# 5155

Form 504 Ed. June, 1928

#### DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY
R. S. PATTON, Director

State: WASHINGTON ...

## DESCRIPTIVE REPORT

Hydrographic Sheet No. 27

LOCALITY

Washington Coast

East of Cape Flattery

Strait of Juan de Fuca

Cape Flattery to Sail Rk, and Vicinity

1931\_\_

CHIEF OF PARTY

K. T. Adams

#### DEPARTMENT OF COMMERCE

U. S, COAST AND GEODETIC SURVEY

## 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. 27

REGISTER NO. 5 1 5 5
State WASHINGTON
General locality Strait of Juan de Fuca
Sail RK, and Vicinity Locality Cape Flattery to Triesgulation Station Brush.
Scale 1:20,000 Date of survey June - July 1931
Vessel U.S.C. & G.S.S. GUIDE.
Chief of Party K. T. Adems
Surveyed by J. C. Partington and J. C. Mathisson.
Protracted by J.H. Brittain, J.N. Jones and E.H. Sheridan.
Soundings penciled by J. H. Brittain
Soundings in fathoms **Deset**
Plane of reference MaLaLaWa
Subdivision of wire dragged areas by
Inked by
Verified by
Instructions dated May 7 and 21, 1931
Remarks:

5155

#### DESCRIPTIVE REPORT

to accompany

Hydrographic Sheet, Field No. 27

U.S.C. and G.S.S. GUIDE.

K.T. Adams, Chief of Party

Season 1931

#### INSTRUCTIONS:

The authority for this survey was contained in the Director's instructions dated May 7, 1931, and supplemental instructions dated May 21, 1931.

#### LIMITS AND LOCALITY:

This sheet comprises a complete resurvey, with the exception of Neah Bay, of the area from Cape Flattery to Triagulation Station Brush - 1931 and offshore to a junction with the ship work. The sheet joins Sheet Field No. 26 at Cape Flattery and Sheet Field No. 28 at the eastern limit. It makes an offshore union with Ship Sheets Field Nos. 45 and 47, and joins Sheet Registry No. H-3894 around Neah Bay.

Neah Bay was surveyed during a previous year on Sheet Registry No. 3894 and the supplemental instructions dated May 21, 1931, did not require a resurvey.

#### ORGANIZATION:

The hydrography on this sheet from Cape Flattery to Topographic Signal Bar was completed by Lieutenant (j.g.) J. C. Partington working in the motorsailer from a camp in Neah Bay. Before the survey was completed Lieutenant Partington was detached from duty aboard the Ship GUIDE and the sheet was completed by the writer working in the motorsailer and gig from a camp in Sekiu, Washington.

#### SURVEY METHODS AND EQUIPMENT.

The general system of sounding lines were run 200 meters apart and for most of the sheet, parallel to the shore line. Attempts were

made to run the lines normal to the beach but it was found to be more economical to run them parallel. Strong currents were encountered along this stretch of coast that made it exceedingly difficult to run straight lines. In picking up a line near the camp and running it the length of the sheet it avoided a long run to and from work and a saving of time.

A hand lead line of No. 8, mahogany tiller line with phosphor-bronze center was used. The line was graduated to fathoms and feet up to six fathoms and to fathoms above this. This line was used in depths up to eleven or twelve fathoms. In deeper water it was very difficult to get accurate soundings because the launch would not go slow enough to allow time for the lead to sink. The launches were equipped with a hand sounding machine for sounding in deeper depths. The machine was rigged with stranded sounding wire and a 16 pound lead. The sheave was tested at the beginning and end of the season and found to be correct.

Experience on a previous sheet showed that it was impossible to run sounding lines on compass courses. For this reason the lines were run on ranges. In some places ranges were not available and lines were run be estimation. This was particularly true in the area between Neah Bay and Cape Flattery.

The rocks to the west of Wadday Island in Neah Bay were located by sextant fixes on top of or very near the rock.

#### DISCREPANCIES:

No serious discrepancies exist on the sheet. Just out side of Neah Bay the outside sounding line shows less water than the one next immediately inshore. A comparison indicated that the bottom is very uneven in this locality and that such a formation is probable.

#### DANGERS:

Few additional rocks and offshore dangers were located.

The sunken pile in Neah Bay at Latitude 48°-22' plus 1506 meters, Longitude 124°-36' plus 660 meters, was discovered by the Ship GUIDE and later located by the party in the motorsailer. This pile was located at low water and it was just awash. Lieutenant Partington reported that it was very rotten and for this reason it probably does not constitute a very serious danger for large vessels, but it is thought that if a small fishing craft struck it at low tide it would do considerable damage. This danger is located by position 4, "e" day.

The area in the vicinity of Duntz Rock was searched for less water. The least depth found in this vicinity was five fathoms one foot at Latitude 480-24' plus 386 meters, Longitude 1240-44' plus 754 meters, position 35 "e" day. It was very difficult to sound in this area because of the strong current. Shoal spots were found, but before a least depth could be determined the launch would drift off of the spot. There is undoubtedly less water here because in a heavy swell there is a large breaker at this spot.

#### CHANNELS:

Small fishing craft, when making the entrance of the Strait of Juan de Fuca from the south, usually use the channel between Tatoosh Island and Jones Rock. This channel has a controlling depth of 84 fathoms at M.L.L.W., but has an impaired overhead clearance. There is a telephone line from Tatoosh Island to the mainland across this channel that will clear about 125 feet. Jones Rock is bare about three feet at M.L.L.W., and breaks heavily in a moderate sea.

#### COMPARISON WITH PREVIOUS SURVEYS:

The area in Neah Bay and westward to Cape Flattery was surveyed in 1888 on Sheet Registry No. 1881. The remaining area covered by Sheet Field No. 27, was surveyed in 1893 on Sheet Registry No. 2170, on a 1:80,000 scale. The former work compares favorably with the present survey and shows that very little natural change has taken place. The former work is poorly controlled and lacking in detail and for this reason an accurate comparison is impossible.

#### GEOGRAPHIC NAMES:

Well Established Local Names.

For a list of local names see Descriptive Report for Topographic Sheet Field No. B - 1931.

Names Assigned By Field Officers:

The westerly rock of two rocks between Tatoosh Island and the mainland was called Jones Rock by the hydrographic party. The topographic party under Lieutenant (j.g.) Jones was washed off of this rock by a suddenand unexpected sea and since the incident the rock was known by the officers on the Ship GUIDE. as Jones Rock.

Respectfully forwarded. approved:

Fred. L. Peacock, H & G Engineer. C & G S.,

Commanding Ship GUIDE.

Jr. H & G Engineer, U.S.C. & G. Survey.

John C. Mathisson,

Respectfully submitted,

STATISTICS
Sheet Field No. 27 - 1931

	······································		BOAT	STA.MIS.OF	NO.	NO.
AY	DATE	VOL.	USED	S'ND'G LINE	S'ND'GS.	POSITIONS
a	June 26	т	Motorsailer	5.5	102	34
b	June 27	ī	#	16.4	224	72
c	June 28	Ī	Ħ	13.8	251	75
d	June 29	I	17	11.5	174	69
e	June 30	I	**	3.8	36	37
F	July 1	I&II	tt	21.2	408	106
g	July 2	II	Ħ	10.5	257	56
ĥ	July 15	II	17	17.9	398	94
a	July 10	III	Gig	11.9	143	51
b	July 11	III	17	11.9	171	<b>57</b>
<del></del>						
-			TOTALS	124.4	2164	651

#### STATEMENT

#### TO ACCOMPANY

#### HYDROGRAPHIC SHEET FIELD NO. 27 - 1931

U.S.C. & G.S.S. GUIDE

At transfer of command on November 30, 1931, the protracting was completed on the Smooth Sheet.

I have exercised general supervision over the completion of the sheet and have inspected the sheet on completion and it is hereby approved.

Fred. L. Peacock, H & G Engineer, C & G S., Commanding Ship GUIDE.

Oakland, California, March 17, 1932.

April 20, 1932.

Division of Hydrography and Topography:

/ Division of Charts:

Tide Reducers are approved in volumes of sounding records for

HYDROGRAPHIC SHEET 5155

Locality Cape Flattery to Sail Rock, Strait of Juan de Fuca

Chief of Party: K. T. Adams in 1931

Plane of reference is mean lower low water, reading

4.1ft. on tide staff at Neah Bay

22.3ft. below B. M. 3

4.6 ft. on tide staff at Tatoosh Island

22.0 ft. below B. M. 4

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 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.

Chief, Division of Tides and Cuments.

Section of Field Records Report on H-5155 Cape Flattery to Sail Noch and Vicinity Instructions dated may 1+21,1931 (Juile) Hand Lead and machine Soundings

chief of Party - D. T. adams Surveyed by - J. C. Partington + J. C. mathuson Ovotrailed by J. H. Brittain, J. n. Jones & E. W. Sheridan Sounding plotted by . J. W. Brittain Verified and Inhely Harold W. munay

- 1. The records conforms to the requirements of the W. M.
- 2. The plans and character of development satisfy the requirement of the Hydrographic named.
- 3. The plan & extent of development satisfy the specific Instructions with the exception of sheal develop-
- 4. There are few, if any, crossing lines on this sheet. 5. The 20, 10 and part of the 6-few course can be complety discon. Information is not sufficient to develope fully the 1,2 +3 fm. aunt. This is expensely True in the area between signals BAR & SAIL ROCK

in long 1240 32.4

6. The fild protecting & plotting was fair. The use of green with for position nomenclature is not recommended unless the with is fresh.

7. The renfier plotted all informations relative to who.

8. No junctions may be effected with Shuts H-5146, 5147, 5148, 5156 + 5157 until these sheets bore tun renfied in this office.

9. The following works were located from informations in the records:

#/	Pos 429	Lat	48°21.2	Long,	124°31.′78
2	" 41 g	**	21:07	ts	32′.//
3	" 28 g	11	21:47	11	32,28
		,,	21:59	**	32,7/
4	" 100f {b	4	21.62	**	3 <i>z</i> .8
5	" 3e	h	22.84	**	36.29
6	" 2e	11	22.9	,,	36.32
7	le	16	22.94	*1	34.35
8	"4e	11	22.82	"	36.55 (pile)
9	·· 58 b	,.	23.58	4	40.98

Rocks # 7, 8 + 9, in particular, should affect on the faithcoming that. The latter rock is confirmed on T-4633 (1931) as a heater indication.

10. In lat 48° 24.76, long 124° 44.6 a least depth of 5% for, (for 35°e) was found over Duntze Rock. (See Field

Parties Report on blufting). The 34 fm snewding on the chart oftained from H-1881 (gr. 1888) should be retained.

The area between this with and the mainland is dangums, It would seem logical that current development should appear on this sheet but such is not the case. Thereby does development appear to be on the function sheets H 5147 × 5148. However, this area is fairly well developed on H-1881 (yr 1888) and H-3895 (yl 916).

The least depth of 17 fm. (por 1/c) about 300 m SE of Duntze Rock is confirmed by development on H-1881.

- 11. Sounding in pencil were transferred from H-1881 and present interesting furthers. In the absence of further information, the fortherming chart will doubtless be composed of the tur surveys. Remarks:
  - a fat. 48°23,15, long. 124°43.91. a 44 odg. with with indication was not renfied in this survey.
  - b Lat. 48°23.25, long. 124° 43,95. The 52 fm of 100 396)

    I this sheet may be part of the 54 fm. sheel indication

    A H-1881 about 85 m n. W. The tur who to the East

    differ titles in position by about 85 m in a

westerly directions from that of H-1881. a 32 fm. soly was obtained to the east of these webs on H1881. c The inlet at Tatorah Island is not sufficiently developed. The present 10 few. aure ignores the 16 fm. sdg. J H-1881. d Fat. 48°23.51, long. 124°43.8. The 54 fm shoul indication of pos. 316 falls between an 8 x 11 fm odg. on H-1881. Int. 48° 23:58, long. 124° 43:8, The short with a least depth of 42 x 5 for of 1+1881 was not wirestyaled in this surrey. t. fat. 48°23.5, long. 124°43.3. Two solg. could be oftained from H-1881 to suffort the extension in the 10 fm. curre. 9. Lat. 48° 23,53, long. 124° 41.7. It is pertate that the termination of the rocky extension is not as abrupt as shown. h Lat. 48° 23,62, long. 124°40.8. The 22 x 5 for. of wich with indication of H-1881 was not developed sufficiently. i fat. 48° 23.62, leng. 124° 40.06. The 32 for ody of this sheet is confirmed by a 34 for oly on H-1881. The I for induction of H1881 was not sufficiently developed on this about.

J' Lat. 48°23.73, long. 124°39'. The 44 × 54 for resp. f

of H-1881 lends strength to the suggestion that this submerged ledge is more marked than the present curs & direlapment indicat. k fat. 48° 23.6, long. 124° 38.84. The rock transformed from H-1881 was not found in this surry non + its exestence verified. I fat. 48° 23', 5, long. 124° 38:46. The rame is True & this with as in k"above. Theirbu of these works were seen by the topopaphie sarly on T 386 + 4633. X It is suggested that the low water line he extent ed to include the latter wich. m. Lat. 4823, long. 124 36 4 37. This area ments special consideration and the Reviewer can test make a study of this area by having an enlayer ment of this sheet, H-5155, imposed upon H-1881 which is twice the reals of the former. 12. Several shoal industrois of depths of 30 ft or greater are as fallows: pos 66 Lat. 48 19.3 Long. 124 26.26 Depth 17fm. 55.. .. 78 f 33.19 21.95 .. 64.../ .. \$2d " 23.27 35.78

13. The later loy. values given in AP 11.412 above are to be considered approximate as H-1881 does not jours adjust control within the sheet. Several of the items listed above will check within 80-90m.

14. The reviewer attention is called to a 17 ft soly. + a sunher wich symbol (affaiently) in approxmale lat. 48°23:7, long 124°39 & H-1881, also an apparent discrepancy of 4 fm. 1 pas 40+47d in lat. 48°23'36, long. 124°35'3 15. In lat. 48° 23:48, long. 124° 35:97, pos. 142a fall within about 25 m. of each other. The soundings tend to define a shelf a ledge. The proximity of ros. 142a may be aunuted for by a marked arrent. 16. Ispography from T-4633 +4630 was checked.

17 Respectfully submitted: HawldW.munay

by the renfin.

AND REFER TO NO. 82-DRM

#### DEPARTMENT OF COMMERCE

#### U. S. COAST AND GEODETIC SURVEY

WASHINGTON

#### SECTION OF FIELD RECORDS

Review of Hydrographic Sheet No. 5155

Cape Flattery to Sail Rock and vicinity, Strait of Juan de Fuca, Wash.

Surveyed June-July, 1931

Instructions dated April 16, 1930, May 7 and May 21, 1931 (GUIDE)

Chief of Party, K. T. Adams

Surveyed by J. C. Partington and J. C. Mathisson

Protracted by J. H. Brittain, J. N. Jones and E. H. Sheridan

Soundings plotted by J. H. B.

Verified and inked by Harold W. Murray.

- 1. The records generally are well kept and conform to the requirements of the Hydrographic Manual.
- 2. The plan and extent of development do not fulfill the requirements of the specific instructions (see paragraph 17 of instructions dated April 16, 1930). The details inside the 10 fathom curve over the greater part of the coast line are entirely inadequate for charting purposes. If additional sounding lines were impractical, notes and sketches on the boat sheet should have been made to supplement the information given by the survey.
- 3. There are practically no cross lines. The apparent inconsistency among some of the soundings may readily be explained when the exposed nature and the character of the coast are taken into consideration. The field party does not believe the least water on Duntz Rock was found by this survey and the 3 1/4 fathoms now on the chart should be retained. The Descriptive Report calls special attention to the condition of the sunken pile in Neah Bay.
- 4. Depth curves: The information is inadequate for drawing the depth curves. A fair 10 fathom curve was derived by combining this survey with the former survey of this coast. See paragraph 2 above.
- 5. Junctions: This sheet joins H. 5146, 5147, 5148, 5157 and 5156, all of which are in process of verification at this time. It also joins H. 3894, Neah Bay (surveyed in 1916) which was accepted

without further examination by the field party though the register number is below 4000 and the sheet itself does not show inshore details. (See instructions.)

The sheet (H. 5155) was compared with H. 1881 (surveyed in 1888). The latter is on scale 1:10,000 but poorly controlled. There are many minor differences but the sheet should not be discarded. It may be used to advantage in filling in details especially in the inshore areas.

- 6. It is recommended that this sheet (H. 5155) be considered as in complete and that until a more complete survey is made, the inshore details be supplemented on the charts by the use of the older survey (H. 1881) where not in direct conflict with H. 5155. A new survey when made, should include the resurvey of Neah Bay to get the desirable inshore details.
- 7. Reviewed by R. J. Christman, May 1932.

#### Additional Notes On H. 5155

#### By A. L. Shalowitz

- 1. Comparison with old surveys:
- (a) Because of the lack of control on the 1888 survey (H. 1881) none of the shoal soundings were transferred to the new survey as a transfer would only be an approximation since the 1888 survey is found to be out in azimuth and distance. They should, however, be retained on the charts. Chief among these are the following:
  - 1. The 3 1/4 fm. sounding on Duntze Rock. 5 1/6 fms. is the least depth found on the new survey.
  - 2. The 5 3/4 fm. sounding in lat. 48°23'500 m., long. 124°44' 40 m.
  - 3. The 4 1/2 fm. sounding in lat. 48°23'1050 m., long. 124°43' 960 m.
  - 4. The 12 foot sounding in lat. 48°23'1100 m., long.124°40'1050 m.
  - 5. The 6 foot sounding in lat.48°23'1100 m., long.124°40'100 m.
  - 6. The 17 foot sounding in lat.48°23'1160 m., long. 124°38'1150 m.

- (b) Rocks awash between Cape Flattery and Tatoosh Island The easternmost of these two rocks coincides with the easternmost of the two rocks shown on the old topographic sheet (T.387) and the old hydrographic sheet (H.1881). A disagreement was, however, found between the old and new survey for the westernmost of the two rocks. The authority for this rock appears to be the topographic survey of 1852 (T.387) and the rock was transferred to hydrographic sheet 1881 (surveyed in 1888) without question. A line of soundings on the 1888 survey (28-29 f) passed close to both of these rocks and it appears that the plotter, accepting the topographic positions of these two rocks, adjusted the soundings accordingly. A replotting of this line of soundings throws the westernmost rock in about the same position where it is shown on the new survey and checks both the old and the new topographic determinations of the easternmost rock. While there is sufficient proof in both the old and the new surveys that the two rocks as determined by the latest topographic survey are correct, there remains some doubt whether these are the only two rocks on this reef or whether another rock exists between these two in the position of the westernmost rock shown on T.387. There is a rather vague note in the old sounding record (pos. 28-29 f, H. 1881) that might be interpreted to refer to a third rock in this vicinity. But since the stage of the tide at this time was the same as it was when the sounding lines on the new survey were run it seems reasonable to assume that the present hydrographer would not have failed to notice this additional rock. Due to the uncertainty, however, it is recommended that only two rocks be charted here but that a danger curve surround both of them. They have been so shown on the hydrographic sheat.
- 2. Additional work As mentioned in the reviewer's report, this sheet cannot be considered as a complete survey particularly of the area from Cape Flattery to longitude 124°35'. More development should be done here and the various items in paragraph 1 of these notes should be investigated to the end that this survey may serve as the basic survey for this area. In addition to this the following additional work is recommended:
- (a) Additional lines at the junction with H. 5157 between long. 124° 28' and long. 124°33'.
- (b) A new survey of Neah Bay to include the inshore details so that the 1888 survey can be superseded. The 1888 survey is intirally unreliable ams.
- (c) If practicable, an examination with the wire drag of Duntze Rock should be made. The least depth found on the present survey was 5 1/6 fathoms, although 3 1/4 fathoms was found on the 1888 survey (H. 1881).

- (d) A wire drag examination of the charted 4 fm. rock in lat.48° 24'500 m., long. 124°44'140 m. This rock was first located in 1893 (H. 1881) but no detailed development was made. It was re-examined in 1916 (H. 3895) but the least depth found was 8 fms. There is a possibility of even less than 4 fms. existing here. (See paragraph 6, below.)
- (e) An examination and dragging of the two charted sunken rocks (see chart 6265, edition of 1929) about 1/8 mile south and southeast of Duncan Rock. These rocks were first reported in 1907 (Chart Division letter 203-1907) by the Steamship "SPOKANE" and the tug "TACOMA", both of them having struck these rocks on the same date. It is not unlikely that they both struck the same rock and that they may have struck the 4 fm. rock about 1/3 mile southeast of Duncan Rock (see paragraph d above). The 1916 survey (H. 3895) did not quite cover the locality of the rocks and hence they were retained on the charts. As no further examination has been made in the vicinity of the reported rocks since the 1916 survey they should be continued on the charts.
- (f) A completion of the area between Duntze Rock and Tatoosh Island. This is highly desirable. At the present time there is no complete survey for this area and the chart comprises information from surveys of 1888, 1893 and 1916, none of which can at present be dispensed with.
- (g) A resurvey of the area west of Cape Flattery at the junction of sheets H. 5111 (surveyed in 1930), H. 5147 (surveyed in 1931) and H. 5155 (surveyed in 1931). This area is at present covered by H. 3895 (surveyed in 1916) and contains the charted 7 fms. sounding (lat. 48°22'.7, long. 124°45'.8) on which breakers have been reported (see Chart Division letter 179-1916). A thorough examination of this breaker was made in 1916 (H. 3895) and an improvised drag was carried over the area and a least depth of 7 1/2 fms. obtained. As the dragging was done under most unfavorable conditions (a 12 foot well existed at the time) it seems probable that less water might exist here, especially in view of the suddenness with which the shoal rises from deep water and in view of the fact that breakers have been reported here. If this area is resurveyed as recommended, a reliable drag should be run over the shoal.

Sheet inspected and recommendations of reviewer approved by A.L. Shalowitz

Approved:

Ohier lake Chief, Section of Field Records.

Chief, Section of Field Work.

# HYDROGRAPHIC SHEET No. 5/55

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

Number of positions on sheet	631			
Number of positions checked	244			
Number of positions revised	20			
Number of soundings recorded	2164			
Number of soundings revised	70			
Number of signals erroneously				
plotted or transferred	<i>ب</i>			

Date: May 5, 1932
Cartographer: Hawldell Municip

Applied to chart 6266. Aug. 4, 1942.