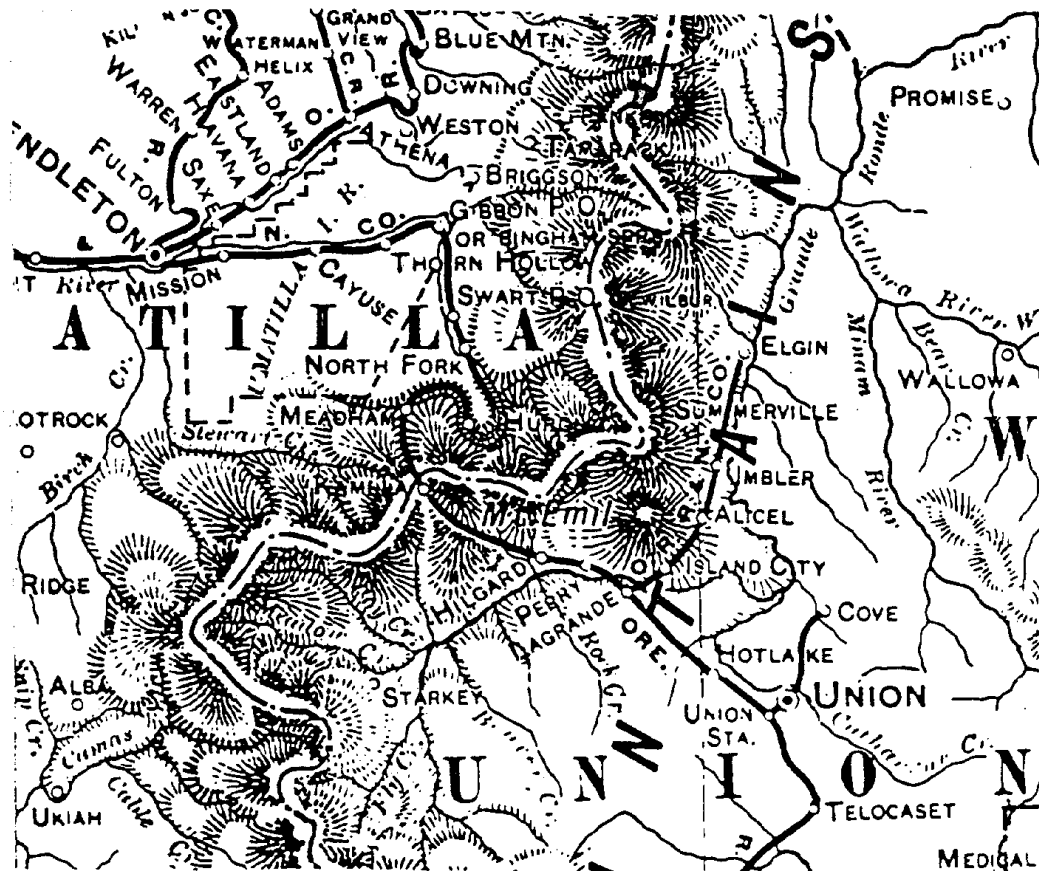


**GRANDE RONDE RIVER, OREGON:
RIVER WIDTHS, VEGETATIVE ENVIRONMENT, AND CONDITIONS
SHAPING ITS CONDITION,
IMBLER VICINITY TO HEADWATERS**

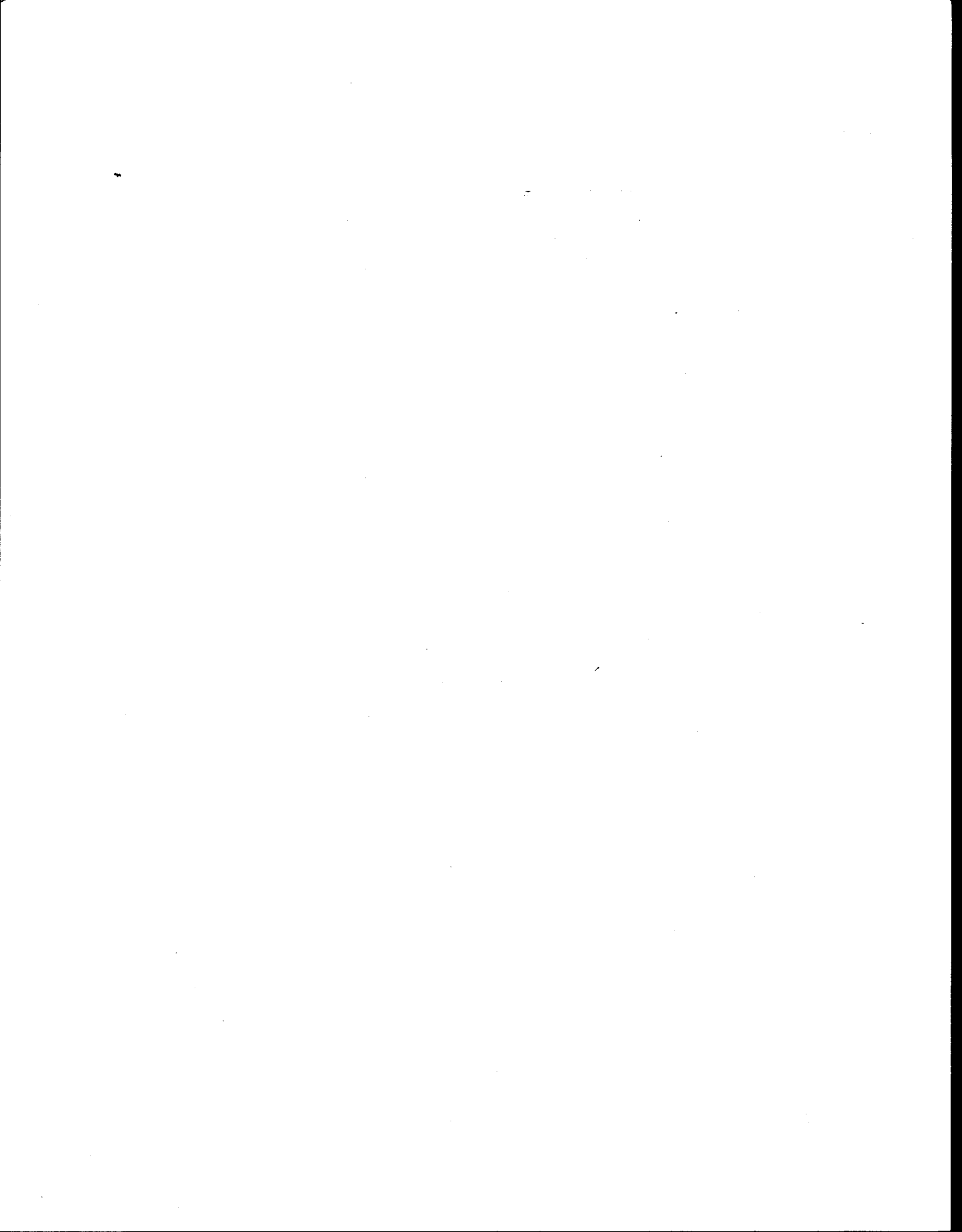


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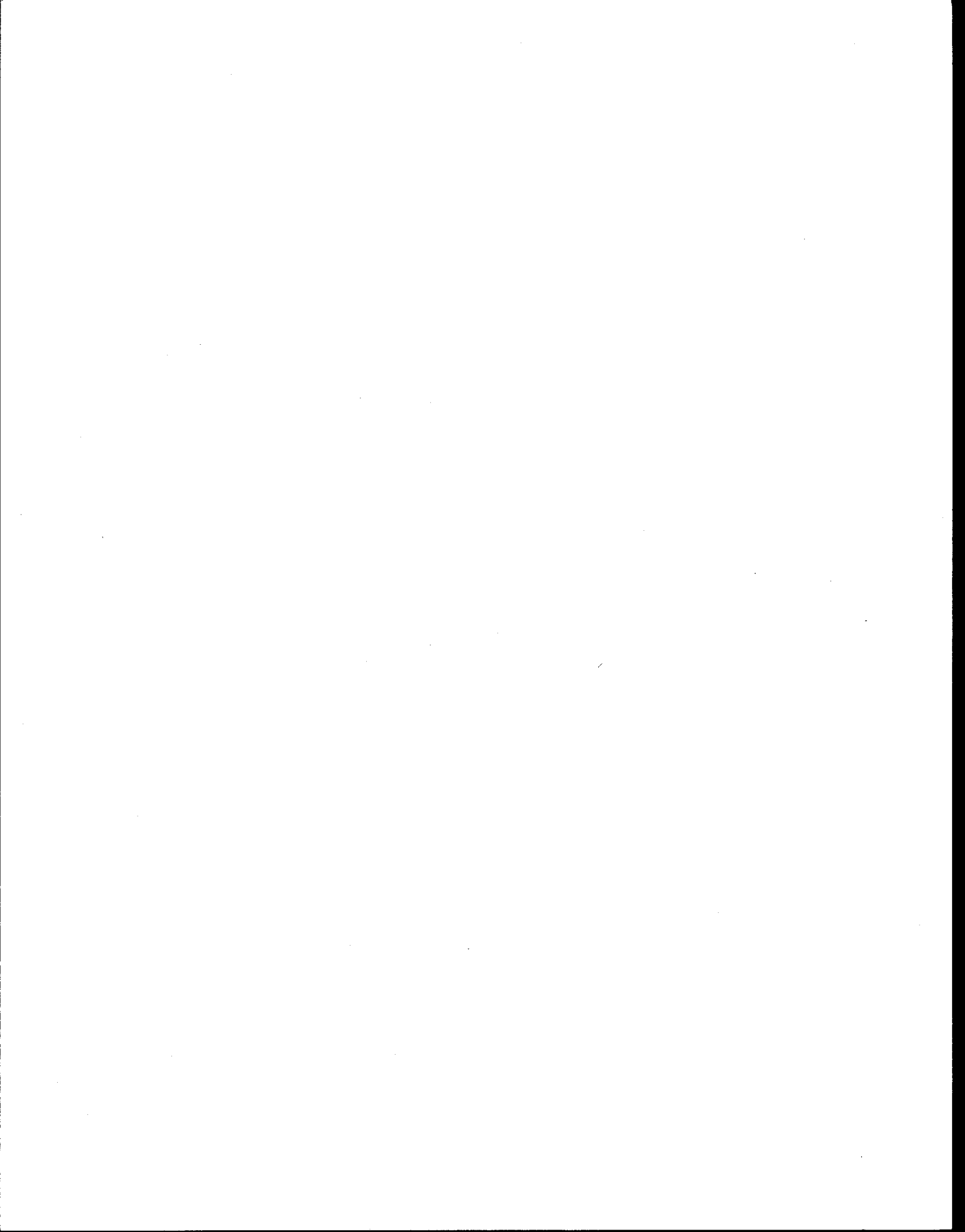
May, 1995



Preface

The following report was prepared by University scientists through cooperative agreement, project science staff, or contractors as part of the ongoing efforts of the Interior Columbia Basin Ecosystem Management Project, co-managed by the U.S. Forest Service and the Bureau of Land Management. It was prepared for the express purpose of compiling information, reviewing available literature, researching topics related to ecosystems within the Interior Columbia Basin, or exploring relationships among biophysical and economic/social resources.

This report has been reviewed by agency scientists as part of the ongoing ecosystem project. The report may be cited within the primary products produced by the project or it may have served its purposes by furthering our understanding of complex resource issues within the Basin. This report may become the basis for scientific journal articles or technical reports by the USDA Forest Service or USDI Bureau of Land Management. The attached report has not been through all the steps appropriate to final publishing as either a scientific journal article or a technical report.



INTRODUCTION

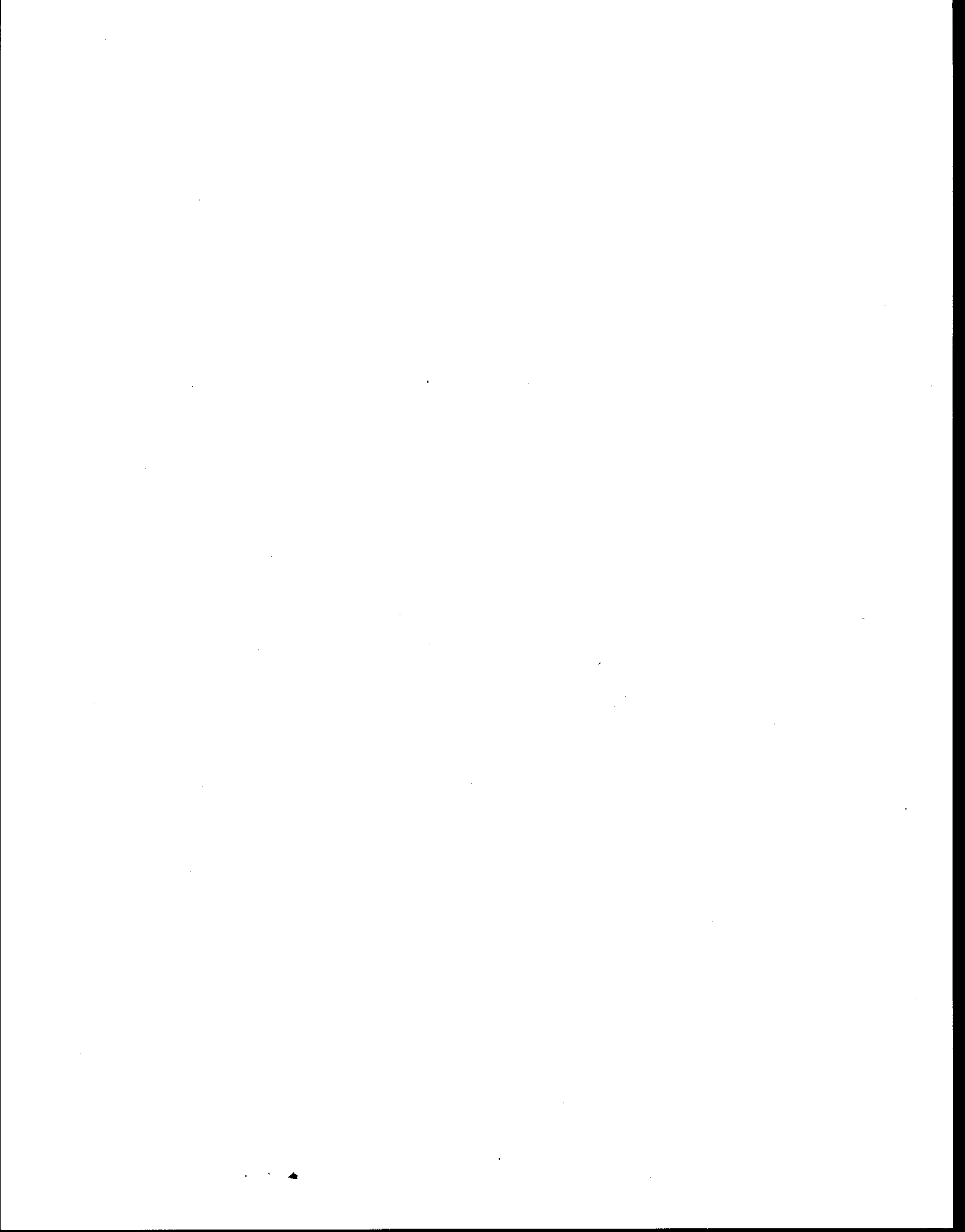
This study is focused on the corridor of the Grande Ronde River from the vicinity of Imbler Oregon, near the north end of the Grande Ronde Valley to the river's headwaters. The river passes through eighteen townships in this course, rising in the Blue Mountains near Camp Carson, cutting through canyons of coniferous forests, meandering through the Grande Ronde Valley, and then passing by Elgin on its final cut toward its confluence to the northeast with the Snake River.

The study was mounted for the Eastside Ecosystem Project to demonstrate the potentials for recovery of information about environmental settings prior to significant disruption because of Euro-American settlement and to provide information about historical impacts on the stream. The research strategy focused on three primary sets of data: 1) diaries of fur trappers and overland travelers, 2) newspaper accounts in the years 1903-08, and 3) field notes and plats of cadastral surveyors.

The first data set yielded informative descriptions of river conditions and discussion of vegetation for the years 1811-1853. The newspaper research--exceedingly time-consuming--was mounted to demonstrate the potential for data recovery about impacts to the river. The target years 1903-08 were selected because of the enterprise of the Grande Ronde Lumber Company and river-related projects of the city of La Grande, Oregon. The third data set, the field notes and plats of the cadastral surveyors, provided extensive information--precise and detailed--about river widths, river course, and vegetational distributions in the river corridor from 1863 to 1884.

This study did not include work in the field notes of the United States Geological Survey for the preparation of topographic maps of the Grande Ronde watershed, nor did it include the notes developed by the USGS during its program in the 1890s to develop a preliminary cruise of timber in the Blue Mountains. Those records at Federal Center, Colorado, were not convenient within the scope of this assignment. The USGS records have potentials to yield additional information as would further exploration of newspapers, court records, irrigation district records, and notes of the Oregon Department of Fish and Wildlife.

This project demonstrates the feasibility of recovery of detailed information on Oregon rivers and river conditions when they were in relatively unaltered condition and what began to happen to those rivers in the early historic period.



ACKNOWLEDGMENTS

This project was carried out with the assistance of Pat Pickens, BLM Archives in Portland, OR., who secured photocopies of the plats of survey and microfiche of the survey field notes. The newspaper research was also facilitated by the Inter-Library Loan Staff of the Aubrey Watzek Library, Lewis & Clark College, Portland, OR.

Stefan Nagler Aumack mounted the tedious task of reading and making a typescript of the handwritten field notes of the cadastral surveyors, determining the river widths, and creating the graph to illustrate the Grande Ronde River. His patient labors helped make this project possible.

NOTE: All material in bold, italic face denotes supplied emphasis. This information relates to river widths, vegetation, and wildlife.

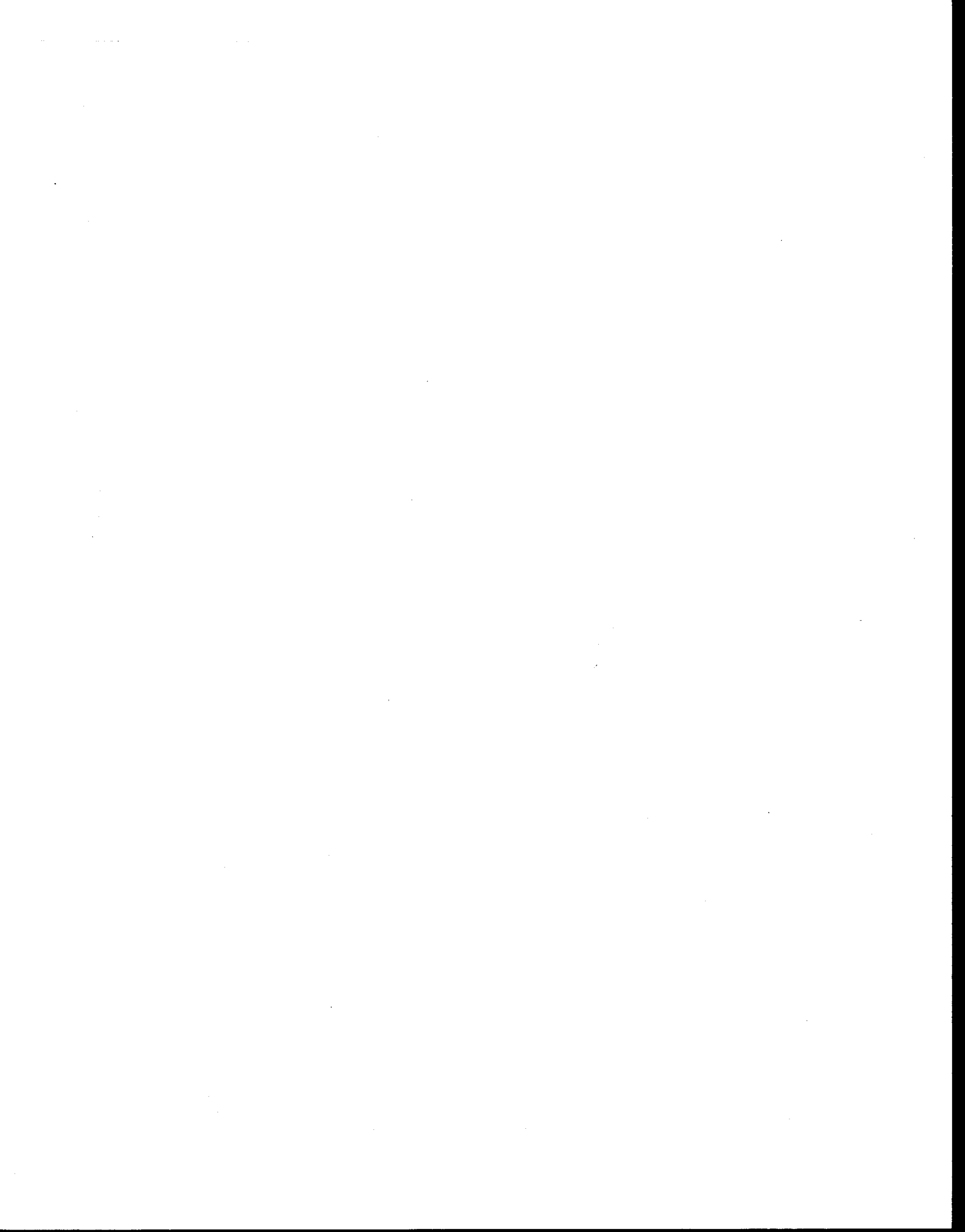
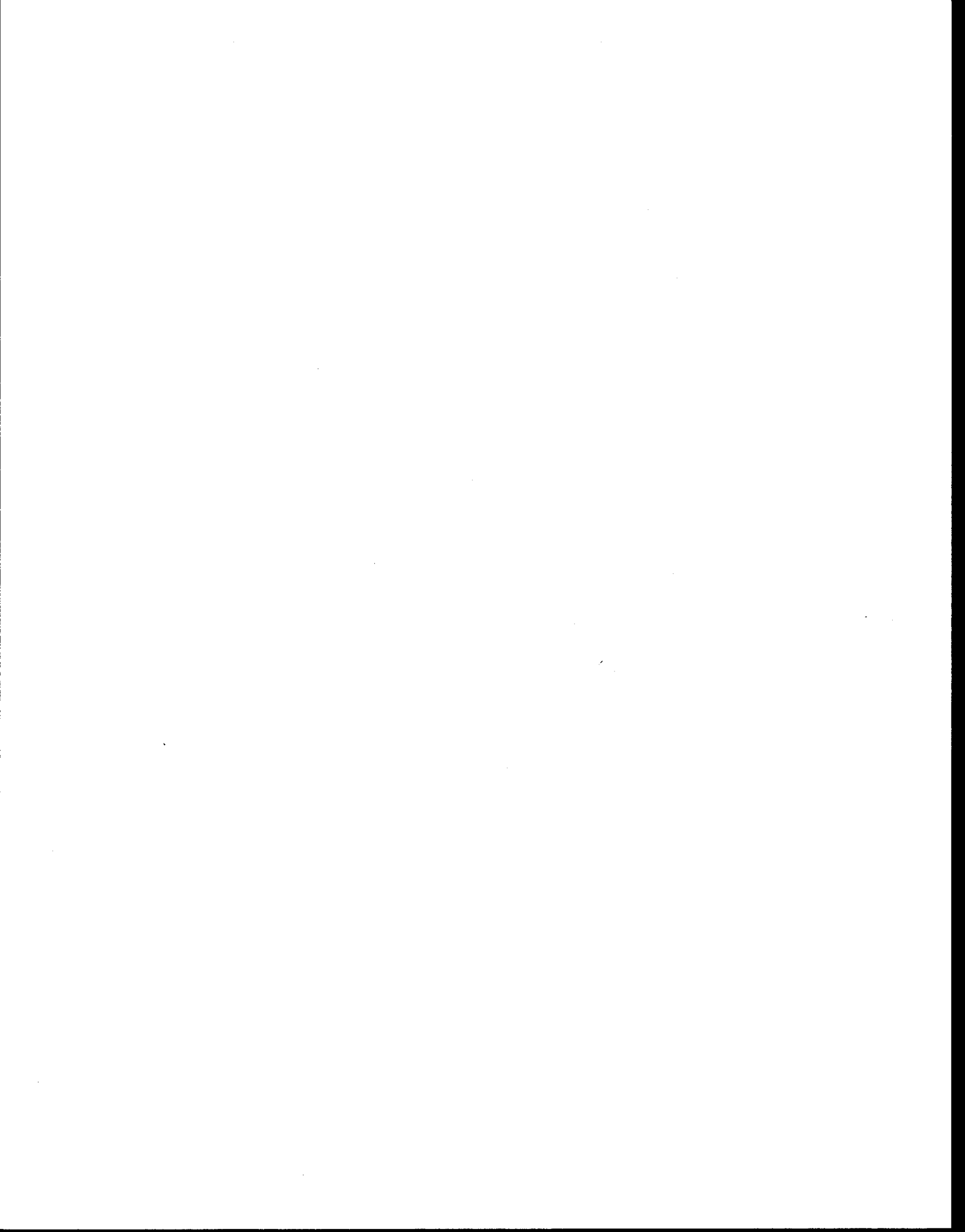


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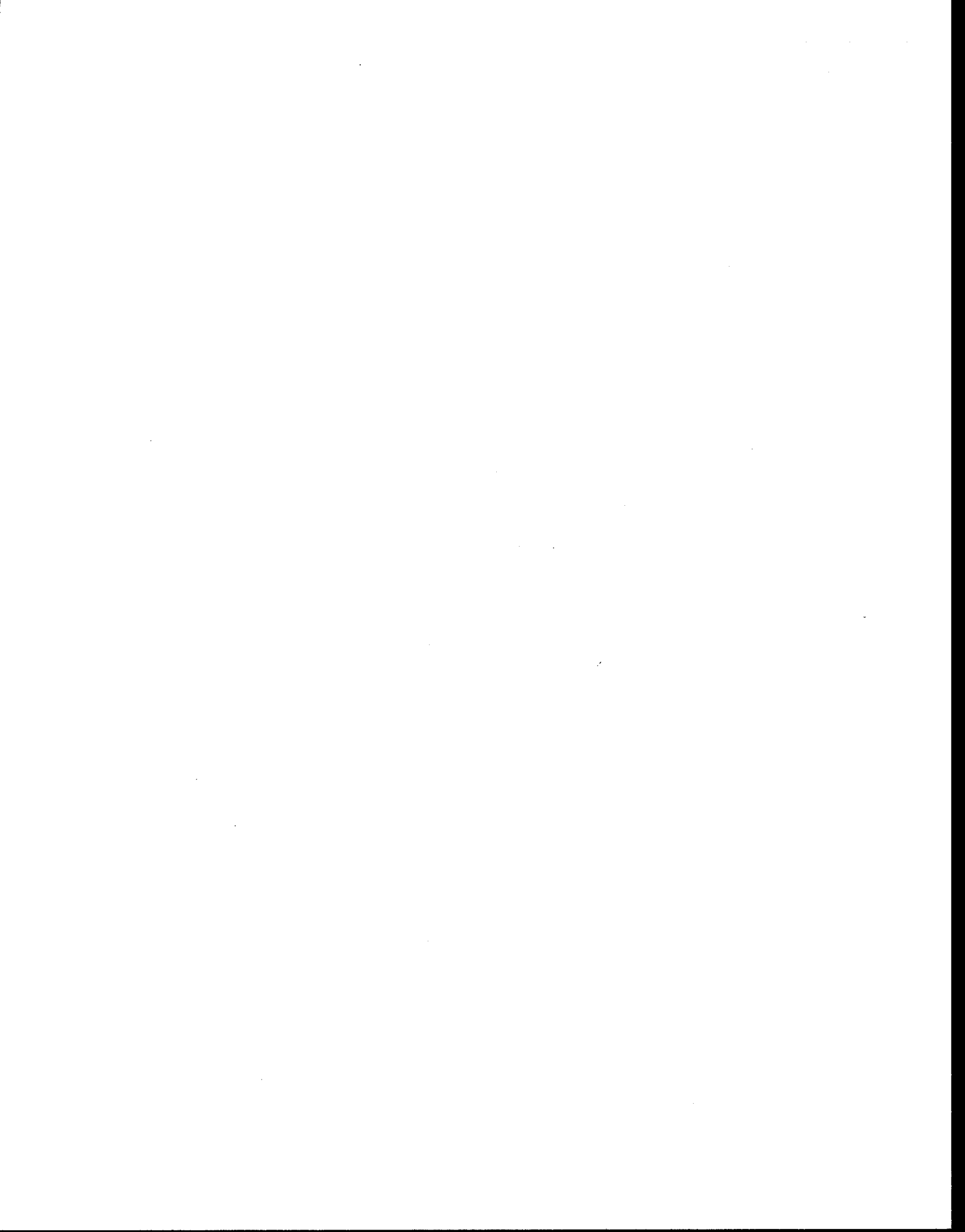
He who takes a comprehensive view of the valley, as did the writer from the mountain heights near the mouth of Oro Dell canyon, will not fail to note with interest the Grande Ronde river, winding serpent-like through the vale below, its waters now rippled by the gentle breezes now frowning back angrily at the impending trees which cast their dark shadows o'er it, here playing gleefully over its rocky bed, there apparently pausing as if to rest, yet ever and always speeding onward toward the bosom of old ocean, as if it, too, like the souls of men, were thirsting for the expanse of the infinite (Anonymous 1902:244).

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Grande Ronde Valley, 1811-53

Travelers passing through the Grande Ronde Valley between 1811 and 1853 noted its appearance and, occasionally, commented on its water resources. Until the 1830s, most travelers used a route north out of the valley and over the Blue Mountains into the watershed of the Walla Walla River. By 1834, however, fur trappers and others began taking a route via California Gulch from Hilgard on the Grande Ronde River northwesterly toward Meacham to descend via Deadman's Pass into the watershed of the Umatilla River. This route by 1843 became the Oregon Trail and was subjected to heavy use, a pattern continuing to the present with the location of Interstate 84N over this same trace.

The earliest description of the Grande Ronde Valley was penned in December, 1811, by Wilson Price Hunt. Heading overland with a party from St. Louis to the mouth of the Columbia, Hunt's beleaguered crew entered valley on December 30:

On the 30th, after quitting the small [Powder] river at the spot where it enters the mountains at the north, we reached another lovely valley several leagues wide and very long. ***A pretty stream [Grand Ronde River] meanders through it and beaver seem to be common in it.*** We fortunately found there six huts of Chochonis, who had many horses. They told me that we had yet to sleep three nights before arriving among the Sciatogas, and pointed out to me the gap [The Narrows near La Grande, OR.] in the mountains by which we must pass. They added that there was not much snow there

From the 2nd to the 7th of January, we traversed the valley; followed a small river [Starkey Creek, perhaps] into the mountains, and climbed many pine-covered hills. On the heights, we had snow half-way up our legs, we sometimes sank to the waist, and we lacked water. The weather was cloudy and cold (Rollins 1935:301).

In August, 1812, an eastward contingent of Astorians led by Robert Stuart also encountered the Grande Ronde River. Departing from Fort Astoria in June, 1812, Stuart led a party of employees of the Pacific Fur Company eastward. The transit of the employees of the Pacific Fur Company proved slow. They did not reach the Umatilla River until the last days of July. Stuart led his party via McKay Creek to cross the Blue

Mountains to what he called the Glaize [Grande Ronde] River. In his transit of the Blues, Stuart noted: 'These mountains are the south east boundaries of the Columbia plains, and divide the waters of the main [Columbia] river from those of Lewis' [Snake River] in this quarter (Spaulding 1953:69-70).

The Stuart party descended McCoy Creek to the Grande Ronde River. He wrote on August 3, 1812:

We next made 9 [miles] S.S.E. to a considerable fork of the glaize [McCoy Creek], then following that 3 [miles] more, between rocks and bluffs, encamped at 1 P.M., opposite a creek coming in from the south, which rather exceeds in magnitude the one we descended--

Stuart continued on August 4-7, 1812:

Tuesday 4th *Not long after daylight we continued down the Creek* [i.e., the left bank of Starkey Creek] *till 9 A.M., when finding a deep hole with some salmon in it, we halted 4 hours, and speared seven.* --Proceeded on again at 1 P.M., thro' a most enchanting tract (for a few miles) where the gloomy heavy timbered mountains subside into beautiful hills, chequered with delightful pasture grounds, which, when combined with the numerous rivulets murmuring over their gravelly serpentine beds towards the glade below, afford a scene truly romantic, and such as is seldom to be met with in these regions of solitude and gloom. --We soon after entered on a similar road to that of this morning, and stopped at sunset on the left bank [near present Five Points Creek, ca. 1.5 miles south of Hilgard, OR.]--Two branches came in on each side of the creek, which is extremely crooked, although the general course is N. East--

20 miles was the extent of this days march [brought the party to the left bank of the Grande Ronde River, eight miles west of La Grande, OR.]

Wednesday 5th The sun had made its appearance above the cliffs when we left our last nights station, the road was rugged in the extreme, and the proximity of the mountains obliged us frequently to cross the river, a business our horses are by no means fond of: we went on but slowly, and at the end of 12 miles extricated ourselves from among rocks and precipices to enter the big flat [i.e., Grande Ronde Valley], where on account of having

broke several saddles, we encamped, on the right bank one mile below the narrows, and in the evening **shot two Salmon** and a Beaver.

Thursday 6th The men were busily employed yesterday afternoon, and all today, making and mending saddles, which are at last completed and will enable us to set out early in the morning--

Friday 7th It was 6 A.M. before our horses were collected and loaded; our route lay along the mountains, on the south side of the big Flat, for 11 miles; then winding to the east for 9 more, came to a gap [Pyles Canyon], out of which issued a small branch where we encamped for the night. --about 7 miles from this place, to the westward and close to the hills, is a sulphur lake [Hot Lake], 300 yards in circumference, fed by a spring in the south east corner, which appeared nearly 10 feet square and as greatly agitated as if boiling--at a short distance, the vapour was excessively noisome, and for a half a mile round the olfactory nerves were sensibly affected thereby--

It is much frequented by Elk, which animal is tolerably plenty in the adjacent mountains, and it would appear from their numerous horns, strewed every where round the pond, that they visit it mostly in the spring of the year; continuing a few miles farther through the plain, **a large Creek [Catherine Creek] comes from the S. E. and nearly opposite its mouth, another from the west, both of which join the Glaize River a little way above its re-entrance into the narrows, where it is upwards of one hundred yards wide. This plot is at least six miles in circumference, in but few places swampy, of an excellent soil, and almost a dead level; with the Glaize and its two branches just mentioned meandering in every direction through it--the banks of these streams are high and muddy, covered in particular places with dwarf Cottonwoods, and the residue in a large growth of Willows, which afford an inexhaustible stock of food for the incredible multitudes of Furr'd race who reside in their bosoms, but the S. East fork excels both the others, particularly in the number of its inhabitants of the Otter tribe--A few Deer and Racoon are the only animals you may add to the Elk, Beaver, and otter as being natives of this tract.**

The river at the extremity of this prairie is very deep, but it there enters a range of mountains, much superior in size to those thro' which we descended along its borders--(Spaulding 1953:72-72; Rollins 1935:76-79).

In September, 1827, Peter Skene Ogden departed from Fort Nez Perces on the Walla Walla River and crossed the Blue Mountains to enter the Grande Ronde River watershed near Elgin, Oregon. On September 14, he wrote:

At 7 a.m. we started, advanced one mile and reached Clay River or commonly called Rivere de Grande Ronde. This river discharges in the south branch [Snake River] of the Columbia, about a two days march across land from Fort Nez Percy. At 1 p.m. we reached the Grande Ronde and encamped

Sunday 15th [16th]. At sunrise we started, at the same time I sent Mr McKay with a trading assortment to the Indian camp to procure horses. **From the number of swamps, we were obliged to make a most circuitous route ere we could find a suitable fording place.** We proceeded on until we reached the south end of the Grande Ronde and encamped at 4 p.m. Although we were marching the greater part of the day we have not made great advance in our journey--not more than nine miles (Williams, Miller and Miller 1971:5-6).

In September, 1828, Peter Skene Ogden departed from Fort Nez Perces on the Walla Walla River via his 1827 route to the vicinity of Elgin, Oregon. His men trapped four beaver during the passage across the Grande Ronde Valley (Williams, Miller and Miller 1971:97-98).

In August, 1830, Peter Skene Ogden crossed the Blue Mountains via Pine Creek near Weston, Oregon, to the Grande Ronde River. Ogden wrote:

Thursday 26. Cloudy but warm weather. Started early and at the end of 7 hours march about 25 miles generally E. S. E. encamped at the foot of the mountain on a small branch of the Grand ronde river at the entrance of the Grand ronde. The road down the mountain lay mostly through thick woods & though several steep hills were to ascend and descend, is generally good. On arrival at the camp all hands were employed getting lodge poles as this is the last place where any can be obtained, as the country we are to pass through soon becomes destitute of wood.

Friday 27. Fine weather. Did not move camp today in order to allow all the people time to finish their poles. Some of the young men cam ahead of the camp yesterday to hunt. A. Finlay and M. Plant killed a young Elk and a chivereau. **Some were out today**

also but killed nothing, except a few salmon which are found in the river small as it is. Some of the people set some traps for beaver in the evening.

Satdy 28. Fine weather. Moved camp and crossed the grand ronde to the stiff clay fork, 5 1/2 hours march about 22 Miles along the W. side of the river viz 1 1/2 hours E. S. E. and four hours S. S. W. encamped on the South side of the Fork. Pichette killed 2 small Beaver, which is the commencement of our hunt, the others got nothing. **Some salmon were killed in the creek.**

Sunday 29. Warm sultry weather. Course S. E. by E 2 hours across the remainder of the grand ronde to the foot of the Mountain. and 1 hour & 40 Minutes same course up the hills and to the fountain where we encamped in all about 12 to 14 miles (Haines 1971:5-7).

Overton Johnson and William Winter described the Grande Ronde Valley in September, 1843:

Thirty-three miles from Powder River, we descend abruptly, some three thousand feet, into the Grand Ronde; which is a level plain, about ten miles wide, and twenty miles long, surrounded by Mountains, and traversed by the **Grand Round River, which comes in from the West, runs nearly to the middle of the plain in several channels, joins with another branch, bears away to the left and leaves the plain at its Northern extremity, through a now gap. -- Numerous small creeks and rivulets, run through all parts of the valley, from the surrounding Mountains. There are some Balm [Cottonwood] trees on the River . . .** (Johnson and Winter 1846:32).

Joel Palmer described the Grande Ronde Valley on September 11-12, 1845:

Grand Round is a valley, whose average width does not exceed twenty miles, and is about thirty miles in length; **a stream of water of some twenty yards in width passes through this valley, receiving considerable addition to its volume from the many rivulets that pour down their waters from the mountains, by which this valley is enclosed. The bottoms are of rich friable earth, and afford grass of various kinds, among others that of red clover. There is a root here found in great abundance, and known as the camas, which is held in high repute by the Indians for some medicinal qualities it is thought to possess; wild flax and a variety of other plants grow in luxuriance, like to those I have**

observed in the western prairies. The streams are generally lined with timber, and abound in salmon and other varieties of fish. Upon the sides of the mountains and extending down into the valley are found beautiful groves of yellow pine timber. These mountains are places of resort for bear, deer, and elk.

This bottom affords an excellent situation for a settlement, possessing more advantages in that respect, than any found since our departure from the lower Platte river.

Loren B. Hastings described the Grande Ronde Valley on October 3, 1847:

The Grand Ronde is an interesting place; it is a round prairie about 20 miles in diameter, with a very black, rich soil and good grass surrounded by the majestic Blue mountains covered with winter green trees. **A small river called Grande Ronde river runs through the center and any number of good springs breaking out at the foot of the mountain;** this 'some day' will be a good settlement (Hastings 1926:22).

Elizabeth Dixon Smith noted vegetation conditions in the Grande Ronde Valley on October 6, 1847:

O if grand round was west of the Cascade mountains how soon it would be taken up it is level and covered with grass and watered with brooks and springs it **has a river flowing through it no timber except on the river** (Smith 1983:136).

William J. Watson wrote of the Grande Ronde Valley on August 17, 1849:

It has splendid soil, and various small creeks running through it thickly set with bushes of various kinds, and surrounded by high and picturesque mountains, covered with lofty pine trees, and about fifteen miles in diameter. It has a very rich soil covered with grass (Watson 1851:39).

Osborne Cross wrote about the cold Grande Ronde River on September, 8, 1849:

At the base of the mountain we crossed a small brook, which came from the deep gorge to our left, and, after running along the base of one we had just ascended, passes through the Grand

Ronde valley, and falls into *the Grand Ronde river, which is a delightful cold stream, that comes immediately from among the mountains* (Cross 1850:95).

John Johnson described the Grande Ronde Valley on July 30, 1851:

It appeared to be the most beautiful valley I had ever looked upon. *The hills dressed in green, with springs of water running from the sides, with groves of willows and cotton wood*, and thousands of ponies grazing, and Indians driving in all directions (Johnson 1851:18).

P. V. Crawford wrote on about the Grande Ronde Valley on August 19-20, 1851: "Here the valley is striped with small streams of clear, cold water all along the west side of the valley" (Crawford 1924:161). Elizabeth Wood wrote on September 8, 1851, about the vegetation on the valley floor: *"Its fertile soil produces several kinds of luxuriant grass -- blue grass, timothy, clover, red top, and 'broom corn' grass, that looks like oats, only the head is not heavy enough"* (Wood 1984:176-177). On July 28, 1852, Jared Fox noted: *"The valley is covered with grass & wild grain. The wild wheat is up to the horses backs, the red top is a foot short of that. The June grass and red clover up to your knees* (Fox 1852:43).

Abigail Jane Scott described the Grande Ronde River on September 2, 1852:

Grand Round river runs through the western part of the valley; it's banks are adorned with willow birch, bitter cottonwood, & alder, in the valley, and pine, cedar, balsam fir, birch and larch, where it meanders among the mountains; this stream is about four rods in width & six inches in depth (Scott 1984:120-121).

Dr. Thomas White, who passed through the Grande Ronde Valley in 1852, wrote about it on April 19, 1853:

. . . the Grand Round is a beautiful vally, shut in by mountains, on all sides, except a gap at the west, for the ingress & another at the east for the egress of the Grand round River, which runs nearly through the middle of it, carr[y]ing with it a belt of cottonwood timber. this vally lys at the east base of the Blue mountains, & contains not less than 6 Townships of the very best Land watered in all directions by springs, & spring brooks, & the grand round

River, with timber all around the vally on the mountains . . . (White 1964:18).

The Dinwiddie brothers--John and David--passed through the Grande Ronde Valley August 26-27, 1853. They wrote:

. . . the valley is about 20 or 25 miles in extent, high mountains enclose it on every side, through the middle of the valley flows Grand Ronde River, from South west to North west. ***Its banks lined with cottonwood, balm of gilead, elder, cherry and willow, many spring brooks coming down from the mountains several small creeks course through it and empty themselves into the river their courses marked frequent clumps of green trees,*** part of the mountains covered with dark forests (Dinwiddie 1928:11-12).

Grande Ronde River at Hilgard, 1843-53, T2S, R37E, Sec. 31, W.M.

Oregon Trail emigrants crossed the western margin of the Grande Ronde Valley to the townsite of La Grande. They then ascended the ridges to the west and traveled northwesterly until descending to a crossing of the Grande Ronde River at Hilgard State Park, at the point where I-84 today descends from the Blue Mountains to the Grande Ronde River. Most emigrants camped overnight at Hilgard before beginning the long, uphill ascent of the Blues via California Gulch to Emigrant Springs or Meacham.

James Clyman wrote on September 29, 1844: "came to grand round creek in about 10 miles the mountain so far is mostly Prairie & fairly covered with g[r]ass some parts However espically the ravines & vallies are covered with pine & spruce timber (Clyman 1984:123-124).

Joel Palmer described the conditions at Hilgard and the crossing of the Grande Ronde River on September 13, 1845:

"The road is very stony; at the end of four miles it takes down the mountain to Grand Round river, one mile in distance; it then crosses. **Here is another bottom covered with grass and bushes,** where we pitched our encampment" (Palmer 1847:55).

John E. Howell arrived at Hilgard crossing on the same day as Palmer in 1845. Howell wrote: "**Camp on Grand Round River in a dense forest** the first camp of the kind on the whole route" (Howell 1907:150-151).

Elizabeth Dixon Smith camped at Hilgard on October 7, 1847. She wrote: "camped on a branch of grand round river here the men made tar out of pine here we are surrounded with mountains covered with tall pines" (Smith 1983:136-137).

William Wright Anderson arrived at Hilgard on August 19, 1848, and wrote: "we traveled 8 miles over high rolling mountains through pine groves and falen timber to **grand round river here the river passes through a deep narrow heavy timbered canyon** here we saw several Cyse Indians" (Anderson 1848:39). That same year on September 8-9, Honore-Timothee Lemprit camped at Hilgard and wrote: "Then we came to a little valley through which flowed **a river abounding in crayfish.** When our company arrived I showed them a basketful of them . . ." On September 9 he noted: "Today we had an excellent camping spot, a **very nice situation completely surrounded by tall fir-trees. Right beside us flowed a river abounding in fish and in the shallow parts of the river one**

could scoop up quantities of crayfish" (Lempfrit 1984:137-140).

P. V. Crawford arrived at Hilgard on August 21, 1851, and wrote: ". . . groves of scattering pines for five miles, then down a long, steep, stony hill, to Grande Ronde river. **The stream here is about fifty feet wide, with clear water running over a nice pebbly bottom. The valley is very narrow, being only about sufficient for a wagon roadbed.** Here we crossed and followed up the stream four hundred yards to where we begin to climb the Blue mountains" (Crawford 1924:162).

John McAllister reached Hilgard on September 22, 1852, and wrote: ". . . after a steep rocky de[s]cent **this river is about 60 feet wide to 12 inches deep clear water rocky bottom plenty pines some grass** soon after crossing take the mountain" (McAllister 1925:502). John Newton Lewis camped at Hilgard on September 25, 1852, and noted: ". . . we decended for 1 m. to the Grand Round River here we encamped about dark **this is a beautiful stream about 50 feet wide and 2 feete deepe of clear cold water**" (Lewis 1852:29).

George Belshaw camped at Hilgard on September 2, 1853, and wrote: ". . . and in 2 miles more **we reached a Branch of the grand round river 2 rods wide 2 feet deep good water** good Camping I crossed over and Camppt on the other side and drove my stock away up the hill on the bunch grass very good" (Belshaw 1960:45-46).

Impacts on the Grande Ronde River: Vicinity of Imbler to Headwaters

1. Pumping Station, City of LaGrande

Historical records document several impacts to the Grande Ronde River in its course through the Grand Ronde Valley and in its canyon southwest of LaGrande. These impacts commenced as early as 1892 when on May 20 the La Grande City Council authorized a contract for construction of a water system. The contractor installed a pumping system at a cost of \$50,000 to withdraw water from the Grande Ronde River, "one mile west of town, into a reservoir on the foothills one mile south of town" (Anonymous 1902:225-226).

2. La Grande Light and Power Company, La Grande, Oregon

In 1892 the City of LaGrande erected an electrical light plant "one mile west of the city" which received "its motive power from the Grande Ronde river." Although documentation is not firm, it is likely that this hydroelectrical facility was located at the point of diversion of water for the city water system (Anonymous 1902:226). In April, 1904, this utility company was "engaged in fluming 2,000 cords of wood from Fox hill to their power station at Oro Dell. Their flume saves a hard haul down the hill," noted the local newspaper (Anonymous 1904c).

The dam across the Grande Ronde River at Oro Dell was imperiled in February, 1907, because of flooding as well as the backing up of massive amounts of ice in the reservoir. The *La Grande Evening Observer* noted: "Great volumes of water have been pouring over the dams at Perry and OroDell since yesterday" (Anonymous 1907b). A day later the newspaper reported: ". . . Perry residents telephoned to the Grande Ronde Electric Light Company that a flood was bearing down on the Oro Dell dam. Splice boards were at once knocked off the dam at Oro Dell, and everything possible done to save it. About five forty-five the water, ice and bridge debris came. Several witnessed the oncoming rush and those who did, affirm that never have they seen anything more spectacular. An actual bank varying from five to seven feet in depth approached with astonishing velocity. The fierceness of the flood decreased as suddenly as it had commenced and soon the water began to lower" (Anonymous 1907c).

In 1908 the LaGrande Light and Power Company installed electrical machinery moved from Cove to the site. The new equipment included an engine and a boiler (Anonymous 1908

3. Draining of Tule Lake in the Grande Ronde Valley

In 1870 Fred Nodine, an early settler on the valley floor, decided to drain Tule Lake, an expanse of 2,300 acres lying north of Hot Lake. The area was "covered with water and raising an abundant growth of tules from twelve to fifteen feet high." Aware that the State of Oregon had obtained this acreage under the Swamp Lands Act and that it was subject to reclamation, Nodine laid his plans. An account of his actions published in 1902 stated:

The land was to be completely drained and placed under cultivation within twenty years from date of application to purchase, a certain proportion of the work being necessary each year, and twenty per cent of the purchase price was to be paid upon filing the application, the remainder when final proof was made. In order to comply with the conditions, Mr. Nodine had to turn Catherine creek, the overflow from which was the principal feeder of the lake from its bed above, carry it around the eastern side of the lake in a new channel, and finally turn it into one of the numerous outlets from the northern end of the lake, when it could flow untrammelled to the Grande Ronde river. To do this he constructed a mammoth canal, costing something like \$15,000. The land thus successfully redeemed proved to be of unsurpassed capabilities, producing as high as one hundred bushels of oats and barley per acre and a proportionately large yield of wheat. A part of the land was at first devoted to hay-raising, the remainder to the pasturing of his six thousand head of cattle and horses, but in 1894 it was divided into small farms and sold (Anonymous 1902:247).

4. Sawmill at Perry, Oregon

Samuel A. Puersel established a sawmill at Perry, first called Stumptown, in 1872 and operated it for nearly six years (Anonymous 1902:314).

The Grande Ronde Lumber Company in 1889 erected a large sawmill at Perry in the Oro Dell Canyon southwest of LaGrande. By 1902 this was the largest sawmill in Union County with a daily capacity of 100,000 board feet of lumber, 30,000 of lath and pickets, and 30 cords of slab wood. The products of this mill were exported by the Oregon Railway and Navigation Company which built its line down the Grande Ronde River through Perry in 1883 (Anonymous 1902:251).

The Grande Ronde Lumber Company operations continued to grow after 1900. In 1903 the company produced 17 million board feet of lumber and retained 5 million board feet for the manufacturing base to which it planned to add another 12 million board feet of logs in 1904. The loggers cut timber during the winter and hauled it over the snow to the frozen Grande Ronde River where they dumped the logs to await the spring thaw. W. D. Arnold of the company reported in March, 1903, that his crews were working 35 miles from Perry. The logging manager, Murphy, had purchased a steam donkey in Portland which the company planned to use for breaking log jams on the river and for yarding the logs to the mill at Perry in the summer. "This machine will be used for logging in winter and to pull trees out of bad places to save road building, and in deep snow to save the poor horses," Arnold noted (Anonymous 1903a). When work slowed because of intense weather conditions, the workers for his company also cut large blocks of ice, 15 inches thick, exported by rail (Anonymous 1904a).

In May, 1904, F. S. Murphy of the Grande Ronde Lumber Company reported that his crews had underway their "log drive" and that they expected to get the logs to Perry within a few days (Anonymous 1904d). Murphy subsequently reported that his company anticipated cutting 15,000,000 feet of logs in 1904 (Anonymous 1904f).

In April, 1905, the expanding operations of the Grande Ronde Lumber Company included purchase of a locomotive, twelve cars, and seven miles of track for the firm to expand its log hauling to its mill at Perry, Oregon (Anonymous 1905a).

Although the date of construction is uncertain, by 1906 two dams spanned the Grande Ronde River at Perry and may have been in place for several years to catch logs boomed down the river. When an employee of the Grande Ronde Lumber Company drowned, the local newspaper reported that his body had "crossed the upper Perry dam unnoticed and on reaching the log drift at the Perry ice house was jammed under and held there until the key log was loosened and an opening in the mass of logs made" (Anonymous 1906a).

In 1907 the Grande Ronde Lumber Company employed about 200 men and estimated its cut at 15-20,000,000 feet of pine lumber for the year. A photograph in the *La Grande Evening Observer* showed a dam of perhaps 20 feet height, crossed by a truss-bridge and roadway, with a log pond backing a considerable distance up the Grande Ronde River at Perry, Oregon (Anonymous 1907a). In February, 1907, the dam was reported in peril because of huge accumulations of ice and high water

in the reservoir. The newspaper noted: ". . . several bridges above the dam are on the verge of being washed out. It is very likely that by tomorrow morning, the dam will have been dynamited. Much ice is also blocked by the dam" (Anonymous 1907b)

A March freshet in 1908 led the La Grande newspaper to report:

After a short but terrific rampage the Grand Ronde river is receding. Bridges and dams along the upper river have been threatened since late Saturday evening when a portion of the Perry dam went out, releasing a large head of water, that was soon threatening the houses built near the banks of the stream at the Palmer bridge. The rampage commenced Saturday night and all day yesterday it raged. The torrent reached a height of about seven feet above the normal (Anonymous 1908b).

5. Sawmills near Hilgard, Oregon

The Hamilton sawmill, four miles upstream from Perry, had a capacity in 1902 of 25,000 board feet per day. The U. P. Spur Mill, near Hilgard, had a similar capacity (Anonymous 1902:151-152). In June of, 1904, the "mills in and around Hilgard" were reported to be running "in full force" (Anonymous 1904e). J. D. Casey was among the sawmill operators in the vicinity of Hilgard in 1904 (Anonymous 1904g).

6. John L. Caviness Grist Mill, Island City, Oregon

John Caviness emigrated overland to Oregon in 1852 and settled in 1862 on 360 acres at Island City in the Grande Ronde Valley. Caviness erected a grist mill and platted a town. This mill was driven by waterpower associated with a dam on the Grand Ronde River (Anonymous 1902:272-273). In December, 1904, Caviness filed suit in the Union County Circuit Court to secure affirmation of his priority water rights to the Grande Ronde River. Caviness claimed right to 5,000 cubic inches during the season of least flow, an amount which the local newspaper estimated at "about all there is in the river" (Anonymous 1904i).

7. Sawmills near Elgin, Oregon

In January, 1904, George Palmer, a banker and investor from Iowa, purchased 10,000 acres of timber "on the Grande Ronde river" below Elgin from L. C. Stanley and Robert Smith for \$150,000 (Anonymous 1904b). In 1908 Palmer's company was engaged in logging and sawmill operations near Elgin. The La Grande newspaper reported in March of

that year: "The Palmer mill is not running today. This is not on account of log shortage, but because of the high water The oil house, the pump house, and the stables at the Palmer mill were seriously threatened during the Grande Ronde river's rampage yesterday. A slight break was discovered, but was held in check by a crew of men, thus frustrating serious damage. Had the waters worked themselves through this break, serious damage would have been done to the buildings mentioned" (Anonymous 1908a). The article suggested that the Palmer mill may have included a dam spanning the river.

8. Irrigation Companies in Grand Ronde Valley

By 1904 a number of irrigation companies competed for withdrawal of water from the Grande Ronde River upstream from Island City. In December of that year John Caviness, owner of the grist mill at Island City, filed suit against the following competitors for water:

- ▲ La Grande Irrigation Company
- ▲ Oro Dell Canal Company
- ▲ Irrigation Canal Company
- ▲ May Park Ditch Company
- ▲ Nessly Ditch Company
- ▲ The L. Oldenburg, A. L. Richardson, and J. J. Nessly Ditch Company
- ▲ City of La Grande
- ▲ J. B. Stoddard [probably a relative of George Stoddard who operated a sawmill at Perry, Oregon]
- ▲ L. C. Pensell
- ▲ J. S. Chandler
- ▲ M. K. West

(Anonymous 1904i)

9. Placer Mines on Grande Ronde River Headwaters

As early as 1884 the cadastral surveyors confirmed the workings of extensive placer deposits in T6S, R36E, WM. The region at Camp Carson drew investors, laborers, and activity over at least twenty years (McCornack and Barr 1881-84b).

In 1905, twenty-one men worked in a massive project to wash placer deposits at the head of the Grande Ronde River. The La Grande newspaper noted:

It is the intention to construct a flume from the lake at the head of Grande Ronde river, which is about seven miles above the mine. This will be the means of securing a longer water period than through the ditch as at present (Anonymous 1905b).

The placer deposits may have been what was known as the Muir Mine by 1908. In January of that year men were building a wagon road along the Grande Ronde River to haul in equipment for a concentrating plant and other facilities at the Muir Mine. Messner, mine superintendent, had 40 laborers at work at the mine on new installations and reported that 1,200 feet of tunnelling had opened new ores (Anonymous 1908)

10. Oregon Fish and Game Association of Union and Wallowa Counties

In July, 1904, residents of Union and Wallowa counties organized the Oregon Fish and Game Association to "restock the many streams with fish which will enable those inclined to spend a day trout fishing to find some thing worthy of the time and energy expended." The organization planned to promote state fish and game laws and to engage in restocking of streams (Anonymous 1904h).

In the Spring of 1908 local residents, possibly members of the Oregon Fish and Game Association, received 200,000 trout fry via the "fish car" on the railroad for distribution in "all tributaries of the Grand Ronde river" (Anonymous 1908c).

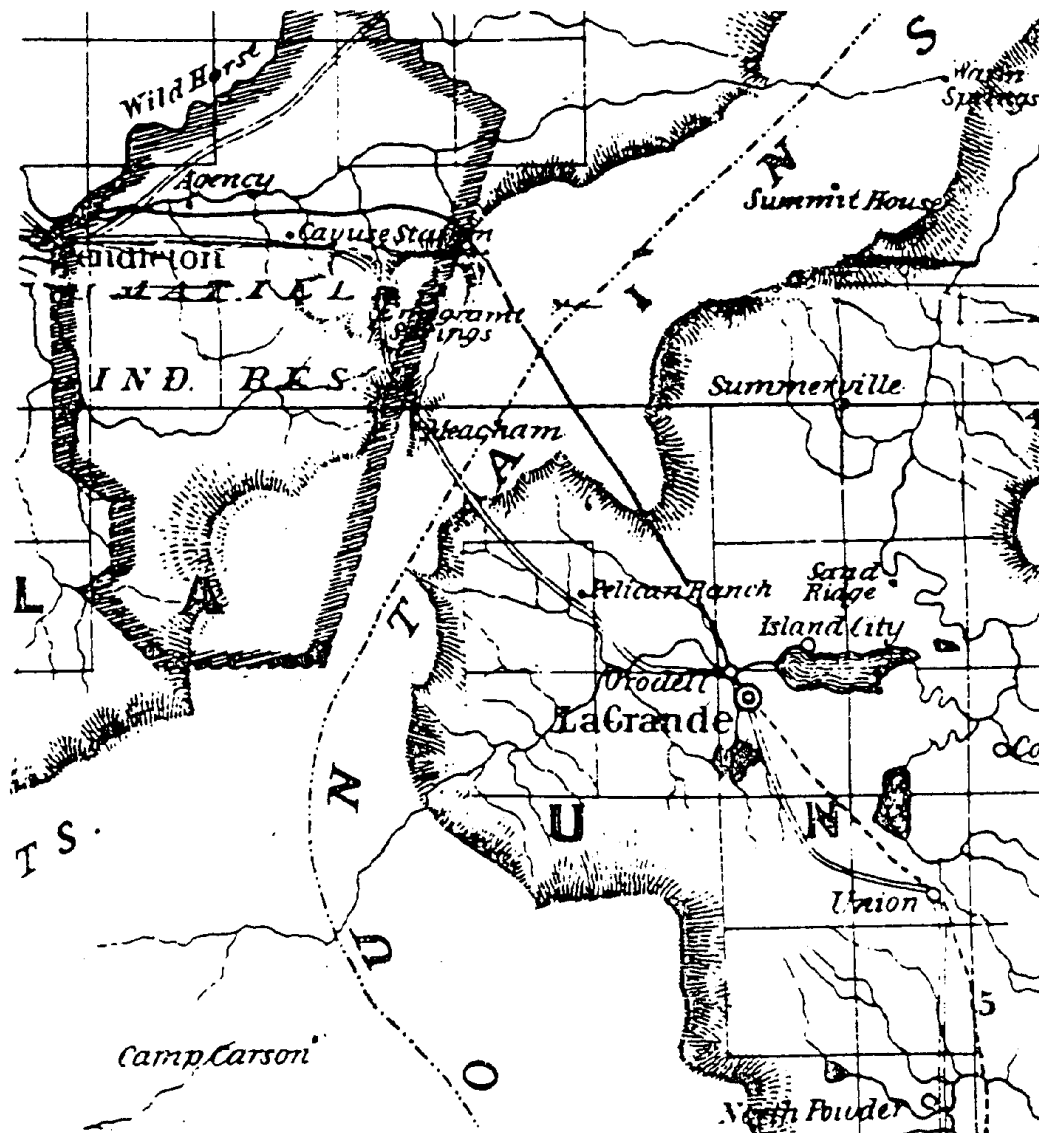


Fig. 1. Map of Grande Ronde Valley, 1878, showing large lake near Island City and Tule Lake on Catherine Creek at Hot Lake near Union. Camp Carson, a placer mining area, was located on the headwaters of the river (Preston 1972).

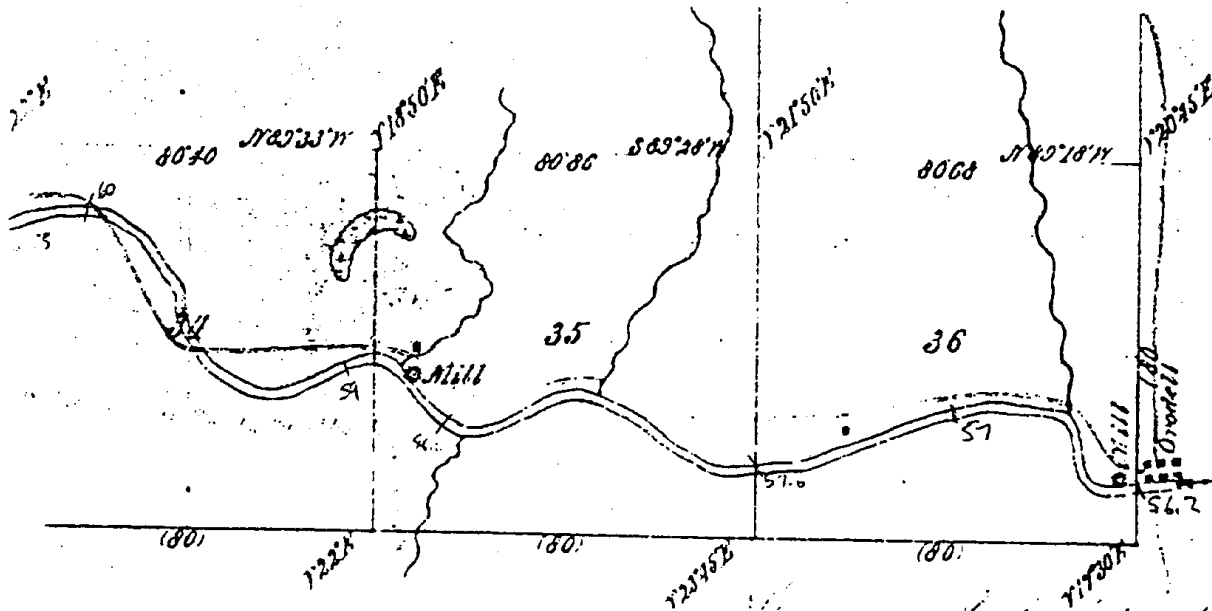


Fig. 2. Portion of plat of survey, T2S, R37E, W.M., showing the course of the Grande Ronde River with sawmills at Orodell and Perry (Hurlburt, Davenport, Odell and Gray 1874a).

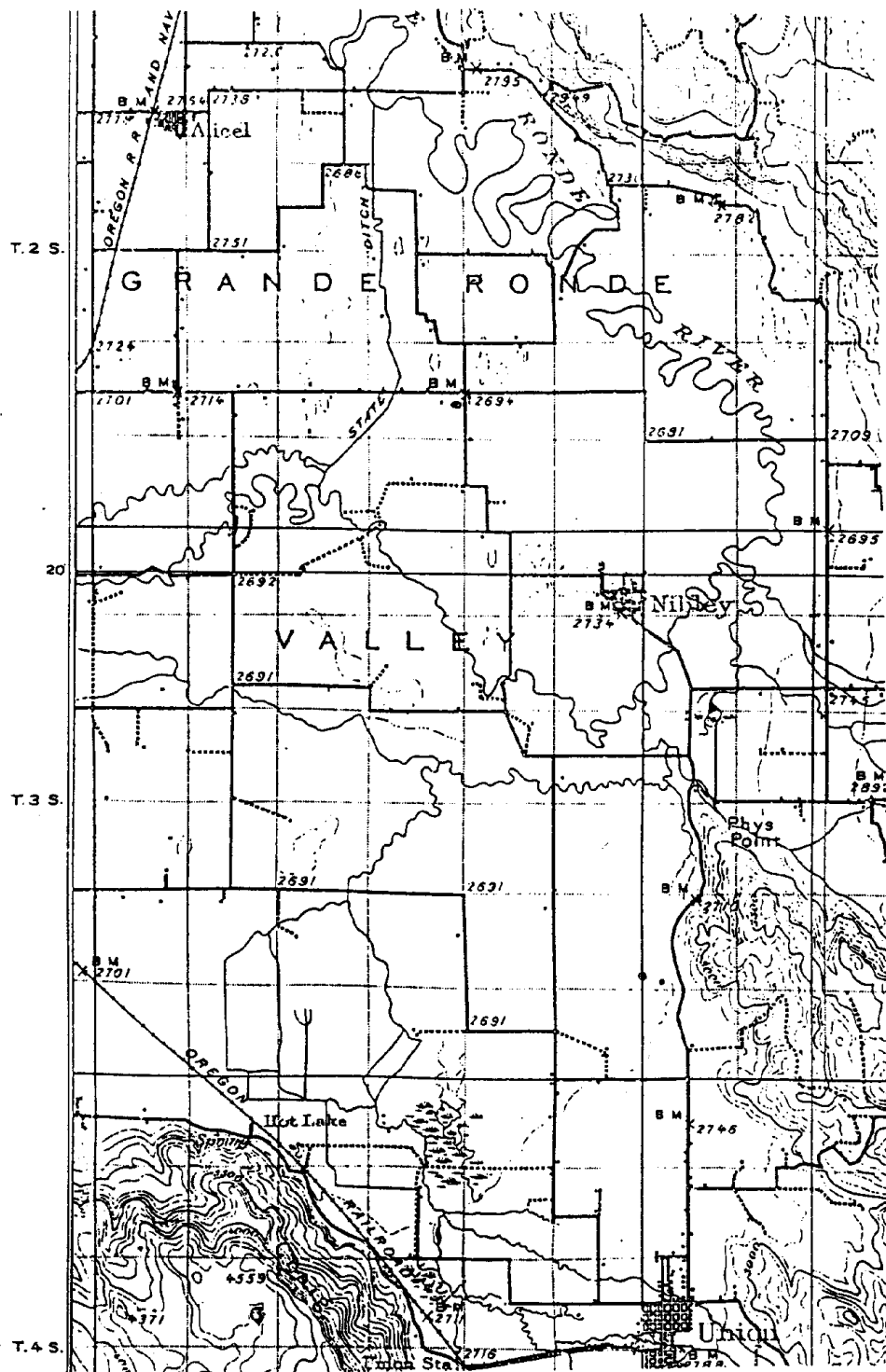
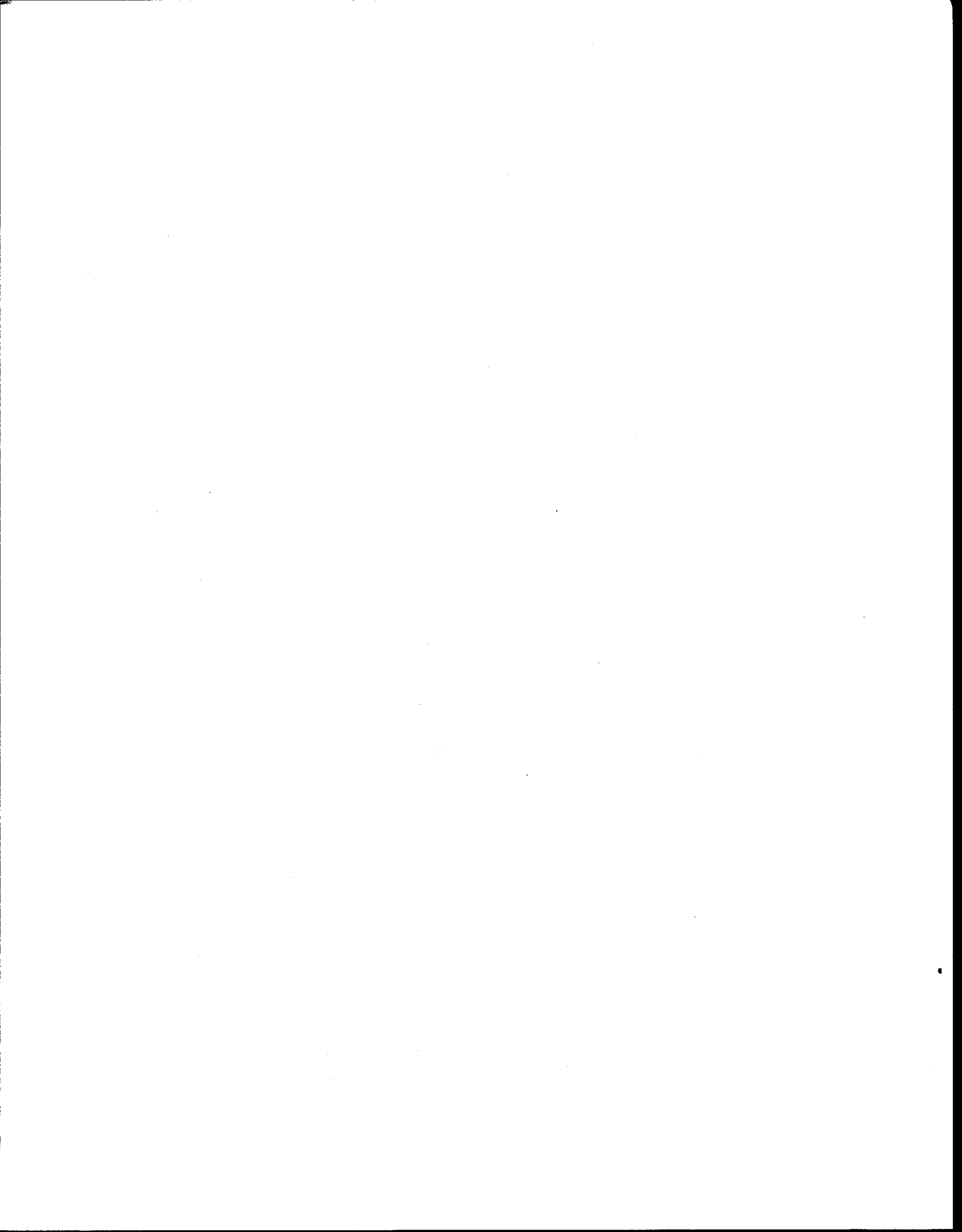


Fig. 3. Map of Grande Ronde Valley showing meandering course of the Grande Ronde River and the "State Ditch," a channelization project between Alicel and Nibley (U. S. Geological Survey 1906).



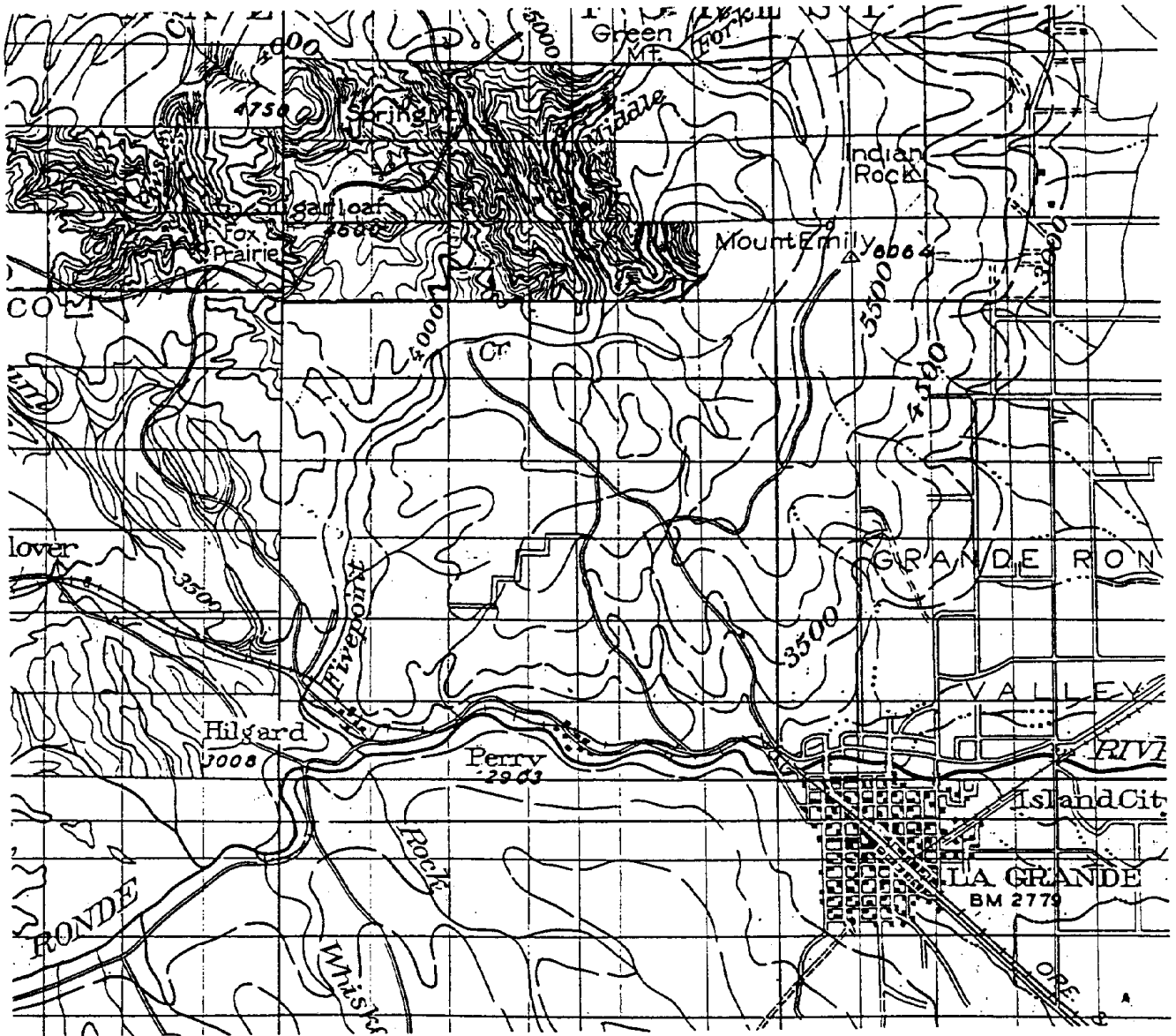


Fig. 4. Map of La Grande Quadrangle showing structures at Hilgard and Perry, route of highway and railroad along the Grande Ronde River in 1931 (U.S. Army Corps of Engineers 1931).

CADASTRAL SURVEY NOTES, 1863-1884

The following information is abstracted from the manuscript field notes of the contract surveyors working for the General Land Office in townships bisected by the Grande Ronde River upstream from Elgin and the stream's headwaters. Data in *italic*, bold font highlights river widths and vegetation notes at the date of survey.

Imbler Vicinity to Orodell [Including Sloughs in Grande Ronde Valley]

TOWNSHIP 1S, RANGE 39E, WM.

D. P. Thompson subdivided all but four sections in the southwest corner of this township in September and October, 1863. J. W. Kimbrell completed the subdivisions in 1888 (Thompson 1863g; Thompson and Kimbrell 1863-88a).

North boundary of Section 3

Chains East on a random line between Sec[tions] 3 & 10

40.00 Set post for temporary 1/4 Sec. Corner
77.50 Intersect N & S Line at corner to Sec 2, 3, 10 & 11
West on a true line between Sec 3 & 10
Descend hill
39.70 Set post for 1/4 Sec corner
47.00 Foot of hill
65.00 **Grand Ronde River runs South 177 lks. wide**
79.50 The corner to secs 3, 4, 9 & 10
Land on East half mile hilly
on West is level
Soil on West half 1st rate on
East half 2nd rate
Some willow on River banks

North between Sec[ti]on[s] 9 & 10

Variation 19° East

23.00 **Grand Ronde River 100 lks. wide runs N 70[deg]W**
40.00 Set post for 1/4 Sec corner in mound of earth . . . as per instructions
65.50 **Grande Ronde River 80 lks wide runs N 65[deg]E**
80.00 Set post for corner to sec 3, 4, 9 & 10. . . . Land level
River bottom subject to inundation to the depth of from 3 to 6 feet
in the months of April May and June can see by the melting
snows in the mountains the river part of the Township North of

this through a very narrow rocky canyon.

Soil 1st rate

Some willows on banks of river

East on a random line between Sec[tions] 10 & 15

40.00 Set post for temporary 1/4 Sec corner
80.00 Intersect N & S line at corner to Secs 10, 11, 14 & 15 from which
corner I run
West on true line between Sec 10 & 15
39.00 Brook 4 lks wide runs South
40.00 " Set post for 1/4 Sec corner. . . .
17.00 **Grand Ronde River 100 lks wide runs S 30 [degrees] W**
80.00 The corner to Sec 9, 10, 15 & 16
Land rolling Soil 1st rate

North between Section]s 15 & 16

Variation 19° East

40.00 Set post for 1/4 Sec corner
64.00 **Grand Ronde River 80 lks wide runs N 70° W**
72.50 **Grand Ronde River 80 lks wide runs N 70 [deg]E**
80.00 Set post for corner to Sec[tion] 9, 10, 15 & 16
Land Level Soil 1st rate river bottom

East on a random line between Sec[tions] 15 & 22

40.00 Set post for temporary 1/4 Sec[tion] corner
80.00 Intersect the N & S line 40 lks South of corner to sec[tion]s 14, 15, 22
& 23 from which I run S89°43'W on true line between Sec[tion]s
15 & 22
31.50 descend hill
40.00 Set post for 1/4 Sec[tion] corner in mound of stone
45.00 foot of hill
70.00 **Grande Ronde River 100 lks wide runs N 30° W**
80.00 The corner to Sec[tion]s 15, 16, 21 & 22
Land on East 1/2 hilly on West 1/2 Level
Soil on bottom 1st rate on hill 2nd rate
Some willow on Grande Ronde River

South between Section]s 21 & 22

Variation 19 [degrees] East

40.00 Set post for 1/4 Sec corner...

68.00 **Grande Ronde River 75 lks wide runs NE**
80.00 Set post for corner to secs 15,16, 21 & 22. . . .
 Land level mostly in [?]
 Soil 1st rate, **Some Willows on banks of River**

East on a random line between [Sections] 16 & 21

40.00 Set post for temporary 1/4 Sec corner
79.14 Intersect a N & S line 34 lks.South of corner to secs 15, 16, 21 & 22
 from which course I run
 S89°45' N on true line between Sec 16 & 21
20.00 Intersect line of River
23.50 Leave river on south side
39.57 Set post for a Sec corner. . . .
79.14 The corner to be Sec 16,17, 20 & 21
 Land level River bottomo
 Soil 1st rate **subject to overflow in the spring of the year to the**
 depth of from 1 to 8 feet.

North between Sec[ti]on[s] 20 & 21

Variation 19°E

6.50 **Grande Ronde River 100 lks wide runs NE**
40.00 Set post for 1/4 Sec corner...
80.00 Set post for corner to Sec 16, 17, 20 & 21
 Land Level
 Soil 1st rate
 Some willows on banks of river

East on a random line between sec[ti]on[s] 20 & 29

40.00 Set post for temporary 1/4 Sec corner
79.50 Intersect N & S Line at corner to sec[ti]on[s] 20, 21, 28 & 29
9.00 **Grand Ronde River 200 lks wide runs N**
24.25 Walla Walla and Boise Road runs N & S
39.75 Set post for 1/4 section corner. . . .
79.50 The corner to Secs 29, 30, 19 & 20
 Land Level Soil 1st rate

North between Sec[ti]on[s] 28 & 29

Variation 19°East

1.30 **Grande Ronde River 160 lks wide runs NW**
40.00 Set post for 1/4 Sec[ti]on] corner. . . .

58.20 **Grande Ronde River 179 lks wide runs N.E.**
 67.50 **Grand Rond River 150 lks wide runs N.W.**
 80.00 Set post for corner to secs 20, 21, 28 & 29
 Land Level River bottom
 Soil 1st rate

East on a random line between Sec[ti]ons 28 & 33

40.00 Set post for temporary 1/4 Sec[ti]on corner
 79.50 Intersected N & S line 50 lks South of course to sec[ti]ons 27, 28, 33
 & 34 from which course I run
 S89°39'W on true line between Secs 28 & 33
 39.00 Grand Ronde River and make offset 2.50 lks North
 39.75 Set witness to 1/4 Sec[ti]on corner 25 lks north of true corner. . . .
 43.00 Make offset 2.50 lks South to the line
 79.50 The corner to secs. 28, 29, 32 & 33
 Land Level mostly in River bottom
 Soil 1st rate
Some willows on river banks

General Description:

The land in this Township is hilly and in places stony in the eastern portion. The Western portion is level soil 1st rate and well adapted to cultivation and the whole township is covered with grass.

Grand Rond River flows from South to North through the Township this with other streams flowing through the township in different directions an abundant supply of water. The South Eastern portion of the township is on a high rocky mountain and is unfit for cultivation or grazing and is therefor[e] not surveyed.

There is an abundant supply of timber mostly pine in the eastern portion of the township. The Middle and Eastern portion is prairie. There are but few settlers in this township, three or four on Willow creek and two on Grand Ronde River (Thompson 1863h).

TOWNSHIP 2S, RANGE 39E, WM.

D. P. Thompson contracted to survey this township in 1863. The Grande Ronde River passed through both the northeast and the southwest portions of the township. Thompson noted that much of the township was "Rich level bottom land prairie" (Thompson 1863e, 1863f).

East on a random line between Sec[ti]on[s] 24 & 25

40.00 Set post for temporary 1/4 sec[ti]on] corner
79.54 Intersect East boundary 15 lks South of corner to sec[ti]on[s] 23 & 26
from which corner I run S89°34'W on a true line between sec[ti]on[s]
23 & 26
6.80 **Grand Ronde River 100 lks wide runs N20° West**
39.72 Sep post for 1/4 sec[ti]on] corner
79.54 The corner to sec[ti]on[s] 23, 24, 25 & 26
Land level, soil 1st rate

North between Secs 23 & 24

Variant 19°East

40.00 Set post for 1/4 Sec[ti]on] corner
68.50 **Grand Ronde River 100lks wide runs S70°W**
80.00 Set post for corner to sec[ti]on[s] 13,14, 23 & 24
Land level River Bottom Soil 1st rate

East on a random line between Secs 13 & 24

40.00 Set post for temporary 1/4 sec[ti]on] corner
79.50 Intersect East boundary 60 lks South of corner to sec[ti]on] 13 & 24
from which course I run S89°34'W on true line between Sec[ti]on[s]
13 & 24
33.50 **Grand Ronde River 100 lks wide runs NW**
39.75 Set post for 1/4 sec[ti]on]. . . .
69.00 **Grand Ronde River 100 lks wide runs S30°W**
79.50 The corner to sec[ti]on[s] 13, 14, 23 & 24
Land Level creek bottom Soil 1st rate

North between Secs 13 & 14

Variation 19°East

8.50 **Grand Ronde River 150 lks wide runs N.E.**
31.00 **Grand Rond River 150 lks wide runs N.W.**
40.00 Set post for 1/4 sec[ti]on]

80.00 Set post for corner to sec[ti]ons 11, 12, 13 & 14 in mound
Land Level much cut up by Grand Ronde River Soil 1st rate

East on a random line between Secs 14 & 23

40.00 Set post for temporary 1/4 section corner
79.50 Intersect NS line 35 lks South of corner to sec[ti]ons 13, 14, 23 & 24
from which corner I run S89°45'W on true line between Sec[ti]ons
14 & 23
3[8?].50 **Grand Ronde River 100 lks wide runs North**
39.75 Set post for 1/4 sec[ti]on. . . .
60.00 Walla Walla & Boise road runs N & S
79.50 The corner to sec[ti]ons 14, 15, 22 & 23
Land Level Soil 1st rate

North between Secs 14 & 15

Variation 19°15' East

26.50 Walla Walla and Boise road runs NW & SE
40.00 Set post for 1/4 sec[ti]on. . . .
54.50 **Grand Ronde River 100 lks wide runs N45°W**
79.25 **Grand Ronde River 180 lks wide runs S30°E**
The corner to secs 10, 11, 14 & 15 being in the River I set a [?] post
on South bank 75 lks South of true corner
Land level mostly in river bottom. Soil 1st rate **Thick willow brush
on banks of river**

East on a random line between 11 & 14

40.00 set post for temporary 1/4 sec[ti]on corner
79.89 Intersect NS line 60 lks South of corner to sec[ti]ons 11, 12, 13 & 14
from which corner I run S89°34'W on true line between Sec[ti]ons
11 & 14
34.75 **Grand Ronde River 100 lks wide runs NW**
39.95 Set post for 1/4 sec[ti]on corner in mound...
78.75 **Grand Ronde River 100 lks wide runs S30°E**
79.89 The corner to sec[ti]ons 10, 11, 14 & 15 in River 75 lks North of North
post
Land level soil 1st rate
Note **Grand Ronde River is usually shallow about 3 feet deep will
chain trough without making any triangulations**

North between Secs 10 & 11

Variation 19°15' East

1.25 Leave Grand Ronde River 200 lks side runs S30°E
28.00 **Grand Rond River 100 lks wide runs S30°W**
40.00 Set post for 1/4 sec[ti]on. . . .
73.00 Ascend hill
80.00 Set post for corner to sec[ti]ons 2, 3, 10 & 11 in mound of earth
Land level Soil 1st rate

East on a random Line between Secs 10 & 15

40.00 Set post for temporary 1/4 sec[ti]on corner
80.26 Intersect N & S line in Grand Ronde River 95 lks North of witness
post to secs 10, 11, 14 & 15 from true corner l run N89°W[est] on true
line between sec[ti]ons 10 & 15
25.75 **Grand Rond River 100 lks wide runs N20°E**
40.13 Set post for 1/4 sec[ti]on corner in mound
55.00 Walla Walla and Boise Road runs NW & SE
80.26 The corner to sec[ti]ons 9, 10, 15 & 16
Land Level Soil 1st rate

East on a random line between Sec[ti]ons 3 & 10

40.00 Set post for temporary 1/4 sec[ti]on corner
79.96 Intersect N & S line at post corner 2, 3, 10 & 11 from which corner l
run West on a true line between Secs 3 & 10
29.98 Set post for 1/4 sec[ti]on corner
66.00 **Grand Rond River 80 lks wide runs North**
79.96 The corner to sec[ti]ons 3, 4, 9 & 10
Land level Soil 1st rate

North on a random line between Sec[ti]ons 3 & 4

Variation 19° East

40.00 Set post for temporary 1/4 sec[ti]on corner
79.67 Intersect North boundary 55 lks West of corner to sec[ti]ons 3 & 4
from which corner l run SE 24°W on true line between Sec[ti]ons 3 & 4
37.00 **Grand Rond River 100 lks wide runs NW**
39.67 Set post for 1/4 sec[ti]on corner. . . .
79.67 The corner to sec[ti]ons 3, 4, 9 & 10
Land level Soil 1st rate
**Mostly river bottom which is overflowed in the spring of the year to
the depth of from 1 to 10 feet
Willows on banks of river**

October 10th, 1863

East on a random line between Sec[tion]s 4 & 9

40.00 Set post
79.40 Intersect N & S line at corner to sec[tion]s 3, 4, 9 & 10 from which I
run West on a true line between Sec[tion]s 4 & 9
20.50 House on line
21.50 **Grand Rond River 150lks wide runs West**
33.75 leave Grand Rond River on same side River from the point [?] NW
36.50 Walla Walla & Boise road runs North
39.70 Set post for 1/4 sec[tion]. . . .
79.40 The corner to sec[tion]s 4, 5, 8 & 9
Land level Soil 1st rate

North between Secs 32 & 33

Variation 19° East

37.00 **Slough 75lks wide runs East**
40.00 Set post for 1/4 sec[tion]. . . .
70.50 **Grand Ronde River 100 lks wide runs East**
80.00 Set post for corner to sec[tion]s 32, 33, 28 & 29 in mound of
earth
Land level Soil 1st rate mostly in river bottom
Willows on River and slough

North between Secs 31 & 32

Variation 19° 30' East

37.25 **Grand Rond River 100 lks wide runs East**
40.00 Set post for 1/4 sec[tion]. . . .
80.00 Set post for corner to sec[tion]s 29, 30, 31 & 32 in mound of
earth
Land Level mostly river bottom Soil 1st rate

General Description

There is but little variety in the quality of the land in this township being nearly all rich bottom land with the exception of Sec[tion]s 11, 12, 1 & 2 which is on a south west hill side.

This Township is well watered by Grand Round River which runs through the [the] southern and middle of it. There is no timber in the Township except

in Sec[ti]ons 1 & 2 which is inaccessible being on a steep stony mountain.

There are but few settlers and they are on Grand Round River in Sec[ti]ons 31 & 32 and 12 & 13. The great scarcity of timber prevents the rapid settlement of this township (Thompson 1863f).

TOWNSHIP 2S, RANGE 40E, WM.

D. P. Thompson commenced subdivisions in the southwest portion of this township in September, 1863. W. B. Barr and Henry Meldrum completed the subdivisions in the mountainous portions between 1880 and 1882. The data relevant to the Grande Ronde River is from 1863 (Thompson, Meldrum and Barr, 1863-82a and 1863-82b).

East on a random line between Sec[tion]s 29 & 32

40.00 Set post for temporary 1/4 Sec[tion] corner
79.50 Intersect N & S line at corner to sec[tion]s 28, 29, 32 & 33 from
which corner I run West on a true line between Secs 29 & 32
39.75 Set post for 1/4 Sec[tion] corner
45.00 **Grande Ronde River 70 lks wide runs N 60° W**
79.50 The corner to secs 29, 30, 31 & 32.
Land level. Soil 1st rate
mostly in river bottom.

North between Sec[tion]s 29 & 30

Variation 19° East

31.50 **Grande Ronde River 75 lks wide runs S 60° W**
40.00 Set post for 1/4 sec[tion] corner
80.00 Set post for corner to sec[tion]s 19, 20, 29 & 30 . . .
Land Level **River bottom subject to inundation to the depth of 8
feet.**
Soil 1st rate.
Willows on River banks.

West on a random line between Sec[tion]s 19 & 30

40.00 Set post for temporary 1/4 sec[tion] corner
79.97 Intersect West boundary at corner to sec[tion]s 19 & 30 from which
course I run East on a true line between Sec[tion]s 19 & 30
5.00 **Grande Ronde River 75lks wide runs S20°W**
17.00 **Grande Ronde River 75lks wide runs N60°W**
39.77 Set post for 1/4 sec[tion] corner...
79.97 The corner to sec[tion] 19,20,29&30
Land mostly in River bottom level
Soil 1st rate

General Description

There is but a small portion of the Township fit for settlement and cultivation the portion that I have surveyed is generally Level good Soil and is well watered with numerous springs flowing from the mountains in the East portion of the Township West to Grand Ronde River.

Grand Rond River flows through the S Western portion of the Township and in the months of April May and June over-flows its banks on each side from one to two miles in width but the overflowed land is regarded as the most valuable land as hundreds of tons be cut off the land.

There is but little timber in the surveyed portion and that is Willows on the banks of Grand Ronde River.

Almost the whole surveyed portion of the Township is Claimed and settled by persons claiming under the Preemption or Homestead Laws (Thompson, Meldrum and Barr, 1863-82b).

TOWNSHIP 3S, RANGE 40E, W.M.

D. P. Thompson mounted exterior boundary and partial subdivision surveys in 1863, covering most of the floor of the Grande Ronde Valley. W. B. Barr completed the survey in 1880-84 (Thompson and Barr 1863-80).

West on a random line between Sec[ti]on[s] 7 & 18

40.00 Set post for temporary 1/4 sec[ti]on] cor[ner]ner
80.62 Intersect West boundary to cor[ner]ner to sec[ti]on[s] 7 & 18 from
which course I run
East on a true line between Sec[ti]on[s] 7 & 18
.75 **Grand Rond River 75 lks. wide runs N**
8.75 Catharine Creek 40 lks. wide runs N
11.50 Catharine Creek 40 lks. wide runs S60°W
20.00 Catharine Creek 40 lks. wide runs N50°W
35.50 Walla Walla and Boise Road bears N&S
40.62 Set post for 1/4 sec[ti]on] corner
80.62 The cor[ner]ner to sec[ti]on[s] 7,8,17 & 18
Land level creek bottom.
Soil 1st rate **subject to inundation to the depth of 10 feet.**
November 10th, 1863.

West on a random line between Sec[ti]on[s] 6&7

40.00 Set post for temporary 1/4 sec[ti]on] corner
80.58 Intersect West boundary 62 lks. North of cor[ner]ner to sec[ti]on[s] 6
& 7 from which corner I run
N 89°33'E. on a true line between Sec[ti]on[s] 6 & 7
7.58 Walla Walla and Boise Road bears N & S
12.00 **Grand Rond River 80 lks. wide runs N45°E**
40.58 Set post for 1/4 sec[ti]on] corner
80.58 The cor[ner]ner to sec[ti]on[s] 5,6,7 & 8
Land level.
Soil 1st rate **subject to inundation in the Spring of the year from 5
to 10 feet deep.**

North on a random line between Sec[ti]on[s] 5 & 6

Variation 19°45' East

40.00 Set post for temporary 1/4 sec[ti]on] corner
79.50 Intersect N & S line 73 lks. East of cor[ner]ner to sec[ti]on[s] 5&6 from
which corner I run
S0°31' East on a true line between Sec[ti]on[s] 5 & 6

20.00
30.00
39.50
47.00
79.50

Grand Rond River 80 lks. wide runs N70°E
Grand Rond River 80 lks. wide runs N50°W

Set post for 1/4 sec[ti]on] corner

Grand Rond River 80 lks. wide runs S60°E

The corner to sec[ti]on]s 5,6,7 & 8
Land level river bottom.

Soil 1st rate **subject to overflow to the depth of 8 feet.**
Willows on bank of River

November 12th, 1863.

General Description

The quality of land in this Township is above the common average is generally gently rolling 1st rate soil wand well watered by numerous streams flowing from the mountains on the East West to Grand Rond River.

It is well timbered with pine and fir.

Almost all of this Township is claimed by settlers claiming under the Homestead or Preemption Act.

This Township embraces some of the best land I have seen in Grand Ronde Valley (Thompson and Barr 1863-80b).

TOWNSHIP 3S, RANGE 39E, W.M.

D. P. Thompson surveyed and subdivided this township, including the meanders of the Grande Ronde River in October, 1863. Thompson noted the circuitous course of the river across the valley floor and its junction in this township with Catherine Creek (Thompson 1863c).

North Between Sec[ti]ons 1 & 6 [Data from T3S, R38E, W.M. (Thompson 1863b)
Var. 19°45' East

37.00 Intersect **Slough of Grand Rond river 40 lks. wide, runs East.**
40.00 Set qr. sec[ti]on post
80.00 Set post corner to sec[ti]ons 1, 6, 35 & 36 Township 2 & 3 South
Range 38 & 39 East
Surface of this mile is flat, soil generally good, but **subject to
overflow in the Spring.**

General Description [1 of 2]

A good part of this Township is flat and subject to overflow from the melted snows of the surrounding mountains, during the spring and early summer months. It is on that account valuable as meadow land, thousands of tons of wild grass being cut and cured annually to supply the trade and travel to the mines.

Many parcels of it are among the best in the valley for purposes of agriculture, producing fine crops of oats & barley.

The timber of this Township like all the rest of the flat valley, is hardly worth mentioning being but little more than brush, **consisting of willow, Hawthorn, Alder and an occasional cotton wood, pine in the very border of the streams** (Thompson 1863b).

North on a random line between Sec[ti]ons 5 & 6
Variation 19° East

40.00 Set post for temporary 1/4 sec[ti]on corner
79.75 Intersect North boundary at corner to sec[ti]ons 5 & 6 from which
corner I run
South on a true line between Sec[ti]ons 5 & 6
10.00 **Slough 70 lks. wide runs East**
25.50 **Same Slough 70 lks. wide runs S.W.**
33.00 **Same Slough 70 lks. wide runs S.E.**
39.75 Set post for 1/4 sec[ti]on corner
79.75 The corner to sec[ti]ons 5, 6, 7 & 8
Land level, soil 1st rate.

Thick willows on the slough.
October 18th, 1868

North on a random line between Sec[ti]on[s] 3 & 4
Variation 19°30' East

40.00 Set post for temporary 1/4 sec[ti]on corner
79.66 Intersect North boundary 12 lks. East of corner to Sec[ti]on[s] 3 & 4
from which corner I run
S0°5' East on a true line between sec[ti]on[s] 3 & 4
Grand Rond River 100 lks. wide runs S60°E
2.50 Set post for 1/4 sec[ti]on corner
39.66 The corner to sec[ti]on[s] 3, 4, 9 & 10
79.66 Land level, soil 1st rate.

East on a random line between Sec[ti]on[s] 3 & 10

40.00 Set post for temporary 1/4 sec[ti]on cor[ner]
80.13 Intersect N & S line at corner to Sec[ti]on[s] 2, 3, 10 & 11 from which
course I run
West on a true line between Sec[ti]on[s] 3 & 10
17.00 **Grand Ronde River 100 lks. wide runs S.E.**
40.07 Set post for 1/4 sec[ti]on corner
80.13 The corner to sec[ti]on[s] 3, 4, 9 & 10
Land level, soil 1st rate.
Thick willow on banks of river.

North between Sec[ti]on[s] 10 & 11
Variation 19° East

25.70 **Grand Rond River 100 lks. wide runs East**
40.00 Set post for 1/4 sec[ti]on cor[ner]
80.00 Set post for corner to sec[ti]on[s] 2, 3, 10 & 11
Land level. Soil 1st rate.

North between Sec[ti]on[s] 11 & 12
Variation 19° East

8.50 **Grand Rond River 90 lks. wide runs S 60°E.**
40.00 Set post for 1/4 sec[ti]on corner
80.00 Set post for corner to sec[ti]on[s] 1, 2, 11 & 12
Land Level. Soil 1st rate.

East on a random line between Sec[ti]on[s] 12 & 13

grand.ronde

	13,14	133.8	50	33
	12,13	133.9	80	52.8
	12,11	134.1	90	59.4
	11,10	145.3	100	66
	10,3	146.7	100	66
	3,4	149.2	100	66
	N 4	149.6	75	49.5
T 2S, R 39 E	32,33	150.9	100	66
	31,32	152.1	100	66
	W 31	153.2	75	49.5
T 2S, R 38 E	E 36	153.2	75	49.5
	35,36	154.3	50	33
	34,35	155.4	50	33
	33,34	156.5	50	33
	32,33	157.6	50	33
	31,32	158.7	60	39.6
T 2S, R 37 E	35,36	161.2	150	99
	34,35	162.5	175	115.5
	33,34	163.9	160	105.6
	N 33	164.5	175	115.5
	31,32	166.5	200	132
	S 31	167.2	150	99
	W 31	167.7	150	99
T 2S, R 36 E	E 36	167.8	150	99
	S 36	168.2	140	92.4
T 3S, R 36 E	N 1	168.2	140	92.4
	1,12	169.4	150	99
	1,12	169.9	150	99
	1,12	170.3	140	92.4
	11,12	170.9	110	72.6
	10,11	172.2	120	79.2
	10,15	172.3	150	99
	15,16	173.5	180	118.8
	16,21	174.5	150	99
	21,10	174.9	165	108.9
	20,19	176.4	150	99
	19,30	176.5	140	92.4
	30,29	176.6	180	118.8
	30,29	177.4	180	118.8
	30,31	178.5	150	99
	30,31	178.6	150	99
	W 30	179	160	105.6
T 3S, R 35 E	E 25	179	160	105.6
	25,36	179.5	75	49.5
	36,35	180.7	50	33
	36,35	180.9	50	33

grand.ronde

	36,35	181.2	50	33
	S 36	181.2	50	33
T 4S, R 35 E	N 2	181.2	50	33
	2,11	182.3	100	66
	11,14	183.4	60	39.6
	14,23	184.6	75	49.5
	26,35	186.8	70	46.2
	S 35	187.8	75	49.5
T 5S, R 35 E	N2	187.8	75	49.5
	1,2	188.4	75	49.5
	1,12	189.2	75	49.5
	12,13	190.4	80	52.8
	24,25	193.2	75	49.5
	25,36	194.4	50	33
	E 36	195.4	50	33
T 5S, R 36 E	W 31	195.4	50	33
	31,32	196.5	80	52.8
	S 32	197.4	75	49.5
T 6S, R 36 E	N 5	197.4	75	49.5
	S 35	205.7	30	19.8
T 7S, R 36 E	N 2	205.7	30	19.8
	2,11	206.8	18	11.88
	11,14	208	7	4.62
	END 104.9			

40.00 Set post for temporary 1/4 sec[ti]on] corner.
 79.65 Intersect last boundary 70 lks. North of corner to sec[ti]on]s 11 & 12
 from which course I run
 N89°30' W on a true line between sec[ti]on]s 12 & 13
 10.00 **Grand Ronde River 80 lks. wide runs South**
 38.00 **Grand Ronde River 80 lks. wide runs N40°East**
 39.82 Set post for 1/4 sec[ti]on] corner
 50.00 **Grand Rond River 80 lks. wide runs S30°W.**
 70.00 **Grand Rond River 80 lks. wide runs N20°E.**
 72.50 **Grand Rond River 80 lks. wide runs S50°W.**
 79.65 The corner to sec[ti]on]s 11,12,13 & 14
 Land level. **River bottom subject to overflow to the depth of 10 f
 feet.**
 Soil 1st rate.
Thick willows on banks of River.

North between Sec[ti]on]s 13 & 14

Variation 19°East

18.00 Katharine Creek 25 lks. wide runs N60E
 40.00 Set post for 1/4 sec[ti]on] corner
 69.50 **Grand Rond River 100 lks. wide runs East**
 79.40 **Grand Rond River 50 lks. wide runs S60°W**
 80.00 Set post on right bank of Grand Rond River for corner to sec[ti]on]s
 11,12,13 & 14
 Land level mostly river bottom.
 Soil 1st rate but **subject to overflow to the depth of from 4 to 8
 feet.**
Thick willows on banks of river.

General Description

The land in this Township is all level soil 1st rate except the western tier of sec[ti]on]s which are same soil good 2nd rate. **No timber of consequence except small willows on the banks of the streams. This township is well watered by Grand Rond River and Catharine Creek. There is a lake embracing most of Sec[ti]on]s 29, 32 & 33 which I meandered it is made by springs flowing in from the hills on the south of this Township and the land is lower than Catharine creek which is its only outlet the water in the Lake is from 2 to 6 feet deep.**

There has been several hundred tons of fine hay cut off this Township this year but there are no settlers claiming land in it owing to the scor[ner]city of timber (Thompson 1863d).

TOWNSHIP 3S, RANGE 38E, W.M. [Slough of Grand Ronde River]

D. P. Thompson subdivided this township in September, 1863, shortly after the platting of La Grande, Oregon, a community he identified in Section 7. He surveyed the course of the "Slough of Grand Ronde River" across the northern tier of sections of the township (Thompson 1863a).

North on a random line between sec[tion]s 4 & 5

Variation 19° East

40.00 Set post for temporary 1/4 sec[tion] cor[ner]
79.60 Intersect North boundary 45 lks. East of sec[tion] corner from which
I run
So 19° E. on true line between Sec[tion]s 4 & 5
16.00 Leave Willow Brush bears E&W
20.00 Thos. Williamsons House bears S.80° E 5.00 chains distant.
39.60 Set post for 1/4 sec[tion] corner
79.60 The corner to sec[tion]s 4, 5, 8 & 9
Land level
Thick Willow Brush on 1st 16 chains.
September 21st, 1863

North on random line between Sec[tion]s 3 & 4

Variation 18°30' East.

40.00 Set post for temporary 1/4 sec[tion] corner
79.65 Intersect north boundary 20 lks. East of sec[tion] corner from which
I run
S0[deg]9' East on true line between Sec[tion]s 3 & 4
34.65 **Slough 40 lks. wide runs East.**
39.65 Set post for 1/4 sec[tion] corner
79.65 The corner to sec[tion]s 3, 4, 9 & 10
Land level.
Soil 1st rate creek bottom.
Some willow brush on North 1/2 mile.

North on random line between Sec[tion]s 2 & 3

Variation 18°30' East.

40.00 Set post for temporary 1/4 sec[tion] corner.
79.50 Intersect North boundary 40 lks. West of corner to sec[tion]s 2 & 3
from which corner I run
S0[deg]17' West on true line between Sec[tion]s 2 & 3
39.50 Set post for 1/4 sec[tion] corner

53.50 **Slough 50 lks. wide runs East.**
 79.50 The corner to sec[ti]ons 2, 3, 10 & 11
 Land level.
 Timber and underbrush willow.
 September 18th, 1863.

East on a random between Sec[ti]ons 2 & 11

40.00 Set temporary 1/4 sec[ti]on. corner.
 80.00 Intersect N & S line 20 lks. North of corner to sec[ti]ons 1, 2, 11 & 12
 from which corner I run
 N89°50' W on a true line between Sec[ti]ons 2 & 11.
 15.75 **Grand Ronde River Slough 50 lks. wide runs N.E.**
 40.00 Set post for 1/4 sec[ti]on corner
 72.00 **Slough 50 lks. wide runs S.E.**
 80.00 The corner to sec[ti]ons 2, 3, 10 & 11.
 Land level.
 Soil 1st rate.
 Underbrush Willow.

North on random line between Sec[ti]ons 1 & 2
 Variation 18°30' East

40.00 Set post for temporary 1/4 sec[ti]on corner.
 79.58 Intersect North boundary 50 lks. East of corner to Sec[ti]ons 1 & 2
 from which corner I run
 So21 East on true line between Sec[ti]ons 1 & 2.
 Variation 18°45' East
 20.58 **Grand Ronde River Slough 50 lks. wide, runs East.**
 39.58 Set post for 1/4 Sec[ti]on corner
 Land level.
 River bottom some willow.
 Soil 1st rate.

General Description

The quality of Land in the East and North portions of this Township 1st rate. Level Prairie well adapted to farming and is well watered by numerous springs of water. The Southern and Western portion is hilly and in some places stony is fine grazing and is well timbered with Pine Fir and Tamarack.

The Town of Lagrand in Sec[ti]on 7 was laid out about one year ago by Green Arnold, Samuel Chaplin and Ben Brown. It now contains about 80 Houses and is rapidly progressing and bears evidence of great prosperity. The Prairie Land in this Township and a considerable portion of the timber land is

now claimed by the settlers under the Preemption Act of 1841 and the Homestead Act of 1861 there is now but little vacant land in the township (Thompson 1863b).

TOWNSHIP 2S, R38E, W.M.

D. P. Thompson commenced the subdivisions of this township, including the course of the Grande Ronde River, in 1863. Herman D. Gradon completed survey of the mountainous sections in the northwest corner in 1882. In 1863 several tilled fields ran to the south margin of the Grande Ronde River (Thompson and Gradon 1863-82a).

North between Sec[ti]on[s] 35 & 36

Variation 19° East

17.00 **Grand Ronde River 50 lks wide runs East**
40.00 Set post for 1/4 Sec[ti]on] corner in mound of earth
Land level Mostly River bottom
Soil 1st rate.
Timber on bank of River Cottonwood and Willow

North between Sec[ti]on[s] 34 & 35

4.00 **Enter Brush bear E & W**
8.00 **Grand Ronde River runs E 50 lks wide**
20.00 **Leave Brush** Enter Prairie bears E & W
23.50 Thos. Robertsons House 2.10 chains East of line
40.00 Set post for 1/4 Sec[ti]on] corner
80.00 Set post for corner to Sec[ti]on[s] 26, 27, 34, & 35
Land level Prairie
Soil 1st rate, Mostly River bottom
Some Willow and Cottonwood timber on River
very thick undergrowth on River
of Willows Thorn and rose bush

North between Sec[ti]on[s] 33 & 34

Variation 18° 30'

5.75 **Grand Ronde River 50 lks wide runs East**
27.50 Enter Prairie bear E & W
40.00 Set post for 1/4 Sec. corner
80.00 Set post for corner to sec[ti]on[s] 27, 28, 33 & 34
Land Level Mostly River Bottom
Soil 1st rate
on South 27.50 chains Timber Cottonwood & Willow and very thick
undergrowth of Willow Crabapple and Rose Bushes

South between Sec[ti]on[s] 32 & 33

Variation 19° East

4.50 **Grand Ronde River 50 lks wide runs East**
13.50 Enter Prairie bears E & W
40.00 Set post for 1/4 Sec[tion] corner
80.00 Set post for corner to Sec[tion]s 28, 29, 32 & 33
 Land level mostly in River bottom
 Soil 1st rate
 Timber on River Cottonwood and Willow very thick undergrowth of
 Willow and Rose bushes

North between Sec[tion]s 31 and 32

Variation 19° East

18.50 Grand Ronde River 60 lks wide runs East
40.00 Set post for 1/4 Sec. corner
80.00 Set post for corner to sec[tion]s 29, 30, 31, & 32
 Land level Mostly River bottom
 Soil 1st rate
 Some Cottonwood Timber on banks of Grand Ronde River
 undergrowth or River Willow

General Description:

The quality of land in this is above the common average being for the most part level Prairie with the exception of the NW portion which is on steep rugged mountains unfit for settlement cultivation or grazing and therefore is not surveyed.

Grand Ronde River flows through the Southern portion of the Township is a stream of an average of 70 lks wide clear cold water. The remainder of the Township is also well watered with numerous springs and streams flowing East from the mountains.

Timber on the West side of the Township is Pine. This Township is mostly claimed by settlers under the Preemption act of 1841 and the Homestead act of 1861.

There is but little vacant land in this Township (Thompson and Gradon 1863-82b).

Orodel to Starkey

TOWNSHIP 2S, RANGE 37E, W.M.

T. W. Davenport surveyed the east boundary of this township in July, 1863, and Odell and Gray surveyed the south boundary in May, 1867. John A. Hurlburt subdivided the tier of sections bisected by the Grande Ronde River across the bottom of this township between June 9-12, 1874. Hurlburt's plat identified a mill at Orodel and another nearly two miles upstream (Hurlburt, Davenport, Odell and Gray 1874a).

Begin at Cor[ner] to Township 2 and 3 South of Range 36 and 37 East thence

North on West boundary of sec[ti]on 31

Var. 19°50' East

12.00 Road, course East & West
13.00 Right bank of **Grande Ronde River.**
150 lks. wide, runs S80°E
18.00 Top of steep bluff.
40.00 Set pine post . . . for 1/4 sec[ti]on cor[ner]
67.00 Top of ridge, slopes to S.E.
80.00 Set basalt stone . . . for cor[ner] to sec[ti]on 30-31-25 and 36.
No other near.
Land part broken and part rolling.
Soil 2nd and 3rd rate, open pine, fir, and tamarack timber, good grass.

Begin at cor[ner] to Townships 2 and 3 South of Range 36 and 37 East, thence

East on random on South boundary of sec[ti]on 31

Var. 19°50' East.

40.00 Set temporary 1/4 sec[ti]on corner.
80.38 Intersect line 46 lks. North of corner.
North 89°40' W on true line.
Var. 17°15' East
1.60 Road, course North and South.
16.00 Stream 45 lks. wide, runs N20°W.
31.70 Right bank **Grande Ronde River**
150 lks. wide, runs NW
39.00 Left bank of River

- 40.00 Set balm stake 4 ft. long . . . for 1/4 sec[ti]on cor[ner]. . . **Balm 15 in. dia[meter] N 72[deg] W 78 lks. Willow 8 in. dia[meter] N 77[deg] W 81 lks.**
- 41.50 **Left bank of River, 150 lks. wide.**
- 47.00 Right bank of river, course from N70°W.
- 80.38 To corner of T2 and 3 S, R 36 and 37 E.
Land somewhat broken, except a narrow bottom of about 10 chains average width along the river. Soil 1st to 3rd rate, open pine tamarack and fir timber, and good grass.

North between sec[ti]on 31 and 32

Var. 17°15' East

- 31.30 **pine 5 in[ches] dia[meter]**
- 31.60 **Right bank of Grand Ronde River
200 lks. wide, runs N75°E**
- 33.70 Enter field, course of fence N75°E
- 40.00 Set pine post . . . for 1/4 sec[ti]on cor
- 42.50 South side of house, 18 feet square
- 43.50 Stage road, runs East.
- 80.00 Set basalt stone . . . for co. to sections 29-30-31 and 32
Land mostly broken. Soil 1st to 3rd rate. Open pine tamarack and fir timber, good grass.

North between sec[ti]on 32 and 33

Var. 21°15' East

- 20.50 brow of hill.
- 39.10 **Fir 10 in[ches] wide.**
- 39.70 **Right bank Grande Ronde River, runs N40°E.**
- 40.00 course in the river.
- 43.00 **Left bank of river.**
- 43.50 Set fir post . . . for witness corner **Fir 24 in[ches] dia[meter] N 61 [deg]E 24 lks. Pine 24 in[ches] dia[meter] S 50[deg] W 54 lks.**
- 52.00 Foot of hill.
- 68.00 Top of point - slopes S70°E
- 77.50 Bed of Dry gulch, runs S40°E
- 80.00 Set basalt stone . . . for corner to section 28-29-32 and 33.
Land broken, soil 1st to 3rd rate.
Open pine tamarack and fir timber - good grass.

East on random between sec[ti]on 28 and 33

Var. 19°00' East

40.00 Set temporary 1/4 sec[ti]on cor.
 79.34 Intersect line 6 lks. North of cor. to sec[ti]on 27-28-33 and 34.
 North 89°57' W on true line.
 23.75 Stage road, course SE and NW.
 25.25 **Left bank Grand Ronde River.**
175 lks. wide, runs S.E.
 31.00 **Right bank of River.**
185 lks. wide, runs N60°E
 36.00 Stage road, course N60°E
 39.67 Set pine post . . . for 1/4 sec[ti]on cor
 66.00 Top of point, slopes East.
 79.34 To corner of sec[ti]on 28-29-32 and 33.
 Land broken. Soil mostly poor and stony. Open pine and fir
 timber, good grass.

North between sec[ti]on 33 and 34

Var. 20°55' East

29.50 Brow of hill, enter timber.
 40.00 Set basalt stone . . . for 1/4 sec[ti]on cor.
 41.67 Tamarack 8 in[ches] dia[meter]
 61.00 **Right bank of Grand Ronde River**
160 lks. wide, runs N80°E
 64.50 Stage road, course East and West
 80.00 Set basalt stone . . . for cor[ner] to sec[ti]on 27-28-33 and 34.
 Land broken, soil mostly poor and stony. Good pine tamarack
 and fir timber and fine bunch grass.

North between sec[ti]on 34 and 35

Var 21°30' East

10.00 Top of hill
 18.40 Brow of steep bluff.
 30.00 Foot of bluff.
 35.25 **Right bank of Grande Ronde River**
175 lks. wide, runs East.
 37.30 Stage road, course East and West.
 38.16 Fir 18 in[ches] dia[meter]
 40.00 Set pine post . . . for 1/4 sec[ti]on cor
 52.50 Top hill, slopes West.
 63.75 South side of Marsh. East & West.
 East end about 7 chs. East of line.
 67.75 North side of marsh.
 80.00 A boulder . . . at the corner to sec[ti]on 26, 27, 34 and 35

Land broken. Soil poor and stony except a little near the river.
Scattering pine timber - good grass.

There is a saw mill on the left bank of river about 10 chains East of line.

North between section 35 and 36

Var. 22°45' East

1.00	Top of bluff.
4.50	Fir 10 in[ches] dia.
12.40	Right bank Grand ronde river. 150 lks. wide, runs East.
23.00	Stage road, course East & West
40.00	Set post
74.50	Top of ridge, slopes to S.W.
80.00	Set pine post . . . for corner to sections 25-26-35 and 36 Land broken, except a little on North side of River. Soil 1st to 3rd rate. Scattering pine timber. fine grass. June 9th, 1874.

General Description

June 12th, 1874

This Township lies on the S.E. slopes of the Blue Mountains and the surface is generally broken and Mountainous--heavily timbered with pine, Fir, Tamarack, and Spruce with generally dense undergrowth of Same. There is some level benchy land of 1st rate quality of Soil in the Central portion of the Township on which are 2 settlers. There are some good bottom lands of limited area along Five points creek. The Township is valuable principally for its timber which is of Good quality. **There are 3 large Sawmills in the South part of the Township which obtain their timber from the Township** (Hurlburt, Davenport, Odell and Gray 1874b).

TOWNSHIP 2S, RANGE 36E, WM.

John A. Hurlburt subdivided all but six sections of this township between June 17-28, 1874 (Hurlburt 1874b). His field notes do not include the exterior boundaries of the township. However, the notes for the west boundary of T2S, R37E, W.M. and the north boundary of T3S, R36E, W.M. provided data for where the Grande Ronde River passes through Section 36.

West boundary, T 2S, R 37 E, Willamette Meridian

Begin at cor[ner] to Township 2 and 3 South of Range 36 and 37 East thence

North on West boundary of sec[ti]on 31

Var.19°50' East

12.00 Road, course East & West
13.00 Right bank of **Grande Rond River.**
150 lks. wide, runs S80°E
18.00 top of steep hill.
40.00 Set pine post . . . for 1/4 sec[ti]on cor[ner]
67.00 Top of ridge, slopes to S.E.
80.00 Set basalt stone . . . for cor[ner] to sec[ti]on 30-31-25 and 36
Land part broken and part rolling.
Soil 2nd and 3rd rate, open pine fir and tamarack timber, good grass.

North boundary, T3S, R 36E, Willamette Meridian

N89°57' W[est] on North boundary of Sec[ti]on 1

Var.19°50' East

4.50 Descend hill.
7.50 Foot of hill, cross road to Oro Dell.
8.60 Right bank of **Grande Ronde River**
140 lks. wide, runs North
24.00 Top of steep hill.
40.00 Set basalt stone . . . for 1/4 sec[ti]on cor[ner]
80.00 Set pine post . . . for cor[ner] to sec[ti]on 1-2-35 and 36.
Land rolling, soil 2nd to 3rd rate.
Scattering pine timber, good grass.

General Description:

This township contains a gerat deal of fine pine and tamarack, and also

a great amount of the finest grasslands. It is too high for general farming purposes, but is well adapted to grazing (Hurlburt 1874b).

TOWNSHIP 3S, RANGE 36E, WM.

John A. Hulburt subdivided this township between May 20 and June 6, 1874. The Grande Ronde River ran diagonally across the township from southwest to northeast through mountains heavily covered with conifers (Hulburt 1874d).

North on West boundary of sec[ti]on] 30

Var. 22°00' East

13.50 Road to Oro Dell. Course S.E. +20
23.00 Right bank **Grande Ronde River**
160 lks. wide. runs N70°E
40.00 Set post for 1/4 sec[ti]on]. . . .
80.00 Set basalt stone. . . for corner to sec[ti]on]s 19-30-24-and 25.
Land broken. Soil poor and stony. Scattering pine timber. Good grass.

West on random between sec[ti]on] 30 and 31

Var. 19°50' East

40.00 Set temporary 1/4 sec[ti]on] cor[ner]
80.14 Intersect line 8 lks S of corner to sections 30-31-25 and 36. S89°57'E
on true line.
00.05 Right bank of **Grand Ronde River 150 lks. wide.** runs South for
200 lks. then turns East.
8.50 **Left bank of river. 150 lks. wide runs N65°East.**
12.25 Right bank of river
28.00 Beaver creek 60 lks. runs N30°W
40.14 Set pine post . . . for 1/4 sec[ti]on]. . . .
45.00 Top of hill
60.50 Stream 3 lks. wide. runs N40°W
80.14 to corner of sec[ti]on] 29-30-31 and 32
Land broken. Soil poor. Open pine tamarack and fir timber.
Good grass.

North between sec[ti]on] 29 and 30

Var 19°50' East

29.50 foot of hill.
32.00 Road. Course East & West
35.90 Right bank of **Grand Ronde River. 180 lks. wide. runs East.**
40.00 Set pine post . . . for 1/4 sec[ti]on] cor[ner]
61.00 Top of steep bluff

69.50 Foot of same bluff.
 74.40 left bank of **Grand Ronde River. 180 lks. wide. Runs West.**
 80.00 Set pine post . . . for corner to sec[ti]on] 19-20-29-30
 Land broken. Soil poor & stony.
 Open pine fir and tamarack.
 Some good grass.

West on a random between sec[ti]on] 19 and 30

Var 20°-40' East

40.00 Set temporary 1/4 sec[ti]on] corner.
 80.08 Intersect line at corner to sections 19-30-24 and 25.
 East on true line.
 13.00 bed of dry gulch runs S15°E
 40.08 Set basalt stone . . . for 1/4 sec[ti]on] cor[ner]
 56.50 Brow of steep hill
 74.10 Left bank of **Grand Ronde River**
140 lks. wide. runs N20°E
 80.08 to corner of sec[ti]on] 19-20-39 and 30
 Land broken. soil poor and stony.
 Scattering pine fir and tamarack timber. Good grass.
 June 3rd 1874

North between sec[ti]on] 19 and 20

Var 20°-40' East

11.50 Right bank of **Grand Ronde River.**
150 lks. wide, runs N30°E
 40.00 Mark basalt stone . . . for 1/4 sec[ti]on] cor[ner]
 43.00 Top of high point-slopes to East
 56.00 Bed of dry creek, runs East.
 80.00 Set pine post . . . for cor[ner] to sections 17-18-19 and 20
 Land very broken, soil poor and stony. Pine fir and tamarack
 timber and some good grass.

North between sections 20 and 21

Var 21°-30' East

18.00 Dry bed of creek, runs NW.
 40.00 Set basalt stone . . . for 1/4 sec[ti]on].
 60.50 Foot of hill.
 66.00 Road. course East and West.
 67.50 Right bank of **Grand Ronde River 165 lks. wide, runs S 80°E**
 80.00 Set basalt stone . . . for cor[ner] to sec[ti]on] 16-17-20 and 21.

Land broken, soil poor & stony.
Scattering pine tamarack and fir timber. Some good grass.
May 30th, 1874

East on random between sec[ti]on 16 and 21

Var. 18°50' East

- 40.00 Set temporary 1/4 sec[ti]on cor[ner]
79.78 Intersec[ti]on line 30 lks. North of corner to sections 15-16-21
and 22. N 89°47'W on true line.
35.00 Top of high point.
39.89 Set pine post . . . for 1/4 sec[ti]on cor[ner]
55.00 Right bank of **Grand Ronde River**
150 lks. wide, runs North.
79.78 To corner of sec[ti]on 16-17-20 and 21
Land broken. Soil 1st to 3rd rate. Pine tamarack and fir timber.
Some fine grass.

North between sec[ti]on 15 and 16

Var. 21°00' East

- 4.00 Enter bottom land, course East & West.
21.50 Road, course East & West.
**Also south side of land subject to over flow during extreme high
water.**
36.50 Right bank of **Grand Ronde River**
180 lks wide, course East & West.
40.00 Set red basalt stone . . . for 1/4 sec[ti]on cor[ner]
45.00 North side of bottom land.
80.00 Set pine post . . . for cor[ner] to sec[ti]on 9-10-15 and 16
Land rolling. Soil mostly 1st class. Open pine tamarack and fir
timber. Fine grass.
May 27th, 1874

East on random between sec[ti]on. 10 and 15

Var. 20°50' East

- 40.00 Set temporary 1/4 sec[ti]on post.
79.92 Intersect line 21 lks. North of corner to sec[ti]on 10-11-14 and 15.
N 89°51' W on true line.
2.30 Right bank of **Grande Ronde River. 150 lks. wide, runs NE.**
9.00 West side of bottom land.
12.00 Road course NE and SW
39.96 Set pine post . . for 1/4 sec[ti]on cor[ner]

79.92 To cor[ner] of sec[ti]on] 9-10-15 and 16.
Land rolling. Soil 1st class. Scattering pine and tam[arack] timber.
Good grass.

North between sections 10 and 11

Var 21°25' East

2.30 Right bank **Grand Ronde River.**
120 lks. wide, runs N60[deg]E.
14.00 North side of bottom land.
17.00 Wagon road. Course NE & SW
34.00 Stream 4 lks. wide, runs S15°E
40.00 Set basalt stone . . . for 1/4 sec[ti]on] cor[ner]
80.00 Set pine post . . . for corner to sections 2-3-10-11
Land rolling, soil 1st to 3rd rate.
Open pine and tamarack timber, good grass.

North between sec[ti]on] 11 and 12

Var. 20°40' East

28.50 Stream 3 lks wide, runs N20°E
40.00 Set tamarack post . . . for 1/4 sec[ti]on] cor[ner]
44.50 Right bank **Grande Ronde River.**
110 lks wide, runs East.
51.00 Foot of hill.
65.00 Top of hill.
69.00 Stream 25 lks. wide, runs East.
80.00 Set basalt stone . . . for cor[ner] to sec[ti]on] 1-2-11 and 12.
Land rolling, soil 1st to 3rd rate.
Scattering pine and tamarack timber. Fine grass.

East on random between sec[ti]on]s 1 and 12

Var 24°40' East

40.00 Set temporary 1/4 sec[ti]on] post
80.72 intersect line 62 lks. South of corner to sections 1-12-6 and 7.
S89°33'W on true line.
3.00 Right bank of **Grande Ronde River.**
140 lks. wide, runs N30°E.
7.50 Road, course N30°E.
28.00 Top of hill. Slopes south.
34.50 Left bank of **Grand Ronde River.**
150 lks. wide, runs S70°E.
40.36 Set basalt stone . . . for 1/4 sec[ti]on] cor[ner]

- 58.50 Right bank of **Grand Ronde River**
150 lks. wide, runs N60°E.
- 65.00 Foot of hill. bridge 300 lks. South.
- 71.00 Old road to La grande. course NW and SE.
- 76.00 Top of hill
- 80.72 To corner of sec[ti]on] 1-2-11 and 12
There is about 100 acres of fine bottom land along the river on this line, a little of which is swampy and subject to overflow during very high water.
 Timber. Scattering, pine and tamarack.
 Fine grass. Soil 1st to 3rd rate.

N 89°57'W on North boundary of Sec[ti]on] 1
 Var. 19°50' East

- 4.50 Descend hill.
- 7.50 Foot of hill, cross road to Oro Dell.
- 8.60 Right bank of **Grande Ronde River.**
140 lks wide, runs North.
- 24.00 top of steep hill.
- 40.00 Set basalt stone . . . for 1/4 sec[ti]on] cor[ner]
- 80.00 Set pine post . . . for cor[ner] to sec[ti]on] 1-2-35 and 36
 Land rolling, soil 2nd to 3rd rate.
 Scattering pine timber, good grass.

June 6th, 1874
 General Description

This township contains a great deal of fine pine, tamarack and fir timber, and has good grass all over it. There is a great deal of fine rich land, and an abundance of water power. It will be principally valuable for grazing purposes and for timber (Hurlburt 1874d)

TOWNSHIP 3S, RANGE 35E, WM.

Rufus S. Moore secured the contract to subdivide this township. He mounted the survey between September 10 and 18, 1882. Moore found this township mountainous and forested. The Grande Ronde River passed through its extreme southeast corner and was fed by Canon and McCoy creeks (Moore 1882c).

West on a true line on the South boundary of Section 36

6.00 Descend through pine timber
23.00 Ravine, course N. Ascend.
29.00 Leave timber.
37.00 Enter timber.
40.00 Set post 3 1/2 feet long 3 in square 18 in[ches] in the ground in open pine timber, for 1/4 section corner marked 1/4 S on the N & S faces. A pine 12 in[ches] diameter bears N39°W 51 lks. distant marked 1/4 S.B.T.
A pine 12 in[ches] diameter bears S. 75° W 54lks. distant marked 1/4 S.B.T.
40.00 Descend
52.00 Spring branch course North
54.00 Leave timber, enter glade.
60.00 Enter timber, ascend.
73.00 Descend
75.00 Enter Grand Ronde river bottom
79.00 **Grand Ronde River 2 chs. wide course N10°E.**
80.00 Set post 4 1/4 feet long 4 in[ches] square 2 ft. in the ground, on a bar of gravel in Grand Ronde river for corner to sections 1, 2, 35 & 36

Land rolling and hilly
Soil gravelly. 4th rate, timber pine

West on a true line bet. sections 2&35

Cross river bottom
[did not cross river]
5.00 An impassable marsh extending N and S. 5.75 lks wide
10.75 Ascend through heavy pine timber

Land rolling and hilly, soil gravelly, 2nd rate, timber scattering pine, grass abundant.

North between Sec[ti]on[s] 35 & 36

Var[iation] 20°East

- 00.05 **Grand Ronde River 50 lks. wide runs N.E.**
14.00 **Grand Ronde River 50 lks. side runs N.W.**
22.00 **Grand Ronde River 50 lks. side runs N.E.**
33.50 Leave River bottom and enter heavy pine timber bears E & W.
The old Dally road.
40.00 Set a post 3 ft. long 3 ins. sq. 24 ins. in ground for 1/4 sec[ti]on
cor[ner] 75 ft. above Grand Ronde River marked
46.50 Leave heavy pine timber bear E & W
57.00 Top of hill bear E & W 400 ft. above 1/4 sec[ti]on cor[ner]
63.50 Descend hill bear E & W
79.20 Meadow creek 60 lks. wide runs E. 500 ft. below top of hill.
80.00 Set basalt stone

Land mountainous, except bottom level, Soil on bottom 1st rate.
Remainder 2nd rate.

Heavy timbered with pine 13.50 chs.

Some scattering pine on W 1/4

Good grass.

East on a random line betw[een] Sec[ti]on[s] 25 & 36

Var.21°East

- 4.00 Line enters creek runs East
8.40 Line leaves creek runs NE.
Ascend from creek
16.25 Top of ridge bears NE & SW 500 ft. above meadow creek and
descend
21.50 Enter bottom bears N & S 500 ft. below top of ridge.
23.60 Meadow creek 70 lks wide runs S. and ascend.
36.00 Top of ridge slopes South 500 ft. above meadow creek.
40.00 Set temporary 1/4 sec[ti]on. cor[ner] 20 ft. below top of ridge.
57.00 **Grand Ronde River 75 lks. wide runs NE** 500ft. below 1/4 sec[ti]on.
cor[ner] and ascend. Wagon road bears NE & SW
80.00 Intersect East boundary of the township 35 lks. North of the cor[ner]
to sec[ti]on[s] 30, 31, 25 & 36, 400 ft. above Grand Ronde
River.
40.07 Set a basalt stone
80.15 The cor[ner] to sec[ti]on[s] 25, 26, 35 & 36
Land mountainous, Soil 3rd rate and stony
Timber, scattering pine fir and tamarack.

General Description

The township is rolling and hilly in the southern part, soil medium. The valleys along some of the small streams that empty into the Grand Ronde river are very fertile and are occupied by settlers who raise abundance of hay, some grain and a few of the hardier vegetables.

Bunch grass is good throughout the township, except in some of the heavier timbered portions of the northern part.

The timber is pine, fir, and tamarack and is valuable (Moore 1882d).

TOWNSHIP 4S, RANGE 35E, WM.

Rufus S. Moore subdivided this township between September 1-8, 1882. He surveyed the course of the Grande Ronde River running north-south through the eastern half of this township (Moore 1882b).

East on a random line bet[ween] sec[tion] 2 & 11

Var. 19°30' East

- Descend from cor[ner]
- 27.00 Enter River bottom bear N 20°E & S20°W
- 27.20 **Grande Ronde River 100lks. wide**, runs N20°E 100 ft. below last sec[tion] corner.
- 40.00 Set temporary 1/4 sec[tion] corner.
- 44.00 Leave bottom, bear NE & SW and ascend hill bear NE & SW and enter heavy pine timber bear NE & SW.
- 60.00 Top of hill and leave heavy timber bears NE & SW 150 ft. above Grande Ronde River.
- 80.10 Intersect N & S line 12 lks. N of the cor[ner] to sec[tion] 1, 2, 11 & 12.
Then I run N89°55'W on a true line bet sec[tion] 2 & 11 with same Var.
- 40.05 Set a post . . . for 1/4 sec[tion] cor[ner]
- 80.10 The cor[ner] to sec[tion]s 2, 3, 10 & 11
Land mountainous
Soil 2nd Rate
Heavily timbered with pine [etc?]
Good bunch grass.

East on a random line bet[ween] sec[tion]s 11 & 14

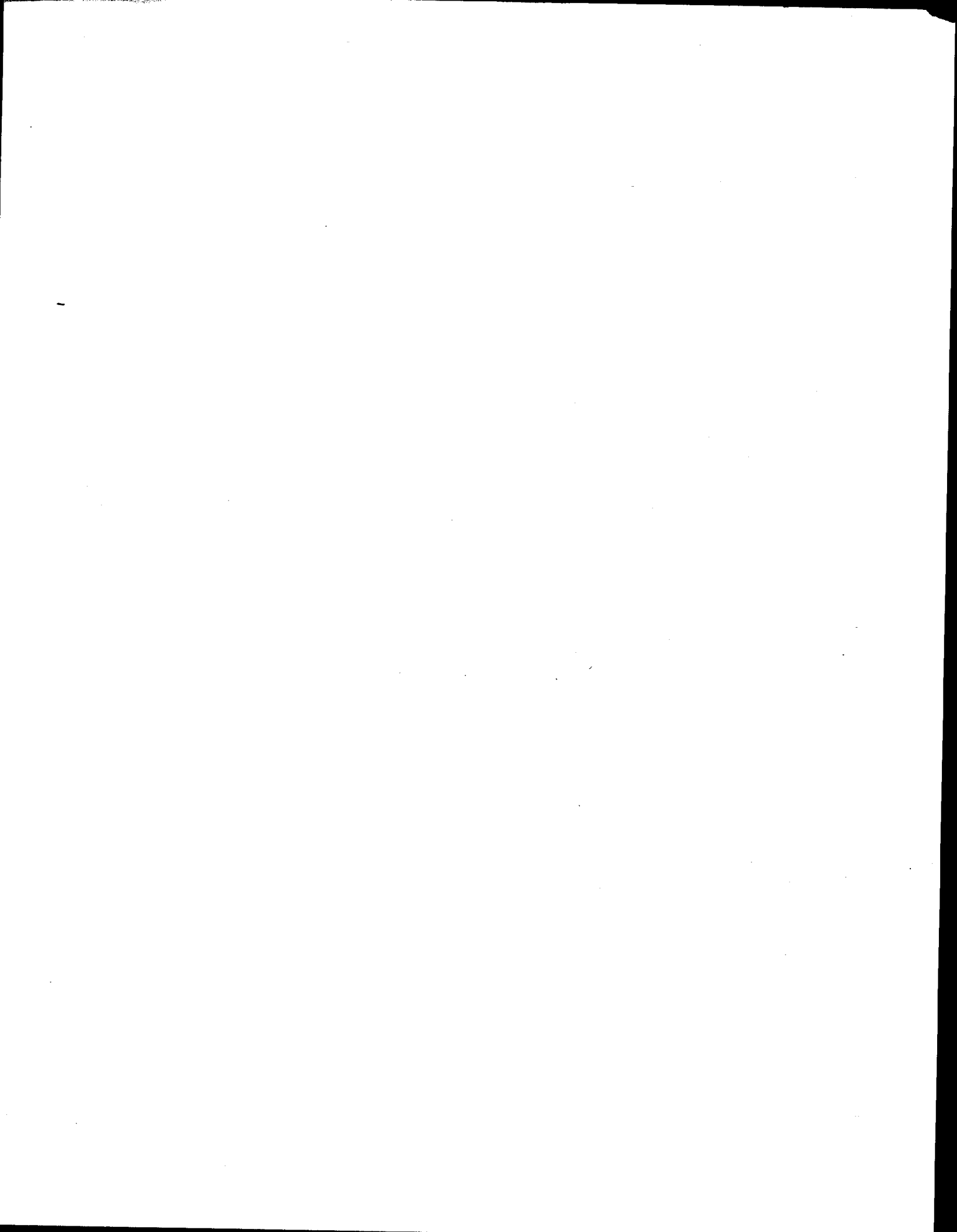
Va. 19° East

- 4.20 Old road bears N & S
- 15.60 Road bears NE & SW
- 20.00 Descend bears N & S
- 35.50 Enter timber bears N & S
- 38.50 Enter River bottom bears N & S 300 ft. below point of descending.
- 38.80 **Grand Ronde River 60 lks. wide, runs North**
- 40.00 Set temporary 1/4 sec[tion] cor[ner]
- 43.30 Leave River bottom and ascend bear N & S
- 65.00 Leave timber bear N & S
- 72.00 Top of ridge bears N & S 300 ft. above Grand Ronde River
- 75.00 Enter timber bears N & S
- 80.00 Intersect N&S line at the cor[ner] to sec[tion]s 11, 12, 13 & 14 - 300

ft. below top of ridge
 Then I run
 West on a true line bet[ween] sec[tion]s. 11 & 14 with same Var.
 40.00 Set a basalt stone . . . for 1/4 sec[tion]
 80.00 The cor[ner] to sec[tion]s 10, 11, 14 & 15
 Land rolling and mountainous
 Soil good, 2nd rate.
 Timber pine fir and tamarack
 34.50 ch[ain]s
 Good bunch grass

East on a random line bet[ween] Sec[tion]s. 14 & 23
 Var. 20°East

Descend
 24.00 Enter scattering pine timber bear NE & S W
 35.50 Old trail bears NE & SW
 38.00 Enter bottom bears NE & SW, 500 ft. below sec[tion] cor[ner]
 40.00 Set temporary 1/4 sec[tion] cor[ner]
 41.44 **Grande Ronde River 75 lks. wide, runs N20°E**
 42.50 leave bottom and ascend hill bear N20°E and S20°W
 54.00 Top of ridge bears N & S 300 ft. above Grand Ronde River
 65.00 Ravine course NW - 200 ft. below top of ridge.
 80.00 Intersect N & S line 35 lks. South of the cor[ner] to sec[tion]s
 13, 14, 23 & 24 100 ft. above Ravine
 Then I run
 S89°45'W on a true line bet[ween] sec[tion]s 14 & 23 with same
 Var.
 40.00 Set a post . . . for 1/4 sec[tion] cor[ner]
 80.00 The cor[ner] to sec[tion] 14, 15, 22 & 23
 Land mountainous
 Soil 2nd & 3rd rate
 Some scattering pine & fir
 Timber on E 56 chs.
 Good bunch grass.



Starkey to Headwaters

TOWNSHIP 5S, RANGE 35E, W.M.

Jacob C. Cooper surveyed the township exterior. Rufus S. Moore surveyed the subdivisions between August 20-30, 1882. Moore noted the Grande Ronde River passing through most of the eastern one-third of the township (Cooper and Moore 1882a).

North on a random line bet[ween] sec[tion]s 1 & 2

Var. 20°E

Descend
40.00 Set temporary 1/4 sec[tion] cor[ner]
41.00 **Grande Ronde River 75 lks. wide runs N 20°W** 150 ft. below
sec[tion] cor[ner].
Line runs down river.
60.00 Ascend hill and leave bottom
bear N10°W & S 10°E
62.00 Old Indian trail bears N10°W & S 10°E
80.30 Intersect N boundary of the township 14 lks. East of the cor[ner] to
sec[tion]s 1, 2, 35 & 36 100 ft. above Grande Ronde River
Thence I run
S 6°E On a true line bet[ween] sec[tion]s 1 & 2
Va. 19°45' East
40.30 Set a basalt stone . . . for 1/4 sec[tion] cor[ner]
80.30 The cor[ner] to sec[tion]s 1, 2, 11 & 12
Land mountainous
Soil 2nd rate.
Heavily timbered with pine fir tamarack, Dense brush and fallen
timber.

East on a random line between Sec[tion]s 1 & 12

Va. 20°East

And descend
2.10 Brook 3 lks. wide runs NE 40 ft. below sec[tion] cor[ner]
40.00 Set temporary 1/4 sec[tion] cor[ner]
43.50 **Grande Ronde River 75 lks. wide, runs North** 100 ft. below brook
and ascend from river.
81.00 Intersect East boundary of the township to the cor[ner] to
sec[tion]s 6, 7, 1 & 12 7.50 ft. above Grande Ronde River
Thence I run
West on a true line between sec[tion]s 1 & 12

Va. 20° E

- 40.00 Set a post . . . for 1/4 sec[ti]on cor[ner]
80.00 The cor[ner] to sec[ti]ons 1, 2, 11 & 12
Land mountainous.
Soil 2nd rate.
Heavily timbered with pine fir & tamarack and dense brush.

East on a random line bet[ween] sec[ti]ons 12 & 13

Va. 21° East

And descend

- 40.00 Set temporary 1/4 sec[ti]on cor[ner]
40.50 Brook 3 lks. wide runs NE and ascend from brook to
55.00 Top of ridge bears NE & SW & descend
66.00 **Grand Ronde River 80 lks. wide runs NW**
80.20 Intersect East boundary of the township 34 lks. North of the cor[ner]
to sec[ti]ons 7, 18, 12 & 13
Thence I run
N89°45' W on a true line bet[ween] sec[ti]ons 12 & 13

Va. 19°45' East

- 40.10 Set a post . . . for 1/4 sec[ti]on cor[ner]
80.20 The cor[ner] to sec[ti]ons 11, 12, 13 & 14
Land mountainous
Soil 2nd rate
Heavily timbered with pine, fir, and tamarack and some dense
undergrowth of same.

East on a random line between sec[ti]ons 24 & 25

Va. 21° East

Ascend to

- 7.50 Begin to descend
13.00 A house bears S about 15 chs.
30.00 Enter bottom and leave timber bear NE & SW
30.50 **Grande Ronde River 75 lks. wide runs NE** 300 ft. below point of
descending.
40.00 Set temporary 1/4 sec[ti]on cor[ner]
53.00 Enter dense pine timber, leave bottom and ascend hill bears NE &
SW.
80.75 Intersect E boundary of the township 78 lks. North of the cor[ner] to
sec[ti]ons 19, 30, 24 & 25
Thence I run
N89°27' W on a true line bet[ween] sec[ti]ons 24 & 25
Va. 20°15' East

40.38 Set a basalt stone . . . for 1/4 sec[ti]on cor[ner]
 80.75 The cor[ner] to sec[ti]ons 23, 24, 25 & 26
 Upland hilly, Soil 2nd rate.
 Bottom level, Soil 1st rate.
 Heavily timbered with pine & dense brush. 67.75 chs.

East on a random line bet[ween] Sec[ti]ons 25 & 36

Va. 21°30' East

4.00 Begin to descend
 4.75 Fence bears NW & SE
 23.50 Enter bottom bears NW & SE 200 ft. below sec[ti]on cor[ner]
 24.75 **Creek 50 lks wide comes from E and runs NW**
 36.00 **Same creek runs SW**
 39.00 " " " **NW**
 40.00 Set temporary 1/4 Sec[ti]on cor[ner]
 41.00 Leave bottom and descend hill bears NW & SE
 80.32 Intersect the East boundary of the Township 35 lks. W of the
 cor[ner] to Sec[ti]ons 25, 30, 31, & 36
 There I run W 89°45' W on a true line bet[ween] sec[ti]ons 25 & 36
 40.16 Set a basalt stone 18 x 8 x 6 in[che]s in ground for 1/4 sec. cor. . . .
 80.32 The cor[ner] to sec[ti]ons 25, 26, 35 & 36
 Land mountainous
 Soil 1st and 2nd rate
 Timber pine & Tamarack and some dense undergrowth of pine &
 tamarack

General Description

This township is high and mountainous, except along Fly creek and **Grand Ronde River where there is much rich bottom land** and 1st rate quality of soil.

The high and mountainous land is heavily timbered with pine fir tamarack and spruce with 2nd and 3rd rate quality of soil and generally a dense undergrowth of fir, pine, tamarack, spruce, [etc.]

There is one Settler in Sec[ti]on 35 & one in Sec[ti]on 19.

The township is well watered by Fly Creek, Grand Ronde River and their tributaries (Cooper and Moore 1882b).

TOWNSHIP 5S, RANGE 36E, W.M.

Jacob C. Cooper surveyed the exteriors of this township in 1881. Herman D. Gradon made the subdivisions July 15-26, 1882. The surveyors noted the Grande Ronde River cutting through the extreme southwest corner of the township and the "Road to Camp Carson" running along the streambank (Cooper and Gradon 1881-82a).

N bet[ween] sec[tion]s 13 and 18

Va. 20°E

	E. side of ridge open prairie timber
5.00	Descend
28.50	Burnt timber.
30.75	Bog mire 2 chs. wide.
40.00	Set post . . . in ground on W bank of Grand Ronde River for 1/4 sec[tion] cor[ner]
40.00	Margin of water, cross Grande Ronde River 50 lks. wide, course N.W.
42.00	Cabin bears E 2 chs.
45.50	Ascend
63.50	Point 500 ft. above Grand Ronde River descend through dense pine brush
75.25	Bottom of canyon spring branch course S.W. Ascend.
80.00	Set post . . . for cor[ner] to sec[tion] 7,12,13 and 18 Land rough mountainous and broken. Soil rocky 2nd rate. Timber pine.

W[est] bet[ween] sec[tion]s 19 and 24

Va. 20°15' E

	Descend
15.00	Pine thicket
22.52	Enter river bottom Prairie
37.50	Ledge of rock course E and W
40.00	Set post . . . for 1/4 sec[tion] cor[ner]
42.00	Cross Grand Ronde River course N20°E at head of mining ditch 75 lks. wide.
43.00	Ascend
44.00	Mining cabin E. 5 lks.

80.00 Ascend along side of ridge through open timber.
Set post . . . for cor[ner] to sec[ti]on[s] 13,18,19 and 24
Land first 40 chs. prairie bottom.
from 40 to 80 chs. mountainous.
Bottom soil 1st rate.
Mountainous 2nd rate.
Timber pine.

West on a random line bet[ween] sec[ti]on[s] 18 & 19

Va. 20 1/2°E

40.00 Through timber
Set temporary 1/4 sec[ti]on] cor[ner].
74.00 **Grande Ronde river 75 lks. wide runs N**
80.80 Intersect N boundary 13.0 lks. S of the cor[ner] to sec[ti]on[s]
18,19,13 & 24
Thence I run
S89°04' E on a true line bet[ween] sec[ti]on[s] 18 & 19
40.80 Set a post . . . for 1/4 sec[ti]on] cor[ner]
80.80 The cor[ner] to sec[ti]on[s] 17,18,19 & 20
Land mountainous
Soil 2nd rate.
Heavily timbered with pine, fir & tamarack

N[orth] bet[ween] sec[ti]on[s] 31 and 36

Va. 20°E.

24.00 Cross ravine course N.W.
Ascend open ridge.
27.00 Summit of ridge, course N.E.
Descend.
40.00 Set post . . . for 1/4 sec[ti]on] cor[ner]
53.00 Descend abruptly.
56.00 **Cross Grand Ronde River. 50 lks. wide course W.**
Prairie bottom.
72.00 Ascend through open pine timber.
80.00 Set post . . . of S. hillside 150 ft. above Grand Ronde R. for cor[ner]
to sec[ti]on[s] 25,30,31 and 36
Land rolling and mountainous.
Soil gravelly 2nd rate.
Timber pine fir and tamarack.
Aug. 2, 1881.

North bet[ween] Sec[ti]on[s] 31 & 32

Va. 20^oE

Through timber
40.00 Set a basalt stone . . . for 1/4 sec[*tion*] cor[*ner*]
42.00 Leave timber & enter bottom course E & W
44.75 **Grand Ronde river, 30 lks. wide, runs N.**
52.50 A wagon road, course N.
56.00 Leave bottom, course E & W enter timber.
80.00 Set a post . . . for cor[*ner*] to sec[*tion*]s 29, 30, 31 & 32
Land rolling
Heavily timbered with pine, fir, tamarack. 66.00 chains.
July 23rd, 1882

W. on S. boundary of sec[*tion*] 32

Va. 20^oE

Descend through open pine timber.
15.00 Ascend.
32.00 Summit of rock 20 ft. high, course N. and S.
39.00 Road to Camp Carson course N.W. and S.E.
40.00 Set post . . . in a clearing on river bottom for standard 1/4 sec[*tion*]
cor[*ner*]
42.00 **Grand Ronde River 75 lks. wide**
course N.W.
Ascend.
46.00 Bluff 50 ft. high.
53.00 Summit of hill
Descend
60.00 Spring branch course N.W.
Ascend
65.00 Summit of hill
Descend.
73.50 Spring branch course N.E.
Ascend.
80.00 Set post . . . for standard cor[*ner*] to sec[*tion*]s 31 and 32
Land high mountainous and broken.
Soil rocky 4th rate.
Timber pine, fir, and tamarack.

General Description

The land in this township is mostly high and mountainous with considerable elevated table land. The soil is mostly good sec[*tion*]ond rate and capable of producing well. **The entire township is heavily timbered with**

pine, fir and tamarack, mostly of good quality and the township is principally valuable for its timber.

There is one settler in Sec[^{tion}] 26 (Cooper and Gradon 1881-82b).

TOWNSHIP 6S, RANGE 36E, W.M.

Eugene P. McCornack surveyed the exterior lines of this township in 1881 and William B. Barr did the subdivisions May 24-June 5, 1884. The plat of survey confirmed the operation of placer mines and the "Old Road to Carson Co Gold Mine" running along the course of the Grande Ronde River in this township (McCornack and Barre 1881-84a).

North bet[ween] sec[tion]s 4 and 5

Va. 21°30' E

Over rolling hills
40.00 Set basalt stone . . . for 1/4 sec[tion] cor[ner]
Descend 250 ft. to
47.60 **Creek 20 lks. wide course N45W**
49.50 Road course W.
Ascend 450 ft. to
85.60 Intersect the 1st Standard parallel 10.65 chs. E. of cor[ner] to
sec[tion]s 32 and 33, T5S R36E which is a large field stone I set
a pine post . . . for closing corner to sec[tion]s 4 and 5
Land mountainous and densely covered with forests.
Soil clay 2nd rate-
Timber Pine with thick undergrowth of Pine & Fir 85.60 chains.

East on a random line bet[ween] sec[tion]s 4 and 9

Va. [21?]°30' E

40.00 Set temporary 1/4 sec[tion] cor[ner].
80.00 Intersect N and S line 21 lks. N of cor[ner] to sec[tion]s 3, 4, 9 and
10
Thence I run
N89°51' N on a true line bet[ween] sec[tion]s 4 & 9
Va. 20°45' E
Descend 350 ft. to
28.02 Creek 6 lks. wide course South
Ascend 400 ft. to
40.16 Set granite stone . . . for 1/4 sec[tion] cor[ner]
Descend 250 ft. to
48.12 Trail course N45°W
54.42 Road course N10W
61.72 **Creek 30 lks. wide course N30°W**
Ascend 350 ft. to
76.30 Descend 100 ft. to
80.32 Cor[ner] to Sec[tion]s 4, 5, 8 and 9

Land mountainous and densely covered with forests.
Soil Rocky, clay 3rd rate.
Timber Pine with thick undergrowth of Pine 80.32 chains.

North between] Sec[ti]on]s 9 and 10

Va. 20°30' E

30.00 Descend 300 ft. to
Creek 23 lks. wide course N70°W
Ascend 200 ft. to
40.00 Set post . . . for 1/4 sec[ti]on] cor[ner]
Ascend 350 ft. to
80.00 Set granite stone . . . for cor[ner] to sec[ti]on]s 3, 4, 9 and 10
Land mountainous and densely covered with forests.
Soil clay with some rock 3rd rate.
Timber Pine and Tamarack with thick undergrowth of Pine 80
chains.

East on a random line between] sec[ti]on]s 10 and 15

Va. 20°30' E

40.00 Set temporary 1/4 sec[ti]on] cor[ner].
79.60 Intersect N and S line 70 lks. N of cor[ner] to sec[ti]on]s 10, 11, 14
and 15
Thence I run
N89°30' W on a true line between] sec[ti]on]s 10 & 15
Va. 21°E
Descend 300 ft. to
12.10 2 Cabins bear N50°W 10 chs. distant
13.80 **Creek 22 lks. wide course N45°W**
17.60 Trail course S.W.
Ascend 200 ft. to creek
39.80 Set granite stone . . . for 1/4 sec[ti]on] cor[ner]
Ascend 400 ft. to
79.60 Cor[ner] to sec[ti]on]s 9, 10, 15 and 16
Land mountainous and densely covered with forests
Soil clay and loam 2nd and 3rd rate.
Timber Pine Tamarack with thick undergrowth Pine & Tamarack
79.60 chains.

North between] sec[ti]on]s 14 and 15

Va. 19°45' E

Ascend 350 ft. to

31.50 Descend 300 ft. to
 40.00 Set pine post . . . for 1/4 sec[ti]on cor[ner]
 Descend 800 ft. to
 67.00 **Creek 20 lks. wide course W.**
 Ascend 250 ft. to
 80.00 Set granite stone . . . for cor[ner] to sec[ti]ons 10, 11, 14 and 15 . . .
 Land mountainous.
 Soil clay and loam 2nd rate
 Timber. Dense forest of Black Pine and Fir with thick undergrowth
 of Black Pine 80 chains.
 May 27, 1884

East on a random line bet[ween] sec[ti]ons 14 & 23

Va. 19°45' E

40.00 Set temporary 1/4 sec[ti]on cor[ner].
 80.50 Intersect N and S line 32 lks. N of cor[ner] to sec[ti]ons 13, 14,
 23 & 24
 Thence I run
 N89°56' W on a true line bet[ween] sec[ti]ons. 14 & 23
 Var. 21°E
 32.50 Descend 800 ft. to
 40.25 Set granite stone . . . for 1/4 sec[ti]on cor[ner]
 Ascend 100 ft. to
 46.50 Descend 500 ft. to
 77.00 **Creek 15 lks. wide course N**
 Ascend 150 ft. to
 80.50 Cor[ner] to sec[ti]ons 14, 15, 22 and 23
 Land mountainous
 Soil clay 3rd rate
 Timber. Dense forest of Pine and Tamarack with thick undergrowth
 of Pine, Willow and tamarack 80.50 chains.

East on a random line bet[ween] sec[ti]ons 23 and 26

Va. 20°E

40.00 Set temporary 1/4 sec[ti]on cor[ner].
 80.40 Intersect the N and S line 50 lks. N of cor[ner] to sec[ti]ons 23, 24,
 25 and 26
 Thence I run
 N89°39'E on a true line bet[ween] sec[ti]ons 23 & 26
 Va. 20°30' E
 Descend 300 ft. through timber to
 40.20 Set granite stone . . . for 1/4 sec[ti]on cor[ner]

75.90 Descend 650 ft. to
Creek 15 lks. wide course N
 Ascend 200 ft. to
 80.40 Cor[ner] to sec[tion]s 22, 23, 27 and 26
 Land mountainous
 Soil clay 3rd rate
 Timber. Dense forests of Black Pine and Tamarack, with thick
 growth of Alder, Tamarack and Black Pine. 80.40 chains.

East on a random line bet[ween] sec[tion]s 26 & 35

Va. 20°30' E

40.00 Set temporary 1/4 sec[tion] cor[ner].
 80.20 Intersect the N and S line 10 lks N of cor[ner] to sec[tion]s 25, 26, 35
 and 36
 Thence I run
 N89°56'W on a true line bet[ween] sec[tion]s 26 & 35
 Va. 20°E
 Descend 350 ft. to
 17.70 Creek 8 lks wide course N45°W
 Ascend 300 ft. to
 24.20 Descend 350 ft. to
 40.10 Set granite stone . . . for 1/4 sec[tion] cor[ner]
 43.80 Creek 4 lks. wide course N
 Ascend 200 ft. to
 57.70 Descend 500 ft. to
 76.50 **Creek 10 lks. wide course N20°E**
 Ascend 120 ft. to
 80.20 Cor[ner] to Sec[tion]s 26, 27, 34 and 35.
 Land mountainous and densely covered with forests.
 Soil clay 3rd rate.
 Timber Pine and Spruce with thick undergrowth of Black Pine and
 alder 80.20 chains.

May 26th, 1884

General Description

This Township is very mountainous and rough.
 It contains but little if any agricultural land, but has some valuable
 timber. **Gold is found throughout the entire township several extensive mines
 being in active operation** (McCornack and Barr 1881-84b).

TOWNSHIP 3S, RANGE 37E, W.M.

The Grande Ronde River passes through the extreme northwest corner of this township and was noted by Odell and Gray in their subdivisions of July, 1867. Their plat showed the course of the Oregon Trail, the "Emigrant Road" which crossed the township (Odell and Gray 1867a). Data on the Grande Ronde River appeared in the field notes of the adjacent townships (Hurlburt 1874d) and (Hurlburt, Davenport, Odell and Gray 1874b).

[West of Sec[ti]on 6, notes from T3S, R36E (Hurlburt 1874d).]

North on East boundary of Sec[ti]on 1

Var. 21°00' East

- 4.50 **Right bank Grande Ronde River.**
300 lks. wide, on line, runs N30°E
- 8.00 Wagon road, course N30°E
- 11.00 Foot of hill.
- 32.00 Top of hill, slopes E.
- 40.00 Set fir post . . . for 1/4 sec[ti]on cor[ner]
- 52.00 **Left bank Grande Ronde River.**
150 lks. wide, runs W.
- 80.00 Set fir post . . . for cor[ner] to townships 2 and 3 South of range 36 and 37 East
Land mostly broken, except a narrow strip of bottom land along the river.
Soil 1st to 3rd rate, open pine, tamarack and fir timber. good grass.

[North of sec[ti]on 6, notes from T2S, R37E (Hurlburt, Davenport, Odell and Gray 1874b)]

East on random on South boundary of sec[ti]on 31

Var. 19°50' East.

- 40.00 Set temporary 1/4 sec[ti]on corner.
- 80.38 Intersect line 46 lks. North of corner.
N89°40'W on true line.
Var. 17°15' East
- 1.60 Road course North and South.
- 16.00 Stream 45 lks. wide, runs N20°W
- 31.70 **Right bank Grande Ronde River**
150 lks. wide, runs NW

39.00 Left-bank of River.
 40.00 Set balm stake . . . for 1/4 sec[ti]on cor[ner]
 41.50 **Left bank of River, 150 lks. wide.**
 47.00 Right bank of river, course from N70°W.
 80.38 to corner of T 2 and 3 S. R 36 and 37 E.
 Land somewhat broken, except a narrow bottom of about 10
 chains average width along the river. Soil 1st to 3rd rate.
 Open pine tamarack and fir timber, and good grass.

TOWNSHIP 7S, RANGE 36E, W.M.

Eugene P. McCormack laid out the exterior township lines in 1881 and W. B. Barr subdivided the township in May 15-23, 1884. The headwaters of the Grande Ronde River rise in the northeast corner of the township (McCormack and Barr 1881-84c).

East on a random line be. sec[ti]ons 2 & 11

Var. 19°E

40.00 Set temporary 1/4 sec[ti]on cor[ner].
 79.45 Intersect North & South line at 25 lks. North of cor[ner] to sections
 1, 2, 11 & 12 thence I run
 N89°49' W on true line bet[ween] sec[ti]ons 2 & 11 with same va.
 Descend about 300 or 400 feet.
 39.84 Set basalt stone . . . for 1/4 sec[ti]on cor[ner]
 43.55 **Grand Ronde River 18 lks. wide flows North**
 Ascend 400 feet.
 79.75 The cor[ner] to sec[ti]ons 2, 3, 10 & 11.
 Land mountainous & steep.
 Soil rocky 3rd rate.
 Timber pine fir and tamarack with thick undergrowth of pine and
 tamarack. 79.95 chains

East on a random line bet[ween] sec[ti]ons 11 & 14

Va. 19°E

40.00 Set temporary 1/4 sec[ti]on cor[ner].
 79.80 Intersect N & S line at 10 lks. North of cor[ner] to sec[ti]ons 11, 12,
 13 & 14
 Thence I run
 N89°56' W on true line bet[ween] sec[ti]ons 11 & 14 with same va.
 39.90 Set basalt stone . . . for 1/4 sec[ti]on cor[ner]

55.80 **Creek 7 lks. wide flows North**

Ascend

79.80 Cor[ner] to Sec[tion]s. 10, 11, 14 & 15

Land high mountainous

Soil loam 2nd rate.

Timber Pine, Fir and Tamarack with thick undergrowth Pine and Tamarack 79.80 chains.

General Description

This Township is very mountainous and broken the Eastern part being on the summit of the Blue mountains. It contains but little agricultural or grazing lands but is densely covered with valuable timber.

Gold is found in every portion of this township and several mines are in successful operation (McCormack and Barr 1881-84d).

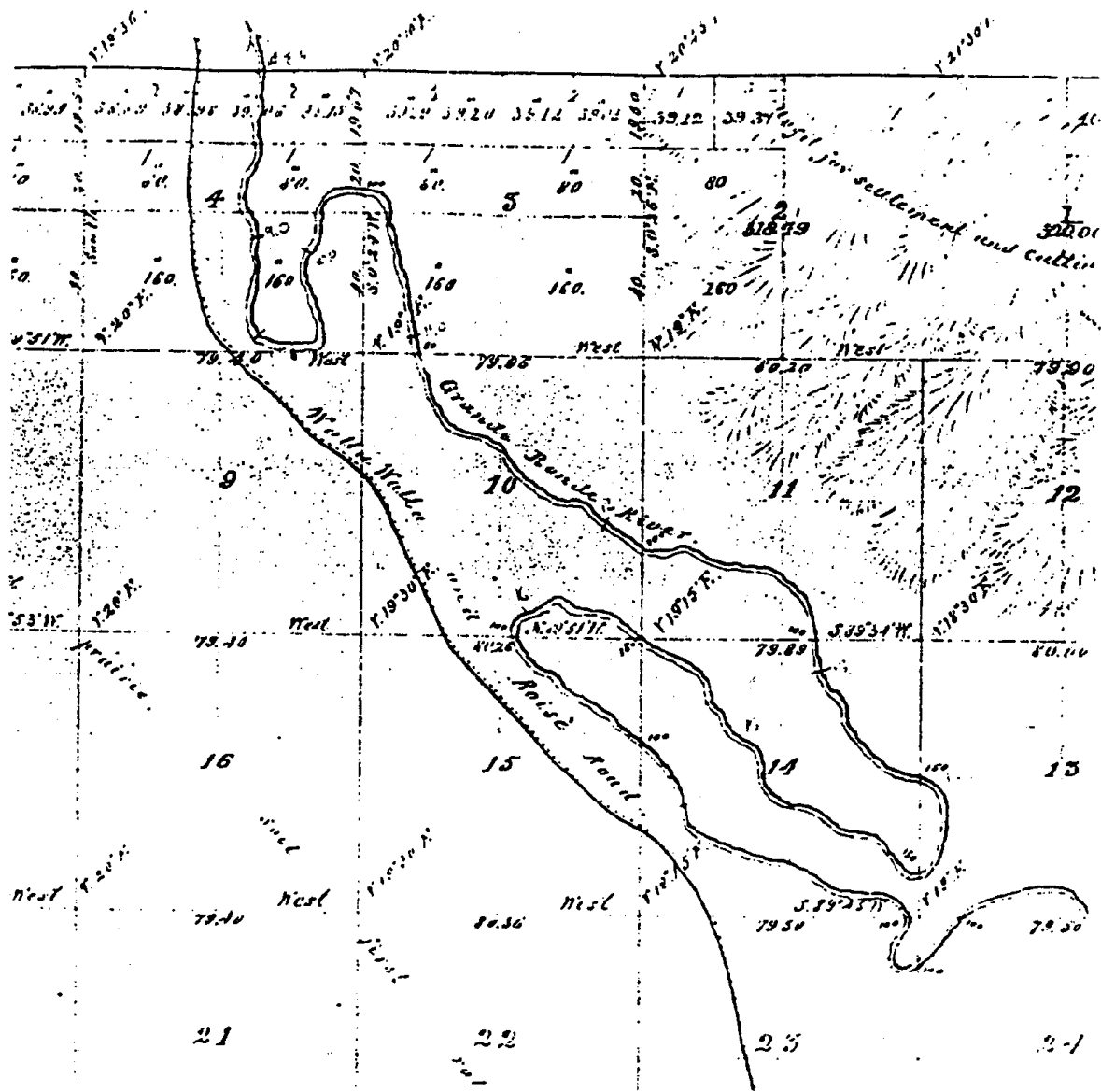


Fig. 5. Circuitous course of Grande Ronde River in T2S, R39E, in northern part of Grande Ronde Valley (Thompson 1863e)

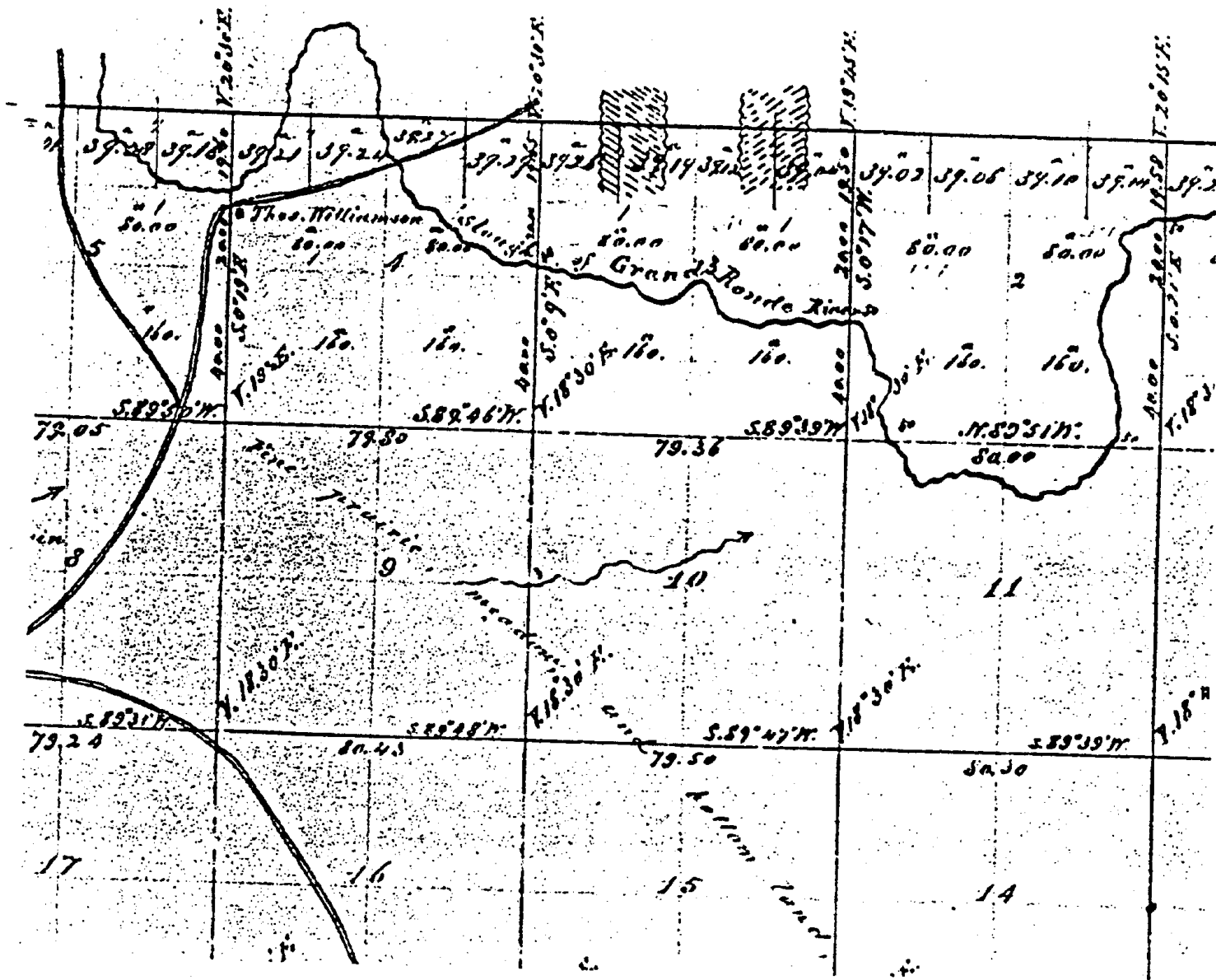


Fig. 6. Slough of Grande Ronde River in T3S, R38E, W.M., vicinity of Island City in Grande Ronde Valley (Thompson 1863a).

Grand Ronde River Width

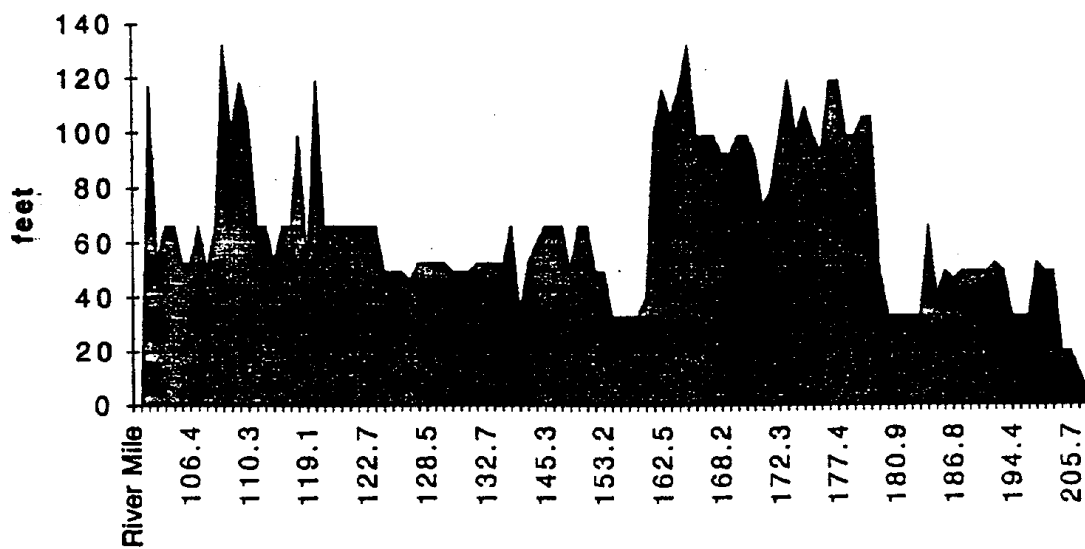


Fig. 7. River widths, Elgin to headwaters, 1863-1884, based on surveyed stream width by cadastral surveyors. The chart shows width in feet by River Mile.

CONCLUSIONS

Historical information drawn from the years 1811-1908 confirms that the course of the Grande Ronde River from the vicinity of Imbler through the Grande Ronde Valley to the headwaters had the following environmental characteristics:

- ▲ The river in all seasons was cold, clear and perceived as a fine, consistent, year-round source of water.
- ▲ The river was a habitat for salmon and crayfish.
- ▲ The course of the river through the Grande Ronde Valley was a habitat for beaver and other animals. Tule Lake on Catherine Creek in the valley, T3S, R39E, W.M., covered several sections and was "caused by Beaver dams" (Thompson 1863c).
- ▲ The course of the river through the Grande Ronde Valley was lined and shaded by a corridor of dense vegetation in spite of the surrounding prairie. The species included cottonwood, hawthorn, alder, willow, and rosebush. The prairie grasses near the river were described as high as the back of a horse.
- ▲ The course of the river into the Blue Mountains southwest of Orodell where the river enters the Grande Ronde Valley was through a narrow corridor between heavily forested hillsides. The mountain slopes were covered with extensive stands of tamarack, pine, and fir. The river bottom included cottonwood and willow.
- ▲ Near its headwaters the banks of the Grande Ronde River were lined with forest underbrush.

Historical information confirms that several activities had impacts or potential undocumented impacts on the river and its resources:

- ▲ Four dams were located on the river between Orodell and Hilgard, presumably obstructing or blocking fish passage. The dams were used for log storage prior to cutting lumber or for generation of electricity or to power a grist mill.
 - Caviness Grist Mill dam at Island City dating from ca. 1872

- Grande Ronde Electricity Company dam at Orodell, dating from 1892
- Two dams at Perry used by the Grande Ronde Lumber Company, ca. 1903-ff. and probably earlier
- ▲ Loggers from the early 1870s until at least 1908 seasonally filled the Grande Ronde River with logs and used the spring freshets to drive them down the canyon to the sawmills at Hilgard, Perry, and Orodell.
- ▲ Irrigation companies competed for withdrawals of water from the Grande Ronde River leading in 1904 to litigation in Circuit Court by John Caviness in an effort to sustain sufficient water power to operate this grist mill at Island City. Caviness sued twelve defendants.
- ▲ Fred Nodine, a farmer and land developer, drained Tule Lake in the Grande Ronde Valley in the 1870s. Nodine's project withdrew water from an estimated 2,300 acres of wetland. At an undetermined date the "State Canal" led to further channelization of the Grande Ronde River in the valley.
- ▲ In 1904 the City of La Grande began withdrawing water from the river at Orodell for municipal purposes.
- ▲ As early as the 1870s placer mining and ultimately lode mining occurred on the headwaters of the river in the vicinity of Camp Carson.
- ▲ Since the 1870s loggers have cut the conifers standing on the hillsides through which the Grande Ronde River flows in the Blue Mountains.

Collectively these activities have contributed to significant environmental impacts. They suggest extensive potentials for disruption of spawning gravels, for obstruction of fish runs, for alterations in the river temperature because of the removal of its vegetative corridor, for low stream flows because of irrigation and municipal water withdrawals, or stream surges because of splash dams and log drives, and for pollutants entering the river because of urbanization at La Grande, mining activity at Camp Carson, and agricultural activities across the floor of the Grande Ronde Valley.

BIBLIOGRAPHY

- Anderson, William Wright
1848 Diary. MS, Lilly Library, University of Indiana, Bloomington, IN.
- Anonymous
1902 **History of Union and Wallowa Counties With a Brief Outline of the Early History of the State of Oregon.** Western Historical Publishing Co., n.p.
- 1903a Nineteen Million Feet of Logs in River for Drive. **La Grande Morning Observer** (LaGrande, OR.), March 13.
- 1904a Grande Ronde Logging Camps Busy. **La Grande Morning Observer** (LaGrande, OR.), January 22.
- 1904b A Timber Deal. **La Grande Morning Observer** (LaGrande, OR.), January 23.
- 1904c 2000 Cords Wood. **La Grande Morning Observer** (LaGrande, OR.), April 19.
- 1904d Log Drive. **La Grande Morning Observer** (LaGrande, OR.), May 8.
- 1904e Hilgard Notes. **La Grande Morning Observer** (LaGrande, OR.), June 17.
- 1904f Fifteen Million: Grand Ronde Lumber Co. Expect to Cut 15 Million Feet of Logs this Season. **La Grande Morning Observer** (LaGrande, OR.), July 11.
- 1904g Hilgard. **La Grande Morning Observer** (LaGrande, OR.), July 17.
- 1904h Want Streams Stocked. **La Grande Morning Observer** (LaGrande, OR.), July 30.
- 1904i Water Rights on Grande Ronde River. **La Grande Evening Observer** (LaGrande, OR.), December 2.
- 1905a Logging Road. **La Grande Evening Observer** (LaGrande, OR.), April 17.

- 1905b Grande Ronde Mines. **La Grande Evening Observer**
(LaGrande, OR.), September 22.
- 1906a Find Body in Grande Ronde. **La Grande Evening Observer**
(LaGrande, OR.), May 14.
- 1907a Grande Ronde Lumber Co. **La Grande Evening Observer**
(LaGrande, OR.), January 2.
- 1907b Power House and Dam at Ora Dell Threatened. **La Grande Evening Observer** (LaGrande, OR.), February 6.
- 1907c Two County Bridges Washed Out by Floods. **La Grande Evening Observer** (LaGrande, OR.), February 6.
- 1908a Palmer Spur Tracks Gone. **La Grande Evening Observer** (LaGrande, OR.), March 16.
- 1908b River Is Receding. **La Grande Evening Observer**
(LaGrande, OR.), March 16.
- 1908c First Shipment of Fry for the Year to Arrive Tomorrow. **La Grande Evening Observer** (LaGrande, OR.), May 11.
- 1908d Began Work at Oro Dell. **La Grande Evening Observer**
(LaGrande, OR.), January 10.
- 1908e It Is Up to This Valley. **La Grande Evening Observer**
(LaGrande, OR.), January 27.

Belshaw, George

- 1960 The Diary of George Belshaw (Oregon Trail--1853).
Typescript, Lane County Pioneer-Historical Society, Eugene,
OR.

Clyman, James

- 1984 **Journal of a Mountain Man**. Mountain Press Publishing
Company, Missoula, MT.

Cooper, Jacob and Herman D. Gradon

- 1881-82a Plat of Survey, T5S, R36E, WM. BLM Archives, Portland,
OR.
- 1881-82b Field Notes, T5S, R36E, WM. BLM Archives, Portland, OR.

- Cooper, Jacob and Rufus S. Moore
 1882a Plat of Survey, T5S, R35E, WM. BLM Archives, Portland, OR.
 1882b Field Notes, T5S, R35E, WM. BLM Archives, Portland, OR.
- Crawford, P. V.
 1924 Journal of a Trip Across the Plains in 1851. *Oregon Historical Quarterly* 25:136-169.
- Cross, Osborne
 1850 A Report in the Form of a Journal, to the Quartermaster General, of the March of the Regiment of Mounted Riflemen to Oregon, from May 10 to October 5, 1849. Serial No. [?] Reprinted as *March of the Mounted Riflemen*, Raymond W. Settle, ed., Arthur H. Clark Co., Glendale, CA., 1940.
- Dinwiddie, John or David
 1928 Overland from Indiana to Oregon: The Dinwiddie Journal. Margaret Booth, ed. Reprinted in *Frontier Omnibus* (Missoula, MT., 1962).
- Haines, Francis D., Jr.
 1971 *The Snake Country Expedition of 1830-1831: John Work's Field Journal*. University of Oklahoma Press, Norman, OK.
- Hastings, Loren B.
 1926 Diary of Loren B. Hastings: A Pioneer of 1847. *Oregon Pioneer Association Transactions*, 51st Reunion, 1923, pp. 12-16.
- Howell, John E.
 1907 Diary of an Emigrant of 1845, *Washington Historical Quarterly*, 1:138-158.
- Hurlburt, John A.
 1874a Plat of Survey, T2S, R36E, WM. BLM Archives, Portland, OR.
 1874b Field Notes, T2S, R36E, WM. BLM Archives, Portland, OR.
 1874c Plat of Survey, T3S, R36E, WM. BLM Archives, Portland, OR.
 1874d Field Notes, T3S, R36E, WM. BLM Archives, Portland, OR.
- Hurlburt, John A., T. W. Davenport, Odell and Gray

- 1874a Plat of Survey, T2S, R37E, WM. BLM Archives, Portland, OR.
- 1874b Field Notes, T2S, R37E, WM. BLM Archives, Portland, OR.
- Hurlburt, John A. and Manus Buchanan
 1873-95a Plat of Survey, T2S, R36E, WM. BLM Archives, Portland, OR.
- 1873-95b Field Notes, T2S, R36E, WM. BLM Archives, Portland, OR.
- Johnson, John
 1851 Crossing the Plains, April 1-September 14, 1851. Item 5, Microfilm 11, Oregon State Library, Salem, OR.
- Johnson, Overton and William H. Winter
 1846 **Route Across the Rocky Mountains with a Description of Oregon and California . . .** John B. Simans, Pringer, Lafayette, IN.
- Lempfrit, Honore-Timothee
 1984 **Honore-Timothee Lempfrit: His Oregon Trail Journal and Letters from the Pacific Northwest, 1848-1853.** Patricia Meyer, ed. Ye Galleon Press, Fairfield, WA.
- Lewis, John Newton
 1852 Diary of Travel from Indiana to Oregon. Typescript, Library of Congress, Washington, DC.
- McAllister, John
 1925 Diary of Rev. John McAllister, a Pioneer of 1852. **Oregon Pioneer Association Transactions**, 50th Reunion, 1922, pp. 471-308.
- McCornack, Eugene P. and William B. Barr
 1881-84a Plat of Survey, T6S, R36E, WM. BLM Archives, Portland, OR.
- 1881-84b Field Notes, T6S, R36E, WM. BLM Archives, Portland, OR.
- 1881-84c Plat of Survey, T7S, R36E, WM. BLM Archives, Portland, OR.
- 1881-84d Field Notes, T7S, R36E, WM. BLM Archives, Portland, OR.

- Meldrum, Henry
 1882a Plat of Survey, T2S, R37E, WM. BLM Archives, Portland, OR.
 1882b Field Notes, T2S, R37E, WM. BLM Archives, Portland, OR.
- Moore, Rufus S.
 1882a Plat of Survey, T4S, R35E, WM. BLM Archives, Portland, OR.
 1882b Field Notes, T4S, R35E, WM. BLM Archives, Portland, OR.
 1882c Plat of Survey, T3S, R35E, WM. BLM Archives, Portland, OR.
 1882d Field Notes, T3S, R35E, WM. BLM Archives, Portland, OR.
- Odell and Gray
 1867a Plat of Survey, T3S, R37E, WM. BLM Archives, Portland, OR.
 1867b Field Notes, T3S, R37E, WM. BLM Archives, Portland, OR.
- Palmer, Joel
 1847 **Journal of Travels Over the Rocky Mountains to the Mouth of the Columbia River** J. A. and U. P. James, Cincinnati, OH.
- Preston, R. N.
 1974 **Historical Maps of Oregon.** Western Guide Publishers, Corvallis, OR.
- Rollins, Philip Ashton, ed.
 1935 **The Discovery of the Oregon Trail: Robert Stuart's Narratives . . .** Charles Scribner's Sons, New York, NY.
- Scott, Abigail Jane
 1986 Journal of a Trip to Oregon. **Covered Wagon Women,** Kenneth L. Homes, ed. Arthur H. Clark Co., Glendale, CA., 5:21-172.
- Smith, Elizabeth Dixon
 1983 The Diary of Elizabeth Dixon Smith. **Covered Wagon Women,** Kenneth L. Holmes, ed. Arthur H. Clark Co., Glendale, CA., 1:111-155.
- Spaulding, Kenneth A., ed.
 1952 **On the Oregon Trail: Robert Stuart's Journey of Discovery,**

1812-1813. University of Oklahoma Press, Norman, OK.

Thompson, D. P.

1863a Plat of Survey, T3S, R38E, WM. BLM Archives, Portland, OR.

1863b Field Notes, T3N, R38E, WM. BLM Archives, Portland, OR.

1863c Plat of Survey, T3S, R39E, WM. BLM Archives, Portland, OR.

1863d Field Notes, T3S, R39E, WM. BLM Archives, Portland, OR.

1863e Plat of Survey, T2S, R39E, WM. BLM Archives, Portland, OR.

1863f Field Notes, T2S, R39E, WM. BLM Archives, Portland, OR.

1863g Plat of Survey, T1S, R39E, WM. BLM Archives, Portland, OR.

1863h Field Notes T1S, R39E, WM. BLM Archives, Portland, OR.

Thompson, D. P. and W. B. Barr

1863-80a Plat of Survey, T3S, R40E, WM. BLM Archives, Portland,
OR.

1863-80b Field Notes, T3S, R40E, WM. BLM Archives, Portland, OR.

Thompson, D. P. and Herman D. Gradon

1863-82a Plat of Survey, T2S, R38E, W.M. BLM Archives, Portland,
OR.

1863-82b Field Notes, T2S, R38E, W.M. BLM Archives, Portland, OR.

Thompson, D. P., Henry Meldrum, and W. B. Barr

1863-82a Plat of Survey, T2S, R40E, WM. BLM Archives, Portland,
OR.

1863-82b Field Notes, T2S, R40E, WM. BLM Archives, Portland, OR.

Thompson, D. P. and J. W. Kimbrell

1863-88a Plat of Survey, T1S, R39E, WM. BLM Archives, Portland,
OR.

1863-88b Field Notes, T1S, R39E, WM. BLM Archives, Portland, OR.

U.S. Army Corps of Engineers

1931 La Grande Quadrangle Oregon, Preliminary Compilation.
U.S. Army Corps of Engineers, Portland, OR.

U.S. Geological Survey

1906 Telocaset Quadrangle. U. S. Geological Survey,
Washington, DC.

Watson, W[illia]m J.

1851 ***Journal of an Overland Journey to Oregon Made in the
year 1849, With a Full and Accurate Account of the Route . .
. .*** E. B. Roe, Book and Job Printer, Jacksonville, IL.

White, Thomas

1964 ***To Oregon in 1852.*** Oscar O. Winther and Gayle
Thornburgh, eds. Indiana Historical Society, Indianapolis, IN.

Williams, Glyndwr, David E. Miller, and David H. Miller, eds.

1971 ***Peter Skene Ogden's Snake Country Journals, 1827-28 and
1828-29.*** Hudson's Bay Record Society, London.

APPENDIX

The following table enumerates the width of the Grand Ronde River at the dates of cadastral survey from River Mile 104.7 near Elgin, Oregon, to the headwaters at River Mile 208. The river widths were measured in links and are translated to feet in the right column. The cadastral surveys were mounted between 1863 and 1884. The month and days of the surveys are noted in the extracted field notes for each township in pp. 21-71 of this report.

grand.ronde

Township	Sections	River Mile	Width (lks)	Width (feet)
				1 lk = 0,66 ft.
T 1S, R 39 E	3,10	104.7	177	116.82
	9,10	105.2	80	52.8
	9,10	105.6	100	66
	10,15	106.1	100	66
	15,16	106.3	80	52.8
	15,16	106.4	80	52.8
	15,22	107.2	100	66
	21,22	107.5	75	49.5
	21,20	109	100	66
	20,29	109.2	200	132
	29,28	109.5	150	99
	29,28	109.6	179	118.14
	29,28	110.3	160	105.6
	S 33	112	100	66
T 2S, R 39E	3,4	114	100	66
	3,10	114.7	80	52.8
	10,11	115.7	100	66
	11,14	116.5	100	66
	13,14	117.2	150	99
	14,15	119.1	80	52.8
	10,15	119.1	180	118.8
	10,15	119.7	100	66
	14,15	120.3	100	66
	14,23	121.6	100	66
	23,24	121.9	100	66
	24,13	122.1	100	66
	24,13	122.7	100	66
	24,25	124.2	100	66
T 2S, R 40 E	19,30	124.4	75	49.5
	19,30	124.6	75	49.5
	29,30	125.7	75	49.5
	29,32	126.3	70	46.2
T 3S, R 40 E	5,6	128.3	80	52.8
	5,6	128.5	80	52.8
	5,6	129.1	80	52.8
	6,7	130	80	52.8
	7,18	131.9	75	49.5
	W 18	131.9	75	49.5
T 3S, R 39 E	E 13	131.9	75	49.5
	12,13	132.2	80	52.8
	12,13	132.7	80	52.8
	12,13	133	80	52.8
	12,13	133.3	80	52.8
	13,14	133.6	100	66