

# 4746

Diag Ckt. No. 5902

Form 504  
DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY  
....., Director

State: Oregon

**U. S. COAST AND GEODETIC SURVEY**  
L. & A.  
MAR 22 1928  
Acc. No.

**DESCRIPTIVE REPORT**  
*Topographic* } Sheet No. **4746**  
*Hydrographic* }

LOCALITY  
Cape Lookout  
Cape Lookout to  
Nestucca Bay

1927

CHIEF OF PARTY  
R.F. Luce

GOVERNMENT PRINTING OFFICE

# 4746

DESCRIPTIVE REPORT

TO ACCOMPANY LAUNCH HYDROGRAPHIC SHEET

No. 8 4746

CAPE LOOKOUT TO NESTUCCA BAY

## DESCRIPTIVE REPORT

TO ACCOMPANY LAUNCH HYDROGRAPHIC SHEET 7 & 8, KINCHELOE POINT  
TO NESTUCCA BAY.

### AUTHORITY

This work was called for under instructions from the Director, dated March 8, 1927. This work was done during the months of July and August 1927.

### LIMITS

These sheets represent the northern part of the in-shore hydrography executed by the launch WISDOM during the field season of 1927. The hydrography was carried from the beach to a good junction with the work done by the Str. PIONEER during the year 1927. Sounding lines are spaced at about 200 meters.

### CONTROL

The control for these two sheets consists of third order triangulation stations supplemented by plane table locations of intermediate natural and artificial objects, and a few signals located by sextant fixes. Over the entire area covered by these sheets the control was found to be very good.

### BOTTOM CHARACTERISTICS

For practically the entire area covered by these sheets the bottom consisted of gray sand and sloped evenly toward the beach. Pyramid Rock in Lat. 44 - 29.8 Long. 123 - 59 is steep to on all sides and there is a good passage between this rock and the shore. Three Arch Rocks are steep to on the seaward side and the North and South but there is no clear passage between them and the shore. The West face of Cape Lookout is very steep to and there are no jutting ledges. The 15 fathom curve passes very close to this face of Cape Lookout. On the North and South faces of Cape Lookout the 5 fathom curve passes close to the shore. There are two or three 9 fathom banks immediately Northwest of Haystack rock of rock bottom. This area was developed by the motor sailer working from the ship.

### GENERAL DESCRIPTION OF THE COAST

This section of the coast is fully described in the Pacific Coast Pilot on pages 148 and 149.

LANDMARKS AND DANGERS TO NAVIGATION.

Signal Kin is a very prominent large hotel on the beach and is easily distinguished for a considerable distance offshore in clear weather.

Pyramid Rock, called Mid, about 5/8 of a mile northwesterly from Cape Mears Light House and 5/8 of a mile offshore is a prominent rock easily visible from seaward.

Three Arch Rocks is a group of three large rocks and several smaller ones easily distinguished from seaward for a considerable distance and lie about 1 1/2 mile S x W true from Cape Mears Light House. The eastern most rock is 275 feet high. In a westerly direction from this 275 foot rock, the the other three rocks are 204 213 and 12 feet high respectively. These rocks are very steep to and vessels can pass very close if they so desire.

Cape Lockout is a long narrow strip of land projecting out about 1 1/2 miles almost perpendicular from the shore and is 850 feet high on top and about 450 feet high at the extremity.

Haystack Rock is a large conical shaped rock lying about 1/2 mile offshore, 527 feet high and easily distinguished for considerable distance from seaward.

SHOALS FOUND.

No shoals dangerous to navigation were found within the limits of these sheets. About 1/2 mile SWly of signal Out a 12 fathom bank of small extent and rocky bottom was found. Northwesterly from Haystack Rock the bottom is somewhat lumpy and several banks of small extent with a least depth of 9 fathoms were found. This area was thoroughly developed by the mpter sailer working from the ship.

Refer to  
H-4745

AIDS TO NAVIGATION.

Tillamook Bay and Bar are covered by the descriptive Report accompanying Launch Hydrographic Sheets for 1926.

Cape Mears Light House and Nestucca River Sea Buoy are the only two aids to navigation found within the limits of these sheets.

CHANNELS

Netarts Bay and Sand Lake are both nearly dry at Low Water and at high water are obstructed by constant lines of breakers. No directions of value to a stranger can be given as local knowledge is essential in entering Netarts Bay. No vessels enter Sand Lake.

ANCHORAGES.

The south side of Cape Lookout affords excellent protection for vessels of all kinds in any Northwest weather or sea. 8 fathoms can be found within 100 yards of the shore for a distance of  $7/8$  of a mile East of the point. The launch WISDOM has anchored here with perfect safety and comfort in strong N. W. winds of approximately 45 miles per hour. The holding ground is good and the vessel when anchored close to the shore is protected from the wind by the steep sides of Cape Lookout thereby minimizing the danger of dragging. However when the wind and sea veer to any direction South of W. N. W. no protection is afforded and the vessel must put to sea. The same situation is true South of Three Arch Rocks., except that the bottom is rocky. No other anchorages fall within the limits of these sheets.

CURRENTS.

North of Cape Lookout a strong Southerly current was experienced the amount of which was ascertained on various days while the launch was drifting during lunch. This drift amounted to  $2\frac{1}{2}$  knots running in a S. x E. true direction. South of Cape Lookout little or no current was found except at the outer ends of the lines. This current was not as strong as that north of the cape. It is thought that Cape Lookout deflects the strong current offshore. This current appears to be governed by the strength & direction of the wind.

METHODS EMPLOYED

The hand lead was used throughout the limits of these sheets. The sounding chair was rigged up high enough so that the leadsman could get a 9 foot swing of the lead. Consequently it was possible to procure 15 fathom soundings with the launch proceeding at a speed of about 4 knots. In depths up to about 23 fathoms it was possible to obtain up and down soundings by merely throwing the clutch out about 20 sec before the time for taking the sounding. Off Cape Lookout in the deeper depths the interval was increased. The notes C. O. and C. I. and H. R. and H. L. refer to clutch out clutch in, hard right and hard left respectively.

NOTE Distances are given in nautical miles and a carbon of this report is attached to sheet 6

*J. E. Pittendrup*  
*J. H. & G. Engineer*

TABLE OF STATISTICS  
Sheet 8

Date-1927	Letter	Volume	Positions	Soundings	Miles, Statute	Vessel
July 20	A	1	52	153	9.0	WISDOM
" 21	B	1	122	382	21.5	"
Aug. 1	C	1	108	315	19.5	"
" 2	D	1	75	222	14.0	"
Aug. 2	D	2	70	213	14.0	"
Aug. 3	E	2	151	465	28.5	"
" 4	F	2	137	425	26.5	"
" 4	F	3	23	65	5.0	"
" 18	G	3	81	282	18.0	"
" 19	H	3	76	248	15.5	"
June 16	a	4	96	257	10.4	Ship's Launch
" 21	b	4	30	84	4.0	" "
July 6	c	4	31	101	3.2	" "
TOTAL			5,052	3,212	189.1	
			<i>Should be</i> 1,052			

Soundings are in fathoms referred to Mean Lower Low Water on the auto-portable tide gauge at Garibaldi, Oregon.

Mean Lower Low Water on staff is 5.66 feet.

Tide arrives on Outside Coast 45 minutes earlier than at Garibaldi, Oregon, and 75 minutes earlier than at Tongue Point, Oregon.

Tides were tabulated in Washington Office and consequently highest and lowest tides observed are not known.

(11)

T.D.H.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in  
4 volumes of sounding records for

HYDROGRAPHIC SHEET 4746

Locality: COAST OF OREGON

Chief of Party: R. F. Ince, 1927

Plane of reference is M L L W

5.6 ft. on tide staff at Garibaldi

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.

*G. White*

Chief, Division of Tides and Currents.

FIELD RECORDS SECTION

Chief of Party R.F. Duice — Surveyed by I.E. Rittenburg & R.L. Pigg  
 Conducted by I.E.R. — Soundings fathomed by L.P.S.  
 Verified and indexed by J. Fleming July 12 - 1928

- 1 The records conform to the "General Instructions" ✓
- 2 The plan and character of the development fulfill the requirements of "General Instructions" ✓
- 3 The field plotting was very complete and accurate — only five positions were found to be inaccurate and with one exception the error at no time exceeded 10 meters. ✓  
 The single exception was Position 9-D which was found to be more than 60 meters out of true position.
- 4 Time intervals were invariably uniform but when they were not some soundings were found to be out of position — these were corrected. ✓  
 Twelve sounding values on the sheet were found to disagree with corresponding soundings in the record. Invariably the error was in plotting for example 17<sup>Fath</sup> 5<sup>Ft</sup> 00 17<sup>Fath</sup> instead of plotting it as 18<sup>Fath</sup>.
- 5 The Anchor Buoy noted in Volume 4 - Page 12 between positions 58a 59a was not plotted on the sheet — this was done in the office. ✓  
 The rock shown about 450 meters South West of Signal 'STUMP' was very indistinct and its position so close to the sounding line may cause it to be overlooked. It was therefore more prominently represented.
- 6 Attention is called to the notes on the left of the title on the smooth sheet these notes contain no reference to the 10 fathom sounding between positions 91F - 92F and it is thought that the depth indicated there should warrant a more complete development of the immediate surrounding area especially toward the S.W. *Roller & Co. naturally!*  
a.k.s.
- 7 23% of all positions were checked but a higher percentage of positions were checked in the shallower area North of 'HAY' ✓
- 8 The recapitulation in the "Descriptive Report" gives the total number of positions as 5,052 the correct figure is 3,052. ✓
- 9 The field work on this sheet is considered "Excellent." ✓

Respectfully submitted

J. Fleming

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY  
WASHINGTON

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4746

Vicinity of Cape Lookout, Oregon

Surveyed in 1927

Instructions dated March 8, 1927 (PIONEER)

Chief of Party, R. F. Luce.

Surveyed by I. E. Rittenberg, R. L. Pfau.

Protracted by I. E. R.

Soundings plotted by L. P. S.

Verified and inked by J. Fleming.

1. The records conform to the requirements of the General Instructions with the exception that the recording in Vols. 1-3 was very poor, no attempt apparently being made to produce a neat, clean, legible record.
2. The plan, character and extent of development conform to the general and specific instructions except that the work north of Cape Kiwanda was not carried close enough inshore. This may be due to foul ground existing here, but no notation appears in the records to that effect. Additional lines should also have been run in the broken area to the northwest of Cape Kiwanda. This will be described more in detail under "Additional Work."
3. Due to the above reason, the depth curves inside the 5-fathom curve can only be partially drawn.
4. The sounding line crossings are generally satisfactory. There are several instances off Cape Kiwanda where the crossings differ by as much as 3 fathoms, but this may be due to the bumpy nature of the bottom in this particular locality.
5. The usual field plotting was completed by the field party and was found very satisfactory. One criticism, however, can be made and that is the dropping of 5 feet when plotting in whole fathoms, instead of plotting the next higher fathom.

6. The junctions with H. 4755 and H. 4756 are not satisfactory. There appears to be an average difference of about two fathoms with the offshore fathometer soundings shoaler. No satisfactory explanation could be arrived at to account for the discrepancy. It was thought, however, that the hand lead soundings in the vicinity of the 20 fathom curve might be subject to an error on account of the leadline not being truly vertical, and with this in mind the 20 fathom curve was modified to conform to the offshore fathometer soundings. All the hand lead soundings in excess of 20 fathoms that fell inshore of this 20 fathom curve were then rejected. No rejections or omissions were made where a depth curve was not affected. (Concurred in by A.M.S.)

It is recommended that further studies be made with a view to determining the real causes of such discrepancies.

The junction with H. 4747 is satisfactory.

The junctions with the other contemporary surveys will be taken up when those sheets are reviewed.

No comparison was made with the old survey, H. 2088a, except in the vicinity of the shoal off Cape Kiwanda. The 10 fathom soundings on H. 2088a about 1/2 mile and 1 mile northwest of Cape Kiwanda agree generally with those on the present survey, and as far as the present chart is concerned will plot in the same position. The present survey, on account of its greater detail, can supersede the old survey without using any of the former information.

- 7.- Additional work is required as follows:

- a. Extension of the work farther inshore if practicable and if the locality warrants it.
- b. At the north end of the sheet just west and southwest of  Bush more soundings are desirable.
- c. Additional soundings around Cape Lookout from the shore to the 20 fathom curve. Beyond the 20 fathom curve and about one mile due west of  Bill, an examination should be made of the area surrounding the 13 fathom sounding (fathometer) from H. 4755. While this 13 is substantiated by another 13, a 16 and an 18 fathom sounding (all of these not plotted), there is, nevertheless, a possibility that these were ship strays. It is ~~recommended~~ therefore recommended that when additional work is done here, the examination should be made with the hand lead.

d. The development off Cape Kiwanda should be extended to the northwest until about due west of  $\Delta$  Nip and to the westward as far as the 20 fathom curve.

e. An examination should be made in the vicinity of the 15 fathom fathometer sounding (from H. 4755) in lat.  $45^{\circ} 17'$ , 560 m., long.  $124^{\circ} 00' 280$  m.

f. A detailed examination is required of what appears to be a continuation to the northwest of the ridge off Cape Kiwanda. The development should include the area between lat.  $45^{\circ} 14 \frac{1}{4}'$ , and lat.  $45^{\circ} 15 \frac{1}{2}'$  and between long.  $124^{\circ} 00 \frac{1}{4}'$  and long.  $124^{\circ} 01'$ , being careful to verify the two 12 fathom soundings from H. 4755 and H. 4756.

8. Reviewed by A. L. Shalowitz, August, 1928.

Approved:

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Chief, Section of Field Records (Charts)

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

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

AND REFER TO No. 11-DEM

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

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