

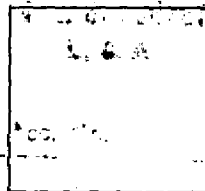
4264

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

....., Director



State: Oregon

DESCRIPTIVE REPORT

Topographic  
Hydrographic

Sheet No. 4264

LOCALITY

Astoria

S. Side of Columbia River

Skipanon Creek to

Clatsop Spit

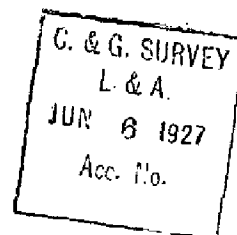
1926

CHIEF OF PARTY

T.J. Maher

GOVERNMENT PRINTING OFFICE

4264



U. S. COAST & GEODETIC SURVEY  
E. Lester Jones, Director

DESCRIPTIVE REPORT TO ACCOMPANY  
TOPOGRAPHIC SHEET #2 OF 12

*Astoria to Clatsop Pt. Oregon*

U.S.S. GUIDE

Season 1926

Thos. J. Maher, Chief of Party

DESCRIPTIVE REPORT

To Accompany

TOPOGRAPHIC SHEET

No.....*2*.....  
Scale...*1:10,000*.....

U. S..S. GUIDE, 1926,

Thos. J. Maher, H & G E, Commanding.

DESCRIPTIVE REPORT

Topographic Sheet #2

U.S.S. GUIDE, Season 1926

Scale 1:10,000. Limits: Lat.  $46^{\circ}-09'$  -  $46^{\circ}-14\frac{1}{2}'$   
Long.  $123^{\circ}-52'$  -  $124^{\circ}-02'$   
( Projection at angle of  $112^{\circ}$   
with long edge of sheet.)

This work was done on K & E, #82 Paper, sent out by the office for a field test. Unfortunately it was one mile short of standard size, which necessitated laying out Sheet #3 to take in the tip of Clatsop Spit. ( See appended report on K & E, #82 Paper ).

This sheet covers the south shore of the Columbia River, from the Skipanon Waterway west and south to four miles south of the south breakwater of the Columbia River. It includes:

The Skipanon River as far back as the Seaside highway bridge; Warrenton, Flavel, Hammond, and the Fort Stevens Military Reservation.

This survey was made according to your verbal orders of July 7, and October 23-24, 1926; and in conformity with the Director's orders dated April 17, 1926, a copy of which is attached to report on Sheet #1. Work was commenced October 19, 1926, and completed November 27, 1926. On this date the three hands were paid off and party disbanded.

A great deal of bad weather was experienced while working on this sheet, and it was necessary to complete it's detail on auxiliary sheets and celluloid strips and transfer to the topographic sheet in the office. Two stormy days were devoted to copying and checking the October tide records from U.S. Engineers Gauge at Fort Stevens.

ORGANIZATION AND TRANSPORTATION. Party consisted of one H. & G. Engineer, and three hands, each at \$120 per month. Transportation was by White Truck C & G S No.38. Party was disbanded on November 27, 1926.

CONTROL was by triangulations, schemes dating from 1851 to 1913. ( See also report on Sheet No. I ) Desdemona ~~Sands~~ Light, Fort Stevens Radio Compass; the large water tank at Fort Stevens; Gun ( U.S. Engineers ); Fort Stevens Longitude; the U.S. Engineers tall signal, ( called "tank" in triangulation report ), on the South Jetty crossing Clatsop Spit; and the tallest stack ( called "West Stack" ) of the fish oil works one-half mile E.S.E. of Skipanon Light, - were the only triangulation stations that could be relied upon for control. The smaller river and wharf lights had all been changed in position. This caused a good deal of extra work, as a start was made from the Flavel Wharf Light, working East to a conjunction with sheet No. 1. It was found that something was amiss, and a new start was made from station Gun (U.S.E.) and Fort Stevens Longitude Station. This determined that the Fort Stevens Wharf Light was not in position - and in turn the Flavel Light was found to be out of position. ( Fort Stevens Light had been used in three-point check on Flavel Light ). In beginning this survey no authoritative information could be obtained from the Lighthouse Service regarding the dates of, and the amount of, change in the positions of these lights. The only thing I could learn was that they were often moved - due to ice, shifting sand, rotting dock, etc., - but that in making small changes no record was kept. A study of Topographic Sheet #2 will show what we were up against in the matter of control. The shore line to the East side of the Skipanon Waterway was well controlled on Sheet # 1; but from the Waterway to Fort Stevens was difficult, due to the fact that but one, and at times no, triangulation station was visible. A scheme of plane table triangulation was carried out to control the survey of Warrenton, and the Skipanon River. The poor triangulation - or rather the lack of triangulation - on the eastern side of this sheet required fifty percent more time for its completion than would otherwise have been necessary.

Unless a more constant and accurate communication can be established with the Lighthouse authorities, all field parties of this service should be cautioned to thoroughly check positions of all lights, as given by our triangulation, before proceeding with any surveys involving their use in control. A change of a few meters in position is of no importance to the general navigator, but it can easily confuse a topographic survey.

SHORELINE. The shore line of this sheet is all low. From the Skipanon to the last slough, one-quarter mile south of Flavel, the shore line is "dyked" up to protect the grassy flats.

The ocean side is flat and barren. High water line, while somewhat indefinite on the ocean side due to the flat beach, is accurate. Steppling to low water is the closest approximation that could be obtained by rodding in on low tides, and interpolating over areas where this could not be done. The storm water and drift line is shown by heavy stepped line. Back of this is a wide expanse of low shifting sand dunes, drift wood, etc., leading to the first sand ridge, and the limit of tree growth.

The area south of the breakwater, known as the "Lagoon", is filling in, the prevailing wind and direction of blowing sand being the determining factor.

GENERAL TOPOGRAPHY. Interior topography, other than in Warrenton and Hammond, was not attempted. The small lakes, sand ridges, etc., are as shown on the old edition of Chart #6151. The timber growth is increasing, and the Clatsop Plain is the only country the writer ever encountered where the carpet of green grass grows throughout the timber land. Here it is the usual thing on a rainy day (also usual) to see the cattle grazing knee deep in luxuriant grass under the shelter of the big spreading spruce trees, which form a canopy over a great deal of the pasture land. Extensive open pasture lands border on all the sloughs up to where they fan out into head branches, and the thick coniferous growth closes in. On the ocean side the beach detail is shown over the low shifting sand dunes to the first sand ridge which forms the barrier of the timber line. This first sand ridge, east of the ocean beach expanse, is prominent and extends from one mile south of Point Adams to the south east in a more or less continuous line, averaging forty to ninety feet in elevation. In places spruce trees have gained footing along it's summit.

SKIPANON RIVER. This river has been improved up to Warrenton. It joins the Columbia River through the Skipanon Waterway, one mile N.N.E. of Warrenton. Above the highway bridge the channel is narrow and twisting. The east side of the river is dyked to protect the flat pasture lands.

WARRENTON is located one mile up the Skipanon waterway. There are rail and stage connections with Seaside, and Portland. The S. P. & S. Railway line to Seaside runs through Warrenton. There is also rail and road connection with Flavel, Hammond, and Fort Stevens. Warrenton is a small town with two saw mills, a salmon cannery, and two clam canneries. It's industries

are: Fishing, clam digging, logging, and dairy products. A good many years ago this town had a "Big Boom" and for many square miles the country was cut into building lots. Today they are given over to cattle, brush, and blackberry thickets; and the town cannot pay the interest on it's bonds.

FLAVEL. After a diligent examination of the country, my topographic sheet, and the old charts, I cannot determine where this name should be lettered on the sheet - and I am leaving it off, (naming the Flavel Wharf Light only). From the position of the name "Flavel" on old editions of Chart #6151, I think it must have been intended to apply to five scattered houses along the highway just north of Tansy Creek. But there is really no concentrated settlement here now, and the name would best apply to the deserted old hotel and tanks back of the Great Northern Dock. The sheds on this dock now house a Cannery. The old Flavel Wharf, carrying the Flavel Wharf Light, is in poor repair and unsafe.

HAMMOND is a small village bordering the east boundary of the Fort Stevens Military Reservation. There is a cannery, clam digging, and dairy products. The POINT ADAMS COAST GUARD STATION is on the eastern side of the village.

FORT STEVENS. The boundary lines, only, of the military reservation are shown. The title has been left in pencil in case the division wishes to add some details from information in the office. Docks and water front are shown in detail.

SWASH LAKE, located in the Fort Stevens Military Reservation; could be entered at high water by gill net boats except for the fact that the channel below the lake outlet is filled with timbers. It is a tidal lake, and when surveyed in November was full of leaping salmon.

ROADS. There is a good concrete road from Fort Stevens via Hammond and Warrenton to Seaside and Astoria.

LANDMARKS. The most conspicuous landmarks on this sheet are:

The Fort Stevens Radio Compass on the ocean beach. The tall U.S. Engineer's Signal on the trestle of south jetty; the docks at Fort Stevens; the tank, hotel, and dock at Flavel; and the great yellow sawdust pile at the Prouty Lumber and Box Company on the west side of the Skipanon Waterway north of Warrenton. (See triangu-

lation recovery notes, and list of plane table positions ).

*William T. Combs*  
William T. Combs,  
H & G Engineer, Topographer.



POST-OFFICE ADDRESS: U.S.C. & G.S.S. GUIDE, Mare Island, Cal.

TELEGRAPH ADDRESS:

EXPRESS OFFICE:

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

January 20, 1927.

To: Commanding Officer, U.S.C. & G.S.S. "GUIDE".  
From: Lieutenant Wm. T. Combs, H. & G. S.  
Subject: Report of field test of K & E #82 paper.

According to your verbal instructions of January 19th I have the honor to respectfully submit the following report on my field test, on Topographic Sheet #2, of K & E #82 paper.

Unfortunately when this sheet was given me it was only 46 3/4 x 31 inches, a mile short of standard size on the 1:10,000 scale used. On October 17, 1926, I made a careful projection on this sheet, which was checked as correct, by Mr. C. A. Burnister, on the same date. Work was immediately started on the eastern side and, as you know, it was found that something was amiss with the control. Due to having to run down the small changes made in the positions of certain lights, and which could not be detected until thorough checks were made, completion of this sheet required fifty per cent more time than would otherwise have been necessary. However, the constant heavy rain we experienced toward the close of the season made it imperative to use celluloid auxiliary strips to finish the detail on this sheet. Consequently I feel that this sheet has been subjected to a thorough average test under our standard field conditions on the northwest Pacific Coast. It has not had excessive working done over its surface, nor has it been subjected to more than ordinary exposure in rain and dampness. I give below, in the order of what seems to me their relative importance, the criticisms and objections I have to the use of this paper for topography.

- (1) The sheet buckles, or bellies, and warps with field usage.
- (2) The edges of the sheet are not properly bound to prevent "frassing", splitting and thread-running. It does not lend itself to clipping on the board.
- (3) The surface of this sheet is too soft after a short period of field usage in a damp climate. It "gouges" too readily, and the surface "skins" and "rubs up" very easily, especially on the

end of the sheet or where there may be a little friction. This tendency to become spongy or soft-like causes even a 4-B pencil to "sink in" under the amount of pressure required to make a legible line.

(4) My experience with this sheet demonstrated that the paper does not distort evenly. Once, a few days after beginning work, the projection was six meters long in a minute of latitude. A few days later it was eight to ten meters long to a minute of latitude. Comparisons with different sections of the sheet gave the distortion as variable, being greatest over the areas most worked in. The following comparisons and measurements were made this date:

1/20/27

Dimensions: "AA" 99.27 cm., Shrinkage: .0078 - lengthwise.  
" " " " " " : .0038 - crosswise.

1' lat. 45° 11'-12' = 1845 m. (1852.6) .0038 - shrinkage.  
1' long. " " " = 1260 m. (1256.8) .0053 - shrinkage.  
1' lat. 46° 13'-14' = 1844.2 (1852.6) .0041(-)shrinkage.  
1' long. " " " = 1275 m. (1286.0) .0085(-)shrinkage.

(5) The paper does not clean up well. When inking is completed, and all old penciling, dirt, etc., is rubbed off, the soft, smooth surface gives up its ink; and those pencil lines which have set into the paper have to be "dug out". This tendency of the surface to soften in the damp western Oregon atmosphere is very disagreeable in making cuts, penciling symbols over their proper areas, and moving the alidade base easily over the surface of the sheet. Stains, such as certain types of mud, vegetable growth, and insects, have a tendency to sink deep into the fibre of the paper.

In conclusion I would like to say that my prejudice against this paper does not apply to office or interior usage. When clean, the surface takes ink wonderfully well, and when erasures are made there is very little tendency to "feather" with re-inking. Possibly these sheets when double-mounted and cut to board size would not buckle, but they will not wear well when exposed to moisture.

*Allen T. Bunker*  
H. & G. E., Lieut., C. & G. S.

U. S. COAST & GEODETIC SURVEY

E. Lester Jones, Director

LIST OF PLANE TABLE POSITIONS  
To Accompany

TOPOGRAPHIC SHEET #2.

*Custom & Clatsop Pt. Guyon*

U. S. S. GUIDE  
1926

Thos. J. Maher, H & G E  
Chief of Party

List plane table positions to accompany Sheet #2.

6 2 3

Object or Station	Latitude	D.M. Meters	Longitude	D.P. Meters	Height	Remarks and Description
✓ Snag	46-12	(1597.5) 255.1	123-59	(329.1) 957.3		Tall snag on beach
✓ Grass	" "	(1395.7) 456.9	" "	(225.2) 1061.2		Top prominent grass top dune.
✓ Pole	" "	(1212.4) 640.2	" "	(123.7) 1162.7		High pole on beach
✓ Wag	" "	(813.8) 1038.8	124-00	(1205.9) 80.5		Drift signal, "Wigwam fashion".
✓ Sig	" "	(275.9) 1576.7	" "	(760.2) 526.2		Driftwood signal.
✓ * Front	" 13	(249.2) 1603.4	" "	(1181.0) 105.0		Jetty sands front range light
✓ * Rear	" "	(705.5) 1147.1	123-59	(316.8) 969.2		Jetty sands rear range light
✓ * Band	" "	(1348.8) 503.8	" "	(466.4) 819.6		Red banded beacon
✓ Mark	" "	(1467.5) 385.1	" "	(485.0) 801.0		Mark south side breakwater trestling.
✓ Short	" 12	(116.5) 1736.1	" 58	(188.3) 1098.1		Banner signal S. trestle
✓ Board (USE)	" "	(272.9) 1579.7	" "	(483.1) 803.3		Origin mark, S. Trestle, US Engineers
✓ Ban	" "	(494.8) 1357.8	" "	(959.1) 327.3		Banner, N. side trestle.
✓ Mack	" "	(769.9) 1082.7	" 57	(192.7) 1093.3		Small banner, shore end trestle
✓ Arm	" "	(921.8) 930.8	" "	(529.0) 757.0		Signal on breakwater Fort Stevens.
✓ West mast	" "	(1064.6) 788.0	" 58	(1130.3) 156.1		West wireless mast with cross-arm.
East Mast	" "	(1057.2) 795.4	" "	(1234.2) 52.2		East Wireless Mast

(2)

## List of plane table positions to accompany Sheet

t. 3

Object or Station	Latitude	D.M. Meters	Longitude	D.P. Meters	Height	Remarks and Description
/ Spike	46-12	(1028.0) 824.6	123-57	(165.2) 1121.2		Sharp spike pointer top <del>drag</del> search light house.
✓ *Fort Stevens Wharf Light	" "	(854.6) 998.0	" "	(1171.3) 114.7		The old light on wharf at Fort Stevens.
✓ * Cable	" "	(1121.6) 731.0	" "	(1204.0) 82.4		Center "Cable Crossing" Sign <del>at Fort Stevens</del>
/ Steep	" "	(1770.6) 82.0	" "	(00.0)		Church steeple, Hammond.
✓ * Store	" "	(1798.6) 54.0	" 56	(125.0) 1161.4		Store, Hammond.
✓ Stump	" "	(1718.6) 134.0	123-58	(880.4) 406.0		Prominent stump, SW shore Swash Lake.
✓ *FS Coast Gd.	" "	(1792.3) 60.3	" 56	(316.8) 969.6		The flag staff before Coast Guard Quarters, Hammond.
✓ * Gab	" "	(1519.5) 333.1	" "	(514.2) 773.2		West Gable, Coast Guard Boat-house.
✓ * Fish	" "	(1764.6) 88.0	" "	(862.6) 424.4		FS river gable dock house of cannery.
✓ Dolphin	" 11	(381.6) 1471.0	" 55	(136.6) 1149.8		off shore dolphin marking deep water.
✓ * Range Bkn	" "	(625.9) 1226.7	" 56	(1283.8) 03.0		Range beacon, Flavel
✓ Range Bkn Small	" "	(632.3) 1220.3	" 55	(06.1) 1280.3		Range beacon, Flavel
✓ * Flavel Wharf Lt.	" "	(699.0) 1153.6	" "	(662.5) 624.3		Old wharf light, Flavel dock.
✓ * Hi	46-11	(893.0) 959.6	" "	(714.6) 572.2		Iron Cannery stack, GN dock
✓ * Tank	" "	(933.3) 919.3	" "	(576.0) 710.4		Black water tank, Flavel
✓ * Hot	" "	(1051.4) 801.2	" "	(584.6) 701.8		Cupola large frame hotel Flavel

## List of plane table positions to accompany Sheet #2

Object or Station	Latitude	D.M. Meters	Longitude	D.P. Meters	Height	Remarks and Description
✓ Aid Bkn	46-11	(1362.0) 490.6	123-55	(837.9) 448.9		On shore south of Flavel
✓ Diamond Bkn	" "	(1396.8) 455.8	" "	(6185.5) 667.9		450 meters back from shore
✓ * Sign	" "	(1667.8) 184.8	" 54	(691.4) 595.0		Center of sign west end of Skipanon Waterway.
✓ * Skipanon Lt. 46-11		(1734.0) 118.6	" "	(887.2) 399.6		Waterway. Light on east end Skipanon
✓ * City	" 10	(1108.0) 744.6	" "	(221.1) 1065.7		Incinerator, Prouty Lumber & Box Company.
✓ Oil	" "	(1328.2) 524.4	" "	(202.0) 1085.2		Stack, small oil works
✓ * Aide	" "	(1725.2) 127.4	" "	(155.6) 1131.6		Aid on small dock, Skipanon W.W.
✓ * Vent	" "	(1485.3) 367.3	" 55	(985.4) 301.8		SW roof ventilator, Warren barn.
✓ * Warren	" "	(1588.4) 264.2	" "	(928.7) 358.5		FS, Old Warren home
✓ * Can	" "	(1776.6) 76.0	" "	(823.3) 463.9		Iron stack, Cooperative Cannery, Warrenton.
✓ Can FS	" "	(1805.6) 47.0	" "	(825.0) 462.2		Flag Staff, Cooperative Cannery, Warrenton.
✓ Rail	" 09	(56.0) 1796.6	" "	(769.0) 518.6		Flag Staff at Warrenton Ry. Depot.
✓ NE Stack Two Stacks	" "	(277.0) 1575.6	" "	(883.1) 404.5		Two highest stacks, Warrenton saw mill.
✓ Clam	" "	(645.0) 1207.6	" "	(550.8) 736.4		West stack clam cannery.
✓ School	" "	(872.0) 980.6	" "	(166.6) 1120.6		FS, Grammar School, Warrenton.
✓ * Mid	" "	(34.0) 1818.6	" "	(1152.6) 135.0		middle of three stacks, old saw mill.

4

List of plane table positions to accompany Sheet No. 5.

Object or Station	Latitude	D.M. Meters	Longitude	D.P. Meters	Height	Remarks and Description
✓ Waste	46-10	(1797.6) 55.0	123-55	(1187.2) 100.0		Top waste carriage super-structure, <i>old saw mill.</i>
✓ *Lower Sands	" 11 Lt.	(719.5) 1133.1	" 53	(558.8) 728.0		Pile light, Columbia river
✓ * light	46-10	(155.0) 1697.6	" 52	(296.0) 990.8		Pile light, Columbia river
/ Dyke	" "	(1545.2) 307.4	" 54	(1035.0) 252.2		Banner on pole on dyke.
✓ Cup	" 09	(227.8) 1624.8	" "	(266.0) 1021.2		Cupola gray green house.
✓ Barn	" "	(354.0) 1498.6	" 53	(71.0) 1216.2		North gable, old barn.

\*These objects recommended to be charted as landmarks.

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO.

TOPOGRAPHIC TITLE SHEET

The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. B **4264**

REGISTER NO.

**4264**  
C. & G. SURV  
L. & A.  
APR 14 1927  
Acc. No.

State Oregon

General locality ~~Columbia River~~ Astoria

Locality ~~Astoria~~ Skipanon Creek to Clatsop Spit

Scale 1:10,000 Date of survey July 7 to Dec 21, 1926

Vessel GUIDE

Chief of Party Thos. J. Maher

Surveyed by W. T. Combs

Inked by W.T.C.

Heights in feet above H.W. to ground to tops of trees *no elevations*

Contour, Approximate contour, Form line interval 20 feet *no contours*

Instructions dated April 17, 1926

Remarks: Descriptive report, not received