The mill is at present being driven by water power, a Pelton wheel being installed. There is a large Corliss engine which is used when the power may not be sufficient for all purposes. The boiler house is separate and in the centre of the buildings and steam is distributed to all points from this centre. To the left is the hoist and compressor; to the right is the sawmill and planing mill, and below is the large stamp mill. The services of only four men (two by day and two by night) only are required in the stamp mill and in the cyanide plant only one man in the day and one at night does the work.

It is the intention to install a belt-driven compressor in the mill and for a considerable portion of the year do away with the use of steam altogether. All the workings are well lighted by electricity, generated in the stamp mill. The mine is in excellent condition and recently work has been started to supply a considerable portion of the ore from surface workings similar to the manner of working the large mines at Phoenix. The superintendent expects to be able to mine and treat the ore for less than $2.00 per ton.

VALUES IN SLUICE CONCENTRATES.

MR. J. B. HOBSON, manager of the Consolidated Cariboo Hydraulic Mines at Bullion, writes to the MINING RECORD as follows: "I send you herewith copy of analysis by Mr. J. O'Sullivan, assayer, of Vancouver, of a sample of heavy sand, sulphurets, and other concentrates obtained last year after cleaning up the sluices at the Consolidated Cariboo Hydraulic Mine, which may be of some interest to your readers.

"Having made some qualitative tests before sending the sample to the assayer, I found indications of the presence of palladium and requested Mr. O'Sullivan to make a careful quantitative analysis for that metal —the large quantity of which came as a great surprise to me. I do not remember of having noted any report of the presence of palladium in any of the assays of concentrates from the auriferous alluvials of British Columbia; and it might be well for those operating alluvial mines to have their concentrates carefully examined for the presence of this metal—which belongs to the "Platinum-osmium-iridium" group and possesses a commercial value higher than that of platinum."

RESULTS OF ANALYSES.

Mr. J. O'Sullivan, F.C.S., Etc., of Vancouver, found the sample of alluvial deposit to contain:—

Gold	147.51 ozs. per ton of 2000 pounds
Silver.........	138.34 " " " "
Palladium	46.55 " " " "
Platinum	15.12 " " " "
Osmiridium.....	4.73 " " " "
Copper (wet) ...	14.3 per cent.

Commercial Value of Sluice Concentrates from the Consolidated Cariboo Hydraulic Mining Co.'s mine, Bullion, B.C., figured on basis of attached assay:—

Metal.	Ozs. per ton of 2000 lbs.	Value per oz.	Value per ton.	Total value per ton.
Gold ..	..147.51	$17.00	$2,507.67	
Silver.	..138.34	.50	69.17	
Palladium	46.55	19.00	884.45	
Platinum .	15.12	16.25	245.70	
Osmiridium	4.73	29.00	137.17	
Copper ..	14.30 p.c. (wet)	10 c. lb.	28.60	
				$3,872.76

COSTS OF LEAD SMELTING IN KOOTENAY

THE controversy, to which we briefly alluded last month, on the subject of the rates charged by local smelters for the treatment of lead ores, has provoked a not un-noteworthy discussion, to which during the past month some interesting further contributions have been made. These we propose to summarize, quoting as well from letters we have received on the subject from a number of the principal silver-lead mine operators in the Slocan and elsewhere to whom we propounded the following queries—:

(1.) What have been the smelting rates for different years since you first commenced operations, that is, previous to the time when there was competition from Canadian smelters?

(2.) What deductions have been made from the price of lead either by the duty from the American price, or for the marketing from the English price.

(3.) Have as good rates been obtainable from home smelters as foreign smelters? Has the treatment received in other respects been as satisfactory

Meanwhile it appears to us from the evidence that the case against the smelters has not been proved; and although it is true, several mine operators express dissatisfaction at the rates now in force, a large proportion believe that the charges are, under the circumstances, perfectly just and equitable, and do not represent more than a reasonable return to the smelters on their operations. The point which does not seem to be clearly understood is that before the change was made of payment on the basis of the London price, the smelter realized a certain profit which, of course, varied with the variation in the relation of the two prices to one another, and that this was taken into account in fixing freight and treatment rates; but that when the change was made of purchase on the basis of the London price, the local smelter, in order to avoid the risk attendant upon the previous method, adjusted the lead percentage deduction and the freight and treatment charge in such a manner as to give about the same gross results as before—although as a matter of fact, according to the published returns of mining companies' ore sales accounts it is shown that at the present freight and treatment rates and on the purchase basis of London market quotations, the mine owner would receive more for his ore to-day than under the old *regime*. It is, moreover,