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LABOR TROUBLE AT QUEENSTON

LAST Saturday evening the laborers on the Queenston-Chippawa power canal met to take a strike vote because the Hydro-Electric Power Commission of Ontario had refused to grant all of their demands for increased wages. Labor leaders and members of the provincial parliament pointed out the urgency of the completion of the Queenston development, and requested the men not to strike. They promised that the provincial government would appoint a commission to investigate the dispute. The men decided to leave the matter in the hands of the provincial government, but despite this decision, about half of the unskilled labor on the job is said to have quit work during the past few days, thus forcing out of employment a large number of skilled workmen.

Statistics compiled by the Hydro-Electric Power Commission show that the wages now asked by the workmen mean an increase of 223% over those paid in 1914, while the cost of living in the same time has advanced 110%. The increase in wages demanded is, therefore, entirely out of proportion to the increase in the cost of living.

The commission states that the wages now asked are as high as \$14.70 a day for cableway and dragline operators and other skilled mechanics, \$14 a day for pump-runners, \$13.20 for blacksmiths on heavy work, and \$12 a day for watchmen. The men who are now asking \$14.70 a day received \$4.80 a day in 1914; those who are asking \$13.20, then received \$3.50.

Consideration of these figures will cause the reader to ask two questions: First, is labor utterly demented? and, second, Has the Hydro-Electric Power Commission or any other public body any right to pay wages at all approximating these figures? It would appear questionable whether the Hydro-Electric Power Commission has not already paid en-

tirely too high wages. It is high time that the commission called a halt in their work when demands such as these are made by comparatively ignorant laborers.

What appears to be needed at Niagara Falls are a few free soup kitchens and a bread line. The general public, even including many trade unionists, will support the Hydro-Electric Power Commission in a stand against demands such as those above outlined. Ontario needs power, and needs it urgently, but the people will do without the power and make considerable sacrifices rather than be "held up" in this manner by unskilled labor.

The Queenston-Chippawa development is a great undertaking, but it cannot be economically completed upon the basis of \$14 or \$15 per 8-hour day for labor. Publicity regarding labor conditions at Niagara Falls will serve to reduce the load on the Niagara system until the proposed 50,000 h.p. steam reserve plant is placed in commission, and, if necessary, the completion of the Queenston-Chippawa development can be left until labor gives some evidence of sanity. Street lighting can be reduced; electric heaters, irons, washing machines and other similar appliances can be temporarily stored away; the power requirements of factories can be curtailed or other sources of power used; and economy can be shown in domestic lighting.

BULKING AND SURFACE AREA

EXPERIMENTS described in the article by R. B. Young and W. D. Walcott, published in this issue, have shown that the maximum bulking—or increase in volume resulting from the addition of water—of any sand is, within certain limits, a direct function of the surface area of that sand as determined by the methods used by Llewellyn N. Edwards in his original surface area studies. The limits within which this relation holds are approximately the limits of surface area encountered in commercial concrete sands. This relation between bulking and surface area exists both for sands the particles of which are of uniform size, and for mixtures of sand and gravel.

Since maximum bulking and surface area are related, Messrs. Young and Walcott claim that it is possible to determine the surface area of a sand by determining its maximum bulking, and *vice versa*. They describe and discuss a method of test based on this theory.

Results obtained by using their method are given in their article and indicate that this method of determining surface areas gives, within the limits of grading for which it is applicable, results in close agreement with those obtained for the same sands by the method of mechanical analyses and grain counts.

CONCRETE PROPORTIONING AT QUEENSTON

THE article, "Bulking Measurement of Surface Area," published in this issue, is another of several noteworthy contributions that Roderick B. Young and his assistants have made to the subject of the proportioning of concrete materials. The Hydro-Electric Power Commission of Ontario was the first organization that put Mr. Edwards' surface area ideas and Prof. Abrams' water-cement ratio law into actual practice in the field on construction work of any considerable magnitude. Under Mr. Young's direction the commission's laboratory perfected its own method for making use of both of these ideas in a practical manner. The success that has attended their efforts has been shown in several articles that have appeared in *The Canadian Engineer* during the past twelve months.

As a result of this success, nearly all of the concrete on the great Queenston-Chippawa development will be proportioned by the new methods. The plans for this concrete work include more scientific inspection and a greater amount of testing than has ever before been seen in connection with similar engineering undertakings. The laboratory control