

QUILEUTE RESERVATION NORTHERN BOUNDARY STUDY

A SURVEY OF THE MOUTH OF THE QUILLAYUTE RIVER CLALLAM COUNTY STATE OF WASHINGTON

A RETRACEMENT AND STUDY OF TWO OFFICIAL FEDERAL GOVERNMENT
SURVEYS, ONE PERFORMED IN 1881 AND APPROVED MAY 29, 1882,
AND ONE PERFORMED IN 1914 AND APPROVED OCTOBER 26, 1916,
COMPARED TO THE PRESENT LOCATION OF THE MOUTH OF THE
QUILLAYUTE RIVER, IN SECTION 21, TOWNSHIP 28 NORTH,
RANGE 15 WEST OF THE WILLAMETTE MERIDIAN.

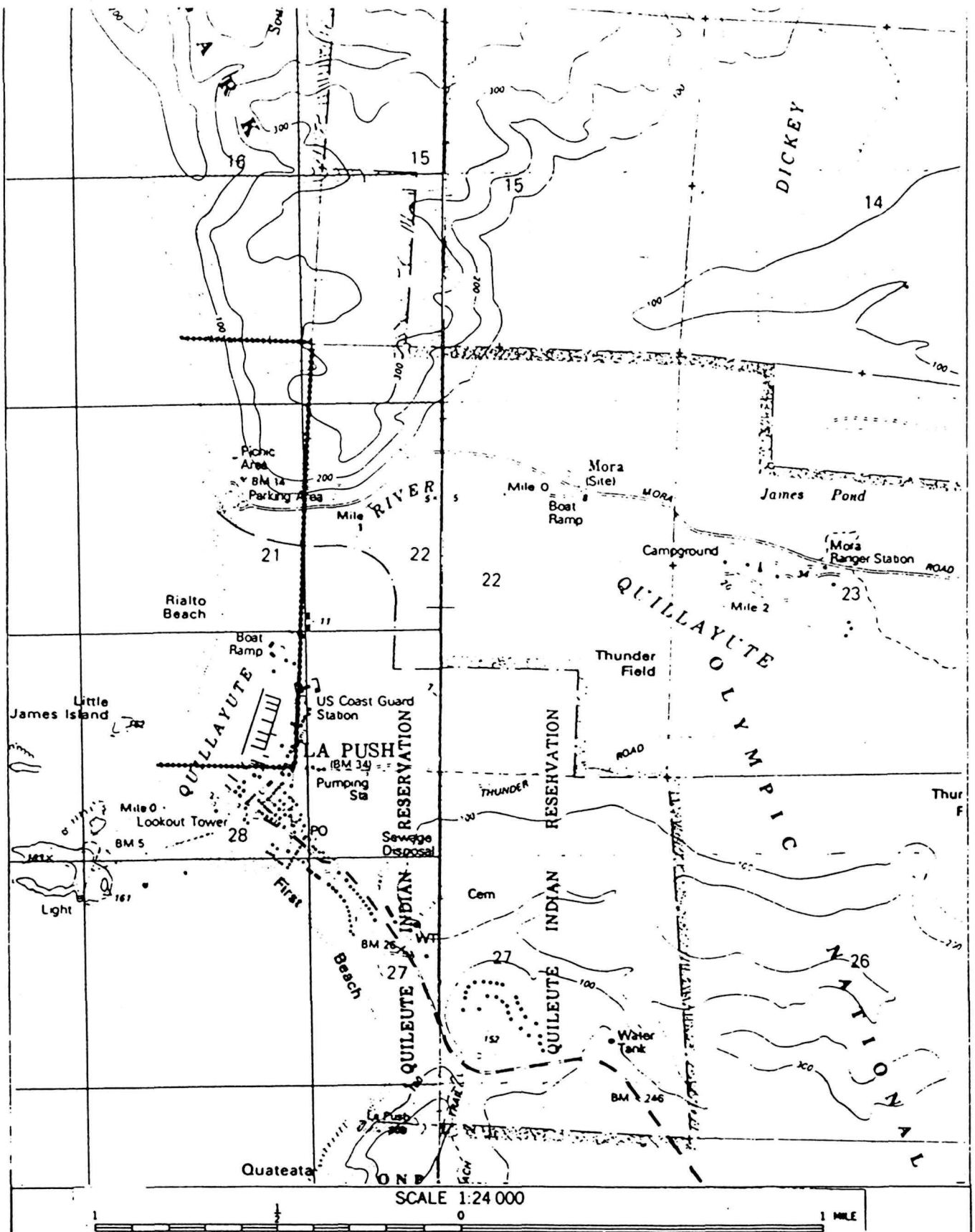


P.O. BOX 249
PUYALLUP, WA. 98371

840-5680

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VICINITY
MAP

GEOMETRIX
SURVEYING, INCORPORATED

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INTRODUCTION

HISTORICAL BACKGROUND

The original treaty between the Quileute tribe and the United States government was signed in 1855, but the exact proceedings were lost. (Quileute Northern Boundary Study, 1980, hereinafter cited as NBS, p. 5). Early reports show, however, that the tribe always insisted it retain ownership to the land at the mouth of the Quillayute River. (NBS at 7). The location of the mouth of this river at the time of the creation of the Quileute Reservation, in 1889, is the subject of this survey and report.

The Vicinity Map, copied from the United States Coast and Geodetic Survey topography map (p. 1) shows the entire Quileute Reservation bounded on the north by the Quillayute River and on all other sides by Olympic National Park. This report is limited to section 21, township 28 north, range 15 west of the Willamette Meridian, Clallam County, Washington. That section is outlined on the Vicinity Map by black lines on the north, east, and south, and on the west by the Pacific Ocean. The Quillayute River crosses section 21 from a point just south of the midway point of its east boundary, and then runs southwesterly past the boat basin in the town of La Push to the Ocean. Rialto Beach forms a sand spit along the west side of the Quillayute in section 21 (there is a United States Army Corps of Engineers dike, not shown on the Vicinity Map, running along this sand spit, and today the spit extends to James

Island). Little James Island is a rocky island just west of Rialto Beach near the south line of the section. Road access to the reservation is by the La Push road entering its southeast corner.

The Vicinity Map shows the north boundary of the reservation in section 21 as a shaded line crossing an island in the Quillayute River and intersecting the ocean just south of a parking and picnic area at the west end of the Mora road. The parking and picnic areas are maintained by Olympic National Park, as is the adjacent portion of Mora road. This report and survey disputes the purported location of the reservation's north boundary as depicted on the Vicinity Map in section 21. The correct boundary is determined by historical evidence of the location of the mouth of the Quillayute River at the time of the formation of the Quilleute Reservation.

The historical record shows numerous shifts in the location of the mouth of the Quillayute River. In 1876, the mouth occupied its present location as shown on the Vicinity Map. In that year, however, a shipwreck that trapped ocean sand closed the mouth and the river broke through the northern portion of the sand spit in the area of the present parking lot. (NBS at ex. 29). This northern location of the mouth was surveyed in 1881, during the first official United States General Land Office survey in the area, which was approved by the Surveyor General on May 29, 1882.

Shortly after the 1881 survey was approved, white settlers

claimed all of section 21. The portions south of the river were subject to a claim by a Daniel Pullen. (NBS at 10, and BLM Master Title Plat). Pullen's claim, however, was disputed and was finally canceled in 1893. (NBS at 18).

The Quilleute Reservation was created by executive order on February 19, 1889. (NBS ex. 17). That order encompassed all of section 21 lying south of the Quillayute River, an area which on the 1881 survey was designated as lots three through six.

Then, in 1910, the Quillayute changed its course in a sudden storm that closed the mouth shown on the 1881 survey and opened a new channel near Little James Island, at the southern end of the sand spit. (NBS ex. 29, 30, 31, and 32). The river mouth continued to shift in a southerly direction, remaining unstable. (The surveyor for the 1914 survey, described below, noted that the mouth of the river shifted during his survey, and was liable to shift every winter.) The river finally returned to its original bed about 1916. (NBS ex. 31).

The next official survey of the river mouth occurred in 1914 and 1915 (hereinafter cited the 1914 Survey). That survey, performed by the Topographer in charge of Indian Surveys, was approved by the General Land Office on October 26, 1916. It shows the river running south along the east edge of the sand spit to the south line of section 21, where it swings slightly to the northwest to intersect the ocean just east of Little James Island. The 1914 survey renumbered the lots on the south side of the river, and on the sand spit south of a dashed line

referred to as the "former mouth of the river," to lots seven through eleven. The 1914 surveyor interpreted the 1889 executive order creating the reservation as encompassing these newly numbered lots.

The portion of section 21 lying north of the river, known as lots one and two, remained in private hands. Beginning in the early 1920's, and continuously thereafter, the Port of Port Angeles and later the United States Army Corps of Engineers planned and maintained diking to prevent further shifts of the river's mouth. Surveys that followed the 1914 survey show that a dirt road (now the Mora road) was built along the north edge of the river some time between 1923 and 1926. A resort occupied the bluff just north of Rialto Beach throughout the 1920's.

Olympic National Park was created in 1953 by Presidential Proclamation. That action included all of section 21 not part of the Quilleute Reservation in the Park. Park planning and design maps dated in the early 1960's show that the present Mora road, which has a paved surface ten feet wider than the original gravel, plus shoulders, and the present parking lot were built at some later date (a Park map from 1940 shows a totally different parking lot on the beach north of the present lot). A Park boundary survey, dated November 3, 1962, and drafted on a National Park Service form, depicts the park boundary as including all of that portion of section 21 lying north of the north line of lot eight (the northerly lot created by the 1914 survey on the sand spit) and north of a line running from this

north boundary of lot eight easterly across the river to the north boundary of lot 13 in section 22 (another lot created by the 1914 survey). This Park Service interpretation of the boundary between the National Park and the Reservation in section 21 roughly coincides with the boundary shown as the shaded line on the Vicinity Map.

LEGAL BACKGROUND

The major question addressed by this survey concerns the location of the mouth of the Quillayute River in section 21 at the formation of the Quileute Reservation, in 1889. The documents cited above show that from 1876 until 1910 the river flowed into the Ocean at the north end of the sand spit, and that this location was surveyed in 1881. Thus today there exists a dry riverbed at this northern location that contained flowing water when the Reservation was created. The status of this riverbed was settled by the federal courts in *Moore v. United States*, 157 F. 2d 760 (1946).

Moore concerned both the boundaries of the Quileute Reservation and jurisdiction over fishing regulations. Concerning the boundary question, the court stated that "The river is known to have crossed the sand spit and flowed into the ocean at points further north. There is a survey of 1881 showing the discharge at one point another in 1912 [sic, the court is referring to the 1914 survey] showing it at another place. There is no survey showing the mouth in 1889." 157 F. 2d at 761 n.1. The court held that the lands on the north side of

the river extended only to the high water mark of the river on the north side. "The District Court held the river between the high water mark on the northerly bank and the opposite reservation lands is a continuation in the river of the reservation of the mile to the northerly of the river's mouth....We agree with the District Court's decision." 157 F. 2d at 765.

Although *Moore* settled that the Reservation included the bed of the river to the north high water line, it did not settle the location of that water line, because the parties stipulated that the river had always occupied its present channel. The documents cited in the historical discussion above, however, show that the river shifted by avulsion in 1910. An opinion from the office of the solicitor for the United States Department of the Interior, dated September 11, 1987, states that the boundary of a reservation which follows a river does not change if the river moves by avulsion. Thus the true 1889 location of the high water line of the Quillayute River is controlling.

As the official 1881 survey is the closest to the date of the creation of the Reservation, that survey must be presumed to best depict the north edge of the river before the avulsion. However, the survey used for the Park's boundary survey of November 3, 1962, was the 1914 survey. A solicitor's opinion of 1975 stated that the 1914 survey did not accurately depict the boundaries of the 1889 reservation. (NBS at 32.) This report agrees with the solicitor's opinion and addresses the

differences between the 1881 and 1914 surveys.

There are several well recognized steps for comparing two historical surveys. First, present survey and physical conditions must be mapped and analyzed to determine whether there remains sufficient evidence of the historical surveys to support a comparison. Next, the notes of both historical surveys must be checked and compared with modern measurements between monuments related to the earlier work. Occasionally, blunders (defined as large mistakes caused by isolated lapses in attention on the part of the earlier surveyors as opposed to small errors from the imprecision of early survey instruments) will be discovered. Any such blunders must first be corrected, then the corrected courses of the historical survey are mathematically "balanced," to compensate for small imprecisions. The balanced, historical survey notes are then compared to ground conditions for a final adjustment, if necessary. The final adjustments of each historical survey can then be compared.

PRESENT CONDITIONS

PHYSICAL

The south portion (slightly over one half) of section 21 is occupied by parts of the town of La Push, and by the river and sand spit. Little James Island, near the section's south line, is a steep, rocky hill that is depicted in both the 1881 and 1914 surveys. The portion of the section north of the river, in the Park, is mostly occupied by a steep, forested hill rising to the east from the ocean. Vegetation in the area consists mainly of spruce, with riparian willows and alders along the river.

The Mora road is a well maintained asphalt road with 20 foot wide pavement. The parking lot at its west end is paved, and there is a Park rest room and picnic area just north of the lot. The steep hillside begins just east of the parking lot and rest room. The base of the hillside runs northwest, generally about 300 feet east of and parallel with the ocean. Many old growth spruce live in the area west of the base of the hill, up to the east edge of the sandy beach where there is a dense area of dead, small, spruce trees.

The Park map from 1940 shows several small and large buildings on the sand spit and the hill behind the present parking area, as well as a dock in the river. There are very few remaining traces of these improvements, although there still exist concrete foundations and sidewalks on the hillside just behind the parking lot.

Where the present Mora road crosses from the west into the

section there is a small bench with older trees growing down to the water's edge. (See photo 3C). Just west of that bench the road swings slightly southward and traverses an area of considerable fill. (Photos 3A and 3B). It runs along fill to a corner of the hillside (Photo 2C) and then swings slightly to the northwest into the parking lot. Several early maps and photographs show that this road always hugged the base of the hill since its construction as a 10 foot wide gravel road in the 1920's.

South and east of the parking lot is a large area of flat river bottom land. (Photos 4A and 4B). This area merges with the beach sand west of the southerly curve of the river. The land directly west of the parking lot is beach sand; to the northwest the spruce forest that runs west from the base of the hill grades into smaller and smaller trees up to the beach. None of these spruce are of great age, except at the base of the hill north of the rest room and parking area.

SURVEY CONDITIONS

Following the 1914 survey, there were various piece-meal surveys in the area by the Port, the Army Corps of Engineers, and Clallam County. The first complete retracement was performed by the State of Washington Commissioner of Public Lands, recorded on December 31, 1936. This State survey recovered the southeast and northeast section corners, but none of the meander corners along the river.

In 1973 the United States Bureau of Land Management

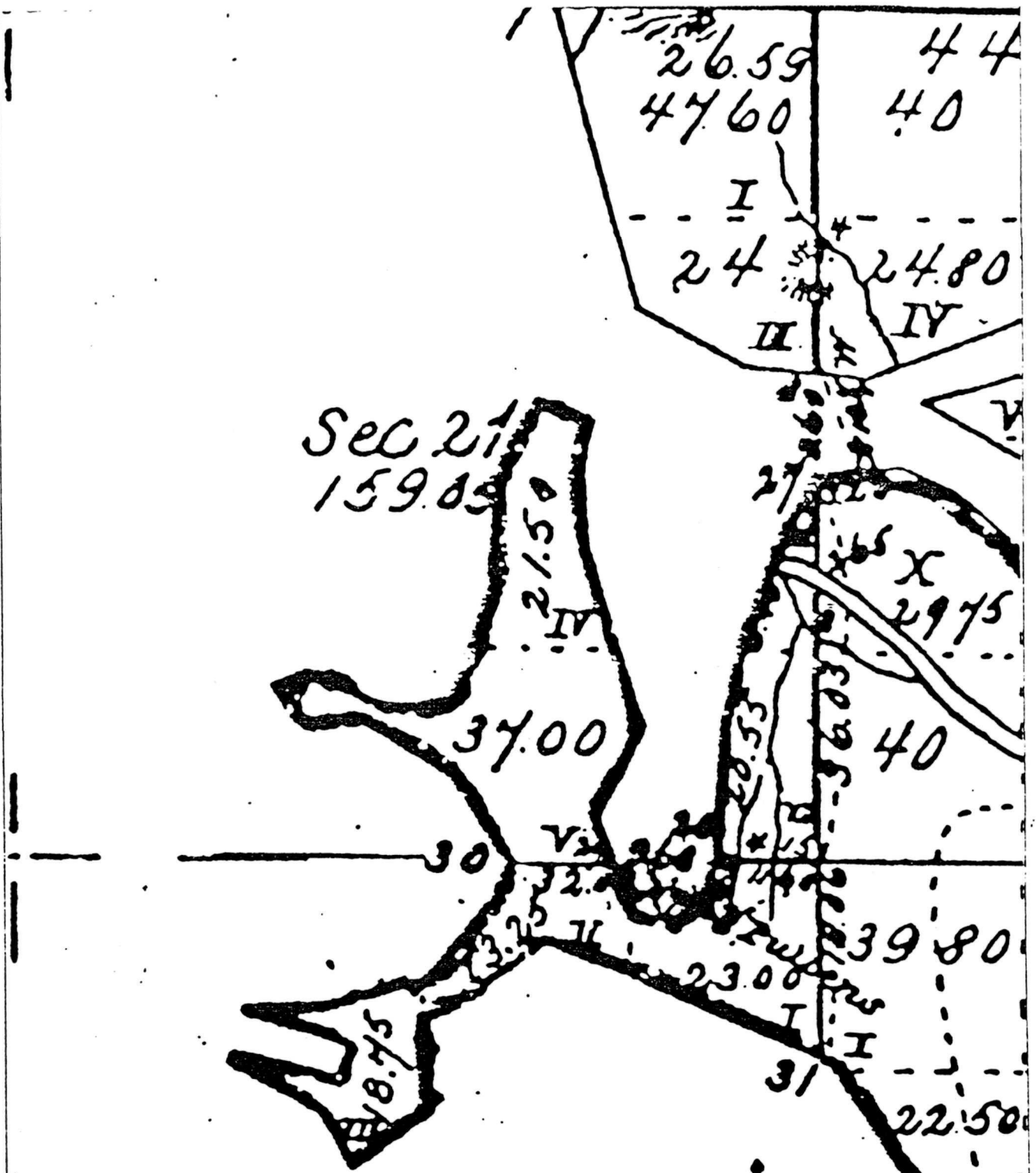
remonumented the northeast corner of section 21 at the point perpetuated by the State survey. This 1973 survey also monumented a witness corner for the meander corner on the north line of section 22, east of section 21, where the west high water line Dickey River crosses the section line according to the 1881 survey. In 1985 the BLM remonumented the southeast corner using information from the Army Corps of Engineers and various private surveys. During the period from 1986 to 1992 the BLM retraced section 21, setting witness points where the east section line crosses the river, and setting a witness point at the boat basin on the south line of the section, which BLM determined from the bearing of this line on the 1914 survey (the 1914 surveyor had found an original 1881 meander corner on this line and had recorded the true bearing between it and the southeast section corner.)

The 1986 to 1992 BLM survey recovered both of the original 1881 bearing trees for the meander corner on the north line of section 21, and perpetuated this corner with a brass witness corner. The various BLM surveys did not determine the meanders along the Quillayute River, nor did they find any other original meander corners for section 21.

During our resurvey of 1993, we recovered and verified all the BLM brass monuments in section 21, as well as one of the bearing trees for the 1881 meander corner on the north section line. The remaining evidence of this tree is a 40 inch spruce snag, with fragmentary scribing marks on an old blaze, at the

edge of the spruce forest where the beach sand begins. The original 1881 meander corner itself had been set 99 feet west of this tree, at what was then the high water line of the Pacific Ocean. We did not find any other original meander corners.

The result of our retracement is shown on the following map, "Present River Location," which depicts the monumentation for section 21. Also shown are the physical features described above.



COPY OF PORTION OF OFFICIAL GENERAL LAND OFFICE PLAT OF
TOWNSHIP 28 NORTH, RANGE 15 WEST, WILLAMETTE MERIDIAN
SHOWING SECTION 21 AT MOUTH OF QUILLAYUTE RIVER
APPROVED MAY 29, 1882.

1881
SURVEY



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1881 SURVEY

RETRACEMENT

The 1881 survey of section 21, as shown by the official plat (p. 14) depicted the Ocean, sand spit, and mouth of the river at the base of the hill that sits in lots 1 and 2 (shown by Roman numerals at the top of the plat). The western projection of the sand spit (lots 4 and 5) is Little James Island. Part of the purpose of the 1881 survey was to run meander lines along the banks of the river. Official instructions for running such lines were found in the 1855

Instructions to the Surveyors General of Public Lands:

Both banks of *navigable* rivers are to be meandered by taking the courses and distances of their sinuosities, and the same are to be entered in the field book. At those points where either the township or section lines intersect the banks of a navigable stream, POSTS, or, where necessary, MOUNDS of *earth* or *stone*, are to be established at the time of running these lines. These are called "meander corners;" and in meandering you are to commence at one of those corners on the township line, coursing the banks, and measuring the distance of each course from your commencing corner to the next "meander corner," upon the same or another boundary of the same township, carefully noting your intersection with all intermediate meander corners. By the same method you are to meander the opposite bank of the same river. The crossing distance *between* the MEANDER CORNERS on the same line is to be ascertained by triangulation, in order that the river may be protracted with entire accuracy. The particulars to be given in the field notes. §13.

Thus the location of the river banks in 1881 can be reconstructed by relocating the meander lines. The process is to first locate or restore the meander corners, and then run a mathematical balancing of the 1881 survey courses between the

meander corners thus established. This "balanced meander line" then best represents the original surveyor's location of the banks of the river. Before one can undertake this process, good surveying practice requires that if there are any blunders in the measurements of the early survey, these must isolated and corrected. *Manual of Instructions for the Survey of the Public Lands of the United States*, 1973 §5-23.

Our modern measurements showed that at some point along the east section line the 1881 surveyor made a blunder of about ten chains, or 660 feet. An inspection of the notes showed that the surveyor measured across the river by triangulation. This method is more suspect than the simple measurement methods used for the rest of the section line, so we began searching for the blunder in that area.

We did determine that the blunder occurred in the river crossing, using the following analysis. First we ran a mathematical closure of the notes south of the river, finding them to close adequately. We noted that the 1881 topography calls south of the river matched terrain within reasonable limits, thus showing that there was no blunder along the south bank of the river, or in the south portion of the section line.

North of the river we ran mathematical closures of the notes from the recovered original meander corner on the north line of section 21 to a theoretical location for the meander corner north of the river, assuming the blunder to be in the triangulation. This process produced a good closure, as did

running the notes to the meander corner on the north line of section 22, where the west bank of the Dickey River crossed the section line. Thus, in order to properly relocate the meanders for the north bank, we balanced the courses between the meander corners on the north lines of sections 21 and 22, which yielded a temporary point we could use for a north-south position for the meander corner on the north bank of the Quillayute river along the east line of section 21. We then corrected that position to the section line, and balanced the courses to the resulting location. Our check of topography calls from this point to the northeast section corner again showed a reasonable match to the terrain.

This process isolated the blunder in the triangulation across the river, allowing us to apply the proper correction. We further noted that the 1936 State survey of section 21 revealed a very similar conclusion on their part.

The 1881 meander lines on the sand spit show another blunder in one of the courses on the east side of lot 4. The bearing of this course is reversed from northeast to northwest. We corrected this blunder by comparison to present topography, including Little James Island, which is rocky and not subject to shifts in location.

After retracing the monumented lines and correcting for the 1881 blunders, we were able to recompute the 1881 meander lines. The next step was to compare these meander lines with physical features, to further refine the search for the true 1881

location of the river.

PHYSICAL EVIDENCE OF THE 1881 RIVER

The 1881 meander line on the south side of the river matches the present east and west banks of the river fairly well. The meander corner on the north side of the river along the east section line falls on a shelf above the river, with some older trees on the slope below the corner. (See photo 3C). The meander line runs from this point westerly to a corner of the hill, just above the present road. (See photo 2C). From this point the meander line runs northwesterly to the beach, and then runs north up the beach just along the edge of the storm-killed spruce trees at the east edge of the present beach sand. The 1881 notes state that the landward side of this meander line was nearly level, except for the course along the hillside where the land rose "rapidly from the sea." This matches our findings except that the sand spit has now excluded the sea from the area in front of the hillside course.

The angle points of this course along the hillside are at logical promontories to use for relatively easy surveying. The surveyor meandered slightly above the water line, indicating that the actual 1881 river bank was at the base of the hill. Much of the road in this area is built on fill at the base of this same hill. Thus we adjusted our location of the 1881 river's edge to the base of the hill, interpreted from the slope, as it apparently existed before the road was added.

From the point where the river proceeded northwest from the

base of the hill, we followed the 1881 meander line. At the point where the meander line intersected the beach there is a change in vegetation from small spruce forest on the upland side to scrubby, storm-killed brush and trees, on the river side. (See Photo 1A). The 1881 meander line runs from here to the northwest up the beach, following the front edge of the storm-killed trees (See Photo 1B) and parallelling the present beach.

The result of this retracement is shown on the following map.

SEC. 14

SEC 20

SEC. 23

The Quillay
lots 7, 8, 9, 10 and
Sec. 22; lots 5,
N.W. $\frac{1}{4}$ and the
in Sec. 28 and
22, 27 and 28.

SEC. 26

SEC. 29

