

The results of the various tests are given in Table I., and are the averages of the observations on six bricks in all cases, except those in test "h," where the bricks which were destroyed in the freezing test were, of course, not given.

The modulus of rupture was calculated from the transverse test by the usual formula:—

$$S = \frac{3}{2} \frac{W l}{b d^2}$$

The construction in the Slocan, which is to extend the Slocan system over the summit and down to Kootenay Lake, is nearing completion. On the Kootenay Lake section, the old Kaslo & Slocan line of the Great Northern has been re-opened temporarily as a narrow gauge line, to take in supplies and bring out ore. Next season the entire system will be standard gauge. The Canadian Pacific Railway, it is just announced, will construct ore docks at Kalso, the port of that region, and the silver-lead ore of the section will be conveyed in barges to Nelson, where it will be transferred to rail for transport to the Trail smelter.

Table II.—Freezing Tests.

SERIES A.		SERIES B.		SERIES C.		SERIES D.	
No.	Remarks.	No.	Remarks.	No.	Remarks.	No.	Remarks.
1	8 cracked, 15 broken.	1	5 cracked, 14 broken.	1	20 cracked.	1	16 broken.
2	11 " 15 "	2		2		2	16 "
3	8 " 15 "	3	5 slight crack.	3		3	
4		4		4		4	16 slight crack.
5		5		5		5	
		6	5 slight scaling.	6		6	
SERIES E.		SERIES F.		SERIES G.		SERIES H.	
1	8 scaling, 20 broken.	1	20 scaling.	1	2 cracked, 8 broken.	1	
2		2	16 broken.	2	2 " 8 "	2	
3		3	3 scaling, 16 broken.	3	2 " 16 "	3	Unaffected
4		4		4	2 " 16 "	4	
5	5 crack.	5		5	2 " 16 "	5	
6		6	5 scaling, 8 cracked.	6	2 "	6	
SERIES I.		SERIES J.		SERIES K.		SERIES L.	
1	8 scaling.	1	3 scaling.	1	8 scaling.	1	2 cracked.
2		2		2		2	8 "
3		3		3	2 scaling.	3	8 "
4		4		4	8 scaling.	4	8 "
5		5		5		5	2 "
6		6	5 scaling.	6		6	
SERIES M.		SERIES N.		SERIES O.		SERIES P.	
1	2 cracked, 8 large cracks.	1	7 crumbled.	1	20 broken.	1	16 broken.
2	2 " 8 crumbled.	2	16 "	2		2	8 corner cracked.
3	2 " 8 "	3	7 "	3		3	8 cracks and blisters.
4	2 " 16 "	4	11 cracks.	4	16 crumbled.	4	16 cracked, 20 broken.
5	8 " 11 large cracks.	5	8 crumbled.	5	20 broken.	5	8 " 15 "
6	8 " 16 " "			6	12 corner crumbling.	6	

Where W is breaking load at centre in pounds, l is the span, b is the breadth of the brick, and d the depth.

In the case of bricks which had a frog, the area of the frog was deducted from the gross area when the bricks were tested for compression strength on edge.

Table II. Bricks were frozen and thawed twenty times as specified. In the column "Remarks," the numerals denote the number of times the brick was frozen before disintegration began to set in.

RAILWAY DEVELOPMENT IN THE KOOTENAY

The announcement of the West Kootenay Power & Light Company, that it will install a third unit in its main plant at Upper Bonnington Falls, below Nelson, to be in a position to furnish electric power to the Canadian Pacific Railway when the latter electrifies its Rossland branch, is one of the numerous ways in which the construction activity of the railway company in the Kootenay is reflected. The plant is hydraulically developed for 32,000 horse-power, and electrically developed for 16,000 horse-power at present. The change to electricity for motive power on the Rossland branch, it is generally believed, is to be the first step in the application of this agent throughout the system in the mountains.

Preceding this change, for the last two years the Canadian Pacific Railway has been steadily improving the whole system tributary to the Crow's Nest branch, and shortly the through route portions will be of a standard equal to the main line.

The steel hull for the new Kootenay Lake steamer has arrived from the yards of the Polson Iron Works, Toronto, in five cars, and 150 men are now at work in the Nelson yards on this \$200,000 boat, which next year will take its place in the through service.

Overshadowing any of these evidences of the railway company's intentions with regard to this territory is the rate at which the short line is being pushed through toward the Coast. In eight months, at the present rate of construction, the extension of the present Boundary branch, which now is operated to Midway, will be completed to Penticton, on Okanagan Lake. In thirteen months or less there will be connection with Merritt, the present terminus of the Nicola branch from the main line. On the date that that connection is established, the through Crow's Nest route will be diverted at Nelson to the Boundary branch, when a direct train service between Nelson and Vancouver will be inaugurated. This will be the third route between these termini, and will be much shorter than either the Arrow Lakes route or the Great Northern route.

This revolutionary programme requires practically but a year for its completion, and in all essentials the new Crow's Nest through route will be in existence and operation. When the Lethbridge-Weyburn cut-off on the prairie, and the Merritt-Hope cut-off near the Coast range are completed, the Crow's Nest route will originate at Winnipeg, and it will be at least a co-ordinate route with the main line.