

Robson to Boundary Creek.

The 105 miles of work between Robson & Midway, now under construction on the Robson-Penticton branch of the Columbia & Western Railway, is the most difficult & heaviest work ever undertaken in Canada for the same distance, & will cost \$4,000,000, or nearly \$40,000 per mile. Naturally the greatest expense is in the removal of rock, of which hundreds of thousands of tons must be displaced before steel can be laid. The item on tunnels alone is one of the largest of all, there being no less than 7 bores of considerable length along the line.

W. F. Tye, Chief Engineer of the road, has given some interesting details about the tunnel work on this contract on which over 3,000 men are now at work. There are approximately 5,300 ft. of tunnels to be bored, requiring the removing of at least 66,000 cubic yards of hard rock, or nearly 200,000 tons. This, of course, does not account for the additional immense quantity of rock required to be displaced in the open cuts & mountain sides. Between Brooklyn & Robson alone it is estimated that 1,750,000 cubic yards of rock all told must be blasted away. Of the tunnels, the first is 200 ft. long, at Hanson's camp, between Robson & Brooklyn, the second is at Shields' Landing, 8 miles below Brooklyn, & is 300 ft. long. Then comes the 335 ft. tunnel of Burns & Jordan, 4 miles below Brooklyn. The next is over 300 feet long, 4 miles west of Brooklyn, & will require a year to complete, & in the meantime the mountain will be crossed by a series of temporary switchbacks. The 5th tunnel is 36 miles from Robson & is the 2nd longest bore on the line, being 700 ft. in length. From this work to a point 8 miles beyond Grand Forks, towards Greenwood, there are no more tunnels. Not far from Greenwood, where the work is again heavy, there are 2 tunnels, each being between 300 & 400 ft. in length. From Greenwood to Midway there are no tunnels. Each of the tunnels will be 16 ft. wide & 21 ft. high. On all save one hand drilling is the rule. That is the long bore where 14-drill air compressors will be used.

After visiting the work recently Sir Wm. Van Horne said he considered it the hardest bit of railroad construction the C.P.R. has yet encountered. It was much harder than had been anticipated. It was almost like going over the tops of the mountains.

The townsites will be Gladstone, Cascade, Grand Forks & Greenwood, & the Co. has become interested in the development of them. Grand Forks is located at the point where the north Fork of the Kettle River runs into the main stream. Gladstone will be the distributing point for the Burnt Basin mining district & Christina Lake. Cascade is on the international boundary line at the foot of Christina Lake & takes its name from the numerous cascades which are found there, & which can be readily utilized for the generation of immense supplies of power. Greenwood will be the principal mining point in the Boundary Creek country & it is surrounded on every side by developed mines. To the east of it are the Brooklyn, Winnipeg, Crown Jewel, Snowshoe & Stewindler mines, all developed & owned principally by Manitobans. On the north is the B.C. mine, which has a large quantity of ore dumped ready for shipping. On the west side of the valley & overlooking the town is the well-known Copper Camp, the principal mines on it being the Mother Lode & the King Solomon Mine. The former is owned & developed by a New York syndicate, while the latter is the property of D. C. Corbin, of Spokane, the railway man. Nearly all these mines have ore ready for shipment, & are only awaiting the completion of the railway to start shipping to the Co.'s large smelters at Trail. This smelter will reduce all ore

until the development of the country is sufficiently advanced to require local smelters.

Grand Trunk Betterments.

International Bridge.—The situation is practically the same as when we last referred to this matter. The legislation obtained last spring & the action taken at a recent meeting in London, Eng., were but preliminary steps to put the Co. in position should the management, in the near future, see its way clear to go ahead & undertake the actual reconstruction of the bridge.

Montreal Offices.—The Montreal City Council has approved of the plans submitted. Architect Waite writes of them: "The elevations are treated Neo-Greco, that is a modern adaptation of Greek & Roman architecture, not a servile copy, but from the spring whence marvellously simple & logical inspirations of the art of the Greek are obtained, for architecture is required to modify its forms in accordance with the conditions of life, of temperature, & plan of required arrangement. The sculptural parts are concentrated upon features supported by dignified & quiet masses of walls; & while Greek will have the French phase. The plans are naturally adapted with reference to the absolute needs of the Co., entrances, gallery, corridors & apartments, & minor arrangements, are placed with reference to the convenience of the public & Co., yet keeping in view a pleasing impression as to its beauty. The principal facades, now under consideration, are, granite, red or grey sandstone, a grey-bluish limestone, & also a combination of these materials. The construction will be of a most permanent character, working in materials of the highest grades, with all steel & iron parts protected so as to be fire-resisting, & the vital structural parts absolutely concealed in solid masonry. As to cost, this naturally depends upon the materials chosen for the facades. However, the sum named, \$250,000, in the contract between the City & the Co. will be largely exceeded."

It is the intention of the Co. to put in the foundation this fall, & to commence work on the building proper next spring. It is hoped it will be finished by 1900. The stone work, plastering, etc., will be given out separately instead of allowing one contractor to sublet his contracts.

Sarnia & Port Huron Round Houses.—The Co. has recently let contracts for the construction of round houses at Sarnia & Port Huron,—the buildings being very much alike. Each structure will be segmental in form, built of brick, on stone foundations, with cast iron column supports. There will be 30 pit stalls, & 2 entrance tracks. The front, or inside of the building, will be formed with cast iron columns, set on stone foundations. There will be a building for a boiler-room & office, also built of brick with stone foundations, close to the round house. A new G.T. standard 70 ft. turn-table will be provided, & the radius of the building from the centre of the table to the outside face of the outside pilasters, will be 160 ft. 3 ins., the depth of the covered portion being 76 ft. 3 ins. Provision is made to light & ventilate the building in the most modern & improved manner, & all the buildings will be furnished with the latest improvements in the way of water supply, drainage, lighting, steam heating, etc. Adjoining each round house there will be a repair shop & boiler-house, which are also to be of brick. The total expenditure, including round house, turn-table, etc., will amount in the neighborhood of from \$60,000 to \$65,000 for each place. The contractor for the Sarnia buildings is G. A. Proctor of Sarnia, & for the Port Huron buildings, G. S. Germain, of Port Huron. The work at both places is expected to be completed by the end of February.

The Cariboo Railway.

In 1890 the British Columbia Legislature incorporated the Ashcroft & Cariboo Ry. Co., with the late D. Oppenheimer, of Vancouver, H. Abbott, & J. M. Browning as provisional directors. Messrs. Abbott & Browning then occupied the respective positions of General Superintendent & Land Commissioner for B.C. for the C.P.R., & it was understood the charter was obtained in the interest of that Co. The Act empowered the Co. to build a railway of not less than 3 ft. gauge from a point on the C.P.R. main line near Ashcroft, B.C., northerly to or near Barkerville, in the Cariboo district, & gave them the usual general powers, as well as a land grant of 20,000 acres a mile for a standard gauge line, or 10,000 acres a mile for a narrow one. In 1894 an amending Act changed the name to "The Cariboo Ry. Co." & provided that the line might start from the C.P.R. at any point between Ashcroft & Kamloops. A further Act in 1897 provided that the starting point on the C.P.R. & the whole route should be approximately defined by the Co., subject to the Provincial Government's approval, by May 8, 1899, by which date work should be commenced, the line to be completed by May 8, 1903.

The charter has recently been sold to the Cariboo-Omenica Chartered Co., which was incorporated at the last session of the B.C. Legislature, & which was very fully referred to in our June issue, pg. 105. This Co. is composed of English shareholders, the Secretary being C. J. Gardiner, 27 Clements Lane, Lombard St., London. The representative in Canada is R. G. Tatlow, of Vancouver. It is said the prospects for the early construction of the line are good. It would afford railway communication with the Cariboo mining district, which produced enormous quantities of gold in the '60's, & where extensive hydraulic mining is now being carried on. The distance from the C.P.R. at Ashcroft to Barkerville is 280 miles. There is an excellent wagon road built by the B.C. Government between the two points.

There is another charter in existence for a line over the same route, that of the Barkerville, Ashcroft & Kamloops Ry. Co., granted by the B.C. Legislature in 1897, the promoters being A. J. Garesche & H. F. Bullen, of Victoria, & F. G. Ward, of Spokane, Wash.

Surveys, Construction & Betterment.

Atlantic & Lake Superior.—Good progress is being made on the extension from New Carlisle to Pasbebiac, & work will soon be started on the bridge over the Bonaventure River. As announced in our Sep. issue, pg. 178, deep-water terminal facilities are being constructed at Pasbebiac, including a pier which extends 1,600 ft. from the bar into deep water, giving 36 ft. of water at low tide, so as to accommodate the largest vessels afloat.

Brookville, Westport & Sault Ste. Marie.—E. R. Dick, President of the Investment Co., of Philadelphia, recently made an inspection of this line, which is owned by his Co. He says it has been put in good condition & with the renewal of certain bridges now in progress will give a good account of itself to its owners.

Carp, Almonte & Lanark.—Interest has been revived in this proposed line, which is projected to run from Carp, on the Ottawa, Arnprior & Parry Sound Ry., through Lanark County, to connect with the C.P.R. at Almonte, Ont. It is claimed by the promoters that aside from opening up one of the finest sections of new country in Ontario it would also furnish the shortest & quickest route between Toronto & Ottawa. Among the promoters are A. Bell, C.E., Dr. Raines & W. Stafford, of Almonte. President Booth, of