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## MINING REVIEW

VOL. 2.—No. 1.

1883—DECEMBER—JANUARY—1884

VOL. 2.—No. 1

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The CANADIAN MINING REVIEW  
devoted to the opening up of the  
general wealth of the Dominion, and  
publishers will be thankful for  
encouragement they may receive  
from the hands of those who are inter-  
ested in its speedy development.

Visitors from the mining districts  
as well as others interested in Cana-  
dian Mineral Lands are cordially  
invited to call at our office.

Mining news and reports of new  
discoveries of mineral deposits are  
solicited.

All matter for publication in the  
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MINING REVIEW, Ottawa.

Many of our subscribers have  
expressed a wish that the  
"Review" should issue on or  
about the 15th, instead of on the  
1st day of each month, it was  
decided that the day of publi-  
cation should henceforth be in  
accordance therewith, and we  
solicited ourselves of the compar-  
atively inactive season at our  
office to make this change, by  
publishing a DECEMBER AND  
JANUARY number.

The heavy falls of snow which have come one upon the other since the beginning of the year, and the extreme cold weather, have, in a measure, retarded the progress of mining operations in Canada, and more particularly has this been the case where a level has not been reached beyond the influence of these unwelcome elements. The inconveniences they occasion are more felt, probably, among the phosphate miners than by those at any other description of mines in the country, and yet, throughout the Ottawa district, the mines are being vigorously worked and phosphate is coming abundantly to the surface—the mineral is being more carefully handled than formerly, in respect to clobbering, and the price now offered for the output is encouraging producers to invest more capital in equipping their mines with such plant as will enable them to proceed with mining operations to the best advantage. An article in another column will convey some idea of what is going on at the phosphate mines, and will give a fair report of last year's shipments and the probable quantity of mineral that will go forward during the season of navigation of 1884.

Mining in Nova Scotia and New Brunswick has been a profitable industry during the year and has been carried on much more actively than for years before, especially in the gold producing districts of the former province. In the Eastern Townships of the Province of Quebec there has been more than an average production of asbestos and copper ores, but we have received no recent report of progress at the mines. The quantity

of gold raised during the year in Beauce district is over the average, and a fair amount of money has been disbursed on account of prospecting which will not have been in vain, as many promising properties have been opened up. Iron mining in Central Canada never offered better inducements to capitalists, and much foreign capital, American and English, has been invested in the industry which is destined to become one of great importance in the country. Throughout those districts to the north of Kingston and Belleville, and contiguous to a portion of the line of the Kingston and Pembroke Railway, much interest is being manifested in the iron deposits, and an extensive section of country has been carefully prospected—new bodies of ore have been discovered and some of them have been tested with satisfactory results. The Haycock Iron Mine, in the County of Ottawa, has passed into new hands, and it is to be hoped that the property will develop so that the company may realize its most sanguine expectations. A new industry has been quite recently inaugurated in the vicinity of Perth by one of the most energetic and successful miners in this section of Canada who is developing a valuable mica property, which promises to yield an almost unlimited supply of the mineral—very clear and white and hardly inferior to that of New Hampshire or North Carolina. Proceeding further to the west, to that section lying to the north and north-west of Lake Superior, the year's operations at the mines have been attended by successful results, some particulars of which are reported in another column under

the head of "The Mining Industries North of Lake Superior." Since the last report in the REVIEW of progress at the Lake of the Woods gold mines and the mines of Manitoba, little has transpired to chronicle, except in a general way—in the former locality some of the mines continue to be carefully worked, and with success, while at others there has been a temporary suspension of operations pending the forthcoming of more capital which is looked for with the opening of spring. The result of the past summer's prospecting in the Rocky Mountains has been many important discoveries of gold, silver, copper and iron, and some capital has already been subscribed in England, the United States and in Canada for their immediate development. Some of the coal mines of the North West Territories have been vigorously worked during the past year and have supplied a large quantity of good coal to the Canadian Pacific Railway Company and to settlers. A vast amount of money is invested in this important enterprise and much speculation has been indulged in by manipulators who have no intention of entering into active mining, but who may be rewarded by over-credulous capitalists being led away by misrepresentation. It is to be hoped that capital, which is so much needed for the legitimate development of our mineral lands, will not find its way into any unprofitable enterprises, and that wild speculation and intrigue will be confined to the mines. It has been, and to a great extent is now being, carried on, it must

be said to be unscientific, even primitive; time will correct this however, and at the close of 1884 we will doubtless see still greater advancement in this respect than was accomplished during 1883. From the mining districts of British Columbia no recent news has reached us.

A feverish and unsettled condition, as well as a serious decline in prices, having characterized the Iron trade in England during 1883, it is a remarkable fact that the production of pig iron in the North has exceeded that of any former year, it having reached, as nearly as can be arrived at, not less than 2,765,000 tons, as compared with 2,688,650 tons in 1882. At the beginning of the year prices ranged from 43s. to 43s. 6d., and at the close 36s. to 36s. 6d. were the ruling quotations, showing a decline of 7s. from a price that was considered not more than sufficient to yield a fair margin of profit on cost of production. The excess in the amount produced does not remain with the producers, for it is known that the stock on hand is no more than they were carrying at the close of the previous year. There has been a marked falling off in the exportation of crude iron during the year, remarkable in the quantity sent to the United States, and this, in addition to the fact that the production was greater than that of any former year, leads to the conclusion that the demand for home manufacture was brisk, and, in a notable degree, exceeded what has ever before been known in the history of the English Iron trade. Large imports of ore from Spain and other countries have been made into Wales, Durham and Scotland. In Scotland there has been the same large production, and in the Cleveland and Durham districts the output shows the largest record in the history of the trade. Yet prices have declined.

Attention is directed to Mr. Obalski's advertisement in another column on behalf of a French Company who desire to purchase copper ores and mattes.

## THE PHOSPHATE ROCKS.

Nature of the Deposits. Will Deep Mining Pay?

BY HENRY G. VENNOR, F.G.S.

In the present active state of phosphate mining and general enquiry concerning our mines, it will be of interest to consider briefly the conditions of the deposits, and more particularly what evidence there is of these being deep-seated. I have elsewhere stated—and oftener than once—that the apatite rocks were, geologically considered, superficial. Hence the query naturally arises, Will deep-mining pay?

This question is an important one at the present time when so much capital is being invested in mines and mining properties, but, in so far as I have seen, no answer of a satisfactory nature has yet been given. The question, however, is a simple one, when we look into the nature of the deposits, *i.e.*, their geological conditions. The miner, who hitherto has been at work at economic ores in *true fissure veins* cutting alike all the rocks of a particular mining district, is entirely at sea when he is placed in the phosphate field. He may talk as he pleases about being on or off the "main lode," but of one thing only is he really certain, and that is of being supremely puzzled. Tell him to search in the direction of the bedding and he will laugh you to scorn and inform you that "true veins" but rarely run so. Yet, such is the truth—the very truth—in the case of phosphate deposits. These are nothing more than a series of irregular (large and small) masses distributed along one or two plains of bedding in one particular belt of rock. Leave this particular belt and you lose your phosphate: follow it, and you continue to discover new deposits. As is only natural, of course, and the case with iron ore and similar deposits, *true veins* occur as *spurts* or infiltrations from these embedded masses, but only run for very limited distances. The very finding, however, of one or two of such *veins* is enough for the embryo mineralogist and geologist, and he hastens to set it down as an established fact, that as such are our economic deposits of apatite.

The phosphate rocks, geologically speaking, are superficial, and have many thousands of feet of strata beneath them, but with this the practical miner has

nothing to do; they are plenty deep enough for his purpose, and he may rest assured of still finding his mineral in workable deposits as deep as he cares to delve. For example, let us take the rich outcrop of phosphate rock along the du Lievres river. This dips off to the westward at a high angle and plunges down to unknown depths, but comes up to the surface again in Wakefield—away over on the Gatineau river side—still carrying its phosphates. Now, as we cannot by any common sense reasoning conclude that the deposits of mineral are exclusively confined to the two outcrops of the rock, the one in the du Lievres and the other on the Gatineau side, it must be interred that these continue with the rock to great and unknown depths in the interval of country between the rivers named. Consequently I have no hesitation in affirming that the mineral "goes deep"—but as to whether the miner can mine deeply is quite another question, and depends entirely upon the size and nature of the deposit or deposits he is following down. I do not believe that any one mass of apatite will ever be found to run connectedly to a great depth, but possibly by means of "stringers" one mass may lead to the discovery of another much lower down. It is doubtful, however, whether such mining would prove remunerative, as the removal of much barren rock between the deposits would in all probability turn the balance in favor of abandoning the opening.

As an illustration of great *fissures* in this same district, I would allude here briefly to the groups or series of trap dykes which intersect the strata continuously for miles at a stretch. These undoubtedly represent or mark out the direction of great rents or *fissures* by which the rocks were affected at some period subsequent to the deposition of the phosphate of lime. Now, had these great rents through the strata become filled with the mineral last named instead of the doleritic trap, we would have just the sort of thing most of our miners are and have been looking for, namely, "main lodes," "true veins," etc. of phosphate of lime, and we would have something more tangible and definite to base our calculations upon respecting deep mining. Another illustration of the condition in which the deposits of this mineral occur may be found in the distribution of the proper or *parent* rock through Ottawa County, which

clearly establishes the fact of the rock carrying the mineral *where it is*, and not the mineral traveling merely one particular position of it, as must be the case were we to fix upon the *true* theory. We have, for instance, one particular volume of rock signally impregnated with the mineral in grains, veins, and masses large and small. The rock is not bedded, but is of granitoid structure and highly crystalline. The chief constituents are pyroxene (in grains and crystals), hornblende, feldspar, calcite and apatite—with greater or less admixture of iron pyrites which generally gives both rock and apatite a reddish brown weathered appearance. In such a volume of rock are all the deposits of mineral of an importance hitherto discovered either in Ottawa County or the Rideau section towards Perth and Kingston in the Province of Ontario. Go where one will in the course of this belt of rock phosphate of lime is found in one form or another, but leave it (the proper belt) and travel across the strike of the rocks (*i.e.*, contrary to their run) and very speedily a trace of the mineral is lost. Beyond this thoroughly established truth nothing further is wanted in proof of the bedded condition of the main deposits.

## GEOLOGICAL MUSEUM

The number of persons who registered their names as visitors to the museum of the Geological Survey in this city from 1st January, 1883, to 1st January, 1884, was 12,027. In addition to these, however, a considerable number of gentlemen, who did not enter their names in the museum book, called every day on the various officers of the Survey, and many of them inspected the museum before leaving. These, it is estimated, would increase the above figure by from 3,000 to 5,000, so that the total number of visitors during the year 1883 may be safely set down at 15,000, or about ten times the average number while the museum was in Montreal.

## THE PHOSPHATE MINES OF OTTAWA COUNTY.

More than ordinary interest has been directed towards the phosphate mining industry in this section during the year just closed, and it is rapidly increasing in importance. Speculation and the manipulation of properties have given place to legitimate mining, and mine owners are in most cases, preparing for permanent working. The mines are developing well and, wherever operations have been prosecuted with ordinary

care and judgment, fair profits have been realized—in some instances the net profits on last year's output have reached 100 to 300 per cent. on actual cost of production and delivery—many of the mines have greatly increased in value during the year—the facilities of access to the mines, and for summer transportation of the ore, have been improved to a great extent and it may be said that the prospects for a successful future were never brighter than at the present time.

In the Township of Portland West the "High Rock" and the Union Phosphate Company's mines are the most important. The first mentioned property, according to reports recently received, continues very productive and the openings that are now being worked look favorable for an abundant yield. The U. P. Co.'s mines have developed well, and another extensive deposit of mineral has been lately discovered on the company's property which has added to its value. During the short time this location has been in the hands of its present owners much has been accomplished by them, and there is no doubt that the year just entered upon will be one of prosperity for the company. The "High Rock" and U. P. Co.'s mines employ about 75 men each.

In Portland East the Dominion Phosphate Company have begun work in earnest and their "North Star" mine is developing most satisfactorily. Sixty miners are now employed on this property, and the company, having completed the dead-work, will give attention in future exclusively to taking out ore. The "North Star" mine is capable of yielding a large annual output of highest grade ore, and the future will prove the wisdom of employing a force adequate to its capacity. The capital stock of the company has been increased from \$75,000 to \$125,000, and at a general meeting of the stockholders, held in Montreal in December, some other important business was transacted. The stockholders are now confident of receiving a handsome dividend in the near future, and with proper management their expectations will surely be realized. The French Company continues to work some of their properties in this township and employ about 35 miners.

At the "Watt" mine in Buckingham Township Mr. Allan has a force of 12 miners employed, and the property has much increased in value since he purchased it but a few weeks ago. On this property there are several shafts sunk to considerable depth, the deepest of which is about 170 feet, and in each of them is a bed of phosphate extending across the bottom of the shaft, and on sinking to the depth that has been reached many veins of rich mineral have been cut through, upon which no stopping has yet been attempted. Some new ground has already been opened and has developed most satisfactorily. Mr.

Allan's success in phosphate mining has been due to his unerring judgment, his energy and the business-like manner in which he has always conducted his mining operations, and these three useful qualifications he will doubtless exercise in the developing of the "Watt" mine.

Of the "Emerald" mine, in the same township, little if any more can be said than that it is the most valuable phosphate mine yet discovered in Canada, and its owners are very much pleased with their purchase. A good force of miners, numbering about 45, are working in the ore bed from which mineral is being abundantly raised, and the mining, which is conducted by an experienced Cornish minor, is carried on in a systematic and careful manner.

In the Township of Templeton the McLaurin Mines are being vigorously worked with a force of about 30 men, and good work is being done on the properties owned by R. C. Adams, Jackson Rao and Gillespie, Moffatt & Co., of Montreal. At the Post mine, and at one owned by the Roach estate, of Quebec, active operations have been suspended. In the same township Mr. G. Cowan is opening some properties owned by the Perkins estate, and Laurie & Co., of Montreal, have recently begun work on a lot in the 7th Range, which shows signs of developing into a mine of some importance.

In the Township of Wakefield the "Haldane" mine is yielding well, and the "Moore" mine, which is now under contract, is yielding a fair quantity of high grade phosphate. The "Gemmill" property still retains the high reputation it has enjoyed for years past, and yields a steady output of mineral, the quality of which has long since established the reputation of the mine.

At other less important mines work is going steadily ahead and helps to increase the aggregate annual shipment from the district. From many of the mines in the county some mineral has already been delivered at point of shipment, but from those contiguous to the Du Lievre River there has been no hauling done yet. It was expected that transportation would have been practicable on the river about the 10th January, but the quantity of snow that has fallen since then will in all probability cause delay.

**Phosphate Quotations.**

No fluctuation has been reported during the past month in the value of Canadian phosphate in the foreign markets. It is quoted from at 1s. 3d. per unit for 80 per cent. mineral on wharf at Liverpool, London, or Glasgow. This is equivalent to \$20 per ton delivered in Montreal.

**Phosphate Shipments for 1883.**

The total quantity of phosphate shipped from Canada during the season of navigation of 1883 amounted to 17,840 tons, and was forwarded to foreign ports as follows:

To Liverpool .....	7313 tons.
" London .....	3625 "
" Bristol .....	1951 "
" Hamburg .....	1576 "
" Glasgow .....	942 "
" Stockholm .....	650 "
" Dublin .....	400 "
" Swansea .....	375 "
" Gloucester .....	374 "
" Cardiff .....	200 "
" Barrow .....	180 "
" Plymouth .....	129 "
" Hurtlepool .....	107 "
" Hull .....	18 "

Total..... 17,840 tons.

[About 15% of this total was forwarded from mines in the Kingston and Perth districts, the balance (85%) was the output of the mines of Ottawa County.]

As nearly as can be estimated at present the mines now in operation will produce for shipment, before the close of navigation this year, as follows:

TOWNSHIP.	TONS.
Portland W., Ottawa Co.....	8,000
" E., " " .....	3,000
Buckingham " " .....	6,000
Templeton " " .....	3,000
Wakefield " " .....	1,000
	21,000
Kingston and Perth districts,	3,000
Total .....	24,000

This is of course nothing more than an approximate estimate, but the present appearance of the mines and the quantity of mineral already raised are fair indications that the total output for the season of 1884 will be in excess of that of last year quite 6,000 tons.

**MICA.**

The demand for good mica has so increased during the past year that its market value has greatly advanced and, as a consequence, there has been a vigorous search for deposits of this mineral. Mr. W. A. Allan, of Ottawa, is among the first to secure a location in North Burgess capable of producing merchantable mica in any quantity, and he has already ten men at work. Three shafts have been sunk on the property to a depth of 18, 25 and 35 feet respectively, and a quantity of excellent mica has been obtained. At the bottom of each pit there is a strong micaceous lead with bodies of well formed crystals, some of which will cut into sizes 8x10 inches, and all of them are capable of producing marketable sizes in clear white sheets. It is certainly a valuable mine, and Mr. Allan is to be congratulated for his foresight in securing it.

**THE HAYCOCK IRON MINE.**

Much has been said about the resumption of work on this property under the management of a wealthy English organization, and as time rolls on, the people of Ottawa become anxious for more substantial information on the subject than can be gathered from newspaper reports and street rumor. It would seem that negotiations, for the present, are at a standstill. A strong company has been organized in England with large means, and to all appearances, with a full determination to proceed with operations, when negotiations will have been definitely closed. Eminent experts have been sent from England and elsewhere to examine the deposits, and their reports have been favorable to the property. A fair sum of money has been paid, which looks like an evidence of good faith, and it is but reasonable to assume that the transfer will eventually be consummated; but why this prolonged delay?

**THE MINING INDUSTRY**

OR

**New Brunswick and Nova Scotia.**

A newspaper correspondent who has been looking up the mining interests of the Eastern Provinces finds that there is an abundance of good iron ore (hematite) on the Cobequid Mountains at Acadia Mines, N. S., where the Canada Steel Company has located works giving employment to 500 men. The output of ore last year was 50,000 tons which was made into pig and bar iron, car wheels, etc., valued at over \$600,000. Iron ore is found in other localities, but not to any such extent as here.

The largest colliery in Canada is at Spring Hill Mines, N. S., where about 500 men are employed, and the output last year amounted to 200,300 tons of coal, or nearly one sixth of the entire production of Nova Scotia. At Stellarton, N. S., 141,000 tons of coal were raised last year, and 12,512 tons of coke manufactured. At Sydney, Cape Breton, the coal fields underlie over two hundred square miles, the greater part of which is under the Atlantic. Mining rights covering over one half of this submarine coal have been taken out. The Sydney mines give employment to about 1,500 men, and coal is seen, smelt, and felt everywhere. At Pictou, N. S., coal has been exported since 1798, though the amount was small till 1829. It is now the principal business of the port. At Bridgeport, C. B., the International Coal Mines give employment to 300 men and boys, and the output for last year was 109,286 tons. At the Joggins Mines, N. S., an attempt has been made to obtain railway facilities from Maccan on the Intercolonial Railway, so that the coal now mined there may find a more ready market. The famous



Albertite coal that was obtained from the Albert Mines, N. B., for several years, has become exhausted, and mining has been discontinued.

As regards the gold product, the following figures will serve to indicate the value of the mines: At Mount Uniacke, N. S., there are three gold mines and four quartz mills. Last year 3,440 tons of quartz were crushed, furnishing 9,128 days' employment, and yielding \$3.52 per day per man. This was the best return of any mines in the Province. At Sherbrooke, N. S., the ore is low grade, but easily worked and distributed in large quantities over an area of eighteen square miles. The yield of six quartz mills last year was 2,572 ounces, 17 penny-weights, 14 grains. At Goldenville, three miles from Sherbrooke, \$500 was found the day the mines were discovered in 1861, and there has been a yield of \$2,000 per man, per year, during some years. At Tangier, N. S., the yield last year was 789 ounces from 1,622 tons of ore. At Waverly, N. S., the yield was 234 ounces, 7 penny-weights, 5 grains, from 554 tons of ore; three mines having been worked and 2,238 days' labor performed. At Wine Harbor, N. S., the ore is easily worked, but poor, yielding only 94 cents per day per man. At Country Harbor, N. S., 903 ounces were obtained last year from 511 tons of quartz, and the Oxford Gold Mining Company, of Chezzetcook, N. S., obtained \$6,800 from 130 tons of ore worked during twelve days in last May.

Note.—Where the term "last year" is used it refers to 1882.

### THE MINING INDUSTRY NORTH OF LAKE SUPERIOR.

At Silver Islet, about 50 miners are employed, a depth of 1,200 ft. has been reached, and on the 1,160 ft. level they are drifting both ways. The mine is said to be yielding silver in paying quantities. This company own a large tract of land on the main shore at Mamainse, which has been successfully prospected, and native copper, yellow and gray copper ores in veins have been discovered, as well as native silver, said to be very rich. On the property adjoining this last mentioned location, the Lake Superior Native Copper Company are expending about \$12,000 per month, and employ 175 men. A shaft has been sunk 200 ft. and in one of three levels they have drifted 600 ft. The ore at the depth obtained carries about 3 per cent. of metal. The Michipicottin Native Copper Company are doing good work at their mine, to the N.W. of the L.S.N.C. Co's. property, and it is said they have struck ore rich in native copper. Both of these mines are being worked by English capital. Within 25 miles of Port Arthur

the Rabbit Mountain Silver Mine is located, and of this property much has already been read in the Canadian press. Nuggets of black silver, weighing as much as 12 lbs. each, have been taken from the vein, through which silver appears well disseminated. The vein is unquestionably a large one, and a large quantity of silver is in sight. The Rabbit Mountain District is eminently a silver bearing country, and it has, as yet, been but partially explored. To the north and west of Rabbit Mountain, around Lakes Shebandowan, Kashabowie, and north of Lac des Milles Lacs, sufficient prospecting has been done to prove it to be a gold bearing district. Free gold has been found here, and some of the quartz taken from a vein near Partridge Lake yielded \$30 to the ton. To the west of Lake Shebandowan, the Huronian Company's gold and silver mine is located, near Jack Fish Lake, and it may be said that this is one of the richest mines, at which work has been done, that has yet been discovered in the Lake Superior region, and it is satisfactory to know that it is being actively and carefully developed by a strong Canadian Company. The vein, which is a large one, is rich in mineral, and is free milling, a shaft is down 50 ft., and a drift of as many feet has been run on the vein from which a large quantity of rich ore has been raised. The company have a ten-stamp mill and four Frue Vanners ready to begin work on the ore, and it will not be long before the result of milling will be made known. It is a certainty that the Lake Superior district is rich in mineral, and when capital is available for the proper development of the mines their yielding capacity will be demonstrated, but not till then.

### THE HURONIAN MINE.

A letter from the manager of this mine lately received by a gentleman in this city gives a very encouraging account of the work. He states that the vein has held good all the way from the surface to the present depth both as to size and the show of gold. The stamp-mill had commenced running and worked well. The difficulties arising from the isolated position of the mine had been surmounted, all supplies had been delivered and a force of men was engaged in cutting a main road from the Barrel Portage, which is a much more direct course from Port Savanne than the old route by Shebandowan Lake. The company, whose head office is in Ottawa, is working in a thoroughly *bona fide* manner, having expended upwards of \$30,000 in the actual development of the mine itself, and it is deserving of the success which is attending its operations.

### WELLINGTON COAL.

The coal from the Wellington Mines, at Vancouver, B. C., has become very popular in San Francisco, Cal., evidenced by an article which appeared in the *S. F. Call*, 29th Nov., as follows: "The *Bar-nard Castle*, with Wellington coal, is due here to-day. So great is the demand for this coal that carts and waggons began to arrive on the wharf Tuesday morning, and by night a line two blocks in length had formed, which camped out with the intention of staying till the steamer arrived. Many of the men at night slept in their carts, and the horses are fed where they stand."

General Manager Van Horn, of the Canadian Pacific Railway, expresses himself highly pleased with the abundance and the quality of the coal in the North-West. The supply is practically unlimited, and as the railway is said to consume a ton every two minutes, Mr. Van Horn's pleasure on account of its presence in a section of the country so remote from other coal fields and so sparsely timbered, cannot be wondered at.

### Gold Discovery in Norway.

The *London (England) Mining Journal* reports the discovery of gold in Norway, and attaches much importance to it as it is stated that, thus far, the development of the lode has revealed what is considered to be one of the most wonderful auriferous veins that has been met with in any country for many years. A well known eminent practical authority has recently examined the property, and his report fully warrants the views above expressed. He brought home a number of samples (each weighing over a quarter of a hundred-weight) taken from much larger quantities of stuff shot down from the lode, well mixed and divided, the essays of which give exceedingly good results, while a number of selected specimens are extremely rich; one stone in particular having a strong branch of gold about an inch wide running through it, which can be seen in the lode where this stone was taken from; the gold in the specimen alone is valued at £60 (about \$300). A private company is being organized in England with ample means to carry on operations on the property in an approved and business-like manner. The property is easily accessible, and it is no inconsiderable advantage that it is within two days' journey of England. Great results are expected, and report of progress in development work on the lode will be looked for with much interest the world over.

### Australian Nuggets.

These have been the largest ever found, as may be seen from the undergiven list of some of the largest in the Colony of Victoria. In this Colony nearly a hundred have been unearthed that averaged 370 ounces of gold; six of these realized for their fortunate owners:

The Welcome Stranger, found near Dunolly	\$46,261
The Welcome, found near Ballarat	45,776
The Blanche Barkley, found near Kingower	33,693
Nugget, unnamed, found near Canadian Gully	27,812
The Heron, found near Fryor's Creek	19,943
Lady Hotham, found near Canadian Gully	14,535
Total value of six nuggets	\$187,675
Average	31,279

N.Y. Mining Record.

### THE SOURCE OF THE ALLUVIAL GOLD IN THE NORTH-WEST TERRITORIES.

It has long been known that alluvial gold is found in the North-West Territories on the rivers flowing eastward from the Rocky Mountains. The Peace River and the North Saskatchewan have been especially noted in this connection. Now that the precious metals have been discovered in small quantities in the Rocky Mountains, near the proposed route of the Canadian Pacific Railway, the question is again asked, may not the gold of the Saskatchewan have been washed down the rivers from the mountains? This was the original popular theory, until many years ago, when Professor Bell, of the Geological Survey, showed that it was much more probable that the gold came from the northward than the west. (See Report Geo. Survey 1873, p. 86.) This opinion has since been quoted by Professor Hind and Dr. Selwyn. The gold, as Dr. Bell showed, is washed out of the drift which covers the auriferous strata of the plains, and as this drift came from the northward (as proved by its composition) it follows that the gold came from this quarter also. In the report referred to, it was supposed that the gold might have been derived from Huronian rocks in the direction of Lake Athabasca, and since that time these rocks have actually been found to be well developed on this lake; but, although some of the alluvial gold of the plains may have had its source in this direction, Professor Bell is of the opinion that it is quite as likely that the gold of the North Saskatchewan has been brought by the ancient glaciers from the valleys of the upper part of the Liard River and the northern branches of the Peace River. The reason why the gold is not found much above Edmonton is owing partly to the slope of the ground, and partly to the smaller glaciers of the drift period in that latitude proceeding eastward from the Rocky Mountains, keeping the great glaciers from the northward from approaching any nearer to the mountains.

The most reliable assays of ores from the recent discoveries in the Rocky Mountains, above referred to, show but little gold, and even if more should prove to exist the locality is too far south for any of it to have found its way into the North Saskatchewan, at the sources of which no gold has yet been found.

On the other hand, it is well known that rich placers exist on the upper branches of the Liard and large quantities of gold have already been taken from them, especially in the Cassiar District. It therefore appears to us that Professor Bell's explanation accounts best for all the facts.

## MINERALS OF THE HUDSON'S BAY TERRITORIES.

The report of the Select Standing Committee, on Immigration and Colonization, of last session which has lately been published, contains much valuable information on the country around Hudson's Bay. In the evidence of Professor Bell, of the Geological Survey, we find the following in answer to a question by Captain Scott, of Winnipeg: "In a general way, in the Hudson's Bay territories are there many useful minerals?" "As far as we know there are, but very little search has been made. I can, however, mention numerous minerals which are already known to exist. They embrace iron, as hematite, magnetite, clay ironstone and rich manganese iron ore on the Eastmain coast, copper in the native state, and in various combinations, lead, silver, gold, molybdenum, antimony, manganese, chromium, phosphate of lime, jade, chrysochryse, agate, carnelian, malachite, jasper, serpentine, jet, lazulite, petroleum, asphalt, peat, anthracite, bituminous coal, lignite, limestone, granite, sandstone, and sand for glass making, moulding sand, clays, marls, ochres, gypsum, iron pyrites, salt, medicinal waters, sheet mica, soapstone and plumbago.

"These are all known to occur, many in various parts of the territory and most of them certainly well worth looking after. Sir John Richardson mentioned that he thought it would be to the advantage of the Imperial Government and the Hudson's Bay Company to explore the country for minerals. He was convinced that it would not be long before the value of the mines of the Hudson's Bay territory would far surpass that of the fur trade."

## PERSONAL.

Mr W. H. Williams, President of the Union Phosphate Mining and Land Company, will be a passenger on the *Arizona*, from New York, on the 29th of January. Mr. Williams' object in going to England at this season is to complete arrangements there for the receipt of the output from the phos-

phate mines in Ottawa County owned by the company, of which he was the founder.

The numerous friends of Capt. R. C. Adams, of Montreal, who has occupied so prominent a position among the phosphate miners of Canada for years past, will have learned with regret that he was one of the victims in the accident on the Canadian Pacific Railway some days ago, and all of them will look for report of his speedy recovery.

Mr. G. A. Mountain, D.L.S., and P.L.S. for the Provinces of Ontario and Quebec, has recently returned to Ottawa, after successfully passing his examinations for P.L.S. in Ontario. Mr. Mountain received his diploma for the Province of Quebec some years ago, and in 1882 he passed a brilliant examination before the Dominion board at Ottawa, receiving the maximum marks. His many friends in the city were pleased to have another opportunity to congratulate him on his return to the city after his recent achievements in Toronto.

## MINING NOTES.

At the oil wells at Belleveau, Westmorland County, N.B., the prospects are not so bright as has been reported. At a depth of 657 ft. it is said that oil flowed copiously. Now that a depth of 900 ft. has been reached no oil is noticeable in the boring.

The diggings at the Bridge River Gold Mines, about 60 miles from Lillooet, B.C., are attracting some attention. Two men, it is said, washed \$527 in one month previous to closing down for the winter.

The Manganese mines at Markhamville, N.B., have been worked continuously for over 25 years and produce ore valued from \$16 to \$100 per ton.

The Oxford Gold Mine, N. S., yielded \$10,300 in bullion for the month of November, the cost of production being but \$1,700.

The gold, silver and lead product of the Colorado mines during 1883 has been valued at \$26,126,130.

The gold yield of the United States mines during 1883 reached a valuation of \$32,000,000.

The products of the Montana gold mines will reach \$15,000,000 for 1883.

## DIVIDENDS DECLARED.

THE STANDARD CONSOLIDATED MINING COMPANY, Cal., paid in December their regular monthly dividend, and an extra dividend aggregating \$50,000. Thirteen dividends paid during the year amounted to \$325,000. This company has declared its seventy-ninth successive monthly dividend, payable January 12th, aggregating \$25,000, thus swelling the total

amount of dividends to date to \$4,400,000.

THE IDAHO GOLD MINING COMPANY, of Grass Valley, Cal., raised their dividend in December to four dollars a share, aggregating \$12,400. Total of twelve dividends during 1883 amounted to \$82,000.

THE HOMESTAKE MINING COMPANY, of Deadwood, Dakota, declared their regular monthly dividend, payable on 26th December, aggregating \$25,000. Total dividends for the year, \$225,000.

THE CONTENTION CONSOLIDATED MINING COMPANY, of Arizona, paid a dividend of 25 cents a share on 24th Dec., aggregating \$62,500. Seven dividends during the year amounted to \$437,500.

THE ONTARIO MINING COMPANY, of Utah, paid in December their nineteenth dividend, for 1883, aggregating \$75,000. Total dividends to date, \$5,150,000.

Sixty gold, silver, and copper mining companies of the United States paid out \$9,871,600 in dividends during 1883.

## THE IRON DEPOSITS OF CENTRAL CANADA.

An evidence of the importance attached to Canadian Iron deposits by our more enterprising neighbors beyond the border was given in New York on the 27th of December, when a meeting of influential merchants was convened at the Fifth Avenue Hotel to arrange preliminaries for bringing about an agreement by which coal and iron ore will be allowed to enter free of duty into Canada and the United States. Those interested in mining coal in certain bituminous districts of Pennsylvania and Ohio, and those engaged mining iron ore in Canada and in manufacturing pig iron in the United States, are in favor of such reciprocity. Another evidence of the impetus that may be looked for to iron mining in Canada is the interest evidenced in the industry by the American press. The following letter by Mr. M. C. Read, member of the Ohio Geological Survey, was recently published in the *Trade Review and Western Machinist* of Cleveland, O., and is highly commendatory of the value of many of the deposits in certain iron-bearing districts:

"As early as 1852-3 the Canadian Geologists called attention to the iron ores, both hematite and magnetic found in this county. In 1866 Mr. Thomas Macfarlane contributed to the geological survey of Canada a special report upon these ores which was followed by Mr. Henry G. Vennor with a more detailed report in 1869. The presence of excellent ore was noticed by these geologists in various parts of the county and in the townships of Madoc and Marmora considerable ore was mined many years ago, but the extent and magnitude of the ore deposits in the county has been until recently very

inadequately appreciated. Some years ago Mr. Coe, an enterprising Englishman residing in the village of Madoc, commenced a systematic examination of the more unexplored parts of the county and gradually obtained the title to much of the most promising territory. Some three years ago he obtained the co-operation of the Messrs. McMullens of Picton, Ontario, and S. J. Ritchie, of Ohio, men who had the enterprise and means requisite for the development of the mineral resources of the county. After a careful examination of the territory, and repeated analyses of specimens of the ore from different exposures, these gentlemen secured the title to something over 100,000 acres covering the mineral belt, purchased a railroad from Picton to Trenton, and obtaining a very favorable charter from the Dominion Government, continued the road northward and are now laying the track on the graded bed of the north half, at a rate which promises the completion of the road to several of the principal mines during the coming month. They have obtained a route, with light grades and long curves, are building the road in the most substantial manner with steel rails and steel bridges; have purchased the entire frontage of an excellent harbor on the lake, are building extensive piers and securing every appliance needed for the cheap and rapid transfer of the ore from the mines to vessels on the lake.

The character of the deposits of ore will be better understood after a brief description of the geological structure of the district.

The Silurian limestone covers the Southern part of the county, resting unconformably upon the underlying rocks, which the Canadian geologist designates as Laurentian. They are substantially on the same horizon as the Huronian rocks of Lake Superior and it is pretty certain that they are of the same age.

The upper division of these rocks consists of a series of limestone and calcareous schists, Gneissoid quartzites with silicious and mica slates, attaining in all a maximum thickness according to Mr. Vennor's report of over 21,000 feet. Below this is mass of Hornblende rock with various quartzites and green stones, reaching in places, according to the same authority, a thickness of over 4,000 feet. This is the ferriferous divisions and includes the important ore beds of the district. Below this is a vein of Syenitic Gneissoid and limestone rocks attaining a thickness according to Mr. Vennor of over 12,000 feet, all of which is geologically below the iron bearing rocks. A series of upheavals, with subsequent denudation through glacial action has left this lowest of the rock series, as the surface rock, over large areas, has exposed the upturned edges of the iron bearing rocks and disclosed their presence over a large part of nine townships in the county.

To be continued.

## Incorporated Dividend-Paying Mines of the United States.

NAME AND LOCATION.	Latest quotation per share.	Current value of Mine.	Number of Shares.	Par Value.	Capital Stock. Dollars.	Last Assessment.			Total Assessment to date	Last Dividend.		Total Dividends to Date.	
						Date.	Amount per Share.	No. of Assessment.		Date of Payment.	Amount per Share.		No. of Dividend.
Alice G. and S. M. Co., Montana.....	\$2 50	\$1000000	400000	\$25	10000000	not assessable..				Dec. 15, 81	10	10	\$400000
Amie Con. Mining Co., Col.....	09	45000	500000	10	5000000					October 2, 83..	7	7	330000
Atlantic Copper M. Co., Michigan.....	6 00	240000	40000	25	1000000	April 5, 75.....		180000		Feb. 1, 83.....	4	4	220000
Bassick Mining Co., Colorado.....	7 00	700000	100000	100	10000000					Dec. 26, 83.....	1 00	4	325000
*Black Bear Quartz Gold M. Co., California..			30000	100	3000000			15000		Dec. 28, 83.....	20	84	887000
Boston & Montana Gold M. Co., Montana.....			200000	10	2000000					Jan. 10, 83.....	05	17	310000
Bodie Con. Mining Co., California.....	40	40000	100000	100	10000000	December 21, 83	5	250000		Nov. 15, 82.....	20	21	1370000
Bulwer Con. Mining Co., California.....	55	55000	100000	100	10000000	December 12, 77	1	30000		July 2, 83.....	05	18	165000
Chrysolited Silver Mining Co., Colorado.....	1 10	220000	200000	50	10000000	not assessable..				Dec. 10, 81.....	50	11	1600000
Consolidated Gold Mining Co., Georgia.....			100000	5	500000	"				October 10, 83..	02	27	106000
California Gold Mining Co., Gilpin Co., Col.			130000							August 13, 83..	25	2	65000
Calumet & Hecla Copper M. Co., Michigan..	237 00	23700000	100000	25	2500000		15 00	1200000		Nov. 15, 83.....	5 00	....	24350000
Carbonate Hill Mining Co., Col.....			20000	10	200000					July 2, 83.....	05	6	60000
Catalpa Mining Co., Leadville, Col.....	30	90000	300000	10	3000000	not assessable..				June 15, 83.....	10	5	240000
Castle Creek Gold (Placer) M. Co., Idaho....	20	200000	100000	1	100000					Nov. 16, 83.....	04	18	55000
Central Copper M. Co., Michigan.....	21 50	430000	20000	25	500000	Sept. 10, 61....	65	100000		Feb. 1, 83.....	3 00	21	1670000
Christy Mining Co., Silver Reef, Utah.....			60000	100	6000000					Feb. 9, 83.....	10	15	90000
†Contention Company, Arizona.....			250000	50	12500000					Dec. 24, 83.....	25	19	1125000
Copper Queen Mining Co., Bisbee, Ariz.....			250000	10	2500000					October 16, 83..	50	17	1025000
Crescent Mining Co., Utah.....	20	120000	600000							October 25, 83..	05	4	150000
Deadwood-Terra Mining Co., Black Hills...			200000	25	5000000	not assessable..				Jan. 20, 83.....	10	26	\$900000
Dean Mining & Prospecting Co., of Col.....			100000							Dec. 1, 82.....	50	1	50000
Dunkin Mining Co., Col.....	21	42000	200000	25	5000000					October 2, 83..	....	16	210212
Evening Star Mining Co., Col.....			50000	10	500000	not assessable..				October 25, 83..	50	56	1400000
Eureka Con. Silver M. Co., Nevada.....	2 00	100000	50000	100	5000000	Sept. 20, 83....	1 00	6 300000		July 27, 82.....	25	25	4817500
Father DeSmet Con. Gold M. Co., Dakota..	3 00	300000	100000	100	10000000	Nov. 13, 78....	2	200000		Dec. 31, 83.....	20	30	720000
Franklin Copper Mining Co., Mich.....	10 00	440000	54000			June, 77.....		360000		Jan. 1, 84.....	2 00	....	320000
Grand Central Mining Co., Tombstone, Ariz.			100000	100	1000000					December, 82..	50	16	800000
Great Western Quicksilver M. Co., Cal.....			50000	100	5000000	August 25, 73..	15	35500		October, 82.....	25	....	262500
Hecla Con. Mining Co., Montana.....			30000	50	1500000					Jan. 1, 84.....	50	....	567500
Homestake Mining Co., Deadwood, Dakota..	11 00	1375500	125000	100	12500000	April 8, 78....	2	200000		Dec. 26, 83.....	20	64	2237500
Holyoke Mining Co., Idaho.....			200000							Nov. 19, 83.....	02	14	53000
Horn Silver Mining Co., Utah.....	6 20	2500000	400000	25	10000000	none.....		none.....		Nov. 15, 83.....	50	11	2800000
Hope Mining Co., Montana.....			8000							Dec. 31, 83.....	1 50	....	124339
*Idaho Gold M. Co., (Grass Valley) Cal.....			3100	100	310000					Dec. 3, 83.....	4 00	1 69	3301500
*Indian Queen Mining Co., Nevada.....	20	600000	300000	2	600000	Feb. 11, 80....	15	3 12000		July 2, 83.....	03	31	374500
Iron Silver Mining Co., Leadville, Col.....	1 90	1450000	500000	20	10000000					Jan. 9, 84.....	20	13	1120000
Jocustita Mining Co., Mexico.....			100000	100	10000000					Nov. 30, 83.....	50	10	950000
Kentuck M. Co., Nevada.....			30000	100	3000000	Nov. 23, 81....	17	342005		Jan., 84.....	10	41	1279000
La Plata Mining & Smelting Co., Col.....			200000	10	2000000	not assessable..				October 2, 82..	30	35	610000
Leadville Con. Mining Co., Col.....	45	180000	400000	10	4000000	"				Dec. 20, 83.....	05	18	370000
Little Chief Mining Co., Col.....	60	120000	200000							Jan. 22, 84.....	10	9	740000
Mt. Diablo M. Co., Nev.....	2 00	100000	50000							November 25, 83	25	4	50000
Mt. Pleasant M. Co., Cal.....			150000	1	150000					Dec. 27, 83.....	20	4	90000
Morning Star Con. M. Co., Leadville, Col...			100000	10	1000000					Nov. 22, 83.....	25	19	715000
Napa Con. Quicksilver, M. Co., Cal.....	1 50	150000	100000	7	700000	not assessable..				November 1, 83	20	30	310000
Navajo Mining Co., Tuscarora, Nevada.....	2 45	245000	100000	100	10000000	March 7, 82....	10	255000		May 14, 83.....	25	9	225000
*New York Hill Gold Mining Co., Cal.....			50000	100	5000000	March 26, 78...	20	6 55000		August 10, 82..	10	21	215000
Northern Belle Milling & Mining Co., Nev..	47	23500	50000	100	5000000					April 16, 83.....	50	71	2512500
*North Bloomfield Gold M. Co., Cal.....			45000	100	4500000	June 23, 81....		1590000		November 5, 80	1 00	16	225000
Ontario Mining Co., Utah.....	30 00	4500000	150000	100	15000000			None.....		Dec. 31, 83.....	50	90	5150000
Osceola Con. Copper M. Co., Calumet Dis. Mich	17 00	850000	50000	25	1250000					Jan. 1, 84.....	50	17	1010000
Original Mining Co., Butte, Montana.....			60000	25	1500000	not assessable..				Jan. 3, 84.....	05	29	87000
Oxford Gold Mining Co., Nova Scotia.....			100000							August 25, 83..	....	6	30000
Pleasant Valley Mining Co., Cal.....			100000	100	10000000	Sept. 8, 83.....	15	2 30000		Dec. 15, 82.....	05	6	30000
Plumas Eureka Gold Mining Co., Cal.....	7 50	304687	40625		1406250					October 12, 83..	50	....	1617175
Plymouth Con. M. Co., Cal.....			100000							Jan. 2, 84.....	50	8	400000
Prussian Mining and Milling Co., Col.....			150000	10	1500000					Jan. 15, 83.....	10	10	132000
Quincy Copper Mining Co., Michigan.....	47 00	1880000	40000	25	1000000		15 00	200000		August 15, 83..	3 50	30	3610000
Richmond Con. Silver M. Co., Nevada.....	25 00	1350000	54000	25	1350000					August 10, 83..	1 25	36	3974887
Robinson Con. Mining Co., Leadville, Col..	23	46000	200000	50	10000000					Nov. 15, 81....	25	11	700000
San Francisco Copper M. Co., Cal.....			50000							Feb. 20, 83.....	05	11	27500
Sierra Buttes Gold M. Co., Cal.....	7 50	168750	22500	10	225000	paid up.....				October 12, 83..	25	....	1344975
Sierra Grande M. Co., New Mexico.....	60	240000	400000							October 2, 83..	25	7	700000
Silver King Mining Co., Arizona.....			100000	100	10000000					Dec. 15, 83.....	25	43	1300000
Silver King Mining Co., Colorado.....			500000	2	1000000	not assessable..				August 19, 81..	10	1	50000
Standard Con. Mining Co., California.....	5 50	550000	100000	100	10000000					Jan. 12, 84.....	25	78	4400000
*Silver Cord Silver M. Co., Colorado.....			500000	10	5000000					Nov. 1, 83.....	10	3	225000
St. Joseph Lead Co., Missouri.....			100000	10	1000000					Dec. 20, 82.....	20	22	390000
Smuggler Con. M. Co., Colorado.....			60000							August, 83.....	20	10	66700
Socorro M. & M. Co., New Mexico.....			2500	100	250000					March 15, 82..	1	2	4000
Tip-Top S. M. Co., Black Canyon, Yavapai Co.			100000	100	10000000	August 16, 83..	25	7 245000		Nov. 27, 81....	20	5	100000
Tombstone Mill & Mining Co., Arizona.....	70	350000	500000	25	12500000					April 15, 82.....	10	25	1250000
Total Wreck M. Co., Arizona.....										May, 83.....	....	1	50000
United Gregory M. Co., Gilpin Co., Col.....			300000	1	300000					April 1, 83.....	04	3	38250
Vizina Con. M. Co., Tombstone Dist. Ariz..			200000	25	5000000					April 1, 82.....	10	7	140000

\*Shares not in market. †Latest London quotations. ‡Price bid. §The Deadwood has previously paid \$275,000 in eleven dividends, and the Terr \$75,000. Only paid on 450,000 shares. ¶This company as the western up to Dec. 10, 1881, paid \$1,475,000.

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the tender, which will be forfeited if the  
party declines to enter into a contract when  
called on to do so, or if he fail to complete the  
work contracted for. If the tender be not ac-  
cepted the cheque will be returned.

The Department will not be bound to accept  
the lowest or any tender.

By order,  
**F. H. ENNIS,**  
Secretary.

Department of Public Works,  
Ottawa, 5th Jan., 1884.



**NOTICE TO CONTRACTORS.**

SEALED TENDERS addressed to the un-  
dersigned, and endorsed "Tender for  
Additional Cell Wing, Boiler House, &c.,  
Manitoba Penitentiary," will be received at  
this office until MONDAY, the 17th March  
next, inclusively, for the erection and com-  
pletion of

**ADDITIONAL CELL WING, BOILER HOUSE,**  
&c., AT

**Manitoba Penitentiary.**

Plans and specifications can be seen at the  
Department of Public Works, Ottawa, and at  
the Dominion Public Works Office, Winni-  
peg, Manitoba, on and after MONDAY, the  
11th February next.

Persons tendering are notified that tenders  
will not be considered unless made on the  
printed forms supplied, and signed with their  
actual signatures.

Each tender must be accompanied by an  
accepted bank cheque, made payable to the  
order of the Honorable the Minister of  
Public Works, equal to five per cent. of the  
amount of the tender, which will be forfeited  
if the party decline to enter into a contract  
when called on to do so, or if he fail to com-  
plete the work contracted for. If the tender  
be not accepted the cheque will be returned.

The Department does not bind itself to ac-  
cept the lowest or any tender.

By order,  
**F. H. ENNIS,**  
Secretary.

Department of Public Works,  
Ottawa, Jan. 9th 1884.



**Graving Dock.**

British Columbia.

SEALED TENDERS addressed to the un-  
dersigned, and endorsed "Tender for  
Graving Dock, B.C." will be received at this  
office until FRIDAY, the 8th day of February,  
1884, inclusively, for the construction and  
completion of the partially finished

**Graving Dock at Esquimalt Har-  
bor, British Columbia,**

According to plans and specification to be  
seen on and after Monday, the 24th December  
next, at the Department of Public Works,  
Ottawa, and on application to the Hon. J. W.  
Trutch, Victoria, B.C.

Persons tendering are notified that tenders  
will not be considered unless made on the  
printed forms supplied and prices affixed to  
the whole of the items stated therein, and  
signed with their actual signatures.

Each tender must be accompanied by an  
accepted bank cheque for the sum of \$7,500,  
made payable to the order of the Honorable  
the Minister of Public Works which will be  
forfeited if the party decline to enter into con-  
tract when called upon to do so, or if he fail  
to complete the work contracted for. If the  
tender be not accepted the cheque will be re-  
turned.

This Department will not be bound to ac-  
cept the lowest or any tender.

By order,  
**F. H. ENNIS,**  
Secretary.

Department of Public Works,  
Ottawa, 12th Nov., 1883.



**ESQUIMALT GRAVING DOCK,**  
British Columbia.

The time for inspection of plans and speci-  
fications for the completion of the Graving  
Dock at Esquimalt, British Columbia, is  
extended to Thursday, the 17th day of Jan-  
uary next, inclusively, and for receiving  
Tenders to Friday the 27th day of February.

By order,  
**F. H. ENNIS,**  
Secretary.

Department of Public Works,  
Ottawa, 20th Dec., 1883.

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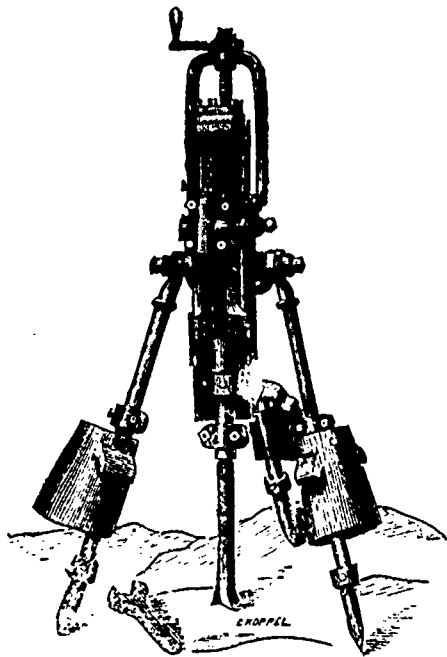
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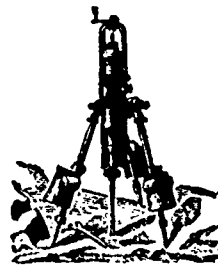
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	3	14 23	640
	17	14 23	640
	15	14 23	640
	19	14 23	640
W $\frac{1}{2}$ and N. E $\frac{1}{4}$	35	14 23	480
N $\frac{1}{2}$ and S. E $\frac{1}{4}$	19	15 23	480
S $\frac{1}{2}$ and N. E $\frac{1}{4}$	15	16 23	480
E $\frac{1}{2}$ of N. W $\frac{1}{4}$	15	16 23	80
	S $\frac{1}{2}$	3 17 23	320
	N $\frac{1}{2}$	9 15 23	320
	S. W $\frac{1}{4}$	31 18 26	160

4,880

Title direct from the Crown.

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PHOSPHATE PROPERTIES  
FOR SALE

IN THE TOWNSHIP OF WAKEFIELD.

Mining Rights on S $\frac{1}{2}$  of Lot No. 16, in the 1st Range.  
 " " on Lot No. 23, in the 2nd Range.  
 " " " No. 26, in the 4th Range.  
 " " " No. 20, in the 5th Range.

The fee simple of Lots Nos. 22 and 23, in the 4th range, (400 acres). All these lots have been carefully explored by experts and very favourably reported on; they are virgin properties and in the heart of the Phosphate Belt. For further particulars and price apply at the office of the MINING REVIEW.