

4227

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

....., Director

State: Oregon

DESCRIPTIVE REPORT

Topographic } Sheet No. 4227  
Hydrographic }

LOCALITY

Coast

Gearhart to Sylvan Point

1926

CHIEF OF PARTY

R. F. Luce

GOVERNMENT PRINTING OFFICE

4227

## DESCRIPTIVE REPORT

### TOPOGRAPHY

OREGON COAST

1926.

Sheet <sup>B</sup>~~Two~~:- Latitude 45 - 51 to latitude 46 - 02.

### AUTHORITY

The Director's instructions for field work dated April 17, 1926.

### GENERAL DESCRIPTION

Beginning at the northern extremity of the sheet the shore line extends true north and south to the Necanicum River. The beach and the country immediately inland is of the same character and appearance as that to the northward, as described in the report for sheet one. The town of Gearhart consists of one large summer hotel and a double row of cottages along the top of a low sand ridge fronting the beach. Directly behind the town is a strip of rolling plain roughly a mile in width and beyond this the heavily wooded country found everywhere back from the coast.

The Necanicum River is a small tidal stream with a broad and very shallow delta. Even the smallest fishing boats never attempt to pass the entrance. The low water channel as shown on the sheet is subject to continual change as every tide shifts the sand bars at the mouth.

The high water line south of the Necanicum nearly as far as Tillamook Head is well defined by a concrete sea wall fronting the town of Seaside. The beach here is wide and flat and composed of fine white sand except at the extreme southern end where coarse gravel gradually merges into the bowlder beach of Tillamook Head.

Tillamook Head is the first prominent height of land south of the Columbia River. It is heavily forested with fir and rises to a height

of over 1200 feet at the crest where it falls away in a series of steep cliffs to the beach. It has a very bold rugged appearance which makes it a prominent land mark for vessels approaching the Columbia River from the south.

From the beginning of the boulder beach just south of signal GAB to signal GUL the beach line is very rough and irregular, formed mostly of ledge rock and talus from the cliffs with an occasional short stretch of coarse gravel. At no place in this stretch would it be possible to land a boat in safety. At signal GUL a sheer cliff rises from the ledge rock making it impossible to pass this point at any stage above half tide.

Between signals GUL and POINT a rather steep gravel beach makes landing in a surf boat under favorable conditions possible. From POINT to BIRD the beach again becomes very rugged, ledge rock and boulders except at the point east of ISLET where the cliffs are impassable except at nearly low water, and a short section of gravel beach  $1/4$  mile to the south of the Point.

The group of rocks marked ISLET and the rock marked BIRD can best be described by the accompanying photographs. The cliffs at LOW and opposite BIRD drop sheer into deep water making it impossible to continue along the beach between these points. The cliffs around latitude 45 - 56 drop sheer from an elevation of nearly 400 feet into the sea. South of this point is a short stretch of flat sand beach known locally as Indian Beach. From Indian Beach to Chapman Point the coast line is very irregular, composed mostly of steep sand stone cliffs and short stretches of sand beach between the points of land. In latitude 45 - 55.1 is a group of rocks as shown on the sheet; they can best be described by reference to the list of photographs accompanying this report.

Chapman Point is a steep rocky headland jutting abruptly out from the coast line and dropping off into deep water. Extending about 1/4 mile to the westward of this point is a group of 4 large dome-shaped rocks. From this point southward as far as Cape Falcon extends a broad flat beach of fine white sand known as Cannon Beach. Elk Creek, the principal stream along this section of beach, enters the ocean about 3/4 of a mile south of Chapman Point. It is tidal, has a very broad and shallow delta, and is not navigable.

On the south bank of the creek is a small settlement - principally a summer colony - known formerly as Ecola but changed recently to Cannon Beach. The country back of the beach is heavily timbered with fir beginning almost at the high water line. There is a broken line of summer cottages along the beach as far as signal LAST.

#### LANDMARKS

North of the Necanicum River the object that shows most prominently is probably the Gearhart Hotel. It is a large square structure and is painted a slate grey which on dull cloudy days blends with the background and considerably reduces its effect as a landmark.

The town of Seaside is fronted by a concrete breakwater and a practically continuous line of cottages for a mile or more. The principal building is the Seaside Hotel - station SEA - which is white and shows up well against the background. It has two square towers on the north wing. At night the sea wall is electrically lighted with a close set group of lights at the circle near the Hotel which makes this spot easy to distinguish on clear nights.

The group of rocks marked ISLET is a conspicuous landmark for ships coming up or down the coast. It often appears when Tillamook Rock L. H.

is obscured by fog and so offers an excellent object for bearing. See photograph.

The rock in latitude 45 - 55.1 - signal ~~CASTLE~~ is the outermost and most prominent of the group. It has an arch as seen from the westward making it easily distinguishable.

With the exception of Tillamook Rock L.H., Haystack Rock is the most prominent landmark along this stretch of coast. It has an elevation of 258 feet and its peculiar resemblance to a haystack coupled with its size make it very easy to recognize. See photographs.

#### SURVEY METHODS

The control was third order triangulation with stations approximately 2-1/2 miles apart.

From Gearhart to latitude 45 - 56.4 a stadia traverse was carried along the beach by the usual plane table method. From this point, however, as far as Indian Beach it was necessary, on account of the impassable cliffs, to proceed along the top of the bluff. Setups were very difficult along this stretch, often as high as 650 feet, and traverse was impossible. Each set up was determined separately by a three point fix and all tangents and points cut in thus making it possible to sketch in the beach line with considerable accuracy. From Indian Beach south to the limit of the sheet the traverse method was again used with all closures well within the limit of error.

#### NEW PLACE NAMES

Indian Beach  
Chapman Point  
Haystack Rock

All these are well established local names.

The name, Cannon Beach, while applied to the town also includes the entire beach from Chapman Point to Falcon Head.

St. Pierre, Oregon, 1926

Station	Latitude	Meters	Longitude	Meters	
Hot	46 01	1730	123 55	587	West end of center gable of the Gearhart Hotel
Nat	46 01	978	123 55	640	Center entrance of old Natatorium
Gab	46 01	605	123 55	610	West gable of house on beach -
Nun	46 01	212	123 55	542	Chimney of small gray house furthest south at Gearhart.
End	46 00	520	123 55	686	Chimney of house furthest north at Seaside - First house south of Mechanicum.
Tip	45 59	1602	123 55	824	Top of conical cupola on a grey house.
Sea	45 59	1208	123 55	938	N.W. Tower of the Seaside Hotel.
Brk	45 59	171	123 55	1110	Flagpole at the Lewis & Clark memorial.
Gab <sub>2</sub>	45 58	1552	123 56	7	West gable, north end of new bungalow court
Pier	45 58	1040	123 56	1070	North end of new pier
Root	45 58	762	123 57	771	Mass of roots on large white log.
Log	45 58	63	123 58	348	Square black boulder on a white log.
Gul	45 57	1318	123 58	555	White spot on cliff face.
Point	45 57	90	123 59	181	15' rock on bench - outer peak
Islet	45 56	1511.3	123 59	896.8	(Triangulation station)
Pin	45 56	1518.6	123 59	707.7	( " " )
Wash	45 56	536	124 00	700	Rock awash 1/2 mi E. of Till. Rte. L.H.
Bird	45 56	520	123 59	645	77 ft detached pinnacle rock.

Station	Latitude	Neters	Longitude	Neters	Description
Low	45 55	1626	123 59	Flat	Knob at outer end of steep rocky point
Castle	45 55	165	123 59	48	122 ft arched pinnacle rock.
Roof	45 55	250	123 58	622	New shingle roof on house on point.
Rock	45 54	1118	123 58	490	65 ft rock - most northerly of a group of four off Chapman Point.
Bird <sub>2</sub>	45 54	1048	123 58	113	Highest point on Chapman Point.
Tel	45 54	48	123 57	809	N.W. Corner of large gray oldy just south of Little Creek.
Gray	45 53	777	123 57	1000	S.W. corner of small gray hotel.
White	45 53	528	123 57	1012	White sandstone - highest point.
War	45 52	618	123 57	830	Center of doorway - U.S. hotel.
Last	45 51	1505	123 57	837	Last house south along bench.
Small	45 51	871	123 57	1139	81 ft rock off Sylvan Point.

Camp Point  
Sylvan



## PHOTOGRAPHIC INDEX

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To accompany the descriptive report Sheet # 2.

1. Tillamook Head looking southwest from the sea wall near the Seaside Hotel. Note the unusual width of beach at Seaside.
2. Looking southwest from a point on the beach near signal LOG (Lat. 45 - 58). Note ISLET and Tillamook Rock L. H. in the distance.
3. Looking northeast from a point on the beach directly east of ISLET. Note the boulder and ledge rock beach and the steep rock and earth bluffs.
4. Two hands and part of the topographic outfit. Taken on the point east of ISLET showing part of ISLET in the distance.
5. Pinnacle rock east of ISLET - taken at low water.
6. Looking north <sup>S</sup>westward to the group of rocks marked ISLET from the south end of the beach about Lat. 45 - 56.5.
7. Looking south from PINNACLE showing gravel beach in the foreground and the large rock marked signal BIRD on the tangent.
8. BIRD as seen from the elevation marked 310 Lat. 45 - 56.31.
9. Looking southwest toward signal LOW from the elevation 387 on the top of the cliff in Lat. 45 - 56.03.
10. Looking north by west from the elevation 211 in Lat. 45 - 55.14. Indian Beach shows in the middle distance and BIRD on the extreme left.

11. Looking south by west from a point on the beach at high water line in Lat. 45 - 55.4.
12. Looking west by south from the same place as No. 11. The arched rock is the one marked signal CASTLE.
13. Looking northwest from the elevation 158 on Chapman Point showing CASTLE on the extreme left with Tillamook Rock L. H. nearly on range.
14. Same position as No. 13 looking south along Cannon Beach showing Haystack Rock in the middle distance.

DEPARTMENT OF COMMERCE

AND REFER TO No. 11-DRM

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

December 1, 1927.

SECTION OF FIELD RECORDS

Report on Topographic Sheet No. 4227

Gearhart to Sylvan Point, Oregon

Surveyed in 1926

Instructions dated April 17, 1926 (PIONEER)

Chief of Party, R. F. Luce.

Surveyed and inked by S. B. Grenall.

1. The records conform to the requirements of the General Instructions.
2. The plan and character of the survey satisfy the requirements of the General Instructions except as noted in paragraphs ~~4~~<sup>6</sup> and 5.
3. The plan and extent of the survey satisfy the specific instructions except for the omission of the railroad which extends from Gearhart to Seaside.
4. The junctions with the adjoining surveys are adequate.
5. The elevations on this sheet are based on mean sea level instead of high water as directed in Circular No. 34, March 28, 1922. To convert the elevations to high water subtract 3 feet (one-half the mean range of tides) from the elevations on the sheet.
6. Very complete formlines for the area covered by this sheet are shown on the old surveys. Those shown on the new survey give very little additional information and should have been omitted. Contours should not be shown on re-surveys unless they are better and more complete than on the original surveys.
7. The representation of rocks differs in numerous and important respects from T. 1382a and 1382b by J. J. Gilbert whose reputation for accurate surveying is excellent. The rock awash east of Tillamook Rock is shown with a high water line. This erroneous treatment suggests doubt if other rocks shown are dry rocks or reefs covered at high water. The older surveys show more rocks than are given on the new survey and in some cases different locations. Although the field party was supplied with copies of the old surveys, the descriptive report does not account for the omissions and differences.

Standard cartographic practice calls for the inclusion of all rocks on both sheets to be shown on the chart. The shoreline of Tillamook Rock should have been shown.

8. The character and scope of the surveying are fair and the drafting is excellent.

9. Reviewed by E. P. Ellis, November, 1927.

Approved:

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Chief, Section of Field Records (Charts)

*L. Q. Polkett*

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

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

TOPOGRAPHIC TITLE SHEET

The finished Topographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

4227

U. S. Coast and Geodetic Survey.

Register No. <sup>B</sup>4227<sup>4227</sup>

State . . . ~~Oregon~~ . . . . .

General locality . ~~Northern Coast~~ . . . . .

Locality . . . Gearhart to Sylvan Point . . . . .

Chief of party R. F. Luce . . . . .

Surveyed by . S. B. Grenell . . . . .

Date of survey June, 1926. . . . .

Scale . . . . 1:20,000 . . . . .

Heights in feet above ~~Mean sea level~~ . . . . .

Contour interval 100 . . feet.

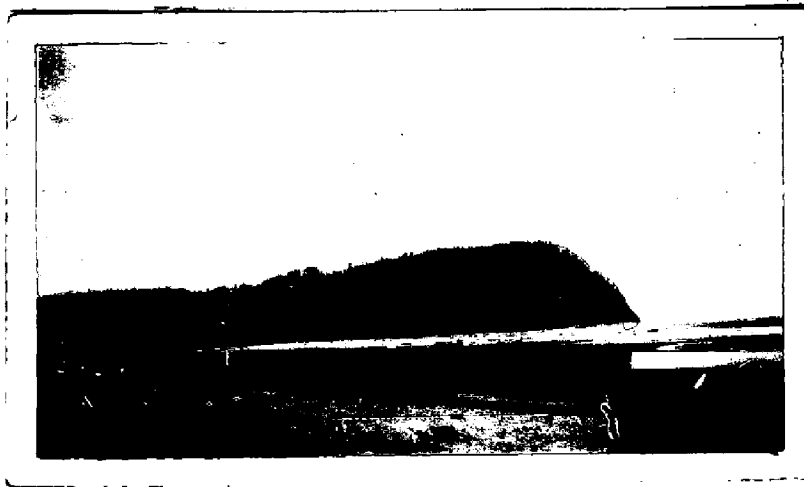
Inked by S. B. Grenell . Lettered by S. B. Grenell . . . . .

Records accompanying sheet (check those forwarded): Photographs,

Descriptive report, Horizontal angle books, Field computations,

Data from other sources affecting sheet . . . . .

Remarks:



N 1  
T 4227



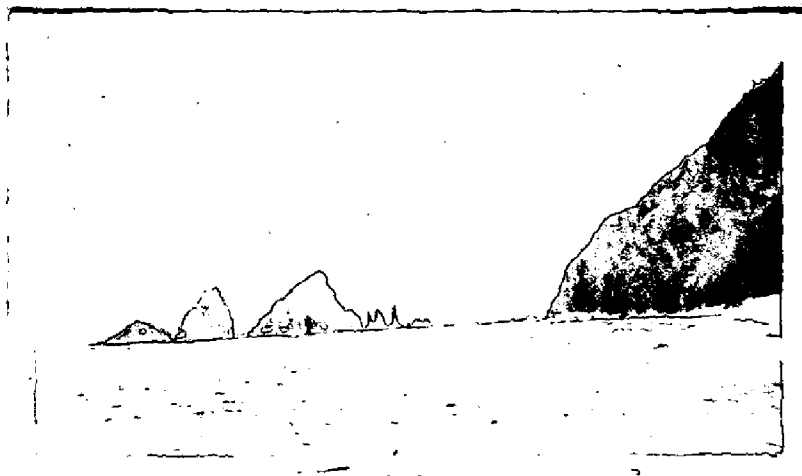
N 2  
T 4227



N 3  
T 4227



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T 4227



N 6

T 4227



N 7

T 4227



N 8

T 4227



N 9 T 4227



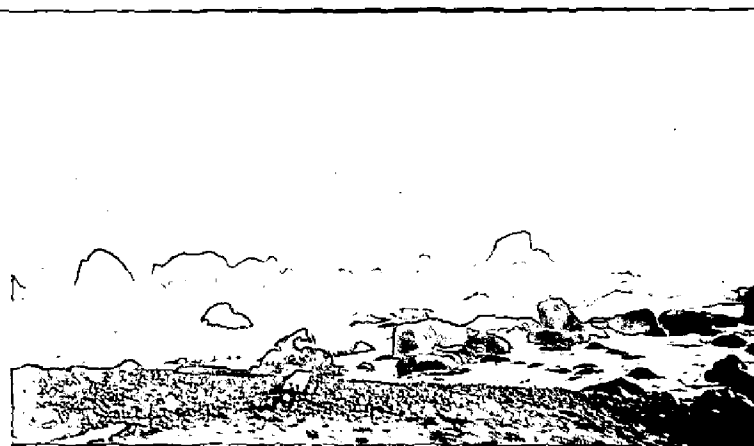
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N 11

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N 12

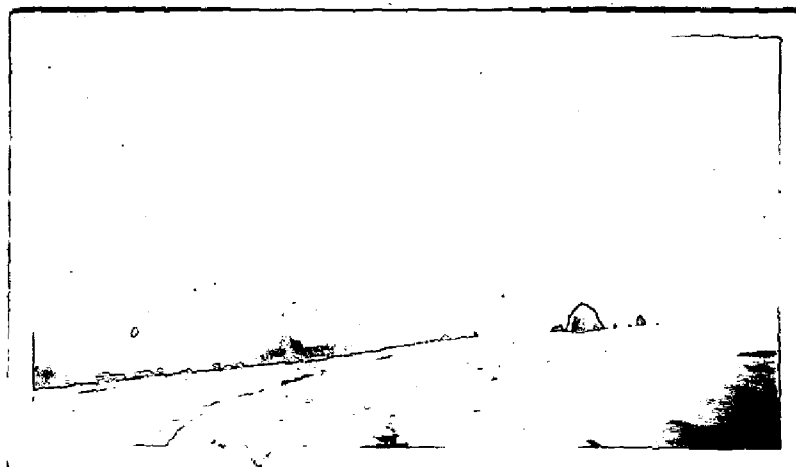
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N 13

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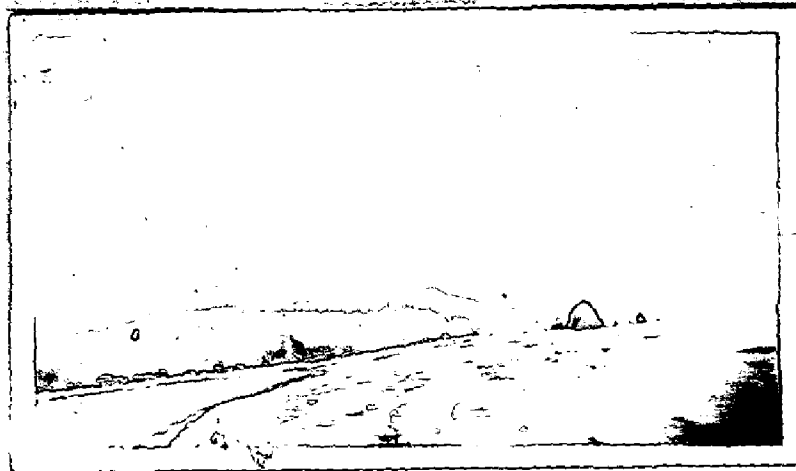
П 14

Т 4227



П 5

Т 4227



M 14

T 4227

Pinnacle Rk, East of Islet, at  
 shoreline of Tillamook Head  
 Oregon. Top 4227

1/2  
 5

M 5

T 4227

U. S.

BUSINESS

OR PRIVATE USE, \$300

PHOTOGRAPHS —  
to accompany  
Topographic Sheet ~~42~~ B 4227