4755

Reg. Cht. No. 5902

L & A
MAR 26 1928
Acc. No.

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

State: OREGON

11—5813

DESCRIPTIVE REPORT.

HYDROGRAPHIC *Sheet No.* 4755

LOCALITY:

Cape Meares
~~NORTHERN OREGON~~

Cape Kiwanda to Nehalem R.

20 to 50 fathoms

1927

CHIEF OF PARTY:

R. F. Luce

S-46 12V

4755

DESCRIPTIVE REPORT

To Accompany Hydrographic Sheets 3 & 4

INSTRUCTIONS.

Director's Instructions to the Commanding Officer, U.S.C. & G.S.S. PIONEER, dated March 8, 1927.

LIMITS.

The two sheets covered in this report adjoin each other and reach from the southern limit of the previous seasons work on the north to approximately latitude 44° 51' on the south and from a junction with the launch hydrography at the 20 fathom curve to a junction with sheets 2 and 5 at the 50 fathom curve.

DESCRIPTION OF COAST.

The description of the coast is well covered by descriptive reports accompanying the launch hydrographic and topographic sheets for this season and will not be duplicated here.

OUTLYING DANGERS AND ISLANDS.

There are no outlying dangers or islands in the limits of these sheets.

CURRENTS.

Currents have a south and southeasterly set of varing intensity except in the vicinity of such capes as Cape Lookout and Cascade Head which deflect the currents from their normal southerly trend by varying amounts depending on the distance from the projecting cape. These currents appear to be due to the prevailing northwest winds and vary in intensity with them.

LANDMARKS.

Landmarks are fully covered by the descriptive reports accompanying the launch hydrographic and topographic sheets.

ANCHORAGES.

There are no sheltered anchorages within the limits of these sheets.

SURVEY METHODS AND CONTROL.

Soundings were obtained at the beginning of the season by the Rude-Fischer sounding tubes but after the installation of the Fathometer it was used entirely for sounding with very satisfactory results until near the end of the season when the Fathometer relay gave constant trouble and had to be carefully nursed along.

Control was by visual three point fixes on third order triangulation stations and intermediate stations located by plane table traverse.

A description of the corrections applied to Fathometer soundings is attached to the descriptive report to accompany sheets 2 and 6 of this seasons work.

Sounding lines made good crossings throughout the sheets and it is believed that all shoals have been adequately developed.

TIDAL DATA.

Tide reductions are all based on the portable staff established at Caribaldi, Oregon, and are in accordance with the Director's letter of November 19, 1927, abstracts of which follow:

* * * * * * * * * *

In reply to your letter requesting to be furnished with the tabulated hourly heights of the tide at Caribaldi, Oregon, there are forwarded herewith the tabulations covering the period from April 26, 1927, to October 15, 1927. These hourly heights are referred to the zero of the tide staff. To refer them to the mean lower low water datum, 5.6 feet will have to be subtracted from each.

In regard to the time differences to be applied, you are advised that since the tide sweeps rapidly along this coast only two time differences appear to be necessary to cover the intire working grounds. For the area along the coast from the 3 fathom curve out to the 30 fathom curve, the time of the tide should be taken as 20 minutes earlier than at Garibaldi while beyond the 30 fathom curve it may be taken as 30 minutes earlier than at Garibaldi.

The range of tide for all parts of the working ground may be considered to be the same as at Garibaldi.

For off shore soundings the tide reducers may be omitted where they are generally not greater than 1% of the depth.

* * * * * * * * *

Roland D Horne

Forwarded Mar. 22, 1928
O W Swanson
Cmdg

TABLE OF STATISTICS

Sheet No. 3

Date			Day letter	Volume	Positions	Soundings	Sta. Miles	Vessel	Apparatus
April	27,	1927	A	1	57	137	17.0	Ship	Tubes
"	29	"	B	1	74	231	25.9	"	"
May	4	"	C	1	48	112	13.5	"	"
"	4	"	C	2	38	108	12.6	"	"
"	7	"	D	2	36	84	12.5	"	"
"	10	"	E	2	110	309	37.5	"	"
"	10	"	E	3	23	73	6.0	"	"
"	11	"	F	3	10	25	2.2	"	"
"	16	"	G	3	33	106	8.5	"	"
"	20	"	H	3	80	235	23.3	"	"
"	21	"	J	4	15	51	4.0	"	"
"	23	"	K	4	21	97	10.8	"	"
"	26	"	L	4	119	343	40.5	"	"
"	26	"	L	5	47	141	17.7	"	"
"	27	"	M	5	87	277	28.3	"	"
"	31	"	N	5	27	81	7.1	"	"
"	31	"	N	6	78	248	31.5	"	"
June	1	"	P	6	98	316	34.6	"	"
"	2	"	Q	7	36	112	9.2	"	"
"	9	"	R	7	106	300	38.3	"	"
"	14	"	S	7	31	81	10.5	"	"
"	14	"	S	8	67	171	21.5	"	"
"	15	"	T	8	132	386	44.6	"	"
"	15	"	T	9	19	50	6.5	"	"
"	16	"	U	9	32	83	7.3	"	"
"	17	"	V	9	113	312	31.5	"	"
"	20	"	W	10	91	245	28.5	"	"
"	22	"	X	10	75	206	20.2	"	"
"	23	"	Y	10	23	66	8.0	"	"
"	23	"	Y	11	0	5	1.0	"	"
July	7	"	Z	11	47	129	16.0	"	Fathometer
"	14	"	A'	11	13	37	5.5	"	"
"	19	"	B'	11	177	557	75.0	"	"
"	20	"	C'	11	51	161	20.0	"	"
"	20	"	C'	12	27	91	12.2	"	"
"	26	"	D'	12	10	38	6.9	"	"
Aug.	30	"	E'	12	39	149	28.6	"	"
Sept.	7	"	F'	12	44	176	34.2	"	"
"	13	"	G'	12	61	242	21.0	"	"

T-914

Copy to Record Section

(11)

April 10, 1928.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
18 volumes of sounding records for

HYDROGRAPHIC SHEET 4755

Locality: COAST OF OREGON

Chief of Party: R. F. Lucas, 1927.
Plane of reference is 5.6 ft. on tide staff at M L L W 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.

Chief, Division of Tides and Currents.

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 August 27, 1928.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4755

Cape Meares, Oregon

Surveyed in 1927

Instructions dated March 8, 1927.

Chief of Party, R. F. Luce.

Surveyed by R. F. Luce.

Protracted by R. L. Pfau.

Soundings penciled by C. LeFever.

Verified and inked by F. B. Kelly.

1. The records conform to the requirements of the General Instructions.

2. The plan and character of development satisfy the requirements of the General Instructions.

3. Crossing lines show faily good agreement, better on the south where the fathometer was used than on the north where tubes were used.

4. There are no marked shoals or dangers. A least sounding of 12 fathoms was obtained inshore between 60 G and 61 G west of ⚠Nip, but since the inshore sheet is not plotted yet it is not known whether this is an isolated spot or a shoal area.

5. Only 2 depth curves are shown on the sheet and these were pencilled in the field.

6. Three soundings and 75 angles were rejected because they are quite obviously in error.

7. The junction with H. 4756 on the south is very good; with H. 4638 on the northwest, good; with H. 4637 on the north, good; and with H. 4613 and 4614 (inshore on the east), also good. H. 4745, H. 4746 and H. ~~4638~~ 4754 are not yet plotted.

8. Two hundred seventy-eight (278) fixes were checked and only 6 found in error.

9. Field protracting, excellent; field plotting of soundings, poor.

10. Report by F. B. Kelly, June, 1928.

4613 ✓
4614 ✓
4745 —
4746 —
4756 ✓
4754
4638 ✓
4637 ✓

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

February 14, 1929.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4755

Cape Kiwanda to Nehalem River, Oregon

Surveyed in 1927

Instructions dated March 8, 1927 and April 17, 1926 (PIONEER)

Fathometer and Tube Work

Chief of Party, R. F. Luce.

Surveyed by R. F. L.

Protracted by R. L. Pfau.

Soundings plotted by C. Le Fever.

Verified and inked by F. B. Kelly.

1. The records conform to the requirements of the General Instructions.

2. The plan and extent of the survey conform to the requirements of the specific instructions. The instructions call for echo soundings in depths over 100 fathoms. This undoubtedly applies to sonic soundings and did not contemplate such limitations to be placed on fathometer work. Therefore, the fathometer work on this sheet is not contrary to the instructions.

3. The usual depth curves could be drawn.

4. The sounding line crossings are generally satisfactory. There are numerous instances on the outermost cross line where in depth of around 45 fathoms the differences range from 3 to 6 fathoms. The largest differences occur where the fathometer soundings cross the tube soundings and in most cases these fathometer soundings are the deeper ones. On the inshore cross line (fathometer) in about 30 fathoms the differences range from 0 to 2 fathoms with the fathometer usually shoaler than the east and west tube lines. There was no way of reconciling these differences and therefore they were accepted as recorded.

5. The junction with H. 4637 on the north is satisfactory. The two north and south lines (fathometer) on H. 4755 cross a number of east and west lines on H. 4637 which is all tube work. The differences are not great, the average being about 1 fathom, with the fathometer soundings shoaler, in the majority of cases, although there are isolated cases where the fathometer shows slightly greater depths.

The junction with H. 4638 is satisfactory. Both sheets at this point are controlled by three point fixes and in both cases Fischer-Rude tubes were used.

The junction with H. 4756 is very satisfactory. On both sheets the surveying was done by using the fathometer and the results obtained are excellent.

The junction with H. 4613 is satisfactory. There are differences in some cases of one and two fathoms with the soundings on H.4755 usually the shoaler. In view of the fact that the inshore work (H. 4613) is vertical stop soundings and the offshore work (H.4755) tube soundings in depths beyond the usual limits for tube work, it is recommended that in all cases of overlapping soundings the work on the inshore sheet be accepted regardless of whether they are shoaler or deeper. This applies equally to H-4614.

The gap at the lower end of H. 4614 is taken care of by H. 4745.

The junction with H. 4745 is satisfactory wherever tube work on H. 4755 joins this sheet. There are some differences between the tube work and the leadline work on H. 4745, but the usual procedure should be followed in selecting soundings for charting and not the procedure outlined above. The reason for this is that on the inshore sheet the soundings are not stop soundings but were taken with the clutch thrown out just before sounding. As the depths range from about 16 to 20 fathoms there is a possibility that in such cases true vertical casts were not obtained. On the other hand the work on the offshore sheet at the junction represents depths beyond the limits for tube work and may therefore be slightly erroneous. Hence, since both methods at this junction are subject to some error, equal weight should be given to the two sheets and therefore in selecting the soundings for the chart the usual practice of choosing the shoaler depth, regardless of method, should be followed.

The only fathometer work from H. 4755 that overlaps this sheet (H. 4745) is the line from 4 G' to 9 G' (lat. 45° 25' to 45° 26'). The depths are about 17 fathoms and the fathometer soundings are uniformly shoaler by about 1 to 3 fathoms. There is probably a slight error in the fathometer soundings due to the tendency of the observer to read the minimum depth on the dial rather than the mean. There is also a possibility of a slight error in the

other direction on the leadline soundings for the reasons outlined above. Hence if a correction were applied to both methods the two sheets would be brought into close harmony, but since any such correction would necessarily be arbitrary it was decided to accept the soundings on the two sheets as recorded and leave it to the compiler to follow his usual practice in selecting soundings. The shoalest sounding on this fathometer line is 13 fathoms in lat. 45° 25' 160 m., long. 124° 00' and should be developed.

The junctions with H. 4746 and H. 4754 will be taken up when those sheets are reviewed.

6. The usual field plotting was done by the field party and was satisfactory.

7. No additional work is required within the limits of this survey with the exception of the area one mile due west of △ Bill and the shoal area at the southeastern corner of this survey. These will be more fully treated in the review for H. 4746.

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

Approved:

Chief, Section of Field Records (Charts)

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

Form 537
11—5812

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4755

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. 3

REGISTER NO. 4755

State OREGON

General locality ~~NORTHERN OREGON COAST~~ Cape Meares

Locality ~~SOUTH OF CAPE FALCON~~ Cape Kiwanda to Nehalem River

Scale 1-40,000 Date of survey APRIL 27 - Sept 13, 1927

Vessel U.S.C. & G.S.S. PIONEER

Chief of Party R. F. LUCE

Surveyed by R. F. LUCE

Protracted by RALPH L. PFAU

Soundings penciled by CURTIS LE FEVER

Soundings in fathoms XXXX

Plane of reference MEAN LOWER LOW WATER

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated MARCH 8, 1927

Remarks:

GPO

NAUTICAL CHARTS BRANCH

SURVEY NO. H-4753

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
6/9/60	6112 (Recm.)	Helmer	~~Before~~ After Verification and Review Used to fill in offshore from H-8370 (1957)
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

TABLE OF STATISTICS

Sheet No. 4

Date	Day letter	Volume	Positions	Soundings	Sta. miles	Vessel	Apparatus	
July 20, 1927	A	1	165	535	71.8	Ship	Fathometer	
" 21 "	B	1	90	318	40.0	"	"	
" 27 "	C	1	38	134	18.6	"	Fathometer & tubes	
" 27 "	C	2	101	355	48.0	"	" " "	
Aug. 8 "	D	2	17	59	9.5	"	Fathometer	
" 9 "	E	2	145	490	67.0	"	"	
" 10 "	F	2	50	171	23.6	"	"	
" 10 "	F	3	72	253	37.7	"	"	
" 12 "	G	3	54	186	28.5	"	"	
" 25 "	H	3	6	-	-	"		Velocity tests
Sept. 7 "	J	3	68	267	40.0	"	"	
" 8 "	K	3	92	335	45.5	"	"	
" 8 "	K	4	118	413	58.0	"	"	
" 9 "	L	4	80	267	39.0	"	"	
" 13 "	M	4	39	137	12.0	"	"	
" 15 "	N	4	65	242	29.7	"	"	
" 15 "	N	5	6	26	1.5	"	"	