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Department of Commerce and Labor
COAST AND GEODETIC SURVEY

J. N. Littmann
Superintendent.

State: *Washington*

DESCRIPTIVE REPORT.
Top. 3044, 3045, 3046
Sheet No.

LOCALITY:

Grays Harbor

1909-10

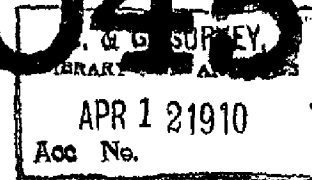
CHIEF OF PARTY:

H. W. Rhodes

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DESCRIPTIVE REPORT

TO ACCOMPANY TOPOGRAPHIC SHEETS OF

GRAYS HARBOR, WASHINGTON.

Topography executed during Nov. 1909 to Feb. 1910, by party on
Str. McArthur.

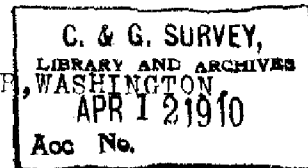
H. W. Rhodes, Asst.,

Comdg.

DESCRIPTIVE REPORT T

TO ACCOMPANY TOPOGRAPHIC SHEETS OF GRAYS HARBOR,

SURVEYED---NOV. 1909---FEB. 1910.



Grays Harbor:- a large shoal bay formed by two narrow sand spits extending in a north and south direction. It is navigable in certain narrow channels and in a few others dredged under the direction of the U.S.A.E. The survey was commenced from Pt. Chehalis, the northern extremity of the southern sand spit, on which the village of Westport is located. A trestle, about 2740 meters long, part of the jetty built under the direction of the U.S.A.A., extends in an easterly and westerly direction across the spit at Pt. Chehalis; the jetty continues for about 8000 feet beyond the H.W. mark, seaward.

A life saving station watch tower is located near the trestle and a wireless telegraph station is nearby. About one half mile south from the tower is the light house, the keepers of same and the life saving corps living nearby. From Pt. Chehalis, the outer shore is low and sandy, the beach being broad and flat. From the light house 950-meters from the H.W. line, sand dunes, varying in height from 20 to 30-feet extend along the coast to Cohasset, decreasing in size beyond that point. They also extend a short distance in an easterly direction from the light house. These dunes are confined to a narrow area near the tree line. Cohasset is a small summer village occupied during the winter months by the caretakers of the cottages located there. From the south, the beach decreases in width. About 6 miles south from the light, or 5 miles south from Cohasset, is a small hamlet consisting of about four houses. It is known locally as Blake's; a family of that name living there. From Cohasset to Blake's the country is low partaking of the character of a cranberry morass. Inshore from Blake's is a small lake drained, apparently, by the small unnavigable creek indicated on the sheet. Blake's is in communication with the life saving station by means of a telegraph line extending along the beach to Shoal Water Bay. A heavy swell breaks continuously along the beach.

East of the light house is Westport, a small village having, perhaps, 200 permanent inhabitants. During the summer months this place is a small resort. With the exception of a small clam canning factory, hotels and livery stables, catering to the summer trade furnish the only visible occupations of the people. The town is situated on low ground drained by small unnavigable sloughs. During the ~~summer~~ ^{winter} months it is marshy. A wharf, about 640 meters long extended into the bay. Mail and passenger steamers make landings here. Daily mail service is had with Hoquiam by boat. Tug boats waiting for tows over the bar make fast to the wharf which is unsuitable for heavy traffic. Vessels waiting for a suitable time to cross the bar anchor in this vicinity.

The inner shore from Westport is low and marshy and is drained by small sloughs. About 1600 meters south from the Westport wharf is a small grassy islet. At low water this islet is connected with the shore as the intervening channel bares at low water. Communication by this means is difficult on account of the soft muddy bottom exposed. This islet is occupied by a watchman for the Grayport Oyster Co. who have several beds in this vicinity for the growing of oysters from Eastern seed oysters, the latter being necessary as oysters do not propagate in these waters.

South from Westport a ridge rises gradually to a height of 50 feet. It extends south and is inshore from 100 to 200 meters from the average H.W. line. At extreme high tides the water probably reaches to the base of this bluff or ridge, covering the low marshy area which extends from its base to the average H.W. line. Lying west of this low ridge banked on the west by the sand dunes on the outer coast is a low area. This area at one time was timbered but was logged off and is now covered with grass and stumps, as far as Cohasset. Beyond that place it is covered with underbrush and trees, the ground there appearing swampy. A road running from Westport divides into two branches, one connecting with Cohasset, the other subdividing into two branches, one running along the top of the ridge, the other along its base inside into the marshy wooded area mentioned above. These roads afforded communication with Ocosta at one time. The only road subjected to any traffic at the present time is the road to Cohasset.

South from the Westport wharf about two miles is a wooded area appearing, from a distance like an island. On some charts this is called Nettle Id., while on others that name is applied to the low marshy island previously mentioned. At the eastern end of this wooded area are some small shacks. Extending from the eastern end of this area is a dike which was intended to confine the waters of the Elk River and Beardsleys Slough to a definite channel, but it needs a little repairing. I have been informed that a bridge extended from this vicinity, easterly, to the opposite shore. All vestige of this has disappeared.

850 meters east from the eastern end of the afore mentioned wooded area a point projects forming what might be termed the mouth of the Elk River and of Beardsley Slough. A pile marks the channel from the Westport wharf to the Elk River or was probably intended for that purpose. At low water it appears west of the channel. It is accurately located on the sheet, but it is in such bad condition that it will probably disappear upon being struck by a floating log if not replaced. Beardsleys Slough runs in an E N direction and at high water is navigable for boats used for towing log booms. At low tide there is sufficient water in a small well defined channel for small boats. The Elk River runs in a southerly direction.

A road runs along the bluff on the East shore going down to the beach about 1/4 mile east of the point. There is a house on the bluff, near where the road strikes the beach, and several shacks beyond that. The road apparently does not continue any further in that direction. The shore extends in a N. N. E. direction from this point to Ocosta which is distant about two miles. About one half mile from the point the road leaves the top of the bluff and follows the shore just within the tree line. About one and one quarter miles, in a straight line, from the point the road crosses a small stream, over a bridge. This stream consists of two branches, unnavigable, one of which I have been informed extends to Beardsleys Slough. As the stream is shallow pedestrians and wagons cross it on the beach. This method, at present, is the only one available as the small bridge is broken and unfit for use. The road extends about 175 meters further to the beach, traffic thereafter being continued along the latter, which is hard and firm. This road connected Ocosta to Westport over the aforementioned larger bridge and the roads on the ridge on the Westport side; also with Cohasset over a small mail trail. The bluff, which varies from 30 to 50 feet in height, curves inshore as it approaches Ocosta. The latter commences about one half mile from the small bridge. The shore line just described encloses South Bay.

Ocosta is situated on low ground, which is marshy during the winter months. The streets are planked, and numerous unoccupied buildings

are either ruins or else rapidly deteriorating. This is the result of an unjustified boom which occurred about sixteen years ago. The actual inhabitants do not exceed 150 to 200 in numbers. The principal street of the town, running E & W., connects with a road to Markham; it also connects with the county road. These roads are not shown on my sheet. C.C. Flowers' house is the most prominent one in the town, being situated on a bluff. The top of the steeple on this house is 82 feet above H.W. and overlooks the greater part of N. & S. Bays. The lower part of the town is drained by a large creek which would be navigable for small boats were it unobstructed. The only approach to Ocosta, at stages of the tide other than the highest, is from the south channel up the channel cut out by the creek to a small wharf near the R.R. culvert over the creek. This channel is narrow but is marked by small stakes; for a distance of about 380 meters from the culvert the channel is marked on each side by piles. The piles alone remain of the old wharf at Ocosta, the flooring having disappeared. A railroad station here is the western terminus of a single track road of the N.P.R.R. Trains run very infrequently. A turntable, shed, small coal bunkers and a large tank constitute the only visible R.R. equipment at this place.

From Ocosta the shore line turns eastward to the St. Johns River. The R.R. track crosses a marshy area at the base of the bluff which bends around Ocosta. The bluff in the vicinity of the town is broken in numerous places. The R.R. crosses the St. Johns River over a small swing bridge, entering Markham, a village smaller than the other two but more active. There are a number of buildings in Markham not shown on my sheet. East from the mouth of the St. Johns River is a large marshy island cut up by numerous small sloughs. Watson has a small wharf in the channel between this island and the shore.

From Markham the shore turns North and then East to Stearns Bluff. A bluff commencing at Markham follows the trend of the shore line and varies in height from 50 to 20 feet. The railroad runs along the base of the bluff on the outboard side. I was informed that a right of way for a road, to connect Markham with So. Aberdeen has been secured. The bluffs in this country are all sand which in some cases approaches the consistency of a loose sandstone. The country is low and wooded presenting no prominent features.

From Stearns eastward the country remains practically the same, ~~the railroad~~ the railroad continuing along the base of the bluff supported in many places by cribbing.

North Shore:-- The southern extremity of the northern spit at the entrance to Grays Harbor is known as Pt. Brown. From the mouth of the small creek, at the most southern point, the shore turns for about one and one half miles in a N.W'ly. direction and then turns north continuing, therefrom, in practically a straight line. The shore is low and sandy in the vicinity of Pt. Brown, with the exception of a low ridge, perhaps 15 feet high on which "Lone Tree" is located. Beyond the point where the shore bends northward, at a distance varying from 200- to 300 meters inshore from the H.W. line, a grassy area 200 to 400 meters wide extends along the coast for several miles. During the rainy season this area is marshy. From 100 to 200 meters farther inshore is an area of low sand dunes, covered with brush. Lying, in a depression, between these dunes and a parallel ridge of slightly higher dunes to the eastward is a dirt road, extending from the point to Moclips, used principally by the mail carrier, mail being forwarded from Moclips to Pt. Brown. The dunes, eastward of the road form the west bank of a small lake commencing about two thirds of a mile from the southern part of Pt. Brown and extending about half way to Oyhut which is about five miles from Pt. Brown. This lake is several feet in depth and does not dry up during the summer months. It is cut up by numerous small islets from 20 to 40 meters in diameter. The lake's outlet is through a small creek emptying at Pt. Brown. About one and one third miles from the mouth of this creek, northerly, along the outer shore, is a small house. About two miles from the mouth of this creek on the west shore of the lake is a small unoccupied house. A house not so distant from the creek is situated on the east bank. It is occupied. From Pt. Brown, eastward the shore is low and sandy, terminating in an arm which encloses a small body of shoal water known as Armstrong Bay. With the exception of a narrow staked channel this Bay bares at low water.

At Pt. Brown the U.S.A.E. are working on the north jetty which extends about two miles beyond the H.W. line in a south westerly direction. The entire structural work of the jetty is about two and two thirds miles long terminating at the inner shore in a wharf on which several derricks, hoisting engines, buildings, and a water tank are located. The fresh water obtained here, which is gotten from wells, was used aboard the "McArthur" as it is much superior to that obtainable at Hoquiam or Aberdeen. The shore north from Armstrong Bay, along the inner coast is low and marshy. Unlike the marshy area on the outer coast which results from the excessive rains and during the summer months may be dry, this condition results from the tides.

Oyhut is about five miles from Pt. Brown on the inner coast consisting of a couple of houses occupied by the Damons, father, son and daughter and Capt. Wright. The spit or arm at Oyhut is about 1000 meters wide and a road extends across to the outer coast. At its easterly end this road terminates in a wharf about 852 meters long. About one mile south from this wharf, on the inner coast, a barn and a few buildings in bad condition, are located on the projecting, marshy point. In this vicinity, a few scattered stakes still stand, indicating what was probably a dike. A ditch for the drainage of this marshy area which is very little above H.W., is indicated on the chart.

A number of buildings are shown in the vicinity of the jetty. These are used by the U.S.A.E. and their employees. A couple of buildings within the tree line are in bad condition and are unoccupied. One of these I was informed was at one time used by the life saving corps.

A traverse controlled by sufficient signals was run from Hoquiam, to Brackenridge Bluff along the R.R. track. The time at my disposal, two and one half days, rain reducing this to two days was insufficient to enable me to obtain the amount of detail necessary, so some old shacks along the R.R. track and the houses in the part of Hoquiam indicated on my sheet were omitted. All the houses in Grays Harbor are not shown but most of them are unoccupied and are rapidly disappearing through fires. A bluff varying in height from 100 to 145 feet in height follows the beach from Brackenridge Bluff to Hoquiam, bending northwards near the latter. The R.R. consisting of a single track, follows the base of the bluff beyond Brackenridge, crossing the marshy area about 200 meters from New Pt., crossing Grass Creek about 250 meters N.E. from the County bridge indicated on the old charts. It then crosses Chesnois Creek about seventy-five meters from its mouth continuing to the Humptulips River which it crosses at a distance of about one mile from its mouth and about one quarter of a mile from the junction of the latter and Gillies Slough. The station there is called Burroughs. About one half mile farther on it crosses the County road, continuing thence to Copalis Junction and on to Moclips.

Grays Harbor is situated on high dry ^{on 48} ground has a plentiful water supply and is connected with Hoquiam by the road along the beach and also by the road on the hilltop which is indicated on my sheet. This latter road continues westward, but I didn't ascertain its limits. The Hoquiam water pumping station is located in a valley beyond Grays Harbor. Two telegraph lines are indicated on the sheet. The one along the road runs from Hoquiam to Grays Harbor; the other continues along the R.R. track. The long wharf is in ruins; the greater part of the platform at its outer end and all of the walk having been washed away, the piling alone remaining. Dolphin #6 was carried away but will probably be replaced.

On account of the difficulty of travel, it was impracticable to carry on the survey of the rest of the shore line of North Bay from the direction of Oyhut at the season of the year during which operations were carried on. An attempt to carry it on from Neds Rock was abandoned for the same reason. It could be done readily enough from Hoquiam using a handcar, but the better method would be to establish a camp in the vicinity of Chesnois Creek. This was attempted a couple of times but postponed on account of bad weather.

A small gap from Brackenridge remains unfinished but the old charts are essentially correct regarding this area.

Methods:--A base was measured east and west across the north end of the south spit. For a considerable distance this base runs along the inner stringer of the jetty trestle. Base stations were established and a scheme of triangulation carried forward, generally sufficiently in advance of the topography to control it. From the life-saving watch tower on the south jetty a telegraph line extends to Shoal water Bay. The poles of this line are in a very straight alignment for several miles. The plane table was set up at this tower and an azimuth line along these poles obtained. A traverse along the shore was carried as far as Cohasset. The table was then set up at the intersection of the telegraph line and the line joining the light house and wireless pole. The positions of the latter were determined from triangulation. From this position a traverse was carried along the poles, offsets to the tree and H.W. lines being obtained. A table of traverse distances along this line is appended. It might be useful at some future time for locating \odot signals. The pole at each setup was generally marked with tacks or nails. Westport and Cohasset with the roads, buildings, wharves and other details were rodded in. Piles, buoys and dolphins were located from intersecting cuts. As nearly as practicable the cuts to the buoys were taken when in the positions they assumed on flood tides. \odot stations were similarly located. \odot Shack may be distinguished from several similar buildings near it as there is a pump and trough near it. Points on the road along the east shore were obtained from offsets from a traverse along the beach. Where it runs along the top of the bluff offsets were paced from the edge of the bluff. Details at Ocosta were similarly obtained. A traverse was carried along the shore to Markham joining with a traverse from Stearns. The survey of Markham is incomplete.

Along the North shore the survey commenced at North Jetty. A traverse was carried along the outer coast for a distance of about two and one half miles the buildings within this area being located from rod readings or intersections. The lake was rodded in as far as shown and the road about 300 meters farther. The road for the rest of the distance to Oyhut is sketched in. I walked over it as far as Oyhut. It is not definitely defined and wagon road would probably properly describe it. One of the signals was incorrectly plotted due to an error in the triangulation resulting from one of the signals having insufficient signal cloth upon it and the general haziness of the weather at the time of observing. Upon Capt. Rhodes return I called his attention to the fact that my positions didn't check well. This at first was attributed to distortion of the sheet but upon reoccupation of some of the stations was found otherwise. An attempt was made to rerun the area affected, from N. Jetty to Oyhut, but weather conditions permitted the completion of only a small part of the work. The balance I therefore adjusted. "Lone Tree" was determined from cuts and rod readings. mark is located nearby. Several triangulation cuts were taken to this tree but as their intersections are not very close they do not serve as a check upon my sheet. The same conditions apply to the Oyhut wharf house.

A traverse was carried across from Oyhut to the outer coast. The U.S.A.E. tripod signal on the outer coast was determined from three very acute cuts which intersect well, but whose acuteness is rather small for a very reliable determination.

A comparison of my sheets with the charts will show some discrepancy in the location of the roads leading from Westport and Ocosta. I inquired about these differences and the roads as I show them are the only ones known or used. There is some talk of rebuilding the bridge at the mouth of the Elk River and changing the roads leading from West-

port and Cohasset, but no definite action has as yet been taken.

In the vicinity of Blake, about one-half mile from it, is a hill which shows prominently from points within the Bay but presents no distinctive marks from off shore. In the vicinity of Moclips are some bluffs some point of which may be located from signals within the Bay. If this survey were to be resumed it might be advantageous to interview Mr. Archer, 809 Wishkah Ave., Aberdeen, Wash. who was formerly connected with the U.S.A.F. but is now Indian Agent engaged in surveying the Indian Reservation and has a camp near Moclips. He is familiar with the locations of some C. & G.S. signals erected on the outer coast during former years. Mr. Grigsby of Copalis, who did some trucking for Mr. Crowley of Capt. Westdahl's party, may also be useful.

The topography was carried forward without projections, the controlling points having been located from triangulation, were plotted by distances. Contours and elevations were determined from vertical angles. Sheet #1, is on a scale of 1:20,000; sheets 2&3 are on a scale of 1:10,000.

Respectfully submitted,

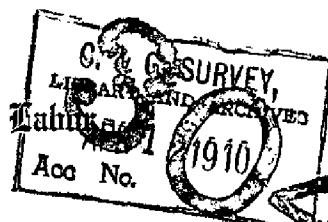
J. M. Baker
Asst. C&G.S.

Traverse distances along telegraph poles along the outer coast.
 Initial position:--intersection of telegraph line and straight line
 joining Light and Wireless pole.

1--365 meters.	11--230-meters.	21--371-meters.
2--408- "	12--274- "	22--374- "
3--405- "	13--409- "	23--369- "
4--404- "	14--365- "	24--137- "
5--362- "	15--385- "	25--235- "
6--402- "	16--87- "	26--378- "
7--409- "	17--360- "	27--72- "
8--365- "	18--92- " ←(bend)	28--352- "
9--368- "	19--372- "	29--430- " (last)
10--408- "	20--225- "	<u>2718</u>
3896	<u>2899</u>	

Readings were taken at approximately every eighth pole. These poles
 were marked with either nails or tacks.

Department of Commerce and



PLANE TABLE POSITIONS

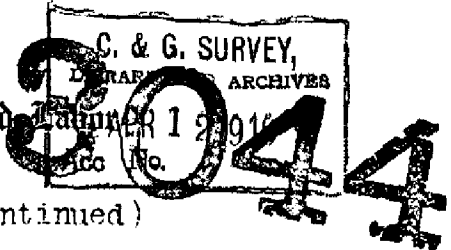
TO ACCOMPANY TOPOGRAPHIC SHEETS OF GRAYS HARBOR, WASHINGTON,

EXECUTED DURING NOV. 1909 TO FEB. 1910.

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OBJECT	HEIGHT	REMARKS.
Spruce	75' approx.	Tall, bare spruce, rising in low area, north of Oyhut.
N.W. Gable	20' "	N.W. gable of small house on S.W. corner of Oyhut wharf.
Tank		Centre of tank near south end of N. Jetty wharf. Determined from cuts.
Water	35' "	Water tank, mounted on tripod, near east end of trestle of N. Jetty.
Lone Tree		Triangulation cuts do not intersect well. Plane table location 751 meters from N. Jetty is probably preferable.
Pole		pole at the West end of N. Jetty. Not permanent.
U.S.A.E.		Boards nailed on tree. Hydrographic signal of U.S.A.E.
Walker		House on beach, probably the same as that used by U.S.A.E. as and designated by the foregoing name.
WESTPORT AND VICINITY.		
U.S.A.E.		East base of U.S.A.E. G.&G.S. East base preferable for work in this vicinity.
Wireless	200' "	Wireless telegraph pole, abandoned for that purpose.
Yana	35' "	South gable of Yana's barn. 1806 meters from gable of wharf b'ld'g. 1889 meters from E. Base. 1143 meters from light.
Oyster	13'	Chimney of shack occupied by watchman for the Grayport Oyster Co.
Windmill		Windmill on beach near Cohasset.
Trip		Tripod signal distant from E. Base 4798 meters; from windmill 3058 meters.
Shack		West gable of shack on bluff 10 feet high 3290 meters from windmill; 4970 meters from E. Base.
24, 25, 27,		Marked telegraph poles near Blake where signals might be erected.
F.P.S. P.S.	77'	Top of flag pole on public school (continued)

Department of Commerce and Navigation

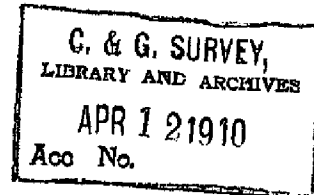


PLANE TABLE POSITIONS(continued)

TOPOGRAPHIC SHEETS OF GRAYS HARBOR, WASH. Nov. 1909 to Feb. 1910.

OBJECT	HEIGHT	REMARKS
OCOSTA & VICINITY.		
Flower	82' above H.W.	Steeple of variegated colors on house belonging to C.C. Flower. Prominent. Determined from triangulation
Tank	35'	Tank near R.R. station. Prominent. Red colored. Determined by triangulation.
MARKHAM & VICINITY.		
Watson Stake Light#2 Beacon		Top of bay window of Watson's house. Suitable for hydrography or topography. About 1312 meters from stake light.
U.S.A.E. Tripod	35' approx.	On outer coast north of entrance to harbor. Position determined from three very acute plane table cuts.

3044



TOPOGRAPHIC SHEET #1

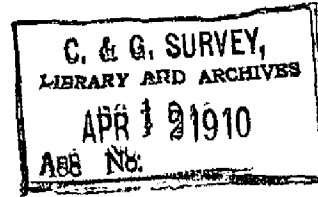
of

GRAYS HARBOR , WASHINGTON.

Topography executed during 1909--1910. Scale 1:20,000.

By party on Str. McArthur,
H.W. Rhodes, Asst.,
Comdg.

3046



TOPOGRAPHIC SHEET #3

of

GRAYS HARBOR, WASHINGTON.

Topography executed during 1909-1910, by party on Str. Mc Arthur,

H.W. Rhodes, Asst.,

Scale 1:10,000.

Comdg.

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U.S. COAST AND GEODETIC SURVEY
GENERAL AND PARTICULAR
APP. 2, 1911
Acc. No.

3045-6
With Lopez 3044

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

Superintendent.

State: _____

DESCRIPTIVE REPORT.

Sheet No.

LOCALITY:

190

CHIEF OF PARTY:
