

4606

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Form 504	
DEPARTMENT OF COMMERCE	
U. S. COAST AND GEODETIC SURVEY	
....., Director	
State: <u>Washington</u>	
DESCRIPTIVE REPORT	
<i>Topographic</i> <i>Hydrographic</i>	} Sheet No. 4606
LOCALITY	
<u>Strait of Juan de Fuca</u>	
<u>Haro Strait to Rosario Strait</u>	
1926	
CHIEF OF PARTY	
<u>H.A. Cotton</u>	

DESCRIPTIVE REPORT

To Accompany

HYDROGRAPHIC SHEET NO. 4606

Field Letter "C"

Banks in North East Part of Juan de Fuca Straits

Scale 1:40,000

Motor Vessel NATOMA

HAROLD A. COTTON, Commanding

INSTRUCTIONS

The Hydrography on this sheet was executed in accordance with the Directors instructions to the Commanding Officer of the Motor Vessel NATOMA dated August 10th, 1926.

LIMITS

The work on this sheet includes Hydrography over Middle, Hein, and Eastern Banks, the western part of Smith Island Shoal, also Lawson Reef and the area between Smith Island and Lopez Island.

Some fourteen soundings originally recorded in the records of the 1:20,000 sheet of inshore Hydrography of San Juan Island (Field Letter "B") but which fell outside the limits of that sheet have been copied into Volume Two, Pages Seventeen to Nineteen of the ships work on this sheet.

This sheet joins the inshore work of Lopez Island sheet, (Field Letter "A").

CHANGES IN DEPTHS

The general depths on Middle Bank were found to be approximately the same as those shown on the chart. Eleven fathoms were found in the location of the Ten fathom spot shown on the chart. The bottom is all gravel.

Hein Bank was found to be approximately as charted except for the location of the twenty fathom curve at the northern end, which this survey shows to lie close to the ten fathom curve. In accordance with instructions no attempt was made to obtain the least depth on Hein Bank. The kelp patch north of the buoy was found to be much smaller than shown on the chart. The bottom is sand and gravel.

The shoal area west of Smith Island was found to be approximately as charted, except that the ten fathom curve extends about Two Hundred Meters farther west than shown on the chart. On one sounding (position 59e) a seven fathom sounding was recorded which apparently should have been eleven fathoms. Ten fathoms was found when the launch went back to check it up. The bottom is fairly regular, with a few lumps with one to two fathoms less water than the surrounding area. The bottom is mostly sand and gravel with some rock. *Confirmed by 6 1/2 on H-6747 (1941), also uncharted 6 1/2 fm.*

No changes were found in the entrance to Rosario Strait. No attempt was made to determine the least depth on Lawson Reef or on the shoal three miles west of it in accordance with the Instructions.

The general depths over Eastern Bank were checked by this survey but greater depths were found over several soundings near the twenty fathom curve of the previous survey. Twenty four fathoms over the fifteen fathom spot at the southwest corner of the bank; eighteen fathoms over the fourteen fathom spot on the south side of the bank and eleven and one half fathoms over the ten fathom spot on the northeast corner were the least depths obtained. The bottom is very even gray sand with some gravel in the shoaler spots. The strong currents which sweep over the bank may be gradually washing it away.

CHANGES IN DEPTH Cont.

The area between Smith Island and Lopez Island has a general depth of forty five to fifty fathoms gray sand with several rocky spots with twenty three to thirty three fathoms over them. These spots were carefully developed with the lead but it is recommended that the area be dragged with the long wire sweep when practicable. On one of these spots it appears that the registering sheave was read ten fathoms too shoal (Position Twenty Nine C) day ships work). A sounding of fifteen fathoms was read off but later a very careful development by the launch failed to find less than twenty five fathoms

SURVEY METHODS

All work was done on fixed positions from objects on shore. The twenty four foot Motor Sailer in charge of M. O. Witherbee did the work on Middle and Hein Banks, Smith Island shoal and Lawson Reef also some developing of of shoal soundings south of Lopez Island. Eastern Bank and the half mile lines between Lopez Island and Smith Island were done by the ship.

The motor sailor used the ten pound lead with bronze center line up to twelve fathoms and twelve pound lead with stranded wire and hand machine for greater depths. The ship used a twelve pound hand lead with bronze center line up to eighteen fathoms and a thirty pound lead with stranded wire on the electric machine for greater depths. All soundings were up and down backing the engines as necessary. The launch and ship were both brought to a dead stop before letting go the lead on machine soundings.

Respectfully submitted
J. Reading

STATISTICS SHEET NO. _____

(Field Letter C)

Date, 1926	Letter	Volume	Positions	Soundings	Miles Statute	Vessel
October, 18th	a	1	111	231	16.4	M.S. 8610
October 19th	b	1	58	59	7.9	M.S. 8610
October, 20th	c	1	144	311	21.3	M.S. 8610
October, 25th	d	1	93	114	18.3	M.S. 8610
October 25th	e	1&2	124	215	21.8	M.S. 8610
October 27th	f	2	138	201	16.8	M.S. 8610
November, 1st	g	2	60	62	7.0	M.S. 8610
November, 3rd	h	2	6	6	1.5	M.S. 8610
October, 19th	A	1	26	26	5.0	NATOMA
October, 20th	B	1	117	176	32.0	NATOMA
October 26th	C	1	90	90	26.3	NATOMA
October, 27th	D	1&2	33	34	10.0	NATOMA
October, 28th	E	2	25	25	7.5	NATOMA
Total			1025	1550	191.8	

Area 49.8 Square Miles
 Soundings plotted in fathoms.
 Plane of reference - M.L.L.W.

For soundings on Middle Bank automatic tide guage at Kanaka Bay, San Juan Island was used.

For all other soundings on this sheet automatic tide guage at Aleck Bay, Lopez Island was used.

Kanaka Bay Guage No. 134

Aleck Bay Guage No. 164

(feet on staff)	Date	(feet on staff)	Date
Plane of Reference 3.4		4.3	
Lowest tide observed 1.7	Oct. 25th	2.6	Oct. 25th
Highest tide Observed 11.3	Oct. 16th	12.2	Oct. 16th

Above plane of reference determined by one months continuous observations on each guage and checked by simultaneous comparison between them.

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO No. 11-DRM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

May 10, 1927.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4606

Strait of Juan de Fuca, Washington

Surveyed in 1926

Instructions dated Aug. 10, 1926 (NATOMA)

Chief of Party, H. A. Cotton.

Surveyed by O. S. Reading, M. O. Witherbee.

Protracted and soundings plotted by C. I. Aslakson.

Verified and inked by H. E. MacEwen.

1. The records conform to the requirements of the General Instructions.
2. The plan and character of development satisfy the requirements of the specific instructions.
3. The plan and extent of the survey satisfy the specific instructions.
4. The usual depth curves could be completely drawn.
5. The usual field plotting was completed by the field party and was satisfactorily executed.
6. The junction with H. 4592 is satisfactory.
7. Attention is called to the following:

(a) A 6 fathom sounding was located by the field party at the end of the shoal area west of Smith Island (position 59 e - red). Although the subsequent work seems to disprove this depth, and as stated in the descriptive report the original sounding should probably have been 11 fathoms instead of 7, yet the 6 fathoms is retained since it appears that the original entry in the record was actually 9 and was then corrected to 7 (probably by the recorder). *Confirmed by 6 1/2 fm on H-6747(1927) G.F.J. 3/20/46*

(b) The 15 fathom sounding recorded at position (29 c - blue) which plots in latitude 48° 23' 1199 m., longitude 122° 52' 462 m. seems clearly an error of 10 fathoms. The many subsequent soundings taken

over this spot warrants this conclusion. The sounding was therefore omitted from the sheet. However, it is recommended that when drag work is done in this locality this spot be also covered. *§12*

8. For the guidance of the compiler the following remarks, relative to the banks and reefs on this sheet are noted:
 - (a) Owing to the intentional incompleteness of this survey on Lawson Reef and Hein Bank (authorized by the specific instructions, paragraph 11) this survey should not be considered as superseding the old shoal soundings on these reefs.
 - (b) The charted 11 and 14 fathom soundings southeast of Middle Bank in approximately latitude $48^{\circ} 24'$, longitude $123^{\circ} 05'$ should still be retained pending further examination. While it is possible that these soundings really belong on Middle Bank (they were taken from H. 433, scale 1:100,000) the character of the bottom would hardly justify this conclusion without some investigation being made.
 - (c) The charted 10 fathom sounding to the southwest of Hein Bank in latitude $48^{\circ} 19 \frac{1}{2}'$, longitude $123^{\circ} 04 \frac{1}{4}'$ should still be retained. No record of the source of this sounding could be found in the office and it was probably charted from a British Admiralty chart (see 2689). The information on the present survey does not warrant its removal from the charts.
9. Additional work is necessary as mentioned in paragraph 7(b) and in paragraph 8 (a), (b), and (c).
10. Character and scope of surveying - excellent.
Field drafting - excellent.
11. Reviewed by A. L. Shalowitz, May, 1927.

Approved:

A. L. Shalowitz

Chief, Section of Field Records (Charts)

L. O. Pollock

Chief, Section of Field Work (H. & T.)

Section of Field Records.

Report on Hyd. Sheet No. 4606

Surveyed in 1926

Chief of Party - H. A. Cotton.

Surveyed by - O. S. Reading and M. O. Wetherburn

Projected by - C. I. Jackson

Sounding Plotted by - C. I. A.

Verified and linked by - H. MacEwen

1. The records conform to the requirements of the General Instructions. ✓
2. The plan and character of the development ✓ fulfil the requirements of the General Instructions.
3. The plan and extent of development satisfy the specific instructions.
4. No system of cross lines was used. ✓
5. The usual depth curves can be completely drawn within the areas covered. ✓
6. The field plotting was complete. ✓
7. The office draftsman did not have to do over any of the work done in the field. ✓

8. No further lead time surveying is required to fully develop the areas covered on this sheet.

9. Remarks:

(a) The six (6) fathom ~~is~~ sounding West by north of Smith Island light house is questioned by the field party. (Station 594) A note in the record indicates that this sounding was disproved by later developments; but is not rejected by the Chief of Party. For this reason it was shown on the finished sheet.

(b) Sounding of 15 fathoms at position 29c South by East of Seberg Point Boundary Monument is questioned by the field party. A note in the record indicates that this sounding is ten (10) fathoms too shoal; but it is not rejected by the Chief of party and was therefore shown on the finished sheet.

(c) The set of the current was noted at the buoy on Stein Bank and recorded in the sounding record.

Report on H. 4606 (Cont) III

10. ~~Rating of work:~~

~~(a) Character and scope of surveying - Excellent.~~

~~(b) Field drafting - Excellent.~~

May 6, 1927

Respectfully submitted

H. E. Mason

Certigrapher.

Reviewed by:

WWT
April 1, 1927.

(11)

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
volumes of sounding records for

HYDROGRAPHIC SHEET 4608

Locality: STRAIT OF JUAN DE FUCA.

Chief of Party: E. A. Cotton

Plane of reference is M L L V

6.0 ft. on tide staff at Aleck Bay
5.1 ft. do Kanaka Bay

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

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Chief, Division of Tides and Currents.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. **4605**

4605

State ~~WASHINGTON~~ Strait of Juan de Fuca
 General locality . . . JUAN DE FUCA STRAIT
 Locality . . . ~~EASTERN END~~ Haro Strait to Rosario Strait
 Chief of party ~~O. S. READING, H. & G. B.~~ H.A. Cotton
 Surveyed by . O. S. READING & M. O. WITHERS
 Date of survey . . . October. - November, 1926
 Scale . . . 1 : 40,000
 Soundings in . . . Fathoms
 Plane of reference . . . M.L.L.W.
 Protracted by C.I. A. . . Soundings in pencil by C.I. A.
 Inked by Verified by
 Records accompanying sheet (check those forwarded):
 Des. report, Tide books, Marigrams, 2 Boat sheets,
4 Sounding books, Wire-drag books, Photographs.
 Data from other sources affecting sheet

Remarks: