CHAPTER XXII

Pasco and Vicinity

The city of Pasco is located on the left, here the northeast side of the Columbia River, about three miles above the mouth of Snake River where the Lewis and Clark expedition first reached the Columbia, and where David Thompson posted the notice claiming possession of the territory for the Northwest Company. At this place the Snake is now crossed by the bridge of the Northern Pacific Railroad, at the south end of which is Burbank station, and the north end Ainsworth Junction.

Pasco is on the main lines of the Northern Pacific, Oregon-Washington Railroad and Navigation Company, and Spokane, Portland and Seattle Railways. A joint railway bridge crosses the Columbia River to Kennewick. A power ferry now operates between the two towns, but will soon be replaced by a highway bridge which is now under construction. Pasco is a division point on the Northern Pacific, and that company employs 950 men in its shops alone, and these, together with other employees, make a monthly pay-roll approximating $200,000. The ground on which the town is built is not more than fifty feet above the Columbia and rises gradually to the northeast. The tributary country is agricultural, raising all the products of the temperate zone, and although apples are not specialized as much as they are farther upriver, they make a good

Looking Up Yakima Valley

part of the orchard product. The soil is fertile, but requires irrigation, as the rainfall is small.

The people of Pasco are promoting a very ambitious irrigation project which involves tapping the Pend d'Oreille River near the town of Newport, 165 miles to the northeast of Pasco, and diverting it on to the arid lands of the ancient lake bed north, east, and south of the latter place. It is claimed that the waters of the Pend d'Oreille thus utilized will bring into productiveness 1,750,000 acres of what is now unproductive land, and add $240,000,000 a year to the wealth of the nation. The total cost will be $254,750,350, and will require the aid of the National Government.

The population of Pasco is about 4,500. Kennewick, its across-river neighbor, is about half as large. In my opinion, Pasco will eventually become the leading city on the Columbia River. It has the location, soil, climate, transportation facilities, and immense tributary country to make it so. All it needs is the life-giving influence of water on the lacustrine soil east of the Columbia River; and its development and prosperity will largely depend upon the fulfillment of the great irrigation project which will turn the now barren waste of the old lake bed into a veritable garden.

Kennewick is at the lower end of the Yakima Valley, the mouth of the Yakima River being but a short distance to the north. The Yakima River heads on the eastern slope of the Cascade Range, not more than forty miles from the City of Seattle on Puget Sound, and flows southeasterly through one

Railroad Bridge at Pasco, Looking Upstream

of the most noted farming sections of the State of Washington, with 300,000 acres of land irrigated under Governmental control. A variety of crops are raised, but as is the case with most of the fertile valleys tributary to the Columbia River, apples lead the rest, and the Yakima Valley contends with the Wenatchee district as to the quality of its fruit. About halfway up the valley is the city of Yakima, having a population of 19,000—the largest interior city in Washington.

At the present time there are no steamboats to be seen at Pasco or Kennewick, and their waterfronts are inactive. Coming upriver through the Celilo Canal steamboats formerly ascended to the foot of Priest Rapids—the limit of navigation—but since the closing of the Canal to such traffic by the order of the United States Government upon the declaration of war in 1917, transportation by water now ends at The Dalles City, 133 miles below Pasco.

NOTE: Since the above was written about Pasco and Kennewick, information has been received that the proposed traffic bridge between the two places has been completed at a cost of $480,000, and was dedicated and opened to travel on October 21, 1922. The structure is called the Benton-Franklin Inter-County Bridge, and is 3,300 feet long, consisting of five steel truss spans 1,410 feet long, of which the three central ones are cantilevers spanning 906 feet. There are steel trestle approaches at each end with a total length of 1,890 feet. The new bridge displaces the power ferry so long used for crossing the Columbia, and is located just above the railroad bridge of which an illustration is here given.

CHAPTER XXIII

From the Boundary to Pasco: *Topography, Farms, Fruit, Indian Reservation, Irrigation, Forests and Arid Lands, Railway Bridges, Power Projects, Geology, Placer Mines*

In describing the Columbia River south from the International Boundary to Pasco much has been omitted. To describe everything in detail, as seen as one travels the stream, would require too much space. A general description of the outstanding features will not only be shorter but will give the reader a clearer idea of the actual character and present appearance of the River and the country it flows through. The various rapids, of which there are fifty-five (and one waterfall) have been sufficiently dwelt upon; and many of these are so alike in their character that they become monotonous rather than interesting only a few of them standing out in relief—and of these only Grand Rapids can rank with those of the Big Bend, in British Columbia. This is proved by the ease with which I ran them.

After leaving the confining mountains of the Selkirk and Gold Ranges, and the higher and steeper slopes becoming more or less level plateaus, rarely over 2,000 feet above the River's surface, the Columbia pursues an erratic course south and westward

until it reaches the obstructing eastern spurs of the Cascade Range, just below the mouth of the Okanogan River. Except for about fifteen miles of the distance traveled from the Boundary, the River is a confined, contracted stream, rarely over a few hundred feet in width, and for twenty-four miles runs through a shallow cañon. Near the town of Bridgeport—nine miles above the mouth of the Okanogan River—the Columbia begins to expand and from there on there is a gradual but varying increase in width, with the one pronounced contraction at the crossing of the Great Northern Railway. About midway between the Sanspoil and Nespelem Rivers—not far below Hell Gate—on the left, is the head of the Grand Coulée, a former channel that permitted the Columbia to flow into what is now a great, arid basin of an ancient lake, to which has been given the name of Lake Lewis.

After reaching the base of the Cascade Range, below the Okanogan River, the Columbia is turned to a southerly course and follows, on the right, the different spurs of the Range under the names of Buckhorn, Chelan, Entiat, and Wenatchee, until the narrow ridge of Saddle Mountains is reached and cleft in twain. Below that the Yakima Range, forming the western shore line of Lake Lewis, is skirted; and then comes the low, level Yakima plains and there is no more elevated land west of the River until the Horse Heaven Hills appear below Pasco.

Almost opposite to the mouth of the Okanogan River the Badger Mountains reach the Columbia, on the left, and are followed to just below Rock

Island Rapids, where they become plateaus 500 to 600 feet high. These mountains are lower than those west of the River rising about 1,500 feet above the stream at their northern and southern end, but dwindling, midway, into plateaus about 500 feet high. Below Rock Island Rapids the slopes from the Frenchman Hills terminate as plateaus of the same height as the others, but the Columbia only skirts their bases in places, and there is much low land from a half to a mile wide, bordering the River. At Crab Creek, a mile and a half below Beverly are the Saddle Mountains, already referred to, and immediately below them the plain of ancient Lake Lewis is reached and followed to Pasco, with a low shore line, except for the ramparts of the White Bluffs. Midway of Priest Rapids, looking eastward, the eye sees nothing but a low, sandy, arid plain fading away in the distance. The Bitter Root Mountains are the eastern limit of the plain and are too far away to be visible through the atmosphere along the earth's surface. This is the section that it is proposed to make fruitful by irrigation with the waters of the Pend d'Oreille River.

A particularly marked feature along the Columbia River in the United States as far south as Pasco (barring a portion of Lake Lewis) are the numerous level benches, which have been frequently mentioned, and which, except on the "Indian Side" of the River, are practically all under cultivation. What impresses the observer most are the great apple orchards on every piece of favorable land, and make the section an "apple empire." The finest apples in the world

are raised in the State of Washington, and the bench lands of the Columbia are favorable places for farming, because of the unlimited supply of water for irrigation that can be obtained from the River. The choicest varieties of apples are the Delicious and Spitzenberg—great, solid, luscious fruit, four inches in diameter. Many smaller and hardier kinds are also raised. It must not be inferred from this that apples are the only things the country will produce, for as I made my way through the district I was not only deluged with apples, but with peaches, pears, grapes, watermelons, and a variety of choice vegetables. However, apples must be the most dependable and profitable crop, for there is no question but that it is the main one.

As above stated, there are no orchards to be seen on the Indian reserves. I skirted along the boundary of the Colville Reservation about 150 miles and saw no attempt to raise fruit. In fact, the report sent me by Superintendent Upchurch shows that the Indians devote their attention mainly to raising grain, hay, and livestock. I did not see more than a dozen Indians on the Reserve, and very few of their houses were in sight from the River. I visited three of their homes. The Indians have adopted the white man's mode of living, but they are not as clean and orderly as the whites, and their homes are not attractive.

In connection with the white men's farms is the almost invariable pumping plant, operated by gasoline engines raising water directly out of the River not only for irrigation but for domestic purposes,

and which make the farmer independent of the rainfall, and his crop a certainty. At the Boundary the average annual rainfall is 30 inches, and there is a continual decrease until at the mouth of Snake River there is but 9 inches. This small rainfall not only makes irrigation necessary but has its effect upon the forest growth, and while there is considerable timber on the hillsides at the Canadian line, by the time Box Cañon is reached all native growth has ceased, except such kinds as are found on moist ground along the water courses. First, the hemlock cedar, spruce and fir disappear, and nothing remains but the white and yellow pine. As the rainfall lessens, the trees get sparser and more stunted, underbrush is no longer seen, open, park-like places become numerous, and finally even the pines succumb to the lack of moisture, and sage brush and other arid land elfin growths are all that can maintain an existence. However, in spite of the light rainfall, wheat is successfully grown on the plateaus, and I saw many fields of ripening grain hundreds of feet above the valleys.

What adds more life than anything else to the appearance of the Columbia River are the frequent ferries constantly plying from shore to shore. Every few miles a steel cable is seen stretched across, above the water over high towers erected on the banks, and trailing from which, with its guy wires, is the ferry-boat slowly but steadily being pushed by the current towards the desired shore.

All these things, contributed by men within recent years, make an entirely different Columbia River than the one seen by the early voyagers and fur

traders; and still another feature is the great steel bridges, which have already been mentioned, but which I will again enumerate: The Great Northern bridges at Northport and Marcus, the suspension bridge at Chelan, the cantilever bridge at Wenatchee, the Great Northern bridge at Malaga, the Chicago, Milwaukee & St. Paul bridge at Beverly, and the joint railway bridge at Pasco.

Although there are five railway bridges across the Columbia, very little of the rich farming sections along its shores is served directly by the railways. The Great Northern serves from the Boundary to Marcus; from Brewster by way of Wenatchee to Columbia River station; and from the main line, northward, a branch reaches Peach at the head of the Great Bend. The Chicago, Milwaukee & St. Paul merely crosses at Beverly, with a branch southward to Hanford. The Northern Pacific, and Oregon Railway and Navigation companies serve Pasco and Kennewick.

At present there are no dams on the Columbia River, but several good sites are under consideration. The first of these is at the Little Dalles, the second at Kettle Falls. The next site is six miles above Barry, and when I passed the place a party of engineers were engaged in sinking holes to test the underlying formation for a foundation. So far, granite had been reached in each of the test holes. The height of the dam is to be 200 feet; and a diversion into the Grand Coulée, to the south, is contemplated. The last site is at the foot of Priest Rapids, where the largest dam in the United States is under consid-

eration. It is to be 90 feet high, and will impound sufficient water to develop 350,000 horse-power and irrigate 200,000 acres of land. This last project seems to have advanced to almost the point of construction; and if constructed as planned, will obliterate Priest Rapids and so change the character of the River as to render impossible a duplication of my feat of navigation, and I will probably be the last, as well as the first, to make a complete, continuous descent of the Columbia River.

South from the Boundary to the Okanogan River the geological formations are almost entirely sedimentary—limestone, clay, and shale—with an occasional intrusion of granite, as at Hell Gate and Box Cañon. Limestone predominates above the mouth of the Colville River, and is pronounced in the gorges of the Little Dalles and Kettle Falls. The test holes near Barry show that granite underlies the sedimentary rocks below the turn of the Great Bend at Hawk Creek.

Above Bridgeport, a prominent feature of the landscape is the multitude of indiscriminately scattered basalt boulders, not only in the River channel but on its shores and even on the high benches. These boulders were evidently dropped by glaciers which apparently flowed from some source to the northeast, probably in the Rocky Mountains. Below Bridgeport, the scattered boulders disappear only to reappear below Wenatchee, larger, and more numerous than ever, sometimes as great rock islands in place and not glacier borne. Below the mouth of the Okanogan River basalt becomes the surface for-

mation and forms the River's walls except where it flows through the lake bed below the Saddle Mountains. It is claimed that the great, sentinel peaks of the Cascade Range—Mount Tacoma-Ranier, Mount Adams, Mount St. Helens, Mount Hood, and Mount Jefferson—were at one time active volcanoes and poured forth the greatest lava flow of earth, covering 200,000 square miles of area, including the Columbia River Valley from the Okanogan River to the Pacific Ocean, covering the original surface with a mantle 2,000 feet, or more, in thickness. Erosion has modified this mantle to a great extent and produced an undying soil of great richness.

In the limestone above the Colville River, lead, silver, copper and zinc are found and mined; and in the gravel bars of the Columbia, gold was discovered in 1855. These bars were worked, above Hawk Creek, as placer diggings, first by white men and later by Chinamen, but were eventually exhausted and abandoned, and now not a vestige remains of the work that was done.