The contract price for excavating solid rock in trenches 3 x 9 feet deep in the city of Spokane was $4.75 per cubic yard. This rock is a basalt of extreme toughness, and requires an excessive amount of drilling and blasting. The contract price for the same work in open cuts in street work was from 90 cents to $1.25 per cubic yard. The cost to the city for removing gravel in the same size trenches was 90 cents to $1.00 per cubic yard. Wages are $3.00 for 8 hours, for city work. The contractors figure 20 per cent. of the cost consists of overhead charges, interest and depreciation, and 6 per cent. tax for workmen's compensation.

Open cuts made at Bingham, Utah, in weathered limestone and quartzite and slide rock, under the direction of the writer, cost 80 cents per cubic yard. Prospect tunnels in the same formation cost $4.00 to $6.00 per foot. Miners' wages were $3.25 for 8 hours.

Hand placer work is cheaper, on the whole, than the same kind of work on lode claims, which is to be expected from the nature of the material which is handled in each case. The formation of placers consists of stream gravel, sand, or clay, with an occasional boulder, and in some cases cemented strata. Hand placer excavating is straight pick and shovel work, except where boulders are encountered. In hand sinking on many placer properties, the amount of water which has to be bailed or pumped out is the greatest factor in determining the cost, and quite often the quantity of water prevents sinking entirely. In many places cemented strata are entirely absent, and what boulders are found are near bedrock and need not be moved in prospect work.

By considering how much gravel a man can handle per shift, and his daily wage, it would be possible theoretically to arrive at the cost of most placer excavations. Byrne, in his Inspector's Handbook, gives the average amount of material a man can loosen per hour with a pick as:

Clay or cemented gravel	1 cubic yard
Loam or loose gravel	2 to 3 cubic yards
Sand	4 to 6 cubic yards

On the same page he gives the average quantity a man can shovel per hour with a limit to the cast of 6 feet vertically and 12 feet horizontally, as:

Rock	1 cubic yard
Clay or heavy soils	1.7 cubic yards
Loose earth or sand	2 cubic yards

By taking Byrne's figures of 2½ cubic yards per hour for loosening gravel, and of 1.7 cubic yards per hour for shovelling, a man, in an 8-hour shift, could excavate a trifle over 8 cubic yards of material. By allowing, for miners, $3.50 for 8 hours, the cost per cubic yard would be 44 cents. This yardage agrees fairly well with other authorities. such as Gillette and Trautwine.

On placers, the cost of open work or trenches up to 7 feet deep, with little or no water, varies from 40 cents to $1.00 per cubic yard, depending upon the nature of the material and the price of labor. Timbered prospect tunnels in gravel cost generally from $4.00 to $6.00 per linear foot. The cost of a 10-foot shaft, with little or no water, is generally taken as being $10. Frozen gravel is not taken into consideration.

Trenches in city streets, particularly in a mountainous country, are quite often in material similar to that found on placers. Costs are generally kept fairly close on this work, and in similar material can be used as a basis of comparison for placer work.

It costs the Missoula Light & Water Company an average of 36 cents per cubic yard to do the excavating for city water trenches 2 x 6 feet deep. The work is done by day labor, with wages at $3.00 for 8 hours. The material moved is almost entirely wash gravel, with an occasional hardpan.

The Great Falls Water Company, in excavating for city water pipes, moved 89 per cent. earth, 5 per cent. solid rock and 6 per cent. loose rock at an average cost of 34 cents per cubic yard. Wages were $2.25 for 10 hours.

S. Lefevre gives the cost of surface excavations at Mineville, N.Y., in hardpan and boulders at 80 cents to $1.00 per cubic yard. Wages for this kind of work are about $2.00 for 10 hours.

Well diggers sink 5 x 5 feet wells up to 30 feet in depth on the Missoula flat, on contract, at $1.50 per foot including placing, but not cost of timber. Below 30 feet the cost increased. The flat is an old river bottom, and consists mostly of river gravel.

CANADA AND SWITZERLAND.

Certain unfounded rumors having lead a part of the Canadian public to erroneously believe that Switzerland was completely isolated in the centre of Europe between four powerful belligerent nations and, since the entry of Italy in the war, had been shut off from any outlet on the sea and was consequently prevented from exchanging products with Canada, Mr. Henri Martin, Consul-General of Switzerland for the Dominion, has just received from the Swiss Political Department in Berne the following cable:—

"There is in Switzerland absolutely no interruption of traffic with foreign countries. All said traffic goes through French ports direct or via Great Britain. Route through Rotterdam could also be used, but sailing opportunities are scarcer from Holland."

The Consul-General states also that, according to a recent agreement with the Swiss National Bank and the Bank of Montreal, all Canadian payments intended for Switzerland can be made in Canada through the channel of all offices of the Bank of Montreal in the Dominion.

COURTENAY BAY CONTRACT CANCELLED.

Owing to slow progress in the construction of the dry dock, terminals and other improvements in Courtenay Bay harbor, St. John, N.B., the Department of Public Works, Ottawa, has cancelled its $7,000,000 contract with the Norton-Griffiths Construction Company. The contract called for the completion of the work within two years. One year has elapsed and it is reported that very little has been done, although the contractors were notified by the Government that unless the work were expedited the contract would be cancelled.

It was one of the largest contracts in Eastern Canada. It is understood that new tenders will be called for, although no formal announcement has yet been made by the Government.

Falsework for the erection of the N.T.R. Bush River bridge truss spans and for the preliminary temporary support of a contractor's service track was made with the main bents capped at the proper elevation to support the chamber blocks for the trusses, and surmounted by centre pony bents to carry track stringers and rails and provide for a construction track in advance of the bridge erection.