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CHNADIAN

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¶anadian Mining Review. OTTAWA.

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OFFICE: UNION CHAMBERS, 14 Metcalfe Street.

The Canadian Mining Review is devoted to the opening up of the mineral wealth of the Dominion, and its publishers will be thankful for any encouragement they may receive at the hands of those who are interested in its speedy development.

Visitors from the mining districts as well as others interested in Canadian 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 REVIEW should be received at the office not later than the 5th of the month it is to appear.

Address all correspondence, &c., to the Publishers of the CANADIAN MINING REVIEW, Ottawa.

The Directors of the Austin Mining Company, whose head office is at Ottawa, have recently employed Mr. E. D. Ingall, M.E., to examine the Company's property at Echo Lake. The full text of Mr. Ingall's report is to be found in this number of THE REVIEW, and it should be gratifying to the stockholders to learn that it coincides in its main features with Professor Chapman's report, made before the Company had accomplished the present developments to which Mr. Ingall refers, and which have enabled him to arrive at conclusions with comof the mine is most accessible, while the difference in cost of the coal can consequently be advised investments.

and its situation affords unusually favourable shipping facilities, advantages which, together with the richness of the lode, should render it a very valuable property. We hope to hear at an early date that work has been resumed at this mine.

The Cleveland, Ohio, Iron Irade Review, referring to African iron ore, says:

"The shipment of iron ore from Africa to the United States is no new thing, but its present extent and future prospects present some new features of interest. From the consular reports made to the Department of State it appears that there were declared for the United States from Africa during 1883, 46,543 While this tons of iron ore. does not equal one-third of the average weekly receipts of Lake Superior ore at the single port of Cleveland, it is still of importance, since, according to these same reports, the exports from Africa last year to the United States exceeded those reported from our near neighbour, Canada, by 20,113 tons, being also in excess of our reported receipts from Spain and Portugal combined."

And continues:

"While under our system of Protection the importation of foreign ores must necessarily be restricted, a considerable increase may be looked for from Canada and Cuba, while Africa will doubtless play an important part in the world's production."

The iron ore deposits in Canada are in no wise inferior to those of Africa. On the contrary, the ore from some of our mines is used by American manufacturers in preference to that from any other quarter of

transportation to the iron manufacturing centres of the United States must be greatly in favour of Canada, and yet the amount of ore exported to the United States from Africa last year was nearly double the quantity exported from this country. Canadians might find it profitable to seriously consider the macticability of reversing the situation.

Dr. Selwyn, Director of the Geological Survey, has sent an largely mixed with other fuel. expedition to explore the almost unknown country lying between the mouth of the Bersimis River and James Bay. Mr. A. P. Low is in charge as geologist with Mr. Bignell, of Quebec, as sur-veyor. Supplies are being forwarded via Lake St. John to the Hudson Bay post at Lake Mistassini, where it is expected the party will arrive by the close of the season. Exploration will be continued until the snow renders it impracticable, and during the winter the surveys will be proceeded with. It is expected that the section of country lying between the mouth of Bersimis River and the height of land will be gone over this year, and that by the close of 1885 this work will be completed through to Fort Rupert on James Bay along the course of Rupert River.

ENGLAND IMPORTING AUSTRA-LIAN COAL.—The recent arrival in Liverpool of several cargoes of gas coal from Australia, has excited a good deal of comment in the public press, and the matter has been made to assume an importance which it certainly does not possess. These cargoes can only be shipped profitably from the colonies when vessels going over are so absolutely short the globe African mine owners of freights that they have pracparative certainty. The position have the same duty to pay, tically nothing else to carry, and

exported to England at almost a nominal cost, but that a regular competing trade could be established is out of the question. The coal itself is, however, remarkable for its gas making properties; it is extremely light, and is so full of gas that it could almost be forced out by the pressure of the hands, but it is altogether useless for any other purpose, it does not make a particle of coke, and it has to be

Referring to an article which appeared in the MINING REVIEW in May last, wherein we found fault with Canadian capitalists for so persistently standing aloof from the mining industries of the country and thus permitting our most valuable mineral deposits to fall into the hands of our more go-ahead friends across the border, the Iron Trade Review, of Cleveland, Ohio, re-

"This is certainly a tribute to the enterprise and liberality of American capital that is worth having. What the outcome of this amalgamation of American enterprise with Canadian conservatism will be is one of the interesting problems for the future to decide.

The article in question was written more in the hope of stirring up the monied men of Canada to a sense of what their country reasonably expects of them than with intention to eulogize the liberality of American capitalists. we greatly admire our neighbourt for their enterprise and so-unled liberality, we do not fail to observe a certain intermingling of shrewdness and caution which will, in all probability, protect them against ill-

A blasting operation of unusual magnitude was conducted at the Pwllypant quarries, Caerphilly, Wales, on the 7th instant. A charge consisting of 16 cwt. of gunpowder was deposited in a hole 50 feet deep. The powder occurred which displaced an immense head of rock. In rolling down the great height, from the top to the bottom of the quarry, the rock was broken into pieces varying in weight from half a ton to five tons. The quantity of rock brought down by the blast is estimated at 10,000 tons. phate.

The annual meeting of the stockholders of the Dominion Phosphate and Mining Co. was held at the office of the Company, 22 St. John Street, Montreal, on the tenth instant.

From what we can gather, the report of the Directors was of a satisfactory character. The expenditure hitherto has been made less with the view to extract large quantities of phosphate than to develop the mines and place them in such a condition that they can be worked henceforward economically and scientifically. This condition has now been attained, and the ore is now being extracted in large quantities from both mines, with the prospect of remunerating the shareholders amply for past delay. The purchase by the Company of the mine now known as the "Washington" is likely from present appearances to prove a most lucrative investment. Not only is the ore in great abundance, but the quality is of the highest standard. Altogether the prospects of the Compan; are very flattering.

THE PHOSPHATE INDUSTRY.

Each month brings fresh evidence of the rapid increase to the phosphate mining industry in the County of Ottawa. On the fourth of the present month, as will be seen by reference to another column, letters patent issue lincorporating the "Lièvre Land and Phosphate Company,' an organization whose operations will be watched with interest. The land owned by this Company is situated, for the most part, in the Township of Portland West and Templeton, in Ottawa County, and upon which some mining and a great deal of prospecting has already been done with encouraging results. In the Township of Bowbeen made since the spring, will be going out.

proving the existence ef extensive deposits of apatite in this township. In the absence of railway communication, however, transportation from these deposits will be more expensive than from the mines in the diswas ignited, and after a lapse of trict that are at present in twenty minutes an explosion operation, and yet a careful estimate of the cost shows that if the mineral can be cheaply mined there would remain a handsome margin of profit to the miner after defraying the cost of transportation from this isolated section, even at the present comparatively low value of phos-

The Dominion Phosphate Company held its annual meeting in Montreal on the 10th inst., and the directors' report to the shareholders was received with much satisfaction. Work on this Company's properties is progressing with most favourable results, and the quantity of phosphate that is being raised is daily increasing.

Mr. Allan's Little Rapids mine is yielding a quantity of excellent mineral. In the main shaft they are stoping in solid mineral at two levels, and each day's work adds to the body of phosphate in sight. This mine is capable of yielding a large annual output, and mining operations are being carefully con-

At the High Rock, the Union Phosphate Company's mines, and the Emerald, no change has been reported during the month. They are producing immense quantities of phosphate, and are continually increasing the facilities at the mines for mining and handling the output. The mines in Templeton and Wakefield are being steadily and profitably

Phosphate Quotations.

Our London quotations have not varied since last month, and it is now thought that the present price for Canadian phosphate will rule for this season's shipments. 1s. 1d. is still quoted for 75 per cent., with a fifth of a penny rise, and it is confidently predicted by those who are familiar with the English market that miners will receive much better value for next season's output.

FREIGHTS.

For some weeks past very little tonnage from Montreal has been offered at rates to suit phosphate shippers. Six to ten shillings have been the prevailing rates, which is quite double what was paid earlier in the season, and as the principal producers availed themselves largely of the cheap spring freight they can now afford to carry their balance and await a drop from man important discoveries have present rates when the autumn fleet | California in 1883 is valued at \$15,-

Another Company Incorporated To Operate in the du Lievre Phos-phate Region.

Under the "Canada Joint Stock Companies Act, 1877," letters patent have issued, bearing date the 4th July, 1884, incorporating Walter Richard Elmenhorst, John H. R. Molson, Robert C. Adams, James P. Cleghorn and William Costigan, of Montreal; Charles H. Trask, of New York; Amos W. Stetson, A. Forbes Freeman, John C. Haynes, and George W. Heard, of the City of Boston, for the purpose of mining, extracting, working, selling and shipping phosphates and other minerals in the Provinces of Quebec and Ontario, with power to purchase, acquire, retain, mine and dispose of lands and property yielding such minerals, and with power to acquire, construct and operate all manufactories, mills for grinding or otherwise treating such minerals, and generally such other works and undertakings as may be necessary or expedient for the mining, selling and transportation by land and water of such minerals, by the name of "THE LIEVRE RIVER LAND AND PHOSPHATE COMPANY (LIMITED)," with a total capital stock of seventy-five thousand dollars, divided into seven hundred and fifty shares of one hundred dollars.

Capt. R. C. Adams, of Montreal, having, during the past few years, a quired extensive areas of well selected phosphate lands in the neighborhood of Perth, Ontario, and in the Rivière du Lievre district, Quebec, thought it expedient to organize a company fo. the purpose of developing his locations on an extensive plan, and with this object in view, he issued a prospectus some months ago; the incorporation of the Lièvre River Land and Phosphate Company has been the result. Capt. Adams is well and favourably known to the phosphate dealers in Canada and abroad; he has had many years of useful experience in mining phosphate in this country, on his own account, and, in his capacity of a shipping broker in Montreal, has enjoyed the benefit of being able to forward the output of his mines free of commissions on this side of the Atlantic. These are no insignificant advantages for a company to possess at the outset, and, according to the prospectus, Capt. Adams, who will, in all probability, be the managing director, agrees to devote his undivided attention to the company's affairs, and mining operations, as well as the handling of the output, will, therefore, be conducted under a system of economy and good management. The Lièvre River Land and Phosphate Company has our best wishes for a successful

The gold and silver product of 752,750.

VILLENEUVE MICA MINE.

During the past month a force of miners have been engaged on this property, and the mine is developing into one of great extent-the crystals of mica are increasing in size as greater depth is reached and are more free from fracture-in fact the proportion of waste in the out. put up to the present time is comparatively small. Those who have had experience in mining this mineral are aware that but a small per centage of what is mined is cap. able of producing sheets of merchantable size. At this mine in Villeneuve, however, the crystals appear to lie in a less distorted form than elsewhere, and to be more free from twists and other damaging features. A large quantity of excellent mica has already been mined, most of which has been cut into sheets, ready for market, and when the mine has been further developed it will be capable of producing sufficient to supply a large demand.

Gold Mining in Beauce.

Messrs. Allan & Humphrey are now working in pay gravel at a depth of 150 feet in their mine near Slate Creek. Pan washings from the dump, taken out about six feet above bed rock, have proved very rich in fine gold, and the gravel below this no doubt carries coarser gold in large quantities, many nuggets, weighing an ounce and over, have already been found. Water for sluicing purposes is being brought from Slate Creek, about three-quarters of a mile, past the mouth of the shaft; sluices are in course of erection, and washing will be begun at an early date, the returns of which will be likely to astonish those who have had no taith in profitable mining in this section of country. The old river bed, where this shaft has been sunk, is a very large one, and the pay gravel will be proportionately abundant. In our next issue we hope to be able to give our readers the result of the first month's washup, and we venture to predict such rich returns as will induce thousands of miners to flock to the Beauce district and develop what is likely to prove one of the richest gold fields in America. Having seen the result of one day's pan-washing, we know whereof we speak.

According to the statement of Mr. Hayter, Government statist of Victoria, the total yield of gold in all the Australasian colonies, since its discovery in 1851, up to 1881 inclusive, has reached a value of \$1,446,217,255. Of this total Victoria, the smallest of the Australian colonies, has contributed \$1,010,-111,340.

REPORT ON THE AUSTIN COPPER MINE.

To the Directors of the Austin Mining Company, (Limited) Ottawa, Ontario.

Sir,-Having proceeded to your company's mine at Echo lake, in the Garden River Indian Reserve, and spent several days there surveying and examining it, I beg herewith to submit my report of the results of the examination.

SITUATION AND COMMUNICATIONS.

These two features can be well understood by reference to Mr. Austin's map of the preperty and the locality. Sault Ste. Marie is the nearest place of any size, and is distant about 25 miles by water down the Sault River to Lake George (or the mouth of the Echo River could be reached by driving from the Sault), up Echo River about three miles, and about three miles across Echo Lake to the mine dock, from which there is about a mile of well graded road to the mine. This route could be rendered available for craft drawing 6 or 8 feet of water by doing a slight amount of dredging at the mouth of Echo River, and about 100 feet where the lake discharges into the river. Were this done the communications would be excellent and the ore from the mine could be readily and cheaply brought down from Lake George, from whence it could be shipped through to Chicago or any points on the lakes, or to England. A light draft tug makes occasional trips at present up as far as the bar at Echo Lake. In winter communication would also be good. From Sault Ste. Marie to the mouth of Echo River on the Bruce Mines Road, up a winter road which has been cut to Echo Lake, and thence across the ice to the mine dock. There is a mail three times a week, or oftener, to a post-office at the mouth of Echo River, which would, no doubt, be improved were the mines working, and communication could also be made at this point with the C. P. R. telegraph system, were it necessary. The summer route by water is all sheltered, so that shipments need never be delayed by had weather. A good location could be found for a tramway to the dock at Echo Lake down a gully that runs directly from the mine. By putting in a suitable track the full car descending from the mine could, I think, be made to draw up the empty one. Ore bins could be erected here, from which the barrels could easily be filled, and into which self dumping cars could dump the ore which would reduce the cost of handling and tramming to a minimum.

DEVELOPMENTS.

The vein on which work has been done is a strong and well defined loue, carrying sulphides of copper and iron in a quartz gangue. It is very favourably situated for testing cheaply and also for working. runs into the side of a hill with an average strike, as far as shown by the present developments, of about N. 35° W., although it varies considerably from this at different points. In dip it also varies much, but averages about S. 55° W. In places it is 5 feet thick and in others it gets much broader, appearing from the surface croppings to widen out to 20 or 25 feet. *The accompanying map and section of the mine will show you the position and relative level of the various openings made on the vein which I now propose to describle more in detail.

THE TUNNEL.

This is a drift on the course of the vein at a point some 250 feet below its highest level on the property. It has been driven for a distance The lode here is not so productive as at the other openings, and seems much disturbed, but, as the end has only some 25 feet of vein above it, it will most likely improve much as it reaches deeper ground and approaches the better portions of the vein at 1 and 2 shafts. It has, however, yielded occasional good stones of ore as evidenced by the dump and breaking rock right along the level. The vein dips here about 65° and is 8 to 10 feet wide.

NO. 1. SHAFT

is a small exploratory shaft about 6x6 and some 25 feet deep. From this point croppings show for about 100 feet down towards the tunnel. opening turned out a good quantity of ore. An examination of the dump shows the vein to have been much improved in yield, settled and without the admixture of country rock found in the tunnel.

POINT W

is a small hole showing no ore, but the quartz here is white and opaque and similar to that found on the foot of the vein at opening Z, which, The position of the buildings, etc., is shown on the plan. They are all well built and in good order. They are as follows:

No. 2 Shaft House: A small plank building 15 x 10. No. 1 Shaft House: A small log building about 12 x 10. with other evidence, leads me to believe the real vein lies to the west of this spot in a hollow filled with soil.

POINT X.

Here a trench has been excavated across the outcrop of the vein, about 20x5x5 ft, deep. It shows much ferruginous gozzan from atmospheric action on the back of the lode. In the E. half iron pyrites appears to predominate, but the W. half shows t', regular copper bearing quartz of the lode. Notwithstanding atmospheric alterations, the trench has turned out some good ore and the vein looks promising.

A trench about 20x5x8 ft. deep, excavated across the ran of the vein. No definite hanging or foot wells shown as vein rock appears to be still standing to east of trench. The lode is about 25 ft. thick here and shows the same ferruginous gozzan as at X. This opening has yielded quite a A hand of iron stained quantity of good ore and the vein looks well. croppings extends on a course of S. 15° E. from here towards X for 30 or 40 feet.

NO. 2 SHAFT.

About $10 \times 12 \times 32$ feet deep. It is sunk on the foot wall which is here well defined and dips 52° from the horizontal, whilst the strike approaches a more E, and W. direction.

The vein looks well at this point, and there is a good showing of oro on the dump, which occurs in large and stronger masses in the vein matter. There is still vein standing to the hanging of the shaft.

OPENING Z.

A small pit 10x10x6 ft. deep which appears to be in the middle of the vein as neither foot nor hanging wall shows. The width would be about 15 to 20 feet here. Three bands show here: on the foot wall side is white opaque quartz, as in opening W., above which lies some 6 feet of looser rock stained with iron oxide and copper carbonates (from atmospheric action on the other ores of copper and iron) whilst above this the pit is 4 feet in a band of quartz with disseminated ore and occasional large pieces. The vein looks very well also at this point.

SITE FOR FLOORS.

An excellent site could be selected for dressing floors near the mouth of the tunnel where the ground drops away at a good angle to arrange them advantageously, so that the ore would pass through with the minimum of handling, whilst water could be supplied from the little creek running past the place and from the small lake above in which it takes its source.

SUMMARY.

On your property you have a good, large, and well defined vein which is very favourably situated for testing and working. The underground developments are, as far as they have gone, satisfactory in their results and would encourge and justify a further expenditure which, from present appearances, would open up a large quantity of good ore and enable the erection of dressing machinery to be proceeded with with confidence. I would suggest that the tunnel be continued on and that both shafts be sunk to meet it. The sinking of No. 1. would be necessary on account of ventilation, and would be advantageous as giving another point at which to start stoping.

The proposed work would require a force of 30 to 35 men, for whose accommodation very little addition would be required to the present boarding-house. A small steam hoist would be required for the shafts, which, with another steam drill, air compressor and tank for the two, would be the chief additions neces ary to the present plant. A couple of teams would also be required, but these could probably be hired from the surrounding farmers.

With this force, at the end of about a year, or little more, you would have a large stock of ore opened up and the ground well proved, and should these developments prove as satisfactory as the vein now promises you would be able to direct all your attention to the erection of dressing machinery, which could be supplied with ore immediately on completion.

A great deal of surface work has been done on the property, such as is always necessary in like districts before one can commence mining work, such as clearing bush, making roads, erection of buildings, &c., &c., so that there need be little delay on that account in starting work again on the mine as advised. The details of these surface improvements are given in the accompanying appendix. I remain, sir,

Your obedient servant,

ELFRIC DREW INGALL, (Signed) Associate Royal School of Mines, London, England.

APPENDIX.

SURFACE IMPROVEMENTS.

Smith Shop: Built of logs, 18 x 10, contains forge, bellows, anvil, hammers, etc., ready for use, and a great merry other tools in fairly good

Engine House: About 20 x 15, built of logs, centains 6 x 3 vertical boiler complete and in apparent good order, one steam drill and drills, tunnelling shaft, about 70 feet of steam hose, small portable forge and about 200 feet of iron pipe.

Stable: A log building 28 x 18, with half storey loft above.

Office and Manager's House: A good building, built of hewn logs, 25 x 22, three rooms on ground floor and a half storey loft above.

Boarding House: Good hewn logs, 30 x 25, large dining room, kitchen and pantry on ground floor and half storey sleeping room above. This house could accommodate 20 to 35 men.

Store Shanty: Built of rough logs, 17 x 14.

Cordwood: Near the houses there are about thirty cords of good stove wood.

Clearing: There is a clearing round the houses of some four or five acres in extent, of which about an acre is fenced in, which produces good hay.

Warehouse: Situate near the dock at Echo Lake, about 20 x 25,

built of frame and plank, with shingle roof.

Dock: A small temporary dock, about 30 x 15. A good dock could easily be built here. Neither of these two latter are or your property.

Cordwood Supply: I think some could still be gathered handy to the mine, and in winter further supplies could be teamed across the lake from any point where it was handy, or brought by scow in summer.

Average Sample: The barrels of rock sent you represent the average of the vein as proved at two representative points, viz., Nos. 1 and 3 shafts. Of course in actual work a certain proportion of poor rock could be selected out and thrown away at the shaft mouth. At each place some 5 or 6 cwt. of rock was selected from all parts of the dump, so as to represent in due proportion each class of rock there. This was spalled down, thoroughly mixed and the sample taken from it. Eventually all the rock was taken.

Materials: Besides the plant already mentioned, there were in various buildings 4 heating stoves and I cooking stove (No. 9), with pipe and many utensils, small hand pumps, 2 iron kettles, about 70 feet of good windlass rope, 2 windlasses, dirt and water buckets, some drill steel, a large sleigh, some cross-cut saws, and various other tools, and extensively used. about 200 to 300 feet of good turred 1-inch hemp rope.

> (Signed) E. D. INGALL.

KAOLIN.

Discovery by the late Mr. William L. Holland.

A few years ago two valuable denosits of kaolin were discovered by the late Mr. Holland, of Ottawa, on the Gatineau River, in the Township of Low. They had been known by the settlers and lumbermen for many years as "The Paint Mines," and were supposed to be other. passing down the river in a bark cance Mr. Holland noticed the clay, procured samples of the four colours that he found there -yellow, red, bluish grey and white--and had them tested and found that they were kaolin of a very good quality. He sent a sample to Mr. Livesley, of the St. John's Pottery, who worked some of it into a small piece of to Mr. Holland with a letter in which he stated he had the pleaproperty on which the deposits invariably a product of the altera-occur, and are now the owners tion of feldspar, and is therefore effects of which he is yet suffering, exploration and prospection. Those

of the only beds of kaolin of any extent known to exist in Canada With the construction of the Gatineau Valley Railway there will be a grand opening afforded here for the manufacture of vitrified tiles, fire-brick and pottery. Firewood is abundant in the immediate vicinity and magnificent water-power is within a few yards of the clay beds.

Kaolin is a name applied to a a pure white clay which forms an important ingredient in the manufacture of porcelain, and which is therefore known as china clay. Large quantities are raised in Cornwall, England, where it is frequently termed Cornish clay. This clay was first sent to Europe from China under the name of kaolin in the ear y part of the last century. A similar white clay was soon afterwards found in Saxony and was white ware which he forwarded used in the manufacture of porcelain, thus laying the foundation of the factory at Meissen for producing the famous Dresden china. It turned to Ottawa after a month's sure of sending him the first mg the amous research canal absence, during which time he paid was first detected in Cornwall in absence, during which time he paid piece of white ware ever made was mst detected in Comman in an official visit to Manitoba and the in Canada from native clay, the manufecture of a hard paste North-West Territories with a view Mr. Holland, son of the late dis-tehina at Plymouth and Bristol. coverer, Mr. Brennan, of Ottawa, Kaolin is found in Nebraska and and a gentleman of Toronto in several of the eastern States of settlers. Mr. Burgess was un-favour of the prospector, and, if aphave recently purchased the the American Union. It is almost fortunately the victim of a serious proved of by the Minister, will be

always found in association with teldspathic rocks, usually granite. The china clay rocks of Cornwall and Devon are simply granites in which the orthoclase-feldspar has become decomposed or kaolinized. The localities from which kaolin is obtained in Great Britain are all situated in Cornwall and Devon. In the former county the workings are principally in the neighbourhood of St. Anstell, St. Stephen's and Breague, while in Devon they are situated at Lee Moor and Meavy, on the south of Dartmoor.

China clay, kaolin, is not only used in the manufacture of pottery, but is also extensively employed by the paper maker and the calico bleacher. It is likewise used to a small extent in the manufacture of alum, artificial ultra-marine and some other chemical products. 1880 the quantity of china clay raised in Cornwall amounted to 278,572 tons, and in Devon to 25,-370 tons.

STRONTIA.

We observe it noted in many of the mining journals that there has sprung up a considerable | sent read as follows: demand in England for this ar- No. 3 .- "Its surface boundaries ticle among the manufacturers of fire-works, by whom it is very We are not aware of its occurrence in Canada.

Strontium is one of the metals of the alkaline earths, occupying an intermediate position, as regards many of its properties, to calcium and barium, the other members of the group. It is less abundant in nature than barium, and occurs as a constituent in the minerals strontianite and celestine, which are respectively the carbonate and sulphate. In the metallic state it is usually white, heavy, oxidisable in air, and decomposing water at ordinary temperatures. The most important compound is strontia, from which the metal was first obtained in 1808 by electrolysis. It resembles baryta, forming a white soluble hydrate, which is the compound formed when the metal decomposes water. Strontium and its components burn with a very charistic crimson flame, which gives a well marked line or banded spectrum.

THE MINING REGULATIONS.

The Deputy Minister of the Interior, Mr. A. M. Burgess, has reto acquainting himself with the country and the requirements of its

but, notwithstanding the inconvenience to be experienced from a broken arm, a disabled leg and a general shaking up, he succeeded, in a great measure, in accomplish. ing the object of his mission. Since the publication of the mining regulations many complaints have been made by miners in and about Calgary, and farther to the westward, on account of the supposed severity of many of the clauses, Deputations waited on Mr. Burgess at various points along the line of the C.P.R. where he stopped, and the many points at issue were carefully and exhaustively discussed. The Deputy Minister is satisfied that he has successfully set aside all misapprehension and dissatisfaction that had existed among miners and prospectors, as regards certain clauses which will remain unchanged, and after considering the objections to certain other clauses he has decided to recommend modifications which cannot fail remove all ground for complaining in the future. The clauses which Mr. Burgess proposes to amend are No. 3, sub-section C. of Clause No. 4, and Clause No. 5, of which the paragraphs to be amended at pre-

shall be straight due north and south and east and west lines not more than four in number."

Sub-Sec. C. Clause No. 4 .- "This receipt shall authorize the claimant, his legal representatives or assigns, to enter into possession of the location applied for, and, during the term of one year from its date, to take therefrom and dispose of any mineral deposit contained within its boundaries."

Clause No. 5 .- "At any time before the expiration of one year from the date of his obtaining the agent's receipt as aforesaid, it shall be onen to the claimant to purchase the location, on filing with the Local Agent proof that he expended not less than five hundred dollars in actual mining operations, etc."

AMENDED- Clause No. 3 .- Its surface boundary lines shall not be more than four in number and opposite sides shall be parallel.

Sub-Sec. C .- And during the term of five years from its date, etc.

Clause 5 .- At any time before the expiration of fice years from the date, etc., on filing with the Local Agent proof that he has expended not less than two hundred dollars, etc.

These modifications are all in made with a view to encouraging

framed after careful enquiry into the effect of similar regulations in force in other countries, and any departure therefrom has been made for the mutual benefit of miners and the Government to the exclusion of litigation and the legal pro-

THE BRITISH ASSOCIATION

ITS MEETING IN MONTREAL.

The Mines to be Visited

On Saturday, the 19th inst., the first contingent of members of this important scientific organization, including Capt. Trevelyan Pim, R.N. with their wives, daughters and other ladies, left London for Liverpool en route to Canada to attend the annual meeting of the Association, to be held in Montreal on the 27th of August. The British Association for the Advancement of Science is unquestionably the most important scientific organization in the world, and, as the date appointed for its annual meeting draws near, the people of Canada, especially the citizens of Montreal, begin to have some appreciation of the great honour that has been conferred upon us by the selection of Montreal as the place where the members of the Association are to assemble for their session of 1884. Among its eight hundred members the Association boasts of men eminent in science, literature and the arts, whose names are familiarly known the world over, and as many important discoveries have been announced at their annual gatherings, the meetings attract the attention of the scientific world, and the proceedings are watched with profound interest. Prominent amongst the members of the Association are the following distinguished gentlemen: The Right Hon. Lord Raleigh, M.A., D.C.L., F.R.S., F.R.A.S., F.R.G.S., the President-elect; Capt. Trevelyan Pim, R.N., to whose persistent efforts the decision to hold this meeting in Montreal is mainly due; Sir Wilham Thomson, LL.D., D.C.L.; Sir Joseph Dutton Hooker, K.C.S.I., M.D., C.B., F.R.S., F.L.S., F.G.S., D.C.L., LL.D.; Sir John Lubbock, Bart.; Sir Lyon Playfair, K.C.B., M.P., LL.D., F.R.S.; Sir Richard Temple, Bart.; Henry Morley, Esq., Henry Enfield F.R.S., LLD.; Lieut. Roscoe, F.R.S., General Sir John H. Lefroy, C.B., K.C.M.G., R.A., F.R.S., F.R.G.S.; Leone Levi, F.S.A.; Edward Joseph Lowe, Esq.; Dr. Henrici, of Heidclourg University; James Glaisher, Esq., the famous aronant; John S. B. Sanderson, M.D., LL.D., F.R.S.; mancy, CB., F.R.S.; Edward ada.

chauses which Mr. Burgess insists Frankland, M.D., D.C.L., Ph.D., shall remain as they are have been F.R.S., F.C.S., of the Royal School of Mines; John Hall Gladstone, Esq.; George H. Darwin, M.A., F.R.S., F.R.A.S.; William Boyd Dawkins, M.A., F.R.S., F.G.S., F.S.A., the eminent geologist; John Church Adams, F.R.S.; Henry Bastian, M.D., M.A., F.R.S., F.L.S.; William Carruthers, F.R.S., F.L.S., F.G.S.; James Dewar, M.A., F.R.S.; Robert Stawell Ball, LL.D., F.R.S.; Dr. John Ball, M.A., F.R.S., F.L.S., M.R.I.A.; Joseph Henry Gilbert, Ph.D., F.R.S., F.C.S.; the Earl of Rosse, B.A., D.C.L., LL.D., F.R.S., F.R.A.S., M.R.I.A.; J. F. Latrobe Bateman, M. Inst. C.E., F.R.S., F.G.S., F.R.G.S.; H. Banerman, F.G.S.; Rev. J. F. Blake, M.A., F.G.S.; Rev. Thomas G. Bonney, F.R.G.S.; Rev. Thomas G. Bonney, F.R.G. D.Sc., F.R.S., F.S.A.; A. G. Vernon Harcourt, M.A., F.R.S., F.C.S.; Capt. Douglas Galton, C.B., D.C.L., F.R.S., F.G.S., F.R.G.S.; William L. Carpenter, B.A., B.Sc., F.C.S.; Rev. W. H. Dallinger, F.R.S., F.L.S.; Lieut.-Col. John Herschel, R.E., F.R.S., F.R.A.S.; Thomas Rupert Jones, F.R.S., F.G.S.; William H. Perhin, F.R.S.; Robert H. Scott, M.A., F.R.S., F.G.S., F.R.M.S.; W. Chandler, Roberts, F.R.S., F.G.S., F.C.S.; Sir F. J. Bramwell, F.R.S., M. Inst. C.E.; George F. Fitzgerald, M.A., F.R.S.; R. T. Glazebrook, M.A., F.R.S.; G. D. Livening, M.A., F.R.S., F.C.S.; Rev. S. J. Perry, F.R.S., F.R.A.S., F.R.M.S., and

That the scientific men of Canada, and others, are to be given an opportunity of personal intercourse with such gentlemen as those we have named, who are numbered among England's most prominent men, is an event that is not likely to occur again for many a long day, and it is to be hoped that this visit of the members of the Association will be a permanent benefit to the Dominion. During their stay in Canada, Ottawa will be visited by a very large number of the members, and it has been arranged that those who are interested in such matters will be given an opportunity to visit the mineral bearing sections of the Ottawa district and the mines that are in operation. No amount of newspaper advertising could so effectually attract the attention of the outside world to our phosphate and iron deposits as a personal visit of these scientists. It behoves owners of mines to afford these distinguished gentlemen every facility to carefully examine the properties they will visit, and to see that they are received in a manner that will do credit to Canadian miners and will render their visit enjoyable and interesting. After visiting the phosphate mines in the du Lièves district it is expected that the party will proceed Vice-Admiral Sir Erasmus Om- to the iron mines of Central Can-

LAKE OF THE WOODS GOLD! MINES.

Most recent advices from Rat Portage report that the interest in the Lake of the Woods mines is steadily and rapidly increasing. Miners, prospectors and capitalists, or their agents, are daily arriving, and all are apparently anxious to at once engage in the mining enterprises of the district. As the mineral veins are more thoroughly prospected and tested, confidence in their permanent value becomes more firmly established, and it is expected that the capital required him a bonanza king. for their development will be forth-coming in the near future. The "Winnipeg Consolidated" is spoken of as a property of great promise, and it is to be deplored that lack of Arizona will probably produce, capital should retard active operaduring the present year, 20,000,000 tions at this mine. Its owners are pounds of copper. wasting valuable time this summer in not resuming work. A mine capable of producing ore that will pay from \$50 to \$200 a ton should not be idle.

Pine Portage mine is working night and day crushing high grade ore, which is yielding beyond all expectations.

It is reported that negotiations are in progress for the sale of the Sultana location. This property, when opened up, will probably develop into a mine that will compare with the Keewatin a d Pine Portage.

An inspection of the Paragon location has been made, and about 200 pounds of quartz taken from the lode, which is being tested, and if the result is satisfactory steps will be taken to open the mine at

The Lake of the Woods Company's stamp mill at the Argyle location has been kept going pretty steadily of late, and about twenty tons of Keewatin ore has been crushed. From this amount of rock about \$100 amalgam was taken from the plates, leaving nearly \$2,000 in the concentrates. showing gives a result of over \$100 to the ton, which, considering it is all surface ore, is exceedingly rich and gives great promise for the future.

MINING IN NEWFOUNDLAND.

Latest advices from Placentia report that Mr. C. S. Fowler, of the Anglo-American Telegraph Co., an expert in mining, after disposing of a valuable property, known as the Cliff Silver Mine, to a London syndicate, has been developing other properties in the neighbourhood of Placentia. Black Point has an immense deposit of gold, silver, lead and blende, with thousands of tons in sight. Ship Harbor has a very fine prospect of gold, silver and lead, with good ore streaks. Block House Mine, Great Placentia, vein assays eight and one-sixth ounces gold, same quantity silver, with

of 22 feet in width, containing gold, silver and lead. At Cape St. Mary's two fine ore streaks, 12 inches wide each, rich in gold, silver and lead, have been discovered. Also several other prospects, all owned by Mr. Fowler, not yet developed. Messis. Henderson and Sinnott recently discovered at Little Placentia Sound an extensive galena mine. The Cliff Silver Mine is exceedingly rich in gold and silver, highest silver assay 400 ounces with \$50 worth of gold. Mr. Fowler has shown wonderful perseverance in opening up this property, which promises to make

GENERAL MINING NOTES.

The Lake Superior, U.S., mines have produced copper and iron, from 1856 to 1883 inclusive, valued at \$370,000,000.

The total annual American product of gold and silver is \$80,000,-000. The entire world's annual product is \$160,000,000, or double that of America.

The Director of the Mint, in his last annual report of gold and silver production in the United States, mentions that the product of Colorado for 1883-84 is nearly \$25,000,000.

The value of the minerals exported during 1883 from New South Wales was £2.+38,826, the metals included gold, silver, silver-lead ore, copper, tin, iron, coal, bismuth, manganese, kerosene shale, pyrites, and antimony.

An explorer has recently returned from Victoria, B. C., and states that the reported mica deposits in that province are very small and of no commercial value. Another explorer, after searching for this mineral for fifteen days on Battle River, met with uo practical encouragement.

It is reported that work has been resumed at the Coxheath Copper Mines, near Sidney, Cape Breton, N.S. The Inspector of Mines for the Province of Nova Scotia, in his official report for 1883, says: "During the past summer the Coxheath Copper Mining Company did a great deal of work, their levels were extended and a good deal of ore stoped out. A few tons of this were hand-picked and sent away for testing. Experiments were made on the low grade ores, and it is stated that preparations are being made for the erection of a large concentrating plant in the spring. Some of the copper was found to magnificent lode on same property carry 80 oz of silver to the ton."

Incorporated Dividend-Paying Mines of the United States.

Name and Location
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NOTICE TO CONTRACTORS.

CEALED TENDERS, addressed to the undersimed, and endorsed "Tender for Coal, Public Buildings," will be received until MONDAY, 21st JULY next, for Coal supply, for all or any of the Dominion Public Buildings

MONDAY, 21st JULY next, or, for all or any of the Dominion Public Buildfor all or any of the Dominion Public Buildfor all or any of the Dominion Public Buildforgs.

Specification, form of tender and all necessary information can be obtained at this Department on and after the 24th instant.

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 irfeited if the party decline to enter into a contract when called upon to do so, or if he fail to complete the work contracted for. If the tender he not accepted 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, 21st June, 1884.

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NOTICE.

TENDERS will be received by the under
signed, until Friday, 1st August prox.,
from parties desirous of leasing the privilege
of ferr, any across the river Ottawa between
the Township of Clarence, in the Province of
Ontario, Dominion of Canada, and Thurso, in
the Province of Quebec, Dominion of Canada,
in accordance with the terms and under the
conditions set forth in the Regulations—copies
of which can be procured at the Department
of Inland Revenue, Ottawa, or from the Collector of Inland Revenue at Ottawa.

Each tender must state the amount which
the party tendering is willing to pay per
annum for the privilege referred to, which
amount will be payable in advance, the terms
of the lenge being for five years from the 1st
August, 1884.

Each tender must be accompanied by a
clique marked "good" on one of the
chartered banks, doing business at Ottawa,
for one-half the amount of the per annum
tender. This amount will be credited on
account of the first year's rent in the case of
the necepted tender, and all other cheques
will be returned except in the event of withdrawals, in which cases no refunds will be
ande.

All communications must be addressed to

drawals, in which cases no community in the lands of the undersigned and endorsed on the envelope "Tender for the Thurso and Clarence Ferry."

E. MIALL,

Commissioner of Inland Revenue,

Ottawa, July 11th, 1884.

THE-MINING REVIE -CHICAGO,ILLS:

DUFF PORTER. Editor.

The acknowledged authority on MINING and the LEADING REPRESENTATIVE EXPONENT of the MINING INDUSTR SUBSCRIPTION \$3.00 THE MINING REVIEW CO. CHICAGO. ILLS.



TENDERS will be received by the under signed up to the heur of 12 o'clock noon on FRIDAY, the 14th day of July next, for the purchase of what is known as the

Pincher Creek Indian Supply Farm

situated some 30 miles south-west of Fort McLeod, in the district of Alberta. North-West Territories, centaining about 3,000 acres. The farm has been occapied and cultivated by the Indian Department as a supply Farm for the Picgan Indian Reserve, and will be sold in one block, with the improvements thereof. During the past year it was leased by the Indian Reserve, and will be sold in cane block, with the improvements thereof. During the past year it was leased by the Indian Reserve, and the farm as being of superior quality, the herbage rich, and the water abundant and good.

The grain crops upon the farm are stated by the farmer of the Indian Department in charge, to have been excellent and to have ripened well.

There are upon the land a dwelling-house, granary, blacksmith's shop, cattle and hay corrals, sheds, barbed wire fonce enclosing fifty acres, a deep well, and the land is partially drained.

Payment will be required to be made one-

tially drained.
Payment will be required to be made one-fourth in eash, and the remainder in three equal annual instalments with interest upon the unpaid balances at the rate of six per cent.

the unpaid balances at the rate of six per cent, per annum.

Each tender must state clearly the amount per aere offered, and must be accompanied by a cheque marked good by one of the chartered banks of Canada for 10 per cent, of the total amount of the price offered, the difference between 10 per cent, of the purchase money and the first instalment of one-fourth to be paid to the credit of the Minister of the Interior, on or before the 15th day of Septembernext.

The lowest or any tender not necessarily accepted.

A. M. BURGESS, Deputy of the Minister of the Interior

Department of the Interior. } Ottawa, 6th May, 1881.



CONTRACT. MAIL

CEALED TENDERS, addressed to the Postmaster-General, will be received at Ottawa until noon, on Friday, 29th August, 1881, for the conveyance of Her Majesty's Mails, on a proposed Contract for four years, three times per week each way, between Dunrobin and South March from the 1st October next.

Diagrobin and South March from the 1st October next.

The conveyance to be made on horseback or in a suitable vehicle, via the Postoffice at Dunrobin when going, and by the direct route when returning. The mails leave South March every Tuesday, Thursday and Saturday as soon as possible after arrival of mail from Ottawa, and to perform the journey to March and back within three and three-quarter hours.

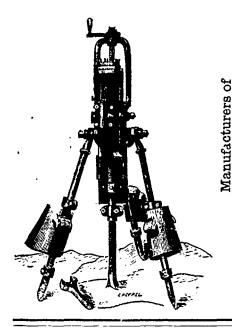
Printed notices containing further information as to the conditions of proposed contract may be seen, and blank forms of tend-r may be obtained at the Postoffices of Dunrobin, March and South March, ornt the office of the subscriber.

J. P. FRENCH,

J. P. FRENCH, P. O. Inspector.

Postoffico Inspector's Office, Ottawa, July 26th, 1831.

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El of N. Wl	15	16	23	80
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s. W.į	31	18	26	160

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