metallurgist has been devoting his attention to the improvement of the barrel for the chlorination of gold ore, the Australian metallurgist, who was the first to use tha method on a large scale, has thrown it over for vat chlorination.

We wish to strongly impress a few points on those who contemplate treating concentrates. The hydro-metallurgy of gold is a study of itself, and a process which will effectually treat one class of concentrates may be a complete failure on another; so, don't put up a plant without proper advice because some one else is using it successfully, and above all avoid untried patented processes which are claimed to extract "*200 per cent.*" of the gold in the ore. We have had too many of such in this Province.

A correspondent from Londonderry writes: "With regard to the general work going on here now, you might mention if you wish that all departments (with the single exception of the finished iron branch) are at present employed to their fullest capacity and everything looks favorable to a large business during the coming summer. The puddle bar department started up again early in January after a silence of over three years, while the coke ovens were lit up last summer and have been giving excellent results. About 500 men and boys are employed now, so business in the town is unusually brisk and everything tends to a large circulation of money during this year. The coal employed in the coke ovens comes from Westville, Stellarton and Springhill and forms an important factor of the railway traffic of the district, together with the ore, limestone and other necessary supplies. The pipe foundry has been working throughout the winter for the first time on record, the greater part of the time with a double gang of men; the towns of Digby, Westville, Hartland and others were supplied last summer, while the bulk of the fall and winter's output has gone to the new gas works in Halifax.

CORRESPONDENCE.

Silver Mining in British Columbia.

To the Editor:

SIR,—Regarding the ouput of British Columbia silver mines, if the desultory operations conducted in Illecillewaet and the Lardeau are not taken into account, silver mining at the present date may be said to be practically confined to Southern East Kootenay. There is, however, one notable exception in Southern East Kootenay, where the North Star mine is now producing some 30 tons a day under the operation of Mr. D. D. Mann, of Montreal. Considering then only the Slocan, Ainsworrh and Nelson mining divisions, there was an output during the year 1895 of 10,177 tons, valued $10,594, giving to silver more than one-half of the mineral value of the whole West Kootenay output, which was approximated at $18,678.65, from 32,456 tons, showing a rate of value per ton greatly in favor of the silver ore.

This output was the result of 34 shipping mines, and to these there have been added some six or seven more since the beginning of the year, chiefly in the Slocan division.

The cost of freight and smelting charges is from $22 to $27 at present for the common clean galenas, the majority of the ore going to Great Falls, Everett, Tacoma and Omaha smelters. A few shipments only have gone to the local smelters at Pilot Bay and Nelson.

Each of these great United States smelters has a representative in the field buying up the ores they want, and lately Pueblo has also entered the list.

Of all these mines now working there is only one operated and controlled by a Canadian company in the Slocan division. This is the Wellington, the property of the Kootenay and Columbia Prospecting and Mining Co. of Ottawa. The ore bodies being usually found in a comparatively soft calcareous slate or impure limestone, are easily mined, but wages being at $3.50 a day for miners, such tunnelling as is contracted for is done at $11 to $15 a foot, and is nearly all single-handed work.

Usually short crosscuts are run in to tap the ledge near its outcrop, thus the mine pays its way from the start, and as time goes on No. 2 and No. 3 tunnels are run in at lower levels, when upraises and overhand stoping are made.

Most of the mines employ during the winter season some 8 to 20 men, but several of the larger companies have 50 or more. The Slocan Star, the presumed greatest mine in the Slocan, employs about 60 men, taking out about 30 tons of clean hand-picked galena a day, besides the concentrated ore which now goes over the dump. The Alamo Mining Company, operating the Alamo mine tramway and concentrator, has turned out from 40 to 50 tons of ore a day with as many men. This ore concentrates 3 to 1 in most cases, and gives a concentrate carrying 140 ounces silver and 55% lead.

In connection with silver mining, the concentrators with a gravity tramway will run during the coming summer in the Slocan.

Concentrators at Woodbury, Ainsworth, are now running or will be very soon. The Pilot Bay smelter runs entirely upon silver ores. It was blown in during March, 1895, and in that year shipped 2,020 tons of lead silver bullion valued at $100 per ton. This was not a continuous run but intermittent, depending upon ore supplies. About 15th January this year the Hall mines smelter was blown in for a short run. The ore, a copper silver one, proved to be almost self-fluxing, with the result that this smelter, built for a capacity of 100 tons per day, can smelt 120 tons. The fluxes used here are limestone, iron and Swansea coke.

A new device which is reported to work well is the granulating flume, which carries away the slag. The ore, worth $42, is smelted into a copper matte worth $240 to $280, a reduction of bulk to one-sixth or one-seventh of the original.

This ore is not roasted, but roasters will be put in to treat outside sulphide ores, such as those found at Trail Creek. Iron for fluxing is obtained from the Iron Hand west of Kaslo. The oxide ores of iron are rare in west Kootenay, and pyritous ores requiring roasting are mainly used for flux. Otherwise the great variety of ore west, dry and pyritous, together with the varied gangue filling, an abundance of limestone, make the district a favorable one for the establishment of smelters.

Another smelter built to treat the Trail Creek pyritous ores for matte has been built at Trail, B.C. Its capacity is to be 150 tons. Several attempts have been made to blow it in, but owing to the nature of the fluxes, or it is asserted, of the coke, no bullion has yet been produced. Upon the 3rd of March it was, however, expected to be successfully started.

This smelter will probably treat no silver ores, and unless the present capacity of the British Columbia silver smelters is greatly increased, the silver must continue to go to the United States smelters almost entirely as it now does from the Slocan.

G. C. GWILLIM.

NEW DENVER, 20th March, 1896.

The Validity of Nova Scotia Titles.

SIR,—Through your valuable columns, as a reliable mining journal, I wish to emphatically contradict a calumnious report in circulation, representing that a reporter had interviewed me on the question of the effect of the late decision of the Privy Council in the suit "Attorney-General vs. Reynolds and Fairbanks," and that I had stated said decision practically declared every mining title, of both coal and gold, in Nova Scotia, defective.

This report I have just learned has been in circulation several days, and was first published in the Halifax *Mail* and *Herald*, in whose office it emanated. I knew nothing of this report until today, as I do not read either of these papers, as they have tried to do me injury before, and are my enemies, as well as, I believe, the enemies of the mining industry of this Province, and I fully believe there were malicious and ulterior motives in this diabolical report. I have therefore placed the matter in the hands of my attorneys, Messrs. Drysdale & McInnes, of Halifax.

Yours, GEO. W. STUART.

Truro, 12th March, 1896.

Nova Scotia Certificates.

SIR,—I herewith hand you a set of examination papers, that were presented to candidates at our last examinations for mine managers in this Province, for your perusal, as I am inclined to think you have not read these papers before. You say in your last (February) issue of the REVIEW, "that not more than one-fourth of the questions asked candidates were of a practical character." Now, sir, I beg to differ with you on this point, as I consider they are without exception practical and necessary questions to be answered by any person desiring to become a mine manager in Nova Scotia. Although our coal sales are very limited compared with other countries, we meet and have to contend with all the difficulties in mining; our coal seams lie from nearly horizontal to perpendicular and contain all the different gases that are, or can be found in any other mining country. Therefore we need just as good and as well educated men for mine managers in Nova Scotia as any other part of the known world. *In re* English certificates, you "venture to think the less said about this the better." I venture to think that the less said about English certificates the better for some men holding such.

Yours truly, JAMES BAIRD.

Chignecto Mines, N.S., 20th March, 1896.

COMPANIES.

Cariboo Hydraulic Mining Company, Limited.—The following is an excerpt from the report of the directors for the year ending 31st December last:—"It was the original intention to construct a ditch capable of providing 2,000 miners' inches of water, and the contract was made upon that basis, but while the work was in progress the manager recommended in the strongest terms that the capacity of the ditch be increased to 3,000 miner's inches, in view of the fact that the work could be done cheaper then than at any other time, and that the additional profit resulting from the increased head of water would give a very large return for the investment. Your directors, convinced that the manager was right, authorized the additional work, and arranged to borrow for the company the necessary money to pay for it.

"During the spring months your property was exposed to very serious damage from the torrents from Dancing Bill gulch, and your directors, upon the recommendation of the manager, authorized the necessary expenditure to divert the water passing through this gulch to the ditch, so as to utilize for washing purposes a stream that would otherwise be a continual menace to the property. Your directors also borrowed the necessary money to complete this work.

"The details of these large but necessary expenditures, together with the amount required for a connection to Boot Jack lake, and for other unforeseen works, compelled your directors to incur a total debt of about $120,000. Of this amount $80,000 was borrowed, and the balance is in the shape of bank overdrafts, some of which are guaranteed.

"Your directors estimate that to provide the supplies, explosives and additional equipment, and to pay for labor up to the 31st May, an additional amount of about $55,000 will be required.

"In order to pay off the floating debt and to provide about $25,000 of working capital, your directors recommend that the capital stock of the company be increased to $500,000, and that the new shares be offered at par to the shareholders *pro rata*, according to their holdings when the books are closed.

"Resolutions authorizing the increase of the capital stock of the company from $300,000 to $500,000, and specifying the terms upon which the $200,000 of new stock shall be offered to the shareholders, or otherwise disposed of, will be submitted for your approval."

MANAGER'S REPORT.

As the manager of the Cariboo Hydraulic Mining Co., Ltd., I have the honor of making the following report relative to the work accomplished at the company's mines from April 1st to November 12th, 1895.

Permanent Improvements.—Under this heading I place the extension of ditch from Hazeltine creek to Six Mile creek, the construction of dams, gates and other work required to convert both Polley's and Boot Jack lakes into storage reservoirs; construction of ditch to divert water from Dancing Bill gulch to the South Fork pooling reservoir; construction of road and trails, erection of camp buildings, and other work appertaining to the equipment of the company's mines.

Operating Mine.—Results of the past season's work are tabulated as follows:—

Water used in Pit No. 1	19 days, 11 hours.
" Pit No. 2	25 " 22½ "
Total	45 days, 9½ hours.
Gold product of season, gross	$60,306.93
Yield per miner's inch per day (estimated)	56 cents
Pit No. 1—	
Quantity of water used	42,933 inches
Gravel removed (estimated)	60,000 yards
Gold recovered (estimated)	$35,000.00
Yield per cubic yard	$58\frac{3}{10}$ cents
Duty of water per miner's inch per day	$1\frac{4}{10}$ cubic yards
Pit No. 2—	
Quantity of water used	64,731 inches
Gravel removed (estimated)	150,000 cubic yards
Gold recovered (estimated)	$25,306.93
Yield per cubic yard	$16\frac{9}{10}$ cents
Duty of water per miner's inch per day	$2\frac{3}{10}$ cubic yards