

4634

4634

4634 Add'l Work

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

....., Director

State: Washington

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. 4634
~~Hydrographic~~ }

LOCALITY

Cape Disappointment

Columbia River to

Willapa Bay

1926

CHIEF OF PARTY

T.J. Maher

GOVERNMENT PRINTING OFFICE

86532 - 86567

4634

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

C. & G. SURVEY
L. & A.
APR 14 1927
Acc. No.

REG. NO. 4634

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. 4634

State ~~Washington and Oregon~~

General locality Cape Disappointment
Columbia River to Willapa Bay

Locality inshore

Scale 1:40,000 Date of survey July 20 - Nov. 23
May 23 - Dec 21, 1926

Vessel GUIDE

Chief of Party Thos. J. Maher *Officers of S. Guide*

Surveyed by Thos. J. Maher

Protracted by C. A. Burmister

Soundings penciled by C. A. Burmister

Soundings in fathoms ~~feet~~

Plane of reference MLLW

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated April 17, 1926

Remarks: Accompanying sheet 17 vols. sounding records 3 vols
sextant cuts and horizontal angles. 1 cahier tube reduction
curves. 1 cahier tide reduction curves. 1 descriptive report.

GPO

The 3 vols sextant cuts + hor. angles and Desc. Rpt. not received May 10 1927

Ca Bowman

See the record Apr 11/27

C. & G. SURVEY
L & A
JUN 6 1927
Acc. No.

U. S. COAST AND GEODETIC SURVEY
Col. E. Lesyer Jones, Director

DESCRIPTIVE REPORT TO ACCOMPANY SHIP'S HYDROGRAPHIC

SHEET NO. 3 4037

OF THE COAST OF WASHINGTON

FROM THE COLUMBIA RIVER TO WILLAPA BAY

1926

U. S. C. & G. S. S. "GUIDE"
Thos. J. Maher, Chief of Party

DESCRIPTIVE REPORT TO ACCOMPANY SHIP'S HYDROGRAPHIC
SHEET NO. 3

of the

COAST OF WASHINGTON FROM THE COLUMBIA RIVER TO WILLAPA BAY.

*The junction with
H4732 should be
considered in
revising this
sheet.
WFMG*

AUTHORITY for this work is contained in the instructions from the Director, dated April 17, 1926.

SCALE AND LIMITS. The scale of this sheet is 1:40,000. The sheet extends from latitude $46^{\circ} 10'$ to $46^{\circ} 38'$ N. approximately and from the ten fathom curve to the forty fathom curve or about longitude $124^{\circ} 18'$ west. This is practically the limit of visibility of any shore signals.

GENERAL DESCRIPTION OF COAST. The most conspicuous land feature along the coast where this survey was made is Cape Dissappointment. This is a group of ragged head-lands extending about two and a half miles to the north of the entrance of the Columbia River. Cape Dissappointment is the southern most one of these headlands, and the most westerly is North Head. The cliffs rise abruptly from the sea, and are crowned with a heavy growth of fir trees. The light-house on each of these headlands are prominently located on the crests of the bluffs. North Head, with the white buildings of the United States Weather Bureau Station is the more easily distinguished.

With the exception of these headlands, the coast to the northward is a low sandy beach, extending to Leadbetter Point. Back of this beach, (about a mile and a half), the country is heavily wooded and the numerous summer cottages, hotels, etc., along the beach are effectively brought out by this background.

Klipsan Beach, with the Radio Towers and the Coast Guard Station is one of the most prominent of the groups along the beach. It is about ten miles north of North Head (latitude $46^{\circ} 27.9'$).

Leadbetter Point is a low sandy point at the south of the entrance to Willapa Bay, and is not seen from a very great distance. Cape Shoalwater, to the north, is also low and flat. Willapa Bay Light-House is on this flat, but since it's height is not great, cannot be seen at a distance. However, the scars on the bluffs northward and inland are easily picked up at some distance.

Inland from the beach, the land is heavily wooded, and the hills seem to be arranged in three fairly distinct ranges extending parallel to the coast. The more prominent of these hills were located by the hydrographic party. Sextant cuts were the controlling means of locating

them, but several stations were occupied with a seven inch theodolite and these positions made more certain. These hills and their descriptions are tabulated in another part of this report.

DANGERS. The shoal area to the north of the North Jetty at the entrance to the Columbia River and west of Cape Disappointment, and extending two miles or so out to sea, should not be crossed by vessels at any time. Small craft cross this shoal but only in the best of weather.

The North Jetty is above water at all times and is well marked by the trestle work along it's top. There is no hidden danger here. The South Jetty is submerged for considerable of it's length, but it's outer end is marked by a bell buoy. This jetty is always recognizable, as the swells break over it at all times. A few sections of the old trestle are still intact and also serve to mark the position of this jetty.

BARS AND CHANNELS. The bar at the entrance to the Columbia River can be crossed by vessels of all sizes except in the severest storms. The channel is well marked with buoys and lighted ranges. As the swells usually run from the southwestward, advantage can be taken of them, entering the channel from the south near buoy No.2. At no time were breakers in evidence entirely across the entrance, though the swells often run very high, especially at the time of greatest runout.

The currents in the channel are nearly always fair with the channel.

CURRENTS AND TIDES. A number of current stations were occupied during the season. Whenever the ship anchored for the night, observations were made at half hour intervals. These indicated a general northerly trend, but it's direction somewhat affected by the tides, the greater differences being noticed at the entrances, (or near them), to the various bays. Tide rips were noted as far out as latitude $46^{\circ} 20'$ N. and longitude $124^{\circ} 18'$ W., and were well defined in all cases. In all except the calmest weather breakers were in evidence all around the shoal spit extending out from the North Jetty.

ANCHORAGES. The Ship GUIDE anchored numerous times to the westward of and about a mile and a half off North Head. Here the bottom is of fine gray sand and the anchor held without difficulty. The ship also anchored south of the South Jetty with good results. At various points along the coast, the ship anchored for the night and the ground tackle held without difficulty. However there is no anchorage which affords any protection from westerly weather, and this is the predominant direction of storms.

SURVEY METHODS. Soundings were obtained either by means of the Rude-Fischer Pressure Tubes or by trolley and lead line.

DEVELOPMENT. Considerable attention was paid to the development of the approaches to the Columbia River Bar. The submarine sentry was set at seven fathoms. It was tripped once at this depth in latitude $46^{\circ} 14.1'$ N. and longitude $124^{\circ} 07.2'$ W. An investigation of this spot was made, but nothing found.

At several points, soundings were taken which were considerably shoaler than those immediately around. Investigations were made, which failed to confirm the accuracy of these soundings.

ACCEPTED VALUES OF TIDES FOR REDUCTION OF SOUNDINGS. For the reduction of soundings, the tides at the North Jetty of the Columbia River were accepted as being equivalent to open ocean conditions in that vicinity. Point Adams, Fort Stevens, Oregon, was designated as the Standard Station.

For Ship's Sheets '1', '1a', and '3', and launch sheets 'A', North Jetty tides were used directly.

For launch sheets 'C' and 'D', the height of the tide was taken the same as North Jetty and the time thirty (30) minutes LATER than North Jetty.

For launch sheet 'B' the height of tide is the same as North Jetty, but the time fifteen (15) minutes LATER.

OBSERVATIONS OBTAINED. A tide staff was established at the North Jetty of the Columbia River and observations taken from September 3 to September 29, 1926.

A copy of the tides recorded at Fort Stevens was obtained for the period from July 12, to December 10, 1926.

A portable guage was established at Fort Canby, Cape Dissappointment, Washington, and was maintained from August 28 to December 14, 1926.

An automatic guage was established at Toke Point, Willapa Bay, Washington, and was in operation from October 23 to November 11, 1926.

Levels were run for all four stations.

SIMULTANEOUS COMPARISONS. A "Simultaneous Comparison" was made of the Fort Stevens Staff with the staff at Tongue Point, Astoria, Oregon, to check MLLW at Fort Stevens, and to get the value of MPL. MPL by this comparison is 4.22 feet. The MLLW value as used by the U.S.E. is 6. Comparisons with Tongue Point give the value as 0.1 feet. The difference was so small that the U.S.E. value was used.

Another "simultaneous comparison" was made between North Jetty and Fort Stevens. The comparison established the values of MLLW as 1.00 foot at North Jetty. Mean ratio of ranges is 0.92 of Fort Stevens, and the time of tides 33 minutes earlier than at Fort Stevens.

CURVES CONSTRUCTED AND THEIR USE. All tide curves were plotted for all sounding days, and the reducers with their respective time limits scaled off and tabulated. These curves are to be found in three cahiers entitled: "TIDE REDUCTION CURVES, STEAMER GUIDE, 1926, Thos. J. Maher, Commanding." They are marked, respectively, Ship's Sheet #1 and #1a, Ship's Sheet #3, and Launch "RICHARD 'M'", Sheets "A", "B", "C", and "D".

In most cases, the Fort Stevens tides were plotted from the U. S.E. observations and a North Jetty curve then constructed by applying the time and tide differences between Fort Stevens and North Jetty, as obtained from the comparative readings.

For the period during which observations were made at North

Jetty these were plotted directly, minus one foot. This made the curve refer directly to MLLW.

For the four sounding days prior to July 12, Tongue Point tides were plotted and corrected to North Jetty conditions by using the time and range factors of the two "simultaneous comparisons" mentioned.

Where possible, a duplication of curves was avoided, and the tabulations in one cahier taken from the curve of the same day in another cahier. In each case, a note at the tip of the tabulation refers to the cahier and curve used.

The reducers were then transferred to the sounding volumes.

TABULATIONS AND COMPUTATIONS. Hourly heights were tabulated for North Jetty, Fort Stevens, and Willapa Bay.

High and low waters were tabulated and computed for North Jetty, Fort Canby, and four and one-half months at Fort Stevens.

COMPARATIVE READINGS were tabulated and computed for Willapa Bay.

SIMULTANEOUS COMPARISONS were made between Fort Stevens and Tongue Point, and North Jetty and Fort Stevens.

MLLW was figured for the 1926 tide staff at Willapa Bay by reference to the 1922 bench marks.

* * * * *

A table of Statistics for this sheet and a Table of IM and DP of the Hydrographic signals used are appended hereto.

Respectfully submitted

Clarence A. Burmister

Clarence A. Burmister
Aid, C. & G. Survey.

Approved:

Thos. J. Maher

Thos. J. Maher,
Commanding Str. GUIDE.

STATISTICS FOR SHEET NO. 3

DATE 1926	LETTER OF DAY	VOLUME NUMBER	POSITIONS NUMBER OF	SOUNDINGS			MILES STAT.	VESSEL
				TUBE	TROLLEY	V.C'S		
July 30	B	1	105	241	-	7	57.0	GUIDE
Aug. 2	C	1	77	136	-	2	36.0	"
Aug. 3	D	1	75	133	-	1	29.0	"
Aug. 3	D	2	56	107	-	5	26.0	"
Aug. 4	E	2	167	275	-	3	65.6	"
Aug. 9	F	2	132	213	-	5	42.0	"
Aug. 18	G	3	6	13	-	-	1.8	GUIDE
Aug. 20	H	3	154	260	-	6	64.0	"
Aug. 21	J	3	107	213	-	6	30.6	"
Aug. 23	K	3	70	123	-	-	22.6	"
Aug. 23	K	4	66	125	-	-	20.0	"
Aug. 24	L	4	85	118	52	4	20.3	"
Aug. 30	M	4	179	372	-	1	68.0	GUIDE
Aug. 31	N	5	39	75	-	1	11.6	"
Sept 1	P	5	146	352	-	4	60.5	"
Sept 2	Q	5	97	228	-	2	43.0	"
Sept 2	Q	6	58	115	-	1	28.0	"
Sept 3	R	6	71	182	-	3	23.0	"
Sept 8	S	6	9	22	-	-	3.4	GUIDE
Sept 13	T	7	135	299	37	3	45.0	"
Sept 14	U	7	123	-	376	-	28.0	"
Sept 14	U	8	65	-	219	-	19.0	"
Sept 15	V	8	146	163	221	5	53.6	"
Sept 16	W	9	126	270	-	3	64.3	"
Sept 17	X	9	144	327	45	9	61.2	GUIDE
Sept 20	Y	10	74	196	-	4	40.3	"
Sept 21	Z	10	64	-	231	-	23.0	"
Sept 22	AA	10	75	215	-	4	26.1	"
Sept 22	AA	11	65	172	-	1	32.1	"
Sept 23	AB	11	139	391	-	7	66.6	"
Sept 24	AC	11	33	91	-	3	10.5	GUIDE
Sept 24	AC	12	132	325	-	5	65.1	"
Sept 27	AD	12	42	132	-	3	23.6	"
Sept 28	AE	12	57	189	-	3	25.0	"
Sept 28	AE	13	52	122	20	-	18.2	"
Sept 29	AF	13	56	-	223	-	18.5	"
Sept 30	AG	13	96	-	340	-	35.2	GUIDE
Sept 30	AG	14	27	-	117	-	12.8	"
Total to carry forward			3350	6195	1881	101	1330.6	

STATISTICS FOR SHEET NO. 3

DATE 1926	LETTER OF DAY	VOLUME NUMBER	POSITIONS NUMBER OF	TUBE	SOUNDINGS TROLLEY	V.C'S	MILES STAT.	VESSEL
Totals brought forward			3350	6195	1881	101	1330.6	
Oct. 13	AH	14	52	143	-	3	25.5	GUIDE
Oct. 14	AJ	14	13	48	-	1	4.0	"
Oct. 19	AK	14	37	131	-	1	18.0	"
Oct. 19	AK	15	50	158	-	2	30.5	"
Oct. 20	AL	15	9	34	-	1	5.7	"
Oct. 26	AM	15	86	-	351	-	28.4	GUIDE
Oct. 29	AN	16	123	307	-	7	61.0	"
Nov. 1	AP	16	30	90	-	5	12.2	"
Nov. 2	AQ	16	31	82	-	2	12.7	"
Nov. 3	AR	16	25	-	82	-	7.0	"
Nov. 10	AS	17	28	69	-	1	11.8	GUIDE
Nov. 18	AT	17	84	177	-	1	30.0	"
Nov. 23	AU	17	57	19	152	2	18.6	"
TOTALS			3975	7453	2466	126	1585.9	

GEOGRAPHICAL POSITIONS OF HYDROGRAPHIC SIGNALS.

NAME	POSITION			DESCRIPTION
HOPE	46° 123	15' 53	1516m 81m	Highest part of the west end of range of hills north of Astoria.
TALL	46° 123	17' 53	450m 1125m	Tallest tree to NW of SHARP
SCRAG	46° 124	19' 01	78m 970m	Highest part of low scraggy hill a short distance north of North Head.
TREE	46° 124	18' 02	70m 388m	Tallest tree on North Head and to the northward of the Light House.
LONE	46° 124	20' 00	368m 1790m	Top of low barren hill with one tall tree on top. Hill to NE of North Head. <i>(Top of hill - and the tree)</i>
TIM	46° 123	20' 53	1340m 507m	Highest part of range in back (E) of Cape Disappointment, and S of BEAR
FLAT	46° 123	25' 45	688m 1181m	Southern-most point of flattish ridge in the third line of hills from beach.
WEDGE	46° 123	24' 54	614m 1242m	Top of wedge-shaped part of second range of hills from beach. Northern-most point on this range.
SUN	46° 123	27' 54	1742m 970m	Top of low hill in first range, on E side of southern arm of Willapa Bay.
SPRUCE	46° 123	27' 58	630m 289m	Top of low tree-covered hill west of SUN.
LOW	46° 123	29' 58	580m 1142m	Top of low hill in same range as SPRUCE and to the northward.
PROM	46° 124	29' 02	910m 166m	Tallest of group of trees inland and to the North of Klipsan Beach.
TRIP	46° 123	36' 50	362m 784m	Tallest point of three which form north end of range East of Willapa Bay.

TRIANGULATION
BAKER BAY, WASHINGTON

AND

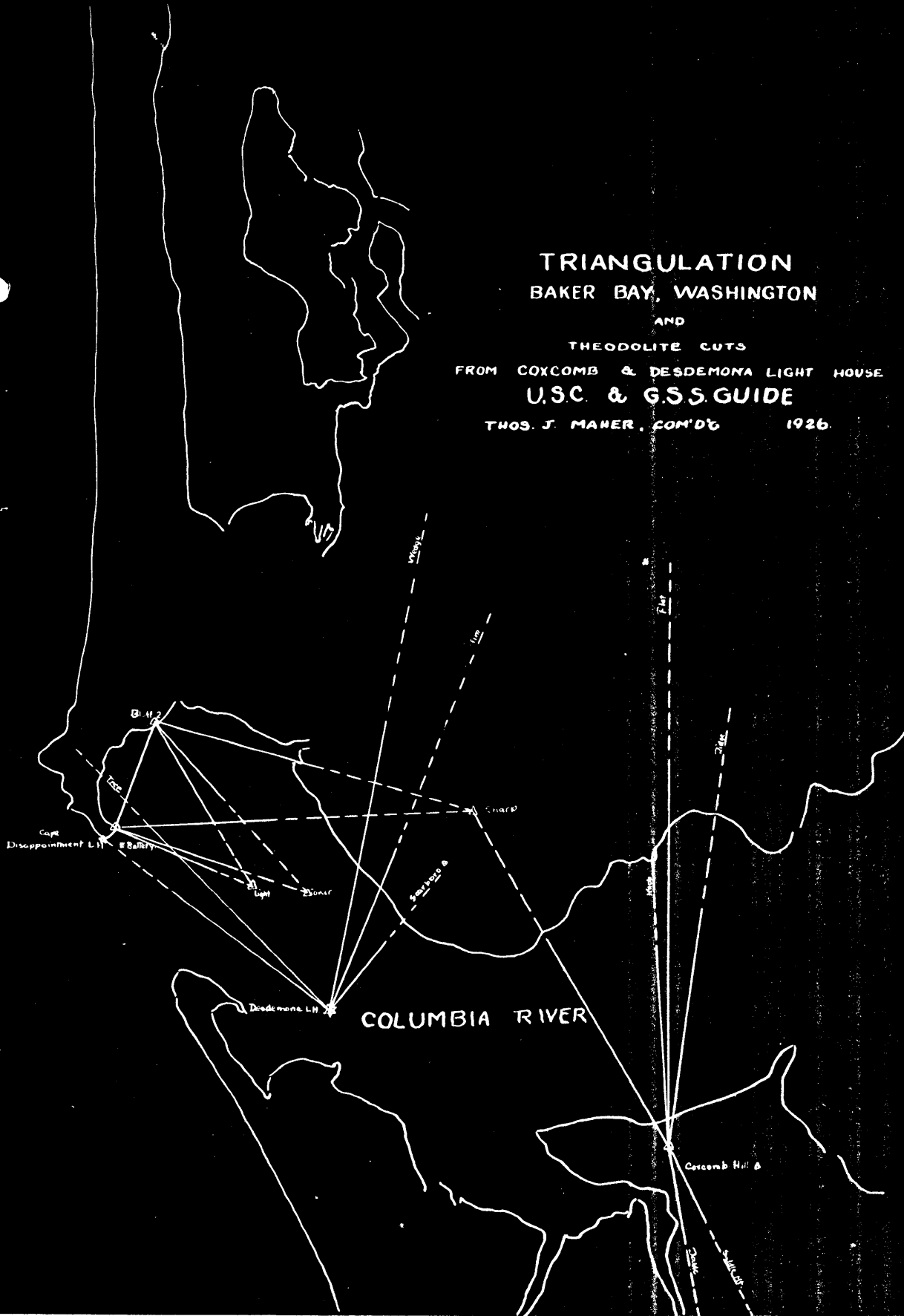
THEODOLITE CUTS

FROM COXCOMB & DESDEMONA LIGHT HOUSE

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

THOS. J. MAHER, COM'D'G

1926.



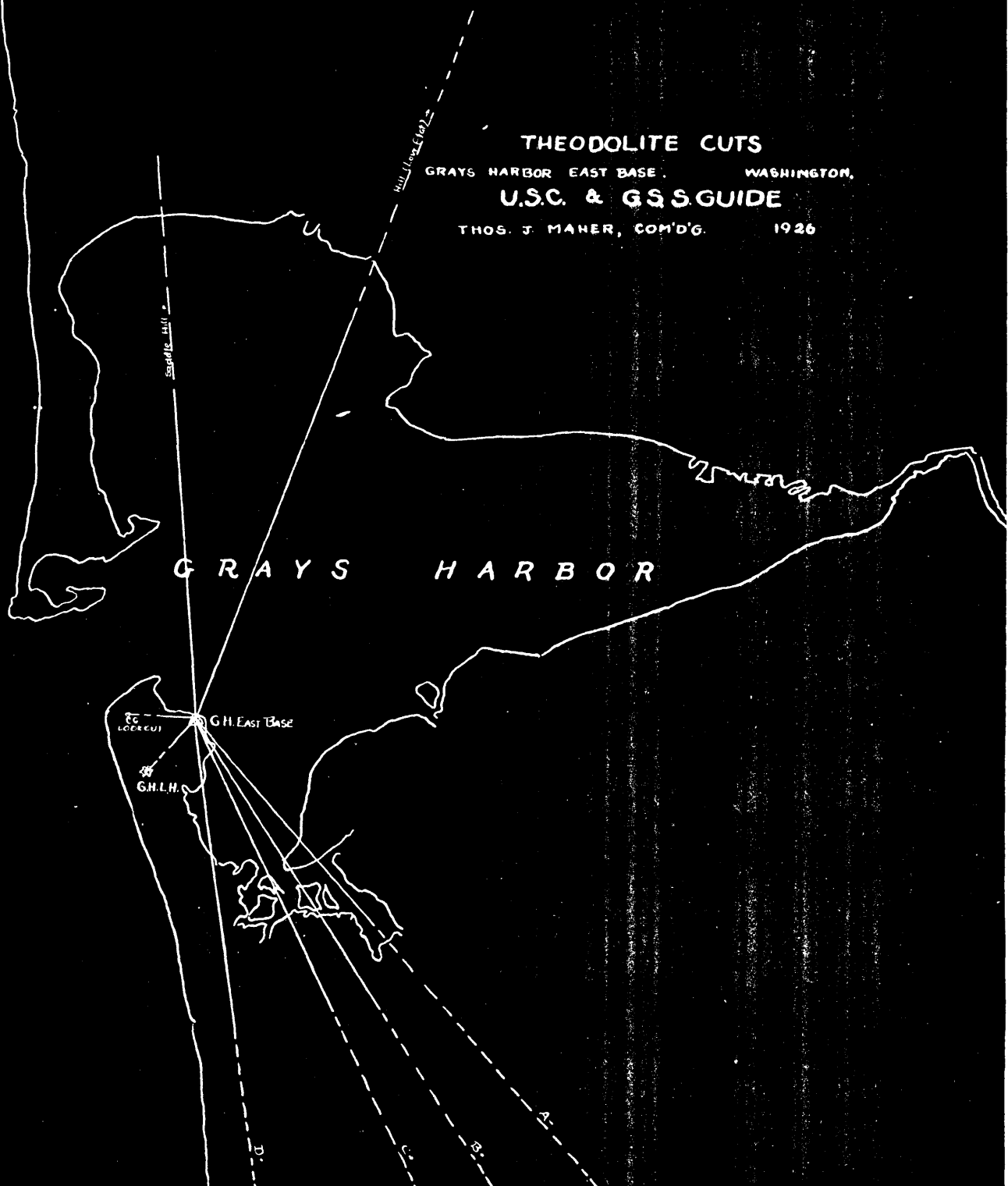
4251

THEODOLITE CUTS

GRAYS HARBOR EAST BASE WASHINGTON.

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

THOS. J. MAHER, COM'D'G. 1926



4254

May 31, 1927.

(11)

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
17 volumes of sounding records for

HYDROGRAPHIC SHEET 4034

Locality: **Washington Coast, North of Columbia River Entrance.**

Chief of Party: **T. J. Maher in 1926.**

Plane of reference is **M L L W**
0.8 ft. on tide staff at **North Jetty**
-0.2 ft. ~~-----~~ **Ft. Stevens**

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.

Section of Field Records.

Report on Sheet No. 4634

Chief of Party T. J. Maher

Protracted by C. A. Burmister

Verified and Inked by J. T. Walker

Surveyed in 1926

Surveyed by T. J. Maher

Soundings plotted by

C. A. Burmister.

The sounding records were complete and well kept except as follows: The bottom characteristics for trolley soundings were omitted entirely. A number of notes found in the sounding records, signed T. J. Maher, were practically impossible to read. - See Vol. 2 page 43 and Vol 15 page ~~4~~ 4

Probably due to the uneven shrinkage of the smooth sheet much of the protracting was bad. Along the eastern edge of the sheet north of lat. 46-32 the fixes were found to be off two or three hundred meters. These fixes that were so far off used very distant signals and generally at least one small angle - less than 10° . Due to the very distant signals and small angles the protracting was complicated. Small right angle and small left angle protractors were used as well as the protractor with the extra long extension arms. In some cases straight edges had to be extended from two arms in order to reach the distant signals. These fixes which were so far off were found to be off

in the same general direction and about the same distance. They were not corrected but left as plotted in the field.

In some cases the field plotter confused the numbering of fives and in congested areas some of the fives could not be found at all. For 13 consecutive positions the field plotter used the wrong signal. — Vol. 11.

The soundings were well ~~plotted~~ plotted and the time intervals were carefully adhered to. No fractions above 9 fathoms were plotted but the rule has been changed since the sheet was plotted in the field.

The sheet was received clean but the paper ~~was~~ was badly broken in places and a "dog ear" had been poorly glued on and had slipped out of place.

The drafting conformed to General Instruction for field work with the following exception: The boat sheet grids were plotted on odd minutes and the smooth sheet on even minutes.

Sheet H 4634 Add'l Work which was one days work was transferred to H 4634.

Between 31 & 32 (green) C day is a 20 fath. sounding. Between 18 & 19 (green) H day is a 26 fath. sounding plots over the 20. The least depth around the 20 is 25 fath. The boat sheet shows a 22, which the 20 was before reducers and corrections were applied. (20 fath. plotted)

Thirty H to 62 H seems to be too far east. all the crossings are poor. It is apparently not caused by the signals as at some of the poor crossings the same signals are used. ^{line retained}

a light vessel is located in Vol. 3 p. 40, Vol 5 p. 48 and 60, and Vol. 8 p. 46 but as no two positions are the same the vessel was left in pencil. It was not shown by the fieldmen. ^{shown in mean pos.}

Half way between 8 & 9K is an 18 fath. sounding questioned in the record. Almost on top of it is a 25 fath. sounding halfway between 28 & 29K. The 18 fath. sounding is surrounded by 25 & 26 fath. soundings. The 18 was inked in. ^{sounding retained}

The overlap from 4732 to 4634 at Lat. $46^{\circ}32'45''$, Long. $124^{\circ}11'15''$ shows a 16 fath. sounding over a 21. (16 fath. rejected in records of H 4732)

The following note by Capt. Ellis was requested to be inserted in this report. "Numerous differences in depths in excess of the allowable errors occurred along the overlaps with adjoining sheets. These differences are in depths too great to have cartographic value. In showing the overlaps those soundings that affected the curves were not transferred."

There was a great deal of overlap on this sheet much of which was unnecessary.

Reviewed by

Date

Respectfully submitted
J. J. Walker

The tube soundings agreed closely in most instances but a great many were found under the 15 fath. limit. These tube soundings under 15 fath. were not inked in until all the other soundings were inked. This showed them up plainly and they were seen to agree closely with the other soundings. With the permission of Capt. Ellis these tube soundings under 15 fath. were inked in with the exception of those which in areas covered by overlaps of adjoining sheet.

4634 Add'l Work

4634 Add'l Work

Form 504

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

State: Washington

U. S. B. SURVEY
U. S. A.
FEB 27 1924

DESCRIPTIVE REPORT

Topographic } Sheet No. ³ 4634 Add'l. Wk.
Hydrographic }

LOCALITY

Cape Disappointment

Columbia River to Willapa Bay

1927

CHIEF OF PARTY

T.J. Maher

GOVERNMENT PRINTING OFFICE

S-19 IV

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REG. NO. 4634 Add'l Wk.

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. 4634 Add'l Wk. on orig Sheet

State Washington

General locality ~~Washington Coast~~ Willapa Bay

Locality North Head to Willapa Bar *Eastern side to Willapa Bay*

Scale 1:40,000 Date of survey April 19, 1927

Vessel Steamer GUIDE

Chief of Party Thos. J. Maher

Surveyed by Thos. J. Maher

Protracted by V. M. Gibbens

Soundings penciled by V. M. Gibbens

Soundings in fathoms ~~feet~~

Plane of reference M L L W

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated March 5, 1927, 192

Remarks: There is one volume to this sheet

Sm. Sheet submitted by letter of Feb. 9, 1928 is registered as B. Sh. 4634 Add'l Wk.

DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SHEET No. 3

4634 Adol' Wk.

Coast of Washington
from
North Head to Willapa Bar.

April
1927

Steamer GUIDE

Thos. J. Maher
Chief of Party

DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SHEET No. 5 4634 Add'l Work
Coast of Washington from North Head to Willapa Bar.

LIMITS: This sheet is a line run from $46^{\circ} 25.5'$ to $46^{\circ} 38'$

On Hydrographic Sheet No. 3, scale 1:40,000 of 1926, at about Latitude $46^{\circ} 27'$ and between Longitude $124^{\circ} 08'$ and $124^{\circ} 09'$, was an area which needed further investigation. Also a line running north from this area on about Longitude $124^{\circ} 10'$ to Latitude $46^{\circ} 38'$ showed rather irregular bottom. This area was investigated and the line rerun at the first part of this field season on the way to and from the working grounds.

Thos. J. Maher,
Commanding
Steamer GUIDE.
Chief of Party.

TABLE OF STATISTICS SHEET No. 3

Date	1927	Letter	Vol.	Positions	Soundings	Miles	Stat.
April	19	A	1	142	265	41.0	

T. J. H.

(11)

Copy for Record Section files.

February 27, 1928.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
1 volume of sounding records for

HYDROGRAPHIC SHEET 4634 add'l.

Locality: **WASHINGTON COAST**

Chief of Party: **F. J. Maher, 1927.**

Plane of reference is **M L L W**

2.6 ft. on tide staff at **Tongue Point, Oregon.**

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.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 4634

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

Number of positions on sheet . 4117
Number of positions checked . 773
Number of positions revised . 127
Number of soundings recorded ! 0 3 ! 0
Number of soundings revised . 485
Number of signals erroneously
plotted or transferred 0

Date: - - Jan 24, 1929 - - - - -
Cartographer: - - J. T. Walker - - - - -

Section of Field Records
Report on Hyd. Sheet No 4634
Surveyed in 1926 and 1927

Instructions dated April 17, 1926 (Guide)

Chief of Party - J. J. Maher
Surveyed by - J. J. Maher
Protracted and plotted by - C. A. Burmister
Verified and inked by - J. J. Walker

- 1) The records conform to requirements except for the absence of bottom characteristics on handlead and trolley soundings.
2. The work conforms to the requirements of the General Instructions except that a great many tube soundings were taken in depths under fifteen fathoms.
3. The plan and extent of development satisfies the specific instructions except that on the northern part of the sheet, most of the sounding lines are parallel instead of normal to the coast.
4. Soundings agree pretty well and the usual depth curves can be drawn.
5. In Lat. $46^{\circ}-27.6'$, Long. $124^{\circ}-08.5'$, there is a tube sounding of 11 fathoms and 3 feet in a surrounding depth of 14 fathoms. This sounding might have been further

investigated.

The 20 fathom sounding between pos. 31c and pos. 32c was retained. It had been O.Ked by the commanding officer and there was no evidence upon which to reject it.

The 18 fathom sounding between pos 8k and pos 9k was also retained. This sounding was questioned in the record, but both tubes agreed and in the absence of any remarks or recommendation by the field party, there was not enough evidence to reject it.

The line from pos 30H to pos 62H, which is mentioned in the draftsman's report, is thought to be too deep. This may be due partly to an erroneous tube correction, but the line was not rejected.

The line from pos 60L to pos 69L inclusive, was rejected. The field party states that it is unreliable and the work on Z day, discredits it.

The light ship was shown in a mean position of all the locations given.

6. Junctions - This sheet forms a junction with eight different sheets. While there are no gaps in the work, the overlaps are uniformly too large. This is especially true of the overlap to the north. This sheet joins H. 4732 on the north and H. 4728 is north of that sheet. Yet H. 4728 and this sheet (H. 4634) actually overlap each other.

Both sheets run over the entire area on H.4732.
H.4633^a, which joins this work on its western limits,
is not yet completed and this overlap will be made
later.

Reviewed by R. L. Johnston

Mar. 12, 1929.

applied to new compilation of chart 6185.
May 13, 1941 J. K. S.