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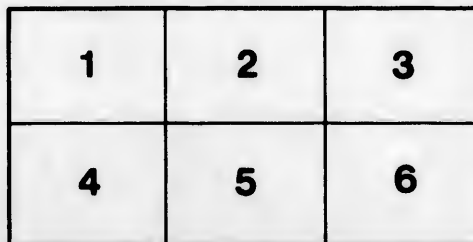
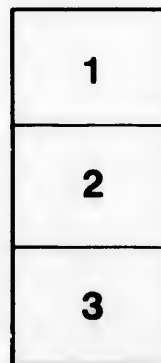
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COLUMBIA AND KOOTENAY RAILWAY

— AND —

TRANSPORTATION COMPANY.

REPORT OF D. C. LEWIS,

— ON THE —

Resources of the Country along the Columbia River, from  
the Boundary Line to Galena Bay.

WITH APPENDIX,

CONTAINING

REPORT OF A. T. PINGSTONE,

AND EXTRACTS FROM MOBERLY'S DIARY, &c.

SAN FRANCISCO:

BACON & COMPANY, PRINTERS, CORNER CLAY AND SANBORN STREETS

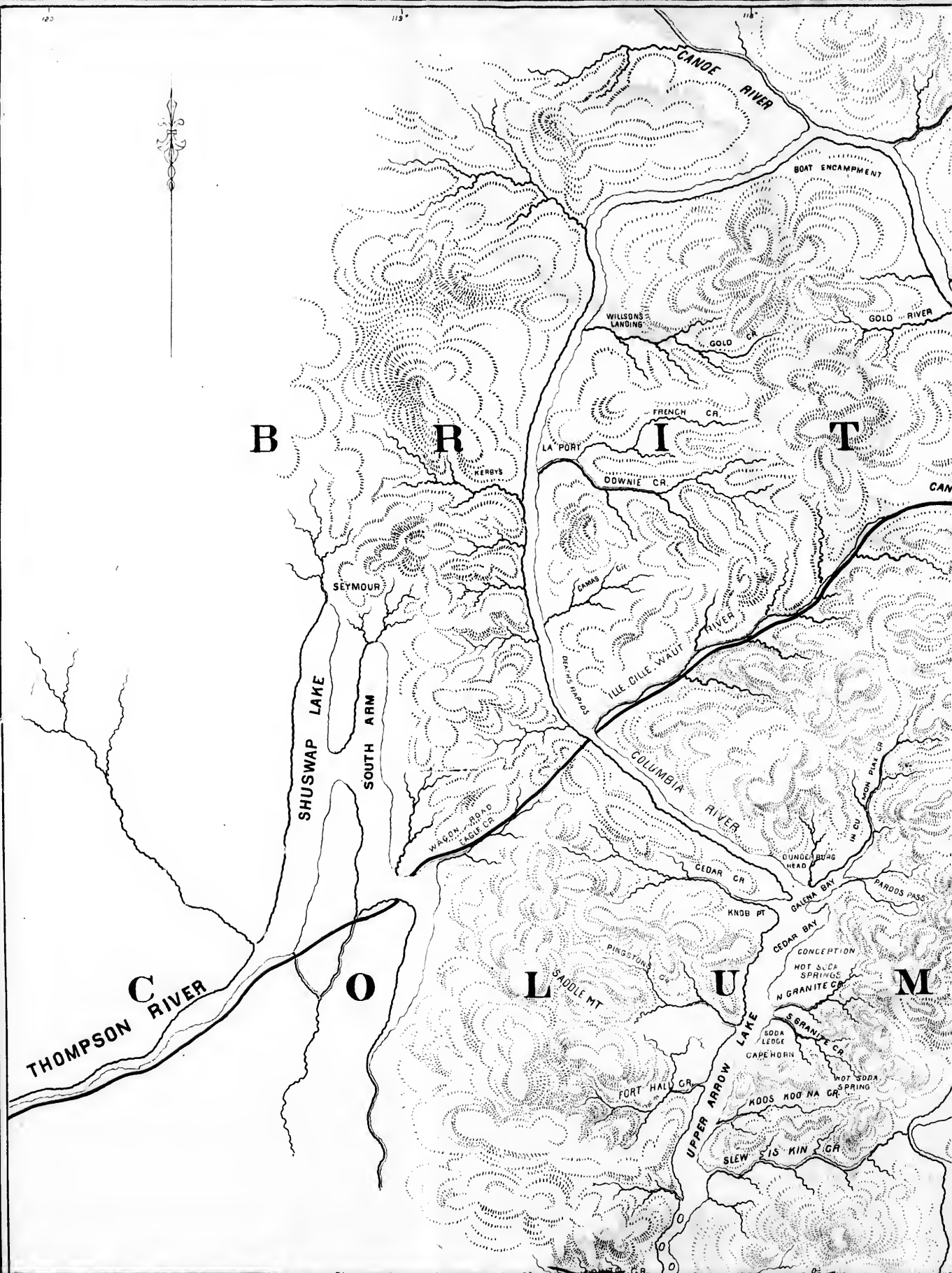
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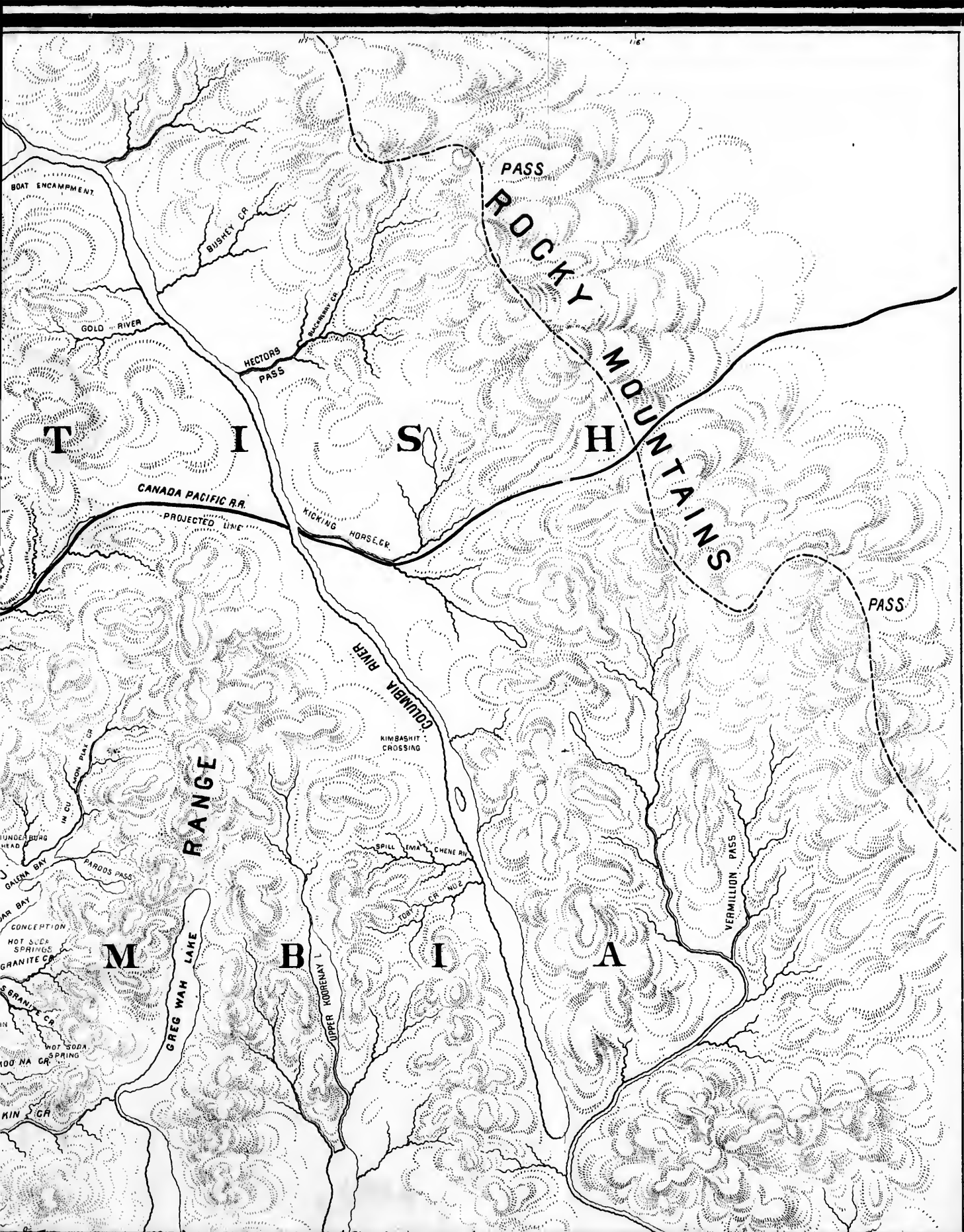


THE UNIVERSITY OF  
BRITISH COLUMBIA









**MAP**  
OF THE  
**UPPER COLUMBIA RIVER**  
SHOWING  
**LAND GRANT**  
OF THE  
**COLUMBIA & KOOTENAY RAILWAY**  
AND  
**TRANSPORTATION COMPANY**

LITH BRITTON & REY S.F.

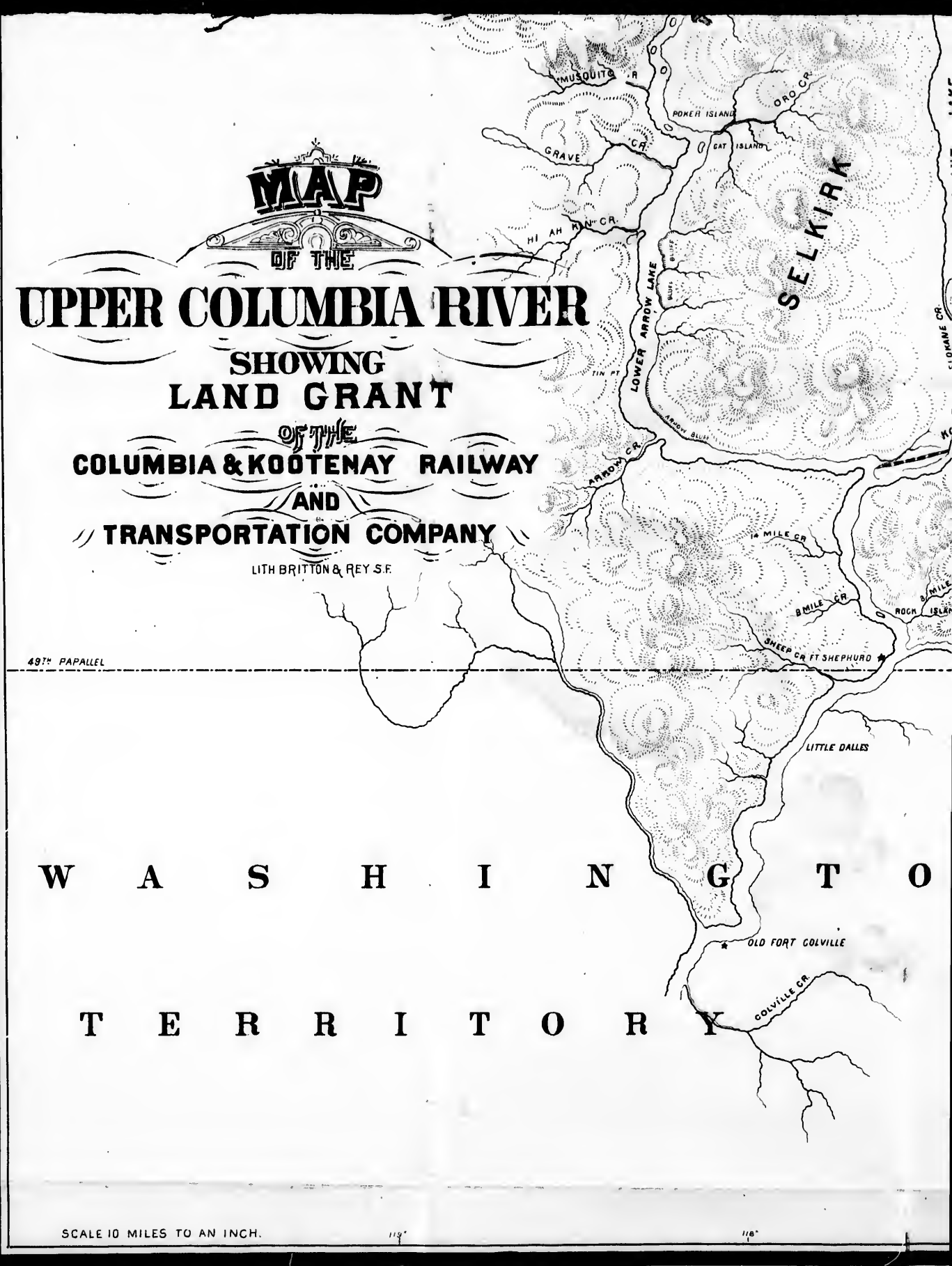
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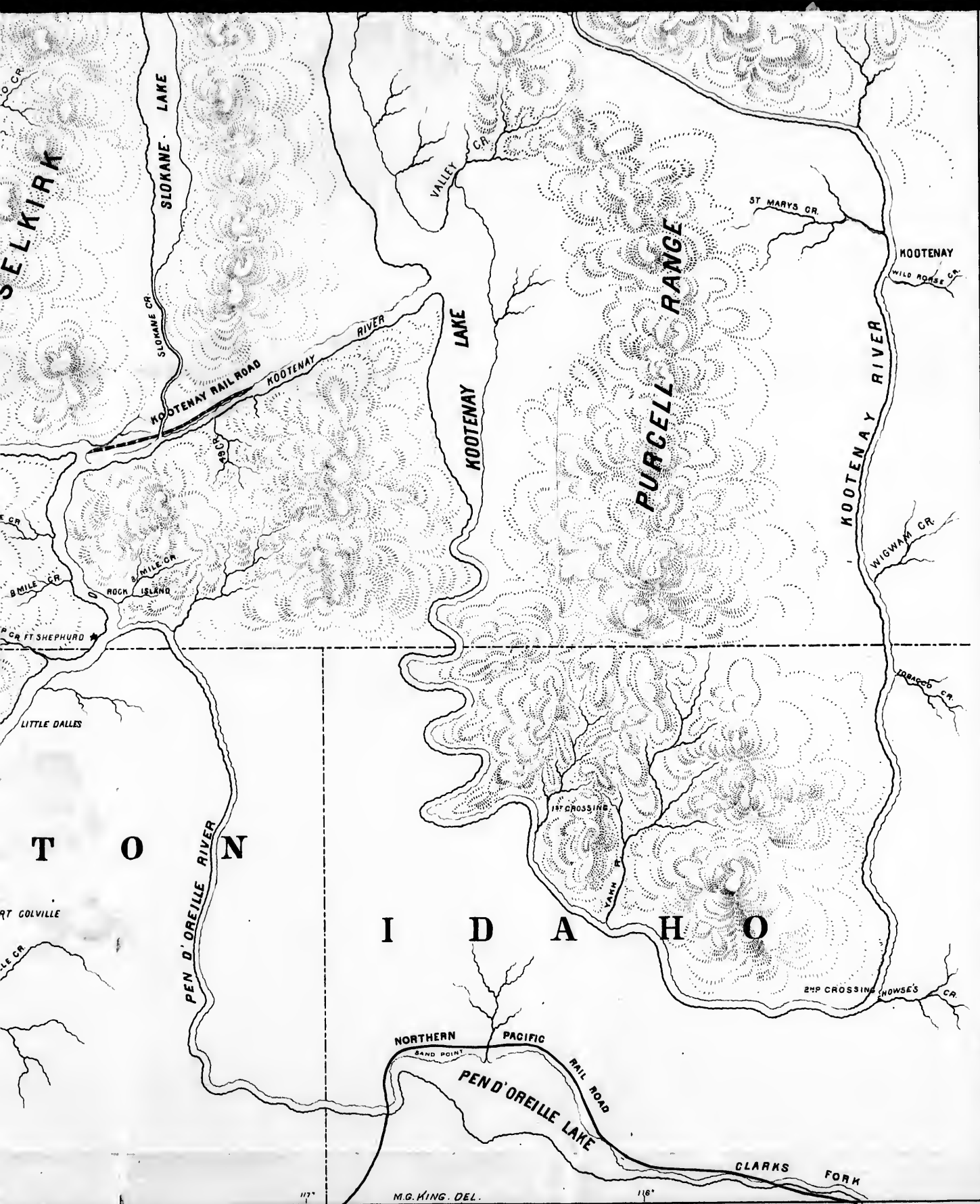
W A S H I N G T O  
T E R R I T O R Y

SCALE 10 MILES TO AN INCH.

119°

118°





M.G. KING. DEL.



# COLUMBIA AND KOOTENAY RAILWAY

— AND —

TRANSPORTATION COMPANY.



## REPORT OF D. C. LEWIS,

— ON THE —

Resources of the Country along the Columbia River, from  
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SAN FRANCISCO:

BACON & COMPANY, PRINTERS, CORNER CLAY AND SANSOME STREETS.

1884.

SAN FRANCISCO, Dec. 15th, 1883.

CAPT. J. C. AINSWORTH,

*President of the Columbia and Kootenay Railway and  
Transportation Company:*

DEAR SIR:—I beg leave to present my Report of Explorations made by your direction, and covering a small portion of the Land Grant given your Company by the Province of British Columbia, along the line of the Columbia River; and to present also a Map accompanying the Report.

Yours respectfully,

(Signed,)

D. C. LEWIS.

## REPORT.

After passing the boundary line between the United States and British Columbia on the steam launch "Alpha," belonging to your Company and under command of Captain A. T. Pingstone, my attention was directed to the resources contained in the

### TIMBER.

Commencing near the boundary line and extending to Hi-ah-kin Creek up the Columbia River on either bank, there is an immense quantity of yellow pine timber from 20 inches to 40 inches in diameter, and from 75 to 100 feet clear of knots. Although it occurs throughout the distance mentioned, there are thick bunches of forest in it that will run from 10 thousand to 20 thousand feet to the acre, and it is all perfectly accessible. As we approach the northern point mentioned, this yellow pine timber grows less and less, and finally ceases altogether. As it disappears, however, tamarack and hemlock increase, and belts of dense growth of these are seen—all of which are remarkable for their accessibility. This timber covers a very large portion of the country, and the amount is so enormous as to be beyond computation or estimate. It varies in diameter from 10 to 36 inches, and the forests are often of extremely dense growth.

About the mouth of Hi-ah-kin Creek (some fine cedar being found at Pass Creek) white pine and cedar timber begin

to appear, the quality of which has no superior throughout the known world. (See page 92, "Province of British Columbia," &c.) This lies in belts contiguous to the river, and along tributary streams, and is as accessible as that mentioned heretofore. Too much cannot be said in praise of this timber, the white pine running from 75 to over 100 feet without a limb, and varying in diameter from 24 to 48 inches, (see "The Columbia River to Kettle Falls," p. 11) while the cedars are the largest I ever saw to be perfectly sound, as I found by inspection. They vary in diameter from 36 to 80 inches, and a great majority towering a hundred feet without a limb. The white pine and cedar will run from 10 thousand to 100 thousand feet per acre, and improved in quantity and size as far as we went north.

Owing to the lateness of the season in getting started on these explorations, I was unable to proceed further north than Galena Bay, and thoroughly examine and explore the route passed over—which covers a very small portion of your grant. I am informed by what I consider good authority that the quantity and size of the white pine and cedar timber continue to improve as you go north, and if this proves to be a fact (of which I have no doubt) the value of your grant in timber alone will much more than satisfy the expectations of the most sanguine. [See extract from Moberly's report, appendix.] The small portion of the grant I had the opportunity to examine I would judge to cover 250,000 acres of excellent timber land. Your grant and that to the Canadian Pacific Railway cover practically all the available timber in that great section of the Province of British Columbia. As to an indication of the value of these timber lands, I understand that the Canadian Pacific propose to immediately grade their land



in values, placing \$2.50 as the lowest price per acre for any land except to settlers, and limiting them to 160 acres.

Before leaving this subject, I would call your attention to the fact that this timber in your grant, and in the grant of the Canadian Pacific Railway west of the Rocky Mountains, is the only available timber for over one thousand miles of country along the line of the railway immediately east, and that its demand over the line of the Canadian Pacific will be such as to place a ready market at your service for your entire grant as rapidly as you feel inclined to dispose of it. Another market quite as extensive, and open now without even waiting for the Canadian Pacific, and covering a country with an already large and rapidly increasing population, and traversed with lines of railway and steamboat navigation, is that portion of the United States known as Eastern Washington Territory, Idaho, and Montana. [See report of Capt. A. T. Pingstone, appendix.] At a nominal cost, compared with many eastern streams, the Columbia would carry a drive, or any number of drives, directly to the Northern Pacific Railroad, the Oregon Railway and Navigation Company's lines, besides floating past a vast and fertile section of the country known as the Great Plains of the Columbia, situated in the bend of the Columbia in Eastern Washington, and now beginning to receive a goodly share of the coming immigration.

There is no means of estimating the value of your timber alone—taking into consideration the comparatively small cost of delivering to a now available market that has exceedingly large demands, and is almost destitute of the article required: in fact, quite destitute of the quality you are able to furnish.

## MINERALS.

From the boundary line to Hi-ah-kin Creek, the geological formation is granite in a great variety of forms and conditions, some of it assuming the form of porphyry, and at other times almost pure feldspar. Where mica and hornblende exist to any extent, the granite is affected by climatic changes. A portion of the granite mountains resist all climatic agencies, and stand in bold, perpendicular cliffs. Some of these fine quarries will be sought after and utilized at no distant day for building purposes. After passing Hi-ah-kin Creek we found a good deal of slate and quartz, which appeared to increase as we approached the head of Galena Bay. They are associated with granite. The ledges throughout this region all appear to be in place. The slate is usually of a soft blue variety, destitute of any grit, and frequently quite shelly. We saw but little talcose slate, mica schist, shale or sandstone. We found float specimens of mica or isinglass that looked fair, and from appearances is not inferior to French importations. The sheets were very free from blemishes and quite transparent. The Indians report it on the mountains in large quantities. The slate formation has numerous quartz seams in it from a few inches to twenty feet in width. All of these quartz veins have a healthy mineral-bearing look. Found a good deal of galena on the mountain sides of Galena Bay, mostly in quartz. In a few instances it was associated with lime. Found two well-defined ledges of galena; both traced to the water's edge, and also up the mountain side for several hundred feet.

Lime is found in a variety of forms in the region above Hi-ah-kin Creek; some pure carbonate of lime, and also a magnesia lime. We found two hot soda springs—one on the

southern tributary of South Granite Creek, and the other about three miles below Cedar Bay. We had no means of testing their temperature, but found them uncomfortably warm for our fingers. Found some float oxide of copper ore at the mouth of the Lardo Pass Creek; also found evidence of copper on Grave Creek.

We prospected the top sand on several creeks for placer diggings, especially on Fort Hall, Pingstone, Incu-woop-plux and Lardo Pass Creek, and found gold at all of them. We had no means of going down to bed rock. I have no doubt that there are extensive placer mines in several of these streams. There were large deposits of free gold found on creeks several years ago, but as the rich pockets were worked out, the miners were obliged to leave in consequence of the high price of provisions, tools, etc., and the difficulties attending transportation. When you complete your enterprise, thereby giving miners and business men the benefit of your transportation facilities, these placer diggings will be developed, and will give employment to thousands of laboring men. Your grant on Kootenay Lake covers immense deposits of argentiiferous galena ores whose value is beyond computation, and no doubt from the indications that came under our notice on the Columbia, for the small part of it on your grant that we traversed, there will be found additional minerals of great quantity and value, which your grant gives you absolutely. The value of your mineral grant cannot of course be estimated. I observed enough to know that it will be very great, and it is within the possibilities of reaching a fabulous sum.

The extensive and rich placer diggings recently discovered in the Cœur d'Alene mountains in Washington Terri-

tory, the extensive argentiferous galena deposits on Kootenay Lake, and the flattering prospects on the Columbia River (rich placers being reported in the vicinity of Kicking Horse Pass also) will soon give that country a large population.

The completion of your enterprise and of the Canadian Pacific will open up a country whose richness will greatly astonish even the promoters of the enterprises themselves. (See page 77. "Province of British Columbia"; "Canada, its Climate and Resources," etc.)

#### AGRICULTURAL AND GRAZING LANDS.

The acreage of this kind of land in comparison to the acreage of your timber and mineral lands is small—it covering but a few thousand acres until the head-waters of the Columbia are reached. (Page 65 of "Province of British Columbia"; "Mainland Interior, or East Cascade Region"; also page 67 of same entitled "Kootenay.") As the Columbia is navigable to its source, large amounts of these magnificent lands may be located if desired.

#### CLIMATE.

The climate of this Columbia region is very mild compared with the same latitudes elsewhere, except on the Pacific Coast. The warm winds from the south known as "Chinook" melt the snow almost as soon as it falls. (Page 11, "Province of British Columbia," &c.) By examining a weather chart of this continent, the isothermal line will be noticed to make a long elbow, the northern point of which reaches in the vicinity of the northernmost point of the Columbia waters.

## CONCLUSION.

Before concluding, allow me to call your attention to the Pass Creek that flows into the Columbia River just north of the mouth of the Kootenay River. From what I had an opportunity to observe, and from what information I could procure from the Indians, I think your railway can be brought from Kootenay River through a natural pass, and down the Pass Creek Valley at a great saving of cost without increasing the length of the railway line, and reach the Columbia River above the rapids spoken of in Mr. Linton's report to your chief engineer, H. M. McCartney, Esq.

And now, in concluding, I would say that I look upon your enterprise as a most extraordinary one. The necessary expenditure required to comply with the terms of the Act and acquire a crown grant from the British Columbia Government is so small, and the value of over seven hundred thousand acres of the land you will obtain is so great, that—aside from the good-paying transportation business you will undoubtedly receive—the profits that must necessarily accrue from the sales or other disposition of the lands of this grant will be fabulous: and I congratulate you and your associates upon this most flattering outlook for your property.

Yours respectfully,

D. C. LEWIS.

## REPORT OF CAPT. A. T. PINGSTONE.

FORT COLVILLE, W. T., Oct. 24th, 1883.

CAPTAIN J. C. AINSWORTH, PORTLAND, OREGON:

DEAR SIR—In your letter to me of June 18th, you ask me to give you my views about the timber on the navigable waters of the Columbia River, in British Columbia; also, the feasibility of running logs down the Columbia to some point above the mouth of Snake River.

First: A large amount of very fine timber, such as White Pine, Cedar, Fir, Spruce, Cottonwood, Hemlock and Tamarack, may be selected from a point twenty miles below the head of the lower lake, thence to the extreme head of the upper lake. The most of the good timber is to be found on the streams making into the lakes. From the mouth of the Upper Columbia River to Laporte, a distance of sixty-four miles, the country is a dense forest; cedar abounds, there is also hemlock, fir, tamarack and some white pine; the quality of the timber is excellent.

Second: there is nothing to prevent logs from being driven down the Columbia River, from the lakes to White Bluffs, where a good and secure boom could be put in that would save all the timber. At White Bluffs there is a large eddy where rafts could be easily made, and run from thence down to the Northern Pacific Railroad and the Oregon Railway and Navigation Company's Steamboat and Railway lines. As to the time when a drive should be started down, experienced raftsmen state it should not be started until after the top of high water, so that the driftwood will not interfere with the boom, floating bodies following the center of a falling stream; or, if you wish to use your boom during high water to catch driftwood, a large amount of valuable timber could be secured in that way. As regards the cost of placing a suitable boom in at this point, in my estimation it would not cost less than ten thousand and may be twelve thousand dollars. I believe that in from two to three years enough driftwood could be caught to pay for the cost of the boom. From White Bluffs down to the railroads rafts could be taken at all times of the year, excepting when there is ice in the river.

I remain, yours very respectfully.

A. T. PINGSTONE.

LETTER FROM SENATOR NELSON OF BRITISH  
COLUMBIA.

OTTAWA, 13th June, 1883.

G. B. WRIGHT, Esq.

DEAR SIR—I have carefully examined your map, with accompanying explanations, of that part of British Columbia comprising the Kootenay Lake and River, the Columbia River, Eagle Pass, &c., and showing the line of your company's proposed railroad from the Kootenay Lake to the Columbia River. I have for some years been acquainted with the geography of that country as to its general character, and have more lately learned from various sources of its great mineral wealth, and I am convinced that the carrying trade and business of that country can only be secured to Canadian routes by the fulfilment of such a scheme as your company have undertaken. The trade of that portion of British Columbia must, I believe, become a large and most important one, and, in my opinion, will drift through United States channels, unless the waters of the Kootenay Lake and Columbia River are connected by rail, and steamers placed on the Columbia River, from the terminal point of the Kootenay & Columbia Railway to the crossing of the Canadian Pacific Railway, at Eagle Pass.

I am, dear Sir, yours faithfully,

HUGH NELSON.

(Extract from Mr. Moberly's Diary, 1866.)

Thursday, September 6th.—Ran down to the mouth of Kicking Horse River, where I took latitude, which is  $51^{\circ} 18' 19''$  N. I then proceeded down the stream, and camped at the mouth of a creek that falls into the Columbia River on its easterly side, about 6 miles below the mouth of Blaeberry River. The Indians tell me that the valley of the Blaeberry River affords the best pass through the mountains to the eastward (see Dr. Hector's Report). They say the mountain sheep abound on the mountains south of this river, and the cariboo on those north of it, but that the latter is not found south of the mouth of Kicking Horse River; also, that the large salmon (white) do not go further up stream than the Kicking Horse River. The banks of the river are now covered with a dense growth of pine, cedar, spruce, fir, birch, &c. Road building along the right bank of the Columbia River, from its source to this point, will be comparatively easy.

Friday, September 7th.—Left camp at 7.30 A. M., and almost immediately got into a cañon where the stream is in many places very rapid and narrow, and the rocks of a slate formation. I think

at the stage the water was at when I passed here, that a steamer could get through this cañon, but the rapids a short distance below, and which extend some 3 or 4 miles in length, are in many places shallow and full of boulders, and I fear unnavigable. I stopped at the mouth of a large creek which falls into the Columbia on its westerly side, in latitude  $51^{\circ} 31' 30''$  N. The Indians say a trail from Gold River might strike the Columbia at the mouth of this creek, but it would have to be taken over much higher ground than if brought to the mouth of Bushey River. They tell me that the south branch of this stream heads near the north branch of the Pille-mu-chem River, and that the divide between these two streams is low, and would afford a very level line for a trail. Should a trail or road be opened along the east or right bank of the Columbia, it should leave the banks of the main river immediately above the Slate Cañon and, passing through a low valley, strike the main river at a point nearly opposite the mouth of the Bushey River. Timber about the same as on that portion.

Saturday, September 8th.—Ran down to the mouth of the Bushey River, and then crossed over to the opposite side of the Columbia, where I stopped at the mouth of a large stream, about  $\frac{1}{4}$  of a mile below the mouth of Bushey River; I here took the latitude, which is  $51^{\circ} 44' 45''$  N. From the mouth of this stream there is a low valley running in a south-easterly direction to the head of the Slate Cañon. About  $1\frac{1}{2}$  miles north of the point where I took the latitude, we came to the head of some very bad rapids (the worst on the Columbia River), which we afterward ascertained extended some four miles in length. There is a trail from the head of these rapids to the lower end of the worst of them. I had my instruments and books packed over this trail, and took the canoes down by the river. After five hours' hard work, most of the time in the water, we succeeded, after packing, poleing and lowering the canoes over the falls and riffles, in reaching the end of the trail before referred to: we ran about a mile below this point, and camped on the right bank of river. The rocks here are generally of a slate formation. Many steep side hills and some rock would probably be encountered in building a road along the east bank of the river; but it might possibly be kept on some high benches that I only partially examined. Timber same as before.

Sunday, September 9th.—Having again regained the canoes we left camp at 9.30 A. M., but in running a rapid about  $\frac{1}{4}$  of a mile below camp, my canoe was thrown on some rocks and much injured, and the other canoe, which was immediately behind, ran into mine and broke about two feet off her bow; we filled up the holes with blankets and ran down to the south end of Kinbasit Lake, where we repaired them and I took the latitude, which is  $51^{\circ} 54' 36''$  N. We then proceeded to the lower end of Kinbasit Lake and camped. This lake is about 8 miles in length, and there are many shoals at



the upper or south end of it: we did not pass any bad rapids to-day. The mountains on both banks are high and the shores rocky. On the easterly side of the lake the mountains are composed of slate. The Indian trail from the mouth of Jordan Creek terminates at the entrance of a low, narrow valley, through which a stream flows. At the southwesterly end of this lake a large stream also falls into Kinbaskit Lake, at its southeasterly corner, and the Indians tell me there is coal a short distance up it. Dense woods covered the banks of river and mountain sides all the distance traveled to-day.

Monday, September 10th.—Left camp at 8 A. M., and immediately at the foot of lake we encountered rapids that extended the whole distance, 9 or 10 miles, traveled to-day. It might be possible at a high stage of water to get a steamer over these rapids with lines, but now they are too shallow, and there are many boulders which are not covered with water. The mountains on both sides of river are high and steep, and road building along the most of this portion of the valley would be expensive. I walked the whole distance traveled to-day, and the Indians ran, dropped and portaged the canoes over the rapids, &c., and were most of the day in the water.

Tuesday, September 11th.—Started at 7 A. M., with the intention of running to the Boat Encampment and getting the latitude, and then proceeding on to Wilson's Landing; but I unfortunately lost my protractor and was obliged to go back for it, which delayed me for two hours, and I did not reach the above place until 1 P. M. I therefore camped, as I was anxious to determine the latitude of this place accurately. The whole distance traveled to-day was a succession of rapids, and about  $\frac{1}{4}$  of a mile from the junction of the Columbia with the Canoe River is a cañon, through which the water runs at a very rapid rate. A bridge might be thrown across at this place. The Boat Encampment, which is on the angle formed by the Columbia and the river that flows from the Athabasca Pass, is a point I think destined, before very long, to become of some importance, as it is the confluence of three large rivers, and is the terminus of the Athabasca Pass. There is a good deal of level land all around it, and the mountains to the eastward are of a slate formation. The color of the water of the Canoe River is a dark, muddy brown; that of the Columbia River, and also of the large tributary flowing from the Athabasca Pass, of a dirty, whitish color. The junction of the Canoe with the Columbia River is the most northerly point of the latter.

Wednesday, September 12th.—Took the latitude of the Boat Encampment, which is  $52^{\circ} 7' 31''$  N., and then ran down the river about 25 miles and camped. The current of the river for the seven miles immediately below the Boat Encampment is very swift, and will probably average 7 miles per hour; there are several rapids on this portion of the river. For the next 18 miles the current is not so rapid, and will probably not average more than  $4\frac{1}{2}$  miles per hour.

There are two good places for bridging the river some three miles below the Canoe River, the Columbia at those two points being about 120 and 175 feet in width; thick growth of timber on both sides of river. The easterly bank of river best for a road, as with the exception of two short points of rock, a road can be carried over low flats and benches the whole distance. The opposite side does not offer any serious obstacles to road building, but to construct one along it would be much more expensive.

Thursday, September 13th.—Ran down to Wilson's Landing, a distance of about 7 or 8 miles; passed several rapids, which would be bad for steamboat navigation, and lines would be required to get steamers over them. There is a steep, rocky bluff on the left bank of the river, a short distance above Wilson's Landing, and would be expensive to take a road around. I took the latitude of Wilson's Landing, which I made 51° 40' N. I here learnt that the Officer administering the Government, the Surveyor-General, and Mr. Ball would camp this evening at Kirby's Landing, I therefore ran down the river to that point, where I met them.

*(Extract from Report of Mr. Moberly on Illecillewaunt River,  
December 18th, 1865.)*

On leaving Mr. Turnbull at the mouth of this stream, I proceed up its northerly or right bank, for a distance of about forty miles, at which point the river divides into two streams of nearly equal size, the general bearing of one valley above the forks, as far as can be seen from that point, being north 14° east; that of the other nearly east. The latter valley was evidently the one that, judging from its general bearing, would be most likely to afford a pass in the direction wished for. I therefore tried to induce the Indians I had with me, by every possible persuasion, to accompany me all the way across the Selkirk Range, and make for Wild Horse Creek. (The Columbia River Indians would from the first only engage to go as far as the head waters of the Illecillewaunt.) All my efforts were, however, unavailing, as they affirmed that if we went on we should be caught in the snow, and never get out of the mountains. As I now found it would not be possible to complete the exploration of the easterly branch so as to arrive at a definite conclusion as to its suitability for a line of road throughout to the Upper Columbia, and as a partial exploration would only be a waste of time and money, for should it be explored throughout at any future time, which I would recommend, the same ground would have to be traversed again, I decided to explore the northerly fork, and accordingly continued my journey, still keeping on the right hand bank until I reached a point about seventy miles from the mouth of the main river. The valley, which had been continually turning more and more to the north, took a decided turn at the above point, its

bearing then being nearly N. W., and as the snow, which had been falling on the mountains for several days, was but a short distance above the river bottom, I concluded to return, it being quite apparent that nothing could be gained by a longer continuance in these mountains. I therefore turned back on the 30th of September, and reached the head of the Great Shuswap Lake on the 10th of October.

At a distance of about four miles above the forks before mentioned, I entered the slate range, and continued in it the rest of the distance traveled up this stream. These slate mountains are intersected in all directions by innumerable veins of quartz, and on the river banks and bars much hard blue gravel, intermixed with clay, was seen. We hastily washed a few pans of "dirt," which we scraped from the surface of some of the bars, and obtained prospects which Mr. Perry (the Mountaineer) who was with me, pronounced to be 5 cents to the pan. I examined some of the "colors" obtained through a magnifying glass, and when viewed in this manner they appeared to be thick, coarse, and with rough edges. It is my impression that good and extensive diggings will be discovered on this stream, and that there is every probability gold-bearing quartz also exists in the slate mountains, through which it flows.

In passing a very clearly defined vein of quartz about five feet in width, I noticed traces of what I thought was silver; I therefore knocked off a few pieces of the rock, which have been assayed at the Government Assay Office here by Mr. F. G. Claudet, and he returns the following result:

Description of Mineral.	Result of Assay.
Argentiferous Galena.	Lead—79.25 per cent. Silver—84 ozs. per Ton of 20 cwt. Gold—Traces.

