No. 6) states that the head of Oakland Bay, vicinity of lat. 47° 15', long. 123° 02', is of no commercial importance, the low water line should, if possible, have been completely developed.
- b. The Descriptive Report, page 1 (5th par. under "Methods") states that "on account of the very strong current on 'a' and 'b' days, the lines were run against the current, which at that time had an estimated velocity of from 3 to 4 knots."

It has been definitely established that accurate soundings cannot be obtained with a hand lead when sounding lines are run across or against strong currents. (See page 131 and 132 of Hydrographic Manual with corrections to page 132 from errata and addenda sheet, 1935).

By assuming a maximum velocity of 3 knots and using the times of flood and ebb from the published Current Tables (these tables are based on observations made about 3 miles to the westward and give a maximum velocity of about 1 knot) it was determined that of the lines run on the above days, 10 lines were run against a current ranging from 1-1/2 to 3 knots. A current under 1-1/2 knots was not considered sufficiently strong to affect materially the accuracy of the sounding. The 10 lines run against the current fall in the area between Cape Horn and Libby Point and the depths uncorrected for tide vary from 1 to 5 fathoms with an average depth of about 3-1/2 fathoms. Specifically the soundings involved are those between pos. 1 and 46 of "a" day and between pos. 25 and 83 of "b" day. These soundings may, therefore, be 1 to 3 feet too deep (based on experiment given on page 132 of the Hydrographic Manual). No change, however, was made in these soundings because of uncertainty in the factors involved. The lines should be re-run when opportunity affords.

3. Shoreline and Signals.

The shoreline and signals originate with T-6538 (1936) and T-6544 (1936).

A number of topographic signals and triangulation stations fall outside the high water line. These are not located on any permanent topographic feature, the Descriptive Report of the respective topographic sheets stating that the topographic signals between the high and low water lines other than piling (so noted) being on trees or logs of a non-permanent nature and the descriptive cards of the triangulation stations stating that the latter are standard triangulation marks established between the high and low water line.

4. Sounding Line Crossings.

No general system of cross lines was run but those that were as well as the adjacent lines, show good agreement.

5. Depth Curves.

Within the limits of the survey the usual depth curves may be satisfactorily drawn including portions of the low water, 1 and 2 fathom curves.

6. Junctions with Contemporary Surveys.

The junction on the east at the entrance to Hammersley Inlet with H-6204 (1936) is satisfactory.

7. Comparison with Prior Surveys.a. H-1446b (1879), Scale 1:10,000.

The major portion of this survey completely covers the area of the present survey. Soundings are referred to a plane of reference which is 4.3 feet below that of the present survey. The hydrography consisting of sounding lines generally spaced 125 to 425 m. is sparse and no adequate comparison can be made with the present survey. It is noted, however, that the present survey bears out the essential features, shows considerably more irregularity in bottom and indicates that little or no changes have occurred especially in the broad flat areas. Special mention is made of the following:

- (1) A 1-4/6 fathom sounding (not charted) in lat. 47° 12.3' long. 123° 03.2' falls between too closely spaced lines in depths of 2-1/6 fathoms on the present survey. The 1-4/6 fathoms is the shoalest of several other soundings on line (Pos. 32 - 33e) which vary 1 to 2 feet deeper. In view of the close development on the present survey and the fact that a small deepening in the sand and gravel bottom is indicated here, this shoal spot has undoubtedly been worn away and should be disregarded in future charting.
- (2) A minus 1-1/6 fathom sounding (charted as a shoal spot) in lat. 47° 12.35', long. 123° 02.4', falls directly on the low water line and was not confirmed on the present survey. The 1-1/6 fathom is a single sounding on line (pos. 48 - 49e) run directly across the channel. Inasmuch as the hydrographer on the present survey passed directly over this shoal during an 8 foot tide at which time the shoal was just 1 foot under the water, he could not have failed to see the shoal if it existed. In view of this and the soft character of the bottom, the shoal has probably been worn away and should be disregarded in future charting.
- (3) A sunken rock symbol accompanied by a 1/2 fathom sounding (falls near charted 1/4 fathoms) in lat. 47° 12.2' long. 122° 57.3' falls in the center of a shoal area and near a zero fathom sounding (hard bottom) on the present survey. The 1/2 fathoms is a single sounding on line (pos. 18 to 19c) accompanied by the notation "probably on Rock". In view of the fact that the present survey shows shoaler depths here, no further consideration is necessary.

- (4) No authority could be found in the sounding records nor from other sources for the group of three sunken rocks (one charted) in lat. $47^{\circ} 12.2'$, long. $123^{\circ} 00.0'$ which fall in depths of $5/6$ fathoms on the present survey. The present survey, however, shows a single rock awash just eastward from T-6538 (1936). In view of the uncertain origin, these rocks are probably a generalized representation and should be superseded by the present survey in future charting.

The more detailed present survey should supersede this survey in future charting.

- b. T-1609 (1879-80), scale 1:10,000 --- Reference Pars. 4a(1)(c); Review of T-6538 (1936) and 4a(3); Review of T-6544 (1936).

A number of rocks, sunken and awash (some charted) originating with this survey were not verified nor mentioned on the present survey nor on the contemporary topographic sheets except in one case, due no doubt to the high stage of the tide when surveying in this area. Since these rocks fall inside or close to the low water line, they are all necessarily rocks awash and not sunken rocks. Except in the case listed below, these rocks have been carried forward from T-1609 (1879-80) as rocks awash (transfer based on shoreline, see Rev. of T-6538 and T-6544; pars. 4a(1) and 4a respectively for shoreline discrepancies).

A sunken rock (not charted) in lat. $47^{\circ} 12.1'$, long. $122^{\circ} 57.2'$ falls just outside the high water line on the present survey. The hydrographers of both the present survey and H-6204 (1936) on the east were close to the rock at tides of $2-1/2$ and 3 feet respectively; in addition, a note in the records of the present survey (pos. 2c) states "at edge of low water line." The locality of the rock was, therefore, exposed at the time and if existing would doubtless have been noted. The rock has, therefore, not been carried forward.

The present survey with the indicated additions should supersede the rock detail on T-1609 (1879-80) in future charting.

8. Comparison with Chart No. 6460 (New Print dated July 26, 1937)

a. Hydrography.

Hydrography shown on the chart originates with surveys discussed in preceding paragraphs of this review and also H. R. Document No. 213 (61st Congress, 2nd Session of 1909) and Chart Letter No. 52 of 1912 (tracing of portions of H. R. Doc.) which cover Hammersley Inlet. The soundings are referred to a plane of reference 4 feet below that of the present survey and because of the general sparseness of

detail no adequate comparison with the present survey can be made. It is noted, however, that the shoal area shown awash at L. W. (charted) in lat. $47^{\circ} 12.4'$, long. $123^{\circ} 00.1'$, falls in depths of $1\frac{1}{2}$ to 3 fathoms and just north of an extensive shoal area with least depths of $\frac{4}{6}$ fathoms on the present survey. The present survey development here is sufficiently intensive to show that the shoal area does not now exist as shown on the chart and should, therefore, be disregarded in future charting. The larger scale present survey bears out in greater detail the essential features on this survey and within the area covered should supersede it in future charting.

b. Aids to Navigation.

The fixed aids to navigation shown on the present survey agree with the charted positions and satisfactorily mark the features intended.

9. Field Plotting.

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

10. Additional Field Work Recommended.

No additional field work is required.

11. Note to Compiler.

The compiler's attention is called to the following:

- a. The pile in lat. $47^{\circ} 13.1'$, long. $123^{\circ} 04.7'$, which was plotted from a note in the sounding records (Vol. 3, page 21), and is not shown on T-6544 (1936).
- b. The Descriptive Report, page 3, "Dangers and Obstructions" regarding the shoal west of Cape Horn (lat. $47^{\circ} 12'$, long. $122^{\circ} 57'$) and another shoal east of Libby Point (lat. $47^{\circ} 12'$, long. $122^{\circ} 59'$) which are being removed by the U. S. Army Engineers.

12. Superseded Prior Surveys.

Within the area covered the present survey supersedes the following survey for charting purposes:

H-1446b (1879) in part.

13. Reviewed by - Harold W. Murray, Dec. 10, 1937.

Information written for Dec 1946 - Mc Gann

Inspected by - A. L. Shalowitz.

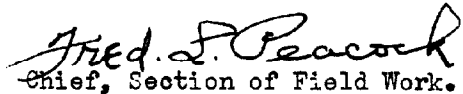
Examined and approved:



T. B. Reed,
~~Acting~~ Chief, Field Records Section.



Chief, Division of Charts.



Chief, Section of Field Work.



Chief, Division of H. & T.

Applied to Cht. 6460 Sept. 15, 1938 K.P.

Applied to chart 6461 Dec 24, 1946 Lam.

H-6204-5

6450

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