

The Canadian Mining Manual.

THE JENCKES MACHINE COMPANY,

SHERBROOKE, P.Q., CANADA,

— BUILDERS OF —

MINING MACHINERY.



Hoisting and Winding Engines

Stone and Ore Crushers

Steam Boilers (all types)



Steam Pumps and Stamp Mills

Air Compressors and Rock Drills

Coal Cutters (Percussion)



Herreshoffs Water Jacket Smelters

Diamond Rock Boring Machinery

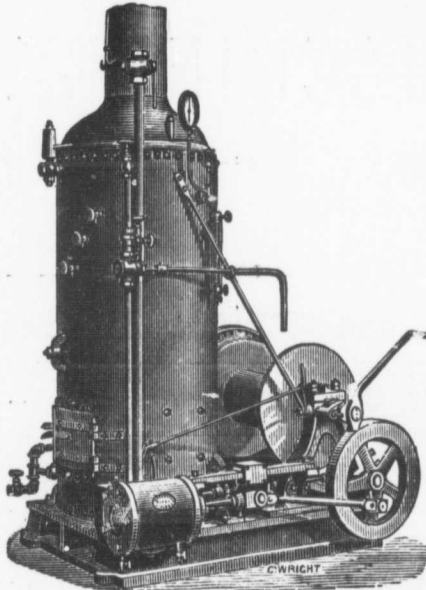


NOTE—Our Mining Machinery is built from the designs of the well known firm of Mining Engineers, COPELAND & BACON, New York.

The Canadian Mining Manual.

LIDGERWOOD MAN'F'G CO

96 LIBERTY STREET, NEW YORK, U.S.A.
34 AND 36 W. MONROE ST., CHICAGO, 197 TO 203 CONGRESS ST., BOSTON,
1 TO 7 N. FIRST ST., PORTLAND, OREGON,
610 N. FOURTH ST., ST. LOUIS, 99 FIRST AVE., PITTSBURG, U.S.A.



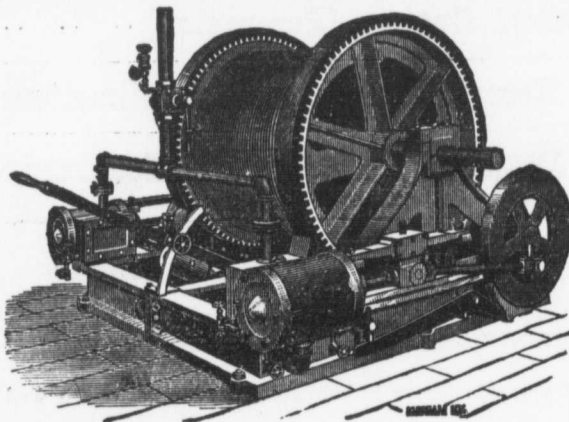
Largest Manufacturers in the
United States of

HOISTING MACHINERY

of every description for

Mines, Tunnel Work,
Contractors,
and General Hoisting
Purposes.

HOISTING ENGINES FOR MINING PURPOSES A SPECIALTY.



300 Styles
and Sizes.
Over 8,000
in use.

Send for
Catalogue.

JOH
J. D
F. C
WM

E
Circ
B

Wov



SO
Fe

Philad
Boston
Chicag
Denve
Charle
Grand
Europe

525.

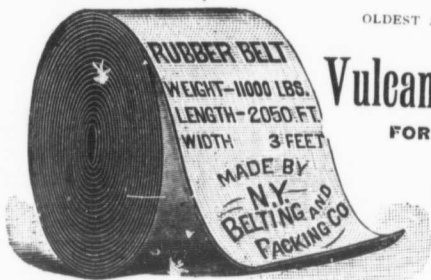
NEW YORK BELTING & PACKING CO.

JOHN H. CHEEVER,
J. D. CHEEVER,
F. CAZENOVE JONES, } Managers.
WM. T. BAIRD, Secretary.

LIMITED.

15 Park Row, New York, U.S.A.

OLDEST AND LARGEST MANUFACTURERS IN THE UNITED STATES OF



Vulcanized Rubber Fabrics

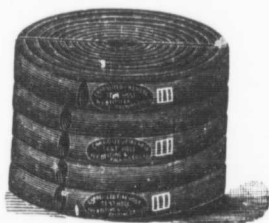
FOR MECHANICAL PURPOSES.

Extra Rubber Belting and Hose for Mining and Purposes.

EXTRA RUBBER & COTTON HOSE

Circular Woven Seamless Antiseptic RUBBER-LINED 'CABLE' and 'TEST' HOSE, for the use of Steam Engines, Force Pumps, Rolling Mills, Iron Works, Factories, Etc.

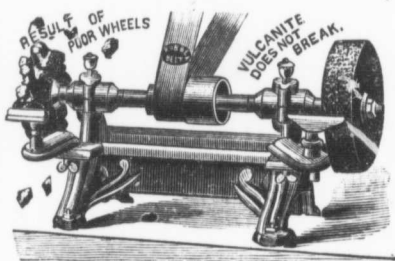
Woven in a superior manner to insure Wear, Compactness and Durability.



THE ORIGINAL SOLID VULCANITE

Emery Wheels

Run Easy and Safe,
Cool and True,
Are More Durable,
Hence Cheaper.



RUBBER BACK

SQUARE STEAM PACKING,

For Packing the Piston Rods and Valve Stems of Steam Engines and Pumps.



U. S. SALESROOMS:

Philadelphia, 308 Chesnut St.
Boston, 52 Summer St.
Chicago, 151 Lake St.
Denver, 1601-1611 17th St.
Charlestown, 160 Meeting St.
Grand Rapids, 4 Monroe St.
European Branch—98 and 100

Minneapolis, 28 South 2nd St.
Cleveland, 176 Superior St.
San Francisco, 17 Main St.
Atlanta, 16 Decatur St.
Detroit, 16-20 Woodward Av
Baltimore, 12 N. Charles St.
Queen Victoria St., London, England.

Buffalo, 124-128 Wash'g't'n St
New Orleans, 8-12 N. Peters St.
Kansas City, 1311 and 1313 W. 12th St.
St. Louis, 616 Locust St.



HAMILTON POWDER CO.

Manufacture Mining, Blasting, Military and Sporting

GUNPOWDER, DYNAMITE, DUALINE,

AND THE NEW

Eclipse Mining Powder.

Dominion Agents for

Safety Fuse, Electric Blasting Apparatus, &c.

OFFICE:

**310 ST. FRANCOIS XAVIER STREET,
MONTREAL.**

**Branch Offices and Magazines at all Chief Dis-
tributing Points in Canada.**



I. MATHESON & CO

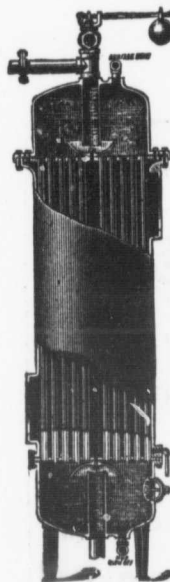
ENGINES, *
 * BOILERS,
 QUARTZ CRUSHING
 * MILLS, *
 WINDING GEAR,
 PUMPING M'CHY
 STEEL SHOES & DIES.
 WRITE FOR PRICES.

ENGINEERS
 AND
 BOILER MAKERS
 NEW GLASGOW
 NOVA SCOTIA

THE BEST PLACE IN CANADA
 * FOR *
 GOLD MINING MACHINERY

THE GOUBERT In its latest construction is the result of the best engineering experience in the utilization of exhaust steam.

FEED WATER HEATER.



It is the only heater in the market meeting the requirements of

**HIGH PRESSURES, FREE EXHAUST,
HIGH EFFICIENCY, GREAT DURABILITY.**

Brass Tubes free to expand. Pressure being inside, Tubes will never collapse. Heats the water to the highest point. No chance for back pressure.

The only Heater adapted to Condensing Engines.

Made in all sizes from 50 to 5,000 Horse-Power.

THE GOUBERT MFG. CO.

22 Courtlandt St., New York.

A. HOLDEN & CO., Montreal. Agents for Canada.

TO OBTAIN DRY STEAM

PLACE A

STRATTON SEPARATOR

IN YOUR STEAMPIPE.

This is the only apparatus that automatically separates water from steam, and secures the maximum of Economy, Efficiency and Safety.

ABSOLUTELY DRY STEAM

Through any length of p.pe.

A valuable feature in mining operations where dry steam is often required at a long distance from the boiler.

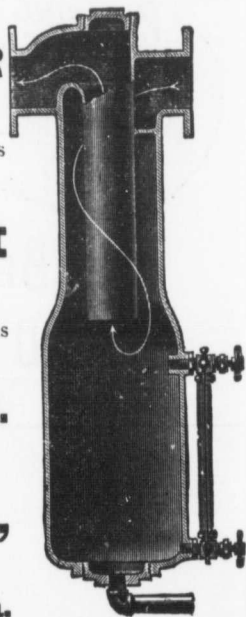
THE STRATTON SEPARATOR CO.

32 Courtlandt St., New York.

A. HOLDEN & CO.,

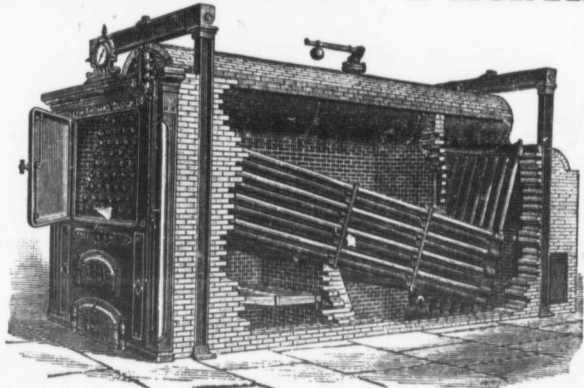
MONTREAL,

Agents for Canada.



The Canadian Mining Manual.

THE BABCOCK & WILCOX CO.
WATER TUBE STEAM BOILERS.
NEW YORK, GLASGOW & MONTREAL.



The unparalleled record of the Babcock & Wilcox Water Tube Boiler has proved its superiority over every other boiler.

IT IS RELIABLE.

as shown by the long list of purchasers, extending over twenty-five years, the continued and repeated orders demanding the establishment of manufactories in the United States, Great Britain, CANADA, France Germany and Austria.

IT IS ECONOMICAL.

It is quite safe to say that no other boiler can give a better record for economy, as can be shown by tests extending from Glasgow to San Francisco.

IT IS SAFE.

On this point the record is complete. Boilers developing nearly A MILLION HORSE POWER sold during twenty-five years without loss of life or property by explosion, is a record without parallel.

IT IS DURABLE.

The wonderful record of over one hundred thousand horse power of these boilers in use from two to twenty years, many of them driven day and night, on which the average cost of repairs has not exceeded FIVE CENTS YEARLY PER HORSE POWER for the boiler proper from all causes, speaks volumes on this point. As to the life-time of a Babcock & Wilcox boiler, experience so far fixes no data for a limit.

There is no reason to suppose that at the end of fifty years, with the occasional replacing of damaged parts, they may not be "as good as new."

Agents for Canada, **A. HOLDEN & CO.,** Waddell Building,
Send for book "STEAM," free on application. 30 ST. JOHN STREET, MONTREAL.

THE GRANBY RUBBER CO'Y

HEAD OFFICE:

GRANBY, P. Q.,

— MANUFACTURERS OF —

: : RUBBER BOOTS, : :

SHOES AND CLOTHING.

— ◆ —
MINING BOOTS AND COATS

A SPECIALTY.

— ◆ —
All Miners should wear the Ventilated Rubber
Boot made by the Granby Rubber Co.

— ◆ —
Messrs. AMES, HOLDEN & CO.,

SOLE AGENTS,

43 TO 47 VICTORIA SQUARE,

MONTREAL.

The Canadian Mining Manual.

The NICHOLS CHEMICAL CO.

**Capelton Chemical Works,
Capelton Fertilizer Works,
Capelton Smelting Works,
Albert Mines,
CAPELTON, P.Q., CANADA.**

Acids, Fertilizers, Chemicals.

SEND FOR QUOTATIONS.

COPPER ORES PURCHASED.

Correspondence should be addressed to the Main Office, 45 to 49
Cedar Street, New York.

CHEMICAL AND ASSAY APPARATUS.

Agents for the Dominion for the

**MORGAN CRUCIBLE CO'Y,
BATTERSEA, ENGLAND,**



AND FOR THE

**Analytical and Assay Balances and Weights of
Beckers & Sons, Rotterdam.**



Microscopes of E. Leitz, Wetzlar. Kavaliers Bohemian
Glassware. Royal Berlin and Meissen Porcelain. Platinum
Wire, Foil, Crucibles and Dishes. Swedish Filter Paper.
Chemically Pure Reagents and Volumetric Solutions.

An Illustrated Priced Catalogue on Application.

LYMAN, SONS & CO.,

**380, 382, 384 and 386 ST. PAUL STREET,
MONTREAL.**

**THE
ROYAL ELECTRIC CO.,
MONTREAL.**

Sole Proprietors for the Dominion of Canada of the
**THOMSON-HOUSTON SYSTEMS OF
ARC · AND · INCANDESCENT · ELECTRIC · LIGHTING.**

Thomson-Houston Arc Dynamos and Lamps,
Thomson and Thomson-Houston
Incandescent Dynamos,
Thomson Alternating Dynamos
and Transformers,
Thomson Generators and Motors,
All of the Latest and Most Efficient Types.

Estimates furnished on all sorts of lighting, power, mining
and railway electric plants.

CORRESPONDENCE SOLICITED.

HON. J. R. THIBAudeau,

President.

CHAS. W. HAGAR,

Gen. Manager.

F. THOMSON, *Chief Electrician.*

The Canadian Mining Manual.

RICE, LEWIS & SON,
(LIMITED),



TOOLS, MACHINERY AND MINING SUPPLIES.

Iron, Steel, Pipe, Valves, Fittings, Rope, Chains, Rails,
Tools, Etc., Etc.

33 KING STREET EAST, - - TORONTO.

M. & L. Samuel, Benjamin & Co.,
HARDWARE, METALS AND CHEMICALS.

No. 30 Front Street West, - - Toronto.

Special Attention given to Enquiries for General Manufac-
turing and Mining Supplies.

ENGLISH HOUSE:

SAMUEL, SONS, & BENJAMIN,
No. 1 Rumford Place, Liverpool.

Correspondence in Connection with either Import or Export
Business Solicited.

THOMSON-HOUSTON ELECTRIC ROCK DRILLS

Are Efficient, Safe, Economical, Powerful.
No more steam or air piping. No more valves and joints to leak;
great saving of power. The Drill Dynamo can also operate
**ELECTRIC LIGHTS, MOTORS, PUMPS, TRAM-
WAYS, VENTILATORS, HOISTS.**

Sole Canadian Agents:

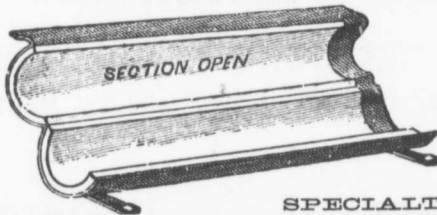
The Toronto Construction and Electrical Supply Co., Ltd.

Write for Estimates.

63 to 69 FRONT ST. WEST, TORONTO, CAN.

WM. SCLATER & CO.,

ASBESTOS WAREHOUSE,



42 and 44 Foundling St.,
Montreal.

Largest Stock of General
Supplies in the Dominion.

SPECIALTIES:

Roburite, the new Safety Explosive, Blocks, Sheaves, Wire and Manilla
Ropes, Plastic and Removable Pipe and Boiler Coverings, Files, Oils, Waste,
Steam Packings, Hair Felt, &c., &c.

CANADIAN RUBBER COMPANY

MONTREAL AND TORONTO.

CAPITAL, - - - \$2,000,000.

A. ALLAN, *Pres.* J. O. GRAVEL, *Sec.-Treas.* F. SCHOLLES, *Man. Dir.*

MANUFACTURERS OF

RUBBER SHOES AND FELT BOOTS.

Our Rubber Belting is Unequaled in America.


It is specially adapted for Saw Mills, Elevators, &c., where great
strength is required.

We manufacture all kinds of Rubber Hose, embracing Conducting,
Hydrant, Engine, Suction, Steam, and Petroleum Oil Hose.

Cotton Rubber Lined Mill Hose, all sizes.

Rubber Packings, Rubber Carriage Cloths, Rubber Horse Clothing,
Men's dull finish Sheeting and Firemen's double coated Coats with snaps.

Mould Goods of every description; Hard Rubber Goods for
mechanical purposes.

 Sole Agents and Manufacturers for the Dominion of Canada
of the Forsyth Patent Seamless Rubber Belting.

Head Offices and Factory,
MONTREAL.

J. J. MCGILL, *Manager.*

Western Branch.

Cor. Front and Yonge Sts., TORONTO.

J. H. WALKER, *Manager.*

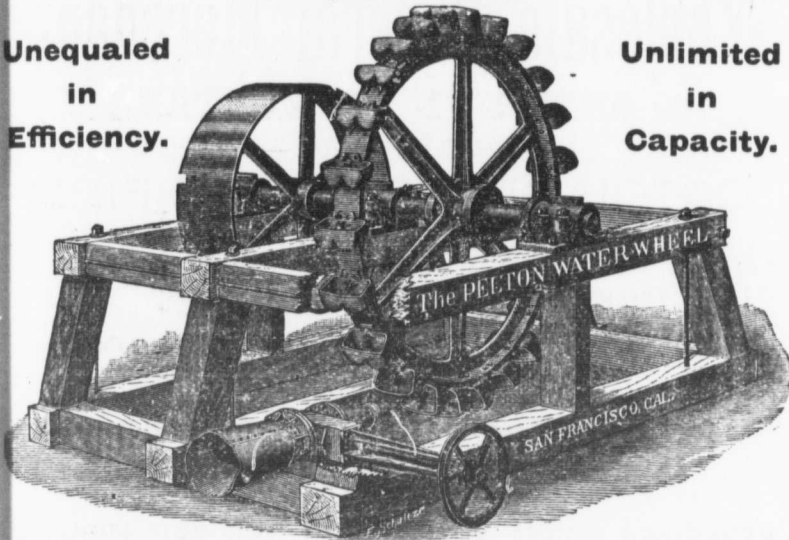
525.

THE PELTON WATER WHEEL

Gives the Highest Efficiency of any Wheel in the World.
Over 2,000 in actual use.

Unequaled
in
Efficiency.

Unlimited
in
Capacity.



Affords the most simple and reliable power for all mining and manufacturing machinery. Adapted to heads running from 20 up to 2,000 or more feet. From 20 to 30 per cent. better results guaranteed than can be produced from any other Wheel in the country.

ELECTRIC TRANSMISSION.

The advantages the Pelton Wheel affords in the way of a uniform and reliable power, close regulation and the facility of adaptation to varying conditions of speed and pressure, have brought it into special prominence and extensive use for this class of work. All applications should state amount and head of water power required, and for what purpose, with approximate length of pipe line. SEND FOR CATALOGUE.

THE PELTON WATER WHEEL CO.

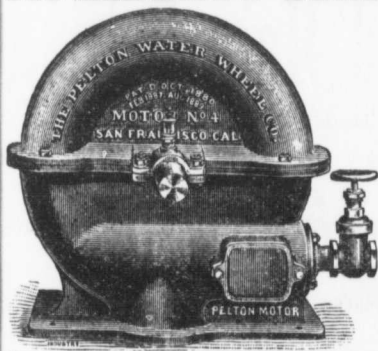
121-123 Main St., San Francisco, Cal., U.S.A.,

143 LIBERTY STREET, - NEW YORK.

THE PELTON WATER MOTOR

embraces the smaller size wheels inclosed in iron cases all ready for pipe connections. This is presented as a machine thoroughly scientific in principle, of admirable mechanical design, and possessing in the same degree the wonderful energy and power of the PELTON WHEELS, which has given them a reputation for economy and high efficiency that commands the trade in all parts of the world.

The PELTON MOTOR will be found so superior to all others as regards strength, durability, economy of water, in fact in all that constitutes a high class water motor, as to admit of no comparison. Made in sizes varying from the fraction of one up to 100 h.p., and are warranted to develop a given power with one-half the water required by any other. They are especially adapted to running electric lights as well as any other class of machinery within the limit of their capacity. Delivery is made from



New York or San Francisco as may afford the most favorable freight rates. Write for Circulars, address as above

W. & F. P. CURRIE & CO.,
Wholesale General Merchants

100 GREY NUN ST., MONTREAL,

— IMPORTERS OF —

SCOTCH GLAZED DRAIN PIPES

Chimney Tops
Vent Linings
Flue Covers
Fire Bricks
Fire Clay
Portland Cement
Roman Cement



Canada Cement
Water Lime
Whiting
Plaster of Paris
Borax
China Clay
&c., &c., &c.

MANUFACTURERS OF

BESSEMER STEEL SOFA, CHAIR AND BED SPRINGS.

A LARGE STOCK ALWAYS ON HAND.

F. REDDAWAY & CO.,

MANCHESTER, ENGLAND.

Canadian Depot: 57 St. Francois-Xavier St., MONTREAL.

— MANUFACTURERS OF —

“Camel” Brand Hair Belting

Double the Strength of Double Leather Belts.

Stitched Cotton Belting.

Linen Fire Hose, all grades.

Cotton Rubber Lined Fire Hose.

ASBESTOS, MINERAL WOOL, COTTON WASTE.

PAPER MAKERS' FELTS.

525.

BULLOCK DIAMOND DRILLS

FOR PROSPECTING.

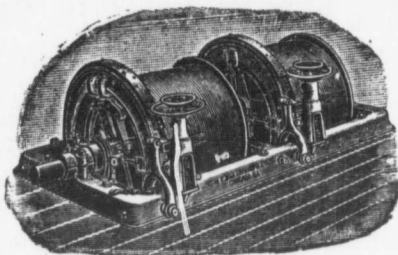
The only Machines that are positive in their action, producing solid cores of all strata penetrated by the boring head, thus giving an accurate and reliable record of the formations.



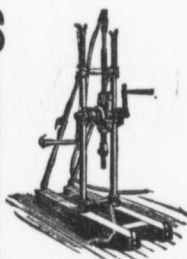
"DELVER" Drill.

Capacity 2,000 ft. $2\frac{1}{2}$ " hole, $1\frac{1}{8}$ " Core.

LANE'S BAND FRICTION HOISTS.



Wire Rope Haulage of Cars.



"BRAVO" Hand-power Drill
Capacity 300 ft. $1\frac{3}{4}$ " hole, $1\frac{3}{4}$ " Core.

PORTABLE EXPLORING HOISTS.

MURPHY'S CHAMPION VENTILATORS FOR MINES AND BUILDINGS.

BULLOCK-CORLISS ENGINES.

M. C. BULLOCK MAN'G CO., CHICAGO., U.S.A.

ET Mention this Book.

McARTHUR, CORNEILLE & Co.

GENERAL AGENTS

METROPOLITAN OIL CO.

IMPORTERS AND MANUFACTURERS OF

LUBRICATING



OILS

310 to 316 St. Paul Street, and
147 to 151 Commissioner St.,

MONTREAL.

CORRESPONDENCE INVITED.

Please mention Mining Manual,

Established 1882.

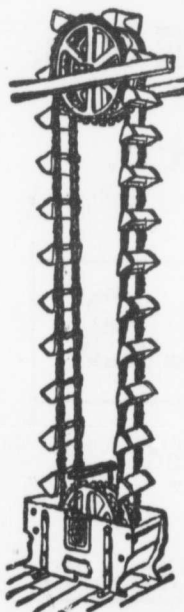
The Ball Electric Light Co.

(LIMITED)

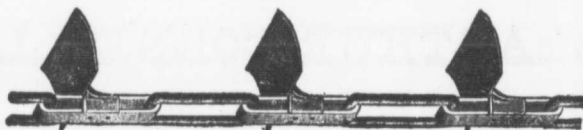
70 PEARL STREET, TORONTO, ONT.

MANUFACTURERS OF

Electric Arc and Incandescent Dynamos, Electric Railway System, Electric Power, Generators and Motors, Electric Mining and Milling Machinery, Ore Conveyors, &c., Electric Drills, Pumps, Ventilators, Tramways, Air Compressors, Hoists, Cranes, &c., &c., and all work requiring motive power.

LOWEST PRICES.BEST APPARATUS.**The BALL ELECTRIC LIGHT CO., Ltd.,***Write for Prices.***TORONTO, ONT.**

**BUCKET
ELEVATORS**



Cable Chain for Elevators and Conveyors.

ELEVATORS AND CONVEYORS*For handling Coal and Ores of all kinds.*

ALSO MANUFACTURERS OF

**JEFFREY COAL MINING MACHINES,
DRILLS, MOTOR CARS, AND
MINING SUPPLIES.**

(OPERATED BY ELECTRIC OR AIR POWER).

For Catalogue address

The JEFFREY MFG. CO.

COLUMBUS, OHIO.

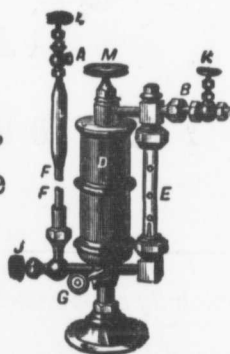
AUSTEN BROTHERS,

Railway, Colliery, Gold Miners', Quarrymen
and Contractors' Supplies.

HALIFAX, N.S.



Engines, Boilers,
Stamp Mills,
Copper Plates,
Wrought Iron Pipe
and Fittings,
Drill Steel Picks,
Shovels.

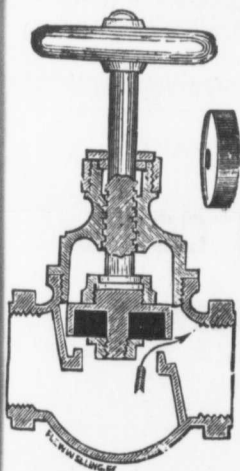


MINERS' CANDLES,

RUBBER AND LEATHER BELTING,

CYLINDER AND

MACHINERY OILS.



Pit Tub and Axle Grease,
Water White and Prime White.

KEROSENE.

Everything at Manufacturers'
Prices.

IF YOU WANT



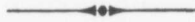
BAGS

For Packing



Asbestos, Phosphates, Ores, Etc.

SEND TO US FOR SAMPLES AND PRICES.



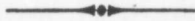
Specially strong sewing for heavy materials.

Lowest Prices compatible with Good Work.

Every quality and size in stock.



*We now supply most of the Mining Com- . .
panies, and those who have not bought from
us would find it to their advantage to do so.*



THE CANADA JUTE CO. Ltd.

17, 19 and 21 ST. MARTIN STREET,

MONTREAL.

ESTABLISHED 1882.

MINING PUMPS.

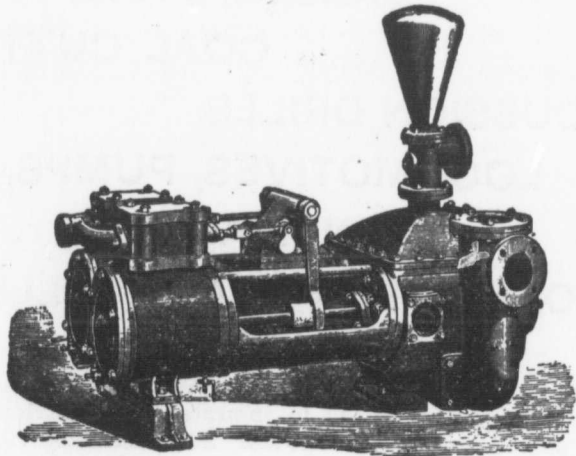
ORDINARY PISTON PUMPS,

PISTON PUMPS, with removable liner.

PLUNGER PUMPS, ordinary pattern.

do do solid cylinder pattern.

do do pot valve pattern.



SIMPLE PUMPS,

COMPOUND PUMPS,

PUMPS FOR BOILER FEEDING,

DUPLEX PUMPS,

SINGLE PUMPS.

NORTHEY MFG. CO.

TORONTO, ONT.

Edison General Electric Co'y,

EDISON BUILDING, BROAD STREET, NEW YORK CITY,

Has now in daily operation in various mines on this continent
the following Electric Mining Machinery :

**ROTARY DRILLS,
DIAMOND DRILLS,
HOISTS, FANS,
COAL CUTTERS,
PERCUSSION DRILLS,
LOCOMOTIVES, PUMPS,
VENTILATORS,
MOTORS FOR STAMP MILLS, &c.**

Special attention is called to the advantage of the use of
Electric Mining Appliances in mountainous districts where
fuel is scarce and water power in abundance, but some
distance from mine.

*Address all communications to the nearest district office.
as below :*

Canadian District, Edison Building, 77 Bay Street, Toronto.

Central District, 173-176 Adams Street, Chicago, Ill.

Eastern District, Edison Building, Broad Street, New York.

New England District, 25 Otis Street, Boston, Mass.

Pacific Coast District, Edison Building, 112 Bush Street, San
Francisco, Cal.

Pacific Northwest District, Fleischner Building, Portland, Ore.

Rocky Mountain District, Masonic Building, Denver, Col.

Southern District, Gould Building, 10 Decatur Street, Atlanta, Ga.

THE
CANADIAN MINING MANUAL
 AND
Companies Directory.

—◆—
1892.
 —◆—

A CAREFUL DIGEST OF INFORMATION RELATING TO THE
 HISTORY, ORGANIZATION, AND OPERATION OF ALL
 CANADIAN MINING AND QUARRYING COMPANIES,

COMPILED FROM THE MOST AUTHENTIC SOURCES,

BY

B. T. A. BELL,

Editor of The Canadian Mining Review, Secretary General Mining
 Association of the Province of Quebec, etc. etc.

TOGETHER WITH

A SERIES OF ARTICLES ON THE LEADING MINERAL INDUSTRIES
 OF CANADA, AND A RESUMÉ OF THE FEDERAL AND
 PROVINCIAL JOINT STOCK COMPANIES' ACTS.

—◆—
SECOND YEAR.
 —◆—

OTTAWA :
 VICTORIA CHAMBERS, 140 WELLINGTON STREET.
 1892.

PRICE THREE DOLLARS.

TN 26

A2

C2

fol.

1892

30894

*Entered according to Act of the Parliament of Canada, in the year 1892,
by B. T. A. Bell, at the Department of Agriculture.*

MORTIMER & Co., PRINTERS.

PREFACE.

THE second issue of the MINING MANUAL will be found to contain a complete directory to the Canadian Mining and Quarrying Companies, together with such particulars respecting their organization, history and operations as may be useful as a reference for those interested in the industry.

Through the uniform courtesy of the secretaries and mine officials, to all of whom the publisher desires to return his grateful acknowledgments, the notices contained in the first edition have been carefully revised, while the information generally has been extended to cover a wider field, and is brought well down to date. A number of new articles on the mineral industries and resources of the country have been included, but owing to sickness, absence from the country, and other causes, the list is not quite so complete as originally intended, such subjects as the "Algoma Silver Industry," "Coal Mining in British Columbia," etc., having to be left over for another issue. The synopsis of the Federal and Provincial Joint Stock Companies' Acts has again been included, and, as heretofore, will be found of service to those who may contemplate organizing a company under the provisions of one or other of the Acts.

OTTAWA, 30th March, 1892.

ELECTRIC BLASTING.



Victor Electric Platinum Fuses. Superior to all others for exploding any make of dynamite or blasting powder. Each fuse folded separately and packed in neat paper boxes of 50 each. All tested and warranted. Single and double strength, with any length of wires.

Victor Blasting Machine. Made in two sizes. No. 2 fires 20 to 30 holes. No. 1 fires 5 to 8 holes. Adapted for prospecting, stump blasting, quarry and general railroad work.

"Pull Up" Blasting Machine. The strongest and most powerful machine ever made for Electric Blasting. No. 4 size fires 70 holes. No. 3 size fires 40 holes. Are especially adapted for submarine blasting and mining work.

Standard Electric Fuse and Blast Tester, Wire Reels, new design, Leading and Connecting Wire. Send for Catalogue.

MANUFACTURED ONLY BY

JAMES MACBETH & CO.,

128 MAIDEN LANE, NEW YORK CITY.

LEDOUX & Co.

9 Cliff Street, New York.

ENGINEERS, METALLURGISTS AND ASSAYERS.

PUBLIC ORE SAMPLING AND STORAGE WORKS.

All the principal buyers of furnace materials in the world purchase and pay cash against our certificates of assay, through New York Banks.

By special permission of the Secretary of the Treasury of the United States, cars of ore or Copper matte passing through in bond can be opened and sampled at our works.

Consignments received and sold to highest bidder. Send for circular giving full particulars.

Mines examined and sampled. Assays and Analyses of all kinds.

CONTENTS.

ARTICLES :	Page
The Early History and Progress of Coal Mining in Nova Scotia	1
The Gold Mining Industry of Nova Scotia ..	17
The Mineral Resources of New Brunswick.....	24
The Canadian Asbestos Industry.....	39
The Canadian Phosphate Industry.....	47
Our Gold Fields in Quebec.....	55
Mining in Ontario.....	62
British Columbia as a Field for Mineral Investment	72
INDEXES TO COMPANIES :	
General Index to Companies	xxvi
Classified Index to Companies by Industries.....	xxxiv
Classified List of Manufacturers of Mining Machinery, etc..	xl
MANUAL :	
The Incorporated and Private Mining and Quarrying Companies of Canada.....	91
JOINT STOCK COMPANIES ACTS :	
Dominion of Canada	240
Ontario.....	248
Quebec.....	249
New Brunswick.....	251
Nova Scotia.....	251
Manitoba	254
North-West Territories.....	255
British Columbia.....	257
MINING REGULATIONS :	
Dominion Lands.....	262
New Brunswick.....	266
Nova Scotia.....	264

INDEX TO COMPANIES.

	PAGE
Acadia Coal Co., Ltd.....	91 to 93
Ainsworth Miners' Union.....	93
Alabama Hydraulic Gold Mining Co.....	93
Alabastine Co., Ltd.....	94
Alberta Railway and Coal Co.....	94
Algoma Mines Co.....	95
Alice and Emma Consolidated Gold Quartz Mining Co.....	95
American Asbestos Co.....	95, 96
Anglo-American Iron Co.....	96
Anglo-American Mining Co.....	96
Anglo-Canadian Asbestos Co., Ltd.....	97
Anglo-Canadian Exploration Co.....	96
Anglo-Canadian Phosphate Co., Ltd.....	97
Anglo-Continental Guano Works Co.....	98
Annand Gold Mine.....	98
Anthracite and Bituminous Coal Co., Ltd.....	98
Asbestos Club.....	99
Atlantic Stone Co.....	99
Austin Mining Co., Ltd.....	99
Badger Silver Mining Co. of Gillies, Ont.....	99, 100
Bancroft Iron Co.....	100
Battye Freestone Co., Ltd.....	100
Beauce Asbestos Co.....	101
Beaver Asbestos Co., Ltd.....	101
Beaver Mining and Milling Co.....	101
Bedford Mining Co.....	102
Bell's Asbestos Co., Ltd.....	102, 103
Belmont Bessemer Ore Co.....	103
Black Jack Quartz Mining Co., Ltd.....	103, 104
Blue Bell Mining Co., Ltd.....	104
Blue Lead Hydraulic Co., Ltd.....	104
Bonanza Mining Co.....	105
Bonanza Nickel Mining Co. of Sudbury.....	104
Boston Gold Mining Co.....	105

Bras
 Bras
 Brist
 Brist
 Brist
 Brist
 Brom
 Bruce
 Calab
 Caled
 Caled
 Caml
 Cana
 Cana
 Cana
 Cana
 Cana
 Cana
 Cana
 Cana
 Cana
 Cana
 Cana
 Cana
 Cana
 Cana
 Cana
 Cana
 Cana
 Cana
 Cape
 Carbo
 Carib
 Centra
 Centra
 Chicag
 Colche
 Coldst
 Colera
 Colum
 Colum
 Comm
 Conco
 Consu
 Cottor
 Cowar
 Cresce
 Crowf
 Crown

	PAGE
Bras d'Or Lime Co., Ltd	105
Bras d'Or Marble Co., Ltd.	106
Bristol Iron Co., Ltd.	106
British Columbia Milling and Mining Co., Ltd.	107
British Columbia Pottery and Terra Cotta Co.	107
British Columbia Rivers Gold Gravels Dredging Co., Ltd.	107
British Columbia Smelting Co., Ltd.	107, 108
Brompton Lake Asbestos Co.	108
Bruce Land and Mining Co., Ltd.	108
Calabogie Mining Co., Ltd.	108, 109
Caledonia Coal and Railway Co., Ltd.	109, 110
Caledonia Mining Co.	110
Cambrian Coal Co., Ltd.	110, 111
Canada Coal Co.	111
Canada Co.	111, 112
Canada Industrial Co., Ltd.	112
Canada North-West Coal and Lumber Syndicate, Ltd.	113
Canadian Anthracite Coal Co., Ltd.	113
Canadian Copper Co.	114
Canadian Granite Co.	114, 115
Canadian Pacific Prospecting and Mining Co., Ltd.	115
Canadian Phosphate Co., Ltd.	116
Canadian Smelting and Refining Co., Ltd.	116
Canadian Syndicate, Ltd.	117
Cape Breton Institute of Mine Officials.	117
Carbonate Mountain Developing Co.	117
Cariboo Creek Mining Co.	117
Central Lake Mining Co.	118
Central Rawdon Mining Co., Ltd.	118
Chicago-Algonia Nickel Co.	118
Colchester Coal Mining Co., Ltd.	119
Coldstream Mining Co.	119
Coleraine Mining Co.	119
Columbia-American Mining Co.	120
Columbia Mining Co., Ltd.	120
Commercial Mining Co.	120
Concord Gold Mining Co.	121
Consumers' Oil Co.	121
Cottonwood Gold Mining Co., Ltd.	121
Cowan Gold Mining Co.	122
Crescent Gold Mining Co. of Marmora.	122
Crowfoot Coal Co.	122
Crown Point Mining Co.	123

	PAGE
Crow's Nest Coal and Mineral Co., Ltd.....	123
Cumberland Railway and Coal Co., Ltd.....	124, 125
Deadwood Mining Co.....	125
De Nederlandsche Phosphaat Maatschappij.....	126
Dominion Lime Co.....	126
Dominion Marble Co.....	127
Dominion Mineral Co.....	127
Dominion Phosphate and Mining Co., Ltd.....	128
Donald Gold Mining Co., Ltd.....	128
Douglas Coal Mining Co.....	128
Douglas Mining Co.....	129
Drury Nickel Co.....	129
Dufferin Gold Mining Co.....	129, 130, 131
Du Lievre Milling and Manufacturing Co.....	131
Dunnville Natural Gas Co.....	131
Eastern Development Co., Ltd.....	131, 132
East River Coal Co.....	133
East Templeton District Phosphate Mining Syndicate, Ltd.....	133
East Wellington Coal Co.....	133, 134
Elarton Salt Works Co., Ltd.....	134
Electric Mining Co.....	134
Emerald Phosphate Co.....	135
Empire Consolidated Gold Mining Co.....	135
Empire Mining Co. of Ontario.....	135
Ennis & Co.....	136
Essex Moulding Sand Co.....	136
Eustis Mining Co.....	136, 137
Evangeline Mines Co.....	137
Excelsior Copper Co., Ltd.....	137
Fairbanks Consolidated Mining Co. of Ontario, Ltd.....	137
Farmer's Natural Gas and Oil Co. of Gosfield.....	138
Forrest Rose and St. George Hydraulic Gold Mining Co.....	138
Foxton Phosphate Mining Co., Ltd.....	138
Fraser River Gold Gravels Syndicate.....	139
Frontenac Phosphate Co., Ltd.....	139, 140
Galway Mining Co., Ltd.....	140
Gardiner Coal Co.....	140
General Mining Association, Ltd., of London, Eng.....	140 to 144
General Mining Association of Quebec.....	144
General Phosphate Corporation, Ltd.....	144 to 147
Glace Bay Mining Co.....	147, 148
Glasgow and Montreal Asbestos Co.....	148, 149

Glen
Gold
Gold
Gold
Gord
Gow
Gran
Gran
Grav
Grim
H. H
Halil
Herot
Heyw
Hidd
High
Hung
H. W
Hynes
Inter
Intern
Intern
Invinc
Jeanne
Jeffrey
Joggin
Johnso
Kalad
Kemp
King
King
Kingst
Kingsw
Koksil
Kooter
Kooter
Kooter
Kooter
La Co
La Cur
Lake I

	PAGE
Glen Iron Mining Co.	149
Gold Mining Association of Nova Scotia, Ltd.	149
Golden Mining and Smelting Co. of Canada.	150
Gold Rock Mining and Milling Co. of Algoma and Nipissing.	150
Gordon Hydraulic Mining Co.	150
Gowrie Coal Mining Co.	151, 152
Grand Lake Coal Co.	153
Grand River Plaster Co.	153
Gravel Bay Mining Co. of Ontario, Ltd.	153
Grimsby Quarry and Transport Co.	154
H. H. Vivian & Co.	154
Haliburton Mining Co., Ltd.	154, 155
Heron Bay Mining Co.	155
Heywood Hydraulic Gold Mining Co.	155
Hidden Treasure Mining Co., Ltd.	155, 156
Highland Mining Co.	156
Hungerford Marble Co., Ltd.	156
H. W. McNeil & Co., Ltd.	157
Hynes Terra Cotta and Brick Co., Ltd.	157
Intercolonial Coal Mining Co., Ltd.	157, 158
International Coal Co., Ltd.	159
International Mining and Milling Co. of British Columbia.	159, 160
International Mining and Transportation Co.	160
Invincible Mining Co., Ltd.	160
Jeannette Mining Co.	161
Jeffrey Asbestos Mine.	161
Joggins Coal Mining Association.	161
Johnsons' Asbestos Co., Ltd.	161, 162
Kaladar Mining Co.	162
Kempt Gold Mining Co.	162
King Bros.	163
Kingston and Pembroke Iron Mining Co.	163, 164
Kingston Phosphate Mining Co.	163
Kingsville Natural Gas and Oil Co., Ltd.	164
Koksilah Quarry Co., Ltd.	164
Kootenay and Columbia Prospecting and Mining Co.	165
Kootenay (British Columbia) Smelting and Trading Syndicate, Ltd.	165, 166
Kootenay Lumber and Mining Co.	165
Kootenay Valleys Co., Ltd.	166
La Compagnie des Mines d'Or de Mattawa.	167
La Cumbre Mining Co. of Toronto, Ltd.	167
Lake Lode Mining Co.	167

	PAGE
Lake Superior Mineral Land Development Co.....	168
Lake Superior Mining Co., Ltd.....	168
Lake Tamagoming Pioneer Co.....	168
Lake View Mining Co., Ltd.....	169
Lanark Consolidated Mining and Smelting Co.....	169
Laura Hydraulic Mining Co., Ltd.....	169
Laurier Mining Co.....	170
Le Roi Mining and Smelting Co.....	170
Leeds Copper Co., Ltd.....	170
Lillooet Hydraulic Mining Co., Ltd.....	171
Little Rapids Mining Co.....	171
Londonderry Iron Co., Ltd.....	171 to 173
Low Point, Barrasois and Lingan Mining Co., Ltd.....	173 to 175
Lyndhurst Lead Mining Co. of Ontario.....	175
Mabou Gypsum Co.....	175, 176
MacGregor Lake Phosphate and Mining Co.....	176
MacLaurin Phosphate Mining Syndicate, Ltd.....	176
MacNaughton Gold Mining Co.....	177
Malaspina Red Granite Quarry Co.....	177
Manitoba Railway and Coal Co.....	177
Mattawa Mining and Smelting Co.....	178
McMillan, Kittridge & Co.....	178
Memphremagog Mining Co.....	179
Milne, Coutts & Co.....	179
Milton Pressed Brick and Sewer Pipe Co., Ltd.....	179, 180
Moir Granite Co.....	180
Montawa Gold Mining Co.....	180
Montreal and Kootenay Mining Co.....	181
Mooseland Gold Mining Co., Ltd.....	181
Moulton Hill and Howard Mines.....	181
Mutual Natural Gas Co. of Port Colborne.....	181, 182
Nanaimo Coal Trimmers' Protective and Benevolent Society.....	182
Napier Mining Co., Ltd.....	182
Neebish Mining Co.....	182
Nelson Island Granite Co., Ltd.....	182
Nelson Smelting and Mining Co.....	183
Neosho Mining Co.....	183
New Brunswick Mineral Developing Co.....	183, 184
New Brunswick Silver and Gold Mining Co.....	183
New Egerton Gold Mining Co.....	183
New Eureka Silver Mining Co., Ltd.....	183
Newfoundland Colonization and Mining Co., Ltd.....	184, 185
New Glasgow Iron, Coal and Railway Co., Ltd.....	185 to 187

New
New
Nich
Nick
Nicol
Nicol
North
North
North
North
Nova
Nova
Nova
Nova
Ogen
Oldh
Oneic
Onta
Onta
Onta
Onta
Onta
Orms
Oxford
Pacifi
Palgr
Park
Penin
Peter
Petit
Petro
Petro
Phila
Phoen
Phos
Picto
Pope
Prem
Prodi
Provi
Quest
Rand
Raw

PAGE		PAGE
68	New Rockland Slate Co.....	187
68	New Vancouver Coal Mining and Land Co., Ltd.....	187 to 190
68	Nichols Chemical Co.	190
69	Nickel-Steel Co. of Ontario	191
69	Nicola, Kamloops, Similkameen Coal and Railway Co.....	191
69	Nicola Mining Co., Ltd.....	191 to 193
70	North American Phosphate Co	193
70	North Shore Nickel Mining Co.....	193
70	Northup Mining Co., Ltd.....	194
71	North-Western Gold and Silver Mining Co.....	193
71	Nova Scotia Iron Co.....	194
73	Nova Scotia Coal and Railway Co., Ltd.....	194
75	Nova Scotia Midland Railway and Iron Co., Ltd.....	194, 195
75	Nova Scotia Syndicate, Ltd.....	195
76	Ogema Mining and Smelting Co.....	195
76	Oldham Gold Co.....	196
76	Oneida Quarry Co., Ltd.....	196
77	Ontario Gas and Oil Co., Ltd	196, 197
77	Ontario Mining Co., Ltd	197
77	Ontario Natural Gas and Fuel Co.	197
78	Ontario Nickel Co.....	197
78	Ontario Nickel Mountain Mining Co.....	198
79	Ormstown Brick and Terra Cotta Co., Ltd.....	198
79	Oxford Gold Mining Co.....	198
80	Pacific Bullion Mining Co., Ltd.....	199
80	Palgrave Gold Mining Co.....	199
80	Parker-Douglas Co.....	199
81	Peninsula Gold Mining Co., Ltd.....	200
81	Peterborough and Frontenac Mining Co	200
81	Petit Rocher Silver Mining Co.....	200
82	Petrolia Crude Oil and Tanking Co.....	200, 201
82	Petrolia Oil Co.....	201
82	Philadelphia Gold Mining Co.....	201
82	Phoenix Coal Co., Ltd.....	202
82	Phosphate of Lime Co., Ltd.....	202
82	Pictou Charcoal Iron Co.....	203
83	Pope Manganese Co.....	203
83	Premier Oil Co.....	203, 204
84	Producers' Tanking Co.....	204
84	Provincial Natural Gas and Fuel Co. of Ontario, Ltd.....	20
84	Quesnelle Quartz Mining Co., Ltd.....	205
85	Rand Drill Co., Ltd.....	205
85	Rawdon Antimony Mining Co., Ltd.....	205

	PAGE
Red Deer Valley Railway and Coal Co	206
Reed Asbestos Mine.....	206
Revelstoke Mining Co., Ltd.....	206
Richmond Slate Quarrying and Manufacturing and Asbestos Co., Ltd.	207
Rockland Gold Mining and Milling Co.....	207
Royal Gold Mining Co	207
Saanich Lime Co., Ltd.....	208
Salt Spring Island Mining Co., Ltd	208
Saulte Ste. Marie Nickel Mining and Contract Co.....	208
Scottish Canadian Asbestos Co	209
Sebastopol Phosphate Syndicate Co., Ltd.....	209
Selkirk Mining and Smelting Co., Ltd.....	209
Shebandowan Mining Co.....	209, 210
Sherbrooke Marble Co.....	210
Shuniah Weachu Mine Co., Ltd.....	210 to 212
Silver Centre Mining Co. of Ontario, Ltd.....	212
Silver Queen Mining Co., Ltd.....	212
Silver Wolverine Co., Ltd	213
Slough Creek Mining Co.....	213
South Fork of Quesnelle Hydraulic Mining Co.	213 to 214
South Uniacke Gold Mining Co.....	214
Spokane and Great Northern Mining Co.....	214
Stadacona Silver-Copper Mining Co.....	214, 215
Standard Asbestos Co., Ltd	215
Standard Gold Co.....	215, 216
Standard Oil and Gas Co. of Ontario.....	216
Stanley Coal Co.....	216
Stanley Gold Mining Co., Ltd	216, 217
Steadman Quartz Mining Co., Ltd.....	217
Steveston Natural Gas and Development Co.....	217
Straight Lake Mining Co.....	218
Styles Mining Co., Ltd.....	218
Sudbury Customs Smelting Co., Ltd.....	218
Sudbury Mining Co., Ltd.....	219
Sudbury Nickel Co.....	219
Sydenham Mica and Mining Co.....	219
Sydney and Louisburg Coal and Railway Co., Ltd.....	219 to 223
Templeton Asbestos Mining Co.....	223
Templeton and North Ottawa Mining Co., Ltd.....	224
Tennycapc Manganese Co.....	224
Texada Gold and Silver Mining Co., Ltd.....	224
Texada Lime Co.....	225
Thetford Asbestos Mining Co	225

CLASSIFIED INDEX

TO

CANADIAN COMPANIES.

—%—

ASBESTOS COMPANIES.

Name of Company.	District and Province.	Authorized Capital.	Page.
American Asbestos Co.	Black Lake, Q.	£50,000 stg.	95, 96
Anglo-Canadian Asbestos Co.	do	£20,000 stg.	97
Beauce Asbestos Co.	Beauce Co., Q.	\$ 10,000	101
Beaver Asbestos Co.	Thetford, Q.	\$ 100,000	101
*Bell's Asbestos Co.	do	£200,000 stg	102, 103
Brompton Lake Asbestos Co.	Brompton Tp., Q.	\$ 60,000	108
Coleraine Mining Co.	Coleraine Tp., Q.	\$ 120,000	119
Glasgow and Montreal Asbestos Co.	Black Lake, Q.	£70,000 stg.	148, 149
Jeffrey Asbestos Mine.	Danville, Q.	Private.	161
Johnson's Asbestos Co.	Thetford, Q.	\$ 250,000	161, 162
King Bros.	do & Black Lake, Q.	Private.	163
Laurier Mining Co.	Black Lake, Q.	\$ 25,000	170
Reed Asbestos Mine.	do	Private.	206
Templeton Asbestos Mining Co.	Templeton, Q.	£25,390	223
Thetford Asbestos Mining Co.	Thetford, Q.	\$ 200,000	225
*United Asbestos Co.	Black Lake, Q.	See page 230	230

COAL COMPANIES.

Acadia Coal Co.	Pictou Co., N.S.	\$4,000,000	91-93
Alberta Railway and Coal Co.	Alberta, N.W.T.	1,750,000	94
Anthracite and Bituminous-Coal Co.	do do	250,000	98
Caledonia Coal and Railway Co.	Cape Breton, N.S.	600,000	109, 110
Cambrian Coal Co.	Vancouver Is., B.C.	83,100	110, 111
Canada Coal Co.	Cumberland Co., N.S.	50,000	111
Canada N. W. Coal and Lumber Syn.	Alberta, N.W.T.	£70,200 stg.	113
Canadian Anthracite Coal Co.	do do	\$1,000,000	113
Colchester Coal Mining Co.	Onslow, N.S.	50,000	119
Crowfoot Coal Co.	Manitoba & N.W.T.	125,000	122
Crow's Nest Coal and Mineral Co.	E. Kootenay, B.C.	2,000,000	123
Cumberland Ry. and Coal Co.	Springhill, N.S.	2,000,000	124, 125
Douglas Coal Mining Co.	Hants Co., N.S.	50,000	128
East River Coal Co.	Pictou Co., N.S.	Private.	133
East Wellington Coal Co.	Nanaimo, B.C.	1,500,000	133, 134
General Mining Ass'n. of London, Eng.	Cape Breton, N.S.	£219,752 stg	140-144
Glace Bay Mining Co.	do do	\$1,000,000	147-149
Gowrie Coal Mining Co.	do do	400,000	151, 152
Grand Lake Coal Co.	Queen's Co., N.B.	200,000	153

*Owns and operates properties in England and elsewhere.

COAL COMPANIES.—Continued.

Name of Company.	District and Province.	Authorized Capital.	Page.
H. W. McNeill Co., Ltd.	Alberta, N.W.T.	\$ 50,000	157
Intercolonial Coal Mining Co.	Pictou Co., N.S.	1,000,000	157, 158
International Coal Co.	Cape Breton, N.S.	300,000	159
Joggins Coal Mining Association.	Cumberland, N. S.	300,000	161
Low Point, Barrasois and Lingan Mining Co.	Cape Breton, N.S.	600,000	173-175
Manitoba Railway and Coal Co.	Manitoba.	500,000	177
New Glasgow Iron, Coal and Ry. Co.	Pictou Co., N.S.	1,000,000	185-187
New Vancouver Coal Mining and Land Co.	Nanaimo, B.C.	£185,000 stg	187-190
Sydney and Louisburg Coal and Ry. Co.	Cape Breton, N.S.	50,000 stg	219-223
Tumbo Island Coal Mining Co.	Tumbo Is., B.C.	Private.	229
Union Colliery Co. of B.C.	Vancouver Is., B.C.	\$1,000,000	230, 231
Wellington Colliery Co.	do do	Private.	234

COPPER, NICKEL AND PYRITES COMPANIES.

Bonanza Nickel Mining Co.	Sudbury, O.	\$150,000	104
Bruce Land and Mining Co.	Bruce Mines, O.	£5,000 stg.	108
Canadian Copper Co.	Sudbury, O.	\$2,500,000	114
Chicago-Algoma Nickel Co.	do	1,000,000	118
Commercial Mining Co.	do	100,000	120
Dominion Mineral Co.	do	100,000	127
Drury Nickel Co.	do	500,000	129
Eastern Development Co.	Cape Breton, N.S.	2,000,000	131, 132
Empire Mining Co.	Graham Tp., O.	75,000	135
Eustis Mining Co.	Capelton, Q.	Private.	136, 137
*H. H. Vivian & Co.	Sudbury, O.	£328,000 stg	154
Leeds Copper Co.	West Broughton, Q.	450,000 stg	170
Memphremagog Mining Co.	Brome Co., Q.	\$50,000	179
Moulton Hill and Howard Mines.	Ascot Tp., Q.	Private.	181
†Nichols Chemical Co.	Capelton, Q.	\$2,000,000	190
North Shore Nickel Mining Co.	Sudbury, O.	500,000	193
Ontario Nickel Co.	do	500,000	197
Ontario Nickel Mountain Mining Co.	do	500,000	198
Sault Ste. Marie Nickel Mining and Contract Co.	Drury Tp., O.	45,000	208
Stadacona Silver Copper Mining Co.	Kootenay, B.C.	100,000	214, 215
Straight Lake Mining Co.	Moncrieff Tp., O.	300,000	218
Sudbury Customs Smelting Co.	Sudbury, O.	75,000	218
Sudbury Mining Co.	do	100,000	219
Sudbury Nickel Co.	do	50,000	219
Wahnapitae Nickel Co.	do	150,000	234

GOLD MINING COMPANIES.

Alabama Hydraulic Gold Mining Co.	Cariboo, B.C.	Private.	93
Annand Gold Mine.	Montague.	do	98
Black Jack Quartz Mining Co.	Barkerville, B.C.	\$120,000	103, 104
Blue Lead Hydraulic Co.	Cariboo, B.C.	100,000	104
Bonanza Mining Co.	Lillooet, B.C.	Private.	105
Boston Gold Mining Co.	Malaga, N.S.	\$300,000	105

*Also engaged in mining and smelting in Great Britain and elsewhere.

†Also engaged in mining and manufacturing in United States.

GOLD MINING COMPANIES—Continued.

Name of Company.	District and Province.	Authorized Capital.	Page.
British Columbia Rivers Gold Gravels Dredging Co.	Fraser River, B.C.	£40,000 stg.	107
Caledonia Mining Co.	Malaga, N.S.	\$500,000	110
Can. Pac. Prospecting and Mining Co.	Lake of Woods, O.	£10,000 stg.	115
Central Rawdon Mining Co.	Rawdon, N.S.	\$120,000	118
Concord Gold Mining Co.	Oldham, N.S.	.....	121
Cottonwood Gold Mining Co.	W. Kootenay, B.C.	£10,000 stg.	121
Crescent Gold Mining Co.	Marmora, O.	\$100,000	122
Deadwood Mining Co.	Lillooet, B.C.	25,000	125
Dufferin Gold Mining Co.	Salmon River, N.S.	500,000	129-131
Empire Consolidated Gold Mining Co.	Kootenay, B.C.	500,000	135
Forrest Rose & St. George Hydraulic.	Cariboo, B.C.	Private.	138
Fraser River Gold Gravels Syndicate.	Fraser River, B.C.	£7,000 stg.	139
Gold Rock Mining and Milling Co. of Algoma, etc.	Algoma, O.	\$100,000	150
Gordon Hydraulic Mining Co.	Leach River, B.C.	50,000	150
Heywood Hydraulic Gold Mining Co.	Cariboo, B.C.	Private.	155
Hidden Treasure Mining Co.	Okanagan, B.C.	\$100,000	155, 156
Kempt Gold Mining Co.	Yarmouth Co., N.S.	30,000	162
Lake Lode Mining Co.	Caribou, N.S.	75,000	167
Lake View Mining Co.	Waverley, N.S.	500,000	169
Laura Hydraulic Mining Co.	Yale, B.C.	20,000	169
Le Roi Mining and Smelting Co.	Trail Creek, B.C.	150,000	170
Lillooet Hydraulic Mining Co.	Lillooet, B.C.	20,000	171
MacNaughton Gold Mining Co.	Guysboro, Co., N.S.	16,000	177
Napier Mining Co.	Oldham, N.S.	120,000	182
New Egerton Gold Mining Co.	15 Mile Stream, N.S.	Private.	184
Nova Scotia Syndicate, Ltd.	Waverley, N.S.	£13,500 stg.	195
Oldham Gold Co.	Oldham, N.S.	Private.	195
Oxford Gold Mining Co.	Musquodoboit, N.S.	\$125,000	198
Pacific Bullion Mining Co.	W. Kootenay, B.C.	1,000,000	199
Palgrave Gold Mining Co.	Isaac's Harbor, N.S.	100,000	199
Peninsula Gold Mining Co.	Guysboro' Co., N.S.	50,000	200
Philadelphia Gold Mining Co.	Brookfield, N.S.	Not stated.	201
Quesnelle Quartz Mining Co.	Cariboo, B.C.	\$600,000	205
Rockland Gold Mining and Milling Co.	Stormont, N.S.	Private.	207
Slough Creek Mining Co.	Cariboo, B.C.	\$500,000	213
South Fork of Quesnelle Hydr. Min. Co.	do	Private.	213, 214
South Uniacke Gold Mining Co.	S. Uniacke, N.S.	do	214
Spokane and Great Northern Mining Co.	Yale, B.C.	\$2,000,000	214
Standard Gold Co.	Oldham, N.S.	Private.	215, 216
Stanley Gold Mining Co.	15 Mile Stream, N.S.	\$40,000	216, 217
Texada Gold and Silver Mining Co.	Texada Isl., B.C.	.....	224
Thompson and Quirk Gold Co.	S. Uniacke, N.S.	Private.	225
Toronto Mining Co. of Sugar Creek.	Cariboo, B.C.	do	228
Victoria Hydraulic Mining Co.	do	\$100,000	233
Waverley Hydraulic Mining Co.	Barkerville, B.C.	100,000	234
West Waverley Gold Co.	Waverley, N.S.	60,000	236
Whiteburn Mining Co.	Whiteburn, N.S.	.....	237
Whitewater Mining Co.	W. Kootenay, B.C.	.....	237
Windsor Gold Co.	Ardoise, N.S.	100,000	237

IRON COMPANIES.

Name of Companies.	District and Province.	Authorized Capital.	Page.
Anglo-American Iron Co.	{ Hastings Co., O. } { Algoma Dist., O. }	\$5,000,000	96
Bancroft Iron Co.	Haliburton, O.	1,000,000	100
Bedford Mining Co.	Bedford Tp., O.	250,000	102
Belmont Bessemer Ore Co.	Belmont Tp., O.	600,000	103
Bristol Iron Co.	Bristol Tp., Q.	100,000	106
Calabogie Mining Co.	Bagot Tp., O.	2,500,000	108, 109
Ennis & Co.	Bristol Tp., Q.	Private.	136
Glen Iron Mining Co.	Kamloops, B.C.	\$ 50,000	149
Kingston & Pembroke Iron Mining Co.	Kingston, O.	5,000,000	163, 164
Londonderry Iron Co.	Cumberland, N.S.	1,000,000	171 to 173
New Glasgow Iron, Coal and Ry Co. .	Pictou Co., N.S.	1,000,000	185 to 187
Nova Scotia Iron Co.	do	2,000,000	194
N.S. Midland Ry and Iron Co.	Guysboro', N.S.	1,000,000	194
Pictou Charcoal Iron Co.	Pictou Co., N.S.	200,000	203
Torbrook Iron Co.	Torbrook, N.S.	100,000	228

OIL, GAS AND SALT COMPANIES.

Consumers' Oil Co.	Petrolia, O.	\$30,000	121
Dunnville Natural Gas Co.	Dunville, O.	5,000	131
Elarton Salt Works Co.	Warwick, O.	10,000	134
Farmers' Natural Gas and Oil Co.	Gosfield, O.	100,000	138
Kingsville Natural Gas and Oil Co.	Kingsville, O.	43,750	164
McMillan, Kittridge & Co.	Petrolia, O.	36,000	178
Mutual Natural Gas Co.	Welland, O.	20,000	181
Ontario Gas and Oil Co.	Stratford, O.	1,000,000	196
Ontario Natural Gas and Fuel Co.	Windsor, O.	12,500	197
Petrolia Crude Oil and Fuel Co.	Petrolia, O.	50,000	200
Petrolia Oil Co.	do	40,000	201
Premier Oil Co.	do	150,000	203
Producers' Tanking Co.	do	50,000	204
Provincial Natural Gas and Fuel Co.	Port Colborne, O.	500,000	204
Rand Drill Co.	Vancouver, B.C.	12,000	205
Standard Oil and Gas Co.	Stratford, O.	1,000,000	216
Steveston Nat'l Gas and Developm't Co.	Vancouver, B.C.	50,000	217

PHOSPHATE AND GYPSUM COMPANIES.

Alabastine Co.	Paris, O.	\$50,000	94
Anglo-Canadian Phosphate Co.	Ontario & Quebec ..	£100,000 stg	97
*Anglo-Continental Guano Works Co. .	Lievres River, Q.	16,000,000 M	98
Canada Industrial Co.	Templeton, Q.	\$50,000	112
Canadian Phosphate Co.	Lievres River, Q.	£110,000 stg	116
Central Lake Mining Co.	do do	Private.	118
DeNederlandsche Phosphaat-Maatschap- pij.	Templeton, Q.	\$200,000	126
Dominion Phosphate and Mining Co. .	Lievres River, Q.	125,000	128
East Templeton District Phosphate Mining Syndicate.	Templeton, Q.	£6,000 stg.	133
Electric Mining Co.	do	\$60,000	134
Emerald Phosphate Co.	Lievres River, Q.	30,900	135

*Also owns mines and manufactures fertilizers in Great Britain and elsewhere.

PHOSPHATE AND GYPSUM COMPANIES.—Continued.

Name of Company.	District and Province.	Authorized Capital.	Page.
Foxton Phosphate Mining Co.....	Sydenham, O.....	£12,000 stg.	138
Frontenac Phosphate Co.....	Bedford, O.....	10,000 stg.	139
General Phosphate Corporation.....	Ottawa Co., Q.....	1,000,000 stg.	144
Grand River Plaster Co.....	Paris, O.....	\$ 50,000	153
Haliburton Mining Co.....	Monmouth Tp., O..	100,000	154
Kingston Phosphate Mining Co.....	Loughbro', Ont.....	£5,000 stg.	163
Little Rapids Mining Co.....	Lievres River, Q....	Private.	171
Mabou Gypsum Co.....	Cape Breton, N.S..	\$25,000	175
MacGregor Lake Phosphate & Mining Co	Templeton Tp., Q..	\$60,000	176
MacLaurin Phosphate Mining Syn.....	do do	£20,000 stg.	176
North American Phosphate Co.....	do do	\$18,000	193
Phosphate of Lime Co.....	Lievres River, Q....	£50,000 stg.	202
Sebastopol Phosphate Syndicate.....	Sebastopol, O.....	5,000 stg.	209
Sydenham Mica and Mining Co.....	Loughboro', O.....	\$250,000	219
Templeton & North Ottawa Mining Co.	Templeton, Q.....	£50,000 stg.	224
Victoria Gypsum-Mining and Mfg. Co..	Cape Breton, N.S..	\$100,000	233
Wentworth Gypsum Co.....	do do	200,000	235

SILVER AND LEAD COMPANIES.

Algoma Mines Co.....	Black Bay, O.....	\$100,000	95
Badger Silver Mining Co.....	Port Arthur.....	250,000	99, 100
Beaver Mining and Milling Co.....	do.....	Private.	101
Carbonate Mountain Development Co..	E. Kootenay, B.C..	\$100,000	117
Columbia-American Mining Co.....	W. Kootenay, B.C.	500,000	120
Columbia Mining Co.....	do.....	500,000	120
Crown Point Mining Co.....	Port Arthur, O.....	600,000	123
Galway Mining Co.....	Galway, O.....	20,000	140
Golden Mining and Smelting Co.....	Golden, B.C.....	400,000	150
Lake Superior Mineral Land Developt Co.	Port Arthur, O.....	1,000,000	168
Lanark Consolidated Min. & Smeltg Co.	W. Kootenay, B.C.	200,000	169
Le Roi Mining and Smelting Co.....	Trail Creek, B.C..	150,000	170
Lyndhurst Lead Mining Co.....	Lansdowne, O.....	100,000	175
Mattawa Mining and Smelting Co.....	L. Temiscamingue, Q	300,000	178
Montreal and Kootenay Mining Co....	Kootenay, B.C.....	20,000	181
Nelson Smelting and Mining Co.....	Nelson, B.C.....	500,000	183
Neosho Mining Co.....	Kootenay, B.C.....	50,000	183
New Eureka Silver Mining Co.....	Hope, B.C.....	150,000	184
Nicola Mining Co.....	Nicola, B.C.....	£50,000 stg.	191 to 193
Northwestern Gold and Silver Min. Co.	Victoria B.C.....	\$1,000,000	193
Pacific Bullion Mining Co.....	W. Kootenay, B.C.	1,000,000	199
Peterborough and Frontenac Mining Co.	Peterborough, O..	10,000,000	200
Petit Rocher Silver Mining Co.....	Petit Rocher, N.B..	25,000	200
Revelstoke Mining Co.....	Kootenay, B.C.....	£40,000 stg.	206
Shebandowan Mining Co.....	Moss Tp., O.....	\$1,000,000	209
Shuniah Weachu Mine.....	Thunder Bay, O....	£100,000 stg.	210
Silver Queen Mining Co.....	Kootenay, B.C.....	\$1,000,000	212
Stadacona Silver-Copper Mining Co....	do.....	100,000	214, 215
Western Consolidated Mining Co.....	do.....	1,000,000	235
West End Mining Co.....	Port Arthur, O.....	2,000,000	235
West Kootenay Mining Co.....	W. Kootenay, B.C.	1,000,000	236
Y-One Mining Co.....	Port Arthur, O.....	5,000,000	238

**STONE, SLATE, LIME, BRICK & OTHER COMPANIES
PRODUCING STRUCTURAL MATERIAL.**

Name of Company.	District and Province.	Authorized Capital.	Page.
Atlantic Stone Co.....	Lower Cove, N.S. . .	.....	99
Battye Freestone Co.....	Wallace, N.S.....	\$ 25,000	100
Bras d'Or Lime Co.....	West Bay, C.B., N.S	50,000	105
Bras d'Or Marble Co.....	do do	200,000	106
British Columbia Pottery and Terra Cotta Co.....	Victoria, B.C.....	60,000	107
Canadian Granite Co.....	Ottawa, O.....	50,000	114, 115
Dominion Lime Co.....	Dudswell, Q.....	400,000	126
Dominion Marble Co.....	do	100,000	127
Essex Moulding Sand Co.....	London, O.....	25,000	136
Grimsby Quarry and Transport Co.....	N. Grimsby, O.....	20,000	154
Hungerford Marble Co.....	Madoc, O.....	100,000	156
Hynes Terra Cotta and Brick Co.....	Toronto, O.....	200,000	157
Koksilah Quarry Co.....	Victoria, B.C.....	100,000	164
Malaspina Red Granite Quarry Co.....	Nanaimo, B.C.....	10,000	177
Milne, Coutts & Co. (Red Granite).....	St. George, N.B..	Private.	179
Milton Pressed Brick & Sewer Pipe Co.	Milton, O.....	\$ 50,000	179
Moir Granite Co.....	Stanstead, Q.....	100,000	180
Nelson Island Granite Co.....	Victoria, B.C.....	30,000	182
New Rockland Slate Co.....	Melbourne, Q.....	150,000	187
Oneida Quarry Co.....	Oneida Tp., O.....	50,000	196
Ormstown Brick and Terra Cotta Co...	Ormstown, Q.....	50,000	198
Richmond Slate Quarrying and Mfg. and Asbestos Co.....	Richmond, Q.....	150,000	207
Saanich Lime Co.....	Victoria, B.C.....	50,000	208
Sherbrooke Marble Co.....	Sherbrooke, Q.....	100,000	210
Texada Lime Co.....	Texada Is., B.C....	20,000	225
Toronto Granite Co.....	Whitby, O.....	45,000	228
Vancouver Brick and Tile Co.....	Vancouver, B.C....	25,000	231
Vancouver San Juan Lime Co.....	Burrard Islet, B.C..	30,000	231
Vancouver Stone Quarrying Mining and Transportation Co.....	Vancouver, B.C....	25,000	232
Westminster Slate Co.....	Jervis Inlet, B.C....	100,000	236

SOCIETIES AND ASSOCIATIONS.

	PAGE
Ainsworth Miners' Union, B. C.....	93
Asbestos Club, P.Q.....	99
Cape Breton Institute of Mine Officials, N.S.....	117
General Mining Association of the Province of Quebec.....	144
Gold Mining Association of Nova Scotia.....	149
Nanaimo Coal Trimmers' Protective Benevolent Association, B.C.....	182
Toronto Mining Association, Ltd.....	229

PROSPECTING AND EXPLORING COMPANIES.

	PAGE
Anglo-Canadian Exploration Co.	96
Canadian Syndicate, Ltd.	117
Kootenay and Columbia Prospecting and Mining Co.	165
Kootenay Valleys Co.	166
New Brunswick Mineral Developing Co.	183
Newfoundland Colonization and Mining Co.	184

DIRECTORY FOR BUYERS.
Acids, Chemicals and Fertilizers :—

Lyman, Sons & Co., Montreal, Que.	ix
Nichols Chemical Co., Capelton, Que., and New York.	ix

Air Compressors, Steam and Air Rock Drills :—

Canadian Rand Company, Sherbrooke, Que.	<i>Inside front cover</i>
Clayton Air Compressor Works, New York.	xlvi
Ingersoll Rock Drill Company of Canada, Montreal.	<i>Outside back cover.</i>
Jenckes Machine Co., Sherbrooke, Que.	i

Asbestos Manufactures :

F. Reddaway & Co., Montreal, Que.	xiv
William Sclater & Co., Montreal, Que.	xii

Assayers and Chemists :

Donald, J. T., M.A., Montreal.	xliii
Ledoux & Co., New York.	xxiv
Nichols Chemical Co., New York.	ix
Olcott, Eben E., New York.	xlv

Assayers' and Chemists' Supplies :

Lyman, Sons & Co., Montreal, Que.	ix
Richards & Co., New York.	xlv

Bags for Phosphates, Asbestos, and Ores :

Canada Jute Company, Montreal, Que.	xviii
--	-------

Bankers, Brokers, Investment Agents and Dealers in Mines and Mineral Lands :

Cross, John A., New York.	xlvi
Irwin, Hopper & Co., Montreal.	xliii
Ledyard, T. D., Toronto.	xliii
Temple, C. V. M., Toronto.	xlvi

Belting and Mill Supplies :

Austen Bros., Halifax, N.S.	xvii
Canadian Rubber Co., Montreal and Toronto.	xii
F. Reddaway & Co., Montreal, Que.	xiv
Granby Rubber Co., Montreal, Que.	viii
Gutta Percha and Rubber Co., Toronto.	<i>Outside front cover</i>
New York Belting and Packing Co., New York.	iii
Robin & Sadler, Montreal.	xlvii
Sclater & Co., Montreal.	xii

Blasting Apparatus and Explosives :

	PAGE
Hamilton Powder Co., Montreal.....	iv
Macbeth & Co., New York.....	xxiv
Sclater & Co., Montreal.....	xii

Coal Cutters, Coal Elevators, Coal Drills and Colliery Supplies :

Austen Bros., Halifax, N.S.....	xvii
Canadian Rand Drill Co., Sherbrooke, Que.....	<i>Inside front cover</i>
I. Matheson & Co., New Glasgow, N.S.....	v
Ingersoll Rock Drill Co., Montreal, Que.....	<i>Outside back cover</i>
Jeffrey Manufacturing Co., Columbus, Ohio.....	xvi
Jenckes Machine Co., Sherbrooke, Que.....	i
M. C. Bullock Manufacturing Co., Chicago.....	xv

Diamond Prospecting Drills :

Ingersoll Rock Drill Co. of Canada, Montreal, Que.....	<i>Outside back cover</i>
Jenckes Machine Co., Sherbrooke, Que.....	i
M. C. Bullock Manufacturing Co., Chicago.....	xv

Electric Light, Rock Drills, Hoists, Motors, Mining Machinery and Electric Supplies :

Ball Electric Light Co., Toronto, Ont.....	xvi
Edison General Electric Co., Toronto, Peterborough and New York....	xx
Jeffrey Manufacturing Co., Toronto.....	xvi
Royal Electric Co., Montreal.....	x
Toronto Construction and Electrical Supply Co., Toronto.....	xii

Engines and Boilers, Steam Separators, &c. :

Abendroth and Root Manufacturing Co., New York.....	<i>Inside back cover</i>
Babcock & Wilcox Co., New York.....	vii
Carrier, Lainé & Co., Levis, Que.....	xlviii
M. C. Bullock Manufacturing Co., Chicago.....	xv
A. Holden & Co., Montreal.....	vii
W. W. Howell & Co., Halifax, N.S.....	xlix
Ingersoll Rock Drill Co., Montreal, Que.....	<i>Outside back cover</i>
Jenckes Machine Co., Sherbrooke, Que.....	i
I. Matheson & Co., New Glasgow, N.S.....	v
H. W. Petrie, Toronto, Ont.....	xlvi
Robb Engineering Co., Amherst, N.S.....	xlviii
Stratton Separator Co., New York.....	vi
Waterous Engine Co., Brantford.....	xliv

Fire Brick, Drain Pipes, Cements, Fire Clays, &c. :

W. & F. P. Currie & Co., Montreal.....	xiv
--	-----

Engineers, Metallurgists, &c. :

Hardman, John, M.E., Oldham, N.S.....	xliiii
Ledoux & Co., New York.....	xxiv
Olcott, Eben E., M.E., New York.....	xlv
Orford Copper Co., New York.....	xlvii
Stewart, John, M.E., Ottawa, Ont.....	xlvi

Feed Water Heaters, &c. :

Goubert Manufacturing Co., New York.....	vi
Holden & Co., Montreal.....	vi

Gold Milling Machinery :

Austen Bros., Halifax, N.S.....	xvii
I. Matheson & Co., New Glasgow, N.S.....	v

Hoisting Engines :

Carrier, Lainé & Co., Levis, Que.....	xlviii
Howell, W. W. & Co., Halifax, N.S.....	xlix

Hoisting Engines—Continued :

PAGE

Ingersoll Rock Drill Co. of Canada, Montreal, Que.	<i>Outside back cover</i>
Jenckes Machine Co., Sherbrooke, Que.	i
Lidgerwood Manufacturing Co., New York.	ii
I. Matheson & Co., New Glasgow, N.S.	v
M. C. Bullock Manufacturing Co., Chicago.	xv
Petrie, H. W., Toronto, Ont.	xlvi

Oils, Cylinder and Machinery :

Austen Bros., Halifax, N.S.	xvii
McArthur, Corneille & Co., Montreal, Que.	xv

Ore Breakers, Crushers, &c.

Gates Iron Works Co., Chicago, Ill.	xliv
Ingersoll Rock Drill Co. of Canada, Montreal, Que.	<i>Outside back cover.</i>
Jenckes Machine Co., Sherbrooke, Que.	i
Waterous Engine Co., Brantford, Ont.	xliv

Rubber Boots, Rubber Coats, Leggings and Waterproof Wear :

Ames, Holden & Co., Montreal.	viii
Canadian Rubber Co., Toronto and Montreal.	xii
Granby Rubber Co., Montreal.	viii
Gutta Percha and Rubber Co., Toronto.	<i>Outside front cover.</i>

Rubber Stamps and Scales for Offices and Works :

Pritchard & Andrews, Ottawa.	xlv
-----------------------------------	-----

Steel Rails, Coal Cars, &c. :

Gartshore, John J., Toronto, Ont.	xlvi
--	------

Sampling and Testing Works for Ores, &c. :

Ledoux & Co., New York.	xxiv
Nichols Chemical Co., New York.	ix
Olcott, Eben E., New York.	xlv
Orford Copper Co., New York.	xlvii

Steam Pumps :

Austen Bros., Halifax, N.S.	xvii
Davidson, M. T., New York.	<i>Inside back cover.</i>
Garth & Co., Montreal, Que.	l
Ingersoll Rock Drill Co. of Canada, Montreal.	<i>Outside back cover.</i>
Jenckes Machine Co., Sherbrooke, Que.	i
I. Matheson & Co., New Glasgow, N.S.	v
Northey Manufacturing Co., Toronto, Ont.	xix
Petrie, H. W., Toronto.	xlvi

Tools, Drill Steel, Picks and Shovels, Steam Pipe and General Mining Hardware :

Austen Bros., Halifax, N.S.	xvii
Howland, H. S., Sons & Co., Toronto, Ont.	xliii
M. & L. Samuel, Benjamin & Co., Toronto.	xi
Rice Lewis, Son & Co., Ltd., Toronto.	xi
Slater, Wm. & Co., Montreal.	xii

Ventilators (for Collieries, Mines and Buildings) :

M. C. Bullock Manufacturing Co., Chicago, Ill.	xv
---	----

Water Wheels (for Gold and Silver Mills), Motors, &c. :

Pelton Water Wheel Co., San Francisco and New York.	xiii
--	------

Wire Rope, Wire Screens, Buddles, &c. :

Austen Bros., Halifax.	xvii
Ingersoll Rock Drill Co. of Canada, Montreal.	<i>Outside back cover</i>
Jenckes Machine Co., Sherbrooke, Que.	i

THE EARLY HISTORY AND PROGRESS OF COAL MINING IN NOVA SCOTIA.

It is always interesting to note the rise and progress of any industry the development of which is attended with an extension of commerce and a large employment of labor. The profitable investment of capital, the centralization of a large part of the population, and the consequent extension of the means of supply of its requirement, are such important elements in the growth of any country, that a record of the stages by which any branch of industry has advanced must be of general interest.

It is proposed to present in this article a sketch of the progress of one of the most important industries in Nova Scotia, viz : Coal Mining.

The period to be examined will cover a quarter of a century, but as this term is apt to give the impression of longevity, it will, perhaps, be better to call the retrospect one of twenty-five years' limitation. This length of time should surely be sufficient to place on a firm foundation an industry that possesses ordinary vitality. Let us see how the coal trade of Nova Scotia will bear this test. The initial point, however, in this inquiry may be placed a little further back, in order that the position of the coal mining operations, prior to the period embraced in the inquiry, may afford a more striking contrast with their present development.

Judge Haliburton,—Sam Slick—in his history of Nova Scotia, published in 1829, says : " A colliery has recently been opened in the Pictou district by Messrs. Rundell, Bridge & Co., of London, called the Albion colliery ;" and the late Mr. Brown, of the Sydney mines, in his excellent work on the Coal Fields and Coal Trade of Cape Breton, states that coal was worked on the north side of Spanish River, the locality of the present Sydney mines, by the Government of Cape Breton in 1784.

These seem to be the earliest dates of any moment in connection with any regular mining operations. The conduction of these appears to have been steadily pursued in the case of the Albion mines, by Messrs. Rundell & Bridge, or rather by the General Mining Association, organized by them in 1825; and a like result followed the possession of the Sydney mines by the same company in 1827.

Coal mining remained in this, as it may be termed, limited form until 1858, when an agitation begun in 1845 against what was considered a monopoly of the mineral rights by the General Mining Association, resulted in an agreement between the Nova Scotia Government and the G. M. A., and, with certain reservations to the latter, the various coal fields in the Province of Nova Scotia and Cape Breton were free for exploration by other parties. Then was aroused the spirit of private enterprise; the explorer, in most cases a practical miner, shouldered his pick and began a search on the range at the outcrops of the seams of coal, or in localities which might be reasonably conjectured to contain the mineral sought for.

A rapid development of extended coal-bearing area ensued, and an evidence of this progress is afforded in the report of the Chief Commissioner of Mines for the year 1864. According to that report, coal mining operations were being carried on at the "Albion" and "Fraser" mines in Pictou County, at four localities in Cumberland County, and at 16 mines in Cape Breton.

The production, however, was then of very limited extent in the aggregate. The Sydney, Lingan and Albion mines, the oldest mining establishments in the Province, contributing 314,355 tons of a total production of 429,351 tons in the nine months ending September the 30th, 1864—the then termination of the fiscal year. This is due to the fact of some of the mines being but partially opened, the operations in many cases consisting chiefly of the preliminary arrangements incidental to the laying out of the working places.

It is indicative, however, of the alacrity with which the search for coal was pursued after the limits of the areas selected

by the General Mining Association were defined; and in this connection it may not be out of place to suggest the question whether, as regards the expenditure of capital in starting new mines, the result has been of advantage or prejudicial to the interests of the Province. But apart from this question, there can be no doubt that the stimulus to exploration, under the circumstances referred to, has been of very great service in proving the extension of the various coal fields of the Province, and the existence of seams which, if inferred by geological deduction, were either ignored as unimportant, or, they had no place in the conceived ideas of the contents of the coal fields.

The freedom of search for coal in the unappropriated carboniferous regions was not allowed to remain in abeyance. The practical miner, as well as the speculative investor, was speedily at work; and it is of interest in this respect to note the indications of this flow of enterprise as shown by the records of the Department of Mines.

The report of the Chief Commissioner of Mines in 1863, is confined entirely to the more attractive metal—gold—and it was only in the following year that a statement is given which enables a comparison to be made in relation to the interest in exploration above referred to. The amount received by the Department during the nine months ending September 30, 1864, for licenses to search for minerals "other than gold," was \$2,420, and for licenses to work \$300, making a total of \$2,720.

It may here be explained that the legislative enactment with respect to mineral explorations was that a license to search for minerals other than gold could be obtained on payment of twenty dollars: this gave a right to search over five square miles, and was in force for one year. The holder of the license was entitled to a license to work one square mile if he applied for it and defined its bounds; but he was not restricted to the one square mile, but could cover the entire ground by consecutive rights on payment of the specified fees. The license to work was of two years' duration, and under certain regulations the areas could then be held under lease.

While on this part of the subject it may be stated that the same arrangement as regards the respective rights of search and to work and obtain a lease is in force at present, with the additional privilege that the holder of a license to work may have the time extended to three years on payment of one half of the amount originally paid for such license.

In this connection it is interesting to note the indications of the spirit of research and the variableness that prevailed in subsequent years. As stated above, the amount paid for licenses to search for and work minerals "other than gold" in the year 1864, was \$2,720. The following statement shows the amount received by the Department of Mines for licenses from 1865 to 1886 inclusive:—

			Licenses to search.	Licenses to work.
Twelve months ending	September	30, 1865.....	\$10,400	\$1,650
"	"	" 30, 1866.....	7,520	3,450
"	"	" 30, 1867.....	2,980	2,450
Three	December	31, 1867.....	760	300
Twelve	"	" 31, 1868.....	2,880	950
"	"	" 31, 1869.....	3,160	1,200
"	"	" 31, 1870.....	2,680	650
"	"	" 31, 1871.....	2,647	852
"	"	" 31, 1872.....	6,179	2,626
"	"	" 31, 1873.....	6,840	2,850
"	"	" 31, 1874.....	4,880	2,825
"	"	" 31, 1875.....	3,480	2,025
"	"	" 31, 1876.....	3,280	1,250
"	"	" 31, 1877.....	1,800	775
"	"	" 31, 1878.....	1,420	625
"	"	" 31, 1879.....	1,240	325
"	"	" 31, 1880.....	3,360	550
"	"	" 31, 1881.....	4,560	800
"	"	" 31, 1882.....	5,180	1,925
"	"	" 31, 1883.....	3,180	1,150
"	"	" 31, 1884.....	1,940	1,050
"	"	" 31, 1885.....	1,820	750
"	"	" 31, 1886.....	2,980	500

These figures exhibit a fairly steady continuance of the energy with which explorations were pursued. Of course the licenses include other minerals than coal, but those for coal constitute very much the larger proportion of the different quests. It will be observed that the largest payments were in the years 1865-6. The discovery of new seams and their partial opening in the different localities, stirred up the desire for the discovery

of others, and explorations were actively carried on in these years. In the following years, up to the end of 1871, the stimulus seems to have abated, but in 1872-3—years in which the coal trade generally experienced an extraordinary period of prosperity—a rush is again evident in the ranks of the explorers, and the licenses approach in the amount of payments to those in the year 1866. Let us now see what was the result of these explorations in the different coal fields.

Beginning with the Pictou coal field—In 1864 the Albion mines was the only mining establishment in that County, and some idea of the extent of the operations may be gathered from the statement that in the year 1863 the shipments were 198,313 tons. In the following year, 1865, other five mining localities are named in the Commissioner's report, at which coal was being mined. The position of these openings in relation to the Albion mines area is indicative of the shrewdness with which the explorations were made. In an east and west direction—the range of the outcrop of the seams from these respective boundaries of the Albion mines area, as well as in the direction of the outcrop to the south thereof—seams of coal were traced and opened on, and the expansion of the coal field was thus developed to an extent which might have been surmised, but had not received the definiteness thus given to it.

A like result attended the search for coal in Cape Breton. In that coal field the outcrops of the seams are in many cases in the cliffs bordering the sea shore, and they were, to a certain extent, a guide of the probable shape of their deposition: yet here, as in other localities, it would seem that the expansion of the coal bearing strata has been on a much larger scale than the geological knowledge of the period we are dealing with appears to have suggested.

In Cumberland County the operations were confined to the Joggins shore on an area held by the General Mining Association, and, as at the Albion and Sydney mines, the locality was one of the earliest worked in the Province, though on a small scale, the sales of coal in 1851 being only 2,400 chaldrons, or

3,600 tons. In 1864 the sales were 6,053 tons, and in 1866, 8,478 tons.

We may now consider what the position of the coal mines was, in a general point of view, at the commencement of the period under review.

The report of the Commissioner of Mines for the year 1865, shows that there were in that year six mines, or openings on seams of coal, in Cumberland County, six in Pictou County, and eighteen in Cape Breton.

The output at some of these openings was on a very small scale; they were in many cases but the exploratory operations, and were not then fitted with the necessary means of production.

The fiscal year at that time terminated on September 30th of each year; but, as the statement gives a year's production, it will not affect the comparison with subsequent years.

In the year ending September 30, 1865, then, these thirty mines, so-called, gave a production of 712,574 tons of coal. Taking a decennial period for comparison, there were in the year 1875 the same number of mines in operation in each county as in 1865, but the production was only increased 68,591 tons. In the year 1885, twenty-seven places of production are named; nine in Cumberland, five in Pictou, and thirteen in Cape Breton, and the total output was 1,352,203 tons; an increase of 571,038 tons, or 73% on the production of 1875. In the next five years the increase at the end of that period, viz., December, 1890, is 631,798 tons, the total production being 1,984,000 tons, while the number of mines in Cumberland County is reduced to three, in Pictou to four, and in Cape Breton to ten.

The fluctuation in the number of the mines is due to various causes. In some cases a misapplication of capital in the equipment of the mines under adverse circumstances, or position of the openings; in others the too rapid development of the different seams of coal as regards the requirement of the coal trade; a lack of railway accommodation and convenient and safe shipping

places; these led to the abandonment entirely of some of the operations and to a suspension of some others.

It may now be interesting to note the progress and the direction of the expansion of the coal trade over the period under review. A like decennial comparison as in the case of the production will perhaps be sufficient for this purpose.

The classification of the sales of coal is not given in the early reports of the Chief Commissioner of Mines, with the same detail as at present, and the comparison for the ten years, 1865-1875, cannot therefore be given with the same minuteness with respect to the localities as in the subsequent periods.

In the year ending Sept. 30, 1865, the sales are summarized under the heads of "Home Consumption," "Neighbouring Colonies," and "Other Countries," and they are in this rotation as follows: "Home Consumption," 59,536 tons; exported to "Neighbouring Colonies," 52,561 tons; and exported to "Other Countries," 338,756 tons. Generalizing in the same way, the respective sales in 1875 stand, as in the above order, 212,630, 381,711, and 112,454 tons. In the year 1885 the sales are 444,652, 769,643, and 40,215 tons; the comparison standing thus:—

	Home Consumption.	Neighbouring Colonies.	Other Countries.
	Tons.	Tons.	Tons.
1865.....	59,536	52,561	338,756
1875.....	212,630	381,711	112,454
1885.....	444,652	769,643	40,215

These are remarkable figures, and are worthy of comment on their indication of the expansion of the trade. In 1865 the general position was this: Both the local or home consumption and the sales to neighbouring colonies were but of small extent—a little over 112,000 tons. The sales to other countries may be said to have consisted almost entirely of those to the United States—the reciprocity treaty being then in force. The entire trade may be said to have been done by shipping. The Inter-colonial railway, or as it was then termed, the Nova Scotia railway, had its inland terminus at Truro; and had thus no connection with any mining locality. The provinces were not

then federated, and Quebec and Montreal drew their principal supply of coal from the United States.

In 1875 all this was changed. The abrogation of the reciprocity treaty by the United States Government, and the imposition of a prohibitory duty of \$1.25 per ton, seriously affected the coal trade with that country. The construction of the Intercolonial railway opened a connection with the growing towns on its route and developed an increasing demand for coal as well as for its own requirements; and a trade by water with the Province of Quebec sprung up and has steadily grown.

It is interesting in this connection to note the direction of the radii of increase, but, for the reason already given, the examination can only be made in the second term of the period, viz: from 1875 to 1885. Their relationship stands thus:—

SALES TO	1875.	1885,	and in 1890.
	Tons.	Tons.	Tons.
Nova Scotia.....	212,630	444,652	601,946
Quebec.....	189,754	493,917	751,931
New Brunswick.....	85,968	48,634	224,786
Newfoundland.....	62,348	74,322	96,133
Prince Edward Island.....	43,641	52,770	55,843
United States.....	89,746	34,483	50,754
Other countries.....	22,708	5,732	4,718

What is to be gathered from these highly interesting figures? The very gratifying fact that the home or local trade, generally the best, has grown largely and is still healthily progressing, as the figures for 1890 satisfactorily show. The expression "a gratifying fact" may be fairly used in consideration of the circumstances whence it has its origination. In the first place it augurs well for the future of coal mining in Nova Scotia that the use of coal is displacing the use of wood for fuel; and that railway communication is being extended throughout the province in various localities and affording the means of access to comparatively secluded towns and villages. Then, this expansion of the sources of demand necessitates an increased output or production of coal, one of, and indeed the chief, elements affecting the cost of production. A good home trade enables the surplus production to be more advantageously placed in other markets.

Having thus briefly sketched the progress of the coal trade of Nova Scotia, as regards the production and sales, a few remarks may not be out of place on the adoption that has become necessary of the improved means of output whereby this extension of the demand has had to be met.

The crude application, for such indeed it may be termed, of machinery in the early stages of Nova Scotia coal mining—not excepting even that of the General Mining Association, for their appliances were somewhat old-fashioned—could not, under the changing circumstances of the trade in the direction above described, long remain unaltered. The adoption of more powerful hoisting engines, a better equipment of the means of preparing the coal for market and the substitution of steam power in the place of horses in the underground haulage, the drainage and ventilation of the mines—all forced themselves on the managerial consideration and have educaed a position in these respects that may be favorably compared with the higher stage of mining appliances in older coal producing localities.

A brief description of the appliances at the Albion and Sydney mines of the General Mining Association will best illustrate the condition in this respect prior to the period under review, and the present means of dealing with the requirements of the trade. It is unnecessary to describe those of both because they were, as they still are, alike in most respects.

The hoisting engines were of the class more generally used for driving machinery; beam, fly-wheel, etc., being the characteristic feature, or with overhead drum or rope roll of Crowther's engine, a form of application which possesses considerable merit inasmuch as the lead of the rope is in a higher position and lessens the bend thereof. The drainage or pumping was effected by lifting pumps worked by the same engine by lever or V bob application; and the ventilation was accomplished by the aid of a furnace underground.

On the surface the screens were short and adapted rather to enable any impurity in the coal to be picked out than to abstract the smaller portion of the coal. The steam was raised in the old-

fashioned egg ended boilers with flash flues, and a considerable number were required with a corresponding large consumption of coal; and the transference of the loaded waggons, into which the coal was put at the screens, was effected by the use of locomotives of what may now be not unfairly termed an antique type. The subjoined illustration is from a photo of one of these engines, and it is especially interesting, not only on account of its peculiar construction, but also from the fact of its builder, Timothy Hackworth, having been one of the competitors in the celebrated trial of locomotive power on the Manchester and Liverpool Railway in 1829, on which occasion his engine—the Sans Pareil—was admitted to possess features of construction of considerable merit.

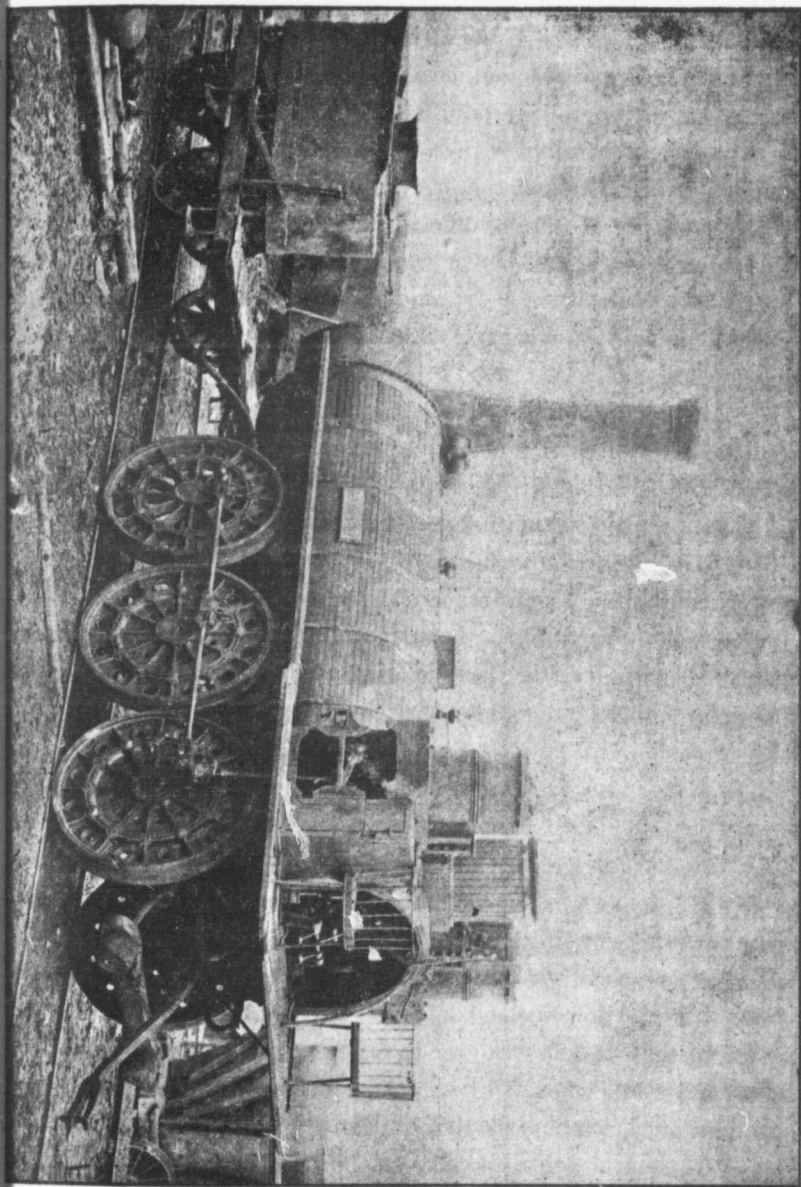
The locomotive was built by Mr. Hackworth in 1838, and has been in use at the Albion mines up to so late a period as the year 1885.

In addition to the interest in this locomotive arising from the preceding statement, is the fact of its being the oldest, but one, in America. It was exhibited at the Chicago exhibition and was then awarded this position as regards seniority. One of its peculiarities deserves special mention. The wheels are of cast iron and composed of two parts, a centre or axle piece and an outer portion to which the tyre is attached; the connection between the two pieces of the wheel being made and held tight by wooden pins, driven into the circular sides formed by the junction of the inner and outer pieces.

Another old fashioned adoption in use at these mines, is the vehicle of transportation of the coal from the mine to the shipping wharf; this is the Newcastle chaldron waggon, a sketch of which is given.

Its capacity was ordinarily reckoned 53 cwt., but by the addition of a narrow board on the top of the sides and ends, it will hold three tons. The shape is assumed to give freedom of discharge, but the mechanical structure cannot be considered of the best form. It, however, as well as the fish-bellied rail of cast iron, the stone blocks on which the metal chairs were placed, and

the wooden keys to hold the rail in place, all have had their day; and as in the case of the hoisting, pumping and traction engines,



a new type has displaced them, and, as regards the mines to which the preceding description refers, an application of the

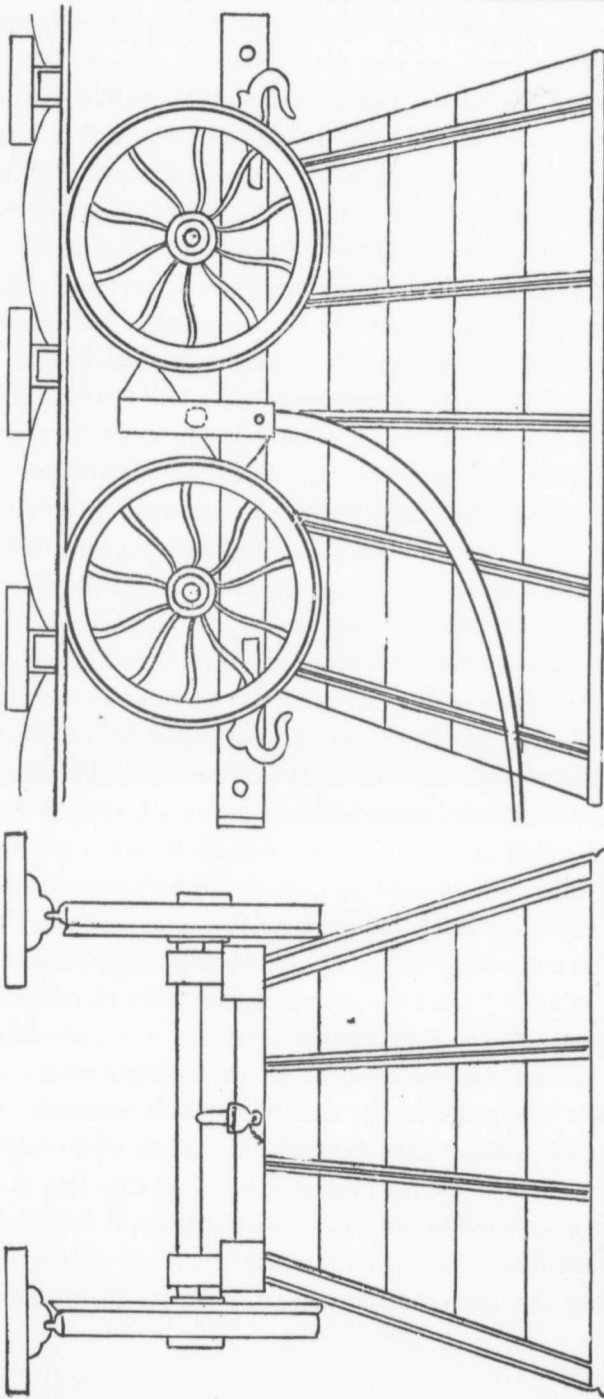
modern and very superior form of engine power for each of these purposes has been adopted.

One of the usual results of the extension of the workings in the mine has had development in these localities in which a large output of coal has become necessary: that is the application of steam power for underground haulage. The writer is not aware of any special peculiarity in Nova Scotian mines in this respect, but it is an evidence of the growth of mining appliances and of the importance of mining officials of all grades watching keenly the scientific adaptations of older mining localities. The keen competition in the trade demands a managerial watchfulness of every appliance of whatever object it may be in connection with mining.

Having thus sketched the productive progress let us now note that which is of especial importance in connection with the mining operations.

A comparatively small space of workings and a freedom from the coal miner's *bête noir*, explosive gas, is apt, in the first operations to induce an indifference with respect to the provision of a ventilation or a supply of fresh air necessary for the miner's health, irrespective of that required when gas is exuded in a quantity sufficient to render the working place unsafe.

A consideration of the circumstances in which many of the mines, opened on the outcrop of the seams, were situated in the first openings, is to some extent an excuse for this indifference. The absence of gas of any importance—in some cases the entire freedom from it—and the natural tendency of the air to pass into the workings where the temperature was higher than that outside, together with, in some cases, the means of exit in a favorable position, seemed to beget the idea that little more was required than to allow the air to take its own course through the mine and leave when it liked. An illustration of this idea may be mentioned, which was by no means a single instance of this belief in natural ventilation, so called. The writer on one occasion put some questions to the person who superintended the underground operations relative to the ventilation, and sought



NEWCASTLE CHALDRON WAGON.

to ascertain whether any idea existed with respect to an organized arrangement of the conduction of the air through the working places. After passing through these, and when scarcely a movement of the air was perceptible, the question was put: "Which way does it go now?" "Oh, it goes out!" was the reply. "Where?" was asked, "let us follow it." This was done so far as the assumed route was followed, but not the slightest bend of the flame of the light carried could be observed. "Why there is none here; what has become of it?" was asked. "No, it has gone out," was the inferred reply from the confused statement of opinion on this all-important point.

It will not be a matter of surprise, in view of the preceding, that in many cases the opening of a coal mine was undertaken by persons who had little knowledge of mining beyond the cutting of the coal and such general ideas as an observing and reflective disposition might suggest with respect to the means of ventilation.

As the operations extended and the workings began to approach a gas-yielding position, the adoption of artificial means of ventilation became necessary, and the liability to trouble from its neglect became evident. The position of the Inspector of Mines at the period now referred to was not that of the official of the present day. He was not armed with any power to compel the adoption of what he might consider necessary in order to a safe carrying on of the operations; nor indeed could it be considered an absolute necessity in the early stages of the opening of the mines. Under the circumstances, with respect to freedom from gas and the very limited extent of the operations, it was not considered necessary to impose what might be thought to be a restrictive measure at that time; the Inspector suggested and recommended improvements, and in most cases they were received in a satisfactory manner. The time came, however, when an enforced system was necessary, and it is to the credit of Mr. H. S. Poole, the then inspector, that he was instrumental in inducing the Government to pass a Mines Regulation Act, the

terms of which are based on those of the English Act for a like purpose.

The system of mining which has been generally adopted is that known as the bord and pillar. Take as an illustration the starting point of the commencement of a slope driven from the crop. It is driven in the direction of the fall dip of the seam far enough to allow a goodly strip of solid coal between the levels—to be driven on that course from the slope—and the crop. At regular distances in the level, places are worked to the rise out of which bords are turned and driven, in the level direction, at such distances apart from each other as circumstances may render it expedient to adopt. Communication is made between the bords for ventilation and other purposes, and thus detached blocks of coal are formed which are termed pillars—their object in the first working, as it is called, being indicated by the name.

They are after a time removed and the roof or superincumbent strata falls into the excavated space and forms the roof. Of course this description applies to seams whose deposition is comparatively flat, as well as to those at various angles of dip. Sundry attempts at long-wall working have been made, and it is not improbable that this system will come into greater use than has hitherto prevailed. There are so many circumstances that have to be taken into account before it can be beneficially adopted, that those who have had practical experience of the system are best able to decide on the fitness of its application.

A brief sketch has now been given of the progress and development of the Nova Scotia mines in both a commercial and mining point of view. A few particulars in connection with the general operations are added which may be of interest. The statements given in the Annual Reports of the Department of Mines furnish the data on which the following comparisons are made.

With respect to the number of persons employed, the classification of underground and above ground is taken in its general sense, without regard to this division of labor.

In the year ending September 30, 1865, the persons employed at all the mines numbered 3,043; in the year ending December 31, 1890, the number is 5,324.

The average quantity of coal used on the mines by engines and workmen is, in Cumberland County, 7% of the quantity raised, equal to 160 lbs. per ton of coal raised, and of this quantity 76% was used by engines and 24% by workmen. In Pictou County the figures are over 9%, or 224 lbs. per ton of coal raised, of which engines used 78% and workmen 22%; and in Cape Breton the average is a little over 9%, being 215 lbs. per ton of coal raised, of which engines used 64% and workmen 36%. The average number of tons of coal cut per day by the cutters is, in Cumberland County, 2.6 tons; in Pictou, 3.3 tons; and in Cape Breton, 3.9 tons.

Having taken this brief retrospect of the coal trade of Nova Scotia, embracing the mode of conducting the operations, and the extension of the trade in a general point of view, it may not be out of place to glance prospectively at its future. Not possessing the dangerous gift of prophecy, the writer is sensible he is approaching a delicate part of his subject, and holding in respect as he does the old saying that "discretion is the better part of valor," he will not venture further than to express a firm belief in the future as regards the mineral wealth of this wonderfully enriched province in this respect.

The schemes of speculators may subserve their immediate interest, although lacking the essentials of success; but even they tend to develop resources which might otherwise remain dormant.

It may be more within his ken to strongly urge the adoption of assured improvements in mining machinery and economical and safe appliances; the extension of the scientific knowledge that must be the foundation of that grade aimed at by those workmen who possess the praiseworthy ambition to fill a higher position and to contribute by the application of practical skill, conjointly with that knowledge, to the healthy and wealthy advancement of one of the most important branches of industry.

JOHN RUTHERFORD.

STELLARTON, N.S.

GOLD MINING AS AN INDUSTRY IN NOVA SCOTIA.

THE first discovery of gold in Nova Scotia was made at Tangier in 1860; but as an industry gold mining may be said to date from 1862. When most of the older districts were proclaimed by the Government, a "Chief Gold Commissioner" was appointed, and laws were framed governing the acquisition and working of gold-bearing lands.

During that year several quartz-crushing mills (some thirty in number) were built, of types varying from the arrastra, and its offspring, the Chilian mill, to the stamp batteries of that date. No royalties, however, were collected by the Government until the year following.

From the year 1862 dates also the wild excitement consequent upon the inception of mining work in many and distant sections of the Province; an excitement which was in part due to the richness of the gold streaks which were found cropping to the surface; in part due to the schemes of both English and American speculators, and also in part due to the greatly exaggerated idea of the value of the fields thus discovered.

This excitement culminated in 1867 and 1868, when the inevitable leaner or poorer portions of the lodes began to predominate, and when shareholders began to realize that their extravagant expectations of dividends were doomed to disappointment.

The reaction was natural and inevitable when the mines were managed by men not trained to mining, and entirely unfamiliar with the business. Large losses occurred in milling, and the peculations of the workmen at that time were not inconsiderable. Thus, when these lower grade spots were encountered profits temporarily ceased, there being no development of the veins ahead, and consequently no body of reserves to fall back

upon, and but too often no treasury fund to pay for development work. Of course, primarily the cause of all this was the incapacity and inexperience of the then managing men, but another reason contributed largely to the same effect, and that was the idea (promulgated, it is said, by a Mr. Thomas Belt) that no lode would be found to be auriferous below depths varying from 100 to 200 feet. This notion seems to have been borrowed or transplanted from Australia, where the same idea was prevalent from 1865 to 1875. The notion is so absurd as to need no refutation.

There followed a period of general depression, and amongst capitalists, a great distrust of Nova Scotia gold properties. From 1871 to 1882 the production and the number of men employed fell off greatly, in some years to the extent of more than one-half. During this period of ten years the production was maintained chiefly by the discovery of new districts and the finding of one or two rich veins in some of the older districts. Unfortunately, however, experience had not taught wisdom, and these later discoveries were worked in the same systemless manner that the earlier mines had been, and of course with the same results. No mine being opened in a systematic manner, so soon as its rich quartz was all extracted from the surface workings it was posted as "worked out" and was abandoned.

In 1883 and 1884, however, several attempts were made by men of experience and training in other countries to re-open and work some mines which had been idle and filled with water for ten or fifteen years. These attempts were successful, and from the year 1885 dates a new era or epoch in the gold mining industry of Nova Scotia. In that year the annual production exceeded the average annual production by 7,000 ounces, and in 1889 the production was nearly 10,000 ounces in excess of the average annual production. Last year (1890) the production was about 8,000 ounces in excess of the average, and the number of tons of stone crushed was the highest in the history of the industry.

each
of

1862
1863
1864
1865
1866
1867
1868
1869
1870
1871
1872
1873
1874
1875
1876
1877
1878
1879
1880
1881
1882
1883
1884
1885
1886
1887
1888
1889
1890

ful d
the
mod
syste
To d
sary
1884

In the following table is given the production of gold for each year from 1862 to 1890 inclusive, also the number of tons of stone crushed and the average yield per ton for each year:—

YEAR.	TOTAL OUNCES OF GOLD.			STONE CRUSHED.	YIELD PER TON OF 2,000 LBS.		
	Oz.	Dwt.	Grs.	Tons.	Oz.	Dwt.	Grs.
1862	7,275	0	0	6,473	1	2	11
1863	14,001	14	17	17,002	..	16	11
1864	20,022	18	13	21,434	..	18	16
1865	25,454	4	8	24,423	1	0	20
1866	25,204	13	2	32,162	..	15	2
1867	27,314	11	11	31,386	..	17	9
1868	20,541	6	10	32,262	..	12	17
1869	17,868	0	19	35,147	..	10	4
1870	19,866	5	5	30,829	..	12	21
1871	19,227	7	4	30,791	..	12	11
1872	13,094	17	6	17,093	..	15	7
1873	11,852	7	19	17,708	..	13	9
1874	9,140	13	9	13,844	..	13	5
1875	11,208	14	19	14,810	..	15	4
1876	12,038	13	18	15,490	..	15	13
1877	16,882	6	1	17,369	..	19	10
1878	12,577	1	22	17,990	..	13	23
1879	13,801	8	10	15,936	..	17	8
1880	13,234	0	4	14,037	..	18	20
1881	10,756	13	2	15,556	..	12	20
1882	14,107	3	20	22,081	..	12	18
1883	15,446	9	23	25,954	..	10	21
1884	16,059	18	17	25,147	..	12	18
1885	22,203	12	20	28,890	..	15	4
1886	23,362	5	13	29,010	..	16	2
1887	21,211	17	18	22,280	..	19	11
1888	22,407	3	10	36,178	..	15	21
1889	26,155	6	13	39,160	..	17	22
1890	24,358	9	9	42,749	..	11	9
Total..	506,675	6	6	693,191	—	14	15

The six years since 1885 have been marked by the successful opening of old and previously abandoned mines in nearly all the older districts in the Province; by the introduction of modern mining and milling machinery, and by greatly improved, systematic and scientific methods of mining and exploitation. To develop your mine is now considered the "correct" and necessary thing, but the writer well remembers being laughed at in 1884 by one of the "old timers" when he intimated his intention

of opening up a mine by sinking, driving levels and opening up for backs and reserves. And last, though by no means least, this period has been marked by the disappearance of distrust amongst capitalists, and by the attraction of foreign capital to our gold fields as being ventures in which money can be profitably invested.

In most cases this investment has proved profitable, but in one or two cases, which derive prominence from their rarity, money has been paid for properties which were valueless from the start, or a management has been appointed whose incompetency doomed the enterprise to failure from the beginning, or the money for development has been squandered in huge surface plants and high salaried officials.

In almost every case where ordinary business prudence has been exercised in the selection of a property, or in the choice of a manager, success has been the result, and not failure.

The gold bearing quartz lodes of Nova Scotia occur in the Cambrian or Cambro-Silurian measures, and belong chiefly to the class of "bedded" lodes, or perhaps are "ore deposits along bedding planes," being conformable throughout with the beds of quartzite and slate with which they are interstratified, but not contemporaneous.

Two other classes of auriferous deposits are more seldom met with: (1) "Fissure" veins, so called, being in some cases true fault fissures subsequently filled in, but more frequently being filled crevices which were occasioned by secondary disturbances; (2) intercalated or "gash" veins of local origin and extent.

By far the greater bulk of the gold produced has hitherto come from the regular or "bedded" lodes. Sometimes these bedded deposits take the form of large inter-stratified belts of bluish fissile slate in which occur intercalated veins of quartz thus forming large bodies of low-grade ore upon which, in the opinion of the writer, the future of the industry will largely depend. The districts of Goldenville, Beaver Dam and Mount Uniacke afford the best examples of this class of deposits.

The regular lodes vary, as a rule, from two inches to thirty inches in width, instances occurring where the lodes thin down to a fraction of an inch, or swell to twenty-six feet wide, as notably in the famous Dufferin lode on Salmon River. The average width of the quartz may be taken as from six to twelve inches.

The richness of these lodes varies as much as their width does, running from \$3 to \$16.00 per ton.* The general average of each year is shown in the table on page 19; the average for the twenty-nine years is about \$14.50 per ton.

Upon lodes of such variable width and nature the cost of production will, of course, also vary widely; but as a general guide it may be stated that a lode twelve inches wide, yielding \$10 to the ton, will pay well to work.

There are at the present time over thirty-five localities in the Province in which workable deposits of gold have been found, and from three thousand to four thousand persons are dependent to a great extent, or entirely, upon the industry. The area of the gold measures in Nova Scotia has been estimated by various authorities to be from five thousand to seven thousand square miles, or from one-fifth to one-third the area of the Province, yet the actual area from which the gold thus far obtained has been won is less than forty square miles. Taking the total value of the whole gold product to the first of the present year as \$10,000,000 in round numbers, it will be seen that each square mile of surface upon which paying gold lodes have been found has yielded over \$8,000 per year for each year since discovery.

The mining laws of Nova Scotia are, in the main, good, and are yearly being amended for the better. Their essential features are :--

1. All mines of gold and silver are the property of the Crown, from which titles or leases are obtained for working the

* The year 1891 has been remarkable for high yields, South Uniacke returning many lots of 10 ounces to 20 ounces to the ton, and Oldham surpassing its previous records with a yield of 843 ounces from eight tons of quartz.

same: all gold obtained is subject to a royalty of two per centum, or thirty-eight cents for each ounce of smelted gold.

2. Lands containing gold or silver are laid off in areas measuring 150 feet by 250 feet, the lesser length being along the course of the lodes, and a lease can be obtained for any number of areas in any such one lease up to one hundred.

3. Such a lease runs for twenty years, and costs the applicant two dollars for each and every area contained therein. Upon each such lease in each year there must be performed a certain number of days' work, or as an equivalent, the lessee is given the option of paying annually fifty cents for each area therein contained; such labor being performed or such annual payment being made, the lease is non-forfeitable. At any time prior to the expiration of said twenty years the holder of the lease can surrender it and obtain a new lease for a second period of twenty years. Such a lease is deemed personal property and is transferable.

4. Where such areas are situate upon private lands the law requires that an agreement must be made with the owner of the soil for leave to enter, and if such agreement cannot be made, a method of arbitration is provided whereby damages may be assessed, paid in, and leave to enter given to the owner of the lease.

Examination into the history of any mineral industry will show that such industry has only reached its full development and highest point through a complete knowledge of the methods and processes peculiar to that industry, and applying this standard to the gold mining industry of Nova Scotia, one is warranted in saying that its outlook was never more promising. There is to-day a greater amount of professional knowledge and technical skill engaged in gold mining here than ever before. The lodes are being worked with ability, with that wise economy which avails itself of every known device to save labor and cost, and also with the introduction into every-day matters of true business methods. It must not be forgotten that a gold mine is a manufactory of gold which must be conducted, even to its

minutest details, with the most jealous regard to economy in all departments.

The easy means of access to the Province, and consequent convenience of personal examination, the low costs of working, the cheapness of labor, fuel and supplies, the probable permanent nature of the bedded lodes, as inferred from their geological structure, are all good and sufficient reasons why capital should seek investment in the gold mines of this Province.

With experienced and honest management, suitable and economic plant, and a working capital sufficient to open and exploit a property which has been carefully examined and selected, such an investment should prove a safe, lucrative and reasonably permanent one.

JOHN E. HARDMAN, S.B.

OLDHAM, N.S.



THE MINERAL RESOURCES OF NEW BRUNSWICK.

NEW BRUNSWICK has, as yet, certainly established no claim to prominence as a mineral producing country. This is the more remarkable as within her borders are not only to be found those geological formations which elsewhere are usually the seat of valuable ore deposits, but these occupy extensive areas, and present features in the way of plication, metamorphism, granitic and igneous intrusions, which would greatly enhance the probability of the occurrence of such deposits. It is, however, to be remembered that very large portions of the Province, and particularly those which might be expected to be metalliferous, are still densely forest-clad, and that while the limits and age of the different rock formations have been worked out and mapped with a considerable degree of accuracy by the officers of the Geological Survey, but little has yet been done in the way of intelligent and systematic prospecting.

It is proposed to give here a brief summary of what is known as to the distribution of useful minerals in New Brunswick, of such attempts as have been made to develop them, and of the directions in which further effort may be reasonably made.

Coal.—In no instance has the contrast between confident and even extravagant expectation and actual results been more forcibly illustrated, so far as New Brunswick is concerned, than in the case of this mineral. First recognized as occurring here at a very early period in the settlement of the Province, the reports of the earliest Geological Survey, under Dr. Gesner, led to the most exaggerated statements as to its amount and value. A very large area, comprising fully one-third of the entire area of the Province, was indeed correctly shown to be occupied by carboniferous strata, but the fact that these lie nearly horizontally,

and may therefore possess a great superficies with but little thickness, if recognized, was not taken sufficiently into account, and for many years no attempts were made to ascertain the real depth of the formation, or the number and character of its seams of coal. In the meantime a greater or less amount of coal continued to be obtained from the locality in which it was first discovered, near the head of Grand Lake in Queen's County, the seam at this point being about 22 inches in thickness, and spreading horizontally over a considerable area, at a distance of only a few feet from the surface. At the same time a confident expectation was entertained by the residents of that vicinity that other and thicker seams might be found at greater depths below the surface, this belief being largely based on the alleged results of certain borings in which a record was made, at a certain depth, of *eight feet of coal and shale*, the relative amount of each not being stated. In consequence of this belief and prevailing uncertainty, a more careful examination of the region was undertaken in 1872 by the Geological Survey, and supplemented by numerous borings, with the result of showing conclusively that the total thickness of the Grand Lake or Newcastle basin could not exceed six hundred feet, and that the 22 inch seam already referred to was the only workable one in the region. At the same time the total amount of coal, supposing the seam to be continuous over the entire basin, as indicated by various outcrops, would be large, amounting to not less than 154,000,000 tons, while its general proximity to the surface would greatly reduce the cost of its removal.

The Grand Lake product is a bituminous coal, of the coking variety, igniting readily, but requiring frequent stirring for complete combustion, and yielding a rather large percentage of ash. It is capable of yielding about 8,500 cubic feet of gas per ton, but of inferior quality, and is not used for this purpose. It has been principally employed as a house coal and for manufacturing, and is especially adapted for blacksmith's use. The annual product amounts to about 6,000 chaldrons, and its market value from \$5.00 to \$7.00 per chaldron.

As regards other portions of the extensive carboniferous area of the Province, the facts so far ascertained are unfavorable to the belief that important coal deposits are likely to be found. Small seams do indeed occur at many localities, but the general character, relations, and fossils of the accompanying strata indicate that these belong generally, if not wholly, to the lower or Mill-stone Grit division of the series, and are too thin to warrant working.

Albertite.—Though at present apparently exhausted, no mineral found in New Brunswick has awakened greater interest or has possessed a higher pecuniary value than this. First discovered in the year 1850, as occurring a few miles distant from the town of Hillsboro, in Albert County, its development was for some time retarded by litigation, arising out of the disputed ownership of the mine—a dispute involving the consideration of the nature of the mineral itself, whether this was coal or asphalt—but immediately after the settlement of this difficulty, its prosecution was so rapid and its value found to be so great, that in the course of the years 1863-1865, the annual export amounted to from 18,000 to 20,000 tons, worth at Hillsboro from \$20.00 to \$22.00 per ton. This very high spot value, as compared with ordinary bituminous coal, finds its explanation in the nature of the mineral, and the consequent uses to which it was found to be applicable. Though pronounced, at the time of the litigation referred to, to be a true coal, and since generally so called, the facts as to its mode of occurrence, its physical and chemical characteristics and its associations, all indicate that although not identical with asphalt (differing in solubility and some other respects), it is more nearly related to this than to coal, and is of the nature of an oxygenated hydro-carbon, derived probably originally from veins of fluid petroleum. Its mode of occurrence is quite like that of ordinary veins, being sometimes co-incident with the bedding, but as often oblique or at right angles to the latter, besides varying greatly in thickness in different parts, and sending off innumerable smaller veins or veinlets, sometimes forming a complete network of the latter. The principal deposits,

those of the Albert mines, occur in highly bituminous and petroleum-bearing shales, situated at or near the base of the lower carboniferous formation, and these are undoubtedly the original source of the mineral, but smaller veins are occasionally found penetrating both underlying and overlying strata.

The maximum thickness of the vein at Hillsboro, as found near the surface, was 22 feet, and was found to occupy a nearly vertical fissure, which was mined to a depth of over 1,400 feet. The mineral is jet black in colour, highly lustrous, breaking much like asphalt, and entirely destitute of stratification, being also destitute of microscopic structure, and of uniform quality throughout. It softens under the influence of heat, and ignites readily, burning with a sooty flame. Subjected to distillation it yields 100 gallons of oil per ton, and of gas about 14,500 cubic feet, the latter being of superior illuminating power. From it a burning oil, known as Albertine, was for a time manufactured, but its principal use was an enricher in gas manufacture, for which it was highly esteemed.

The decline of the Albert mine was as remarkable as its development. As early as 1870 indications of diminished supply began to be observed, and though every effort was made to ascertain the possible existence of other deposits of similar character in the immediate vicinity, these were found unavailing, and the mine having been practically exhausted, was, in 1879, finally abandoned. In the meantime, however, similar explorations were carried on at more remote points, chiefly by boring, while a careful survey of the area was undertaken by direction of the Dominion Government, and all available information bearing upon its further occurrence obtained and published. These surveys resulted in demonstrating the existence of Albertine veins at widely separated points, in connection with the enclosing Albert shales; but these were in all cases very small, and though considerable sums have in some instances been expended in proving them, they have in no instance proved remunerative.

Anthracite.—This mineral is found to a limited extent in the Devonian rocks of St. John County. In many instances it is evidently the result of the alteration, wholly or in part, of the individual trunks of fossil trees (*Dadoxylon*) scattered through the sandstones of the Devonian formation; but in a few cases the vegetable accumulations would seem to have been such as to give rise to actual beds of coal, though of no great thickness. The best known locality for these beds is that of Lepreau Basin, near the western border of St. John County, and not far from the mouth of the Lepreau River. A seam of mixed coal and shale is here met with, having a total thickness of fifteen feet; but the shale is irregularly distributed through the coal, and the latter, where purest, does not exceed a thickness of four feet, while it also contains much earthy matter. Analyses of samples from the outcrop, made by Dr. Harrington, gave 36.88 per cent. of ash. The beds at this locality are all highly disturbed, and the area over which they are distributed but small.

Bituminous Shales.—The bituminous shales or pyroschists, which have been referred to as holding the mineral Albertite, constitute in themselves also, to some extent, a source of combustible material.

These shales are found at or near the base of the lower carboniferous formation in Kings, Albert and Westmoreland Counties, where they form two or more belts, with a total length of fifty miles, and with a surface breadth rarely exceeding half a mile. They are remarkably fine-grained, dense and tough, varying in colour from dark grey to jet black, susceptible of polish though possessing little lustre, and emitting, especially when rubbed, a decidedly bituminous odour. At times they approach the character of a true cannelite, while at others they are saturated with petroleum. They contain also a considerable amount of calcareous matter, and in certain layers abound in the remains of fossil fishes. In attitude they are usually much disturbed, their inclination at most points being high or even vertical, with numerous and abrupt plications.

Some twenty years ago an attempt was made to employ these shales in the distillation of oil, and works for the purpose were erected at Caledonia, in Albert County, about three miles distant from the Albert mines; but the product being unable to compete successfully with the enormous yield of natural oils then first brought to notice in Pennsylvania and elsewhere, these were soon abandoned. The yield of the richest bed at this point, known as the Black Band, and having a thickness of about seven feet, was 63 gallons per ton, while of somewhat similar beds on the Memramcook River, in Westmoreland, the yield was 37 gallons per ton. From the latter locality about 2,000 tons were removed in the year 1865, and are said to have sold, in the United States market, at the rate of \$6.00 per ton. The gas producing capacity of the Black Band shales was 7,500 cubic feet per ton.

Petroleum.—The Albert shales have been described as not only yielding oil upon distillation, but as containing a certain proportion of such material, naturally produced. The amount of petroleum thus contained varies considerably, and only rarely is in sufficient quantity to become visible. During the course of the operations at the Albert mines, drops of oil were sometimes seen oozing from the walls of the galleries, more particularly from the sandy beds, associated with the shales, and it has also been observed at Upper Hillsboro, Belveau, Memramcook and Dover. At some of these points attempts have been made to collect the oil, but so far the flow of the latter has in each instance proved too slow to allow of profitable collection. In the case of the locality at Dover, the oil in coming to the surface in connection with a spring of water becomes slowly oxydized and hardened into a pasty semi-fluid and elastic mass, resembling pitch, and known as maltha. The oil-bearing strata frequently emit jets of inflammable gas.

Gypsum.—Gypsum is one of the most abundant of the economic minerals of New Brunswick, occurring in beds of great extent and thickness near the top of the lower carboniferous formation, especially in Albert, King's and Victoria Counties.

The deposits which have been longest known and most extensively worked are those near Hillsboro, in Albert County, being the property of the Albert Manufacturing Company. The total area occupied by the plaster beds in this vicinity is not accurately known, but from the position and relation of the several quarries, it seems certain that this is quite large, while the exposed thickness of the bed varies from seventy to one hundred feet. Of this, however, a portion is anhydrite or hard plaster, the associated gypsum being mostly a pure white or slightly clouded alabaster, which is occasionally translucent, but more generally opaque. Small crystals of selenite occur in some portions of the mass, but are comparatively rare. The rock is distinctly stratified, and usually accompanied by limestones.

For some years the Hillsboro plaster was employed only for exportation in the raw state, but in 1861 works were erected for its calcination, and since that time have been kept pretty steadily in operation, supplying both the burned and unburnt product. The productive capacity of these works (in 1876) was 600 lbs. per day, giving employment to about 100 hands.

Of other localities containing workable beds of gypsum, one occurs upon the North River, a few miles from Petitcodiac Station on the Intercolonial Railway. It is remarkable, in contrast with that of Hillsboro, in being highly crystalline, nearly the whole mass, about 40 rods in breadth, being granular or fibrous, while a vein of coarsely crystallized selenite, from six to eight feet in diameter, is traceable through the mass for a distance of a mile or more. A large quantity of gypsum has been removed from this locality, but has not been subjected to calcination. Large and valuable beds of gypsum also occur upon the Tobique River, in Victoria County, but are less pure than those of Albert County.

Antimony.—Ores of this metal have been observed in several localities in New Brunswick, but the only one in which it is known to occur in quantity is that of Prince William, about twenty-four miles from Fredericton, and about four miles dis-

tant from the St. John River. It is here found in connection with a series of slates and sandstones believed to be of Cambro-Silurian age, and which, within a mile of the mines, are invaded by a great mass of intruded granite, by which they have been made to assume more or less of a crystalline character. Numerous quartz veins, from one-eighth of an inch to six feet, intersect these slates and sandstones, and most of them carry more or less of the metal. This is chiefly in the form of the sulphuret or *stibnite*, but in the course of the workings, native antimony was also met with to some extent.

The Prince William locality first came into notice about the year 1862, soon after which several companies were formed for its development. The first of these to undertake active operations was the Lake George Mining Company, by whom a considerable quantity of ore was raised, while at the same time somewhat expensive works were erected, embracing crushers, rollers, jiggers, etc., as well as furnaces for desulphurization and smelting. When in full operation, these works yielded fifteen tons of metal every six weeks, the charges (of 500 cwt.) affording from 45 to 55 per cent of regulus. The product was partly exported in cakes or ingots to the United States, and was partly employed on the ground in the manufacture of Babbit metal by admixture in the proportion of twenty per cent. with lead, copper and tin. The value of the regulus was quoted on the ground at 12 to 14 cents per pound; that of the Babbit metal according to quality, from 20 to 50 cents per pound.

The above works were somewhat interruptedly carried on for several years, but it was finally found or thought to be unprofitable to continue the manufacture, and they have since been idle. In the meantime several other companies have purchased leases in the vicinity, and through the rivalry of these, together with frequent changes of ownership and consequent litigation, the development of the whole locality has been greatly retarded. In October, 1883, about eighty men were employed in the Brunswick mines (at wages varying from \$1.30 to \$1.50 per day), and during five months of that year about 29 tons of ore were sent

off, chiefly to Medford, Mass., where it was largely employed in the vulcanization of rubber. Soon after this, however, the works were suspended and have not since been resumed. It is said that not less than \$400,000 have been expended at this locality since the first commencement of mining operations.

Native Antimony.—This mineral accompanies the sulphide of antimony or stibnite at the Prince William or Lake George mines in York County, described above, but is relatively rare. It is found both massive and crystalline, and some of the specimens obtained here are very fine.

In addition to the locality in Prince William, gray antimony ore has been observed at several other points, as in Canterbury, York County, and Springfield, King's County, but only in small quantities.

Manganese.—The principal deposits of manganese are those of Markhamville, King's County, being about twelve miles south of Sussex Station, on the Intercolonial Railway. As is usually the case, they here occur in connection with limestones lying at or near the base of the lower carboniferous formation, though also sparingly found in the underlying Huronian rocks. Their distribution is characterized by great irregularity, the ore being distributed through the limestone chiefly in the form of pockets, some of which are small, but others remarkable for their large size and purity. The ore itself embraces many varieties, though chiefly consisting of pyrolusite, both massive and crystalline, and is not infrequently associated with limonite and barite. The mines at this locality were first opened in 1863, since which time about 20,000 tons of ore have been removed, the annual production varying from 500 to 1,500 tons. The price, delivered at Sussex Station, varies, according to quality, from \$15 to \$50 per ton.

A second locality in which manganese ores have been found in sufficient quantity to warrant their removal, is that of Shepody Mountain, in Albert County. From this place considerable quantities of ore have been removed at different times, and preparations are now in progress for a renewal of operations in that vicinity.

A deposit of manganese also exists upon the coast, not far from the Quaco Light, but so far as known to the writer, is of but small extent and value.

Molybdenite.—Molybdenum sulphide, or molybdenite, has been observed in New Brunswick at several localities, but chiefly in connection with the gneissic and micaceous strata, which border the great central granitic axis of the Province, or in the granite itself. It has been thus found near St. Stephen in Charlotte County, near the granite belt in York County, and below the Pabneau Falls on the Nepisiquit River in Gloucester County. At the second of these localities it appears to be quite abundant.

Lead and Silver.—Sulphurets of lead, carrying more or less of silver, have been observed at a number of localities in New Brunswick, and in some instances have been mined to a limited extent, but as yet without profitable returns. The most promising of these localities appear to be in Gloucester County, and not far from the line of the Intercolonial Railway. On Rocky Brook, a branch of the Nepisiquit Millstream, in this County, a vein of quartz has been recently observed, which, according to Mr. Edward Jack, is about twenty feet wide and carries from wall to wall more or less galenite and pyrite, an assay of which, made by Prof. H. O. Hoffman, of the Massachusetts Institute of Technology, yielded, of silver, 11 oz., and of gold 0.24 oz. to the ton of 2,000 lbs. avoirdupois. An analysis of other samples from the same vein, made by Prof. Ricketts of New York, yielded 14.20 oz. troy, per 2,000 lbs. of the ore as submitted.

Graphite.—Graphite or plumbago, in a finely divided state, is not unfrequently disseminated through the altered rocks of the older formations to which it imparts a dark colour and more or less glossy aspect. It is most abundant in connection with the pre-Cambrian rocks which are believed to represent the Laurentian system in St. John County. Much of the limestone of this formation is dark gray or even black from this cause, while in places the graphite assumes the form of veins, pockets, or well defined beds. A band of this character crosses the mouth

of the St. John River at the Falls, and is traceable both east and west for several miles. Mining operations for its removal have been frequently undertaken, and at one time (1868-1870), about 6,000 barrels per year, averaging when crushed and screened about 4 cwt. to the barrel, were removed. The beds vary in thickness from one to four feet. The mineral itself is somewhat impure and incapable of being directly applied to the uses for which the finer qualities of graphite are employed, but has been found to answer well for foundry facings, stove polishes and the like, and by appropriate treatment can be rendered available for other purposes as well. Quite recently these mines have been reopened.

Of other formations containing considerable quantities of graphite may be mentioned the Cambro-Silurian and the Devonian. The slates and schists of the former, as found near St. Stephen and elsewhere in Charlotte County, and in the parish of Canterbury, York County, are often highly plumbaginous, but neither in these nor in the Devonian are there any known deposits of economic value.

Gold.—The amount of positive information regarding the presence of this metal in New Brunswick at present possessed is very small. Reports of its discovery have indeed been frequent, but in the very few instances in which these appear to have emanated from reliable sources the amount of gold observed has been so small as to discourage further efforts to obtain it. While, however, the amount of the metal actually obtained is thus insignificant, it is worth while to notice that rocks very nearly resembling those of the auriferous belt of Nova Scotia, and believed to be of the same age, are largely developed here, and further, that it is in connection with these same rocks that very many of the reported discoveries of gold have been made. The rocks referred to are those composing the slate and quartzite belts which border the great central granite axis of York and Northumberland Counties, and which with the latter traverse the entire breadth of the Province. Much of this region is still densely forest-clad and difficult of

access, but should any portion of it prove to be auriferous, the discovery would be of inestimable value to the Province, as helping to open up an extensive region otherwise likely to remain permanently in a wilderness condition. Among the points at which gold has been reported in small quantities may be mentioned the vicinity of the St. Croix River, in Charlotte County, the Nashwaak River above Stanley, in York County, the Muniac River in Carleton County, and the Serpentine River in Victoria County.

Copper.—The ores of copper found in New Brunswick include native copper, copper glance, chalcopyrite or copper pyrites, bornite or erubescite, cuprite and malachite.

Native Copper.—Has been reported as occurring sparingly in connection with the triassic traps which form the northern half of the island of Grand Manan. It has also been observed at Clark's Point on the Mascarene shore of Passamaquoddy Bay, and it is stated to have been found in small quantities along the coast, near the head of the Bay of Fundy. Little that is definite, however, is known of either locality.

Copper Glance—Accompanies the native copper in the traps of Grand Manan, where it has been described by Prof. E. J. Chapman as being sufficiently abundant to give promise of profitable extraction. Little effort, however, has as yet been made in this direction. The same mineral, and in larger quantities, has been found associated with other copper ores at different localities along the coast of Charlotte County, and on the adjacent islands, among which may be mentioned Crow Harbor Island, Simpson's and Adams' Islands. It is, however, a less abundant mineral than the species next described.

Copper Pyrites or Chalcopyrite—Is the most widely distributed as well as the most abundant of the copper ores of New Brunswick, and has been observed at many localities. The larger number of these occur along the southern sea-board, where a band of copper-bearing rocks, believed to be of pre-Cambrian age, is found to extend, with some interruptions, along the greater part of its length. Others are found in the interior, more

particularly in connection with the older schistose rocks or the intrusive masses by which these have been invaded. A detailed list of these localities, so far as they occur in the southern part of the Province, will be found in the Report of Progress of the Geological Survey for 1870-71. In the northern part of the Province, the most noticeable localities are Bull's Creek, in the vicinity of Woodstock and the Tattagouche River, near Bathurst. In Westmoreland County, ores consisting in part of this species occur in connection with rocks of the carboniferous age, near the town of Dorchester.

Bornite or Erubescite—Sometimes known as Peacock ore, accompanies the other ores of copper, more particularly about Passamaquoddy Bay and the head of the Bay of Fundy, sometimes occurring to the exclusion of other varieties. Where abundant it constitutes a very valuable source of the metal, and the ore of some of the most promising mines yet opened has been chiefly of this species.

Nickel.—Considerable deposits of pyrrhotite have for many years been known to occur in different portions of Charlotte County, usually in connection with copper pyrites, but until recently have been considered to be without value. Attention, however, having been re-directed to them in consequence of the developments at Sudbury, in Ontario, these also have been found to be nickeliferous, and attempts are now being made to test their value. The deposits appear to be large, but, as at Sudbury, the nickel contents vary considerably. A fair average sample of 72 lbs., analysed under the direction of Dr. Hoffmann, of the Dominion Geological Survey, yielded nickel 1.718 per cent., the material very closely resembling, according to Dr. Hoffman, a large proportion of the ore found at Sudbury, Ontario.

Building Stones.—Very extensive and valuable beds of granite, freestone, slate, marble, etc., exist in the Province, and in the case of the first two have been largely quarried for exportation, but have not been thought to require extended notice in the present connection. The same is true of a number of other rocks or minerals, including limestone, clays, infusorial earths,

bog-ores, salt, &c. These may be made the subject of a subsequent contribution.

Iron.—All the usual ores of iron occur to some extent in New Brunswick, including hematite, limonite, siderite or spathic iron, and magnetite, though none are now employed as a source of the metal. By far the largest deposits are those of hematite or mixed hematite and limonite, which form extensive beds near Jacksontown, north of Woodstock, in Carleton County. They may be traced across the greater part of this county in parallel and closely associated bands, and vary from 2 or 3 to 15 feet in thickness. Somewhat extensive operations were at one time (1848-1865) carried on near Woodstock, in the smelting of the ore, and a charcoal iron manufactured, which, for certain purposes, was highly esteemed. This was no doubt due to the fact of the ore naturally containing a considerable percentage (1.6 per cent.) of manganese, thereby adding materially to its tensile strength. It was, however, on the other hand, also contaminated with a considerable amount of phosphorus (one analysis yielding 1.298 per cent. of phosphoric acid) and therefore apt to be cold short in a high degree. According to the report of Dr. Ells, of the Geological Survey, there were ten charcoal kilns, with an average capacity of 75 cords of wood, and a production of 2,800 to 3,200 bushels of coal. The quantity of ore used was, on an average, 3 tons to the ton of pig, and the cost at the furnace \$1.20 per ton; 126 bushels of charcoal were required per ton, at a cost of 7 cents per bushel, and the cost of pig produced was \$20 to \$22 per ton.

The history of the Woodstock mines was a somewhat checkered one, but too lengthy to be reproduced here. It is sufficient to say that after several stoppages and resumption of operations under the different parties, the works were closed down several years ago and have not since been resumed.

Limonite.—In addition to the limonite referred to above, as associated with the hematites of Carleton County, this same mineral is found at various localities in the form of bog-ore. The largest deposits are upon the banks of the St. John River, at Burton, in Sunbury County, and considerable quantities of

the ore were removed during the continuance of operations at Woodstock, for admixture with the hematites of that locality.

Spathic iron is only known to occur in the form of small veins in certain portions of Queen's and Charlotte Counties.

At West Beach, twelve miles east of the City of St. John, upon the shore of the Bay of Fundy, are beds consisting of red hematite mingled with specular iron ore, while at Black River, two or three miles east of West Beach, are beds of the last named mineral, some of them with a thickness of 20 feet. They have not, however, as yet attracted the favorable notice of such iron experts as have visited them.

Magnetite is not uncommon in the form of scattered grains in the crystalline rocks of the southern counties, and small veins are sometimes met with, but none has as yet been observed sufficiently large to warrant any attempt to remove them.

L. J. BAILEY.

FREDERICTON, N.B.



THE CANADIAN ASBESTOS INDUSTRY.

THERE is probably no mining interest in Canada that has shown such marked progress, or that gives such promise of profitable and constant returns, as that of the peculiar mineral asbestos. Although of comparatively recent date the many uses to which its manufacture has been applied, have increased so rapidly that it is with difficulty that the production can keep pace with the present demand, although the output from the Canadian mines has increased one hundredfold in the last ten years. The word is derived from the Greek, *Asbestos*, signifying inconsumable or unquenchable, and this property was known to the Ancients many hundred years ago. The term asbestos is at the present day applied to minerals which differ very considerably in their mode of occurrence and composition. That which was first known as the asbestos of the Ancients is a variety of the hornblende family, and allied to tremolite, actinolite, etc. It consists of fine, somewhat elastic fibres, varying in color from almost pure white to greyish and greenish tints, and in length at times nearly or quite two feet, with a soft silky aspect, looking very much, in fine specimens, like floss silk itself. In the flame of the blow-pipe, the mineral is but little acted upon, although after being exposed for some time to long continued heat the fibre loses tenacity, and becomes brittle, or even sandy to the touch. It can be spun like cotton and woven into cloth, and can be manufactured into a great variety of substances, such as fire proof curtains, wallpaper, suits of clothing, millboard, rope and steam packing of various kinds. It is of special value for the last purpose, owing to its entire non-conductivity of heat and indestructibility when in the case of the severe work it has to stand in connection with marine and other engines it is exposed to long and constant wear; in this respect far exceeding any material heretofore employed for this purpose.

It has, however, been found of almost too slight consistency to possess great value for textile purposes by itself, but this has been overcome by combining the spun fibres of the mineral with threads of cotton or flax, and in the museum of the *Canadian Mining Review* at Ottawa, can now be seen a complete suit of clothing, from helmet to shoes, such as is supplied to the firemen of Paris and other cities on the Continent, dressed with which a man can walk with almost absolute impunity into the hottest flames. The face in this case is protected by a very fine wire gauze which enables the wearer to see dimly, and to respire as well as the dense atmosphere which he has to penetrate will permit. Besides the true asbestos of commerce, other varieties—known as mountain cork, mountain leather, and mountain wood—are met with, but these have not yet been found adapted for use in the arts or manufactures or at least not to any very great extent.

The mineral which is produced in Canada at the present day under the head of asbestos, is in reality not asbestos proper, but a form of serpentine called chrysotile. This occurs in veins in certain portions of the great belt of serpentine rocks of the Eastern Townships of Quebec, though in the serpentines of the Laurentian also this mineral is found in small veins, but not as yet in a quantity to be economically available, though subsequent exploration in this direction may disclose workable deposits there as well. In the Laurentian rocks of certain areas, however, the variety actinolite sometimes forms hilly masses of considerable size, which has been mined for several years, and while not as yet found to be suited for the manufacture of mill-board, and the finer qualities of steam packing, answers admirably for cements, paints, etc., in the same way as the tremolite of the State of New York; these deposits of actinolite are therefore highly important, and will without doubt increase rapidly in value.

Although of such recent date, the Eastern Townships asbestos, for the name may as well be retained, has now a world-wide reputation, and is shipped in large quantities to the various countries in Europe, England, Italy, Germany and Belgium, and

to the United States also, and of the many firms now engaged in its manufacture, the greater portion draw the bulk of their raw material from a small area in Eastern Quebec; the Italian mines, from which the asbestos was formerly obtained, being worked with far greater difficulty than those in Canada, while the supply of the mineral is much more uncertain, and although for certain special lines the Italian may be more valuable than the Canadian, the latter has been found of sufficient value for most purposes so as to almost entirely supplant the former, even with those firms who control the output of the Italian mineral, a fact evidenced by the purchase of a Canadian property by the United Asbestos Co. of London, England.

Although asbestos was known at many points in Eastern Quebec more than thirty years ago, and was exhibited at the International Exhibition in London in 1862, no attempt was made to work the mineral for some years. The credit of the discovery of the Thetford area is probably due to a French-Canadian named Fecteau, and following up his discovery certain areas were secured from the Government by private parties. The true value of the mineral was not at first recognized, and in the first year of mining operations, (1878) only 50 tons were taken out, for which a ready sale was not at first obtained. The importance of the discovery was, however, speedily ascertained, and new companies obtained tracts of rocky land in the townships of Thetford and Coleraine, and began the work of exploration and mining. Had the Government of Quebec at that day been in possession of the requisite information regarding its mineral lands, it is very probable that the thousands of acres which rapidly changed hands in that section of the Province would have brought in much greater returns than the usual Government rate. Curiously enough, however, though the areas of the serpentine in the townships of Thetford, Coleraine, Ireland and Wolfestown are very extensive, the portions in which the mineral asbestos is found are comparatively rare, and the mining, though now prosecuted for nearly a dozen years, is practically confined to two small sections about four miles apart. The first,

and as yet the most important of these, is the small mound near the Thetford station on the Quebec Central Railway, which rises about 80 to 90 feet above the track; the other, the bold ridge of brownish looking rock to the south east of Black Lake station, which assumes much greater prominence, and probably has an elevation of 650 to 700 feet above the railway at this point. It must, however, be said in regard to some of the areas of serpentine that lack of sufficient exposures, owing to soil and forest growth, prevents in many cases a careful search, but in other portions where the bare rock is well exposed, as on the great ridge of Ireland and Wolfestown, as well as much of that towards Lakes Caribou and Little St. Francis, much of the rock has a hard reddish-brown weathered surface which does not promise favorable results to the prospector, who from a comparatively brief experience can very generally decide, with a fair amount of assurance, whether certain areas are likely to prove of value or not as a source of supply for asbestos.

The growth of the industry can be seen at a glance by comparing the output of 50 tons in 1878 with that of nearly 7,000 tons in 1890, a total which would have been further increased, presumably by several thousand tons at least, had the pits of the Scottish Canadian Company at Black Lake been in operation. The importance of this industry to the Province of Québec may be inferred from the fact that this amount represents a cash value at the mines of nearly a million dollars, and the industry has now risen to such proportions that hundreds of thousands of dollars of capital are now seeking investment wherever an opportunity of successful operation is presented. Caution, however, on the part of those desiring to invest, is advisable at present. The productive areas of the present asbestos district are very well known to those interested in the industry, and the really valuable areas now in the market can easily be counted on the fingers of one hand.

The methods of working are being radically changed. The old system of hand labor and horse derricks which has prevailed for years, and which, in the face of a limited demand, answered

well enough so long as the depth and extent of the quarries were small, has now become entirely impracticable in the face of large pits and the urgent necessity for large production. Steam derricks, drills, and the most improved labor-saving appliances are now being rapidly introduced. All the new companies have put in plants of the most approved pattern, with the result of much greater economy in labour and greater capacity of output, which in this case also means largely increased profit. Further improvements are, however, urgently called for, and that very speedily, if the mining of asbestos is to be carried on at the maximum of profit. Some simple appliances by which the mineral, especially the shorter and poorer grades, can be separated without the tedious process of cobbing by hand, should be the earnest study of all interested in the business of mining, and what is at present of quite as much importance, especially in the case of those companies who have been at work for some years, is the necessity of getting rid of the huge and unsightly dumps which now cumber the good ground and limit very seriously the extension of operations as well as the profitable working of some of the pits now carried on.

There is no doubt that in the case of the Thetford mines these dumps cover some very rich ground, and the same remarks apply also to certain areas at Black Lake.

It is well known that in the early years of the industry the separation of the smaller veins was not closely attended to. Large veins were plenty, and cheap and speedy extraction was a necessity, consequently much very fine fibre went into the lower part of these unsightly heaps of what is regarded as refuse. In fact, even in the newest portions of these dumps, veins of asbestos ranging from half to three-quarters of an inch can be frequently seen, all of which should repay extraction if suitable machinery were employed. While in the present condition of most of the pits, veins of asbestos of large size, ranging from one to three or more inches, are common, the uncertain nature of the mineral is such that in view of the investment of hundreds of thousands of dollars—at which many of these pro-

perties are now held, when any are placed on the market—the great desirability of testing the rocks at lower levels by some cheap but satisfactory method, should be apparent to all interested, and not only so but on the part of an investor is almost a necessity. To the company investing many thousands of dollars in an asbestos property to-day, the chances of successful working, or of getting back their own with profit, depend very largely upon the continuation downward for a considerable depth of profitable veins; for while in the case of a property acquired at Government rates, at \$1 per acre, the capital upon which dividends must be paid is very small, the case is very greatly reversed when a price of \$1,000 to \$3,000 per acre is demanded, and the cost of a plant sufficient to put such a property on a satisfactory working basis is added. This means a very different method of conducting mining operations, and a constant and sure source of supply for some years to come at least is a first requisite. The advisability of thus testing the lower portion of the serpentine has been pointed out in the Reports of the Geological Survey of Canada, and the use of the diamond drill, by which cores could be readily obtained at a very cheap rate from a number of holes, bored at different angles, advocated. The cost of boring such holes to a depth, say of 150 to 200 feet should, when the machine is on the ground, not exceed fifty cents per foot, and should veins of asbestos reticulate through the rocks as plentifully at such depths as are now seen at the surface, their presence would, without doubt, be recognized in some of the holes.

As regards the present status of the industry, there are at present engaged in mining at Thetford no less than six companies, viz: the Bell's Asbestos Company, with an authorized capital of \$2,000,000; the Johnson's Asbestos Company, \$250,000; King Bros., a large private concern; the Beaver Asbestos Company, \$100,000; Thetford Mining Company, \$200,000; and the Ross, Ward Company. All employ a large number of men, and have their mines well equipped with machinery. The low lying area between the railway and Thetford River has been proved

to some extent by different parties, and while promising veins have been found at several points, these do not appear so numerous or so important as regards size and quality as those in the knoll at Thetford station. These areas should be thoroughly tested and their value ascertained before dumping grounds are located there, which may require to be removed again before long, since it is very possible that large and important veins may be concealed. On the property of the Beaver Asbestos Company several veins of very fine fibre, in thickness up to nearly two inches, are found in a portion of the low lying area, so that care is necessary in laying out the work for the future.

At Black Lake, the principal companies at work during the past year (1891) were: the American Asbestos Company, capital, \$50,000; the Anglo-Canadian Asbestos Company, capital, \$100,000; Glasgow and Montreal Asbestos Company, capital, \$350,000; King Bros., a private concern; Laurier Mining Company, capital, \$25,000; United Asbestos Company, capital, \$500,000. The mines like those at Thetford are now equipped with good engine-plants, and give employment to a large mining population.

The mineral was also mined during the year at Black Lake by Dr. James Reed; at Coleraine by Mr. J. Peter's; and at Templeton, in Ottawa County, by the Templeton Asbestos Co. Another successful quarry is that operated at Danville by Mr. W. H. Jeffrey.

All is not gold that glitters, and all serpentine is not asbestos bearing. The folly of placing at greatly inflated prices, properties comparatively undeveloped, should be avoided in the interests of legitimate mining. While from certain standpoints the prospective profits of asbestos mining may seem very large, the actual returns are not in all cases commensurate with the expectations. The figures quoted of prospective output and profit in several of the prospectuses which have lately appeared, can never be realized, since these figures are, to a large extent, based upon an exaggerated output of first quality, chimerical ideas which in the case of the properties mentioned can never be realized either for

quality of fibre or quantity of production; and it should be the endeavor of everyone engaged in legitimate mining to discourage any attempts that may be made to flood the market with undeveloped and sometimes unprofitable areas, at figures which even the best producing mines at the present time would scarcely warrant. The profits from asbestos mining must very largely be obtained from the output of "firsts" and "seconds." There cannot at present prices be any great margin in "thirds," and still less on "waste," and as the percentage of "thirds" from some of the mines is nearly equivalent to half the output, the source from which profitable returns can be reasonably looked for is largely reduced. These proportions can readily be seen from the figures quoted in recent issues of the Geological Survey Reports, where the percentages of the different grades for the several localities are stated, as also in an excellent paper by Dr. Ells, on the mining industries of Eastern Quebec, read at the Ottawa Meeting of the American Institute of Mining Engineers, and published in the Transactions of that body.

The following have been the shipments of Canadian Asbestos from 1879 to 1890:—

YEAR.	QUANTITY. TONS.	VALUE. \$	YEAR.	QUANTITY. TONS.	VALUE. \$
1879.....	300	19,500	1885.....	2,440	142,441
1880.....	380	24,700	1886.....	3,458	206,251
1881.....	540	35,100	1887.....	4,619	226,976
1882.....	818	52,650	1888.....	3,936	277,744
1883.....	955	68,750	1889.....	5,588	360,144
1884.....	1,141	75,097	1890.....	6,998	528,530



CANADIAN PHOSPHATE.

THE use of animal and vegetable substances for purposes of fertilization is as old as the history of agriculture, but it was only in 1840 that the great German chemist, Liebig, pointed out that mineral substances might be made available for plant food by treating them with sulphuric acid. The acid is supposed to effect a very fine subdivision of the mineral particles, thus permitting their absorption by the plant. This discovery gave an impetus to the search for minerals containing those substances that had been proved to promote vegetable growth, and which had been discovered by chemical analysis to be component parts of plants and to be present in the soil. As it was evident that the plant extracted these substances from the soil, it was clear that the soil must be replenished or it would become barren. One of the most important of these elements is phosphoric acid, of which every average soil contains about 68.6 lbs. to the acre. As every net ton of wheat contains about 16 lbs. of phosphoric acid, the supply of this element in one acre of soil would be exhausted by the production of 4.16 tons of wheat, and in order to preserve the fertility of the soil this expenditure must be restored to it.

The mineral known as apatite contains in its purest form, according to the analysis of Prof. Chapman, 92.26 per cent. of phosphate of lime, which is equivalent to 42.26 per cent. of phosphoric acid. The existence of this mineral in Canada had been casually reported by explorers, and in 1829 the occurrence of Apatite near the Lievres River, in the Province of Quebec, was mentioned by Lieut. Ingall, of the 15th Regiment. In 1847 Dr. T. Sterry Hunt reported its existence in North Burgess, Ontario, and in 1860 the first attempt was made to produce it for commercial purposes. The first cargo of phosphate was lost at sea, and subsequent shipments to England did not meet with favor owing to its hardness and the presence of fluoric acid, which

proved injurious to the workmen employed in its manufacture into superphosphate. But experience gradually overcame these difficulties, and Canadian Phosphate of Lime, or Apatite, is now recognized as the richest available source of phosphoric acid, and all that can be produced is readily sold in the markets of the United Kingdom and Germany; phosphate of 80 per cent. quality being worth at present (1889) about twenty-two dollars per ton at Montreal.

The use of phosphate is rapidly increasing as agricultural education spreads; and there appears to be a certainty of an ever growing demand. The imports of phosphate into the United Kingdom in 1887 were 283,415 tons, as stated by Mr. Herman Voss. The annual product of Carolina and Florida now exceeds half a million tons, and quantities are produced in France, Belgium, Spain and the West Indies.

The phosphate deposits of Canada, which so far have been worked, are found in Ottawa County, in the Province of Quebec, and in Ontario, in the Counties of Lanark, Leeds, Frontenac and Renfrew. The first mining was done in the Township of North Burgess, Lanark County, and about the year 1863 extensive investments were made in lands in that township, near the Rideau Canal, as high as \$300 per acre having in some cases been paid. In 1872 mining was begun on the Lievres River and gradually increased until 1880, when English and American capitalists embarked in the industry and prosecuted work on a large scale with the aid of steam machinery. Previous to this time hand labour only was employed, and a good proportion of the output was obtained by farmers, who discovered the mineral on their lands and worked at it in a desultory manner as attention to their farm duties permitted. Organized companies employing from 100 to 150 men, with the aid of drills, hoists and pumps, worked by steam or compressed air, now put a different face upon the industry. Four of these companies sustained annual outputs of from three to eight thousand tons each, and the total yearly production rose to nearly thirty thousand tons. Transportation from the mines to the river bank was performed by

means of tramways, and barges and steamboats were placed upon the Lievres River. A branch line was built by the Canadian Pacific Railway to the landing place of the barges at Buckingham, and by these means cheap transit was afforded to the ship at Montreal. The mines in Templeton, Wakefield and Hull avail of barge freight on the Ottawa River at equally low rates, so that the transport from the pit mouth to the ship's side has not usually exceeded \$3 per ton, and has sometimes been as low as \$2 per ton.

The greater portion of the phosphate production of Canada has been latterly obtained from Ottawa County, mainly from the Lievres River and Templeton districts. In this region the mineral has been found in occasional large bunches or else occurring in irregular streaks through a mass of rock, so that by the process of quarrying with steam drills a great amount of rock can be moved from which more or less phosphate can be obtained. In Ontario the deposits are often found in distinct veins in the midst of barren rock, and it is usually found more profitable to work by hand drilling in a smaller compass than is possible with machinery; and though the output may be smaller by this method, there is a greater probability of the persistence of the seams. These veins have, in some cases, been traced for upwards of a mile and are found to be continuous in depth as far explored. The deepest workings so far have been to a depth of 200 feet in Ontario, and 650 feet in Ottawa County. But though persistent in depth, the width of the seam is very variable. Dr. Hunt says, "The thickness of the bedded masses of apatite may be said to vary from one foot to three or four feet, though not unfrequently expanding to eight or ten feet, or more; and sometimes contracting to a few inches, the same layer being subject to considerable variations. When the vein narrows there is often found to be a compensatory widening, just, as has been said, as may be observed when two slices of bread thickly buttered are placed together and subjected to unequal pressure. In that case there will be regions where butter abounds and spaces that possess very little. This irregularity of phosphate deposits has proved very

discouraging to those working in a small way and confining their efforts to a single vein, whereas those who work a number of deposits are more likely to secure a paying result; for when one seam is pinching another will be widening, and the average result may be good. An Ontario farmer, discouraged by the vagaries of the vein of apatite that he had endeavored to follow, upon being asked his opinion of phosphate mining replied: "It's broad, it's narrow, it's deep, it's shallow, it's long, it's short, it's here, it's there, you see it and you don't see it, it appears, and it disappears, you've got it and you haven't got it, it's a confounded nuisance and I won't have a darned thing to do with it." But similar remarks might be made of nearly all mineral veins; and success in working them is only gained by a careful adaptation of means to circumstances, and a combination of intelligence with economical effort.

The Apatite occurs usually in connection with pyroxene, lime or mica, and sometimes there occurs a grand mixture of all four, with iron pyrites, hornblende or felspar added. One miner was fond of boasting that he had 23 minerals in one pit, which he called "the Old Trusty." While the apatite itself is usually of a uniform high grade, the quality of the cargo shipments depends upon the care with which the impurities are separated; and analyses vary from 88 to 65 per cent. Sometimes iron pyrites and mica are so disseminated through the Apatite that separation by hand-cobbing is impossible. Mills have been erected at Buckingham for the purpose of grinding and separating this low grade ore; and by a system of fanning, screening and hand-picking, a good grade of phosphate is saved that was formerly wasted. The Apatite is usually of a green color, but varies in shades between white and red. It sometimes occurs with a red felspar so similar in color that its separation is difficult, and again, the greenish pyroxene may be mistaken for it. In the early history of the industry, a cargo lot of pyroxene was actually forwarded to England in mistake for phosphate, and the unfortunate shipper was astounded by a draft for freight and charges, accompanied by a chemists' certificate, saying, "there is

dirt enough in this country without importing any from across the Atlantic."

The large profits, as in most mining industries, have fallen rather to the land speculator than to the mine operator. One block of about 1,600 acres purchased from the Government for less than \$5,000 was sold for \$16,000, then re-sold in two portions for \$160,000, one of which was afterwards "capitalized" in a stock company at \$450,000. Another property of 100 acres, bought at sheriff's sale for \$15, was finally sold for \$125,000 in cash. A few parties have made large profits for a time from legitimate mining, and many have increased their incomes substantially by judicious work on a small scale. It is found by experience that the phosphate mining industry does not often offer a large speculative profit, and will not bear excessive capitalization, nor extravagant methods of operation; but it promises a fair commercial return to those who make a wise selection of lands, exercise intelligent methods of work and practice judicious economy. A very great benefit has been conferred upon the country by this industry, and during the years in which it has been actively prosecuted, it has occasioned an expenditure in Canada of at least three million dollars, all of which has inured to the benefit of the working people. If in some cases investors have failed to get a satisfactory return, they can have the consolation of knowing that the money has been spent in wages for poor people, and has always had a chance of bringing in a large recompense; for he who mines gambles with nature and sometimes wins great prizes and sometimes gets nothing. But the money is not "thrown into the ground" when scattered among hardy wage-earners. In some cases while working phosphate, deposits of mica, felspar, plumbago, copper, asbestos and iron have been found, and now and then a gleam of gold excites and encourages the worker.

A question which bears with great importance upon the phosphate industry is, whether Apatite in its crude state is effective as a fertilizer. The usual method of treatment is to grind it and mix it with an equal quantity of sulphuric acid, by

which it becomes superphosphate and is used as the basis for all manufactured fertilizers. By this treatment it becomes soluble in water and thus is more readily available for plant food. But many chemists state that after being placed in the soil the superphosphate reverts and becomes insoluble again, so that all the expense is gone to for a few hours or day's benefit, or, even if it continues soluble, a great portion is washed into the sub-soil or carried away by the rains; whereas, if very finely ground and placed in the soil, the acids of the earth and plants gradually act upon it and make it serviceable by degrees, so that in the end it confers a greater benefit. A great deal of testimony has been obtained in favor of the value of the crude phosphate, especially when used in connection with stable manure; and, if this fact can be established, it will secure to the farmer a reduction of one half of the cost of fertilizers and will enormously increase the use of phosphates, as, apart from the lessened expense, people feel more confidence in the use of a natural product than they do in a manufactured article, owing to the suspicion of adulteration that unfortunately has been warranted by experience.

The question of the origin of Apatite has long vexed the minds of geologists, some of them favoring the theory of its having been ejected from below by volcanic forces, others favoring the idea that it has been deposited by water, while others think that it has been formed in its present position by extraction from the surrounding rocks. Dr. R. A. F. Penrose, Jr., in his monograph on phosphates published by the U. S. Geological Survey, after long examination of the Canadian apatite veins, inclines to the latter opinion. The surrounding "mother rocks" are found, more or less, to contain phosphate of lime disseminated throughout the mass, and it is probable that, when in a soft condition, under the influence of superheated steam and other igneous or chemical forces, the phosphate has been collected in masses in the veins. There are some seams on the other hand so regular in form as to favour the theory that these are sedimentary deposits. The great variety of the modes of occurrence suggests the possibility that

all the theorists are right and that formations have taken place in every imaginable manner.

The mining of phosphate has been limited to accessible regions, and it is known to exist in districts where the expense of transportation now prevents its production. The Locks now nearly completed on the Lievres River will give access to a few more properties that have been kept in abeyance awaiting better facilities for access and egress, and the Gatineau Valley Railway will open a large region where phosphate "shows" abound. Prof. B. J. Harrington, who examined the pyroxene belt upon which the mines of the Canadian Phosphate Co., the Phosphate of Lime Co., the General Phosphate Corporation and the Anglo-Canadian Phosphate Co. are situated, and which has been the most productive region in Canada, states that this belt stretches away in a northerly direction, and good deposits of phosphate are likely to be found in it. The Gatineau Valley Railway will strike this belt and afford excellent facilities for mining operations in what is at present an almost unexplored region.

In the Haliburton district, north of Peterborough, Ontario, many surface shows of Apatite have been found, and an effort is being made to develop the deposits. Other productive regions will doubtless be found, and the progress of invention will enable many deposits to be worked which are now too much mixed with impurities to be separated profitably by present methods. Processes have already been invented, and to some extent applied in Europe, by which the phosphate is taken into solution by acid and then precipitated in a pure state. If this can be done cheaply, the lower grade ores could be pulverized and treated in this way and the profit derived from it would turn the scale in favour of many a property which now fails to pay because it can only use its high grade product, which is not plentiful enough to bear the whole burden of earning a profit. The perfection of this invention, which is certain to come ere long, will greatly aid and stimulate the Canadian phosphate industry.

The world must have phosphate; Canada possesses the highest quality known, scattered over a wide area; human in-

genuity will surely devise means to make these deposits available for the world's needs. Even though at present there may in some cases be disappointment in the results of phosphate enterprises, as there will be in all mining ventures, we may feel assured that a great and prosperous future awaits the Canadian industry, and that it is destined to fulfil an important part in the economic development of the country. As the farming community becomes more educated they will awaken to the means of wealth that they now heedlessly allow to pass their very doors, going to enrich lands across the sea, while their own impoverished fields are crying out for the sustenance that phosphate would impart. An important duty rests upon the Agricultural Departments of Government and Agricultural Societies to spread this information. The older portions of Canada, which formerly raised vast quantities of grain, have been allowed literally "to go to grass," but the knowledge of the use of mineral manures rightly applied will redeem the land from barrenness. To secure this result by mining Apatite, preparing the phosphate of lime for use, educating the farmer to a sense of its value, and stimulating him to the enterprise of applying the knowledge practically for the benefit of his lands, is a mission that will not only prove profitable as a business undertaking, but is one that would fully satisfy the moral and benevolent feelings of the philanthropist; for, as Dean Swift has said: "That whoever could make two ears of corn or two blades of grass to grow upon a spot of ground where only one grew before, would deserve better of mankind, and do more essential service to his country, than the whole race of politicians put together."



OUR GOLD FIELDS IN QUEBEC.

IN view of the increased interest which has of late been manifested in the mineral resources of the Province of Quebec, not only as regards the comparatively new mineral asbestos, in the production of which Canada may now be said to lead the world, but also in the development of large and new bodies of copper ore, the great value of which as a source of supply for acid is just beginning to be fully realized, it is a matter for enquiry why the gold fields of the Province, concerning which so much has in former years been recorded, should have failed to attract the attention they so evidently deserve. For that in the Province of Quebec there exists a very large extent of territory containing rich deposits of gold, not only in the alluvions of its ancient river channels, but in many of the quartz veins which traverse the slates and sandstones of the Chaudière and Ditton Districts, and of the whole belt of similar rocks which extend along the eastern portion of the Province contiguous to the boundary of New Hampshire and a portion of Maine, has been very conclusively established. One has but to take up the papers written on this subject by the late Mr. James Douglas, of Quebec, or to glance over the earlier reports of the Geological Survey, more especially those from 1847 to 1866, to see that in this area the chances for profitable gold mining, under suitable Government regulations and proper management, are unsurpassed by any other portion of the Dominion, and possibly even by the adjoining States.

The evidence also presented before the Select Committee appointed by the Quebec Government in 1865 to consider the question of the Chaudière gold field, while containing, doubtless, some statements bordering on the sensational, and therefore requiring to be cautiously accepted, present such a mass of cumulative evidence, both on the part of skilled workmen in this field as well as from ordinary explorers, that we can but come to the

conclusion that had such stories of the presence of gold in large quantity proceeded from any other section of the country than the Province of Quebec, the influx of gold miners and of capital would have almost equalled that of the palmy days of the Californian discovery.

The evidence presented in the different reports of the Geological Survey is also largely confirmatory of that stated by other writers on the subject; and yet in the face of all evidence tending to prove the existence of a gold field equally adapted for quartz mining, as shown by repeated assays from a number of leads, with that of Nova Scotia, and far surpassing that country in the value of its alluvial workings, a feature in gold mining which has in Nova Scotia apparently never awakened any interest, we find not more than three or four companies, almost without capital, trying in a very small way and with the worst appliances and an almost entire lack of proper mining skill, to extract the gold from the ancient river channels, whose presence and richness have been known for twenty years, but which, except in two or three widely separated cases, have never been explored to any extent.

The history of gold mining in the Province of Quebec has apparently from the very start been a huge system of blunders, and possibly the greatest, as it was the first, consisted in giving the entire control of all the gold found in the Seigniorie of Rigaud, Vaudreuil, on the Chaudière River, and in which the richest developments yet found are located, into the hands of one person or family *forever*, and without any provision being made for the payment of royalty to the Government, since the clause inserted in the Letters Patent, and intended to cover this point, was so worded that it practically became inoperative; the royalty only being payable on such gold as was obtained by smelting the ore—a mode of working gold which has never prevailed in this country in gold mining, and which most surely never will. By the *forever* clause in the lease the outside public are entirely debarred by the Government from taking any part in mining or exploration in this section of

the province, except by permission of the owners of the Seigniorship. But this is in turn prohibited, since in 1864 the De Lery Company, who derived their patent direct from Government, sub-let their entire mining right to the De Lery Gold Mining Company for a term of thirty years, so that until the second ownership expires no work can be done in the Seigniorship by outside parties without direct permit from the second company. The effect of all this is very evident. While the company is apparently quite willing to grant mining leases to any person desirous of working gold mining claims in any part of their territory, there is a very well-founded objection on the part of those contemplating investment in this direction to advance the capital necessary for the erection of permanent works on a large scale by which the extraction of the gold can be most profitably carried on, owing to the insecurity of tenure existing under the present regulations. Works adapted to the requirements of the case mean the construction of reservoirs for permanent storage of water to meet the possible requirements of a dry season, extensive flumes or ditches for the conveying of such water when required, properly prepared grounds and appliances for washing the gravel and collecting the gold when separated; in fact, a somewhat extensive plant. This, with a prospect that in a very few years their lease must of necessity expire, and if good results are obtained, an almost absolute certainty of non-renewal from the original company on any terms which would permit of profitable mining, has effectually placed a bar to all possible chances of development in this direction. Here, then, is one of the principal causes why capital does not at present flow into the Chaudière district, rich as it is in gold.

As regards the second gold mining area, which, according to the most reliable reports, is in many respects equally as valuable as the Chaudière, though not nearly so extensive, we find that, in a lucky moment for the proprietor, but an unlucky one for the Government of Quebec, the whole right and title to some 6,000 acres of the country, including mineral rights as well, has also passed *forever* into the hands of a private individual, and is, if

anything, even more securely locked up, in so far as the investment of capital is concerned, than the other.

The history of gold mining in Quebec, from the first discovery, sixty years ago, furnishes reading, not only of great interest, but of a kind from which good sound practical lessons may be derived. The first vein of gold found in 1836 was valued at from \$50 to \$60; a very fair sized nugget for any country, and sufficiently large, one would suppose, to warrant anyone interested in gold mining to make further and vigorous search; yet for nearly fifteen years but little attention seems to have been paid to it, further than in the securing in 1846, by the De Lery family, of the mining rights already referred to. From 1850 to 1860 desultory mining operations were carried on at a number of points by various parties. Some exceedingly rich pockets were found on the Des Plantes and the Gilbert, as well as on the main Chaudière River, while a series of trials at the forks of the DuLoup in 1851-1852, extending over one acre of gravel from the bank of the stream with ordinary appliances only, showed a margin of profit sufficient to warrant anyone in investing the capital necessary to make a speedy and abundant fortune should the proper appliances be used. The amount of the gold obtained from this acre of gravel was considerably over \$4,000—the profit considerably over \$1,000. The results of these trials are given in the report of the Geological Survey for those years, and being official may be taken as reliable. Yet, owing to some dispute with the proprietor of a neighboring Lot, the work which promised so well had to be abandoned, and nothing further was done in this quarter for nearly thirty years. It is unfortunate that the next attempt to extract the gold from the gravels of the DuLoup in 1879-80 should not have been undertaken by some one with even a slight pretence to mining knowledge so that the most fitting plan for successfully carrying on the washing of the gravels, and what is equally important the collecting of the gold afterward, might have been adopted, but instead we find a very large amount of money, aggregating many thousands of dollars, placed in the hands of a person who certainly, from his previous occupation,

could not be supposed to have acquired much practical or scientific knowledge of the best means to be employed in the extracting of the gold. A trench eleven miles in length was dug along the banks of the River DuLoup for conveying water for the hydraulic process, and a magnificent head of about 150 feet was obtained, sufficient to tear down the gravel banks at any desired rate, but very slight provision appears to have been made for collecting the gold, either coarse or fine, after the bank was torn down; though from the trials made in 1852 it is known that there was sufficient in every cubic yard to have paid most handsome dividends, even by the old rocker method of washing. Under such management it can scarcely be a matter of wonder that the costly experiment was a failure of the worst kind.

A second attempt to work an old channel near the village of St. George was equally disastrous to those engaged, though the outlay was on a greatly reduced scale, the management being the same. Four shafts were here attempted before bed rock could be reached, the operations extending over a period of several years, the last and final attempt requiring nearly twelve months to sink 165 feet. This surely implies engineering skill of a wonderful kind.

In the work on the Gilbert, where exceedingly rich ground was found in 1863-64, the mining also was of the crudest kind. The claims allotted were very small, water could not be obtained for washing the gravel properly, and there appear to have been no proper appliances for saving the fine gold. A sluice 1,800 feet long, built at a cost of about twelve thousand dollars, to bring water from the upper part of the stream, which had been dammed for that purpose, was destroyed before it could be utilized, simply through lack of proper precautions in its construction; yet here, in the face of all these adverse circumstances, gold was obtained in large quantities, so that four men, working under the greatest disadvantages, are said to have taken out nearly \$80,000 in less than four years. Anyone visiting the workings as conducted at the present day must wonder how any

gold except the coarsest can be saved at all. Sluices of very slight pitch and of insufficient length are unfitted with any proper means for saving the fine gold, the greater part of which must of necessity be carried away down the stream with the tailings. The only mining skill observed is on the part of those who have used the pick and shovel in some former enterprise in the vicinity, and yet gold, in good paying quantities, continues to be obtained, simply because much of the gold in the district is coarse, and nuggets of ten to one hundred dollars are not uncommon, while others having a weight of nearly sixty ounces have been obtained.

Such coarse gold does not travel far, yet no practical attempt to test the quartz leads by milling has ever been made, except by one ill-starred crusher so faulty in construction that when free gold was put in none ever could be extracted. Yet, in spite of all these well known facts, when the value and importance of the gold fields of Eastern Quebec are mentioned most people calmly shrug their shoulders and smile incredulously. Why? Because most people are content to take the results, or rather the lack of results due to stupid blundering and ignorance of the first principles of mining, properly so called, as a satisfactory and conclusive test of the true value of the entire district.

There is no doubt, as can be proved by the evidence furnished both from official reports and from other sources, that in nearly, if not in, every stream, tributary to the Chaudière above St. Joseph, gold can be obtained in paying quantities with material of the right sort and a knowledge of the conditions involved.

The gold mining of to-day should be understood far better than that of twenty years ago. In the Nova Scotia gold fields the mistake of sinking shafts in unprofitable lodes is not now made so frequently as in the first days of the industry in that Province, simply because certain laws apparently exist which govern the distribution of the metal. Scientific skill is now producing profitable returns where twenty years ago bad manage-

ment and utter ignorance on the part of those in charge of valuable mines squandered capital by the hundreds of thousands of dollars. The crude style of gold mining has also surely lasted a sufficiently long time in Quebec. But until some provision is made on the part of the Local Government by which the titles so long ago obtained can be extinguished and these areas thrown open to the advent of outside capital, there does not appear to be much chance of permanent improvement in this direction. Should the Government of Quebec acquire once more the titles to the mining rights of the Province in gold, and proclaim the districts of the Chaudière and the Ditton mining districts, with proper regulations as to title, size of claim, etc., there is not the slightest doubt that capital, to almost any desired amount, would pour in for the development of this great industry. In the present condition of mining in Quebec, with its great deposits of apatite, copper, asbestos, iron, gold and silver, one would suppose the establishment of a well organized mining bureau would be a prime necessity, not only conferring great benefit upon the Province at large, but bringing in also a very considerable direct revenue to the Government. The little Province of Nova Scotia has long felt the benefit arising from such a bureau, and certainly, with proper management, Quebec, with her far greater variety and abundance of mineral wealth and her immensely greater area, would derive not only equal, but far greater results from the establishment of such a department. The mining industries of Quebec are but in their infancy. No one can say to what enormous proportions they may in the next twenty years extend. Foreign capital is awaiting investment to-day in many lines, but is restrained from entering, in some cases by the unfavourable conditions which are known to prevail. Surely the time is not far distant when these conditions will be changed, and when the gold mines of Ditton and the Chaudière, freed from the incubus that has so long stifled their development, will be teeming with a mining population whose labours will be properly directed, and whose rewards will be sure. May the happy time come right speedily.

MINING IN ONTARIO.

IT is often said that Canada is a country without a history, and there is a sense in which this is true, however unpleasant it may be to have it told us by old-world men whose countries have a history which dates back to the early centuries of the Christian era. The sister Province of Quebec can boast of annals which begin to show the rime of age, for some of them relate to stirring events which happened three and a half centuries ago. From the days of Cartier down to the days of Montcalm there is an historic period of great interest, as the pages of Parkman very clearly show. But the Province of Ontario is for the most part less than half a century out of the woods, and its first century under constitutional government is not yet completed. Almost the only struggle in which its people have engaged has been with Nature, but in subduing the forest and changing the face of the country into cultivated fields they have shown the possession of British pluck and intelligence no less unmistakably than their forefathers have done in enterprises which have won renown in every region of the earth. The first object of the immigrant was to provide shelter, food and clothing for himself and his family, and to this end he began with felling the forest, burning off the timber and getting the land into shape to grow cereals, roots and grasses. The country was well suited to this kind of enterprise, and the settler has been well repaid for his labors. It did not for many years occur to him that any other industry was deserving of his attention, with perhaps the single exception of utilising the trees upon his land by converting them into lumber or timber instead of burning them into ashes. But as the area of farm land was extended, as settlement increased and population grew, the need of diversity in pursuits became more obvious; one new industry after another was started, the foundations of towns and cities were laid; exchange of production

was seen to be profitable, and with success in trade the natural resources of the country made fresh calls upon intelligence and capital. Its stores of minerals were hardly suspected in the early days, chiefly no doubt because the parts first settled were almost exclusively agricultural, and partly also because the settlers had little or no knowledge of minerals. The frontier counties of the River St. Lawrence, as well as those bordering upon Lake Ontario and Lake Erie, showed barely a sign of any kind of ore, except at two or three places a deposit of bog iron. It was not until settlement began to push backward towards the head waters of the rivers, and lumbermen began to explore for timber in the highlands forming the divide between Georgian Bay and the St. Lawrence and Ottawa rivers, that a knowledge was gained of the existence of minerals in the Province. The labors of Logan, begun nearly fifty years ago, put the seal of scientific certainty upon the discoveries of the pioneers, and from his time down to the present the staff of the Geological Survey has been employed in an examination of our rock formations and in mapping them out for the guidance of all whose employment it is to search for the precious and economic minerals. The work of the survey is far from being completed in Ontario, and many years must elapse before we can hope to have all the data gathered for a complete geological map. The area to be gone over is very extensive, little of it has been thoroughly surveyed, and there are vast tracts in which no work whatever has been done. Even in Great Britain, where eminent geologists have been employed for many years, important discoveries of coal, iron and other minerals are being made at frequent intervals in regions where their presence was never indicated by surface appearance; and if surprises of this sort occur in so small a region comparatively as Great Britain, we should not be impatient at the slow progress that is being made in Ontario. It should teach us rather the need of increased effort to cover the field; and in view of the territory which the Geological Survey is expected to cover, embracing the whole of the Dominion, it would appear to be the plain duty of the

Government of Ontario to provide for a careful and detailed survey of the Province upon its own account. There is little doubt that such enterprise would be speedily rewarded by new discoveries, for it is abundantly evident that in even the best settled portions there may be treasures of great value hidden away in the bowels of the earth. Less than four years ago no one believed that there was in Ontario any clay for the making of pressed brick, and the brick used in one of the largest bank buildings in the city of Toronto was imported from Ohio at a cost of \$40 per thousand. It is now well known that clay of the most suitable quality exists in great abundance within a few miles of that city, as well as in the counties of Peel, Halton, Dufferin and Grey, and pressed brick from works near Milton and Campbellville, on the line of the Credit Valley Railway, is manufactured at a cost of only \$18 per thousand. Another product, which until very recently was unknown in Ontario, is natural gas; but during recent years borings in the counties of Essex and Welland have demonstrated that we can procure it at a moderate depth over areas many square miles in extent. These instances illustrate what has been said of the possibilities of discovery when the geological features of the Province have been accurately determined in detail, and it needs no argument to show the economic value of a proper survey in relation to the mining industry. That industry, it must be confessed, has as little claim to a place in the history of Ontario as the Province itself has to rank in history—using that term in its largest sense. It is almost certain that the first attempt at mining was made in the year 1800, when a small blast furnace was erected at the falls of the Gananoque river, in the county of Leeds, for the smelting of iron ore. The supply of ore for this furnace was procured at a point several miles distant, in the township of Bastard; but the quantity was not sufficient to give a profitable result, and being of inferior quality also, the enterprise ended in complete failure. A second attempt was made at the close of the American war, on the shore of Lake Erie, in the county of Norfolk—commenced by John Mason in 1815 and brought into

successful operation by Joseph Van Norman in 1822. A furnace of small capacity was erected for the smelting of bog iron ore, found in the locality, with charcoal fuel. The ore was drawn to the furnace in waggons, and for eight or nine months in the year the daily make of pig-iron was about three tons, three tons of ore producing one ton of pig. There was, however, no sale for the pig-iron, and the whole of it was made into various kinds of castings, shipped to ports along the lake shore, and taken into the interior by teams to find a retail market. In this way the new settler was furnished with sugar kettles and potash kettles, the latter for manufacturing the only article of export for which payment was received in cash. There was little money in the country in those days, and business was carried on by the exchange of commodities. Mr. Van Norman himself is authority for the statement that what the farmers of the district had to sell was brought to the furnace and exchanged for the wares or due bills of the firm; and when the home market became overstocked the wares were shipped to Buffalo and other United States ports. But owing to the scarcity of ore and fuel the furnace was blown out in 1847, after having been in successful operation for a quarter of a century. A subsequent venture to make charcoal pig-iron with bog iron ore was undertaken by Mr. Van Norman at a point farther west in the same county, in the township of Houghton, under a contract to supply pig-iron for the manufacture of car-wheels: but it was found to lack the chilling quality of good malleable iron, and the furnace was abandoned. Several efforts have been made to smelt the magnetic ores of the Hastings district, and all have failed. The first of these was begun at Marmora about 1820, where the ore smelted was obtained from the Blairton mine. This furnace was worked at intervals by various owners, among whom was Mr. Van Norman, but the business was never successfully managed, and all the capital invested in it was sunk. Another blast-furnace was erected about the year 1836 at Madoc, to smelt ore taken from the Seymour mine. It was attended by misfortune from the beginning, due in part to the want of means and in

part to a lack of knowledge of the proper way to treat hard magnetic ores. For some time a supply of charcoal could not be procured, and cordwood was used in the furnace instead. The daily product of pig-iron was, however, too small for profit with this kind of fuel, and smelting with charcoal was again resumed; but the death of one of the partners, caused by an explosion in the mine, resulted in the closing of the works. With small capital and primitive methods it was not to be expected that smelting works could be managed successfully in regions so inaccessible as Marmora and Madoc were in those days, and added to these drawbacks was the lack of experience and skill in preparing magnetic ores for the furnace. With modern plant, a practical and scientific knowledge of how to treat and mix these ores, adequate capital, facilities for cheap transportation and good business management, there is no reason to doubt that the manufacture of charcoal iron might not be as successfully carried on in Ontario as in New York, Michigan or Wisconsin. A number of mines have been opened and worked to some extent along the lines of the Central Ontario and the Kingston & Pembroke railways, as well as at several points in the county of Lanark; and there is reason to believe that were furnaces erected at convenient points in those districts, or a good market obtained elsewhere, they might prove to be valuable properties. Lead mines have been worked in the counties of Frontenac and Lanark and in the district of Algoma, and smelting furnaces have been erected at Kingston and near Carleton Place; but none of these undertakings have been fortunate, and mines and furnaces have been closed down. Better success has attended phosphate mining in the eastern part of the Province, chiefly in Lanark and Frontenac. Numerous veins or occurrences have been worked in these counties during the past twenty years, and phosphate of rich quality has been raised and shipped to the English markets. Discoveries of an important character have recently been made in the counties of Renfrew and Haliburton, and although phosphate has nowhere in Ontario been found in such large bodies as in Quebec it is certain that we possess it in

paying quantities throughout an extensive region. Works for the manufacture of superphosphate have been established at Brockville and Smith's Falls, and at the latter town the annual product of fertilizers is now about 500 tons. Several mica mines have been worked during recent years in the eastern part of the Province, the most important of which are in Lanark and Frontenac. The Smith & Lacey mine near Sydenham, in the latter county, has yielded a large quantity of amber-colored mica, some crystals of which are seven feet square. The market for it is found in Canada, the United States, England, France and Germany. Actinolite has been found in large quantities in the county of Hastings, and a mill for preparing it has been in operation at Bridgewater for a number of years. In its crushed state, when mixed with coal tar and pitch, or asphalt, it makes an excellent material for fire-proof roofing. The gypsum quarries of the Grand river valley, in the counties of Brant and Haldimand, have been worked for more than forty years. Mills for grinding the rock have been erected at different points, and about 6,000 tons of land plaster are manufactured annually. Within the last three or four years calcining works have been established at Paris and near Cayuga, where the manufacture of calcined plaster and alabastine is carried on. Reference has already been made to the existence of natural gas in the counties of Essex and Welland, and to beds of clay for the manufacture of pressed brick in the district north of the western end of Lake Ontario. It is not thought that the natural gas is to be found in very great quantity. Certainly none of the wells yet put down have proved to be "gushers" like some of those which have been bored in Pennsylvania and Ohio. But the supply appears to be ample to encourage its utilization for illuminating purposes in the towns within easy reach of it, and the opinion is confidently entertained by many that it is likely to prove as lasting as even the great wells on the other side of Lake Erie. A well which was put down a few months ago near the railway, three miles west of Port Colborne, furnishes all the fuel required for two large lime-kilns, and it is stated that lime of better

quality is produced now at no cost for fuel than was formerly produced with wood fuel at a cost of thirty-five dollars per day. Gas for lighting the entire length of the Welland canal might be cheaply furnished from wells bored in the vicinity of Port Colborne; and there is no reason why it should not also be utilized for factories or smelting works on this canal. A well bored for petroleum at Port Colborne in 1867 has been yielding a small supply of gas ever since, and it was the knowledge of this fact which led to the sinking of other wells in that district for gas in 1889. In Essex it was a knowledge of the fact that the Cincinnati anticlinal crosses that country which induced parties to bore for gas there, as on that anticlinal are located some of the most productive wells in Ohio. The material for pressed brick is found in great abundance below the outcrop of Medina sandstone, along the easterly escarpment of the mountain which stretches northward from Hamilton, and also in the upper beds of the Hudson River shales in the valley of the Humber river. The brick is of excellent quality and color, and promises to come into extensive use for buildings of the better class. The salt beds of western Ontario cover an area of about 1,200 square miles, embracing the counties of Lambton and Huron, and portions of Bruce, Middlesex and Kent. They were first discovered in 1865, at Goderich, in boring for petroleum, and since that time wells have been sunk at Clinton, Seaforth, Brussels, Blyth, Wingham, Kincardine, Port Franks, Exeter, Courtright and other places. The beds are usually three in number, with an aggregate thickness of about 100 feet, and the salt is of the best quality. The annual product is about 60,000 tons, but the wells in operation have a capacity for at least five times that amount. Their market is limited to Ontario and the Northwest, as owing to the free entry of salt they are unable to compete in the Lower Provinces with English salt brought over at a nominal charge for freight. There are three areas in Ontario from which petroleum has been obtained, Petrolia and Oil Springs in the County of Lambton, and Bothwell in the County of Kent. The two former only are being worked; the latter was abandoned a

quarter of a century ago, having been operated from 1860 to 1865. The existence of petroleum was known in those districts at an early period of their settlement, from its oozing out in springs, or along the banks of streams; but it was not until 1859 or 1860 that attempts to utilise it were made by sinking surface wells to a depth of 50 or 60 feet, and allowing the petroleum to collect therein. It was not until 1861 that wells were bored into the rock at Oil Springs, and then some extraordinary results were obtained. In the winter of 1861-2 flowing wells were struck which produced in some cases thousands of barrels daily. At one time there were about twenty of these flowing wells, and hardly a pump was operated. But in the course of two years they ceased to flow, and thereafter the petroleum produced at Oil Springs was raised with pumps. In 1865 the Petrolia region was opened, and in one locality flowing wells were struck which yielded for several months at the rate of 400 barrels per day. But gradually the flow subsided, and since 1867 almost the whole of the petroleum at Oil Springs and Petrolia has been lifted with pumps, the yield gradually diminishing. until at present it does not average more than half a barrel per day for each of the 3,000 wells in operation. The total yearly output of the Petrolia and Oil Springs territories is about 600,000 barrels of crude, almost all of which is now distilled at Petrolia. Formerly London was the centre of the oil-refining industry in Ontario, but experience has shown that the business can be more successfully managed where the crude oil is produced. Gold has been found in a number of localities in Ontario, but chiefly in the County of Hastings, in East Algoma and on Lake of the Woods. Numerous gold-bearing veins were discovered in Hastings more than a quarter of a century ago, and they were worked after a fashion for several years; but although the gold is believed to exist in paying quantities the methods of extracting it from the ore only resulted in loss and failure. A large amount of capital has been sunk at the Deloro gold mills, near Marmora, where the chlorination process has been tried. During the present year a new company has been

organized, and operations have been begun which appear to promise success; but the value of a new method of treating gold ore cannot be proven in a day. Of the Algoma and Lake of the Woods locations nothing can be definitely asserted, excepting that rich specimens have been obtained from them. None of the properties have yet been developed to a satisfactory extent. The silver veins of the Lake Superior region give promise of far better things. The Silver Islet vein, discovered in 1868 and sunk upon to a depth of 1,260 feet, has yielded ore to the value of \$3,000,000, and it is probable that the mine might be working yet but for the mistakes which characterized its management. Several other properties have been operated in the vicinity of Port Arthur, but none of them have been productive on a paying scale. The mines which are being worked at present are situated between Rabbit Mountain and Whitefish Lake, southwest of Port Arthur, the first discovery of silver in this district having been made in 1882. The veins are found in the black shales of the Animikie formation, in widths ranging from two to six feet, and at several mines they have yielded large quantities of silver. The greater number of the properties are owned by American companies, but English capital is also being invested, and more is likely to follow in the near future. Those best able to express an opinion do not hesitate to say that this is one of the most hopeful of the mining districts of Ontario, and when the railway now under construction from Port Arthur is completed to Whitefish Lake opportunities for working the mines upon an economic basis will give a healthy stimulus to operations. The history of copper mining in the Province is almost of a piece with that of iron mining; it is a record of failures. At Bruce Mines, at Mamainse and on Michipicoten island operations were carried on many years ago, with varying success. At the two latter places capital was wasted under bad management, and but little ore was raised. The Bruce Mines locations were opened about the year 1854, and work continued upon them down to 1876. The ore was moderately rich, and had the business been carefully managed and economic methods used the enter-

prise would no doubt have succeeded fairly well. The total product of those mines is variously computed at from \$3,000,000 to \$7,000,000; but however much the ore realized in the market it seems to be certain that the cost of production was a still greater figure. Labor was dear and uncertain; scarcely any labor-saving machinery was employed; transportation was a heavy charge; the price of copper was steadily falling; and altogether circumstances were adverse to mining operations in a frontier region thirty years ago. With the railway facilities which we now have, with rock drills and dynamite, and all the modern machinery of well equipped mines, the issue would no doubt have been different. The discovery a few years ago of extensive ore ranges in the country north of Georgian Bay carrying nickel and copper, and especially in the vicinity of Sudbury, has given a new and strong impulse to the mining industry of the Province. The first mine at Sudbury was opened only four years ago, and now four powerful companies are operating there, taking out and smelting about 450 tons of ore daily and giving employment to nearly one thousand men. In no other part of the world are there such valuable nickel mines as here, and the results of recent experiments in metallurgy have so satisfactorily demonstrated the utility of this metal that we may with confidence regard the Sudbury region as one of the most promising of all the mining regions of Canada, if not of the world.

A. BLUE.

TORONTO.



BRITISH COLUMBIA AS A FIELD FOR MINING INVESTMENT.

BY way of introduction to this subject, one or two propositions are in order: First—The present is a time opportune for mining investment generally. In support of this proposition are the following facts: (a.) Mining is now carried on—more than at any time in the past—on a legitimate basis. There is an almost entire absence of the wild-cat and fraudulent features that were admittedly prominent in the industry in the past. (b.) Mining methods have improved, and mining operations are carried on more intelligently, successfully, and profitably than ever before. From the beginning to the end—from the diamond prospecting drill to the use of electricity in the refining of ores—the improvement and advance that characterizes the age is felt in all phases of mining. (c.) Although the fraudulent practices of a former time are comparatively a thing of the past, the popular reaction against mining investment, are due to such practices, has not yet consequently ended, such investments are discounted undeservedly, and the actual effect is to put a real premium on such investments, because of the effect upon the relative supply and demand. (d.) Mining is a more profitable business to-day than it has ever been before, a result consequent upon the facts just set forth.

The second proposition is this: That legitimate mining is as profitable a business as any business known, and far more profitable than the average business. Twelve mines in Montana paid dividends in 1889 amounting to three and three-quarter million dollars. Thirteen companies in same State paid \$319,000 net in the month of June of 1891. The Granite Mountain mine pays regularly in dividends \$100,000 per month. Nor is it exceptional for mines to pay large profits. The mines in the newer District of Cœur d'Alene, Idaho, are making such profits as would be exceptional in any other line of industry. Even in our

midst, in Eastern Canada, mining, where successful, is more profitable than are other business ventures.

The third proposition is: That mining investments to-day carry no more risk of loss than do ordinary business ventures. Indeed, where mining is carried on, as every business should be, by men who understand it, it seems to be less of a risk than almost any other. Certainly, there are many western mining fields where the record in this regard is exceptional.

In the Cœur d'Alene Mining District, for instance, it is a matter of current report that there has yet to be recorded a failure in any of the mines being worked there. This view, of course, is not consonant with the popular idea of mining, as it exists in some places; but if any other view is based upon actual experience, it is an experience such as is not known to-day where mining is carried on at its best, or such mining as this article has to do with.

To support the foregoing propositions by elaborate argument would require space for an article by itself, and must be left for treatment later. It is enough for any thoughtful investor to know, however, that they are propositions which are fully believed in by the mining men of the west, where mining forms so large a part of the business life of the country.

Granted that mining offers a promising field for the investment of capital, let us inquire where is the most inviting field for immediate investment?

There are reasons to believe that the West offers an opportunity second to none, at the present time and under existing conditions. Some of the conditions that are advantageous to the investor, in western mining to-day, are the following:—

First, the fact that mining operations are general, that mining is a regular business of the country, carried on intelligently, and, as has been already noted, successfully. The advantages in this condition are many and most important, more and greater than can be shown in limited space. The manufacturer of boots and shoes in Montreal, or Lynn, Mass., has an immense advantage over a manufacturer who is isolated by himself in some small

town. This fact most inadequately illustrates the disadvantages connected with mining operations where mining is little known and less understood, and where it is mostly pioneer work. Not only is pioneer mining of that sort likely to be amateur mining, but it is doubtless true that most of the old-time wild-cat speculation and fraud might be included under the phases of mining which we may reasonably call amateur.

Secondly, is the fact that there is in the West so large a field for operation, or for choice of investment. The extent of the western mining field, the extent of present operations, and the possibilities of future expansion would be simply a revelation to one whose ideas of mining are confined to local and eastern experience—and there are many such. A western city daily newspaper, in its New Year's issue (1892), writes up no less than fifteen different mining districts (including double that number of different mining camps), all of which it claims to be within reach of, for business purposes. Whether that particular city's claims are well or ill founded, it is safe to say that not one of the fifteen districts mentioned is unimportant, while those of most consequence are no less than the well-known Cœur d'Alene District, Idaho, the now famous Kootenay of British Columbia, and another, second (if to any) only to the Kootenay, or the Okanogan, lying partly in the State of Washington and partly in British Columbia.

The third condition favorable to the investor is the fact that the supply of mining properties is so far greater than the demand, thus making it possible for properties to be offered at less than their intrinsic value. In some of these mining States, especially the newer ones, Idaho, Washington and Montana, there are many inviting lines of investment other than that of mining. Altogether, there is such a call for the available capital that the latter is at a high premium. What more need be said than to state the fact that up to the present in the State of Washington the regular bank rate of interest, with the very best security has been from 12 to 15 per cent! That it has lasted so long is because the country has continued to develop and open up uses

for capital faster than capital has flowed in. Such a state of things will not last long, perhaps, but while it does last it certainly is capital's opportunity. Men owning undeveloped mining properties usually have partial interests, and several of them, without any capital with which to develop them. It thus happens that there are ten properties on the market to one buyer who is prepared to take them. This is true of many properties which, if located in the East and possessing the same possibilities, would have ten buyers to every property. The law of supply and demand determining values, it is easy to understand how different would be prices as compared to values when there are ten properties for each buyer from what they would be if the conditions were reversed, and there were, as is oftener the case in the East in connection with good properties, ten buyers for each available property.

The third condition is the fact that the western mining field to-day is the place of opportunity to the investor. In the humble opinion of the writer this field to-day presents the very focus of opportunity. The favorable conditions which we have just noticed have not always existed, contemporaneously, as a whole; they have been in process of forming. Nor will they always continue to exist. After the tide is full the waters again recede; when the pendulum stops swinging it is at the lowest point—not at either extreme. So it is in the business world: high-water mark or the outer reach of the pendulum are not periods of time, but points; not stays but turns.

What is the high-water mark of opportunity? In this world of competition it is the time when all conditions are most favorable, and when the fewest competitors realize that they are favorable. Opportunity does not come in the beaten track of the crowd; it comes in the new channels that pioneers make or find. The crowd are imitators; only the few think and act for themselves. When success comes to the smaller number, then does the multitude make a rush; and then the competition of numbers lessens the opportunity, so that the larger number find themselves in the ebb-tide of reaction, and find the prizes all

carried off by others. In the humble opinion of the writer it is now near, or at, the high tide of opportunity in the western mining field. If the favorable conditions which make the opportunity are not yet at a focus, they are coming to it with extraordinary rapidity. One needs only to have knowledge of the change that has come about in the very centre of the mining district in question, in the attitude of men toward mining ventures, to make uncalled-for other reasons for the belief that the tide is near high-water mark. In a certain part of that field, with which I am familiar, I have been able to observe a change that is most remarkable, in the last year or two, in the attitude of the general public toward this business. It is surely within the mark to say that where, three years ago one out of five could, by any reasonable effort, be interested in the matter, four out of five to-day are asking themselves or others how they may take advantage of a now recognized great opportunity. And, as was to be expected, this interest has been growing in an ever increasing ratio. One year has seen more change than had three or even five years before. It is even expected that the coming six months will see an intensifying of the mining interest that will have the character of a veritable "boom." A correspondent wrote me a few days ago that "men who would not talk of mining a few months ago are now getting very anxious." Another correspondent, in a letter just received, writes me: "Men are coming in here from all parts of the world and are interesting themselves in mining matters, and one does not have to argue the matter here now as we did, and as we have to do in the east." While a boom is not to be desired in connection with any interest, it is, when it comes, an indication of the outward swing of the pendulum; and the backward swing—the reaction—is inevitable. It is in the boom that the crowd, not the opportunity, will be found: the opportunity precedes the boom.

Now, the argument in the foregoing holds good in all essential respects—for the purpose of this article—in an application to the British Columbia mining field. Any necessary

qualifications will follow, and they are likely to be favorable rather than otherwise, to British Columbia.

In the further study of this question the following points are worthy of close attention:—

First, the extraordinary development in western mining, which we have just noticed, has taken place in a mineral belt which extends north-westwards into Canada, and in Canada is equal in extent to the southern portion. Dr. Dawson says we have between 1,200 and 1,300 miles of this belt, or “almost precisely equal to the whole length of the same region included in the United States, from our southern line to the borders of Mexico.”

Second, the Canadian portion of the great western mineral belt is not less rich, but is probably richer than that portion within the United States. Dr. Dawson speaks of the Canadian portion of this belt as “the most metalliferous belt of the Continent.” Again, Dr. Dawson says:—

“After having enjoyed exceptional opportunities of investigation, I feel no hesitation in recording my belief that the northern moiety of the Cordilleras will ultimately prove to be susceptible to a development corresponding in importance to that which has already been attained in the southern.”

What Dr. Dawson has had to say in connection with this belt, in his published reports, especially regarding that portion latest discovered, and now attracting world-wide attention—the Kootenay region—has been so strikingly corroborated by events subsequent to his statements, that his views may justly be considered highest authority.

There is one portion, at least, of this northern moiety of the western mineral belt which is almost certainly richer than anything yet exploited in the southern portion. It is, of course, the Kootenay Lake district. The following observations must impress one with a belief in this fact:—

1. The opening up of this district by American mining men.

Immediately south of the boundary line is a field spreading across three States which has been the scene of a remarkable

mineral development in recent years. It is believed by those mining men on the spot that this field possesses undeveloped mineral resources greater than were the resources of the older and more developed mining fields farther south. And it is believed, too, that the development needs of this field call for more men and capital than are available. This being so, there must be something tempting in any outside field to draw men and capital to it, away from opportunity at their very doors. If that outside field should be British Columbia, there were additional reasons for these American miners not entering it. First, there has existed among United States western mining men a prejudice against British Columbia, or Canada, or a general impression that all mines in Canada are on the wrong side of the line. It has been current opinion that mining in Canada was not well encouraged, and would be slow at best; and that an American, especially, would not have "fair play" or justice. This really unfounded feeling was intensified by the Sproule murder. If this feeling has been considerably dissipated lately, it is due to the effect of the discoveries and occupation by Americans themselves of the rich field which was the very scene of that unfortunate incident, or the rich portion of the belt of which we are now speaking—the Kootenay. Secondly, the British Columbia mining field was less accessible for development than was their own home field. All was pioneer work, even railways and other transportation facilities had yet to be provided. Note, as a matter of fact, what the pioneer company in Kootenay mining had to do: A mountain waggon road thirty-five miles long (in Idaho)—cost, fifteen to twenty thousand dollars; steamer for a hundred miles' navigation of a small river, open only in summer; then pioneer work in mine development, and practically no market for the years of necessary waiting for railway facilities; and, now that railways are coming, the building of immense smelting and refining works. This was the sort of enterprise which left the home field and plunged into the recesses of British Columbia mountains. The early expected incoming of three or four transcontinental railways,

and the demand for a smelter on the spot, are the best indications of the good judgment of the enterprising pioneers. Lastly, in connection with the mining of silver-lead ores in Canada, is the fact of the limited market for lead in Canada, and the high import duties in the States on the product. This fact places a premium on American mines, as compared with mines in Canada.

2. The second proof of the richness of this field is the high and wide reputation that the district has already attained, and the comparatively rapid opening up of the mining camps. So long as two years ago, an impression began to be common among mining men south, that the Kootenay was unusually rich in promise. Mining men south of the line might and did differ in opinion as to the relative richness of different districts in their own field, but, as to the Kootenay, there has been a general consensus of opinion that it was extraordinarily rich. This was true, even a year or two ago; and since the encouraging results of the past summer's development in the older camp of Hot Springs, and the finding of new fields of equal promise, that impression has grown into a conviction. It is now expected in Washington that there will be nothing short of a "boom" in Kootenay in the coming spring. A correspondent estimates upwards of ten thousand people expecting to go across the line next summer. Says the *Spokane Review* of December 22nd.: "The advent of the first warm days of spring will be the signal of such a rush of prospectors and capitalists as the Northwest has never before beheld. The greatest rush will probably be in the Slocan country (Kootenay) which has all the elements of a bonanza; but the objective point of the first rush is really a secondary matter, since the result will certainly be to fill all the rich camps with an overflow of energy and capital." Space will not allow the numerous quotations available and that are necessary to enable one to realise the interest with which the western mining world is awaiting the melting of snows on the Kootenay mountains, especially, but also in a dozen mining fields of lesser note, in British Columbia, Washington, Idaho and Montana. It is a significant fact, however, that many men are stay-

ing, and others are gathering daily, all waiting for the coming of spring, intending then to push across the line; so that reference now to the coming "stampede," or "boom," is beginning to be merely incidental, reference being now generally made to it as a matter of common expectation.

The reputation that the Kootenay district always has sustained is well indicated, too, by the high value that has been generally placed upon prospects there, and the prices at which they have actually sold, even before the district had been made as accessible as it is. It is not an unusual thing to hear a western mining man, when referring to the Kootenay, make a remark like the following: "What big prices they put on the properties!" Yet it is not unusual for mining men to say regarding some of these same properties, for instance one held for ten thousand dollars, "If I had that property in Montana, I could get thirty thousand dollars for it."

This seems paradoxical, but it is easily understood when one remembers the two facts that the fine showings in Kootenay suggests a value far beyond the value of the average mining prospect elsewhere, while the fact of that fine showing being a silver-lead proposition, with high duties between it and the nearest important lead market, this, combined with more or less prejudice on the part of the American investor against mining in Canada, depreciates its value. So it is that while the intrinsic value of Kootenay properties is thus depreciated, they are rich enough in mineral to make them sell above the average price of mining "prospects."

3. Another proof of the richness of the Kootenay district is the result of the development work of the past summer, and especially at Hot Springs. It has been admitted often, from the first, that the surface showings at Hot Springs were the most promising ever seen. If development should demonstrate depth, the Camp must simply needs be phenomenal. Considerable depth has now been attained, in one case 200 feet, and the writer has yet to learn of a disappointment.

This Camp, again, has made a record, in one other respect,

which also may be considered phenomenal: in the number of "prospects" that have been worked at a profit during the development stage.

It is not unusual in the establishment of a newspaper for the owner to spend a small fortune on it before its publication becomes profitable. It is even less unusual for a fortune to be expended on a mining prospect before it becomes a paying mine. It has generally been considered a rare instance where a mining prospect does not require a heavy expenditure of capital to develop it into a mine. Even in mining camps where there are fully-developed mines in full working, and where all the conditions obtain which are usually essential to profitable mining, it is not expected by experienced miners that mines will be made out of prospects without a heavy outlay of capital for purely "development work." Much less would mining men expect to see in any one Camp, or district, even an old established one, any considerable number of "prospects" being worked to a profit, before any large outlay of capital in development work, or before the properties could be considered "mines." But this result is precisely what has been realized in the comparatively new camps of Kootenay. While yet these camps were new, though camp supplies were brought at heavy cost; while transportation facilities were lacking, and when only selected ore of high grade would stand shipment to the distant works for treatment—even under such unfavorable conditions, not one but a number of "prospects" paid their cost and expenses from the "grass roots," or from the very start! Indeed, among the properties which were worked at all, and from which any effort was made to ship ore, the claims which did not pay from the start were the exception!

In Hot Springs Camp, for instance, there comes to one's mind the names of a dozen "claims" none of which had enough work done on them to have made a mine in the average mining camp, but which practically owe nothing to-day to their owners. We may mention the Skyline, the Number One, the United, the Krao, the Little Donald, the Neosho, and the Tenderfoot, as being

of this class, while almost every new effort at development promises to add one to the number.

When referring to such really phenomenal results, the *Miner*, a local paper, reasonably draws the following logical conclusion: "If these results could be obtained under the many disadvantages incident to carrying on mining operations in an inaccessible district, what will the mines do when all these conditions shall be favorable?"

Third. We have now noted not only that the great western mineral belt extends into Canada, but that it also appears to be even richer than the southern portion. We shall now see that we have reason to believe that this rich mineral field is on the eve of early, rapid, and probably extraordinary development. I am glad again to refer to Dr. Dawson's remarks about this field. What he had to say in this connection was prospective; but in view of what has since been realized his words have actually been prophetic:—

"In the southern district of the Canadian belt, we have every reason to believe that we are on the point of witnessing the inauguration of an era of mining activity of a most important kind.

"There is every reason to believe that before many years elapse the Province will take its place as one of the great silver-producing regions of the world."

In another place, he says: "Within the past three years, numerous discoveries of valuable ores have occurred in the West Kootenay district, and this district appears likely to be the first in which metalliferous mining on an extensive scale will be initiated in the Province of British Columbia. "It comprises the southern portions of the Selkirk and Columbia, or Gold Ranges."

It is a significant fact that Dr. Dawson should speak of this as the "first" initiation of mining on an extensive scale, when by the building of the Canadian Pacific Railway a vast mineral region had been fully opened up, while this new region was, at the time of his writing, utterly inaccessible by rail, and there

was no knowledge of any railroad contemplating the opening up of the country.

Doubtless Dr. Dawson's anticipations were based upon his knowledge of the fact, not to others so apparent then as now, that because of its exceptional richness it could not help being developed at an early day, in the mineral-development movement which was and is now rapidly trending northward.

The statistics of the development of the American portion of the western mineral belt clearly show this northward trend of development, and are the strongest possible support of the faith of Dr. Dawson, as a scientist, and of that of the few mining men who went early into the field as investors.

Let us look at these statistics of the output of silver in the seven principal producing States from 1881 to 1888, inclusive. In the first column will be seen each State's percentage of the whole production for the year 1881. The second column gives the same percentage for the year 1888. Column A gives the percentage of *increase* in the production of each State from 1881 to 1888, and Column B gives the percentage of *decrease* of the same:—

1 1881.	2 1888.	STATES.	A	B
17	5	..... Arizona.....	—	60
2	3	..... California..	87	—
40	33	..... Colorado	107	—
3	5	..... Idaho.....	103	—
6	30	..... Montana.....	546	—
16	12	..... Nevada.....	0	0
15	12	..... Utah.....	9	—

The increase in the production of silver of the whole of these seven States was 38 per cent., or from 41 to 57 million dollars. It will be noticed by the foregoing table that the States which produced the largest proportion of the whole output in 1881 produced a much less percentage of the whole in 1888 (see columns 1 and 2). These States were Arizona, Colorado, Nevada

and Utah. It will be noticed, too, that some of the other States take higher rank; notably Montana, which from producing only 6 per cent. in 1881 rises to 30 per cent. in 1888. Idaho comes next in order of progressive merit, and if we could have the statistics up to date, we would find that Idaho is advancing close on the heels of Montana, and that even Washington (which in 1888 had not yet arrived at the dignity of a position in these mining statistics) is advancing close upon Montana. Columns A and B make an equally striking showing. Nevada has the very same output in 1888 that she did in 1881, Utah only 9 per cent. increase, and Arizona actually decreased her output 60 per cent.

We learn several important truths from these statistics. One truth, which would be strikingly corroborated by observation in the field itself, is the fact that development in silver mining is moving northward with extraordinary rapidity, and that the States which are prospectively great as silver producers are the ones in the northern part of the portion of the mineral belt which is in the United States, or those States nearest to Canada. These States were not great mineral producers in the past, simply because development had not begun. Development work has now begun and they give promise of becoming greater producers than those which were hitherto pre-eminent.

The trend of this development is northward, and there is now abundant evidence that its march will no longer be checked at the boundary line. Of course the mines on the Canadian side suffer some disabilities, such as the smaller home market and foreign tariffs, but exceptional richness of mines will make full compensation for disabilities. As Dr. Dawson remarked to the writer: "Hundred-ounce ore is independent of prices of land;" and where we have large bodies of concentrating ore—galena or silver-lead ore—though it take several tons to make a hundred ounces, the field is still proof against existing disabilities.

I have spoken of silver mining, not because it is the only kind there, but because it is mining at its best; and so it is illustrative of my purpose. There are few precious minerals that are not in British Columbia, inviting the investor; but at

the present moment silver mining has especial prominence, and must attract the best attention. It is the *pièce de résistance*. In this line of mining operations at present the most favorable conditions come to a focus; here is the opportunity of the hour; although it may be said truly that the time is already ripe for other mining, notably of gold and copper.

Let us now enquire what form of mining investment in British Columbia is likely to be the most profitable.

Investment will take the form of mining of which we have been treating—vein mining. Placer mining hitherto has occupied first place in British Columbia, but its position relative to vein mining is rapidly changing. Unquestionably, vein mining, when once fairly developed, will distance placer mining, and not unlikely leave it out of sight. The gold output of British Columbia dates from before 1860, and amounts to upwards of \$60,000,000. The highest point was reached about the year 1864, with a product of nearly \$4,000,000. Since 1882 it has been less than \$1,000,000 annually—in 1890 being only a little more than half a million. When British Columbia reaches Montana's present output its silver production will be thirty to forty times the present output of gold. And one need not be the most sanguine of men to anticipate this result in the next five years. If this does not open up possibilities for investment, where are they to be found? Here, again the prescience of Dr. Dawson has enabled him to strike the key-note of the situation. Says he, in 1889: "Respecting silver ores in the Province of British Columbia, it may be stated, as the result particularly of the developments of the past two years, that these appear likely to achieve importance even before those that are distinctly auriferous. There is every reason to believe that before many years the Province will take its place as one of the greatest silver-producing regions in the world; and it is possible that silver may attain and continue to hold a greater importance than gold."

The main form of mining investments will be in development—in the development of "prospects" into mines. There are various advantages in this form of investments, especially

at this time. One alone is almost sufficient. An instance is related where the last of a score of reasons given for the non-appearance of a witness in court was the fact that he was dead. As that reason was quite enough, so is the best reason for investors taking up development work in British Columbia silver mining; it is the fact that there is no choice of anything else. It being in its infancy, there are necessarily but few developed mines anyway, and these probably not in the market.

But even if this were not so, I would still advise, as a matter of choice, this form of mining.

It is true that capitalists, as a rule, do not care to invest in the "development" form of mining. They prefer fully developed—either dividend-paying mines, or with enough in "sight" to justify the purchase and working of the property. Among the objections which they have to doing development work are the following:—

The supposed necessity for the large outlay of capital before knowing whether or not the mine will be profitable. The practice of making very heavy expenditure for purchase of properties, for expensive plant and for mine development, without the preliminary economical prospecting work, and while ultimate results are still problematical, has been one of the faults that have brought legitimate mining into more or less disrepute.

In silver-lead mining in British Columbia to-day, according to the prevailing methods, that fault is minimized. It is true that more or less capital is required there, and everywhere, for development work, but it is true that only a moderate outlay need be made, without there being ore enough in sight to justify the further outlay of capital. Men who mine wisely, no matter what amount of capital they have behind them, work for a time on the line of what miners call the "poor man's proposition." The first outlay is made in what is really prospecting work; and prudent men confine expenditure to prospecting work till the indications of ore bodies are such as will justify any further necessary expenditure for regular mining. Vein mining in British Columbia to-day offers such possibilities that there is

no excuse for the outlay and consequent risk of heavy capital. The next objection is that working undeveloped properties involves greater risks than do working mines. This is necessarily true; but the weight of the objection depends on the character of the mines on the one hand and that of the "prospects" on the other. It would be a far different thing, for instance, to have to develop prospects where the average chances of success are one in ten, from what it would be where the chances are four out of five. Where the chances are greater than the risks, two results are obtained: first, there is greater assurance of success, and less expenditure of capital is required before the assurance that the mining is going to be profitable.

If the past experience in the development of Kootenay "prospects" is any indication of what will be, the risk in this line will be less than is usually found in fully developed mines. Reference has been made already to the phenomenal results of Kootenay development work. Among the specific instances of success is that of the "Neosho," which was worked from the beginning for the output of mineral, and its production for the first 60 days was reported as making a net profit of \$6,000. The objections to the development of "prospects" are indeed more seeming than real; and the advantages of that form of investment are many. It is there where there is the most choice of investments, and the least competition or available properties; in a word, it is where the present "opportunity" exists.

I have now only to offer a few suggestions to investors:—

First, spread your investment over more than one property. This might not be good for general business; but it certainly is in mining. Indeed, it is always good advice for all investments not under the immediate control of the investor. It helps to minimize risks. In mining, it is a possible way of eliminating them; for one successful mining venture usually carries profit enough to cover one or more failures. If one's means are insufficient to cover more than one property, then join others in a syndicate, or company, and so cover larger ground.

The next suggestion is to make no mining investment as a

"gamble." Do not go into mining blindly. Apply the same rules of caution to a mining investment as to any other. Mining is a legitimate business, and like all other legitimate business has a *rationale* of working principles. If there are no prizes for intelligent mining operations, carried out on sound business principles, then let it alone. But there are such prizes, and, indeed, it is doubtful if there are any prizes otherwise. The larger proportion of losses in so-called mining investments, in the past, have been made by men who have invested blindly, as if it were a "gamble," pure and simple,—certainly very, very simple. The very attitude of investors who look upon the thing as a chance, and who take a little risk, as a "fly," invited fraud and deceit. It is to be hoped that such opportunities for unscrupulous "promoters" of wild-cat schemes are past. Do not get excited about mines. Do not put all your available funds in any single investment, however inviting; keep some funds in reserve. Do not buy stock to make money of expected fluctuations, due to manipulations instead of actual mining operations. Confine such speculations to wheat gambling, or the pool room, which are quite sufficient for the evil thereof.

If disposed to profit by the industry of mining, do it by taking an intelligent part in the development of the natural resources of the country. Do not invest unthinkingly, because somebody else does it. If you are influenced by the example of some one whom you think wiser than yourself, and more likely to choose well, make sure that it is not the "stool-pigeon" of some "floated" scheme; make sure that your oracle's investment cost him something, and that his example thus has reasonable force.

See that men who promote mining ventures are men of good record, are responsible men, and that they themselves have something to lose; that in the event of failure they have more to lose than you have, rather than less,—that they take all the risks that they ask you to take.

The writer believes that British Columbia at this moment offers a field for legitimate, profitable and safe investment, such as the world seldom has seen; and that the great "opportunity"

lies in the development of rich mining "prospects" into paying mines. It is really no longer a question whether the writer is mistaken or not, or whether the field will be occupied; the only question is what men and whose capital will take a hand in it. The successful mining men in the United States already have secured, as a prize for their intelligence, nerve and enterprise, enough ultimate wealth, doubtless, to pay the Canadian national debt! They intend to secure as much more as they can. It were well if Canadians were to occupy some of their own time and capital, in that part, at least, of the development of their own resources which is so profitable as to draw shrewd foreign investors away from a very enticing home field to them. It is a pity, at all events, that they should miss the opportunity because of an ignorance of their home possibilities, or prejudice against them.

Enthusiastic workers like Dr. Dawson and other members of the Geological Survey Staff, and enterprising journals like the *CANADIAN MINING REVIEW*, can do no more than furnish information. It lies, then, with Canadians whether some of this wealth comes to them and the localities where they live, or whether it goes to those who have overmuch wealth already.

W. H. LYNCH.

OTTAWA.



Faint, illegible text covering the majority of the page, likely bleed-through from the reverse side.

Hea

the 1
31st
95.4
put o
the
were

THE CANADIAN MINING MANUAL.

ACADIA COAL COMPANY, Ltd.

Incorporated by Act of the Legislature of Nova Scotia. Authorized Capital, \$4,000,000; \$3,846,100 issued unassessable. No bonds or mortgages.

Directors :

J. W. Clendenin, <i>President</i> , 1 Broadway, New York, Cyrus, W. Field, New York, Andrew Allan, Montreal, H. Montague Allan, Montreal, Johnston Livingston, New York, E. M. Field, New York,	|	C. B. Hofman, New York, Sir George Elliot, Bart., London, Sir James Anderson, London, J. C. Parkinson, London, R. C. Livingston, New York.
--	--	--

Head Office: Henry S. Poole, F.G.S., M.E., General Manager, Stellarton, N.S.
 J. Geo. Rutherford, M.E., Asst. General Manager.

Formed to acquire and work coal areas in the County of Pictou and elsewhere in the Province of Nova Scotia. The Company's coal production during the year ended 31st December, 1891, was as follows: Albion Colliery, 98,312 tons; Acadia Colliery, 95,472 tons; Vale Colliery, 80,080 tons; Black Diamond, 11,508 tons; or a total output of 285,372 tons. The average persons employed above and below ground during the year 1891 may be stated at 960 persons. The coal sales for the past three years were:—

Coal Sales 1889.

To Nova Scotia.....	175,274	tons.
“ Prince Edward Island.....	23,541	“
“ Quebec.....	13,594	“
“ New Brunswick.....	16,371	“
“ Newfoundland.....	52	“
“ United States.....	784	“
“ Colliery employees.....	5,730	“
Total sales 1889.....	235,346	“

Coal Sales 1890.

	Round.	Slack.
To New Brunswick.....	14,260	2,615
“ Newfoundland.....	49	49
“ Nova Scotia.....	94,550	64,836
“ Prince Edward Island.....	3,863	20,051
“ Quebec.....	22,640	463
“ Other countries.....	289	289
“ Bunker steamers.....	18,945	136
“ Colliery employees.....	4,514	1,646
Total sales 1890, (tons).....	158,772	90,085

ACADIA COAL CO.—Continued.

Coal Sales 1891.

	Round.	Slack.
To Nova Scotia.....	99,204	72,692
“ New Brunswick.....	15,996	2,889
“ Newfoundland.....	.....	46
“ Prince Edward Island.....	16,032	17,545
“ Quebec.....	9,370	89
“ Other countries.....	.....	.....
“ Bunker steamers.....	15,019	231
“ Colliery employees.....	5,039	1,079
Total disposals 1891, (tons).....	160,660	94,571

Acadia Colliery, at Westville, 3 miles from Stellarton. *Mine Manager*: James Maxwell; *Overman*: F. Crawford. 240 persons employed above and below ground 1891.

Seam of 10 feet worked; dip averages 27 deg.; slope, 3,600 ft.; extreme vertical depth, 1,500 ft.

System of working: in lifts of 400 ft., counterbalance planes every 400 ft., with few primary narrow boards, driven inbye, followed by prompt pillar working outbye from boundaries.

Ventilation by fan, 24 ft., by 8 ft., iron casing; engine 20 in. by 20 in. cut-off; 17" water-gauge, barometer, etc.: Liveing's gas indicator.

Lamps—Mueseler and Marsaut.

Hoisting engine on slope, pair 32" cyl., 60" stroke direct; drum, 14 ft.

Pumping—Duplex compound condensing 22 x 11 in. x 24 in., rams, 5.5 in.; column length, 2400 ft., vertical head, 990 ft., wrought pipe, tarred, 6 in. upset ends vanishing threads, metal flanges, no leather; steam pressure on top 105 lbs., pipe 4 in. covered with infusorial earth from a local deposit; air feeder added to air chamber; auxiliary duplex compound condensing 14" x 8" x 16" at bottom of pit; head 500"; total length steam pipe, 3,800 ft.

Boilers—Water tube; fuel, culm; grates, perforated plates, and Howe's raker with steam jet in ashpit.

Screens, double—Primary, 6 in.; secondary, $\frac{3}{4}$ in. apart curved; 5 sizes of coal; elevator, revolving and shaking screens; Clarke's jig.

A specimen of coal from this colliery gave:—

Hygrosopic water.....	2' 10
Volatile combustible matter.....	32' 27
Fixed Carbon.....	57' 57
Ash.....	7' 56
Sulphur.....	0' 50

Albion Colliery, at Stellarton, on I. C. Railway; J. Dunbar, *Manager*; A. McDonald, *Overman*. 480 persons employed above and below ground, 1891; railway second built in America; locomotives include "Samson," built in 1838; exhibited at Chicago Exhibition and sold in 1891 for World's Fair; main seam, 38 ft. thick; 148 ft. lower, deep seam, 22 ft. thick; Foord pit, vertical, 900 ft. deep; sunk to main seam; scene of explosion in 1880; loss of life, 44; workings now free of water; machinery massive; hoisting engine, 38" cyls., 5 ft. stroke, 18 ft. dia. drum; Cornish pumps, 62 in. cyl., 9 ft. stroke; beam 34 ft. long, 7 ft. deep in the middle; weight, 18 tons; working barrel, 18" dia.; lately equipped with a steam revolving tippler; a Bricort movable screen from Drifton, Pa.; 35 ft. belt for cleaning thoroughly the coal; shaking screens; steel pit head frame 50 ft. high, and new bank head; independent condenser on hoisting engine.

ACADIA COAL CO.—Continued.

Air-compressors in course of erection at time of explosion, and now not in use; steam cyls., 36" dia., do., 40" stroke 6 ft.; flywheel, 22 ft. dia.; weight 20 tons; present workings in lower seams; capacity 1,000 tons per diem; ventilation by fans; the latter 30 ft. dia. by 10 ft. wide; lamps, Mueseler; coal used for coking purposes; 125 ovens; bee-hive 10 ft. dia.; average pitch of seam, 22 degrees. The following analyses of the coal are by Professor How, of Windsor College, Nova Scotia:—

Main seam :

Hygroscopic water	1·48
Volatile combustible matter	24·28
Fixed carbon	66·50
Ash	7·74

Deep seam :

Hygroscopic water	2·54
Volatile combustible matter	20·46
Fixed carbon	68·50
Ash	8·50

This coal cokes well, and is largely used both for house and steam purposes.

Vale Colliery, 6 miles east of New Glasgow. J. Dakers, *Manager*; J. Brown, *Overman*. 240 men and boys employed in 1891; works two seams; McBean, by slope 3,100 ft. long; dips 14° to 35°; vertical depth, 1,600 ft.

Six foot seam; slope 1,900 feet; outcrop for 500 left unworked; a new winning ventilated by compression fan, 16 ft. by 6 ft.; engine 10 in. by 16 in. An analysis of a specimen of coal from this seam gave:—

Hygroscopic water	2·22
Volatile combustible matter	30·23
Fixed carbon	59·70
Ash (white)	7·85

Black Diamond Colliery, Westville. J. W. Sutherland, *Manager*; formerly owned and operated by the Black Diamond Coal Company, and acquired by Acadia Company in 1891. Main slope 1,800 feet.

AINSWORTH MINERS' UNION.

President : H. Cody ; *Vice-President* : E. Roche ; *Treasurer* : Thos. Wells ; *Conductor* : Thos. Shearer ; *Warden* : Dan. Clarke ; *Trustees* : Chas. Pleson, C. Kent, F. Cummings, Col. Roche, T. Wells.

R. F. Green, Secretary,

Ainsworth, B.C.

ALABAMA HYDRAULIC GOLD MINING CO.

A private Company, organized in 1878, and composed of the following Shareholders:—

Joseph Mason, M.P.P.,	
William Williams,	T. H. Flynn,
John Lanyon,	M. Driscoll,

Head Office, Barkerville, B.C.

T. H. Flynn, Superintendent.

Formed to work an alluvial claim five acres in extent, and situate on Mosquito Creek, in the Cariboo district, Province of British Columbia. Eight men employed. Gold dust to the value of \$35,000 has been taken out to date.

ALABASTINE CO. (Ltd')

Incorporated 1885. Authorized Capital, \$50,000, in shares of \$100 each, of which, to date, \$28,000 have been subscribed and paid up.

Directors :

David Brown, Paris, Ont.	Thomas McCosh, Paris, Ont.,
W. B. Church, Grand Rapids, Mich.	M. Giles, " "
Alex. S. Gill, Paris, Ont.,	J. Brown, " "

Head Office : Thomas McCosh, Secretary, Paris, Ont.

This Company owns some 65 acres in North Cayuga, in the County of Haldimand, and 100 acres near Paris, all in the Province of Ontario. The production of gypsum from the Company's quarries averages about 2,000 tons per annum. Fifteen men employed. The Company also operates works at Paris for the manufacture of alabastine.

ALBERTA RAILWAY AND COAL COMPANY.

Incorporated 20th January 1889. Authorized Capital \$1,750,000 in fully paid ordinary shares of \$100, \$1,000,000 in fully paid 6 per cent preference shares each, with coupons payable January 1st and July 1st, and the principal repayable at 105 on January 1st, 1920, or earlier, at 115, at the option of the Company on six months' notice, power being reserved to purchase the debentures in the market at a price not exceeding 115. Of this £890,000 of debentures £172,400 was taken by the bond holders of the North Western Coal and Navigation Company, and the balance was issued to the public through the Trustees Executors and Insurance Corporation, Limited, at 105 per cent.

Directors :

Hon. Sir A. T. Galt, G.C.M.G., Montreal, <i>President</i> .	
Wm. Burdett-Coutts, M.P., London, Eng.	William Lethbridge, London, Eng.
T. E. Collins, Great Falls, Mont., U.S.A.	William M. Ramsay, Montreal, Que.
Edward Crabb, Saxmundham, Eng.	Peter Redpath, Montreal, Que.
Elliott T. Galt, Lethbridge, Alta.	

Head Office : George Edwards, Secretary, 37 Old Jewry, London, E.C.

Formed to take over and control the lands, works, mines and railways formerly owned and operated by the North Western Coal and Navigation Company, (Limited.) The Company owns the Lethbridge Collieries, at Lethbridge, in the Province of Alberta, in the North-West Territory, and has constructed and now operates a line of railway running from the main line of the Canadian Pacific Railway at Dunmore to Lethbridge, a distance of 110 miles, and from Lethbridge to the International Boundary, 65 miles, from which it is continued to Great Falls, Montana, a further distance of 133 miles, or an aggregate mileage of 308 miles. It also has a land grant for about 720,000 acres of farm lands. Average labor employed about 400 persons. The quantity of coal raised in 1890 was 129,000 (short) tons; in 1891, 143,000 tons. Estimated value of engine and machinery equipment at Colliery \$1,000,000. System of working; pillar and room.

General Manager : Elliott T. Galt, Lethbridge, Alta, N.W.T.

ALGOMA MINES CO.

Incorporated Jan. 1886, under the laws of the State of Michigan. Authorized Capital, \$100,000, divided into 4,000 shares, of a value of \$25 each.

Directors :

George R. Wallace,	S. L. Ballentine, <i>President.</i>	A. R. Ballentine,
B. C. Farrand,	|	W. L. Jenks,
S. L. Ballentine,	|	J. H. Talbot.

Head Office : J. H. Talbot, Secretary, Port Huron, Mich.

This Company controls some 400 acres of mineral land in the Township of McTavish, near Black Bay, Lake Superior, in the Province of Ontario. Main shaft, 160' deep; drifts 100'. Mining work was not done in 1891, but operations on an extensive scale will be commenced in the spring of 1892.

ALICE AND EMMA CONSOLIDATED GOLD QUARTZ MINING CO.

Incorporated 2nd November, 1887. Authorized Capital, \$300,000, divided into 150,000 shares, of a value of \$2 each.

Directors :

Morris Ross,	|	Jas. McB. Smith,
John Grant,	|	T. S. Milligan.
	E. Crow Baker.	

Head Office : James McB. Smith, Secretary, Victoria, B.C.

Formed to purchase the Alice and Emma mineral claims on the Main Lode at or near Rock Creek, in the Osoyoos Division of the District of Yale, in the Province of British Columbia, from the Registered owners thereof, for 80,000 paid-up shares of the Capital Stock of the company, to be called *Issue A*, and \$700 in cash to be paid out of the proceeds of the sale of the first allotment of stock. Also to mine and work the said mineral claims for the precious metals contained therein, etc.

These claims were not worked in 1890-91.

AMERICAN ASBESTOS COMPANY.

Registered 18th November, 1889. Authorized Capital, £50,000 sterling, divided into 10,000 shares of £5 sterling. Number of shares taken at date of last return, 4,802; eight stockholders.

Directors :

Louis Wertheim, Frankfort, Germany.	V. Ehrmann, Frankfort,
Ed. Wertheim, Frankfort,	D. Gabrielsen, Liverpool.
L. A. Heinshaimer, New York.	

Head Office : 5 Chapels Walk, Liverpool, Eng.

Formed to acquire and work asbestos and other mineral lands in the Dominion of Canada. In 1888, Mr. Louis Wertheim, the promoter of the Company, purchased from Dr. James Reed, Reedsdale, Que., Lots 27 and 28 (S.W. 1/2 of each), in Range B, Coleraine, Province of Quebec, in extent some 104 acres. The price stated was

AMERICAN ASBESTOS CO.—Continued.

\$40,000. Mines and works situated about 1½ miles from Black Lake Station, on the line of the Quebec Central Railroad. Output 1889: No. I grade, 79¼ tons; No. II, 82 tons; No. III, 357 tons; waste, 12 tons; total, 530¼ tons. Output 1890: Extra grade, 398 tons; run of mine, 661 tons; waste, 35 tons; total, 1,095 tons. In 1891 an average force of 200 men and boys were employed, but in view of the Quebec Mining Act no returns of yield were asked. The mine is equipped with excellent accommodation, and a first class working plant, including: one 16 x 24 Rand straight line compressor, 5 Rand steam drills, 5 boom and cable derricks, 2 pumps (Blake and Hunt make respectively), 1 Blake crusher, cobbing, cleaning and fibering machinery of unique design, 4 boilers (two 45 h.p., one 80 h.p., one 30 h.p.), Copeland & Bacon hoists, etc., the whole of an estimated value of \$60,000. Mill building, 30 x 32; crusher house, 30 x 25, 3 storeys; two engine houses (one 60 x 48, the other 25 x 45).

Resident Engineer: L. A. Klein, Black Lake, Que.

ANGLO-AMERICAN IRON CO.

Authorized Capital, \$5,000,000. \$3,100,000 issued.

Directors:

Stevenson Burke, Cleveland, O., <i>President</i> .	
T. W. Cornel., Akron, O.	C. W. Bingham, Cleveland, O.
Geo. G. Allen, Akron, O.	Geo. W. Short, Cleveland, O.
H. P. McIntosh, Cleveland, O.	

Head Office: H. P. McIntosh, Secretary, 201 Perry-Payne Building, 103-109 Superior Street, Cleveland, O.

This company owns a quarter interest in about 8,000 acres of timber and mineral lands along the line of the Central Ontario Railway, and about 3,000 acres of copper-nickel lands in Dennison Township, Province of Ontario. The iron and timber lands are located between Trenton and Coe Hill, C.O.Ry.; the copper-nickel properties near Whitefish, all in the Province of Ontario. No mining work done at date.

ANGLO-AMERICAN MINING CO.

Incorporated 15th May, 1890. Capital Stock, \$3,000,000, in shares of \$1 each, one-fourth of which shall be known as development shares.

Directors:

John A. Green,	|	Jas. Tallyard,	|	Joseph Johnson.
----------------	--	----------------	--	-----------------

Head Office: Yale, B.C.

Formed to work auriferous ground on the Siwash Creek, Yale District, in the Province of British Columbia; to maintain, construct, purchase, hire, improve and manage, flumes, hydraulic works, crushing works, furnaces and other works which may be directly or indirectly conducive to the objects of the company, etc.

ANGLO-CANADIAN EXPLORATION COMPANY.

Authorised Capital £25,000 stg. in shares of £10. Registered 1891 to acquire the rights to sink for, search, get, sell, or otherwise dispose of Petroleum in Canada, and other countries and to carry on all or any business connected therewith.

ANGLO-CANADIAN ASBESTOS COMPANY.

Reconstructed 14th August, 1889. Authorized Capital, £20,000 sterling, divided into shares of a value of £1 each, of which £11,490 has been issued and paid. To December 31st, 1889, there was a debit to profit and loss of £23; in 1890 there was a profit which extinguished the debit brought forward and provided a dividend of 20%.

Directors :

W. H. Irwin,	W. O. Robinson,	D. A. Stanley,
J. H. Armstrong,	H. F. Watson,	R. T. Hopper,

Canadian Board :

R. T. Hopper,	J. H. Armstrong.
H. F. Watson,	

English Office :

R. A. Hudson, Secretary, 15 Poultry Chambers, London, E.C.

CANADIAN OFFICES :

30 St. Francois-Xavier Street, Montreal.

This company owns and operates certain asbestos lands in Block A, Coleraine, in the Province of Quebec, formerly the property of the Coleraine Mining Company. Mines located about one quarter of a mile from Black Lake Station, on the line of the Quebec Central Railway. 125 persons employed in 1891. Engine equipment comprises : 1 Duplex Rand 5 drill air compressor, Ingersoll and Beatty Hoists, 1 Northey and 1 Valley Machine Co. pump, one 60 h.p. and one 35 h.p. boiler, derricks, etc. Well equipped with building accommodation.

Mine Superintendent : Wm. Clearihue, Desjardins P.O., Que.

ANGLO-CANADIAN PHOSPHATE COMPANY.

Registered 26th February, 1886. Authorized Capital £100,000 stg. Subscribed Preference Shares £46,000 stg. Deferred, £25,000. No dividend on either class. Accounts to 30th November submitted in May.

Directors :

J. T. Henderson, London, Eng.,	J. J. Reid, London, Eng.,
J. C. Reid, London, Eng.,	Capt. R. C. Adams, Montreal.

Head Office : G. D. Jennings, Secretary, 28 Gracechurch Street, London, E.C.

This Company controls about 3,000 acres of mineral lands in the County of Ottawa, Province of Quebec, and about 3,750 in Ontario, chiefly in North Burgess. Since 1888 no active mining work has been done on the Quebec properties, the operations being entirely confined to the Bob's Lake mines in Bedford, and the Otty Lake and Black Lake mines in North Burgess, Ont. The output of the Otty Lake mines from 1st November, 1890, to 1st November, 1891 was :—300 tons 80% phosphates : 175 tons of 70% phosphates ; and 45 tons of mica of which 30 tons was from old dumps and 15 tons fresh mined. Average force of about twenty men employed at this property. At the Bob's Lake property the production was about 120 tons 80% phosphate and two tons of mica in five months, with an average force of five men.

Managing Director : Capt. R. C. Adams, 41 St. Francois-Xavier Street, Montreal. Mine Address : Perth, Ont.

ANGLO-CONTINENTAL GUANO WORKS COMPANY.

Capital 16,000,000 Marks in fully paid shares of 1,000 Marks. The Company, in addition to its Canadian properties, is extensively engaged in mining and manufacturing phosphates in different parts of the world.

Head Office:

W. H. Hutchinson, 15 Leadenhall Street, London, E.C.

Canadian Works: J. Burley Smith, M.E., Manager, Glenalmond P.O., Que.

This Company purchased in the autumn of 1889 from Mr. A. F. McIntyre, Barrister, Ottawa, the Aetna and Squaw Hill phosphate properties, viz:—S. $\frac{1}{2}$ of Lot 18, and N. $\frac{1}{2}$ of Lot 17, in the 12th Range of Buckingham, County of Ottawa, Province of Quebec. From 80 to 100 men employed. Excellent accommodation for men, and buildings for machinery, offices, &c., have been erected. Engine plant and machinery equipment at February 1892, consists of:—12x18 Ingersoll-Sergeant compressor, double-action plunger-pumps, winding engine, rock drills, saw-mill and boilers. The company has also the mining rights over a property containing 100 acres in the Township of Derry, County of Ottawa, aforesaid.

ANNAND GOLD MINE.

Owner:

Chas. Annand, Halifax, N.S.

This mine, which is situated at Montague, in the County of Halifax, Province of Nova Scotia, was reported under negotiation for sale to an English syndicate at 31st December, 1891. Official returns of yield for 1891 gave 1,230 ounces 6 dwts. gold from 765 tons of rock crushed.

ANTHRACITE AND BITUMINOUS COAL CO., Ltd.

Incorporated 9th September, 1889. Capital Stock, \$250,000, in 2,500 shares of \$100 each.

Directors:

B. E. Chaffey, Winnipeg, Man., <i>President</i> ,	
W. Hamilton Merritt, Toronto, Ont.,	F. A. Fleming, Toronto, Ont.,
S. H. Fleming, Ottawa, Ont.,	G. F. Harman, " "

Head Office: Frank A. Fleming, Secretary, 15 Toronto St., Toronto, Ont.

Formed to acquire and wor. coal lands in the Dominion of Canada. The property owned is known as the Bow River Mines, and consists of some 1,600 acres of land as under:

619.50 acres in Section 7, Twp. 26, Range 4 W. of 5th Meridian.

296.50 acres in W. $\frac{1}{2}$ Section 18, Twp. 26, Range 4, W. of 5th Meridian.

372.70 acres in Section 13, N. of Bow River, Twp. 26, Range 5, W. of 5th Meridian.

220.30 acres in Section 13, S. of Bow River, Twp. 26, Range 5, W. of 5th Meridian.

91 acres surface area occupied by river and railway.

It is situated on the main line of the C. P. R. at a point about three miles west of Cochrane station. A shaft to a depth of 500 feet has been sunk and some preliminary work done on a promising 7 ft. seam of coal; but work was suspended and had not been resumed at 1st January, 1892, pending some negotiations for the transfer of the property. About \$6,000 has been expended on plant and prospecting to date.

ASBESTOS CLUB.

Formed in 1889. Officers and Council, 1891:—

L. J. Frechette, M.P., *President*; M. Penhale and A. Ward, *Vice-Presidents*;
Secretary-Treasurer, A. M. Evans, Black Lake, Que.; *Asst. Secretary*,
Treasurer, R. Strather; *Council*: L. A. Klein, R. T. Hopper,
Col. Ward, J. J. Penhale, H. J. Williams, B. Bennett;
Club House at Black Lake, Que.

ATLANTIC STONE CO.

Incorporated 1891. Authorized Capital,

Directors:

A. Seaman,

R. S. Hibbard,

E. Q. Rowan.

Head Office: Lower Cove, Cumberland Co., N.S.

Formed to open up and work stone quarries, sell the products, and other customary powers.

AUSTIN MINING CO., Ltd.

Incorporated 27th May, 1882. Authorized Capital, \$250,000, divided into 50,000 shares of a par value of \$5.00, of which 12½ per cent. has been subscribed and paid up.

Directors:

H. K. Egan, Ottawa,
W. A. Allan, Ottawa,

J. C. Browne, Ottawa,
J. A. Gemmill, Ottawa.

Head Office: J. C. Browne, Secretary, 26 Sparks Street, Ottawa, Ont.

The property owned by this Company contains 600 acres of land in fee simple, and is situate at Echo Lake, about 25 miles distant by water from the town of Sault Ste. Marie, in the Province of Ontario. Workings have been entirely of a prospecting character. Negotiations for the transfer of the property were being made at 1st October, 1891.

BADGER SILVER MINING CO., OF GILLIES, ONT.

Reconstructed 1891. Authorized Capital \$250,000 in 50,000 shares of a value of \$5.00 each. Two dividends have been paid amounting in all to \$37,500, the first on 5th January, 1890, of 50 cents per share, or \$25,000; the other on 5th March, 1890, of 25 cents per share, or \$12,500.

Directors:

John M. Stowell, *President*.

C. A. Read, | Walter Read.
C. Preusser.

Head Office: Walter Read, Secretary, N. E. Corner E. Water and Mason Streets, Milwaukee, Wis.

Formed to carry on the business of exploring, mining, smelting, manufacturing and refining ores of silver and other ores or metals in the district of Thunder Bay, Province of Ont.

BADGER SILVER MINING CO.—Continued.

tario. The property owned and operated at date is known (1) as the Badger Mine Locations, 200 and 201 T, containing 200 acres; and (2) The Porcupine Location, 96 T, containing 160 acres, all in the Township of Gillies, in the District of Thunder Bay. The mines are situate 28 miles S. E. from the Town of Port Arthur, and 2½ miles from Silver Creek Station, on the line of the Port Arthur, Duluth and Western Railway. Official returns gave the shipments of ore and bullion up to 4th August, 1890, of a value of \$250,000. Returns of the production of ore in 1891 give a yield of 3,500 net tons; concentrates and ore shipped 125 net tons. 1890: men and boys employed 125; 1891: about 65 men and boys. Plant:—One stamp mill, 28 x 92, three stories, with boiler and engine house 30 x 32; two steel tubular boilers 4 x 16; "Conway" automatic cut-off engine 14"x20"; Blake crusher; Strauss "Atmospheric" stamp, of a capacity of 20 tons per diem; four frue-vanners. Average daily capacity of mill, 30 tons. Plant at No. 1: boiler and engine house, 24 x 36 feet; one 4 x 16 ft. tubular boiler; one 12 x 24 reversible engine, geared to 3½ ft. drum. At No. 2: one double cylinder, 8 h.p. friction drum hoist, supplied with steam from No. 1 plant, 350 feet distant.

Mine Superintendent: Capt. Herbert Shear, Port Arthur, Ont.

BANCROFT IRON CO.

Incorporated 12th September, 1889. Authorized Capital \$1,000,000, divided into 10,000 shares of a value of \$100 each.

Directors:

Charles J. Pusey, Irondale, Ont.,	
M. F. Brown, Toronto,	Giles H. Williams, Toronto,
Thos. Shortiss, Toronto,	A. F. Wood, Madoc.

Head Office: Chas. J. Pusey, Managing Director, Irondale, Ont.

Formed to take over the property formerly owned and operated by the Bancroft Iron Company, containing in all about 1,000 acres and situate at Irondale, County of Haliburton, in the Province of Ontario. Only preliminary work has been done and trial shipments made. Nothing new to report in 1891.

BATTYE FREESTONE CO. (Ltd).

Incorporated 1890. Authorized Capital Stock \$25,000, divided into 250 shares of a value of \$100 each.

Directors:

George Battye, Wallace, N.S.	
Ephraim Lombard, Boston, Mass.,	John Gillies, New York, N.Y.

Head Office: Wallace, Cumberland Co., N.S.

Formed to acquire and work stone quarries at Wallace and elsewhere in the Province of Nova Scotia.

BEAUCE ASBESTOS CO.

Incorporated 1891. Authorized Capital, \$10,000 in 100 shares of \$100 each.

Directors :

Hon. J. E. Robideaux,
Hon. C. E. Langelier,
C. Fortin,

Hon. L. P. Pelletier,
W. H. B. C. de Lery,
P. F. Renault,

T. Fortier,
P. Angers,
J. Godbout.

Head Office : P. Angers, Manager, St. Francis, Beauce Co., Que.

Formed to acquire, deal and operate asbestos lands in the Beauce district, Province of Quebec. Company owns Lots 18, 19, 21 in the 1st Range of St. Francis, Beauce Co. Small force employed in 1891.

BEAVER ASBESTOS CO., Ltd.

Incorporated 1890, under Letters Patent from the Local Legislature of the Province of Quebec. Capital Stock, \$100,000, in shares of \$100 each. Fully subscribed and paid-up.

Directors :

R. H. Martin, New York,
Col. Lucke, Sherbrooke,

Jas. S. Mitchell, Sherbrooke,
H. J. Williams, Thetford.

Head Office : J. W. Woodside, Secretary, Sherbrooke, Que.

Formed to acquire and work asbestos and other mineral lands in the Province of Quebec, more particularly Lots 31, 32, Range C, Coleraine, in the County of Megantic, Que. Forty men employed. Mines equipped with 30 h.p. boiler, steam drills, hoisting and pumping gear, etc.

Mine Superintendent : H. J. Williams, Thetford, Que.

BEAVER MINING AND MILLING CO.

Organized November, 1887.

Principal Owners :

General Russell A. Alger, Detroit, Mich. | Col. Frank J. Hecker, Detroit, Mich.

Head Office :

Col. Frank J. Hecker, Detroit, Mich.

CANADIAN OFFICE :

Thos. Hooper, Superintendent, Murillo, Ont.

This, one of the leading silver producing companies of the Dominion, is the owner of Lots 97 T, 141 T, 95 T, 142 T, 155 T, 146 T, 57 T, 149 T, in the Township of O'Connor, and other mining locations in the district of Algoma, Province of Ontario. An average force of fifty men and boys were employed in 1891. Engine plant and machinery equipment includes : Burleigh 7 drill air compressor ; 7 Rand drills ; Lane Hoist (drum 51 dia.) ; 3 Winze hoists ; sawmill ; 10 stamp mill (Fraser & Chalmers), driven by 200 h.p. engine ; 1 Blake crusher, 9 x 14 ; 1 Dodge, 6 x 10, etc., etc. The workings to date comprise : No. II shaft (the deepest), 530 feet ; total sinkings of main shafts, winzes and air shafts, 1,700 feet, drifting on vein 6,500 feet ; cross-cuts, 1870 feet. Work suspended temporarily while in good ore on 1st November, 1891. Mines are distant 1 3/4 miles from Silver Creek Station, on the line of the Port Arthur, Duluth & Western Railway ; 11 1/2 miles from Murillo Station on the Canadian Pacific ; and 29 miles S.W. from the Town of Port Arthur.

BEDFORD MINING CO.

Incorporated 3rd September, 1887. Nominal Capital Stock, \$250,000, in 10,000 shares of \$25 each.

Directors :

President : Sir Richard Cartwright, Kingston, Ont.
 B. W. Folger, | M. J. Grady,
 Alexander Dunn, | Joseph Bawdon.

Head Office, Joseph Bawdon, Secretary, Kingston, Ont.

This Company was formed to acquire and work some 3,000 acres of mineral lands in the Township of Bedford, County of Frontenac, Ont., containing magnetic iron ores, red hematite ores, plumbago and phosphate of lime. At date no active operations in force.

BELL'S ASBESTOS CO., Ltd.

Registered 4th May, 1888. Authorized Capital, £200,000 stg., in shares of £5, £120,000 stg. of which has been allotted and paid up in full. Accounts to December 31st, submitted in February. Dividends for 1888 and 1889 22½ per cent. each year; 1890, 15 per cent.

Directors :

John Bell,
 H. A. Bell, | A. J. Burnett,
 H. Heywood, | T. S. Lightfoot.

Head Office: R. Lauder McLaren, Secretary, 118A Southwark Street, London, S.E.

Formed to take over the business of Messrs. John Bell & Son, and to buy and work the freehold deposits of asbestos at Thetford, Hayden and Belmina, and elsewhere in the Townships of Thetford and Coleraine, Province of Quebec. The purchase price for these properties was: Belmina £8,394, Thetford at £41,300 stg., and Hayden at \$8,000 stg. The quantity of mineral produced as per statistics kindly furnished by the Company, was:—

1889.	Tons.	1890.	Tons.
No. I crude	1,200	No. I crude.....	1,486
II "	200	II " .....	.....
III "	400	III "	635
	<u>1,800</u>		<u>2,121</u>

Mines at Thetford Station, on the Q. C. Ry.; 200 men and boys employed; engine and machinery equipment: Nowell 6 drill air compressor; 4 Blake pumps; 1 pair twin 90 h.p. and 3 upright 30 h.p. boilers, made by the Jenckes Machine Co.; 1 double and 3 single Copeland & Bacon hoists, etc.

From Annual Report, 1890.

The result of year's operations is a net profit of £18,095 15s. 1d.
 To which has to be added the amount brought forward

1,938	8	0
-------	---	---

For appropriation.....£20,034 3 1

1. The payment on 28th inst., of a dividend of 5s. per share, free of Income Tax,

BELL'S ASBESTOS CO.—Continued.

with the interim dividend paid in July last, makes a total distribution of 15 per cent. for the year.

2. To carry forward £2,034 3s. 1d.

The result of the working of the Company's asbestos mines in Canada has been favorable. The demand for crude Canadian asbestos has overtaken the supply, and a higher range of value than has hitherto ruled has become established.

Profit and Loss Account for the Year ended 31st Dec., 1890.

		£	s.	d.			£	s.	d.
To Reserve Fund, premium on new shares transferred.....	40,000	0	0	By Profit at London and branches	22,416	6	1		
" Interest on debentures.....	3,340	0	0	" and asbestos estates in Canada	276	19	0		
" Salary of managing director and directors fees.....	987	10	0	" Transfer fees.....	40,000	0	0		
" Premium on bonds drawn for payment.....	270	0	0	" Premium on 4,000 new shares..					
" Balance carried to Balance sheet	18,095	15	1						
	£62,693	5	1		£62,693	5	1		

Mine Superintendent: Thos. Sheridan, Thetford Mines, Quebec.

BELMONT BESSEMER ORE CO.

Incorporated 1891. Authorized Capital, \$600,000.

Directors:

Jas M. Ashley, Jr.,
Robert L. Major,

John T. Sill,
Wm. A. Kissam.

Head Office: R. L. Major, Secretary and General Manager, 29 Broadway, New York.

Formed to acquire, work and further develop mineral lands in the Province of Ontario, more particularly an iron ore mine formerly owned by T. D. Ledyard, Toronto, and situate W ½ Lot 19, 1st Concession of Belmont, in the County of Peterborough. Twelve men employed (exclusive of men employed in construction of Ontario, Belmont and Northern Ry., which will connect mine with Central Ontario Ry.) The mining work, which was necessarily largely of an exploratory character in 1891, consisted at 31st December of a shaft 5' x 8', 46 ft. deep; 100', 80', 72', 60', diamond drill holes; ore stripped, 40' x 50'; partially stripped and tested by cross-trenches and test pits 400' x 100'. Average of first 13 analyses: Iron, 66.23; phos., .013; sulph., .0161; silica, 3.88. Analyses of 100 tons shipped to Cambria Iron Co.: Iron, 61.76; phos., .023; sulph., .497; silica, 7.84. The plant at the end of the year was of a value \$1,200, but will be of course greatly increased when active operations proper are begun.

Mine Superintendent: G. L. Woodworth, Havelock, Ont.

BLACK JACK QUARTZ MINING CO., Ltd.

Incorporated 18th March, 1890. Capital Stock, \$120,000, divided into 60,000 shares of \$2 each.

Directors:

President, F. A. Martin, Barkerville,

John Stevenson, Barkerville, B.C., | John Kauser, Barkerville, B.C.,
Charles Paulsen, Barkerville, B.C., | J. St. Laurent, Quesnelle, B.C.

Head Office: W. H. Phelps, Secretary, Barkerville, B.C.

Formed for the purpose of mining quartz for precious metals and minerals in British Columbia; erecting or leasing mills and machinery for reducing ores; the

BLACK JACK QUARTZ MINING CO.—Continued.

acquisition of lodes or veins; and the obtaining of such water privileges and rights of way and doing such things as are conducive or incidental to the attainment of the above objects. The Company owns two locations each 1,500 feet near Barkerville, Province of British Columbia. Twelve men employed in 1891. Main shaft 124 feet deep: on the 64 feet level a drift has been driven in on the ledge and cross-cut of 15 feet developed a body of ore seven feet thick; on the 120 foot level a drift has been run on the ledge 20 feet which will be continued for a similar distance before cross-cutting. 202 tons put through the mill averaged \$4.50 in free gold and \$13.00 in sulphurets per ton of rock crushed.

Managing Director: E. A. Martin, Barkerville, B.C.

BLUE BELL MINING CO. Ltd.

Incorporated 30th July, 1889. Authorized Capital \$50,000, divided into 10,000 shares of \$5 each.

Directors:

Angus R. Johnston,
Walter Wilson, | John M. Rudd.

Head Office: Nanaimo, B.C.

Formed to work gold and silver and other ores and minerals in the Province of British Columbia. No report received.

BLUE LEAD HYDRAULIC CO. Ltd.

Incorporated 1891. Authorized Capital \$100,000, in shares of \$1.00.

Directors:

Hon. James Reid, *President*,
James Wilson, | Hon. T. R. McInnes.

Head Office: Hon. James Reid, *President and Managing Director*, Quesnelmouth, B.C. Geo. B. Clarke, *Secretary*.

Formed for the purpose of hydraulic or other processes of mining: to own and construct ditches, flumes, and other systems of water ways. The company has a ten years' lease of an alluvial claim two thousand feet in width, by one and a half miles in length, situate on Hixon Creek, at a point 42 miles north of Quesnelle in the district of Cariboo, Province of British Columbia. Small force of men employed in 1891. Estimated value of plant \$3,000.

Superintendent: James Deacon, Quesnelle, B.C.

BONANZA NICKEL MINING CO., OF SUDBURY.

Incorporated 1891. Authorized Capital, \$150,000, in 6,000 shares of a value of \$25 each.

Directors:

O. J. Wells,
G. B. Foster, | W. B. Stephens,
T. W. H. Leavitt, | J. J. Carberry.

Head Office: Toronto, Ont.

Formed to acquire, sell, and operate mining lands in the Province of Ontario. Not known to be in operation in 1892.

BONANZA MINING CO.

A private Company consisting of the following:—

Owners:

	Judge Drake,	
J. McB. Smith,	|	Henry Harvey,
F. Jones,	|	P. H. Ward.

Head Office: E. Bell, Secretary, Clinton, B.C.

This Company owns and operates 6 mining locations each 1,500' x 600', or about 120 acres, situated eight miles from the town of Lillooet, in the district of Lillooet, in the Province of British Columbia. In a letter under date of 16th December, 1891, the Secretary writes: "We have not done much work during the past summer, but what we have done satisfies us that we have a valuable piece of property. In running a short tunnel of 35' we struck pockets of very rich ore, some of which gave an analysis as high as 940 ounces in gold to the ton." The property is under bond to an English syndicate for a period of six months from 1st October, 1891.

BOSTON GOLD MINING CO.

Incorporated under the laws of the State of Maine, U.S.A., 31st August, 1889.
Registered at the Department of Mines, Halifax, 25th October, 1889.
Nominal Capital Stock \$300,000 in shares of \$5 each.

Directors:

<i>President:</i> G. A. Kimball, Boston, Mass.,		
B. F. Whittemore, Sec.-Treas., Boston,	|	F. K. Ballou, Boston, Mass,
Drias Wilson, Boston, Mass.,	|	Frank Leeds,

Head Office: B. F. Whittemore, Secretary, Room 94, 620 Atlantic Avenue, Boston, Mass.

Formed to acquire and work 87 gold areas in the district of Malaga, Queen's County, Nova Scotia. Has a modern 10 stamp mill which has been running steadily during the year. At 1st January, 1892, the Company was putting in, among other plant, a five drill Rand compressor, and doing well. Official returns of gold yield for 1891, give 2,019 ounces, 5 dwt., from 2,184 tons, 10 cwt. of rock crushed.

Mine Manager: F. K. Ballou, Malaga, Queen's County, N.S.

BRAS D'OR LIME CO.

Incorporated 17th July, 1888. Authorized Capital, \$50,000, in shares of \$10 each, all of which has been subscribed and paid.

Directors:

<i>C. F. Fraser, President.</i>		
W. C. Delaney, Halifax,	|	Hy. Sanders, Halifax,
E. H. Keating, Halifax,	|	H. Clark, Halifax.

Head Office: A. Milne Fraser, Secretary, 161 Hollis Street, Halifax, N.S.

The Company owns 6,200 acres freehold and under lease. Output of quarries at Marble Mountain, Cape Breton, N.S., 50,000 bbls. lime and 16,000 tons limestone. Output at Bedford Basin, Halifax Co., 12,000 bbls. of lime. 40 men and boys employed.

Quarrymaster: D. MacLachlan, Marble Mountain, C.B., N.S.

BRAS D'OR MARBLE CO.

Incorporated 12th June, 1890. Authorized Capital, \$200,000, in shares of \$10 each.

Directors :

C. F. Fraser, *President*.
Henry Sanders, | Dugald Maclachlan.

Head Office : A. Milne Fraser, Secretary, 161 Hollis Street, Halifax.

Formed to acquire, work and further develop marble deposits situated at Marble Mountain, Bras D'Or Lake, near West Bay, Cape Breton, Nova Scotia. The purchase consideration to the former owners was \$55,000 in cash and 8,000 shares in the present company. The quarries have been equipped with an excellent working plant, including Wardwell channeler, portable engine and boiler, gadder, derricks, etc. The deposit is extensive and of good quality.

Quarrymaster : D. Maclachlan, Marble Mountain, C.B., N.S.

BRISTOL IRON CO., Ltd.

Incorporated 1888. Capital Stock, \$100,000, fully subscribed and paid up.

Directors :

Charles Magee, Ottawa, *President*,
Robert Blackburn, Ottawa, Ont., | Hiram Robinson, Hawkesbury, Ont.

Head Office : E. McMahon, Secretary-Treasurer, Russell House Block, Canal Street, Ottawa.

The property controlled by this Company contains 400 acres of mineral land in Bristol Township, Pontiac County, in the Province of Quebec. Mining operations were first commenced by the former owners in 1872-3, and during the latter period some 4,000 tons of ore were mined; shipments were also made in 1884-5 to the amount of 4,000 tons. Active mining operations were begun by the present Company in November, 1889, from which date up to 1st July, 1890, some 10,000 tons of ore were shipped, mainly to Chatasauqua, Penn. The east slope has been carried down to a depth of 62 feet, and considerable ore removed. The centre slope is approximately 150 feet deep, and from the slope four drifts, two on each side, forming respectively the first and second levels, have been run. The first level starting at 30 feet from the surface, extends 20 feet south-east, and 50 feet north-west of the slope. On this latter drift a rise was made, and ore has been taken out of a chamber approximately 35 feet high, 50 feet long and 80 feet wide. The slope continues below the second level for about 60 feet, pitching at an angle of 60°. The machinery plant consists of a 14 x 20 steam engine, driving by friction brake one drum 6 feet in diameter by 6 feet wide, so set as to allow room for a second drum; the one-inch wire-rope from this drum passes over appropriate head sheaves, and thence down the slope to the bottom of the mine. A small exploring hoisting engine is also in place for carrying ore from the bin at the head of the slope to the top of the roasters. Capacity of hoisting engine 300 tons per day. Two 25 horse-power portable boilers. Two Taylor-Langdon roasters, each 14 feet in diameter and 27 feet high, with seven ore compartments and eight drawing arches; also one Davis-Colby roaster 17 feet in diameter and 20 feet high. The four producers which are of the Taylor-Langdon pattern are thoroughly equipped and connected with the roasters. The estimated value of the plant and buildings, etc., is estimated to exceed \$75,000. A line of railway $4\frac{1}{4}$ miles, standard gauge, connects the mines with the Pontiac and Pacific Junction Railway.

The ore, though generally known as magnetite, contains a considerable proportion of hematite. In 1890, the mines were leased on royalty to Messrs. Ennis & Co., Philadelphia. (See Ennis & Co.)

BRITISH COLUMBIA MILLING & MINING CO. Ltd.

Incorporated 12th January, 1878. Authorized Capital, \$1,250,000, divided into 250,000 shares of a value of \$5 each.

Directors :

	T. Earle, M.P.,	
F. S. Barnard, M.P.,	|	C. E. Redfern,
Hon. J. H. Turner,	|	J. Heywood.
J. Grant,	|	F. J. Jones.

Head Office : G. A. Sargison, Secretary, 48 Langley Street, Victoria, B.C.

Formed to acquire, work, smelt and otherwise treat ores and minerals in the Province of British Columbia. The Company's property consists of 84 acres of mineral land situate in the Cariboo district. A 20-stamp mill and saw-mill are on the property. Not in operation in 1891.

BRITISH COLUMBIA POTTERY AND TERRA COTTA COMPANY.

Incorporated October, 1890. Authorized Capital \$60,000, divided into 1,000 shares of a value of \$60 each.

Directors :

	John Nicholles,	
S. C. Burris,	|	Fred G. Walker,
J. H. McLaughlin,	|	Joseph Hunter.

Head Office : W. H. Bainbridge, Secretary, Victoria, B.C.

Formed to manufacture all kinds of pottery, brick, drain-pipes and terra-cotta wares. Property covers three acres; 30 men employed; yearly turnout of an estimated value of \$10,000.

BRITISH COLUMBIA RIVERS GOLD-GRAVELS DREDGING COMPANY.

Registered in London 23rd July, 1889, to purchase from Alexander Gibson the exclusive rights granted to him from the British Columbia Government to dredge gold in a territory of 45 miles on the Fraser River; and an exclusive license to use Ball's Patent Dredge in British Columbia; also to purchase and otherwise acquire mines and other properties in that province. Authorized Capital is £40,000, in shares of £1 each. No information as to operations.

BRITISH COLUMBIA SMELTING COMPANY.

Liquidator : A. O. Miles, 28 King Street, London, E.C.

This Company was registered on the 9th May, 1886, for the purpose of erecting smelting works and carrying on mining operations in British Columbia, with a capital of £65,000 stg. in shares of £1, divided in 40,000 ordinary and 25,000 preference shares, of which 23,580 were issued and fully paid. None of the shares were offered to the public: the whole of the ordinary shares were taken by Mr. Claude T. Vautin

BRITISH COLUMBIA SMELTING CO.—Continued.

in payment of his interest in the lead mines and subsidies from the local government. At an extraordinary meeting held on the 2nd September, 1889, it was stated that the Board had telegraphed to Vancouver to shut down the works and mine, the whole of the capital having been spent, in addition to an over-draft of £7,400 stg. At an extraordinary meeting held on the 15th January, 1890, it was stated that the Bank of British Columbia had in December 1889, sold the whole of the property, clearing off their own advance and leaving only £100 or £200 in the hands of the company. It was resolved to wind up the company voluntarily.

BROMPTON LAKE ASBESTOS CO.

Incorporated 1890. Capital, \$60,000, divided into 600 shares of \$100 each.

Directors :

E. B. Greenshields, Montreal,		
Archibald H. Cook, Quebec,		E. J. Hale, Quebec,
Andrew Thompson, Quebec.		G. H. Thomson, Quebec.

Head Office : A. H. Cook, Secretary, Quebec, Que.

Formed to acquire and work asbestos lands in the Province of Quebec. The Company owns Lot 26 and half of Lot 25, in the 9th Range of Brompton, in all 377 acres, situate 8 miles from the line of the Grand Trunk Railway, and 13 miles north-west of the city of Sherbrooke, Que. 30 men employed. The machinery plant was valued at 1st September, 1890, to be worth \$4,000.

Mine Superintendent : C. McCaw, Sherbrooke, Que.

BRUCE LAND AND MINING CO., Ltd.

Registered, 9th August, 1878. Nominal Capital, £5,000, in shares of £1 each, of which 2,971 has been issued, and £1,856 17s. 6d. called up, being 12s. 6d. per share.

Directors :

R. B. Lloyd,		C. S. Hill,		E. J. St. John,
T. C. Reynolds,				P. M. Taylor.

Head Office : W. H. Rowse, Secretary, 6 Queen Street Place, London, E.C.

Formed for the purpose of acquiring a freehold property containing 6,400 acres, and known as the Bruce Location, in the Province of Ontario, and working mines, etc. Annual reports to 30th September, and meetings are held in December. The accounts to 30th September, 1887, showed a balance of expenditure over receipts of £2,173; those to 30th September, 1888, £2,651 18s. 8d., an increase of £478 18s. 1d., those to 30th September, 1890, an expenditure over receipts of £4,947 18s. 4d. Cash balances £771 11s. 9d.

CALABOGIE MINING CO., Ltd.

Incorporated, 8th May, 1882. Capital, \$2,500,000, in 100,000 shares of \$25.00 each, of which stock to the value of \$2,000,000 has been subscribed to date.

Directors :

J. G. Campbell, <i>President</i> ,			
Wm. Hicks, Perth, Ont.,		Edward Elliott, Perth, Ont.,	
Peter McLaren, “		J. F. Thompson, “	
Hugh Ryan, Toronto, Ont.,		J. A. Allan, “	

Secretary : J. A. Allan, Perth, Ont.

CALABOGIE MINING CO.—Continued.

This Company owns the east half of Lot 16, in 11th of Bagot; the west half of Lot 16 in the 9th; Lot 14 in the 7th; and the south half of Lot 16 in the 8th; in all 600 acres. Mining operations were commenced in September, 1882. The first shaft was put down 100 feet, at an angle of 30°; the width is from 8 to 20 feet. It was abandoned in 1883, but in 1886 was continued 108 feet further. A second shaft was opened in the same year to a depth of 30 feet, and mining was conducted in a good deposit of iron ore. In 1887, the property was operated, under lease, by the Kingston and Pembroke Iron Company. About 4,000 tons of ore have been mined and shipped, mainly to Cleveland, Ohio. Value of plant, about \$5,000. Operations have been suspended for three years, the Company claiming that the duty on their exports to the United States precluded successful operations.

CALEDONIA COAL AND RAILWAY CO., Ltd.

Incorporated 1865. Authorized Capital, \$600,000, divided into 6,000 shares of a value of \$100 each.

Directors:

J. W. Emery, Portsmouth, N.H., *President*,
 Gardiner G. Hubbard, Washington, J. H. Converse, Cambridge, Mass.,
 David McKeen, M.P., Glace Bay, C.B.

Head Office: David McKeen, M.P., *Managing Director*,
 Glace Bay, Cape Breton, N.S.

This Company holds some two square miles of coal areas, and is the owner of the Caledonia Colliery at Little Glace Bay, in Cape Breton, Province of Nova Scotia.

Coal Sales 1889.

To Nova Scotia.....	14,560 tons.
“ New Brunswick.....	5,500 “
“ Prince Edward Island.....	3,650 “
“ Quebec.....	54,750 “
“ Newfoundland.....	15,658 “
“ United States.....	6,100 “
“ Bunker steamers.....	2,000 “
“ Colliery employees.....	3,000 “
Total disposals 1889.....	105,218 “

Coal Sales 1890.

	Round.	Slack.
To New Brunswick.....	10,634	1,211
“ Newfoundland.....	13,291	1,406
“ Nova Scotia.....	7,419	2,359
“ Prince Edward Island.....	644	4,749
“ Quebec.....	63,710	26,056
“ West Indies.....	384	.....
“ Other countries.....	7,698	5,822
“ Colliery employees.....	269	972
Total disposals 1890 (tons).....	104,049	42,575

Coal Sales 1891.

	Round.	Slack.
To Nova Scotia.....	8,308	5,632
“ New Brunswick.....	6,729	1,952
“ Prince Edward Island.....	761	4,635
“ Quebec (including bunkers).....	68,083	27,948

CALEDONIA COAL AND RAILWAY CO.—Continued.*Coal Sales 1891—Continued.*

To Newfoundland.....	13,208	2,252
“ United States.....	.....	10,034
“ Miquelon.....	403	50
“ Colliery employees.....	729	736
“ Colliery consumption.....	1,120	930
		930
Total disposals 1891 (tons).....	99,341	49,169

Caledonia Colliery, one mile from Little Glace Bay Harbor; George Scott, underground manager; four hundred persons employed.

Seam of 7 ft. worked; dip averages 1 ft. in 10 ft; vertical depth of shaft, 185 ft.; length of slope 1,600 ft.

System of working—Pillar and bord.

Ventilation—By vertical shaft 70', and 2 large brick furnaces.

Lamps—Naked lights.

Boilers—9 plane cylindrical.

Pumps—Two bucket and lift and one No. 7 Blake make.

Hoisting engines—One 11 inch cyl. 24 inch stroke, 6 ft drum; one double engine for hauling coal from deep having 12 inch cyl., 15 inch stroke.

Compressor—One 20 x 30 Piston Inlet Ingersoll make, with a capacity for 12 coal cutters; 6 Sergeant coal mining machines and necessary boilers, air receivers, piping, etc.

CALEDONIA MINING CO.

Organized 1888, under the laws of the State of Virginia. Capital \$500,000 in shares of \$100 each, fully subscribed and paid up.

Directors :

Gilbert Parker, Philadelphia, Pa.,	
R. D. Evans, Boston, Mass.,	G. W. Lathrop, Rochester, N.Y.
Colonel G. Turner, Wilmington, Del.	Walter E. Rex, Philadelphia, Pa.

Mines and Works : Gilbert Parker, Malaga, Queen's County, N.S.

The Company holds 40 gold areas under lease from the Government of Nova Scotia. Lodes opened for 1,900 feet. Plant includes 10 stamp-mill, Ingersoll compressor, hoisting and pumping gear, etc. Official returns of gold yield reported as follows:—1890 : 992 ounces, 5 dwt. from 4,399 tons rock crushed; 1891 : 1016 ounces, 4 dwt. from 1,403 tons rock crushed.

CAMBRIAN COAL CO., Ltd.

Incorporated 5th April, 1886. Authorized Capital \$83,100, divided into 831 shares of a value of \$100 each.

Directors :

R. S. B. O'Brien,	
Edward Quennell,	Thos. D. Jones.

Head Office : T. D. Jones, Secretary-Treasurer, Nanaimo, B.C.

The property owned by this company contains 831 acres of mineral land, situate in the Cedar District, Vancouver Island, at a point about two miles from the property owned and operated by the New Vancouver Coal Mining and Land Company. The

CAMBRIAN COAL CO.—Continued.

company's property being freehold is not subject to any Government royalty. A twelve month's agreement has been made by the company whereby the new Vancouver Coal Mining and Land Company may purchase the coal and other minerals contained on the 831 acres aforesaid, along with certain surface rights, etc. This bond expired on the 1st October, 1890. No report 1891.

CANADA COAL COMPANY.

Incorporated under the laws of Nova Scotia 1891. Authorized Capital, \$50,000, divided into 5,000 shares of the par value of \$10 each.

Directors :

R. Cruikshank, St. John, N.B.,
 Hon. John Boyd, St. John, N.B.,
 R. G. Leckie, M.E., Londonderry, N.S. | David McPherson, Halifax, N.S.
 Saml. M. Brookfield, Halifax, N.S.

Head Office : Henry Duffell, Jr., Secretary, St. John, N.B.

Formed to mine, quarry, work, win and prepare for sale, by any process, and to carry, sell and deal in coal, iron and other minerals, &c. The Company holds under lease from the Joggins Mining Association an area of three square miles, upon which is situate the Joggins Colliery, situate at Joggins Mines, near Maccan, in the county of Cumberland, Province of Nova Scotia; it also owns an area of one square mile adjoining the Joggins property, containing an extension of the seam. 220 persons employed in 1891. The coal sales in 1891 were :—

	Round.	Slack.
To Nova Scotia.....	4,348	1,827
“ New Brunswick.....	28,311	1,435
“ Quebec.....	19,621	—
“ United States.....	—	330
“ Colliery employees.....	1,577½	463
“ Colliery consumption.....	58	3,772½

Seam from 6 ft. to 8½ ft. worked; coal from 4 ft. to 5½ ft.; clay in centre of seam from 1' to 3'; dip 17°; slope 1900 ft.; system of working: Longwall; about 2,000 ft. face operated at November 1891.

Ventilation by Furnace.

Lamps :—Anton; all open-lights.

Boilers :—Six double flue, 3' dia. 30' long.

Winding Engines :—One double 18" x 42" geared 3 to 1; one 15" x 30" operating saw-mill; one 14" x 24" hauls empty cars from pier to pit; one double 3" x 10" used in sinking; one 5" x 10"; and one 7" x 16.

Pumps :—Two Burrell-Johnson.

Screens :—Six in use.

Shipments made by I. C. Railway at Maccan Station and by water from Joggins wharf.

Manager : James Baird, Joggins Mines, Cumberland Co., Nova Scotia.

CANADA COMPANY.

Incorporated 1826. Capital £891,500, in shares of £100 each. The Capital was originally in £100 shares, of which £32 10s. was paid up: £31 10s. per share has been repaid, leaving £1 per share. Accounts made up annually to 31st December and presented in March; but the dividends are declared half-yearly at meetings held at the end of June and December, and are payable on 10th July

CANADA COMPANY—Continued.

and 10th January. The dividends paid in 1883 and 1884 amounted to £4 each year; in 1885, to £3 10s.; in 1886, to £3 10s.; in 1887, to £4; in 1888, to £2 10s.; in 1889, to £2; in 1890, to £1 10s., and in 1891, to £1 17s. 6d. (£1 in January and 17s. 6d. in July). On 31st December, 1890, the value of the lands leased (being the price at which lessees had the option of purchasing) was £95,884, and the value of the lands undisposed of, according to the valuation of December 31st, 1886, was £507,922. By the Company's Amendment Act of 1881, all income in excess of £4 per share per year is to be applied to the purchase of shares for cancellation, the number of shares not to be reduced, however, below 4,457, which is half the original number. In 1881 60 shares were purchased; in 1882, 323; in 1883, 130; in 1884, 76; in 1885 and 1886, none, and in 1887, 7, the capital thus being reduced to 8,319 shares of £1.

Directors :

	Sir R. Gillespie, (Governor).	
P. Redpath,	|	W. W. Heygate,
J. P. Currie,	|	Hon. F. S. A. Hanbury Tracey, M.P.

Head Office :

R. M. Steele, Secretary, 1 East India Avenue, Leadenhall Street, London, E.C.

CANADIAN OFFICE :

Hon. G. W. Allan, Commisisoner.	|	Alfred Willson, Commissioner.
204 King Street East, Toronto, Ont.		

The Company issues Licenses to prospect, or to work the minerals on any of their lands in Eastern Ontario, upon terms to be known on application to the Company or its mining inspectors,

Mining Inspectors :

Andrew Bell, P.L.S., Almonte, Ont. (for lands in the County of Hastings).
H. T. Strickland, Peterborough, Ont. (for lands east of the County of Hastings).

CANADA INDUSTRIAL CO. Ltd.

Incorporated 19th May, 1883. Authorized Capital, \$50,000, in 500 shares of \$100 each.

Directors :

	A. Ouimet,	
C. B. Falardeau,	|	J. B. Falardeau.

Head Office : C. B. Falardeau, Managing Director, Montreal.

Formed to acquire and work phosphate and other mineral lands. The property owned and operated by the Company consists of Lots 9A, 16A and 28 in the 10th Range of Templeton; Lots 20A; and 16B in 9th Range of Templeton; Lots 17A, 17B and 21 of 6th Range of Templeton; Lots 13, 14 and 20 in 2nd Range of Templeton, containing in all about 1,200 acres, in the County of Ottawa, Province of Quebec. Estimated value of machinery, plant, buildings, etc., about \$30,000. A small force worked in 1891.

**CANADA NORTH-WEST COAL AND LUMBER
SYNDICATE, Ltd.**

Registered 14th August, 1889. Authorized Capital, £70,200, £45,000 being in A shares of £100, £25,000 in B shares of £100, and £200 in founders' shares of £1. The A shares rank first for dividends up to 10 per cent. and the founders' shares take half the surplus profits after providing for 10 per cent. on the A and B shares.

Directors :

E. Bainbridge,	Sir George Baden Powell, M.P.,	The Earl of Norbury,
Viscount Grimstone, M.P.,		T. B. H. Cochrane.

Head Office :

J. W. Knowles, Secretary, 6 Clement's Lane, London, E.C.,

CANADIAN OFFICE :

T. B. H. Cochrane, Managing Director, Canmore and Mitford, Alta.

This company owns 1,280 acres of coal lands at Canmore, and 2,880 at Mitford, in the Province of Alberta. 55 men and boys employed 1891. Seams worked 16'; dip, 45°; slope, 270 ft.; length of tunnel, 270 ft.; gangway, east, 1,500 ft.; gangway, west, 700 ft.; ventilation by Guibal fan (self-contained) 6' dia., 200 revs.; one multi-tubular boiler; one Polson hoist, geared, reversing, capacity 300 tons per diem; one small Blake 15 h.p. pump; Ingersoll drill; two screens 20 ft. steel bars, nut screen, 1/2 inch mesh, 35' capacity, 160 tons each; coal raised in 1890, 10,000 tons; no increase in 1891, owing to surface improvements; coal largely used on locomotives of Canadian Pacific Railway.

Mine Manager: C. N. Dickinson, M.E., Canmore, Alta.

CANADIAN ANTHRACITE COAL CO., Ltd.

Incorporated 28th October, 1886. Capital Stock, \$1,000,000, fully subscribed and paid up.

Directors :

Macleod Stewart, Ottawa, <i>President</i> ,	
O. H. Ingram, Eau Claire, Wis.,	Hon. J. G. Thorp, Cambridge, Mass.,
L. S. Tainter, Menomonie, "	John Stewart, Ottawa,
A. Pugh, St. Paul, Minn.,	Levi Crannell "
W. B. Scarth, M.P., Winnipeg, Man.,	Archibald Stewart, Ottawa.

Head Office : Union Chambers, 14 Metcalfe Street, Ottawa, Ont.

Formed to mine and extract coal, especially anthracite coal, in the Dominion of Canada, and generally to carry on the business of colliery proprietors, miners and engineers, in all their branches; and also the trade or business of carriers, by water, of coal, minerals and other freight from, to and within Canada, etc., etc. The company owns about 7,000 acres of coal lands in the district of Alberta, N. W. Territories. In 1891, the colliery and lands were leased for ten years to the H. W. McNeill Company, notice of which will be found on another page.

CANADIAN COPPER CO.

Organized 5th January, 1886. Capital Stock, \$2,500,000, fully subscribed and paid up.

Directors :

Hon. S. Burke, Cleveland, <i>President</i> ,	
G. G. Allan, Akron, O.,	C. W. Bingham, Cleveland, O.,
T. W. Cornell, Akron, O.,	H. P. McIntosh, "

Head Office : H. P. McIntosh, Sec.-Treas., Rooms 201 and 202 Perry-Payne Building, 103 to 109 Superior Street, Cleveland, Ohio, U.S.A.

This company is the owner of mineral lands in the Townships of Blezard, Creighton, McKim and Snider, in the District of Algoma, in all about 10,000 acres, and is at present operating the extensive nickel-copper mines known as the "Stobie," "Evans," and "Copper Cliff," at Sudbury, Ontario. Mines equipped with first-class engine and machinery equipment, including two Herreshoff furnaces, each of a capacity of 250 tons of matte per diem. When in full working order about 300 persons employed. Shipments of nickel matte mainly to United States. No reports of production obtainable for publication. The profits of the company have been equal to ten per cent., which has been spent in improvements. \$1,200,000 have been spent in construction. It has also just completed the erection of refining works at South Brooklyn, near Cleveland, Ohio, at a cost of \$1,000,000.

General Manager : John D. Evans, C.E., Sudbury, Ont.

Mine Captains :

Copper Cliff Mine : Capt. J. M. Jones. *Evans Mine :* Capt. Alfred James.
Stobie Mine : Capt. DeBlewett. *Smelter :* James McArthur.

CANADIAN GRANITE CO.

Incorporated 23rd February, 1885. Capital, \$50,000, fully subscribed and paid up.

Directors :

A. Maclean, Managing Director, Ottawa.	
J. C. Roger, Ottawa,	Macleod Stewart, Ottawa.

Head Office : Ottawa, Ont.

Formed to carry on the trade or business of carriers by water of granite and other freights from, to and within Canada : to work, quarry, raise, make merchantable, sell and produce granite, etc.

The company's granite quarry, is situated on the east cove of Kingston Harbour. The stone obtained varies somewhat in character, sometimes having a gneissic structure, but elsewhere being quite massive. The color is generally some tint of red with grey wavy marking. It is claimed to be peculiarly adapted for decorative purposes, and is much in demand for buildings and monuments. Large quantities of paving blocks are now being prepared at the quarry. In 1885 the company established works in the city of Ottawa. These are located on the basin of the Rideau Canal, which affords easy and cheap transport by water to the Kingston quarry. The mill has been fitted up with all the most improved machinery, including a granite-turning lathe capable of turning columns, etc., up to a diameter of 3 feet and length of 20 feet ; two

CANADIAN GRANITE CO.—Continued.

large double polishing lathes ; one marble-turning lathe ; two granite-polishing jennies ; one vertical polishing machine ; double-pendulum polishing machine ; large granite-polishing machine with carriage, with a surface capacity of about 84 superficial feet ; one basin hole cutter and boring machine ; Shortsleeve's patent gang saw, capable of sawing blocks 11 feet long by 9 feet wide, fed by one of Shortsleeve's automatic sand-feed machines ; rubbing bed 11 feet in diameter with marble machine ; Shortsleeve's new patent marble-moulding and counter-sinking machines, etc. The company also owns and operates a marble quarry at Renfrew, Ont. Estimated value of machinery plant at quarries and works \$30,000. Average men employed, 30.

Manager : J. C. Roger, Ottawa.

Quarrymaster : Wm. Davey, Kingston, | *Foreman of Works* : M. Shields, Ottawa.

CANADIAN PACIFIC PROSPECTING AND MINING CO.

Registered 31st May, 1889. Authorized Capital, £10,000 stg., divided into 9,900 ordinary shares and 100 founders' shares of £1 each. The whole of the ordinary shares were offered for private subscription in June, 1889, and allotted, and 7s. 6d. per share called up. The balance of the liability is payable in calls as required. The founders' shares, issued credited as fully paid, are not entitled to any share in the profits until a dividend of 25 per cent. has been paid on the ordinary shares, in any year, after which the remaining profits are to be equally divided between the ordinary and founders' shares.

Directors :

John Harvey, | Philip S. Dowson,
G. E. Rand, | Capt. Francis Retallack.

Head Office : Henry Ward, Secretary, 6 Queen St. Place, London, E.C.

CANADIAN AGENTS :
Rand Bros., Vancouver, B.C.

Formed for the purpose of prospecting and mining for gold and other metals in British Columbia and elsewhere in the Dominion of Canada. Power is taken to acquire, by lease or otherwise, any claims or holdings for the purpose of prospecting and developing the same to a sufficient extent to admit of their being sold to a company or companies to be formed to work them. Some prospecting work was done under option of purchase in 1890 on the Sultana Island gold property in the Lake of the Woods district, Province of Ontario.

Annual Report of 18th December, 1891.

"It was stated in the last report that the Carbonate Mountain claims would probably be again offered to the company. The vendors have been developing them in order to further prove their value, but to the present time no proposal has been received. *Sultana Island, Lake of the Woods* : Mr. E. E. Rand, a member of the Board, called at Winnipeg last year on his way to Vancouver to endeavor to make some satisfactory arrangement with the owners of this property, the Ontario Mining Company. He informed the Board that a proposal would be made by that company for settlement of our claims, but that has not yet been done. In view of the great depression existing during the year, and the unwillingness of the public to enter into fresh ventures, your Directors have not considered it desirable to attempt the flotation of any properties."

CANADIAN PHOSPHATE CO., Ltd.

Registered 12th December, 1887. The authorized Capital is £110,000, in shares of £1 each, of which 73,334 shares were offered for subscription in December, 1887. The letters of allotment were issued on 23rd December, 1887, the amount offered being subscribed, and the whole of the capital is now fully paid up. The purchase consideration was £80,000, payable £36,666 in fully paid shares and the balance in cash. To November 30th, 1888, there was a credit to profit and loss of £2,576, which was carried over; in 1888-9 this balance was increased to £3,023. In November, 1890, an interim dividend of 2½ per cent. was paid.

Directors :Edward Packard, jr., *Chairman*,

W. H. Williams, | Thos. Oakeley, | W. G. Couper, | C. C. Hoyer Millar.

London Offices :

O. Michael, Secretary, 155 Fenchurch Street, London, E.C.

CANADIAN OFFICES :**O. M. Harris, Atlantic Chambers, 209 Commissioner Street, Montreal, Que.**

Formed to acquire and further develop the property of the Union Phosphate Mining and Land Company of New York, consisting of the Star Hill, Williams and Ruby mines, 1,286 acres in extent, situated in the Township of Portland, Ottawa County, Que. The exact quantity of ore produced during the 12 months ended November, 1889, was 6,560 tons of uncobbed ore, as compared with 4,036, produced during the 11 months ending 30th November, 1888, and the shipments to the United States, Canada and Europe during the same period amounted to 5,710 tons. The shipments of ore from the mines in 1890, were : No. I grade (80/85%), 2,034 tons; No. II grade (70/75%), 2,812 tons; No. III grade (60/65%), 703 tons; ground phosphate, 503 tons; total exports, 6,052 tons. Returns for 1891 : No. I grade (80/85%), 646 tons; No. II (60/70%), 814 tons; mill stuff (60/65%), 775 tons; debris, 500. 75 persons employed in 1891. Mines shut down temporarily in August, 1891.

Mine Superintendent : Tom Lyons, High Rock, P.O., Que.

CANADIAN SMELTING AND REFINING CO., Ltd.

Incorporated January, 1891. Authorized Capital Stock, \$100,000, divided into 100,000 shares of \$1 each.

Directors :

Edgar K. Spinney,

Joseph R. Wyman, | E. Franklin Clements.

Head Office : E. Franklin Clements, Secretary, Yarmouth, N.S.

Formed to buy, sell, prospect, operate, lease, mortgage, and deal in mines, mining areas, quarries, ores, mine metals and metallic substances, etc. The properties owned are situate in Yarmouth, Digby, Annapolis and Queen's Counties, in the Province of Nova Scotia. It is proposed to erect smelting and refining works in the town of Yarmouth. Not operated in 1891.

Chemist and Metallurgist : E. Sjöstedt.

CANADIAN SYNDICATE, Ltd.

Head Office : Henry Ward, Secretary, 9 Queen St. Place, London, E.C.

Registered 3rd July, 1889. Authorized Capital, £20,000 stg., divided into 19,800 ordinary and 200 founders' shares of £1 each, of which all the founders' and 8,007 ordinary shares have been issued and £6,207 paid up, the founders' and 7 ordinary shares being fully paid and 8,000 ordinary having 15s. per share called up.

CAPE BRETON INSTITUTE OF MINE OFFICIALS.

Organized in 1891. President : J. G. S. Hudson ; Vice-President ; Chas. H. Rigby ; Secretary : S. P. Lee ; Daniel Hardy, Treasurer. Formed with the object of the mutual improvement of the members in the sciences of mineralogy and mining.

CARBONATE MOUNTAIN DEVELOPMENT CO.

Registered in London 10th May, 1891, and incorporated under the Joint Stock Companies' Act of British Columbia, 1891. Authorized Capital, \$100,000, in 100,000 shares of one dollar.

Directors :

E. E. Rand, | Charles Wetham, | C. D. Rand.

English Office : Henry Ward, Secretary, 9 Queen St. Place, London.

CANADIAN OFFICE :

Rand Bros., Vancouver, B.C.

Formed to adopt an agreement, dated 7th May, 1890, between Isaac Robinson, the Canadian Pacific Prospecting and Mining Company, Ltd., and Walter Concord on behalf of the company to acquire mines, mining concessions, rights and properties in the district of Carbonate Mountain, and other parts of the Province of British Columbia. The mining claims owned are seventeen in number each 600' x 1500', containing principally argentiferous galenas and situate between Copper Creek and the middle fork of the Spillimicheen river, in the McMurdo county, East Kootenay, B.C.

CARIBOO CREEK MINING COMPANY, Ltd.

Incorporated 19th June, 1889. Capital Stock, \$10,000, divided into 1,000 shares of \$10 each.

Directors :

David Woolsey, | A. J. Smith, | Thos. Forrest.

Head Office : Donald, B.C.

This company owns and operates several claims in the Illecillewaet sub-division of the West Kootenay mining district, Province of British Columbia. Mining operations during the year 1891, were confined to driving a tunnel to tap the vein running through the "Maple," "Quebec" and "Corona," about 400 feet from the surface. A small force employed.

Mine Superintendent : David Woolsey, Illecillewaet, B.C.

CENTRAL LAKE MINING CO.**Owners :**

S. P. Franchot, Buckingham, Que.,	
M. W. Base, Olean, N.Y.,	DeWitt Lefebvre, Olean, N.Y.,
N. V. V. Franchot, Olean, N.Y.,	Capt. McNaughton, Buckingham, Que.

Head Office : Buckingham, Que.

Formed to acquire and work phosphate lands, particularly lots 7, 8, 9 and 10 in the 10th Range of Portland West, County of Ottawa, P.Q. A small force employed in 1891.

Mine Superintendent : Capt. Gilchrist.**CENTRAL RAWDON MINING CO., Ltd.**

Incorporated 1890. Capital, \$120,000, in shares of \$100 each, fully subscribed and paid.

Directors :

J. H. Smith, <i>President</i> , Windsor, N.S.,	
Gould Northup, Rawdon, N.S.,	Wm. O'Brien, Windsor, N.S.,
Judson Dimock, Scotch Village, N.S.,	C. H. Dimock, Windsor, N.S.,
J. R. Northup, Scotch Village, N.S.	J. C. Geldert, Windsor, N.S.

Head Office : J. C. Geldert, *Secretary*, Windsor, Hants Co., N.S.

The company holds and formerly operated from 150 to 200 gold areas under lease from the Government of Nova Scotia. The mines which are at Rawdon, are equipped with 15 stamp mill, hoisting and pumping gear and other machinery, and employ on an average about 50 men, but have been closed down during the most of 1891. Official returns for 1891, gave 342 ounces gold from 510 tons rock crushed.

General Manager : Gould Northup, Central Rawdon, Hants Co., Nova Scotia.**CHICAGO-ALGOMA NICKEL CO., Ltd.**

Incorporated 1891. Authorized Capital, \$1,000,000, divided into 10,000 shares of \$100. \$300,000 of said stock to be first preference, on which a dividend or dividends, aggregating \$90,000 on such stock shall first be paid out of profits.

Directors :

	R. P. Travers, Chicago,	
Henry R. Durkey, Chicago,		T. L. Nelson, Boston,
A. F. Mason, Boston,		F. A. Whitney, Leominster,
H. R. Valpey, "		T. Travers, Sudbury, Ont.

CANADIAN OFFICE :**T. Travers, Managing Director, Sudbury, Ont.**

Formed to acquire and work certain copper-nickel and other mineral lands in the Township of Drury, and elsewhere in the Province of Ontario. Operated in 1891, but no reports obtainable at date.

COLCHESTER COAL MINING CO., Ltd.

Organized 1890. Capital \$50,000 in 1,000 shares of \$50 each.
George Hyde, *President*, Truro. | J. W. Johnson, *Treasurer*, Truro.

Head Office : George Ross, Secretary, Truro, N.S.

Formed to acquire and work coal areas held under lease from the Provincial Government, particularly at North River, near Onslow, Colchester County. The sum of \$1,500 had been expended in the work of development up to the first January, 1890, when it was deemed advisable to suspend operations until July, when operations were again resumed with promising results. At this date about 100 feet of a slope had been completed, with gin for hoisting, double track and trolleys, etc., a house for miners erected, blacksmith's forge, and the road repaired to the mine. Only development work done in 1891.

COLDSTREAM MINING CO.

Organized 1890. Authorized Capital, \$1,000,000, divided into 40,000 shares.

Directors :

Gilbert Parker, *President*.
R. D. Evans, | J. S. Bartlett,
C. A. Coffin, | E. L. Sanborn,
Albert Stone, | R. R. McLeod,

Head Office : R. R. McLeod, Truro, N.S.

Formed to acquire and work the gold mining areas situate at, or near, Coldstream, in the County of Colchester, Province of Nova Scotia. A 50 stamp steam mill was completed in 1891, and twenty stamps were used to test rock from the mines. The average grade was too low to pay and the mine was let out on tribute in November, 1891. Official returns for 1891 give 17 ounces, 15 dwt. of gold from 210 tons rock crushed.

COLERAINE MINING CO., Ltd.

Incorporated 20th November, 1891. Authorized Capital, \$120,000 in 1,200 shares of \$100 each.

Directors :

Hon. J. A. Chapleau, M.P.,
A. Desjardins, M.P., | A. L. DeMartigny,
Hon. A. Lacoste.

Head Office : A. Desjardins, M.P., Managing Director, Montreal.

Formed for the purpose of buying, selling, dealing in, and working mines and minerals, etc. The company owns a large block of asbestos and other mineral lands in the Township of Coleraine, in the Province of Quebec.

COLUMBIA-AMERICAN MINING CO.

Incorporated October, 1890. Authorized Capital, \$500,000 in shares of \$1 each, of which 100,000 shares are set aside for development.

Directors :

B. C. Van Houten, *President*,
W. H. Lynch, | F. E. Archer.

Head Office : F. E. Archer, Secretary, Spokane, Wash.

This company owns the "Kismet," "Hambone," "Dora D." and a two-fifth interest in the "Retriever," argentiferous galena claims, all situate at Hot Springs, in the West Kootenay district, Province of British Columbia. Small force employed in 1891.

COLUMBIA MINING CO., Ltd.

Incorporated 7th August, 1890. Authorized Capital, \$500,000, divided into 5,000 shares of a value of \$100 each.

Directors :

W. A. Donaldson, | E. J. Brickell, *President*,
G. Pahl, | M. Thomsen,
O. B. Nelson.

Head Office : W. A. Donaldson, Secretary, Box 1605, Spokane, Wash.

This company owns six full mining claims consisting in the aggregate of 125 acres of land, and located at Hot Springs, in the West Kootenay district, Province of British Columbia. Small force employed in 1890, to be increased as soon as railway transportation is secured. Writing under date of 24th June, 1891, the manager writes: "We are taking out about five tons of galena ore per day from the 'Crescent' mine, one of our claims, and have a body of ore about five feet in width, at a depth of 50 feet, same mining up to 120 ounces in silver and about 60% lead. We are also running a tunnel on the 'Black Chief' mine, and will top the ledge about 90 feet deep."

COMMERCIAL MINING CO., Ltd.

Incorporated 1892. Authorized Capital, \$100,000, in 20,000 shares of a value of \$5 each.

Directors :

Wm. L. Borstleman, New York,
Frank E. Shearman, Jamestown, | A. H. Hillyard, St. John, N. B.,
Charles A. Murrle, Toronto, | J. W. Cheeseworth, Toronto,
W. H. Cooper, Toronto, | John C. Birkett, Boston.

Head Office : Toronto, Ont.

Formed to acquire and work certain mineral property in the Province of Ontario. No report obtainable as company had just received its charter at date of publication.

CONCORD GOLD MINING CO.

Head Office: C. M. Hamilton, Oldham, N.S.

Official returns of the operations of this company during 1891, give 88 ounces 19 dwt. 16 grs. gold from 213 tons rock crushed.

CONSUMERS' OIL CO.

Incorporated 1881. Capital Stock, \$30,000, divided into 300 shares of a value of \$100 each.

Directors:

	H. W. Lancey, Petrolia, Ont.,	
John Wolfe, London, Ont.,		C. McCallum, London, Ont.,
Wm. English, Petrolia, Ont.,		F. Wolfe, Petrolia, Ont.

Head Office: F. Wolfe, Manager and Secretary, Petrolia, Ont.

The company carries on the business of oil producers and refiners at Petrolia, Ont. 18 men employed. The individual stockholders being mainly producers, the company owns and operates a number of wells. The average yearly turnout is about 75,000 barrels of refined and other oils.

COTTONWOOD GOLD MINING CO., Ltd.

Registered in London, England, 8th January, 1889.

Authorized Capital, £10,000 stg., in 1,000 shares of £10 each, divided into 625 A shares and 375 B shares, of which 575 A shares have been issued and the full amount paid up.

Directors:

W. J. Cutbill,		F. T. Cutbill,
John Carruthers,		Henry Gale.
	Douglas A. Stanley.	

Head Office: D. Amey, Secretary, 4 Old Jewry, London, E.C.

Formed for the purpose of purchasing from Douglas A. Stanley his interest in certain mining claims in the West Kootenay Mining District, B.C. The mines owned and operated are known as the "Eagle," "Ella," "Golden King," and "Golden Wreath," and are located on the right bank of Cottonwood Smith Creek, which empties into the west arm of Kootenay Lake, a short distance below the town of Nelson. These claims contain an immense deposit of schistose slate, over 300 feet wide, which assays \$6.70 in gold to the ton. The surface is oxidized to a depth of several feet, and is free milling in character. The principal amount of gold in the rock is associated with sulphurets, which will require concentrating to a value of \$30 per ton to render profitable. The machinery erected on the ground to date consists of two Huntington mills, with a capacity of 12½ tons, operated by 20 horse power engine. No report or balance sheet is to be issued until the completion of negotiations (now pending) for the disposal of the property to a large company. During 1891 mining operations have, therefore, been confined to such work as was necessary to conform with the laws of the Province.

Mine Manager: Montague S. Davys, Nelson, West Kootenay Mining District, B.C.

COWAN GOLD MINING CO.

Incorporated 1886. Authorized Capital, \$50,000, in 500 shares of \$100 each.

Directors :

Hon. L. F. Baker, Yarmouth, N.S.,
 Jas. D. Dennis, Yarmouth, N.S., | Thos. B. Crosby, Yarmouth, N.S.

Head Office : Thos. B. Crosby, Yarmouth, N.S.

Formed to acquire and work certain gold areas in the Province of Nova Scotia, of which some twenty-four are held and have been worked at Kempville in the County of Yarmouth. Mines equipped with fair plants, including 15 stamp mill, pumps, hoists, boilers, etc. No work has been done during the past two years, and the property is now for sale. Official returns of the gold produced are :—

1886.	231 ounces	6 dwt.,	from 156 tons	rock crushed.
1887.	261	" 13	" 110	" "
1888.	79	" 16	" 32	" "
1889.	190	" 10	" 214	" "

CRESCENT GOLD MINING CO. OF MARMORA, Ltd.

Incorporated 1891. Authorized Capital, \$100,000, in shares of a value of \$1 each.

Directors :

P. A. Peterson, Montreal,
 C. R. Hosmer, Montreal, | Robt. Benny, Toronto,
 H. C. Hammond, Toronto, | J. McFee, Belleville.

Head Office : Malone, Ont.

Formed to acquire and work certain mineral lands at or near Malone, in the Province of Ontario. Operated in 1891, but no reports obtainable at date.

CROWFOOT COAL CO.

Incorporated 8th April, 1890. Nominal Capital Stock, \$125,000, in 1,250 shares of \$100 each.

Directors :

W. A. Allan, Ottawa.
 Heber Archibald, Winnipeg, | Arthur F. Eden, Winnipeg.

Head Office : J. R. Fullerton, Secretary, 180 Owen Street, Winnipeg.

Formed to acquire by purchase, lease, surrender, gift, exchange or otherwise, a tract or tracts of coal lands, or lands assumed or reported to cover or contain deposits of coal or like deposits, in Manitoba, British Columbia or the North-West Territories, of Canada, and to own, hold, work, develop, sell, lease, mortgage or otherwise deal therewith, etc., etc.

CROWN POINT MINING CO.

Incorporated 1890, under the laws of the State of Minnesota. Authorized Capital, \$600,000.

Directors :

H. R. Tinkham, Duluth, <i>President.</i>	
A. D. Cummings, Duluth,	Hon. J. D. Ensign, Duluth,
C. E. Shannon, Duluth,	James Billings, Duluth,
Hon. A. P. Stearns, Duluth,	Geo. F. Pipe, Duluth.
E. A. Tinkham, Duluth, Minn.	

Head Office : E. A. Tinkham, Secretary, Duluth, Minn.

This company controls 160 acres of mineral land in the District of Silver Mountain, situate at a point on the line of the P.A., D. & W. Railway, 40 miles distant from the town of Port Arthur. The property was formerly owned by Messrs. A. D. Cummings and W. N. Montgomery, two of the promoters of the present company, and by whom it was formerly worked. The workings to date include : Adit-levels, 788', all on the vein ; winzes, 129' ; crosscuts, 100'. The production to date amounts to 1500' tons of silver milling ore of an assay value of 187 ozs. to the ton, and 28 tons of high grade smelting ore of an average value of 700 ozs. per ton. Estimated value of plant \$5,000, to be largely increased when the present company is fully organized.

Mine Superintendent : W. N. Montgomery, Port Arthur, Ont.

CROW'S NEST COAL AND MINERAL CO., Ltd.

Incorporated 25th March, 1889. Authorized Capital, \$2,000,000 divided into 20,000 shares of a par value of \$100 each.

Directors :

<i>President :</i> Lt.-Col. James Baker,	
Joseph D. Pemberton, C.E.	Peter C. Fernie,
Wm. Fernie,	Edward Bray,
A. W. Vowell.	

Head Office : F. B. Pemberton, Secretary, 45 Fort St., Victoria, B.C.

This company owns 11,000 acres of coal lands situate near Martin Creek, and also near Morrissey Creek, in the East Kootenay district, Province of British Columbia. Up to 1st October, 1890, \$30,000 have been expended on prospecting and preliminary development, but mining on a more extensive scale will not be begun until better shipping facilities have been provided. Average men employed in 1890, 10. An analysis of a sample of fast coking gave :—

Hygroscopic water.....	1.89
Volatile combustible matter.....	30.41
Fixed carbon.....	63.33
Ash.....	4.37
	100.00
Coke, per cent.....	67.70

Superintendent : Wm. Fernie, Victoria, B.C.

CUMBERLAND RAILWAY AND COAL CO., Ltd.

Incorporated 25th May, 1883. Authorized Capital, \$2,000,000. Bonds, \$1,250,000,
of which \$1,000,000 have been issued.

Directors :

<p style="text-align: center;">John McDougall, <i>President</i>,</p> <p>R. Cowans, Hon. G. A. Drummond, W. J. Morrice,</p>	|	<p>David Morrice, J. R. Cowans, H. R. Drummond.</p>
--	--	---

**Head Office : H. R. Drummond, Secretary, Imperial Building,
Place d'Armes, Montreal.**

Formed to acquire, work and develop coal lands, of which some ten square miles are held under lease from the Government of Nova Scotia. The coal sales of the company during the past three years have been :—

1889.

	Tons.
To Nova Scotia	90,847 ½
“ New Brunswick	93,527
“ Quebec	172,405 ½
“ United States	9,986
“ Colliery employees	3,445
Total sales	272,211

1890.

	Round.	Slack.
To New Brunswick	89,715	17,332
“ Nova Scotia	57,341	32,184
“ Quebec	157,975	15,302
“ United States .....	.....	7,734
“ Colliery employees, etc.	6,368	.....
Total tons	311,399	72,552

1891.

	Round.	Slack.	Total.
To Quebec	144,198 ½	19,757 ¼	163,955 ¾
“ New Brunswick	101,545	22,107	123,652
“ United States	58	8,757	8,815
“ Nova Scotia	67,644 ¾	42,138 ½	109,783 ¼
“ Colliery employees, etc.	9,091	43,171	52,262
Total	422,537 ¼	135,930 ¾	458,468

No. 1 Slope—Wm. Conway, *Manager*. 210 men and 45 boys employed in 1891; coal raised 1891, 133,020 tons.

Seam of 8 ft. worked; dip averages 30°; slope, 2,500 ft.

System of working—Pillar and bord.

Ventilation—By blow-down fan, 20' dia.; width of blade, 8'; length of blade 6' 8"; length of shaft 11' 3"; dia. of shaft 8".

Lamps—Marsaut.

Boilers—4 double flue 40 h. p. each; 4 tubular 25 h. p. loco. pattern.

Hoisting engines—1 double-gear'd winding engine, cyls. 18" x 36", drum 9' dia.; 1 single-gear'd winding engine, cyls. 12" x 30", drum 4' dia.; engine, direct acting cyl. 15" x 30"; 1 elevator engine, cyl. 9" x 18"; (1) 1 electric light engine, cyl. 8" x 12".

CUMBERLAND RAILWAY AND COAL CO.—Continued.

Pumps—Two Blake, 11" x 28" x 36"; one Cameron, 9" x 22" x 30"; one Cameron, 4" x 10" x 15".

Screens—Straight steel bars 13' long, 1" sq., 3/4" apart.

No. 2 Slope—Wm. Reese, *Manager*. Coal raised 1891, 129,151 tons; 233 men and 50 boys employed.

Seam of 10 ft. 6 in. worked; dip 30°; length of slope 2,900 ft.

System of working—Pillar and bord.

Ventilation—By blow-down fan, dia. 16 ft.; length of blade 6 ft. 6 in.; width of blade 4 ft. 10 in.; dia. of shaft, 8 in.; length of shaft 10 ft. 8 in.

Lamps—Marsaut.

Boilers—Eight double flue, 40 h.p. each; two Lancashire flue, 70 h. p. each; one return tubular, 45 h.p.

Hoisting engines—One double-gearred winding engine, cyls. 22in. x 36in.; drum dia. 9 ft. 10 in.

Pumps—Two Allison, 14 1/4 in. x 30in. x 72in.; one boiler feed (Jeansville), 8in. x 4in. x 8in.

Screens—Straight steel bars 1 ft. sq., 15 ft. 10 in. long, 3/4 in. apart.

Other plant—1 double-acting fan engine, cyl. 12in. x 30in.; also engine for hoisting timber to bank and raising empty boxes up incline by means of chain, cyl. 8in. x 10in.

No. 3 Slope—Wm. Matthews, *Manager*. Coal raised 1891, 195,255 tons; 268 men and 64 boys employed.

Seam of 10 ft. worked; dip 28°; slope 1,900 ft.

System of working—Bord and pillar and longwall.

Lamps—Marsaut.

Ventilation—By blow-down fan, 14 ft. dia.; length of blade, 3 ft. 6 in.; width 6 ft.; dia. shaft, 7 1/2 in.; direct-acting engine, cyl. 12in. x 30in.

Boilers—Eight double flue, 40 h.p. each.

Hoisting engines—One double-gearred winding engine, cyl. 15in. x 30in., dia. of drum, 9 ft. 10 in.

Pumps—1 compound duplex, built at Jeansville, Pa., cyl. 38in. and 25in. x 30in. x 10in.; one Cameron boiler feed 4in. x 6in. x 10in.

Screens—Straight steel bars 1in. sq. and 13 ft. long, 3/4 in. apart.

No. 4 Slope—Not worked in 1891; winding engine (single) 15in. x 48in., drum dia. 10 ft.

Boilers—Two marine return tubular boilers of 40 h.p. each.

Seam of—ft.; dip 40°; length of slope at date 1,300 ft.

Machine shop fitted with necessary tools for repairs to colliery plant, including eight locomotives which are employed in hauling coal from the collieries, etc.

J. R. Cowans, *General Manager*, Springhill, N.S.,

Alexander McInnes, *Manager*.

C. Hargraves, *Asst. Manager*.

DEADWOOD MINING CO.

Incorporated 20th January, 1891. Authorized Capital, \$25,000, divided into 250 shares of a value of \$100 each, of which at date of last report \$18,000 had been subscribed.

Directors :

A. D. Whittier, <i>President</i> ,	
W. C. Haywood,	J. A. Whittier,
J. E. Crane,	H. S. Sharpe,

Head Office : W. C. Haywood, *Secretary*, Victoria, B.C.

Formed to purchase, work and develop gold mines and other mining properties, etc. The property owned contains 96 acres of gravel bar on the Fraser River, near Lilloet, in the Province of British Columbia. Ten men employed.

DE NEDERLANDSCHE PHOSPHAAT- MAATSCHAPPIJ.

Registered in Amsterdam, 1890. Authorized Capital, 500,000 Flor. (\$200,000) in shares of 1,000 Flor.

Directors :

Eugen Bunge,
D. A. Fock, | Dr. W. A. Van Dorp,
S. Pick.

Head Office : F. Kogel, Secretary, Amsterdam, (Netherlands).

CANADIAN OFFICE :

Dr. C. Killing, Manager, 209 Commissioner St., Montreal.

Formed to acquire and work phosphate lands in Canada and elsewhere. In March, 1890, the company commenced mining on Lot 6 in the XI Range, 200 acres ; Lot 6 B in the X Range, 100 acres ; Lot 5 in the X Range, 200 acres, and Lot 5 A in the IX Range, 100 acres, altogether six hundred acres, in the Township of East Templeton, County of Ottawa, Province of Quebec. Forty men employed. At 31st December, 1891, the quantity of mineral raised amounted to 650 tons of first quality and about 200 tons seconds. Dr. Killing hopes to take out 4,000 tons in 1892. Estimated value of machinery equipment, buildings, etc., at date, \$8,500.

Mine Superintendent : J. H. Merrill, East Templeton, Que.

DOMINION LIME CO.

Incorporated 1889. Authorized Capital, \$400,000. in shares of a value of \$100 each, the whole of which has been subscribed and fully paid.

Directors :

Hon. Frank Jones, Portsmouth, N.H., *President.*
Hon. J. G. Robertson, Sherbrooke, Que., | R. H. Pope, M.P., Cookshire, Que.,
W. B. Ives, M.P., Sherbrooke, Que., | Chas. A. Sinclair, Boston, Mass.
F. P. Buck, Sherbrooke, Que., | J. P. Cook, Salem, Mass.
T. J. Tuck, Sherbrooke, Que., | Geo. Van Dyke, Lancaster, N.H.

Head Office : Sherbrooke, Que., F. P. Buck, Managing Director and Treasurer. J. R. Woodward, Secretary.

This company owns some 2,000 acres of land in the Township of Dudswell, in the Eastern Townships of the Province of Quebec, and carries on the business of producers of lime, lumber, etc. The company's quarries are situate in the Township of Dudswell at Lime Ridge on the line of the Maine Central Railway and yield an annual production of 36,000 tons of lime. The limestone is obtained from large ledges of a dark or greyish rock, in places crystalline, which, in the upper quarry, presents a nearly vertical face of 90 feet. This is situate in close proximity to the kilns, of which there are ten in all, six in the upper or older works, and four in the lower and newer works, about half a mile distant. Each of these kilns is stated to have a daily capacity of 300 barrels of lime. The lime manufactured is remarkable for its purity, the foreign matter in the rock averaging not more than one or two per cent. The company also turns out yearly some 2,000,000 feet of lumber and 40,000 barrels from its coooperage. Estimated value of machinery, plant and buildings, \$300,000. One hundred and twenty-five men and boys employed.

Superintendents : J. H. Barker and O. C. Bickford, Dudswell, Que.

DOMINION MARBLE CO.

Incorporated 5th January, 1886. Authorized Capital, \$100,000, divided into 2,000 shares of a value of \$50 each, of which, to 1st November, 1890, 1,000 shares of a value of \$50,000 have been subscribed and fully paid up.

Directors :

President : Thomas J. Tuck,
Joseph Webster, | G. B. Loomis,
Wm. White.

Head Office : William White, Secretary, Sherbrooke, Que.

This company owns about 200 acres of land containing certain deposits of an excellent quality of marble, in the Township of Dudswell, County of Wolfe, Province of Quebec. Estimated value of plant, machinery, buildings, etc., \$10,000. The quarries of the company were not in active operation during the years 1889-90, but work will be resumed immediately on the completion of the extension of the Dudswell Lime Company's railway to the quarries. At 1st October, 1890, this railway had been built to a point about two miles from the company's property.

Dr. R. W. Ells, (Geol. Survey Rep., 1886, p. 68, J.), states that the marble is of several colours, takes a beautiful polish and presents a very handsome appearance, especially in a kind known locally as "black and gold," the yellow being due to veins of dolomite. There are also several shades of grey. In places the ledge is composed entirely of fossil corals, the polished slabs of which present a very peculiar and pretty mottled appearance.

DOMINION MINERAL CO.

Incorporated 16th April, 1889. Authorized Capital, \$100,000. By a supplementary Act assented to 24th April, 1890, the capital stock may be increased by the board of directors from time to time, to the sum in all of \$500,000, in shares of \$100 each, provided that the authorization and consent of all the shareholders of the company are previously obtained, either by their unanimous vote at a special general meeting duly called and held for that purpose, or by an instrument in writing to that effect executed by all the shareholders.

Directors :

John M. McIntyre, Montreal, *President*,
James Worthington, Toronto, | D. L. Lockerby, Montreal,
Wm. C. McIntyre, Montreal, | Edmund Reynolds, London.

Head Office : Henry Cutt, Secretary, 157 St. James Street, Montreal.

This company owns and operates certain mineral lands in the Townships of Blezard, Drury and Denison, in the mining district of Algoma, in the Province of Ontario. Mining operations for copper and nickel were begun in the fall of 1889. About 250 men employed. Work was suspended in the fall of 1891 pending some changes in the organization of the company. Estimated value of machinery plant \$50,000.

Resident Manager : John Ferguson, Sudbury, Ont. George Atwood, M.E.,
Consulting Engineer.

DOMINION PHOSPHATE AND MINING CO., Ltd.

Incorporated 25th May, 1883. Capital Stock, \$125,000, in shares of \$100 each, fully subscribed and paid up.

Directors :

President : Henry Earle, New York,
 T. C. Keefer, Ottawa, | Chas. Kyte, New York.
 W. H. Nicholls, New York.

Offices : 103 St. Francois-Xavier St., Montreal ; 45-49 Cedar St., New York.

Formed to acquire and work phosphate and other mineral lands in the County of Ottawa, Province of Quebec. The properties owned and operated are known as the North Star and Washington mines in Township of Portland East, Ottawa County, Que. The former is held in fee-simple, the latter the company own the mining rights only. Considerable development work has been done at the North Star, from which, during the year 1889, about 8,350 tons of phosphates were exported, mainly to Europe. The mines are well equipped with buildings and a good working plant. Average men employed about 60.

Mine Superintendent : Capt. T. W. Williams, North Star Mines, via Buckingham, Que.

DONALD GOLD MINING CO., Ltd.

Incorporated 13th May, 1889, Authorized Capital, \$10,000, divided into 10,000 shares of \$1 each.

Directors :

James Cullen,
 John Houston, | James Wright,
 Alex. McDonald, | William Elliott.

Head Office : Donald, B.C.

Formed to purchase, lease, or otherwise acquire mining ground in the Kootenay district, British Columbia; also, to conduct a general trading business in connection with that of mining.

DOUGLAS COAL MINING CO., Ltd.

Incorporated 1885. Authorized Capital, \$50,000, divided into 10,000 shares of a value of \$5 each.

Directors :

Ephraim White, Nine-Mile River, N.S.,
 Jas. Lynch, Shubenacadie, N.S., | Hugh McLearn, Maitland, N.S.
 Evan Thompson, Halifax, N.S., | H. T. Harding, Maitland, N.S.

Head Office : Maitland, Hants County N.S.

Formed to search for, work, mine and sell coal within the County of Hants, in the Province of Nova Scotia. The company was not in active operation during the year 1889.

DOUGLAS MINING CO.

Incorporated 1st May, 1888. Authorized Capital, \$100,000, divided into 100,000 shares of a value of \$1 each.

Directors :

O. T. Waring,
Jos. Bushnell,
J. E. Turrell,
O. W. Joslyn,

George H. Vilas,
Patrick S. Trainor,
Edwin Hawley,
M. A. Robinson,
Jas. W. Musson,

Silas H. Paine,
Geo. B. Wilson,
R. T. Davies,
John Douglas.

Head Office : Rock Creek, Osoyoos Divison, Yale District, B.C.

Formed to acquire and work ores and minerals in the Province of British Columbia. Seven men employed.

DRURY NICKEL CO.

Incorporated 6th January, 1892. Authorized Capital, \$500,000, divided into 10,000 shares of a value of \$50, of which \$250,000 is to be first preference stock.

Directors :

H. K. Durkee, Chicago, Ill.
A. F. Mason, Boston, Mass.,

R. P. Travers, Chicago, Ill.,

H. R. Valpey, Boston, Mass.,
F. A. Whitney, Leominster, Mass.

Thomas Travers, Sudbury, Ont.

Formed to acquire and work nickel and other minerals in the Township of Drury and elsewhere in the Province of Ontario. Property operated to some extent in 1891, but no information available at date.

Mine Superintendent : Thos. Travers, Sudbury, Ont.

DUFFERIN GOLD MINING CO.

Reorganized and Incorporated 1890. Authorized Capital Stock, \$500,000, divided into shares of a value of \$25 each, the whole of which has been fully subscribed and paid up.

Directors :

Gardner Clish, Truro, N.S.
A. Kent Archibald, Truro, N.S.
Silas Tupper, Truro, N.S.

John McNab, Halifax, N.S.
Timothy Archibald, Truro, N.S.

Head Office : Truro, N.S.

Formed to mine and smelt ores in the Province of Nova Scotia. The company holds under lease from the Provincial Government, and otherwise controls, some 343 gold areas at Salmon River, in the County of Halifax. Sixty persons employed. A new mill of 20 stamps, operated by water power, and capable of turning out sixty tons per day, was completed and put in operation in February, 1891.

Mines well equipped with all necessary machinery, including ore-breakers, hoisting and pumping gear, etc. The buildings consist of 14 miners' dwelling houses, saw-mill, blacksmiths' and carpenters' shops, etc., etc. Openings from E. to W., 1,700 to 2,000 feet; depth of shafts from 100 to 275 feet. Vein varies from 6 inches to 25 feet in width. Some of the richest quartz was struck at a depth of 60 feet in No. 3 shaft, continuing to a depth of another 100 feet, and still working. In

DUFFERIN GOLD MINING CO.—Continued.

some places this vein extends to 20 feet in width on the rolls. Pending the reorganization of the company in 1890, the property was not worked so extensively in 1889 as in former years. The official returns of the yield of gold during the past ten years are as follows :

YEAR.	TONS ROCK CRUSHED.	GOLD YIELD.	
		Oz.	Dwt.
1881.....	1640	1785	16
1882.....	3460	4315	16
1883.....	7479	3635	15
1884.....	9799	3397	—
1885.....	10880	4924	—
1886.....	10557	6509	—
1887.....	10702	3258	—
1888.....	9935	3354	10
1889.....	7740	1961	10
1890.....	6415	2070	—
1891.....	4710	1131	—

The history of the discovery of this mine is as follows :

"In the early spring of 1880, Mr. Geo. W. Stuart, of Truro, who has been identified with the gold industry of Nova Scotia from its beginning, had put men to prospect in the dense forests which are found surrounding the lakes from which Salmon River is fed. Much good drift and other satisfactory indications were found, but work was temporarily suspended owing to wet weather. Shortly afterwards, Mr. Stuart told Mr. Alex. Kent Archibald, now the largest shareholder in the Dufferin Company, of the good indications he had obtained, and the two arranged to have further prospecting done later in the season. Some little time after this interview, Mr. Archibald one day heard that an Indian, "Dandy Peter" by name, had some specimens of gold quartz, and upon interviewing the Indian, ascertained that the specimens had been obtained upon the tract which he and Mr. Stuart had arranged to prospect. As the specimens the Indian had were very fine, showing coarse gold, and many persons saw them, Mr. Archibald became alive to the fact that soon there would be a brisk competition, and that immediate action was necessary. Having just "blowed his bottom dollar" into another mining venture, Archibald was "strapped," as miners usually are; furthermore, his friend Stuart was away, and as good as inaccessible so far as time was of value. So he borrowed twenty dollars, and with it hired "Dandy Peter" to go with him and show him the spot where the specimens came from. Other people were watching Peter, hoping to get the desired information without paying for it, so it was necessary to be cautious in starting out. Under cover of midnight and total darkness Archibald and Peter started off, taking with them a lantern, which they took good care not to light until well in the woods. Peter's memory and woodcraft served them well, and long before day dawned he announced his whereabouts by saying, "Sit down now, smoke pipe; daylight me show plenty quartz, plenty gold;" and he kept his word.

After paying the Indian his \$20 and making his boundaries for the location of a large area of ground, Archibald returned to Salmon River settlement, got a horse and wagon and started for Halifax, some ninety miles away, to secure rights from the Mines Office. Just after starting he learned that the mail coach, which had preceded him, had on board a man bound on the same errand. Now the mail coach stopped for the night at Tangier, but Archibald, after eating his supper and having a quiet smoke, slipped out of the inn, hitched up his horse, and driving all night, arrived in Halifax early in the morning and many hours ahead of Her Majesty's mail. But here he met the same difficulty as in dealing with "Dandy Peter." Stuart, who had funds, and whom Archibald felt in honour bound to associate with himself, was absent in a distant part of the province. There was no time, however, to be lost, so Archibald went to Charles F. Mott and stated the facts. Mott refused to recognize

DUFFERIN GOLD MINING CO.—Continued.

Stuart in any way, but hastened to the Mines Office with Archibald, and a large block of areas was taken out. Shortly thereafter the lode itself was found and work begun, which has continued uninterruptedly ever since. As soon as the lode was found, suits were begun by other parties, claiming the ground on one pretext or another, and for nine years this valuable mining property could not show a clear title. At one time suits were so numerous and claimants so vigorous that Archibald and the other owners erected a tight board fence, sixteen feet high, enclosing their works and openings, and had sentinels posted all around the stockade and at various points along the road to Salmon River village, a distance of five miles. At the death of Capt. Edward Archibald, an owner, the property was sold at public auction to settle the estate, Capt. Archibald having died intestate. The sale took place March 14th, 1889, and was bid in by the former owners with the exception of Mr. C. F. Mott, who was left out in the cold. The price obtained was \$141,000, but was no index to the value of the property.

Managing Director: A. Kent Archibald, Truro, N.S.

DU LIEVRE MILLING AND MANUFACTURING CO.

Head Office: Seabury, Basin du Lievre, Que.

The mills and property situate at Seabury, Basin du Lievre, in the Province of Quebec, formerly owned and operated by this company, for the purpose of grinding raw phosphates, etc., have been acquired by Mr. F. S. Shirley, New Bedford, Mass., U.S.A., who is now sole owner. The mills have a capacity of from forty to fifty tons per day, are equipped with a fair plant, and possess a first-class water power. At December, 1891, the property was under option of purchase to an English syndicate.

DUNNVILLE NATURAL GAS CO.

Incorporated 1891. Authorized Capital, \$5,000, in 200 shares of a value of \$25 each; by supplementary letters patent the company has power to increase its capital stock \$20,000, by the issue of 600 new shares of a value of \$25 each.

Directors:

F. J. Ramsay,
G. A. McCallum,
G. S. Middaugh,
H. Penny,

J. Taylor,
J. H. Smith,
R. F. Lattimore,
J. Brown,

J. Nichol,
L. A. Congdon,
J. A. McIndoe,
W. D. Swaze.

Head Office: Louis A. Congdon, Secretary, Dunnville, Haldimand Co., Ont.

Formed to bore and drill for natural gas, and supplying the same in the town of Dunnville, Haldimand Co., Province of Ontario. The secretary writes that at date three wells have been sunk in the village of Dunnville, yielding approximately about 300,000 ft. of gas per day. Small force employed.

EASTERN DEVELOPMENT CO., Ltd.

Incorporated by Act of the Legislature of Nova Scotia, passed in 1882, and amended in 1884. Authorized Capital, \$2,000,000, shares of a par value of \$10 each. At the annual meeting of the company, held in Boston, 4th May, 1891, the directors authorized an issue of \$1,000,000 7% twenty years' gold bonds, American Loan

EAST RIVER COAL CO.

Owners :

John Muir & Sons, New Glasgow, N.S.

This company is working under a sub-lease from B. G. Gray, Halifax, on an area of some two square miles, at a point on the East River about three miles from New Glasgow, in the County of Pictou, Nova Scotia. The total quantity of coal raised during the year ended 31st December, 1889, amounted to 1,545 tons; 1890, 1,360 tons; 1891, raised 3,000 tons; sold 2,125 tons. Small force employed.

**EAST TEMPLETON DISTRICT PHOSPHATE
MINING SYNDICATE, Ltd.**

Registered 29th November, 1889. Authorized Capital, £6,000 stg., in shares of £1 each. Number of shares taken, £5,347. Amount of calls received £5,340. Number of shareholders at last returns, 77.

Directors :

James Boyd,
Andrew Hunter, | G. C. Lomer.

Head Office :

C. M. Anderson, *Secretary*, 4 Fenchurch Ave., London, E.C.

CANADIAN OFFICE :

Messrs. Lomer, Rohr & Co., Custom House Chambers, Custom House Square, Montreal, Que.

Formed to acquire, work and further develop certain phosphate properties, including the North half of Lot 7, and Lots 8, 9, 10 and 11 in the Eleventh Range of Templeton, in the County of Ottawa, Province of Quebec, in all about 900 acres in extent.

Mining operations were first begun by Messrs. McLaurin and Blackburn in the year 1878, when it was worked with a small force and paid well, yielding an average yearly output of 2,000 tons, fully half of which was of high test, averaging fully 80 per cent. In 1887, McLaurin sold out his interest to Mr. Robert Blackburn, who continued to work it at a profit up to November, 1889, when it passed into the hands of the present company. One hundred men are employed.

EAST WELLINGTON COAL CO.

Authorized Capital, \$1,500,000.

Directors :

J. Lawrence Pool, *President*, San Francisco,
J. Eastland, *Vice-President*, San Francisco,
Col. Mendall, *Director*, San Francisco,
R. D. Chandler, *Treasurer*, San Francisco,
Wm. Whitney, *Secretary*, San Francisco.

Head Office : 507-509 East St., San Francisco, Cal.

The company owns and operates the East Wellington Colliery at Nanaimo, in the Province of British Columbia,

EAST WELLINGTON COAL CO.—Continued.

During the year ended 31st December, 1889, 190 men were employed, and the output of coal was as follows:

Home consumption.....	7,636
Exported.....	43,089
On hand 1st January, 1890.....	547
Tons.....	51,272

The output in 1890 was 44,602 tons of which 35,132 were exported. Returns for 1891 are not yet reported. The value of the working plant at that date was estimated to have been \$140,000. The seam varies from 2½ to 7½ feet; 5 levels; 2 shafts; narrow gauge railroad 4½ miles; 2 locomotives; 34½ ton cars; 2 pair of hoisting engines; one large donkey engine; one steam pile driver; and one steam saw mill, having a capacity of 12,000 feet per diem. The colliery officials are:—

Superintendent: W. S. Chandler, Nanaimo, B.C.

Underground Manager: Robert Dunn.

ELARTON SALT WORKS CO., Ltd.

Incorporated 2nd July, 1885. Authorized Capital, \$10,000, divided into 100 shares of a value of \$100 each.

President: Frederick W. Kingstone.

Head Office: Charles J. Kingstone, Sec.-Treas., Warwick West, Ont.

This company owns and operates a property 7 9-10th acres in extent, and known as the North-East corner of the east half of Lot 6, in the 3rd Concession, Township of Warwick, Lambton County, Ontario, formerly worked by the late A. J. Kingstone and his executors. Depth of wells, 1,200 feet. A small force employed.

ELECTRIC MINING CO.

Incorporated 1891. Authorized Capital, \$60,000, of which at last report \$30,000 had been paid.

Directors:

Hector McRae.
J. W. McRae. | A. Stewart.

Head Office: Hector McRae, Managing Director, 16 Metcalfe St., Ottawa.

Formed to carry on phosphate and other mining works in Ontario and Quebec. The property owned and operated at date consists of Lots 9, 10 and 11 in the 5th Range of Templeton, 600 acres in extent; S. ½ of Lot 12 in the 11th Range of Templeton, containing 100 acres; Lot 24 in the 4th Range of Portland West, containing 100 acres, all in the County of Ottawa, Province of Quebec. It has also acquired the River Blanche water power with five acres of land on Lot 14, 4th Range of Templeton, distant from mines about 1¼ mile, to operate electrical plants to be installed in 1892. Thirty men employed in 1891. 1350 tons of phosphate raised in 1891; 216 tons shipped. The plant at date includes: One electric drill, hoist and lighting plant, two steam hoists, two steam drills, one diamond drill, two Worthington pumps and three boilers, of 30, 15 and 12 h.p. respectively, the whole of an estimated value of \$7,500.

Mine Superintendent: James Kelly, East Templeton, Que

EMERALD PHOSPHATE CO.

Incorporated under the laws of the State of New York. Authorized Capital, \$30,900, in shares of a value of \$50. each, all of which have been fully subscribed.

Directors :

A. P. Strong, Schenectady, N.Y.
 S. W. Jackson, Schenectady. | S. P. Franchot, Buckingham, Que.

Head Office : S. W. Jackson, Secretary, Schenectady, N.Y.

Canadian Office : S. P. Franchot, **Managing Director, Buckingham, Que.**

Formed to acquire and work the mines and mineral property formerly owned and operated by the Ottawa Phosphate Company, situate in the Township of Buckingham ; County of Ottawa, P.Q.

The "Emerald Mine" is situated on Lot 19 of the 12th Range of Buckingham, has been worked by the company since 1884. It lies on a hill 360 feet high, and three or four hundred yards from the Lievres River, and is distant eight miles from the village of Buckingham. The workings consist of open cuttings at different levels, supported by the pillars that have been left standing and connected by galleries. Steam is not employed for any purpose, and all the work is done by hand. The total production of the mine since it was started may be set down at 35,000 tons. During the last three years the average production has been reduced to about 3,000 tons, and a force of about 30 men employed.

Mine Superintendent : Capt. Henwood, Glenalmond P.O., Que.

EMPIRE CONSOLIDATED GOLD MINING CO.

Incorporated 25th July, 1890. Authorized Capital, \$500,000, in 50,000 shares of a value of \$10 each.

Directors :

A. E. Davidson,
 S. Oppenheimer, | P. J. Nason,
 Martin Cooney, | Michael Maloy.

Head Office : Martin Cooney, **Secretary, Spokane Falls, Wash.**

Formed to acquire and work certain mineral claims known as the "Dictator," "Thanatopsis," "Siwash Chief," "Cooney," and "Penobscap," near Hot Springs, in the Kootenay mining district, British Columbia. The secretary reports : "Nothing new in relation to either of the claims except the 'Dictator.' The tunnel near the north end strikes a large body of ore—so far of very low grade. Near south end we have recently found what promises to be a large body of argentiferous galena, also wire silver. Small force employed in 1891."

Superintendent : P. J. Nason, Hot Springs, B.C.

EMPIRE MINING CO. OF ONTARIO.

Incorporated 1891. Authorized Capital, \$75,000, in shares of \$100.

Directors :

John Jones,
 D. Hunter, | J. A. Huntley,
 J. S. Lockie, | J. M. McBrian.

Head Office : Toronto, Ont.,

Formed to acquire and work mineral lands in the Township of Graham, Algoma District, Province of Ontario. No report obtainable.

ENNIS AND CO.

Private Company.

Partners :

Andrew J. Ennis, | Anderson C. Wilson.

Head Office : 420 Walnut Street, Philadelphia, Pa.

This company operates, under lease, the mines and works of the Bristol Iron Co., at Billerica, in the County of Pontiac, Province of Quebec (see Bristol Iron Co.) Ore shipped in 1891, 1,400 tons; about 12,000 tons raised and stocked at mine during same period. Writing under date of 6th Nov., 1891, Messrs. Ennis & Co. report:—

“Owing to the presence of sulphur in Bristol ore it is calcined before shipment, and while the mine is said to be capable of putting out some 60,000 tons of raw ore per annum, the quantity raised is limited by the roasting-kiln capacity to about 30,000 tons a year. By reason of the existing depression of the American iron trade the mine is not being operated at present, and though melters of ore look forward with confidence to 1892 for increased activity and profitable business, Canadian iron ore raisers—primarily handicapped by a burdensome duty of 75c. per ton—will have difficulty in marketing their product unless Canadian railroads meet them with helpful freight rates, and the Government abrogate the royalty act.”

Mine Superintendent : Capt. T. M. Williams, Billerica, Pontiac Co., Que.

ESSEX MOULDING SAND CO.

Incorporated January, 1891. Authorized Capital, \$25,000, in 250 shares of a value of \$100 each.

Directors :

G. H. Walker, | P. Mulken,
P. J. Conroy, | A. R. Ferris,
G. E. Walker.

Head Office : London, Ont.

Formed with power to dig for, sell, and otherwise dispose of moulding sands; to quarry for stone and like minerals, and to manufacture, sell, and dispose of the same.

EUSTIS MINING CO.**Directors :**

W. E. C. Eustis, Boston, *President*,
John Blue, Capelton, Que., | Hugh Cochrane, Boston.

Head Office : John Blue, Capelton, Que.

This company owns and operates the Eustis mines on Lot II in the IX Range of Ascot, situate at Capelton Station, on the Boston and Maine Railway, Que. The mine was formerly operated by the “Oxford Nickel and Copper Co.” and then by the “Oxford Copper and Sulphur Company,” being transferred to the present owners in 1872. Main shaft (on incline) 1,725 feet. There is also another shaft 1,570 feet from surface, measuring on the dip of the vein. About 200 persons employed. Of the operations of the company during 1891, the president writes:—

“At present, we are not operating our smelting plant, but are confining ourselves exclusively to the shipment of ores of various grades, and suited for various purposes.

EUSTIS MINING CO.—Continued.

Our smelting plant at the mine is maintained more for the purpose of taking care of any surplus ores that we may have at any time which are not saleable; but owing to the high price of brimstone and the consequent quick demand for pyrites that has lately taken place, we have been able to sell all the ore that we could possibly find, and we are, therefore, inclined to think that the smelting works will not be operated this year. The ores that are now coming out are of substantially the same nature and percentage that have been raised in the last few years. They are low grade iron pyrites ores carrying more or less copper and silver, chiefly, but among them, we also get ores of various kinds running high in both copper and silver.

"I may say in closing that it is a class of ore which has to be worked in the most economical manner, freighted in the most economical manner, and one which will not at all bear any burdens which the Quebec Government may see fit to put upon it."

Average yearly output from 25 to 30,000 tons. Works include 50 roasting ovens of a capacity of 1,200 tons per month. At the smelting works there are two cupolas of 75 tons capacity each, with engines, boilers, and necessary fans to run them.

EVANGELINE MINES CO.

Registered in London in 1891, with an authorized capital of £35,000 stg., in shares of £1, to operate mines in the Province of Nova Scotia. No report.

EXCELSIOR COPPER CO.

At extraordinary meetings held on the 19th December, 1890, and 5th January, 1891, it was resolved to wind up the company voluntarily, and reconstruct; and accordingly a new company was registered on the 16th January, 1891, under title of the Leeds Copper Co., (notice of which appears elsewhere) to take over the property. Charles H. Smith, 6a Austin Friars, is the liquidator of the company.

FAIRBANKS CONSOLIDATED MINING CO. OF ONTARIO, Ltd.

Incorporated 26th June, 1890. Nominal Capital Stock, \$500,000, in shares of \$5 each.

Directors:

Henry Lowndes, <i>President</i> ,	
A. Rankin,	Jos. Barrett,
Lt.-Col. G. A. Shaw,	O. A. Howland,
J. R. Gordon,	Rich. Caddick,
W. G. Shaw,	R. H. Ahn.

Head Office: J. L. Nichols, Room D, Yonge St. Arcade, Toronto.

Formed to acquire and work mineral lands in the Province of Ontario, more particularly 1,152½ acres in the Townships of Creighton, Fairbanks and Trill, in the Sudbury region, District of Algoma, Ont. Under date of 10th June, 1891, the secretary reports: "This company is now prospecting its mine properties. Within the last few weeks very rich veins of gold quartz have been discovered in certain portions of the property, and the indications are such that the properties of this company are of a very rich character. Gold, silver, and platinum exist in large and small quantities, and in several of the properties two or three distinct veins of gold quartz have been traced. Miners are now stripping the veins in several places, and it is expected that within a very short time quartz will be delivered at the Algoma Reduction Works for treatment.

FARMERS' NATURAL GAS AND OIL CO. OF GOSFIELD.

Incorporated 1891. Authorized Capital, \$100,000 in 2,000 shares of \$50.

Directors :

H. H. Lypps.	
J. G. Leggatt,	A. H. Clarke,
J. G. Smith.	C. H. Delisle.

Head Office : Windsor, Ont.

Formed for the purpose of acquiring land in the County of Essex, and elsewhere, and sinking wells for natural gas or oil therein, for refining the products and using or supplying them for manufacturing purposes. No report obtainable.

FORREST ROSE AND ST. GEORGE HYDRAULIC GOLD MINING CO.

A private company, organized in 1876, and composed of the following shareholders:

James Innes,	
W. P. Smith,	William Manson.

• The company holds 114 acres of land in fee simple, and has for a number of years successfully worked alluvial ground at William's Creek, in the Cariboo district, British Columbia. Eight men employed in 1891. \$25,000 expended to date in opening up the claims.

James Innes, Barkerville, B.C., *Superintendent*

FOXTON PHOSPHATE MINING CO., Ltd.

Registered 19th April, 1889. Authorized Capital, £12,000, in shares of £1, all of which have been issued and paid up.

Directors :

C. E. H. Moller, <i>Chairman.</i>		
A. Hunter,	Wm. Adams,	G. C. Lomer.

Head Office :

C. M. Anderson, Secretary, 4 Fenchurch Ave., London, E.C., England.

CANADIAN OFFICES :

Messrs. Lomer, Rohr & Co., Custom House Square, Montreal, Que.

Formed to acquire, work, and further develop phosphate lands in Canada. The company acquired, in 1889, the property formerly owned and operated by James Foxtan, Sydenham, containing 200 acres, in the Township of Sydenham, Province of Ontario. Sixty men employed. A dividend equal to 20% per annum, was paid in December, 1889, for the six months ending 31st October in that year. Estimated value of plant, \$10,000.

F. M. Gorman, *Superintendent.*

FRASER RIVER GOLD GRAVELS SYNDICATE.

Registered in London 20th March, 1889. Authorized Capital, £7,000, divided into 30 founders' shares and 6,970 ordinary shares of £1 each.

Directors :

J. H. Collins, F.G.S.,	|	James Wilson,
T. A. Shepherd,	|	T. J. Lawrance,
	|	T. Higgin.

Head Office : Stanley A. Burrell, Secretary, 165 Fenchurch Street, London, E.C.

Formed to execute and carry into effect an agreement made between J. H. Collins, T. J. Lawrance, T. A. Shepherd and Jas. Wilson, with the object of acquiring certain mining rights on the Fraser River, B.C.; to acquire lands and mining gold, gold quartz Columbia, and to carry on the business of winning and working gold, gold quartz and other metals and minerals, and preparing same for the market, and generally to carry on the business of metallurgists, metal dealers, assayers and refiners. The property owned consists altogether of some 600 acres at or near the town of Yale. In 1891 a small force was employed.

The following is an excerpt from the report submitted at meeting of shareholders 15th November, 1890: "From time to time circulars have been issued to the shareholders regarding the march of events, more particularly as to the transportation of the engine and boiler across the Fraser River to the 'Flat,' and it will be within the memory of the shareholders that unfortunately the boiler, when within a few yards of its destination, was lost through an accident, but it was with great satisfaction that the news of no lives having been lost was received. It is hoped that the lost boiler will be recovered early next spring. In the meantime it is the intention of your committee to order a new one and despatch it as soon as possible, so that the gravels may be thoroughly tested without further unnecessary delay. They have every confidence that when the 'Flat' is proved by actual working, the result will be satisfactory, and in support of their views the attention of the shareholders is drawn to Mr. J. H. Collins' report, of the 13th October, in which he says:—

"I have been employed since the accident in making some tests of the gravel on a larger scale than hitherto. Up to now only pan tests on small quantities have been made, and of these you will find the result stated in my printed report. I have now washed in all five cubic yards of gravel, taken from seven different points, separated from 200 to 1,000 feet from each other. The results were fairly uniform, showing about one dwt. of gold to the yard."

"Your committee are now only awaiting sufficient subscriptions to the debenture issue, to enable them to replace the lost boiler. In the interim, estimates have been requested from the various makers of the class of boiler required, and it is intended to have it made in sections so that it can be ferried over in large canoes, thus minimizing the dangers attending transportation of great weights across a river with such a fast current as the 'Fraser.'"

Mine Engineer : Wm. Teague, Yale, B.C.

FRONTENAC PHOSPHATE CO., Ltd.

Registered 25th June, 1890. Capital Stock, £10,000, in shares of £1 each.

W. Bailey Marshall, *Chairman*,

A. Charles, *Secretary*, 1 Fenchurch Avenue, London, E.C.

CANADIAN OFFICE :

C. J. R. Stirling, *Managing Director*, 42 Emily Street, Kingston, Ont.

Formed to acquire phosphate and other lands and mines in Canada and elsewhere, and to adopt an unregistered agreement with the Stirling Phosphate and Mining

FRONTENAC PHOSPHATE CO.—Continued.

Company of Kingston (Limited) and with C. J. R. Stirling. In August, 1890, mining operations were commenced on the south half of Lot 31, in the 1st Concession of Bedford, a force of from 15 to 20 men being employed. At that date the plant consisted of an engine and boiler, two Ingersoll drills, steam hoisting and pumping gear. No report for 1891 obtainable.

GALWAY MINING CO., Ltd.

Incorporated 1868. Authorized Capital Stock, \$20,000, of which to date \$13,000 has been subscribed and paid up.

Directors :

H. C. Rogers, Peterborough, Ont.	
H. Calcutt, Peterborough, Ont.	A. N. Campbell, Toronto.
J. Stephenson, Peterborough, Ont.	C. J. Bloomfield, Lakefield.
R. A. Morrow, Peterborough, Ont.	

Head Office : Peterborough, Ont.

Formed to acquire and work a property consisting of the west half of Lot 20, Concession A, in the Township of Galway, in the County of Peterborough, Ont., 50 acres. A shaft 10 ft. by 6 ft. has been carried down and timbered to depth of 110 ft., and other developments made, but owing to insufficient capital and the dulness of the lead market at the time, the mine was shut down, and no work has been done for several years.

GARDINER COAL CO.**Lessees :**

Burchell Bros., Sydney, C.B.

This colliery, which has been closed since 1879, was re-opened in the summer of 1890. The output of coal in 1891 was 21,268 tons.

Coal Sales 1891.

	Round.	Slack.
To Nova Scotia.....	6,363	2,111
“ New Brunswick.....	90	—
“ Quebec.....	2,459	—
“ Newfoundland.....	6,558	74
St. Pierre Miquelon.....	180	—
Colliery employees....	—	408
Colliery consumption....	—	1,037
Total tons.....	15,650	3,630

GENERAL MINING ASSOCIATION, Ltd., OF LONDON, ENG.

Registered 1825. The Capital was £274,690 in fully paid shares of £10, but in 1874 a return of £1 per share was made, and in 1880 a further £1 per share was repaid. There is now, therefore, a capital of £219,752 in shares £8. Accounts to December 31st, submitted in April, but an interim meeting is held in November. A dividend of 2s. 6d. per share was paid in 1877; for 1878, 4s.; for 1879, 2s. 6d.; for 1880, 4s. 6d.; for 1881 and 1882, 8s.; for 1883 a dividend of 10s.

GENERAL MINING ASSOCIATION OF LONDON.—Continued.

per share was paid, with a bonus of 5s. per share out of the profits derived from the sale of shares in the Low Point, Lingan and Barrasois Company; in 1884 a dividend of 8s.; for 1885 and 1886, 5s. each year; for 1887, 7s. 6d.; 1889 and 1890, 6s. Reserve Fund, £29,850 stg. The company holds \$429,700 shares in the Low Point, Lingan and Barrasois Company.

Directors :

J. D. Hill, Chairman.
 Sir Charles Tupper, Bart., | W. S. Cunard,
 F. W. Bigge, | Col. W. C. Western.

Head Office :

E. E. Bigge, *Secretary*, Bloomfield House, London Wall, London, E.C., England.

CANADIAN AGENTS :

Messrs. Cunard & Morrow, Halifax, N.S.

This company owns and operates certain coal areas on the Island of Cape Breton, in the Province of Nova Scotia. From 1785 to 1827 they were worked in a very irregular manner, sometimes by the Government and at others by various individuals and companies. According to Mr. Richard Brown, father of the present manager, the production during this period was only 275,000 tons, or less than one-half what should have been produced from the area worked. On 1st January, 1827, the mines passed into the hands of the present company. The following is an analysis of the coal made by Mr. E. Gilpin, Jr., F.G.S., Inspector of Mines for the Province, under date of 29th December, 1890:

	Slow Coking.	Fast Coking.
Moisture,	'420	'420
Volatile Combustible Matter,	34'962	37'110
Fixed Carbon,	59'993	57'845
Ash,	4'625	4'625
	100'00	100'00
Sulphur,	'95	'95

Sydney Colliery.—Situate on the north side of Sydney Harbor; Robert Robertson, *Underground Manager*. Average persons employed, 595; average output, 160,000 tons per annum. Main seam 5 feet 4 inches worked; dip averages 1 in 12; shaft, 800 feet; system of working, pillar and bord, the latter 16½ feet wide.

Lamps—Muesler and naked lights.

Ventilation by Guibal fan, 30 feet diameter.

Hoisting engine having two cylinders, each 36 inches diameter, 5 feet stroke.

Drum, 18 feet diameter.

Pumps—One Cornish pump, 68 inch cyl., with two lifts of pumps, each 20 inch diameter. One forcing set of 8 inch diameter, with 12 inch steam cyl.

Boilers—Eleven egg-end cylindrical and three tubular.

Screens—Five each 5 feet wide by 24 feet long. There are also three locomotives and 220 coal waggons.

Bridgeport Colliery.—Situate on north side of Lingan Bay, ten miles from town of Sydney. Henry Mitchell, *Lessee and Manager*. Robert Greenwell, *Underground Manager*. Sixty persons employed. Average output, 30,000 tons round coal. Shipping by International pier, Sydney Harbor, colliery being connected with International railway by a branch one-half mile long.

Phelan seam, 6 feet worked. Dip averages 1 in 11; shaft, 120 feet; system of working, pillar and bord.

Lamps—Open.

Ventilation by furnace.

Hoisting engines—One pair Lidgerwood, 10-inch double cyl.; 5-foot drum.

Boilers—One 40-h.p. water-bottom, tubular, loco, type.

Pumps—None. (Level to sea; natural drainage).

Screens—One ¾ mesh, 20 feet x 6 feet.

GENERAL MINING ASSOCIATION OF LONDON.—Continued.

<i>Coal Sales 1889.</i>		Tons.
To Nova Scotia.....		21,459
“ New Brunswick.....		5,913
“ Prince Edward Island.....		999
“ Quebec.....		59,852
“ Newfoundland.....		24,450
“ United States.....		1,021
“ Bunker steamers.....		11,198
“ Colliery employees.....		3,416
Total sales 1889.....		128,308 tons.
<i>Coal Sales 1890.</i>		Round. Slack.
To New Brunswick.....	5,613	—
“ Newfoundland.....	27,603	22
“ Nova Scotia.....	32,975	33
“ Cape Breton.....	1,328½	3,743
“ Prince Edward Island.....	897	—
“ Quebec.....	68,923	4,732
“ West Indies.....	—	—
“ United States.....	161	786
“ Bunker steamers.....	5,865	—
“ Colliery employees.....	—	—

Total disposals 1890..... 143,365½ 9,316 tons.

The sales during the year ended 31st Decemr, 1891, were 136,552 tons round coal, and 6,740 tons slack.

The following is an excerpt from the Directors' report for year ended 31st December, 1890:—

The profit on the year's trading, as set forth in the accounts, amounts to.....	£ 8,624 18 6
Brought forward from 1889.....	1,566 12 4
	£10,191 10 10

Out of which the Directors propose a dividend of 6s. per share

	8,240 14 0
--	------------

Leaving balance to carry forward.....£ 1,950 16 10

A BALANCE SHEET, 31ST DECEMBER, 1890.

Liabilities.

	£	s.	d.	£	s.	d.
To share Capital, viz., 27,469 shares of £8 each ..				219,752	0	0
“ Sundry Creditors—						
At the Mines	1,637	14	0			
At Halifax	1,802	6	0			
In England	424	18	2			
Unclaimed Dividends	216	10	0			
Do. Return of Capital	69	0	0			
				4,150	8	2
“ Reserve—						
Per last account	29,850	0	0			
Maintenance and Renewal Account—						
From 1889	32,250	0	0			
Sydney Mines, for current year	1,500	0	0			
				33,750	0	0
Profit and Loss—						
Balance from 1889.....	1,566	12	4	63,600	0	0
Profit this year, per Account “ B”	8,624	18	6			
				10,191	10	10
				£297,693	19	0

GENERAL MINING ASSOCIATION OF LONDON.—Continued.

BALANCE SHEET, 31ST DECEMBER, 1890.

Assets.

	£	s.	d.	£	s.	d.
By Property of the Association, viz.—						
Pits, Railways, Engines, Wharves, Buildings, Machinery, &c.	141,131	13	11			
Other property, including Real Estate, Stores, Mining Implements, &c., valued per In- ventory	43,864	12	2			
	184,996	6	1			
“ Low Point, Barrasois and Lingan Mining Co.— The General Mining Association's Interest, re- presented by 4,297 Shares of \$100 each, valued at	£49,704	13	0			
Due from the Low Point, Barrasois and Lingan Min- ing Co. on Loan and Cur- rent Account	13,115	3	9			
	62,819	16	9			
“ Sundry Debtors—				247,816	2	10
At Halifax	13,969	11	5			
At the Mines	1,567	18	1			
“ Bills Receivable—				15,537	9	6
In England	3,955	9	2			
In Halifax	3,010	5	0			
“ Government and Indian Securities	22,221	15	6	6,965	14	2
Accrued Interest thereon	162	1	6			
“ Cash—				22,383	17	0
At Halifax	2,655	2	1			
At the Mines	289	16	1			
At London Bankers and Office	2,045	17	4			
	4,990	15	6			
				£297,693	19	0

B

Profit and Loss Account.

	£	s.	d.	£	s.	d.
To Coal stock on hand 1st Jan., 1890				292	17	0
“ Sydney colliery, general working expenses, rail- road expenses, shipping charges, royalty, &c.				47,473	2	11
“ Maintenance and renewal of plant, railroad, wharves, &c.				1,500	0	0
“ Management expenses at Sydney mines				1,412	17	2
“ Income tax (average of 3 years)				190	11	8
“ Expenses of management in London—						
Directors' salaries	900	0	0			
Secretary, Clerks and Auditor's salaries	585	0	0			
Office rent, printing, advertising, stationery, telegrams, postage, travelling and petty expenses	450	16	0			
“ Legal expenses				1,935	16	0
“ Low Point, Barrasois and Lingan Mining Co.— Amount of estimated depreciation of shares				9	18	8
“ Balance—Profit carried to Account 'A'				2,000	0	0
				8,624	18	6
				£63,440	1	11

GENERAL MINING ASSOCIATION OF LONDON.—Continued.*Profit and Loss Account.*

	£	s.	d.	£	s.	d.
By Proceeds of sale of 156,042 tons of coal and miscellaneous receipts at Sydney colliery ..				57,968	4	5
“ Rents of cottages, lands, royalty from Bridgeport area, &c.				1,919	13	11
“ Interest and exchange	1,604	5	7			
<i>Less</i> interest, &c., paid	188	8	8			
				1,415	16	11
“ Transfer and other fees				4	12	6
“ Profit on real estate sales				641	19	0
“ Received on bad debts account				208	5	4
“ Stock of coal 31st December, 1890				1,281	9	10
				<u>£ 63,440</u>	<u>1</u>	<u>11</u>

GENERAL MINING ASSOCIATION OF THE PROVINCE OF QUEBEC.

Organized 23rd January, 1891. Officers: Hon. George Irvine, Q.C., Quebec, *President*; Capt. R. C. Adams, Montreal, S. P. Franchot, Buckingham, R. Prefontaine, Q.C., M.P., Montreal, James King, Quebec, *Vice-Presidents*; A. W. Stevenson, C.A., Montreal, *Treasurer*; B. T. A. Bell, Ottawa, *Secretary*. *Council*: O. M. Harris, Montreal, J. Lainson Wills, F.C.S., Ottawa; L. A. Klein, Black Lake; John J. Penhale, Black Lake; Col. Lucke, Sherbrooke; Dickson Anderson, Montreal; R. T. Hopper, Montreal; J. Burley Smith, M.E., Glenalmond, D. A. Brown, Boston.

GENERAL PHOSPHATE CORPORATION, Ltd.

Registered 13th June, 1890. Authorized Capital, £1,000,000 stg., divided into 99,500 ordinary shares of £10 each, and 500 founders' shares of £10 each. After the ordinary shareholders shall have received a dividend equal to 10 per cent. per annum, the holders of the founders' shares will (after provision for a reserve fund) be entitled to one half of the remaining profits in each year, and the other half will be divided among the holders of ordinary shares. All the founders' shares have been issued and £198,980 of the ordinary, with £42,196 paid up, 300 shares being fully paid, and the remainder having £2 called. In June, 1891 an issue of £100,000 in 6 per cent. debentures was offered for the purpose of discharging the mortgages and encumbrances on the properties amounting to £62,090, purchasing new properties, etc. The debentures are in sums of £100 each, with interest payable June 30th and December 30th, and the principal redeemable at par June 1st, 1896. The debentures are guaranteed both as to principal and interest by the Mortgage Insurance Corporation, Ltd., and are secured on the properties and the uncalled capital.

Directors:

Rt. Hon. Lord Stalbridge, <i>Chairman</i> ,	
J. Balfour,	Sir Jacob Wilson.
Sir George S. Baden Powell,	Hon. Cecil T. Parker,
W. Crookes,	H. Mallaby Deeley.

Head Office: L. J. Langmead, *Secretary*, 23 College Hill, Cannon Street, London, E.C.

Formed for the purpose of acquiring, working, developing and dealing in well selected phosphate properties in Canada and elsewhere. In 1890, the cor-

GENERAL PHOSPHATE CORPORATION.—Continued,

poration had purchased or held the controlling interest in the following properties situate in the County of Ottawa, Province of Quebec:—

"HIGH FALLS GROUP."		Acres
Lot 6, 10th Range, Portland West: Lots 1, 2, 3, 4, 5 and 6, 4th Range, Bowman		-----
"BOWMAN GROUP."		
Lots 17, 18, 32 and 33, 3rd Range, Bowman; Lots 31 and 32, 2nd Range, Bowman		1,450
"ROSS MOUNTAIN GROUP."		
Lots 5 and 6 in 6th Range, Portland West; Lots 1 and 2 in 7th Range, Portland West		454
"PETERSON GROUP."		
Lots 1, 2, 8 and 10, Gore, Templeton		556
"MURPHY LOTS."		
Lots 3 and 4, (south halves) 7th Range, Templeton		200
Total acres		2,660

The High Falls and Ross Mountain properties, situate on the Lievres River, in the County of Ottawa, Province of Quebec, were acquired at a cost of £95,000, and a contract entered into with one of the vendors, Mr. George Stewart, of Ottawa, by which he guaranteed an output of 10,000 tons of high grade mineral (*i.e.* from 70 to 80 per cent.) before 1st May, 1892, the cost of mining and transport to wharf in Montreal being limited to \$9 per ton. The following excerpts are from the remarks of the chairman, Lord Stalbridge, at the annual meeting of the shareholders held in London on 20th January, 1892: "It was found that there was a great deal more work to be done owing to the virgin state of the properties, and that building accommodation had to be erected, and that the navigation of the river was blocked up, so that Mr. Stewart was unable to fulfil his contract in time. Now, undoubtedly there would have been a long and expensive litigation if the directors had strictly adhered to the contract, and therefore the latter thought it advisable to act in a liberal spirit towards Mr. Stewart, and a second agreement was drawn up, by which the previous agreement was extended three months—viz., to the 1st August, 1892, and on condition of that Mr. Stewart surrendered £10,000 in cash which was in a suspense account to be paid to him. Mr. Stewart forfeited shares *pro rata* for every ton not produced. The directors had no reason to complain of the qualities of the phosphate sent over by that gentleman. The bulk of it had been of a very high grade indeed, and even on the lower an ample profit could be made. Of course no phosphate could be shipped until the spring, and it was hoped that by then the navigation of the river will be completed by the Canadian Government."

BALANCE SHEET, 31ST OCTOBER, 1891.

	£	s.	d.	£	s.	d.	£	s.	d.
To Nominal Capital	100,000	0	0						
Divided into 99,500 ordinary shares of £10 each, of which there have been issued 19,568 shares, upon which the sum of £2 per share has been called up	39,196	0	0						
And 500 founders' shares of £10 each, fully paid, 200 of which were issued as per contra	5,000	0	0						
				44,196	0	0			
Less calls in arrear—									
Ordinary	2,340	0	0						
Founders'	60	0	0						
				2,400	0	0			
							41,796	0	0

GENERAL PHOSPHATE CORPORATION.—Continued.

<i>Forward</i>			£41,796	0	0
To First Mortgage Debentures.....			100,000	0	0
“ Bills payable—					
London.....	8,234	6	5		
Canada.....	584	0	0		
			8,818	6	5
“ Interest on Debentures “Reserve”			1,938	11	2
“ Suspense account.....			10,000	0	0
“ Sundry creditors—					
London.....	3,351	10	4		
Canada.....	3,110	12	9		
			6,462	3	1
			£169,065	0	8
	£	s.	d.	£	s.
By Purchase of property, including experts' and surveyors' fees, interest, charges, etc.....				98,863	11
“ North Star property deposit and expenses.....				7,798	10
“ Registration fee.....	1,051	5	0		
“ 200 fully paid founders' shares, issued as per contra.....	2,000	0	0		
				3,051	5
“ Deposit re Stewart's contract.				10,000	0
“ London expenditure from 13th June, 1890, to date, viz. :—					
General office expenses.....	237	3	1		
Office rent and salary.....	487	10	0		
Brokerage and commission.....	27	5	0		
Legal expenses.....	721	16	11		
Travelling expenses.....	695	16	8		
Printing and stationery.....	101	19	6		
Analysis.....	53	11	0		
Charges re issue of debentures.....	15,526	14	7		
Trustees' remuneration.....	87	10	0		
Directors' fees.....	3,714	15	10		
Interest on debentures.....	1,988	11	2		
Exchange.....	44	3	10		
			23,686	17	7
Less transfer fees.....	£	13	16	0	
Less interest.....	210	3	9		
			223	19	9
				23,462	17
“ Mine expenditure from 13th June, 1890, to date, viz. :—					
Labor.....	4,036	7	11		
Mining supplies.....	2,032	9	9		
Provisions.....	1,550	1	2		
Mine development.....	1,190	5	9		
Fuel.....	314	17	10		
Constructions and buildings.....	1,242	12	4		
Plant.....	3,892	16	0		
Camp furnishings.....	240	12	5		
Tools and implements.....	126	11	8		
Stable plant.....	159	2	2		
Live stock.....	226	9	9		
			£15,012	6	9
<i>Carried forward</i>					

GENERAL PHOSPHATE CORPORATION.—Continued.

<i>Brought forward</i>	£15,012 6 9	£143,176 4 5
Stock, Buckingham.....	362 15 11	
Freight.....	718 0 10	
General expenses	814 17 4	
Machine shop, Buckingham.....	74 2 8	
do High Falls.....	32 19 8	
Stable.....	79 19 3	
Office furniture.....	99 16 0	
Salaries	1,126 2 8	
Insurance.....	40 14 10	
Travelling expenses.....	70 15 4	
Rent and taxes	65 17 4	
Interest	9 11 11	
	<hr/>	
Less phosphate sales.....	18,507 10 6	
	3,339 12 10	
	<hr/>	15,167 17 8
“ Sundry debtors—		
London	1,856 17 11	
Mine.....	239 3 2	
	<hr/>	2,096 1 1
“ Bills receivable.....		1,250 0 0
“ Cash—		
At bank	52 3 6	
On deposit.....	7,300 0 0	
Interest on deposit.....	22 14 0	
	<hr/>	7,374 17 6
		<hr/>
		£169,065 0 8

At 1st January, 1892, 150 persons were employed on the High Falls property, and the output of mineral averaged from 80 to 100 tons per week.

General Manager: J. Lainson Wills, F.C.S., 206 Albert Street, Ottawa.

Mining Contractor: George Stewart, Buckingham, Que.

GLACE BAY MINING CO., Ltd.

Incorporated 12th July, 1862. Authorized Capital, \$1,000,000. Paid up \$640,000, divided into 6,400 shares of \$100 each.

Directors:

Edward P. Archbold, <i>President,</i>		Peter Lynch,
James R. Lithgow,		William Lithgow
F. H. W. Archbold,		

Head Office: James R. Lithgow, Treasurer and Manager, Halifax, N.S.

This company constructed the harbor of Little Glace Bay, in close proximity to which is their colliery, which includes three and three quarter miles of coal areas, from which there were shipped in 1890, 108,600 tons coal, and in 1891, 110,000 tons. The Caledonia colliery also ships in this harbor, paying toll to the Glace Bay Mining Co. for the privilege. A third colliery could be accommodated. Steamers drawing 19 feet water load at the piers in perfect safety. A steam tug tows vessels in and out for 5 cents per register ton. The dividend paid in 1890 amounted to \$51,200, equal to 8 per cent. on the paid up capital.

GLACE BAY MINING CO.—Continued.

The areas owned by this company include the whole of the Hub seam, which is nearly nine feet thick and easily worked, and in quality is not surpassed by any other Cape Breton coal; but in the dull times of some fifteen years ago when the diminished output did not justify the working of two seams, the Hub pit was abandoned. It will, however, be reopened ere long. The coals now shipped are exclusively from the Harbor seam, the same as worked by the International Coal Company, whose shipping pier is at Sydney. This seam is from 6 to 7 feet thick, and is the best gas coal at present mined in Cape Breton and is also an excellent locomotive and house coal. The present hoisting pit is only about a third of a mile from the shipping piers, and when the new hoisting engines built by Matheson & Co., New Glasgow, are put to work about a thousand tons per day can be shipped direct from the pit. Of the 110,000 tons shipped in 1891 nearly 60,000 tons went up the St. Lawrence, the rest to lower provinces, Newfoundland and West Indies, *not a ton to the United States*. The total shipments from Little Glace Bay harbor in 1890 and '91, foot up over half a million tons.

The total output of coal for the year ended 31st December, 1889, amounted to 73,919 tons.

Coal Sales 1889.

	Tons.
Nova Scotia and Cape Breton.....	15,750
Prince Edward Island.....	1,626
New Brunswick.....	2,173
Newfoundland.....	3,133
Quebec.....	47,579
West Indies.....	3,658
United States.....	None.
Bunker steamers.....	Only for Quebec.
Total.....	73,919

Coal Sales 1890.

	Round.	Slack.
To New Brunswick.....	3,253	476
“ Newfoundland.....	8,608	7
“ Nova Scotia.....	14,160	4,047
“ Prince Edward Island.....	806	819
“ Quebec.....	53,969	2,179
“ West Indies.....	3,571	.....
“ Other countries.....	12,119	742
“ Bunker steamers.....	3,815	.....
“ Colliery employees.....	50	600
Total disposals 1890.....	100,351	8,870

Superintendent and Agent: Charles H. Rigby, Little Glace Bay, C. B.

GLASGOW AND MONTREAL ASBESTOS CO., Ltd.

Registered in Edinburgh, Scotland, 23rd July, 1891. Authorized Capital, £70,000, divided into 35,000 preferred and 35,000 deferred shares of £1 each. Sixty stockholders at last return.

Glasgow Board :

R. E. Aitken, | Wm. Jacks, | W. H. Kidston.

CANADIAN BOARD :

E. Hanson, Montreal,
F. B. Greenshields, Montreal, | William Ramsay, Montreal,

GLASGOW AND MONTREAL ASBESTOS CO.—Continued.

Scottish Offices :

Col. R. E. Aitken, C.A., 68 St. Vincent St., Glasgow.

CANADIAN OFFICES :

Matthew Penhale, Manager, Black Lake, Que.

Formed to adopt and carry out an agreement with Robert Easton Aitken, chartered accountant and stock broker, in Glasgow, providing for the purchase by the company of the properties, mining rights, and others, including the Martin mines, in the Township of Coieraine, Megantic County, and the Fraser mines, in the Township of Broughton, and County of Beauce, both in the Province of Quebec, with all the mining machinery, plant, tools, and other personal property, and the whole other rights, members, and appurtenances ; to carry on the business of asbestos producers, manufacturers, and merchants, of a mineral or mining company in all its branches. The property owned and operated was formerly worked by the Scottish Canadian Asbestos Company. Work commenced in May, 1891, by present company. 200 persons employed. *Engine equipment* : two 60 h.p. boilers ; one 16 x 24 Ingersoll straight line 7 drill air-compressor ; two 8 x 12 Bacon winding engines ; Blake and Cameron pumps ; two small hoists, etc., etc. Mill building contains 60 h.p. boilers, horizontal Brush engine, Blake crusher, set 24" Cornish rolls, revolving picking tables, Sturtevant double exhaust blower, screens, etc., the whole of an estimated value of \$50,000.

GLEN IRON MINING CO.

Incorporated 1891. Authorized Capital, \$50,000 in 50 shares of a value of \$100.

Directors :

	J. W. MacKay,	
J. A. Mara,	|	W. E. Scott,
J. G. Graham,	|	F. J. Fulton.

Head Office : Fredk. J. Fulton, Manager and Secretary, Kamloops, B.C.

Formed to prospect for, acquire and work mineral claims and coal lands ; the erection of the necessary plant ; the operation of railway and steamship service. The property owned by the company consists of 165 acres in Sections 19 and 30, Township 20, Range 19 west of the 6th Meridian, B.C. Small force employed. Since operations were begun in 1891 800 tons raised. Estimated value of machinery and engine equipment at date \$5,000.

GOLD MINING ASSOCIATION OF NOVA SCOTIA.

Incorporated 17th April, 1889. Officers : J. M. Reid, Musquodoboit Harbor, *President* ; H. T. Harding, Truro, *Vice-President* ; H. M. Wylde, Halifax, *Secretary*. *Executive Council* : John E. Hardman, S.B., Oldham, N.S. ; B. C. Wilson, Waverley ; George Stuart, Truro, N.S.

GOLDEN MINING AND SMELTING CO. OF CANADA.

Incorporated 1890. Capital Stock, \$400,000, divided into 4,000 shares of \$100 each.

Directors :

Hon. H. B. Alexander, Calgary, Alta.	|	T. A. Loughheed, Calgary, Alta.,
George Alexander, " "	|	Peter McCarthy, " "

Head Office : P. McCarthy, Secretary, Calgary, Alta.

Formed for the purpose of erecting, operating and owning works for smelting, refining, and otherwise treating mineral ore ; also for purchasing and selling mineral ore ; purchasing and holding interests in mineral claims ; and of buying and selling, and otherwise dealing in the same, etc., etc. The mines at present owned and operated by the company consist of certain argentiferous galena locations situate at Field, on the line of the C.P.R., and are known as the "Caine" (on Cathedral Mountain) and the "Carleton" (on Tunnel Mountain) ; the latter being a continuation of the "lode" of the celebrated Monarch mines. The smelting works are at Golden, B.C. The buildings include : An assay office and laboratory 34 x 24 ; roasting house 70 x 80 ; engine room and sampling building 53 x 66 ; furnace room 40 x 40 ; There is a spur from the C.P.R. running into the works, and all necessary platforms, tramways, ore bins, and coal and coke bins. The special plant was manufactured by Fraser & Chalmers, Chicago. The machinery and plant is made up as follows :

A water jacket blast furnace 33 x 72 ; No. 4 Root blower ; Blake rock crusher, 7 x 10 ; belt rolls 14 x 24 ; sampling mill, steam elevator, scales, etc. ; one reverberatory roasting furnace ; motive power consists of 35 h.p. engine and 40 h.p. boiler ; a steam pump, Northey make, capacity, 200 gals. a minute.

The works will have a capacity of 40 tons in 24 hours.

Superintendent : S. S. Fowler, Golden, B.C.

GOLD ROCK MINING AND MILLING CO. OF ALGOMA AND NIPISSING, Ltd.

Incorporated 1892. Authorized Capital, \$100,000 in shares of \$1.

Directors :

	James Beatty, Q.C.,	
Joseph J. Davis,	|	Wm. McCabe,
E. S. Townsend,	|	W. T. Newman.

Head Office : W. T. Newman, Toronto, Ont.

Formed to acquire and work mineral lands in the Province of Ontario. No report.

GORDON HYDRAULIC MINING CO.

Incorporated 1891. Authorized Capital, \$50,000 ; shares \$1.

Directors :

	James Bennett, <i>President</i> ,	
Fred. S. Roper,	|	W. G. Stevenson,
J. Boyd Jones,	|	John R. Stewart.

Head Office : Fred. S. Roper, Victoria, B.C.

Formed to work certain placer diggings in the Leach River district, Province of British Columbia. Property contains 480 acres. Small force employed in 1891.

GOWRIE COAL MINING CO.

Nominal Capital Stock, \$400,000. A private company, consisting of the following :

Owners :

Hon. T. D. Archibald,		
Blowers Archibald,		William Purves,
W. H. Archibald,		Charles Archibald.

Head Office : North Sydney, Cape Breton.

The company holds an area of two square miles of coal lands, and is the owner of the Gowrie colliery, situated on the north side of Cow Bay, on the Island of Cape Breton. The coal has an excellent reputation, both for domestic and steam purposes, and though it has a considerable proportion of ash, it is not apt to form clinkers. It has been extensively used in the manufacture of gas, though the large proportion of sulphur is objectionable.

Coal Sales 1887.

	Tons Coarse.	Tons Fine.
To Nova Scotia	26,688	8,750
“ New Brunswick	3,191	....
“ Prince Edward Island	1,263	1,552
“ Quebec	40,691	4,534
“ Newfoundland	9,588	....
“ United States . . . . .	....	2,313
“ West Indies	1,875	....
“ Colliery employees	4,000	....
“ Colliery engines	5,000	....
Total tons	92,296	17,149

Coal Sales 1890.

	Round.	Slack.
To New Brunswick	2,531	75
“ Newfoundland	11,065	206
“ Nova Scotia and Cape Breton	30,303	6,579
“ Prince Edward Island	7,790	2,015
“ Quebec	48,700	8,969
“ West Indies	404	....
“ United States . . . . .	....	2,869
“ Bunker steamers . . . . .	....	....
“ Colliery employees	3,210	2,170
Total sales for 1890	104,003	22,883

Coal Sales 1891.

	Round.	Slack.
To Nova Scotia	44,091	10,147
“ Quebec	55,157	11,989
“ New Brunswick	4,213	116
“ Newfoundland	17,730	408
“ West Indies	721	....
“ United States	426	3,106
“ Prince Edward Island	859	3,350
“ Other countries	54	....
“ Colliery employees	4,909	....
“ Colliery consumption	3,421	1,750
Total sales for 1891	131,581	30,866

Or a total disposal of 162,447 tons.

GOWRIE COAL MINING CO.—Continued.

Two shafts have been put down to the Gowrie or first workable seam only.

The Gowrie, 35 fathoms deep. This is now used as a pumping station only. The water is raised by a set of pumps lifting 300 gallons per minute, connected to a 30 h.p. horizontal engine, geared back, two and a-half revolutions per stroke of pump cylinder, 16½ in. diameter by 3 ft. stroke. During the sinking of the colliery deeps, however, the working places were kept dry by 300-gallon steel tanks fashioned at the ends like a vessel's prow, which, coupled together in pairs, were discharged along a railway into the standage and hauled back to the pump connection by a powerful hauling engine. Steam power is produced by five 27-ft. by 2 ft. 10 in. shell boilers. Here extensive coke ovens are continuously in operation, and all plant requisite for the manufacture of patent fuel—boilers, cars and tubs—efficiently laid down.

The Balmoral Shaft, half a mile distant, 44 fathoms down. This is used for winding and hauling purposes, and was sunk with a diameter of 11½ ft. on to the goaf, through strata of freestone, shale and 4 ft. of conglomerate. The coal is raised by a Whittingham high-pressure hoisting engine, 80 h.p.; cylinders 20 x 3 x 6 each, geared to an 8-ft. round rope drum, which hoists an average total load of three tons per trip, at the rate of 1½ "rakes" (*i.e.* trips) per minute, equivalent to an aggregate quantity of 1,000 tons per diem of ten hours. Two one-decked cages travel in the shaft with as many large, light tubs, 6½ ft. x 2 ft. x 3 ft., holding an average quantity of 24 cwt.

Boilers—These are seven in number, to wit: six shell cylindrical, 30 ft. x 3 ft., and one, 16 ft. x 15 ft. 6 in. tubular, 3-in. tubes.

Underground workings—These cover an approximate area of ten miles, and laid off in three sections, are divided into "rooms" and "headings"—the former 30 ft., the latter 9 ft. wide, traversed by cross-cuts per 56 ft., 9 ft. wide, 20 ft. long room to room. In general free from "fault" or deleterious matters, the coal is mined upon what may be styled the "semi-long-wall system," introduced by Captain Anderson—a system perhaps unadopted in any other mine throughout the continent. Mined 3 ft. into the face, to a height of 8 inches from the floor; the seam is then "sheered" or severed at each extremity of the room, and wedge-driven all along the face at intervals of 3 ft. It is thus "taken down" in pieces, frequently measuring 30 ft. long by 3 ft. high by 2½ ft. broad, and reaches bank in magnificent condition. As an economical method of working friable coal it is unsurpassed, and reflects considerable credit upon the gentleman named. Animals are employed to draw the coal to the heads of the main roleyways, from which points it is conveyed to the shaft bottom by a Legerwood hauling engine at bank. The mileage of railway is five. Miners are limited to five tubs of coal daily, equivalent to 120 cwt., at rates varying from 42 to 46 cents per ton—remuneration far surpassing that of the miners of the United States. The seam is 5 ft. high on the west, and 4 ft. 9 in. on the east pitch of basin, friable, non-gaseous in its exhalations, and contains large quantities of sulphur and salt.

Ventilation—This is effected by two intake and one upcast shafts. The current of air is promoted by a furnace built 80 ft. back from the shaft bottom, and connected with the shaft by a drift terminating at a point 30 ft. above that bottom. This plan increases the upcast by the difference between 30 ft. as the height of drift mouth, and 80 ft. as the distance of the furnace room from the shaft bottom, *i.e.* 50 ft., consequently increasing the volume and velocity of air, which, under ordinary circumstances, averages 40,000 cubic ft. per minute.

Screens—These, three in number, are at bank 18 ft. x 6½ ft. x ½ in., pitched about 30 degrees. The coal is shipped to the port of Cow Bay, along a railroad 1½ mile in length, having an average grade of 1 ft. in 50 ft.

Compressors—In the latter end of 1891 the mine was equipped with a 16 x 24 Ingersoll piston inlet air compressor, with a capacity for seven coal-mining machines, two Sergeant's coal-cutters, etc.

Manager and Agent: Charles Archibald, Cow Bay, C.B.

GRAND LAKE COAL CO.

Incorporated 22nd September, 1888. Capital Stock, \$200,000, divided into 2,000 shares of a value of \$100 each.

Directors :

John P. Isley, Philadelphia, *President*,
Louis G. de Bertram, New York. | Thos. M. Williamson, Buctouche. N.B.

Head Office : Chipman, N.B.

This company owns 5,000 acres of coal lands in the Newcastle district, and in addition 500 acres at Chipman, Queen's County, in the Province of New Brunswick. Not at present in operation.

GRAND RIVER PLASTER CO.

Authorized Capital Stock, \$50,000, divided into shares of a value of \$100 each, the whole of which have been subscribed and fully paid.

Directors :

Dr. Coles,
Geo. S. Coutant, | Ernest R. Ackerman,
M. Albert Scull, | Wm. Hamilton Merritt,
Marion S. Ackerman, *Secretary*, 67 William Street, New York.

Head Office : Cayuga, Haldimand Co., Ont.

This company controls the gypsum underlying 300 acres of land known as the Huff Tract, and 116 acres known as the Jones Tract, at North Cayuga; in the county of Haldimand, Ontario, upon which are situated the Merritt and Glenny gypsum quarries. The former has been worked for a period of forty-five years, and the latter some twelve years. The company also manufactures calcined plaster, white and grey land plasters, etc. Average yearly output, 500 tons. Twelve men employed.

GRAVEL BAY MINING CO. OF ONTARIO, Ltd.

Incorporated 25th January, 1890, under the Ontario Joint Stock Companies Letters Patent Act. Nominal Capital, \$100,000, in 20,000 shares of \$5 each.

Directors :

Hugh Wilson, Mount Forrest, Ont., | F. T. Sibley, Detroit, U.S.A.
J. J. Kingsmill, Walkerton, Ont., | W. E. Price, Montreal, Que.
W. A. Dickson, New York.

Head Office : William P. Torrance, Secretary, Toronto.

Formed to acquire, work and further develop mineral lands in the Province of Ontario, particularly mining location A, West White Fish River, Nepigon Bay, in the Thunder Bay district. Was not in operation during 1891.

GRIMSBY QUARRY AND TRANSPORT CO.

Incorporated 1891. Authorized Capital, \$20,000 in 200 shares of \$100 each.

Directors :

S. Webster, Toronto, Ont.,
 F. L. Webster, Grimsby, Ont. | F. T. Webster, Toronto.

Head Office : Frederick T. Webster, Secretary, 403 Sackville St., Toronto.

Formed to acquire, lease and sell lands for quarrying purposes in the county of Lincoln, working quarries, dressing and cutting stone, and carrying on the business in all its branches. The property owned by the company covers thirty-two acres, on lots 9 and 10 of North Grimsby, in the county of Lincoln. Quarry one half mile from Grimsby station. Shipments of stone also made by tram line to wharf on Lake Ontario. Thirty men employed 1891. Two thousand cords of surface stone shipped in 1891 to Toronto for crib-filling. The ledges worked contain grey sandstone, brown and grey mottled, and limestone.

Quarrymaster : Frank L. Webster, Grimsby, Ont.

H. H. VIVIAN & CO., Ltd.

Registered 12th February, 1883. Subscribed Capital, £328,000 stg.

Directors :

Sir H. H. Vivian, Bart., M.P., *Chairman*,
 R. W. Lindsay, | G. W. Campbell,
 A. S. Merry, | G. W. Hastings, M.P.,
 T. Lea, M.P.

Head Office :

9 Queen St. Place, London, E.C., Eng.

CANADIAN OFFICE :

G. W. Henriksen, Manager, Sudbury, Ont.

Formed to take over the nickel and cobalt works at Swansea, in Wales, German silver rolling mills at Birmingham, the nickel mine and smelting works at Senjen, in Norway. In 1889 the company acquired certain mineral properties in the townships of McKim, Blezard, and Snider, in the mining district of Algoma, Province of Ontario. Mining for copper-nickel ore was begun at the Murray mine in the same year, and has been continued steadily ever since. Equipped with suitable mining and smelting plant of an estimated value of \$40,000.

HALIBURTON MINING CO., Ltd.

Incorporated 1890. Capital Stock, \$100,000, in 1,000 shares of \$100 each, of which at 1st September, \$2,000 had been subscribed and paid up.

Directors :

J. J. Gartshore, Toronto, Ont.,
 C. S. Gzowski, Toronto, Ont., | W. H. L. Gordon, Toronto, Ont.,
 J. S. Lockie, Toronto, Ont., | C. E. Doolittle, Hamilton, Ont.

Head Office : J. S. Lockie, Secretary, Toronto, Ont.

HALIBURTON MINING CO.—Continued.

Formed to acquire and work mineral lands in the provisional county of Haliburton, and also in the counties of Victoria and Peterborough, in the Province of Ontario. The property owned consists of 1,262 acres in the 11th, 12th and 13th Concessions of Monmouth. Work, mainly prospecting, under direction of F. S. Miller, M.E.

In the spring of 1891 operations were re-commenced on the company's phosphate lands in the township of Monmouth, under the personal supervision of F. Straith Miller, C. & M.E. An average number of eight men were employed in the months of May, June and July, in further opening up some of the discoveries of the previous year, by which some fine bodies of high grade apatite were exposed, and are ready for extraction. Owing to there being every prospect of the Irondale, Bancroft and Ottawa railroad being pushed forward towards the vicinity of the mines in the near future, it was decided to discontinue work till the question of transport facilities was assured. As this line is now under construction, work will probably be resumed at an early date on these mines.

HERON BAY MINING CO.

Incorporated 19th July, 1888. Nominal Capital Stock, \$200,000, in shares of \$10 each.

Directors :

Nicol Kingsmill, Toronto, Ont.,	|	F. T. Sibley, Detroit, Mich.
A. H. McDonald, Guelph, Ont.,	|	Donald Guthrie, Guelph, Ont.

Head Office : Nicol Kingsmill, Secretary, 17 Wellington Street West, Toronto, Ont.

Formed to acquire and work mineral lands in the Province of Ontario, particularly mining locations IC, IIC, IIIC, Heron Bay, and Lot 12 Pic River, in the district of Algoma. Not in operation in 1890.

HEYWOOD HYDRAULIC GOLD MINING CO.

Veith Borland,	|	Thomas Heywood.
----------------	--	-----------------

Head Office : Alex. Campbell, Superintendent, Keithley Creek, Cariboo, B.C.

A private company operating alluvial ground at Keithley Creek, in the district of Cariboo, Province of British Columbia. Five men employed.

HIDDEN TREASURE MINING CO., Ltd

Incorporated 25th June, 1888. Authorized Capital, \$100,000, divided into 10,000 shares of a value of \$10 each.

Directors :

Morris Moss, Victoria, <i>President</i> ,		
J. S. Chase,	|	D. M. Hosker,
John Morrison,	|	Dr. Rich. Morrison.
Robt. McDougall,	|	R. E. Smith.

Head Office : R. H. Lee, Secretary, Kamloops, B.C.

HIDDEN TREASURE MINING CO.—Continued.

Formed for the purpose of acquiring, prospecting, working and developing lodes or veins of gold or silver bearing quartz and other minerals, etc., in the Province of British Columbia.

No stockholder is individually liable for the debts or liabilities of the corporation; but the liabilities of a stockholder is limited to his proportion (based upon the amount of his respective shares) of which he is the holder as shown by the stockholders' register book of the corporation; and charges thereon, when taken, shall not exceed the aggregate amount realised for his share of the stock and company property at private or public sale.

The claims owned by the company are three in number, each measuring 600 x 1,500 feet on Cherry Creek, Okanagan District. Was not in active operation in 1889.

Mine Superintendent: John Morrison, Vernon, B.C.

HIGHLAND MINING CO.

Incorporated 25th March, 1875. Capital, \$600,000, in 60,000 shares of \$10 each, fully paid up.

Directors:

J. J. Vickers, Toronto, Ont.,
Nicol Kingsmill, Toronto,

Walker McDermott, New York.
M. L. Sibley, Detroit.

Head Office: Toronto, Ont.

Formed to acquire and work Mineral Location 42, near Jack Fish Lake, in the Township of Moss, in the district of Thunder Bay, Ontario, containing 160 acres. Not in active operation 1890.

HUNGERFORD MARBLE CO., Ltd.

Incorporated 28th April, 1888. Capital Stock, \$100,000, in 1,000 shares of \$100 each, of which to date \$90,000 has been subscribed and paid up.

Directors:

P. W. Ellis, President.
P. G. Close, | R. Y. Ellis,
W. G. Ellis, | M. C. Ellis.

Head Office: W. G. Ellis, Sec.-Treas., 31 Wellington St. East, Toronto, Ont.

This company owns 120 acres of mineral lands in the County of Hastings, and operates marble quarries at Madoc, and at Bridgewater, in the Province of Ontario. These are equipped with a good machinery plant, including 30-ton derrick, diamond drill, channelling machine, one Ingersoll gagger, 35 h.p. boiler, two steam pumps etc. Estimated value of plant, \$10,000. The output has not as yet been placed on the market. A large staff of men has been employed opening up the various locations, but at 1st September, 1890, the work was suspended, and has not since been resumed.

H. W. McNEILL COMPANY, Ltd.

Incorporated 8th January, 1892. Authorized Capital, \$50,000 in 500 shares of \$100.

Directors :

Hobart W. McNeill, Anthracite, N.W.T.
 F. Hill, Seattle, Wash. | P. P. Padden, Anthracite, N.W.T.

Head Office : H. W. McNeill, Managing Director, Anthracite, Alta.

Formed to mine and extract coal, especially anthracite coal, in the Dominion of Canada, etc. The company operates under a ten years' lease, from 22nd May, 1891, the anthracite mines of the Canadian Anthracite and Coal Company, at Anthracite, on the main line of Canadian Pacific Railway, in the Province of Alberta. Seam of 100 feet worked; length of slope, 380 feet; length of tunnel, 600 feet. 70 persons employed, 1891. 4,000 tons mined in 1891. System of working, by pillar and room; ventilation by fan; Clanny safety lamps.

Mine Manager : P. P. Padden, Anthracite, Alta., N.W.T.

Underground Manager : Philip Gill.

HYNES TERRA COTTA AND BRICK CO., Ltd.

Incorporated 16th April, 1888. Capital, \$200,000.

Directors :

Michael J. Hynes,
 William J. Hynes, | George W. Banks.

Head Office : H. W. Smith, Treasurer, Toronto.

Greenhow Banks, *Secretary*, Toronto.

This company owns and operates 100 acres, containing a red clay deposit, situate in the county and township of Toronto, Province of Ontario. It also manufactures terra cotta and brick in the city of Toronto. Twenty-five men employed. Estimated yearly turnout of a value of \$25,000. Machinery plant valued at \$12,000.

INTERCOLONIAL COAL MINING CO., Ltd.

Incorporated 1867 by Act of the Legislature of Nova Scotia.

<i>Capital.</i>	<i>Authorized.</i>	<i>Issued.</i>
Common stock	\$500,000	\$500,000
Preferred stock	250,000	219,700
First mortgage bonds	250,000	250,000

Directors :

Jas. P. Cleghorn, *President*,
 Henry A. Budden, *Vice-President and Managing Director*,
 R. B. Angus, | Robert Anderson,
 Hartland S. Macdougall, | Alexander Gunn,
 W. M. Ramsay, | Thomas Wilson,
 Peter Redpath.

INTERCOLONIAL COAL MINING CO.—Continued.

Head Office: Wm. J. Nelson, Secretary, 199 Commissioner Street, Montreal, Que.

This company holds one square mile and three-quarters of coal areas under lease from the Government of Nova Scotia, and is the owner of the Drummond colliery at Westville, in the county of Pictou, Nova Scotia. Eleven to 13 ft. seam of coal worked; seam dips 15°, worked by slopes, now 4,000 ft. long; lifts every 500 ft.; counterbalance planes every 450 to 500 ft. Ventilation by exhaust fan, 20 ft. by 7 ft.; speed, 45 per m.; current, 100,000 ft. per m.—alternative jet in upcast; lamps, Clanny. Winding engines, pair 16 in. by 24 in.; V friction geared 2 to 1; drums, 8 ft. dia.; work singly or connected; hauls gross weight 25,000 lbs. up 1,800 ft. 1 m. 30 sec., lowered by brake in 1 m.; W. engine underground; single compound 16in. and 28in.; pinion fitted with Fisher's patent clutch; engine with Joyce's pat. expansion valve gear (new); steam pipe 5 in. A large pair of winding engines constructed by the Jenckes Machine Co., of Sherbrooke, have been since installed to replace the above for winding the whole distance in one haul. These engines are 28 in. cylinder, 5 ft. stroke, 10 ft. drums with independent action. Pumping—3 steam pumps, one 18 in. and 8 in., by 36 in.; vertical lift 347 ft.; column, 10 in. cast; independent condenser boilers, steel, 30 ft. by 5.5 ft., two flues and egg end; flash 30 ft. by 3.5 ft. There are also 20 bee-hive coke ovens, machine shops, etc., etc.

<i>Coal Sales 1889.</i>		Tons.
To Nova Scotia.....		54,833
“ New Brunswick.....		7,082
“ Prince Edward Island.....		5,471
“ Quebec.....		54,532
“ Newfoundland.....		101
“ Colliery employees.....		2,099
Total sales 1889.....		124,118

<i>Coal Sales 1890.</i>		Tons.
To Nova Scotia.....		68,449
“ Prince Edward Island.....		9,036
“ New Brunswick.....		9,634
“ Quebec.....		65,470
“ Newfoundland.....		118
“ West Indies.....		358
“ Colliery employees.....		2,582
“ Consumed by engines.....		7,232
“ Consumed by coke ovens.....		1,491
Total disposals 1890.....		164,370

<i>Coal Sales 1891.</i>		Round.	Slack.
To Nova Scotia.....	29,561	29,627	
“ Coke ovens.....		2,084	
“ New Brunswick.....	7,848	4,714	
“ Prince Edward Island.....	2,426	6,907	
“ Quebec.....	49,291	3,459	
“ United States.....		170	
“ Colliery employees.....	2,573	83	
“ Colliery engines.....	6,231	1,414	
Total disposals 1891, (tons).....		97,930	48,458

Average persons employed in 1891: Men, 300; boys, about 50.

Mine Manager: Charles Fergie, M.E., Drummond Colliery, Westville, N.S.

INTERNATIONAL COAL CO., Ltd.

Incorporated 15th November, 1883. Capital Stock, \$300,000, divided into 3,000 shares of \$100 each.

Directors:

Hugh McLennan,
 Sir Donald A. Smith, | A. Kingman,
 John McLennan, | T. B. Brown.
 G. Cheney, | John S. McLennan,

Head Office: 14 Custom House Square, Montreal, Que.

This company holds under lease from the Government of Nova Scotia some five square miles of coal areas, and is the owner of the International colliery at Bridgeport, on the Island of Cape Breton. Seam 6 feet; dip 1 in 12. A shaft to a depth of 90 feet has been sunk to the seam, and from the bottom of this shaft there is an incline 2,800 feet from which levels are worked. Winding engine on surface runs two drums, one set of boxes running down by gravity while engine is hauling the other up; 9 tubs, of an average capacity of 19 cwt. each, are run on each trip, and 95 trips are made per diem. Ventilation by fan. Naked lights used. System of working: pillar and room. 369 men, 50 boys, employed in 1891.

Coal Sales 1889.

Nova Scotia.....	3,417
New Brunswick.....	5,725
Quebec.....	87,764
Newfoundland.....	1,996
Prince Edward Island.....	76
United States.....	3,224
Bunker steamers.....	20,861
Colliery employees.....	1,505

Total sales 1889..... 124,568

Coal Sales 1890.

	Round.	Slack.
Sold in Nova Scotia.....	3,019	1,878
“ New Brunswick.....	6,753	380
“ Newfoundland.....	1,135	287
“ Prince Edward Island.....	273	113
“ Quebec.....	56,523	33,062
“ St. Pierre Miquelon.....	132	14
“ United States.....	6,898	766
“ Bunker steamers.....	20,411	1,432
	95,144	37,932

Returns of sales for 1891 not received.

Managing Director: J. S. McLennan, Sydney.

Underground Manager: John Johnston

INTERNATIONAL MINING AND MILLING CO., OF BRITISH COLUMBIA, Ltd.

Incorporated 1891. Authorized Capital, \$500,000 in shares of \$1.

Directors:

R. A. Brown,
 J. L. Broe, | J. L. Wilson,

INTERNATIONAL MINING & MILLING CO. OF B. C.—Continued.

Head Office: Ophir Mine, North Fork of Kettle River, Osoyoos Division, Yale District, B.C.

Formed to acquire and work certain mines and mining properties situate at the North Fork of the Kettle river, in the Osoyoos Division, district of Yale, Province of British Columbia, known as the "Ophir," the "Lynden," the "Dominion," the "Union," and the "Volcanic Mountain" claims, and to otherwise deal in lands and claims.

INTERNATIONAL MINING AND TRANSPORTATION CO.

Incorporated by Act passed in the Nova Scotia Legislature 19th May, 1891.
Authorized Capital, \$100,000, divided into 1,000 shares of \$100 each, with power to increase the same to one million dollars.

Directors:

	Wm. L. Mitchell, New York,	
Henry Chamberlin, New York,	|	A. Shwartz, New York,
John F. K. O'Connor, Yonkers,	|	Jas. Gwatkin, Lynchburg.

CANADIAN OFFICE:

Sydney, C.B.

Formed to mine iron and other ores, and to manufacture the same into metals, and to buy and to sell said ores, etc., etc. Not known to be yet in operation.

INVERNESS MINING AND TRANSPORTATION CO.

Incorporated by act of the Nova Scotia Legislature, under date of 15th April, 1890.
Authorized Capital, \$200,000, divided into 2,000 shares of \$100, with power to increase it to \$1,000,000.

Formed to acquire and work coal, iron or other mineral properties in the province of Nova Scotia.

INVINCIBLE MINING CO., Ltd.

Incorporated 6th March, 1889. Authorized Capital, \$50,000, divided into 10,000 shares of a value of \$5 each.

Directors:

	John Mohrer,	
Richard Watkins,	|	Robert Evans.

Head Office: Wm. Beveridge, Secretary, Nanaimo, B.C.

Formed to carry on the general business of miners, and to acquire, prospect, work, and develop lodes of gold and silver-bearing quartz and other minerals in the Province of British Columbia. Four claims on Texada Island are owned, but not worked in 1891.

JEANETTE MINING CO.

Incorporated 1891. Authorized Capital, \$500,000, in shares of \$1 each.

Head Office : Ainsworth, B. C.

Formed to explore, mine, mill, buy, sell and to do any other necessary work for the development of the mines which the company now own or may hereafter acquire.

JEFFREY ASBESTOS MINE.

Owner :

W. H. Jeffrey, Richmond, Que.

The property upon which this productive asbestos mine is situate is known as Lot VI. of the III. Range of Shipton, at a point about four miles from Danville station, on the line of the Grand Trunk railway. Worked since 1880.

Manager : Capt. Thorpe, Danville, Que.

JOGGINS COAL MINING ASSOCIATION.

Capital Stock, \$300,000, divided into 100,000 shares of \$3 each, fully subscribed and paid up.

Directors :

James Kennedy, <i>President</i> ,		J. E. Irvine,
Robert Cruikshank,	|	F. R. Butcher.
John Boyd		

Head Office : Henry Duffell, jr., Sec.-Treas., St. John, N.B.

This company is the owner of the Joggins colliery, situate at Joggins mines, Cumberland county, Nova Scotia, at present being worked under lease by the Canada Coal Co.

JOHNSONS' ASBESTOS CO.

Incorporated 1885, under letters patent from the Local Legislature of Quebec. Capital \$250,000, in shares of \$500 each, fully subscribed and paid up. In 1888 a dividend of 23 per cent., and in 1889 a dividend of 33 per cent. was paid.

Directors :

Hon. George Irvine, Quebec, <i>President</i> ,		W. J. Johnson, Clapham, Que.,
John Mooney, Inverness, Que.,	|	A. S. Johnson, Thetford, Que.,
Samuel J. Johnson, Inverness, Que.,		Lawrence Lynch, <i>Secy.-Treasurer</i> , Quebec.

Head Office : Quebec, Que.

Formed to acquire and work asbestos and other mineral lands in the Province of Quebec, particularly Lot 27, 6th Range of Thetford, and Lots 25, 26 in the 10th Range

JOHNSONS' ASBESTOS CO.—Continued.

of Ireland, also Lots 25, 29, 30 in Range 3 of the township of Coleraine, all in the county of Megantic.

	<i>Output 1889.</i>	Tons.
No. 1 Grade.....		950
No. 2 Grade.....		250
		1,200
<i>Output 1890.</i>		
No. 1 Grade.....		1,200
No. 2 Grade.....		250
Run of mine grade, Black Lake.....		118
Waste delivered.....		200

Engine equipment includes steam drills, one horizontal and two upright boilers, three pumps, two single and one double hoisting engine, and a complete crushing and separating plant. An average of 150 persons employed.

Managing Director: A. S. Johnson, Thetford, Que.

KALADAR MINING CO.

Incorporated 1890. Capital Stock, \$120,000, in 6,000 shares, a value of \$20 each.

Directors:

	H. M. Duroche, Napanee, Ont.
Wm. Miller, Napanee, Ont.	J. H. Downey, Napanee, Ont.
John Guina, township of Kaladar, Ont.	R. A. Helliwell, Chicago, Ill.
Dennis Guina, “ “ “	Fredk. Burrows, Napanee, Ont.

Head Office: Fredk. Burrows, Napanee, Ont.

Formed to acquire and work mineral lands in the township of Kaladar, and also in the counties of Lennox and Addington, and elsewhere in the Province of Ontario. The property owned is known as lot 25 in the 6th Concession of Kaladar, and contains 149 acres. Property has been prospected but not worked to date.

KEMPT GOLD MINING CO.

Incorporated 1886. Authorized Capital, \$30,000, divided into 100,000 shares of 30 cents each.

Directors:

	Jacob Bingay, Yarmouth, N.S.
Joseph R. Wyman, Yarmouth, N.S.,	R. S. Eakins, Yarmouth, N.S.,
A. W. Eakins, “ “ “	G. W. Johnson, “ “

Head Office: A. W. Eakins, Secretary, Yarmouth, N.S.

Formed to acquire and work certain gold areas in Yarmouth county, in the Province of Nova Scotia. Was not in active operation during the years 1889, 1890 or 1891. Writing under date of 20th May, 1891, the secretary says: “The company has been unfortunate in that it has lost two stamp mills by fire; no insurance in either case. We are now building another and better mill than either of the others. You will see that the prospect must be good to seem to warrant this expenditure in the face of previous losses of \$30,000. Capital, \$26,000, has been paid in.”

Mine Superintendent: W. N. Nash, Kemptville, N.S.

KING BROTHERS.

A private company, consisting of the following partners :

James King, M.P.P.,
Charles King, | E. A. King.

Head Office : 15 Bell's Lane, Quebec, Que.

This company is one of the largest producers of crude asbestos in Canada, and is the owner of some 21,000 acres of mineral lands in the townships of Thetford and Ireland. Thetford mines at Thetford station, on the line of the Quebec Central railway ; 150 men and boys employed. About 90 persons employed at the company's Black Lake and Ireland mines. Engine equipment includes Rand compressor (7-drill), three Copeland & Bacon hoisting engines, steam pumps, cable derricks, etc. Output for 1889, about 1,500 tons all grades ; 1890, 1,050 tons all grades.

General Superintendent : Wm. King, Thetford, Que.

Resident Engineer : A. M. Evans, M.E., Black Lake, Que.

KINGSTON PHOSPHATE MINING CO.

Registered April, 1890. Authorized Capital, £5,000, in shares of £1 each.

Directors :

G. C. Lomer, <i>Chairman</i> .
R. C. Richards, | William Adams.

Chas. M. Anderson, *Secretary*, 4 Fenchurch Ave., London, E.C.

CANADIAN OFFICE :

Lomer, Rohr & Co., Custom House Chambers, Custom House Square, Montreal.

Formed to acquire and work certain phosphate properties, containing in all 200 acres, and situate in the township of Loughborough, county of Frontenac, province of Ontario. Mining operations were begun in August, 1890. Twenty-five men employed.

KINGSTON AND PEMBROKE IRON MINING CO.

Capital Stock, \$5,000,000, in \$25 shares.

Directors :

Henry Seibert, New York, President,
J. D. Flower, New York, N.Y. | B. W. Folger, Kingston, Ont.
W. G. Pollock, Cleveland, Ohio, | F. A. Folger, " "
W. E. Cooper, New Jersey, | C. F. Gildersleeve, " "

Head Office : George Osborne, Secretary, Kingston, Ont.

The Freehold and Leasehold mines of the Kingston and Pembroke Iron Mining Company, comprise, with other property, the mines formerly operated by the "Glen-dower," "Zanesville," "Roberts," Mississippi, "Levant" and "Cahlogie" Mining Companies. The acreage is as follows :—

KINGSTON AND PEMBROKE IRON MINING CO.—Continued.

TOWNSHIP OF BEDFORD, County of Frontenac :	Acres.
E ½ Lot 3, 1st Con.....	100
Lot 4, 1st Con.....	200
E ½ Lot 6, 2nd Con.....	100
N ½ Lot 5, 2nd Con.....	100
Part S ½ 5, 3rd Con.....	50
Part Lot 6, 3rd Con.....	50

TOWNSHIP OF OSO :

N W ½ Lot 13, 6th Con.....	69
14, 6th Con.....	200
12, 8th Con.....	200
22, 10th Con.....	200
Part Lot 14, 1st Con.....	25

TOWNSHIP OF PALMERSTON :

W ½ Lot 3 and part of E ½ Lot 3, 9th Con.....	106
E ½ Lot 5, 9th Con.....	100
E ½ Lot 1, 9th Con.....	100
E ½ Lot 2, 9th Con.....	100
Lot 6, 9th Con.....	200
N ½ Lot 6, 10th Con.....	100
E ½ Lot 6, 11th Con.....	100
Lot 7, 10th Con.....	200

TOWNSHIP OF LAVANT, County of Lanark :

	Acres.
Lot 4, 12th Con.....	200
E ½ Lot 22, 4th Con.....	100

TOWNSHIP OF SOUTH SHERBROOKE :

Part of Lot 14, 8th Con.....	60
N ½ Lot 17, 7th Con.....	100

TOWNSHIP OF BATHURST, County of Lanark :

N E ½ Lot 1, 6th Con.....	100
Lot 3, 6th Con.....	200
W ½ Lot 6, 6th Con.....	100

TOWNSHIP OF BAGOT, County of Renfrew :

E ½ Lot 16, 11th Con.....	100
E ½ Lot 24, 10th Con.....	100
Lot 22, 11th Con.....	200
N ½ Lot 21, 7th Con.....	100
N ½ Lot 21, 8th Con.....	100
N ½ Lot 23, 9th Con. }	120
N ½ Lot 23, 10th Con. }	

Also 1,700 acres at Gun Flint Lake and 3,200 in township of Moss, in the Lake Superior district. These mines are now about to be actively worked.

KINGSVILLE NATURAL GAS & OIL CO., Ltd.

Incorporated 1890. Capital Stock, \$43,750, in 2,187 shares of \$20 each

Directors :

Solomon Wigle, Sidney King,	James Haley Smart,	David Conklin, Joseph Fitch.
--------------------------------	--------------------	---------------------------------

Head Office : Kingsville, County Essex, Ont.

Formed to erect refineries and warehouses, to purchase, lease, acquire, sell and demise petroleum refineries, oil lands and other lands, and hereditaments, and to sink, open, work and pump artesian wells, and to produce petroleum, salt and other minerals. No report at date.

KOKSILAH QUARRY CO., Ltd.

Incorporated 1890. Capital Stock, \$100,000, divided into 1,000 shares of \$100 each.

Trustees :

Joseph Hunter,	Peter Dunlevy,	Theodore Subbe.
----------------	----------------	-----------------

Head Office : Victoria B.C.

Formed to quarry, dress, ship, sell and otherwise dispose of marble, granite, sandstone and other stone. No report at date.

KOOTENAY AND COLUMBIA PROSPECTING AND MINING CO., Ltd.

Incorporated 1892. Authorized Capital, \$40,000, in shares of \$100.

Directors :

G. P. Brophy, C.E., Ottawa, Ont.
W. A. Allan, Ottawa, | Hector McRae, Ottawa,
Edward Watts, Ottawa.

Head Office : Victoria Chambers, Ottawa, Ont.

Formed to carry on a general mining business ; to buy and sell and otherwise deal in mines, mining lands and minerals ; to prospect and explore for, quarry, develop, work, extract and mine throughout the provinces of the Dominion of Canada, ores and minerals of every kind, etc.

KOOTENAY LUMBER AND MINING CO., Ltd.

Incorporated 19th June, 1889. Authorized Capital, \$600, divided into 120 shares of a value of \$5 each.

Directors :

C. H. Prescott,
C. B. Bellinger, | J. W. Smith.

Head Office : Ainsworth, Kootenay District, B.C.

Formed to buy, sell, lease, own, operate and control mines and mining properties within the State of Oregon and the Territories of Washington and Idaho, and also in the Province of British Columbia.

KOOTENAY, B.C., SMELTING AND TRADING SYNDICATE, Ltd.

Incorporated 21st February, 1889. Authorized Capital, £40,000, divided into 3,990 ordinary shares of £10 each, and 10 founders' shares of £10 each.

Directors :

M. McC. Bruce,
Lionel R. C. Boyle, | Richard A. Tiessen,
Herbert Cecil Pelly.

Canadian Office : F. Storer Brown, 11 Notre Dame Street, Winnipeg, Man.

Formed to erect smelting works at Revelstoke or Golden City, or other places in the Kootenay district, or elsewhere, on or near the Canadian Pacific Railway, and thereby or otherwise to obtain from the Government of the Dominion of Canada, and any government or municipal authority, or from any company or companies, or person or persons, concessions and grants of land, rights and privileges for building and other purposes, and all bonuses, whether in the form of land or currency, or partly in land and partly in currency, that may be offered by the Government of the Dominion of Canada, or the Government of British Columbia, and generally to acquire in the said district or elsewhere, estates, properties, rights and privileges of every description. (b). To acquire mining properties and claims, or shares or other interests in such properties or claims, in the said Kootenay district or elsewhere in British Columbia, and to investigate and explore any such properties or claims before acquiring any interest therein, and to develop and work or re-sell and dispose of the same, and to act as agents for procuring and selling concessions, claims, properties and rights of all descriptions in British Columbia, etc., etc.

The company owns 320 acres of land at Revelstoke, in the Kootenay district, Province of British Columbia. The company erected smelting and sampling works in

KOOTENAY SMELTING AND TRADING SYNDICATE.—Continued.

1889, and is prepared to smelt ores at a stipulated price per ton, or will defray all charges on consignments, and after deducting therefor, pay their cash value, based on the assays obtained. The works are equipped with an excellent plant.

Superintendent: Dr. Campbell, Revelstoke, B.C.

KOOTENAY VALLEYS CO., Ltd.

Registered 18th March, 1887. Capital, £100,000 stg., in shares of £5 each, of which £25,000 in fully paid shares were taken by the vendor. The balance of 15,000 shares of £5 each was offered for subscription in March, 1887, payable 10s. on application, £1 10s. on allotment, £1 10s. three months after allotment, and the balance at three months' notice as required.

Directors:

Sir John Colomb, M.P., K.C.M.G., <i>Chairman</i> ,	
Gen. Sir H. J. Warre, K.C.B.,	John Rae, LL.D., F.R.S.,
Thomas Bate,	R. H. Venables Kyrke.

Head Office: Arthur Fell, Secretary, 46 Queen Victoria St., London, E.C.

Formed to carry out an agreement under date of 16th March, 1887, between the Kootenay Syndicate, Limited, and R. M. Rands, to acquire and work mineral lands in the Upper and Lower Kootenay Valleys in the Province of British Columbia.

The following is an excerpt from the Directors' report submitted in London 28th February, 1891:—

"The Crown grants for 26,980 acres of land were duly received from the Government of British Columbia, leaving 3,020 acres still to be received by the company to complete the free grant of 30,000 acres in the Upper Kootenay Valley under the concessive, but of this amount 2,320 acres were sold to Colonel Baker under his rights prior to the reservation to this company, and he paid the company the Government price for them, amounting to \$5,800; 3,020 acres still remained to be selected, and of these 600 were selected on behalf of the company during the summer, and have been surveyed, and Crown grants will be received for them in due course, leaving 2,420 acres still to be selected, when the company's total holding will be 27,680 acres.

"The canal constructed by the company under the conditions of the Government concession has not yet been used for the purposes of navigation, owing to the fact of the obstructions in the Upper Columbia River, and the erection of a bridge by the Government of British Columbia across the mouth of the canal, which prevents access to it, so no revenue has been derived from toils during the past year. The company is in correspondence with the Government of British Columbia with reference to these obstructions to navigation, and incidental to the maintenance of the canal.

"After Mr. Baillie-Grohman left British Columbia on the completion of the canal in 1889, the contractor, Mr. T. F. Sinclair, commenced an action against the company for extras—claiming £2,000. By Mr. Baillie-Grohman's advice this was contested, and was referred to arbitration, and in the result the directors regret to say the award and costs were given against the company, amounting to £2,365 8s. 6d.

"This sum was paid as to £721 13s. od. out of the balance of proceeds of the sale of land to Col. Baker remaining in Mr. Baillie-Grohman's hands, and the balance was remitted out, having been raised by the directors and some of the shareholders, by an issue of debentures bearing interest at 6 per cent. Mr. Sinclair's claims and all costs were thus paid.

"Acting on the instructions of the shareholders expressed at the extraordinary meeting on the 24th June, 1890, the directors arranged with the Alberta and British Columbia Exploration Company (Limited) for the sale to that company of the portion of the concession relating to the reclamation of "Lands B." The agreement with this company was signed on the 8th August, 1890, and the assignment of this portion of the concession will be duly carried through. The Directors are glad to have arranged with a substantial company, with ample funds at its disposal, for the due carrying out of this part of the concession."

Canadian Agent: George Alexander, Golden, B.C.

LA COMPAGNIE DES MINES D'OR DE MATTAWA.

Incorporated 1891. Authorized Capital, \$24,000, in 2,400 shares of \$100 each.

Directors :

E. Guillbault,	|	J. H. Renaud,
A. Magnan,	|	J. H. Ostigny,
J. Rivard,	|	— Desormiers,
J. A. Ouimet.		

Head Office : Joliette, Que.

Formed to prospect and work lands containing gold and silver ores in the province of Quebec.

LA CUMBRE MINING CO. OF TORONTO, Ltd.

Incorporated December, 1890. Authorized Capital, \$70,000, divided into 1,400 shares of a value of \$50 each.

Directors :

Frederick Le Maitre Grasset,	|	Joseph Ruse,	Frederick William Kingstone.
Edmund St. George Baldwin,	|	William Bridgeman-Simpson.	

Head Office : John H. G. Hagarty, Secretary, 19 Wellington Street East, Toronto, Ont.

Formed to purchase, acquire, explore, improve, work, lease, sell and otherwise operate and deal with mines, mining lands, mining claims and mining rights in the Dominion of Canada and elsewhere, etc.

LAKE LODGE MINING CO.

Incorporated December, 1886, under laws of the State of Maine, U.S.A. Capital, \$75,000, fully subscribed and paid up.

Directors :

Henry Sawyer. <i>President</i> , Boston, Mass.		
J. B. Spalding, Boston, Mass.,	|	L. L. Tuttle, Boston, Mass.,
L. L. Wadsworth, Boston, Mass.	|	Alvin Clarke, Boston, Mass.

Head Office : J. B. Spalding, Secretary-Treasurer, 27 Broad Street, Boston, Mass.

This company holds 175 gold areas under lease from the Government of Nova Scotia, situate in the district of Caribou. Little or no gold was produced in 1891, there being but a small force employed keeping pits clear of water. Official returns of the yield from this property are : 1887, 712 oz. 4 dwt. 9 grs. from 974 tons rock crushed ; 1888, 674 oz. 14 dwt. 22 grs. from 755 tons rock crushed ; 1889, 567 oz. 8 dwt. from 959 tons rock crushed ; no return for 1890-91.

Superintendent : L. L. Wadsworth, Caribou Gold Mines, Caribou, N.S.

LAKE SUPERIOR MINERAL LAND DEVELOPMENT CO.

Incorporated 26th October, 1887, under the laws of the State of Illinois. Authorized Capital Stock, \$1,000,000, divided into 10,000 shares of \$100 each, of which to date, 25% has been subscribed and paid up.

Directors :

<i>President, Wm. Bury,</i>	
C. F. Linscott, G. C. Thomas,	M. H. Killgallen, F. C. Rector.

Head Office : 69 Home Insurance Buildings, Chicago, Ill.; M. H. Killgallen, Secretary, May-fair, Cook Co. Ill.

This company owns 11,276 acres of mineral lands in the townships of McIntyre, McGregor, Blake, Crooks, McTavish and Shebandowan Lake, in the district of Thunder Bay, in the Province of Ontario. On the property in the township of McIntyre, two shafts have been sunk to a depth of 45 feet and 55 feet respectively. Work to date has been purely of an exploratory character. The company's properties contain gold, silver, iron and other minerals.

Superintendent : P. M. French, Port Arthur, Ont.

LAKE SUPERIOR MINING CO., Ltd.

Liquidator : Ernest E. Probert, Abchurch Chambers, London, Eng.

This company is now in liquidation, the resolution for this purpose being confirmed 18th February, 1891. It is intended to dispose of the property, and steps are now being taken with this object.

LAKE TAMAGOMING PIONEER CO., Ltd.

Incorporated 1891. Authorized Capital, \$500,000, in shares of \$100.

Directors :

<i>W. B. McMurrich, President,</i>	
E. Wragge, A. Nairn,	R. Jaffray, William Hendrie.

Head Office : Julius Mills, Acting Secretary, 11, 12, 13 Toronto Chambers, Toronto Street, Toronto.

Formed for the purpose of dealing in timber lands, erecting saw mills, dealing in mining lands, operating mines, etc. It is understood that the company purpose prospecting and purchasing along the line of the Nipissing and James Bay railway, in the vicinity of Lake Tamagoming, Province of Ontario.

LAKE VIEW MINING CO., Ltd.

Incorporated under the laws of Nova Scotia, 17th April, 1889. Capital Stock, \$500,000, in shares of \$100 each.

Directors :

Frank B. Allen, <i>President</i> , Newark, N.J.,		Thos. W. Crooks, Newark, N.J.,
Wm. Linn Allen, Newark, N.J.,	|	Edward P. Ward, Newark, N.J.
J. C. McDonald, Newark, N.J.,	|	

Head Office : Wm. Linn Allen, 802 Broad Street, Newark, N.J.

This company holds 121 gold areas under lease from the Government of Nova Scotia. The mine is situated at Waverley, Halifax county, N.S., and is well equipped, with excellent accommodation for the miners, and has a first-class working plant, including engine and shaft house, boiler house, blacksmiths' shops, office, magazine, compressor house, 20-stamp quartz mill, frue-vanner house, laboratory, etc. Up to the 30th July, 1890, the main shaft had been sunk to a depth of 360 ft., and 2,700 ft. of levels driven. The yield officially reported for the year 1890 gave 349 oz. 15 dwt. of gold from 3041 tons of rock crushed. There were no returns in 1891.

Mine Superintendent : A. A. Hayward, Waverley, Halifax County, N.S.

LANARK CONSOLIDATED MINING AND SMELTING CO., Ltd.

Incorporated 1891. Authorized Capital, \$200,000, in 8,000 shares of \$25.

Directors :

Thomas Earle.		
W. G. Goepel,	|	A. J. Beaulands,
F. S. Barnard, M.P.,	|	N. P. Snowdon.

Head Office : E. A. Sargison, 48 Langley Street, Victoria, B.C.

Formed to acquire the rights and interests of the Selkirk Mining and Smelting Co., Ltd., in and to the Lanark mine, the Sutton mine, the Red Fox, the Isabella, the Dorothy and the Sprague mining claims, and all and every the other real and personal property of the said Selkirk Mining and Smelting Co. lying at or near the town of Illecillewaet, West Kootenay district, province of British Columbia, for the sum of \$120,000, to be paid for in fully paid shares of the company. The principal mine upon which somewhat extensive work has been done is situate about four miles from the town of Illecillewaet. About 2,000 tons of ore raised to date. Shipments of argentiferous galena reported to have yielded a profit of \$65 per ton. Small force employed in 1891.

Mine Superintendent : Capt. Eva, Illecillewaet, B.C.

LAURA HYDRAULIC MINING CO., Ltd.

Incorporated 6th June, 1889. Authorized Capital \$20,000, divided into 20,000 shares of \$1 each.

Directors :

John Grant,	|	Morris Moss,	|	Alex. Gilmour.
-------------	--	--------------	--	----------------

Head Office : Victoria, B.C.

Formed for the mining of gravel, sand and quartz for precious metals in the province of British Columbia, the acquisition, by purchase or otherwise, of a sawmill and premises at Rock Creek, district of Yale, British Columbia, etc.

LAURIER MINING CO.

Registered in October, 1889. Capital \$25,000.

Directors :

Hon. W. Laurier,	
J. Lavergne, M.P.,	F. Beauchene,
L. Lavergne, N.P.,	T. Baril.

Head Office : J. Lavergne, Secretary, Arthabaskaville, Que.

Formed to acquire and work asbestos and other mineral lands in the Province of Quebec. The company owns a small asbestos property adjoining the mines of the Anglo-Canadian Asbestos Company, and the mine formerly owned by Johnson and Loomis, in the district of Black Lake; also properties in the townships of Chester, Tingwick and Ham, all in the Eastern Townships of the Province of Quebec. Fifteen men employed.

LeROI MINING AND SMELTING CO., Ltd.

Incorporated 1891. Authorized Capital, \$150,000.

Head Office : Edwin J. Kelly, Trail, B.C.

Formed to acquire and work mineral lands in the Province of British Columbia, and particularly the LeRoi mineral claim, situate on the left slope of the north fork of Trail Creek about five miles west of the Columbia River. Three shifts working in the winter of 1891-92, but no report obtainable at date.

LEEDS COPPER CO.

Registered 16th January, 1891, to acquire the undertaking of the Excelsior Copper Company, at Harvey Hill, West Broughton, Que. Authorized Capital £450,000 stg., in 450,000 shares of £1 each. Shareholders in the Excelsior company are entitled to one share in this company credited with 18s. 6s. per share as paid, in exchange for each share held, subject to a payment of 3d. per share upon application.

Directors :

J. Armitage, M.P., <i>Chairman</i> ,	
R. Brown,	R. P. Gould,
George Bathison, London.	

Head Office : C. Harrison Smith, Secretary, 19 Broad St. Avenue, London, E.C.

Formed to take over the Excelsior copper mines, and the property formerly owned and operated by the Excelsior Copper Co. at West Broughton, Que., containing in all 4,100 acres, of which 2,800 acres are freehold, and 1,300 acres of mining rights held in perpetuity from the Government. The following are the present depths of the various workings at the mines: "Fanny Eliza" shaft, 1,053 ft.; "American," 240 ft.; "Sayles," 240 ft.; "Whitburn," 230 ft.; "Kent," 168 ft.; "No. 2," 138 ft.; "Douglas," 86 ft.; "No. 1," 82 ft.; "Harvey Hill," 70 ft.; "Fremont," 60 ft.; "Poulin," 32 ft.; "McGee" or "Hill," 23 ft.; "Centre" 22 ft. Adit extended into the hill 1,400 feet. Average men and boys employed on the books of the company, (May, 1891), 100. Mines well equipped with necessary pumping and winding engines at four shafts. Engine equipment includes: 6 steam engines, one 20 h.p., one 60 h.p., the other four from 10 to 20 h.p., with complete boiler power to drive same; one eight drill air compressor, and a complete plant to treat 100 tons of ore daily, including rolls, crushers, two stamp mills, automatic jiggs, separators, buddles, etc.; also one Herreshoff water jacket smelting furnace with all necessary equipment.

Manager : Capt. Thos. K. Davey, West Broughton, Que.

LILLOOET HYDRAULIC MINING CO., Ltd.

Incorporated 21st August, 1889. Authorized Capital, \$20,000, divided into eight shares of a value of \$2,500 each, of which to 1st September, 1890, \$10,000 had been subscribed and paid up.

Directors :

A. McDonald, | Wm. Tietgen, | W. Collier.

Head Office : Lillooet, B.C.

Formed to acquire and work alluvial deposits in the Province of British Columbia. The company owns 160 acres, situate on the right bank of the Fraser River, at a point in the immediate vicinity of the town of Lillooet, B.C. The workings to date consist of two open cuts into the gravel bank, each 300 feet in length, and of an average width of 60 feet, and a depth of 30 feet. Eight men employed.

Superintendent : A. McDonald, Lillooet, B.C.

LITTLE RAPIDS MINING CO.

A private company consisting of the following

Owners :

W. A. Allan, Victoria Chambers, Ottawa, Ont.
Major W. Holbech, Burnham House, Oxford, Eng.

Head Office : Victoria Chambers, Wellington Street, Ottawa, Ont.

The company owns some 600 acres of phosphate lands, in the 1st range of Portland East, in the county of Ottawa, Province of Quebec, and is the owner of the Little Rapids phosphate mines, situate at Little Rapids, on the left bank of the Lievre River, in the range, township, and county aforesaid. Main shafts 210 feet and 190 feet respectively ; tramway 7/8 of a mile from mines to wharf, narrow gauge, steel rails. The working plant includes a Rand compressor, 3 Ingersoll and 1 Rand drills, winding engine, 3 boilers, Knowles pumps and other machinery plant. Well equipped with suitable accommodation for a large force of miners. A small force employed, 1890 and '91.

LONDONDERRY IRON CO.; Ltd.

Incorporated 1887 under special charter from the Federal Government. Capital Stock, Preferred, \$400,000 ; Ordinary, \$600,000.

Directors :

Sir George Stephen, Bart., Montreal,
Sir Charles Tennant, Glasgow, | A. T. Paterson, Montreal,
A. S. McClelland, " | John Turnbull, "
Hon. D. McInnes, Hamilton, Ont., | R. McD. Paterson, "

Head Office : James Phymister, Secretary, 35 St. Francois-Xavier Street, Montreal.

Formed to acquire the property, mines, telegraph lines, machinery, plant, materials and other assets of the Steel Company of Canada, Limited, for the sum of three hundred thousand dollars of preferential shares, and such amount, not exceeding four hundred thousand dollars of ordinary shares, to be used in paying off the

LONDONDERRY IRON CO.—Continued.

bondholders and ordinary creditors of that company, as may be necessary for that purpose, together with such undertaking for the payment of the indebtedness incurred by the liquidator of the said Steel Company of Canada, and such minor arrangements as to details as may be finally agreed upon by the company and the liquidator of the said Steel Company of Canada, with the authority of the proper court; and, upon the completion of the arrangements for such acquisition, to issue as paid-up shares such preferred and ordinary shares as shall be required for the performance of the obligations to be assumed by the company; and as a means of providing for the expense of completing the said arrangements and of procuring the means of carrying out the same, of remunerating divers agents and others who have been engaged in negotiating the same in Canada and in England, and generally of relieving the company from all liability in respect of any and all preliminary proceedings and arrangements, the company is authorized to make and use a further issue of paid-up ordinary shares, not exceeding in all the sum of \$80,000; also to construct and operate such other roads and additions to the said railway, tramway, and telegraph line, in connection with the said mines and properties, or the rights they may have acquired, as are needed for their business; also to acquire, charter and operate vessels, steamers and other suitable craft for the transportation of the products of their business to ports in Canada or to any foreign port or ports. Annual meeting held on the second Wednesday of each year, at which the affairs of the company are submitted to the 31st December preceding. Dividends at the rate of 6 per cent. on the preferred stock have been paid for the years 1889 and 1890, dividends payable 1st March each year. The company's property covers about 36,000 acres freehold. Machinery, plant, etc., valued at \$150,000. About 800 men and boys employed at mines and works. Mining has been carried on since 1849. A charcoal furnace was erected in 1853, which was in blast at short intervals for some years. Two improved blast furnaces, with a weekly capacity of from 500 to 600 tons, were subsequently erected, the fuel used being coke, and the capacity of the puddling furnaces being about twenty-five tons per day. Gas kilns capable of roasting 250 tons per day have recently been erected, and the capacity of each furnace increased to 500 tons pig iron per week. A branch railway, three miles in length, connects the mines with the Intercolonial railway at Londonderry station.

The following statistics have been completed from returns kindly furnished by the secretary:—

PIG IRON.						
	Pig Iron Manufactured.			Value at Furnace.		
	Short Tons.					
1889—1 furnace in blast.	1889.	1890.	1891.	1889.	1890.	1891.
1890—1 “ “						
1891—1 “ “						
Total pig iron made....	21,289	18,382	20,840	\$383,202	\$330,876	\$297,728
Total ore charged.....	54,161	49,210	53,649	97,807	98,400	112,744
Total fuel charged—						
Coke.....	33,289	32,800	30,626	94,791	98,400	98,402
Raw coal.....	3,044	2,800	2,170	6,525	5,600	2,868
Total flux charged....	19,922	17,808	10,098	19,709	17,500	10,268
Average men employed.	80	80	62	.....	.....	.....

NOTE.—In 1891 furnace not in operation from 8th March to 28th April.

LONDONDERRY IRON CO.—Continued.

ROLLING MILLS AND FORGES.

1889 } 1890 } 1891 }	Manufactured. — Short Tons.			Value at Mill.		
	1889.	1890.	1891.	1889.	1890.	1891.
Four re-heating furnaces.						
Three trains rolls.						
Iron, all sorts made. . . .	7,284	7,266	2,651	\$273,150	\$270,000	\$112,667
Puddled bars consumed at works.	4,882	6,657	2,580	158,665	178,000	75,090
Scrap and other iron consumed at works . . .	4,511	3,022	823	87,834	57,600	14,106
Total fuel consumed . .	5,792	6,053	2,285	.....	12,241	4,209
Average men employed.	100	100	160	.....	.....	.....

NOTE.—Rolling mill shut down from 30th August to 31st December, 1891.

IRON AND STEEL WORKS.

Six double puddling furnaces in fire, and one single.	Quantity—Short Tons.			Value at Works.		
	1889.	1890.	1891.	1889.	1890.	1891.
Production of iron.	7,479	7,181	2,769	\$243,060	\$218,430	\$83,070
Consumption of pig. . . .	8,073	7,889	3,396	145,314	112,000	48,385
Consumption of iron ore.	3,031	3,779	1,957	6,090	9,140	4,767
Consumption of fuel. . . .	10,010	10,663	5,232	20,200	24,170	10,560

General Manager: R. G. Leckie, Londonderry, N.S.

LOW POINT, BARRASOIS AND LINGAN MINING CO., Ltd.

Incorporated 9th March, 1883, under an act of the Legislature of Nova Scotia. Authorized Capital, \$600,000, in shares of \$100 (with power to increase it to \$1,000,000), of which \$509,100 has been issued and paid up in full. Of this amount \$200,000 is in deferred shares (allotted in part payment of the properties), but from January 1st, 1889, these were entitled to rank equally with the other shares. The vendors guaranteed that the net profits of 1884-5 should be sufficient to pay dividends of 5 per cent. per annum. The guaranteed dividends were paid; for 1886 there was no distribution; for 1887, 5 per cent. was paid on the ordinary shares other than those (\$229,700) held by the General Mining Association, that company foregoing their dividend rights; for 1888, 5 per cent. was paid on the ordinary shares held publicly, and 3½ per cent. on the ordinary shares held by the General Mining Association; for 1889, 5 per cent. was paid on the ordinary shares held publicly, and 2½ per cent. on the ordinary and deferred shares held by the General Mining Association; and for 1890, there was no dividend on any of the shares.

LOW POINT, BARRASOIS & LINGAN MINING CO.—Continued.**Canadian Board:**

W. J. Stairs, Halifax, N.S.
 R. P. Starr, St. John, N.B., | L. M. Smith, Halifax, N.S.
 Thos. E. Kenny, Halifax, N.S., | Geo. E. Francklyn, Halifax, N.S.

Head Office:

E. E. Bigge, *Secretary*, Bloomfield House, London Wall, London, E.C.

CANADIAN OFFICE:

E. Francklyn, *Secretary*, 74 Bedford Row, Halifax, N.S.

Formed to acquire and work certain coal mining properties on lease from the General Mining Association, of which some 27 miles of areas are situate on the Island of Cape Breton, in the province of Nova Scotia.

Victoria Colliery—Situate at Low Point, on the south side of Sydney Harbor; 272 persons employed in 1891. Average yearly production, about 100,000 tons. John Weir, *Underground Manager*.

Ross Seam—6 ft. 7 in. worked; dip averages 25°; length of slope 1,740 ft. Composition of coal (analysis by E. Gilpin, jr., F.G.S.) :—

	Slow Coking.	Fast Coking.
Moisture.....	75	75
Vcl. comb. mater.....	26·85	32·13
Fixed carbon.....	68·13	62·85
Ash.....	4·27	4·27
	100·00	100·00
Sulphur.....	1·286	
Theoretical evaporative power.	9·3	8·6

System of working—Pillar and bord; bords 18 ft. wide.

Ventilation—Murphy fan, 6-ft. dia.

Lamps—Muesler and naked lights.

Hoisting engines—One horizontal engine, having 2 cylinders, each 22 in. dia. by 4 ft. stroke; drum, 7 ft. dia.

Pumps—One forcing pump, cyl. 18 in. dia. by 4 ft. stroke; pump dia., 8 in.; one Knowles cyl., 12 in. dia. by 1 ft. 3 in. stroke; pump, 6 in. dia.

Boilers—Five cylindrical, egg-end, 30 ft. long, and one multitubular.

Screens—Four, each 5 ft. wide by 20 ft. long.

There are also two locomotives and 120 waggons.

Coal Sales 1889.

To Nova Scotia.....	22,828
“ New Brunswick.....	7,983
“ Prince Edward Island.....	11,635
“ Quebec.....	17,880
“ Newfoundland.....	17,414
“ Bunker steamers.....	11,571
“ Colliery employees.....	1,810

Total coal sales 1889..... 91,121 tons.

Coal Sales 1890.

	Round.	Slack.
To New Brunswick.....	10,764	104
“ Newfoundland.....	16,028	92
“ Nova Scotia and Cape Breton.....	21,735	2,715

LOW POINT, BARRASOIS & LINGAN MINING CO.—Continued.

To Prince Edward Island	1,649	2,150
“ Quebec	7,470	1,564
“ West Indies	—	—
“ United States	—	627
“ St. Pierre Miquelon	277	—
“ France	180	—
“ Bunker steamers	12,014	—
Total sales 1890	70,118	7,252

The sales for 1891 are reported to have been 86,583 tons round, and 8,161 tons slack, but no details of distribution are given.

General Manager: R. H. Brown, Sydney Mines, Sydney, C.B., N.S.
Resident Manager: Robert Robson, Low Point, C.B., N.S.

LYNDHURST LEAD MINING CO. OF ONTARIO.

Incorporated 1891. Authorized Capital, \$100,000, in shares of \$1.00.

Directors:

H. L. Barker,
 J. B. Perkins, | A. W. Petrikin,
 A. A. Clough.

Head Office: H. L. Barker, Managing Director, Lyndhurst, Ont.

Formed for the purpose of exploring and mining in the county of Leeds, Province of Ontario. The property owned at date is situated on Lot III, township of Lansdowne, county of Leeds, six miles from the line of the B. and W. Railway and twelve miles from the main line of the Grand Trunk Railway. The ore is an argentiferous galena containing on analysis 72% lead and 3% silver. Some work was done with a small force in 1890, two shafts to a depth of 45 feet being sunk and a tunnel driven to connect with the vein, but owing to bad health of Mr. Barker work was stopped and the present company formed. Operations are to be resumed in the spring of 1892. Value of machinery, which includes a small furnace of a 3½ tons capacity per diem, \$2,500.

MABOU GYPSUM CO., Ltd.

Incorporated by Act of the Nova Scotia Legislature, 19th May, 1891. Authorized Capital, \$25,000, in 250 shares of \$100 each, with power to increase it to \$100,000.

Directors:

C. L. Snow, *President*,
 Lewis McKeen, | James Hudson.

Head Office: Lewis McKeen, Sec.-Treasurer, Mabou Harbor, Cape Breton, N.S.

This company owns and operates the Converse gypsum quarries, the Florence plaster mills, and the Mabou coal mines, situate at Mabou Harbor, Cape Breton county, Province of Nova Scotia. 50 persons employed. Estimated value of machinery and buildings, \$13,000. The production to date is stated as follows: Gypsum, 3,000 tons; ground plaster, 600 tons; coal, 1,000 tons. Writing under date of 18th January, 1892, one of the officers of the company says: "We have been about a year at work developing our properties and have expended to date about \$32,000. Our gypsum lies in three distinct deposits: the first at the mouth of Mabou River, containing five quarries and a steam mill of a daily capacity of 15 tons. These

MABOU GYPSUM CO.—Continued.

are known as the "Converse." The second—the "Rankin"—lies on the Gulf shore about three miles from the "Converse." The third, consisting of six quarries, and known as the "McDonald," lies about one mile and a half from the "Rankin." Our coal properties cover two square miles on the Gulf shore near the Rankin quarries, known as the Mabou coal areas, and also five square miles adjacent thereto, known as the Snow area; seams 8ft. 3in., 13ft. and 17ft."

Superintendent : James Hudson, M.E., Mabou Harbor, C.B.

MCGREGOR LAKE PHOSPHATE AND MINING CO.

Incorporated 1891. Authorized Capital, \$60,000, in 600 shares of a value of \$100 each.

Directors :

James Williamson, Montreal, Que.,
G. R. Smith, Buckingham, Que., | J. C. Smeaton, Montreal, Que.

Head Office : 204 St. James Street, Montreal, Que.

Formed to acquire and work phosphate and other mineral lands in the Dominion of Canada. The company owns lots 14A, in the 9th range; lot 14 in the 10th range, and lot 25 in the 13th range of Templeton, county of Ottawa, Province of Quebec, containing in all about 400 acres. Twenty-five men employed during four months in 1891, opening up the property, constructing roads, etc.

Superintendent : George R. Smith, East Templeton, Que.

MacLAURIN PHOSPHATE MINING SYNDICATE, Ltd.

Registered 30th November, 1889. Authorized Capital, £20,000 stg., divided into 20,000 shares of £1. Shares taken, 150. Amount per share called up 10s. Number shareholders at date of last return, 15.

Directors :

Wm. Howard Smith, *Chairman*,
G. Washington Charlwood, | Benjamin Hills,
William Adams, | C. H. Hoare.

Offices :

C. M. Anderson, Secretary, 4 Fenchurch Ave., London, E.C.

A. Hunter & Co., 4 Fenchurch Avenue, London, E.C., Agents in the United Kingdom.

Messrs. Lomer, Rohr & Co., Custom House Chambers, Custom House Square, Montreal, Que.

Formed to acquire and work 1,800 acres of freehold lands, situate in the district of East Templeton, county of Ottawa, Province of Quebec. Fifty men employed. Estimated value of machinery plant, \$5,000.

MacNAUGHTON GOLD MINING CO.

Incorporated 1891. Authorized Capital, \$16,000, in shares of \$1.

Directors :

A. C. Blair,	
Robt. MacNaughton,	A. Wishart,
J. Gordon Forbes,	A. McDonald.

Head Office : J. Gordon Forbes, Q.C., St. John, N.B.

Formed to mine, mill and develop gold mining on the properties owned by the company, of which 780 acres are held on lease from the Government at Seal Harbor, in the county of Guysborough, Province of Nova Scotia. 16 men employed.

Superintendent : Robert MacNaughton, Isaac's Harbor, Guysborough county, N.S.

MALASPINA RED GRANITE QUARRY CO.

Incorporated 1889. Authorized Capital, \$10,000, in 20 shares of a value of \$500 each.

Directors :

J. H. Please, <i>President</i> ,	
E. Pinbury,	L. Manson,
J. Ganner,	Major Doromé.

Head Office : W. H. Morton, Secretary, Nanaimo, B.C.

MANITOBA RAILWAY AND COAL CO.

Incorporated 1889. Capital, \$500,000, divided into 5,000 shares of \$100 each.

Directors :

<i>President :</i> George H. Campbell, Winnipeg,	
G. R. Crow, Winnipeg, Man.,	Colin H. Campbell, Winnipeg, Man.,
H. E. Crawford, Winnipeg, Man.,	W. A. Macdonald, Brandon, Man.

Head Office : H. E. Crawford, Secretary, Winnipeg, Man.

Formed to acquire and work coal lands in southern Manitoba, and to construct and operate a line of railway from the mines of the company to the town of Deloraine, and from thence to the city of Brandon, a distance of some seventy miles. The company owns 2,000 acres in township 1, ranges 23 and 24, west of the principal meridian, in the Turtle Mountain district. Mining operations were first begun in the month of November, 1889, mainly of a prospecting nature. At a point about 17 miles S.W. of Deloraine a number of test-pits have been made, and a main shaft sunk to a depth of 60 feet, with drifts running in various directions for a distance of over 100 feet. In 1889, from 25 to 30 men were employed. Operations were temporarily suspended in 1890, pending negotiations with the Federal Government for a suitable land grant and other matters in connection with the construction of the company's railway. The company calculates to mine and ship a yearly output of from 40,000 to 50,000 tons, supplying purely provincial trade. To 1st August, 1890, about \$10,000 had been expended on the property.

MATTAWA MINING AND SMELTING CO.

Incorporated 1891. Authorized Capital, \$300,000.

Directors :

B. W. Chapin, *President.*
 W. L. Turner, *Vice-President.* | E. Coffin, *Secretary-Treasurer.*

Head Office : E. Coffin, *Secretary-Treasurer, 102 Broadway, New York.*

Formed to acquire and work certain mines of silver lead ore at Baie-de-Pères, in the county of Pontiac, Province of Quebec. The company owns the Temiscamingue galena mine, situate on the east side of lake Temiscamingue, in the north part of the county of Pontiac, Province of Quebec. The property consists of the following parts of lots in the 1st range of the township of Duhamel, formerly owned by George Goodwin, contractor ; George P. Brophy, C.E., and E. V. Wright, lumberman, all of Ottawa, Ont.

The broken front of lot 56 in 1st range, Duhamel	-48	acres.
“ “ lot 57	“	48 “
“ “ lot 58	“	41 “
“ “ lot 59	“	51 “
“ “ lot 60	“	83 “
“ “ lot 61	“	108 “
“ “ lot 62	“	100 “
The foreshore of lot 62	“	48 “

In all..... 527 acres

In the spring of 1891 the mine was equipped with plant, and works were established for the treatment of the ore, but after some months' work operations were suspended, for reasons not stated, and have not since been resumed.

McMILLAN, KITTREDGE & CO.

Organized 1st May, 1886. Capital, \$36,000.

Partners :

William Stevenson,
 George Sanson, | James McMillan,
 N. Rainsberry, | H. Kittredge.

Head Office : James McMillan, *Managing Partner, Petrolia, Ont.*

This company carries on business as producers and refiners of petroleum. Eight wells, average depth, 460 feet ; daily product of the whole, eight barrels. Average yearly turnout of crude oil, 2,400 barrels; average yearly turnout of refined oil, 18,000 barrels. Employed at works, twelve men. Estimated value of machinery plant at wells and works, \$36,000. The company's manufactures include machine, cylinder and engine oils, illuminating oils, also benzine and gasoline prepared by a patented process. The company operates the Lambton Oil Works at Petrolia, and the Stratford Oil Works at Stratford, all in the Province of Ontario,

MEMPHREMAGOG MINING CO.

Incorporated 1889. Capital, \$50,000, divided into 500 shares of \$100 each.

Directors :

President : C. C. Smith, Newport, Vt.,
 Geo. E. Smith, Waterloo, Que., | Lyman Libby, Dillinton, Que.,
 Thos. Bell, Magog, Que., | T. A. Knowlton, Waterloo, Que.,
 John Eade, Eastman, Que.,

Head Office : Thos. Bell, Secretary, Magog, Que.

Formed to acquire and work mineral lands in the townships of Potton and Bolton, in the county of Brome, in the Province of Quebec. The company owns some 150 acres in the township of Potton, upon which development work was begun in 1889; about 2,000 tons of copper were estimated to have been raised in 1889. In 1891, a small force was employed. The company will erect a smelting plant, but until this is done very little ore will be mined.

MILNE, COUTTS AND CO.

Not Incorporated.

Partners :

A. Milne, | J. D. Chipman,
 W. Coutts, | J. T. Whitlock,
 C. Johnson, Jr.

Head Office : A. Milne, St. George, N.B.

This company purchased on 5th March, 1885, the land, plant, quarries and other property formerly owned and operated by the Bay of Fundy Red Granite Co. Red granite quarries of the company are situated about two miles from the town of St. George, Charlotte county, in the Province of New Brunswick. The works are located a short distance from the main street of the town, on the eastern bank of the Maguadavic River, immediately over the falls (which give a first-class power) and cover over an acre. The buildings include a very fine polishing shop, granite cutting shop, blacksmith's, machine and pattern shops, offices, etc. The machinery includes six new Jenny Lind polishing machines, one column cutting lathe, one boring machine, six lathes, Leffell turbine wheel, and other modern plant equipment. The plant will polish over 200 superficial feet per day, exclusive of moldings. Average yearly product from quarries about 550 tons. Eighty men employed.

Quarrymaster : William Coutts, St. George, N.B.

MILTON PRESSED BRICK AND SEWER PIPE CO., Ltd.

Incorporated 7th Jan., 1891. Authorized Capital Stock, \$50,000, divided into fifty shares of \$1,000 each.

Directors :

Dr. David Robertson, *President*,
 John. S. McCannell, | George William Booth,
 William Booth, | John Cudmore.

Head Office : J. S. McCannell, Sec.-Treasurer, Milton, Ont.

MILTON PRESSED BRICK AND SEWER PIPE CO.—Continued.

Quarries and works are situated on the main line of the Canadian Pacific railway, near Milton, in the county of Halton, Province of Ontario. 25 persons employed. The machinery is in a large brick building 40 x 50, and the three kilns, with a capacity of over 500,000 brick, are enclosed in a shed 50 x 160. The brick press has a capacity of 20,000 brick in 10 hours. On the fancy press all kinds of ornamental brick are made. On the property there is a large quarry of fine freestone, near to the siding; also an abundance of limestone. The brick are made and set in the kilns, ready for burning, at a cost of \$1 per 1,000; the burning costs about \$2 per 1,000; brick placed on cars about \$3.50 per 1,000. The shipments of brick average about 6 cars per week. Machinery, plant and buildings estimated at \$30,000.

MOIR GRANITE CO.

Incorporated 1891. Authorized Capital \$100,000, in shares of \$25.

Directors :

W. D. Moir, Stanstead, Que.,	
E. G. Miller, Beebe Plain, Que.,	S. Stevens, Stanstead Plain, Que.,
G. H. House, Beebe Plain, Que.,	D. W. Davis, Derby Line, Que.

Head Office : George H. House, Sec.-Treasurer, Stanstead, Que.

Formed for the purpose of quarrying and dealing in granite and other stone, etc. The company's property at date contains two hundred acres on lot 1 in the 4th range, and 80 acres (on lots 3, 4, 5,) in the 5th range of Stanstead, Que. 30 to 40 men employed. Quarries situate two and a half miles from Beebe Plain and Stanstead Junction, on the line of the Boston and Maine railway. The output of granite from the quarries since they were first opened, is reported as follows :—

1888.....	125	carloads,	equivalent to	20,000	cubic feet.
1889.....	175	“	“	24,000	“
1890.....	350	“	“	49,000	“

Machinery plant estimated at \$25,000. At date a branch line is being constructed to connect the quarries with the B. & M. Ry.

Superintendent : David W. Moir, Beebe Plain, Que.

MONTAWA GOLD MINE CO.

Incorporated 1890. Authorized Capital, \$24,000, in 2,400 shares of \$10 each.

Directors :

Edouard Guilbault,	
Adolphe Mangan,	Hon. J. A. Ouimet,
Joseph Henri Renaud,	Joseph A. Renaud.
Joseph Rivard,	Joseph H. Ostigny.

Head Office : D. Desormier, Sec.-Treasurer, Joliette, Que.

Formed to prospect and work for gold, silver and other minerals in the Province of Quebec. Property owned contains 200 acres in the township of Tracy, county of Joliette. Not operated at date.

MONTREAL AND KOOTENAY MINING CO.

Incorporated 1891. Authorized Capital, \$20,000.

Directors :

E. B. Greenshields,	
R. T. Hopper,	R. A. Peterson,
W. H. Irwin,	F. Fairman.
J. W. Smith,	

Head Office : 30 St. Francois-Xavier Street, Montreal, Que.

Formed to acquire and work mines in the Province of British Columbia and elsewhere in the Dominion. The company owns the "Tam O'Shanter" and "South Tam" argentiferous galena claims, located near Ainsworth in the Kootenay district, B.C. A small force employed.

Superintendent : Richard Irwin, Ainsworth, B.C.

MOOSELAND GOLD MINING CO., Ltd.

Incorporated 1890. Capital Stock, \$100,000, in 10,000 shares of a value of \$10 each.

Directors :

W. J. Stewart, Halifax, N.S.	
H. G. Stenshorn, Halifax, N.S.,	Thomas Brown, Halifax, N.S.

Head Office : Halifax, Nova Scotia.

Formed to acquire, work, and further develop mineral lands in the Province of Nova Scotia. The company owns a block of areas in the Tangier district. Have built a 5 stamp mill and erected a steam hoisting and pumping gear during 1891. Have a lode seven feet in width, said to give five dwts. to the ton.

MOULTON HILL AND HOWARD MINES.

Canadian Office : Benjamin Rising, Manager, Sherbrooke, Que.

These mines, which are worked for copper pyrites by an Ohio company with headquarters at Cleveland, are situated on lot V in the VI range (Howard mine) and lot 23 of the III range (Moulton Hill mine) in the township of Ascot, Sherbrooke county, Que.

MUTUAL NATURAL GAS CO. OF PORT COLBORNE, Ltd.

Incorporated 1891. Authorized Capital, \$20,000, in 200 shares of \$100 each.

Directors :

H. Cronmiller, <i>President</i> ,	
De Witt Carter,	E. Armstrong.

Head Office : Frank D. Noble, Secretary, Welland, Ont.

Formed to drill wells for natural gas, oil and other mineral products, to construct pipe lines, etc. This company owns twenty-five acres of land, on which are three

MUTUAL NATURAL GAS CO.—Continued.

wells, situated on the west side of the Welland canal, in the county of Welland, Province of Ontario. Small force employed. The secretary reports that the company supplies several factories and the residents of the village of Port Colborne, etc.

NANAIMO COAL TRIMMERS' PROTECTIVE AND BENEVOLENT ASSOCIATION.

Trustees: J. Durken, J. Lloyd, J. Wilson, W. Meyers, G. Maunder and H. Strickhorst; with offices at Nanaimo, B.C.

NAPIER MINING CO., Ltd.

Incorporated under the laws of Nova Scotia, 19th November, 1890. Authorized Capital, \$120,000, divided into 1,200 shares of \$100 each.

Directors:

Wm. J. Fraser, Halifax, *President*,
Frederick Taylor, Lowell, Mass. | J. E. Hardman, Oldham, N.S.

Office and Mines: John E. Hardman, Manager, Oldham, N.S.

This company holds forty gold areas in the Oldham district, Province of Nova Scotia. At date is engaged in sinking a vertical shaft on axis of anticlinal to prospect the lodes which do not crop to surface.

NEEBISH MINING CO.

Incorporated 25th March, 1875. Capital, \$600,000, in 60,000 shares of \$10 each.

Directors:

J. J. Vickers, Toronto, Ont., | Walter MacDermott, New York.
Nicol Kingsmill, Toronto, Ont., | H. L. Sibley, Detroit.

Head Office: Nicol Kingsmill, Toronto, Ont.

This company was formed to acquire and work mineral location H 3, township of Moss, near Jack Fish Lake, in the district of Thunder Bay, Ontario, containing 160 acres. Not in active operation 1890 or 1891.

NELSON ISLAND GRANITE CO., Ltd.

Incorporated 16th October, 1889. Authorized Capital, \$30,000, divided into thirty shares of a value of \$1,000.

Directors:

James C. Prevost,
E. J. Thain, | Robt. L. Fox.

Head Office: Edward J. Thain, Secretary, P.O. Box 654, Victoria, B.C.

Formed to acquire and work the Nelson Island granite quarry, and the whole of the hereditaments whereof the quarry forms part; the acquisition and sale of land suitable for quarrying stone, for farming, and for timber, and generally for doing all such things as are conducive or incidental to the attainment of the above objects, or any of them. Property contains 320 acres, and is situate on Nelson Island, Province of British Columbia. Twenty to thirty men employed. The quarry was not opened until November, 1889; up to 1st January, 1890, 500 tons had been raised and shipped.

NELSON SMELTING AND MINING CO., Ltd.

Incorporated 1891. Authorized Capital, \$500,000, in 50,000 shares of a value of \$10 each.

Directors :

W. A. Crane,	E. R. Atherton,	C. H. Ink,
A. J. Marks,	T. C. Collins,	G. A. Bigelow.
	W. Hill,	

Head Office : Nelson, B.C.

Formed to carry on the business of smelters, refiners, founders, assayers, and dealers in bullion and metals, and products of smelting of every description ; to work mines, and anything that comes within the province of a general mining and smelting business.

NEOSHO MINING CO.

Incorporated 1892. Authorized Capital, \$50,000, divided into 5,000 shares of the par value of \$10 each.

Head Office : Ainsworth, B.C.

Formed to acquire by purchase or from the Government of the United States or British Columbia, or otherwise : to take on lease or on license, to own and possess gold and silver mines and other mines, and easements, licenses, or other interests in the same or either of them, wheresoever situated, etc.

NEW BRUNSWICK SILVER AND GOLD MINING CO.

Incorporated 24th April, 1888. Authorized Capital, \$280,000, divided into 140,000 shares of \$2 each.

Directors :

Ed. J. Baxter,	W. K. Kennard.
Alex. J. Grant,	

Head Office : Waterford, King's County, N.B.

Formed to purchase and hold all kinds of mineral lands and lands in which minerals are supposed to be, with land requisite and necessary to carry on a mining business and the selling, mortgaging and encumbering all or any such lands ; the carrying on of a general mining business, etc.

NEW BRUNSWICK MINERAL DEVELOPING CO.

Incorporated 1891. Authorized Capital, \$50,000 in 5,000 shares of a value of \$10 each.

Directors :

J. DeWolf-Spurr, <i>President</i> ,	
G. W. Merritt,	H. A. Drury.

Head Office : G. Wetmore Merritt, Secretary, St. John, N.B.

NEW BRUNSWICK MINERAL DEVELOPING CO.—Continued.

Formed to prospect for minerals, deal in mines and mining claims, operate mines and carry on a smelting and refining business. The company holds an interest in 148 gold areas in King's county; also leases of coal, copper, covering an area of five square miles in Albert county, in the Province of New Brunswick. The president states: "It is not so much the object of the company to carry on mining operations for its own account as to promote and assist other organizations in that direction; also to acquire and dispose of mining rights and properties."

NEW EGERTON GOLD MINING CO.

A private company, organized 1st Jan., 1890, consisting of the following

Owners :

J. A. Fraser, New Glasgow, N.S., | R. McGregor & Son, New Glasgow, N.S.

Head Office : J. A. Fraser, Managing Director, New Glasgow, Nova Scotia.

This company holds and is operating some 96 gold areas, held under lease from the Government of Nova Scotia, situate at 15-Mile Stream, Halifax county, Nova Scotia. An average number of 50 men are employed. 15 stamp-mill, steam hoisting and pumping gear, four Ingersoll drills, Rand air compressor, etc. The official returns of the gold yield before and since it was acquired by the present company, are: 1887, 569 tons of rock crushed, yielding 299 ounces, 15 dwt.; 1888, 2,151 tons rock crushed, yielding 946 ounces, 8 dwt.; 1889, 1,417 tons rock crushed, yielding 786 ounces, 9 dwt.; 1890, 2,476 tons rock crushed, yielding 2,183 ounces, 9 dwt.; 1891, 3,613 tons rock crushed, yielding 2,123 ounces, 5 dwt.

Mine Manager : George McNaughton, 15-Mile Stream, Halifax Co., N.S.

NEW EUREKA SILVER MINING CO., Ltd.

Incorporated October, 1890. Authorized Capital, \$150,000, divided into 150,000 shares of a par value of \$1.

Directors :

Robt. P. Rithet, | Hon. Hugh Nelson, | G. W. Haynes,
Hon. John Robson, | Hon. C. E. Pooley, | J. Heywood.

Head Office : George A. Sargison, Secretary, 48 Langley Sreet, Victoria, B.C.

Formed to acquire the Eureka mine, and all the other real and personal property of the Eureka Silver Mining Company, (Limited,) situate near the town of Hope, in the district of Yale, in the Province of British Columbia, for the sum of \$80,000, to be paid for in fully paid up shares of the New Eureka Silver Mining Company, (Limited). No work done in 1891.

NEWFOUNDLAND COLONIZATION & MINING CO.

Registered 6th May, 1889, and is a reconstruction of the Newfoundland Land Company registered on 6th June, 1873. Authorized Capital, £130,000, in shares of £1 each, of which 78,066 shares have been issued and fully paid up.

Directors :

Charles Clark, *Chairman*,
W. W. Baker, | Henry Wilson,

NEWFOUNDLAND COLONIZATION AND MINING CO.—Continued.

Head Office : A. J. Lavington, Secretary, 97 Dashwood House,
London, E.C.

This company owns about 64,000 acres of land in Newfoundland, on which is the lead mine known as La Manche. The annual report, under date of 30th June, 1890, says: "The sum of £4,024 4s. 3d. has been spent in developing the La Manche lead mine, which has been vigorously pushed forward, and is now sufficiently opened up to enable the directors to consider the policy of selling the mine, or of forming a subsidiary company to acquire their mining rights, in the shares of which they would retain a large interest. Owing to the unsettled state of the western part of Newfoundland in connection with the fishery disputes, no work has been done on the company's St. George's Bay grants, and the directors consider it would be undesirable to attempt this before the respective governments have arrived at an amicable settlement of the matters in dispute."

**NEW GLASGOW IRON, COAL AND RAILWAY
CO., Ltd.**

Incorporated under the laws of Nova Scotia by special Act of the Legislature in 1888. Authorized Capital, \$1,000,000, divided into 5,000 Ordinary shares of \$100 each, and 5,000 Preference shares of \$100 each. Dividends on Ordinary shares deferred till Preference shares have been paid 8 per cent.

Directors :

John F. Stairs, M.P., Halifax, N.S., <i>President.</i>	
Graham Fraser, New Glasgow, N.S.	Geo. F. McKay, New Glasgow, N.S.
Wm. Jacks, J.P., Glasgow, Scotland.	J. Walter Allison, Halifax, N.S.
Frank Ross, Quebec, Que.	Harvey Graham, J.P., New Glasgow, N.S.

Head Office : Harvey Graham, J.P., **Managing Director, New Glasgow, N.S.**

Formed to develop iron and coal mines, erect and work blast furnaces, with power to build railways, and do all things required in manufacturing iron and steel. The properties, mineral rights and subventions owned by the company are as follows:

1. Subvention from the Government of the Dominion of Canada of the rails and fastenings for a line of railway 13 miles long, and a guarantee to operate the same as per the letter of Sir John A. Macdonald, Premier and Minister of Railways for the Dominion of Canada.
2. Subvention from the Government of the Province of Nova Scotia of three thousand two hundred (\$3,200) dollars per mile of the above railway as per letter of Hon. W. S. Fielding, Premier and Provincial Secretary of the Province of Nova Scotia.
3. All right and title to 160 acres (more or less) of freehold land in the county of Pictou, as a furnace location and town site as per plan.
4. The plans, profiles, surveys, etc., of a line of railway about 13 miles long from the furnace location to the iron mines.
5. Deed of limestone and other mineral on the farm of Simon McDonald, comprising 75 acres (more or less.)
6. Lease of limestone on the farm of Albert Grant, comprising four acres (more or less.)
7. Leases and option of purchase of limestone on the farm of Lauchlan McLean, Donald Fraser and William McGillivray, comprising 268 acres (more or less.)
8. All right and title to the minerals on 100 acres, (more or less) being the farm of Isaac McGillivray, free of all royalties.
9. All the right and title to the minerals on 140 acres (more or less), being the farms of John Wm. Cameron and John Samuel Cameron, free of all royalties, on which is the Cameron mine, so called as shown on the plan.
10. All right and title to 30 acres (more or less) of freehold land, being part of the McDonald et al property, on which is situated the McDonald mine, so called as shown on plan, free of all royalties.

NEW GLASGOW IRON, COAL AND RAILWAY CO.—Continued.

11. All right and title to the minerals on 78 acres (more or less) adjoining the last mentioned property, free of all royalties.
12. All right and title to the minerals on 80 acres (more or less) for a period of three years, from July 8, 1890, with option of purchase thereafter, being part of the Grant farm, subject to a royalty of 5 cents per ton, after 50,000 tons of ore are removed.
13. All right and title of 150 acres (more or less) of freehold land, being the farm of Daniel R. Fraser, free of royalties.
14. All right and title to the minerals on 300 acres (more or less) adjoining the last mentioned property, being the farm of James S. Fraser, free of all royalties.
15. One-third interest in a lease from the Provincial Government of Nova Scotia of 640 acres, on which is the Black Rock mine, as shown on the plan, subject to a royalty of five cents per ton.
16. Lease of the remaining two thirds interest in the Black Rock area, subject to a royalty of the lessors of twenty cents per ton; the lessors paying the Government royalty.
17. All right and title to 640 acres adjoining the Black Rock area on the opposite side of the river held under lease from the Government of Nova Scotia subject to a royalty of five cents per ton (gross) on ore sold or smelted; this area covers the "deep" of the Black Rock mine.
18. Option of purchase of all right and title to the minerals on 600 acres (more or less), being the farms of John P. McDonald, Charles Fraser, Angus McDonald (Roy), John McDonald (Roy), John McLean, Duncan Cameron, John A. Cameron and Robert Chisholm, being on the opposite side of the river from the McDonald, Grant and Fraser (Saddler) properties, and supposed to cover the deeper parts of the ore formation.
19. All rights and title to 100 acres (more or less) of mineral rights in the spathic ore district at Sutherland's River in the county of Pictou, held under lease from Jessie McKenzie, subject to a royalty of ten cents per ton gross.
20. All the right and title to the minerals on 143 acres (more or less), being the farm of Leander Nelson, at Brookfield, in the county of Colchester, on which is the Brookfield mine, so called as shown on the plans; subject to a royalty to the owner of the soil of ten (10) cents per ton and option of purchase of the freehold land in lieu of the royalty as above stated.
21. All the right and title to the minerals on 400 acres (more or less), being the farms of John Johnston, Samuel Johnston, and Smith Johnston, at Newton Mills, in the county of Colchester, subject to a royalty of eight (8) cents per ton to the owners of the soil and option of purchase of the mineral rights in lieu of the royalty above mentioned. The relative position of this property will be seen by reference to the plans.
22. Leases and mining rights on 218 acres (more or less), being the farms of John and James Sweeney, John Sullivan, James Dunn and C. F. Ells, at Selma, in the county of Hants, subject to various royalties to the owner of the soil.
23. Leases of 1280 acres of mineral lands situate in the county of Guysborough, from the Government of Nova Scotia, subject to a royalty of five (5) cents per ton on all ore sold or smelted.
24. All right and title to 60 acres (more or less) of freehold land in the county of Pictou, covering the waters of Lowden's Brook, about one mile from the works of the Nova Scotia Steel and Forge Company.
25. All right and title to 16 acres (more or less) of freehold land in the county of Pictou, as a water basin in the vicinity of the works of the Nova Scotia Steel and Forge Company.
26. The prospecting equipment, consisting of engines, boilers, pumps, tram-cars, rails, timber, tools, &c., &c., as at present on the ground or in use at the various shafts, pits or slopes on the several properties above referred to.
27. Leases of 1280 acres of coal lands (containing two coal seams of excellent quality), subject to a Government royalty of 7½ cents per ton.

In a letter dated 17th May, 1891, Mr. R. E. Chambers, M.E., the mine superintendent of the company, writes: "We have not carried on mining operations as briskly this season as during the summer of 1890, the attention of the company being

NEW GLASGOW IRON, COAL AND RAILWAY CO.—Continued.

directed to the construction of the railway, ten miles in length, and the blast furnace at Eureka, both of which are now under active construction. The furnace will produce 100 tons of pig iron a day. An improved pattern of coke ovens is being constructed, capable of producing the coke as required at the furnace. Mining operations have never been entirely suspended, two gangs of men having been kept on development work at Bridgeville and Black Rock. The ore still continues to stand the test of development.

Mine Manager: R. E. Chambers, M.E., Bridgeville, Pictou county, N.S.

NEW ROCKLAND SLATE CO.

Capital, \$150,000, fully subscribed and paid up.

Directors:

<i>Hon. G. A. Drummond, President,</i>	
James Ferrier, Sutherland Stayner, Peter Redpath,	Thos. M. Taylor, F. R. Redpath, A. Dunbar Taylor.

Head Office: T. P. Bacon, Secretary, 377 St. Paul St., Montreal.

This company owns lots 21, 22, 23 of the 4th range of Melbourne, and operates the large slate quarry situate (lot 23) at New Rockland, in the Province of Quebec. 200 men employed. Average yearly production, about 6,500 tons. The manufactures include roofing slates, billiard table tops, mantels, wash tubs, hearth-stones, tiles, etc. Quarries and works equipped with an excellent plant, with first-class water power from the Salmon River, transmitted to the works by cable, and an outfit of travelling derricks, etc. The quarry has at present a depth of over 200 feet, and is connected with the main line of the Grand Trunk railway, four miles distant, by a narrow gauge railway, by which a great saving in the cost of transportation is effected.

Quarrymaster: Capt. Williams, New Rockland, P.O., Que.

NEW VANCOUVER COAL MINING AND LAND CO.

Organized in 1862, and re-constructed 30th January, 1889. Authorized Capital, £185,000, in shares of £1, all of which is issued and paid. There are also 6 per cent. debentures of £100 each, (with two of £150), to the amount of £60,000, maturing at various dates, the interest being payable 31st March and 31st September. Accounts are made up to June 30th and December 31st, and submitted about November and May. The average dividend paid by the old company was at the rate of £5 per cent. per annum on the par value of the shares. The old company paid a bonus of £1 per share in April, 1889, and transferred to the present company a surplus of £20,401. Dividends of 2½ per cent. each were paid in June and December, 1889; in June, 1890, 2 per cent.; in December, 1890, 3 per cent; in June, 1891, an interim dividend of 2 per cent., at the rate of £6 per cent. per annum; all free of income tax.

Directors:

<i>John Galsworthy, Chairman.</i>	
Joseph Fry, William Needham,	Frederick Tendron, Ed. J. Woodhouse.

Head Office:

Joseph Ramsden, Secretary, 12 Old Jewry Chambers, Old Jewry, London, E.C.

NEW VANCOUVER COAL MINING AND LAND CO.—Continued.

CANADIAN OFFICE :

Samuel M. Robins, General Manager, North Corner of Farquhar Street and Esplanade, Nanaimo, B.C.

Agents at San Francisco : Messrs. John Rosenfeld's Sons.

Formed to acquire the properties of the Vancouver Coal Mining and Land Co., Limited, registered in 1862. The company owns some 32,000 acres of freehold land and operates the Nanaimo collieries, Vancouver Island, in the Province of British Columbia. The total output of coal for the year ended 31st December, 1890, amounted to 389,500 tons, of which 98,340 tons were sold for home consumption; 292,809 tons were exported; and there were in stock on 1st January, 1891, 6,072 tons. Estimated value of plant, \$350,000. South Field No. 2, worked by shaft, seam 5 to 10 feet; South Field No. 3, worked by shaft, seam 5 to 10 feet; No. 1 Esplanade shaft, worked by shaft, seam 5 to 12 feet; No. 1 North Field shaft, worked by shaft, seam 4 feet 6 inches. Railway to South Field, 5 miles with sidings; railway to No. 1 shaft, 1 mile with sidings; railway from North Field mine to wharf at Departure Bay, 4½ miles; rails are of steel, 56 pounds per yard, of standard gauge, viz., 4 ft. 8½ in.; 8 hauling and pumping engines; 12 steam pumps; 4 locomotives; 200 coal cars (six tons), besides lumber and ballast cars; fitting shops for machinery repairs, with turning lathes, boring, drilling, planing, screw cutting machines, hydraulic press, steam hammer, etc., etc., diamond boring machinery for exploratory work (bores to 4,000 feet); wharves 1,070 feet frontage, at which ships of the largest size can load at all stages of the tide. The company also owns and operates brick fields, stone quarries, etc. Excerpts from directors' report submitted at half yearly meeting held 17th November, 1891:—

“The directors submit to the shareholders their report and the accounts embracing the operations of the company for the six months ended 30th June, 1891.

“The net output for the half-year was 253,296 tons, and the sales were 254,025 tons.

“The output and sales were the largest in the experience of the company; prices continued fairly remunerative, and the result of the half-year's working was again most satisfactory.

“*East Field Mine.*—The net output from this mine during the half-year was 75,226 tons. The good coal in the No. 1 North level referred to in the last report, continued. The fault met with in the No. 3 North level, also referred to in the last report, was pierced through in June last, when as anticipated, good hard coal about five feet thick, similar to that in the No. 1 or upper level above referred to was found. The new shaft on Protection Island is now down about 500 feet out of a probable depth of 600 feet. Your directors have approved of the introduction of electric haulage in this mine which is now being installed by the Edison Electric Company. This new system of haulage is estimated to effect a considerable saving in the cost of working the coal. The electric current will doubtless be used for lighting the mine and for other purposes. When the new shaft on Protection Island is completed, a further considerable saving should result in the working of the coal in this mine.

“*No. 2 South Field Mine.*—The net output from this mine during the half-year was 100,180 tons. The coal continues good but is somewhat thinner. The new shaft at South Field, known as the No. 5 shaft (which is intended to extend the operations of this mine), reached the seam of coal in August last at a depth of 505 feet, when the coal was found six feet thick and of South Field average quality.

“*No. 3 South Field Mine.*—The net output from this mine during the half-year was 35,006 tons, principally obtained from the pillars. The reserve of pillar coal here is estimated to yield an output for some months further.

“*No. 4 Slope South Field.*—The output from this slope during the half-year was 624 tons.

“*North Field Mine.*—The quantity of New Wellington coal extracted from this mine during the half-year was 42,257 tons. The quality of the coal continues good and hard. In order to prove this portion of the property more fully, a bore is being

NEW VANCOUVER COAL MINING AND LAND CO.—Continued.

put down on the beach at Departure Bay, and is down 630 feet; one seam of coal 17 inches thick has been passed through. The bore midway between the beach and North Field mine is down over 400 feet and has not yet reached coal.

"*Harewood.*—A bore is being put down here, in the valley, about 300 yards to the east of the trial shaft put down two years ago. The bore has passed through two seams of coal, the first seam showing a total of 3 feet 5 inches of apparently workable coal; and the second, at a depth of 234 feet, of 3 feet 6 inches coal. The bore appears to be still in the coal measures.

"The directors have declared an interim dividend for the past half-year at the rate of £5 per cent. per annum, to be paid free of income tax on the 5th day of December, 1891, to the holders of shares in this company, on the 18th day of November, 1891."

BALANCE SHEET, 30TH JUNE, 1891.

To 185,000 shares of £1 each, fully paid.....		£185,000	0	0
" Debenture Capital.....		60,000	0	0
" Insurance Fund.....	£ 500	0	0	
" Estate Fund.....	9,206	11	3	
" Land Sales Reserve Fund.....	15,273	2	8	
" Reserve Fund.....	20,000	0	0	
		44,979	13	11
" Sundry Creditors in London.....	2,323	10	5	
" " " Colony.....	67,699	16	7	
		70,023	7	0
" Balance as per Profit and Loss Account.....		23,981	18	2
		<u>£383,984</u>	<u>19</u>	<u>1</u>

By Estates, Buildings, Collieries, Railway Plant, Rolling Stock, and Wharves..... £272,442 15 2

NOTE.—The company's estates comprise upwards of 30,000 acres of freehold land.

" Goods Depot and Reserve Stores.....		21,149	5	5
" Coal in Bin and San Francisco.....	£39,508	18	8	
" Sundry Debtors in London.....	52	1	3	
" " " Colony.....	45,010	2	4	
		84,571	2	3
" Investment in £2,000 Metropolitan 3½% Stock ..		1,945	0	6
" Cash in London.....	3,240	17	9	
" " " Colony.....	635	18	0	
		3,876	15	9
		<u>£383,984</u>	<u>19</u>	<u>1</u>

PROFIT AND LOSS ACCOUNT FOR THE SIX MONTHS ENDED 30TH JUNE, 1891.

To Depreciation.....	£7,915	10	1	
" Repairs and Maintenance.....	2,617	14	0	
		10,533	4	1
" Amount carried to Insurance Fund.....	100	0	0	
" " " Land Sales Reserve Fund....	6,900	15	0	
" " " Estate Fund.....	3,166	3	11	
" " " Reserve Fund.....	10,000	0	0	
		20,166	18	11
" Directors' Fees.....	500	0	0	
" Auditor's Fees.....	13	2	6	
" Office Rent.....	50	0	0	
" Salaries.....	265	0	0	
" Printing, Stationery, Postage, Telegrams, Commission and Incidental Expenses.....	408	1	6	
		1,236	4	0

NEW VANCOUVER COAL MINING AND LAND CO.—Continued.

<i>Brought forward</i>	£31,936	7	0
To Income Tax (estimated)	850	0	0
“ Interest on Debentures	1,800	0	0
“ Balance	16,282	6	1
	<hr/>		
	£50,868	13	1
	<hr/>		
To Balance as per Balance Sheet	£23,981	18	2
	<hr/>		
By Gross Profit, including £13,801 10 0 profit realized from Land Sales	50,833	5	7
“ Dividend on Metropolitan 3½% Stock	34	2	6
“ Registration Fees	1	5	0
	<hr/>		
	£50,868	13	1
	<hr/>		
By Balance brought forward from last Balance Sheet £13,249 12 1			
Less Dividend paid 10th June, 1891.....	5,550	0	0
	<hr/>		
		7,699	12 1
“ Balance brought down this half year		16,282	6 1
		<hr/>	
		£23,981	18 2
		<hr/>	

Manager of Works: William McGregor, Nanaimo, B.C.

NICHOLS CHEMICAL CO.

Incorporated under the laws of the State of New York. Authorized Capital, \$2,000,000.

Officers:

W. H. Nichols, *President*,
 J. B. F. Herreshoff, *Vice-President*, | E. R. Nichols, *Treasurer*,
 George G. Teller, *Auditor*.

Head Office:

G. Martin Luther, Secretary, 45-49 Cedar Street, New York.

CANADIAN OFFICE:

S. L. Spafford, Manager, Capelton, Que.

Earle C. Bacon, *Consulting Engineer*,
 Richard Penhale, *Superintendent* Albert Mines,
 A. W. Elkins, *Superintendent* Chemical Works,
 Nicholas Tinkin, *Superintendent* Huntingdon Mines,
 H. Wigglesworth, *Manager* Fertilizer Works.

This company's property contains some 640 acres and is situate in the township of Ascot, Sherbrooke county, and the township of Bolton, Brome county, Province of Quebec. It operates at Capelton station on the line of the Boston and Maine railroad the Albert pyrites mine and the Capelton chemical and fertilizer works, employing in all about four hundred persons. The annual output of ore from the mines ranges from 30,000 to 40,000 tons, a portion of which is utilized at the works and the remainder shipped to New York.

NICKEL-STEEL CO. OF ONTARIO.

Incorporated 1891. Authorized Capital, \$1,000,000, in 2,000 shares of \$500 each.

Directors :

	R. L. Gibson, Toronto, Ont.,	
W. J. Fenton, Toronto,	|	W. G. Cameron, Toronto,
A. Baillie, " "	|	F. A. Fenton, " "
S. M. Flynn " "	|	Jacob Reese, " "

Head Office : Toronto, Ont., Ross, Cameron and McAndrew, Solicitors.

Formed to explore, acquire and work minerals and mines in the Province of Ontario. Not known to be in active operation 1892.

NICOLA, KAMLOOPS, SIMILKAMEEN COAL AND RAILWAY CO.

Incorporated by special Act of the British Columbia Legislature 16th April, 1891. Authorized Capital, \$1,000,000, divided into 10,000 shares of \$100 each.

Directors :

	J. Fall Allison, Princeton, B.C.,	
A. E. Howse, Nicola, B.C.,	|	Wm. Hamilton Merritt, M.E., Toronto,
R. H. Lee, Kamloops, B.C.,	|	Sandford H. Fleming, Ottawa, Ont.
Wm. Mara, Toronto, Ont.,	|	Frank A. Fleming, Toronto,
Chas. H. Keefer, Toronto, Ont.,	|	George F. Harman, Toronto, Ont
	C. N. Shanly, Toronto, Ont.	

Head Office : Victoria, B.C.

Formed with power to survey, construct and operate a line of railway from a point at or near the western extremity of Nicola Lake at which the terminus of the Nicola Valley railway shall be located; thence to the town of Princeton, and thence by way of Similkameen River, as far as may be deemed advisable in a southerly direction to Osoyoos Lake; also from a point near the junction of the company's railway with the Nicola Valley railway company's terminus at Nicola, in a northerly direction past Nicola and Stump Lake to the South Thompson River at some point to the eastward of Kamloops, and thence to the town of Kamloops. Has power to operate mines and other works.

NICOLA MINING CO., Ltd.

Registered in London, Eng., 1st July, 1887. Authorized Capital, £50,000, in £1 shares, of which £35,000 has been allotted and paid up; 12,500 shares (allotted to the vendors) being fully paid.

Directors :

	George Hopkins, <i>Chairman</i> ,	
E. C. Morgan,	|	E. Gotto.

Head Office : Chas. Akers, Secretary, 11 Abchurch Lane, London, E.C., England.

Formed to acquire some 2,000 acres of mining properties situate on Mineral Hill, above Stump Lake, Nicola, in the Province of British Columbia. The consideration for the property was £17,713 14s., payable £12,500 in fully paid shares, and £5,213 14s. in cash. The operations of the company to date are as follows :—

Joshua.—This shaft has been sunk to a depth of 420 feet, and 3 levels run north and south, at depths of 100, 200, 300 and 400 feet respectively.

NICOLA MINING CO.—Continued,

The 100 foot North level has been driven.....	120 feet.
200 " " " " " "	48 "
300 " " " " " "	155 "
100 " South " " " "	97 "
200 " " " " " "	129 "
300 " " " " " "	363 "
400 " " " " " "	182 "

Tubal Cain.—This shaft has been sunk 220 feet, and two levels run north and south, one at 116 feet and one at 220 feet. The 116 foot North level has been connected with the tunnel driven in the hill, making a total distance driven in this level of 500 feet. The 220 foot North level has been driven 106 feet, and the tunnel from the hill, at the same level, has been driven 360 feet.

The 116 foot South level has been driven 109 feet, and the 220 foot South level has been driven 80 feet.

King William.—This shaft has been sunk to a depth of 175 feet, and two levels started, one at 100 feet, and the other at 175 feet. The 100 foot North level has been driven 182 feet, and the 175 foot North level 100 feet.

Gentle Annie.—A shaft has been sunk 50 feet and a short cross cut run.

Other Claims.—Prospecting and development work has also been done on the other claims in order to comply with the mining laws of the Province.

At the ordinary general meeting of the company on 16th December, 1890, it was reported: "Samples have from time to time been taken of the ore, the last assay shewing 19 dwts. 12 grs. gold, and 12 ozs. 1 dw. silver per ton of 2,240 lbs., or about \$30 per ton of 2,000 lbs. The directors are of opinion that the primary object of this company, which was formed to develop the property, has now been accomplished. It has been ascertained that the vein in the "Joshua" is continuous to the depth of 420 feet, both in the shaft itself and in the south levels. The width of the vein is somewhat disappointing, but the assays indicate the ore to be of paying grade, and the reserves of ore in this portion of the property are estimated at 4,000 to 5,000 tons. The question now arises as to the steps to be taken to deal with the ore now in sight, which will require fresh capital, and on this subject the directors are in communication with those interested on the other side. As soon as any scheme is formulated the shareholders will be advised, meantime work is suspended at the mines."

BALANCE SHEET, 30TH SEPTEMBER, 1889 (COVERING EXPENDITURE AT MINES UP TO 31ST AUGUST, 1889).

To Capital Account—

Authorized—£50,000

Created 22,500 Shares of £1 each, 17s. 6d. per

Share called

£19,687 10 0 £19,687 10 0

Uncalled

2,812 10 0

£22,500 0 0

" Fully-paid Shares issued to Vendors

12,500 0 0

" Sundry Creditors.....

244 9 9

£32,431 19 9

By Purchase of Property—

Amount paid Vendors—

Cash.....

£5,213 14 0

Fully-paid Shares.....

12,500 0 0

Purchase of Boarding House and additional Mining Claims and Law Charges, re transfer of property.....

970 7 4

18,684 1 4

" Expenditure at Mines by Company in development works and general expenses.....

12,258 16 4

NICOLA MINING CO.—Continued,

Brought forward.....		£30,942 17 8
By Expenditure in London—		
Secretary's Salary, 2¼ years.....	£337 10 0	
Office Expenses, Books, Seals, etc.....	63 7 3	
Directors' Fees, 2¼ years.....	450 0 0	
Audit Fees.....	5 5 0	
“ Cash at Bankers (London).....		856 2 3
“ “ (Nicola).....	66 10 11	
“ Arrears of Calls.....	53 18 11	
	512 10 0	
		632 19 10
		<u>£32,431 19 9</u>

NORTH AMERICAN PHOSPHATE CO.

Incorporated 1888. Authorized Capital, \$18,000.

Directors :

	J. O. Dupuis, Montreal,	
A. Holden, Montreal,		C. H. Walters, Montreal,
A. Gagnon, “		John Beattie, “
M. Goldstein, “		S. Lachance, “

Head Office : A. Gagnon, Secretary, 30 St. Francois-Xavier St., Montreal.

Formed to acquire and work phosphate lands in the Province of Quebec. The property controlled includes lots 17 and 18 in the 8th range, S ½ of 18 and 19 in the 9th, and S ½ of 18 and 19 in the 10th range, in the township of Templeton, county of Ottawa, Province of Quebec. Some development was done in 1888, but operations were suspended owing to shortage in working capital. In 1891 the mines were leased on royalty to Messrs. Lomer, Rohr & Co., Montreal, and some four hundred tons were raised with a small force.

NORTH SHORE NICKEL MINING CO. OF ONTARIO.

Incorporated 1891. Authorized Capital, \$500,000 in 100,000 shares of \$5.00 each.

Directors :

	H. N. Baird,	
J. Carruthers,		J. Taylor,

Head Office : Toronto, Ont.

Formed to acquire and work certain mineral lands situate in the Algoma district and elsewhere in the Province of Ontario. Not working in 1891.

NORTHWESTERN GOLD AND SILVER MINING CO.

Registered 26th May, 1890. Capital Stock, \$1,000,000, divided into 5,000 shares of the par value of \$20 each.

Head Office : Victoria, B.C.

Formed to mine for gold and silver and other precious metals, by hydraulic and other methods, in British Columbia, and to this end to acquire all the real and personal property and water rights necessary.

NORTHUP MINING CO., Ltd.

Incorporated 1890. Capital, \$200,000.

Directors :

T. W. Wheelock, Boston, Mass., *President*,
 J. P. Ilsley, Philadelphia, Pa., *Vice-President*,
 J. H. Dingee, Philadelphia, Pa., *Sec.-Treas.*

Head Office : 330 Walnut Street, Philadelphia, Pa.

Formed to acquire, work and further develop the property formerly owned and operated by the Northup Gold Mining Company, at Central Rawdon, Hants county, Nova Scotia. About \$15,000 has been expended in the construction of suitable buildings, erection of plant and other improvements. The machinery includes a 10 stamp mill, hoisting and pumping gear, etc. Nothing done in 1891. Vein got poor, and did not pay expenses.

NOVA SCOTIA COAL AND RAILWAY CO., Ltd.

Incorporated 1889. Capital Stock, \$500,000, divided into 5,000 shares of \$100 each.

Directors :

Sandford Fleming, C.M.G., Ottawa, Ont.,
 Hon. Alex. McFarlane, Wallace, N.S., | C. E. Staynor, Halifax,
 R. G. Leckie, Londonderry, N.S.

Head Office : Halifax, N.S.

Not in operation yet.

NOVA SCOTIA IRON CO.

Incorporated by Act of the Nova Scotia Legislature, 15th April, 1890, and amended by an Act under date of 19th May, 1891. Authorized Capital, \$2,000,000, divided into 20,000 shares of \$100 each.

Head Office : New Glasgow, Pictou County, N.S.

This company, formerly known as the Nova Scotia Steel and Iron Co., has been formed to purchase, hold, lease, and sell mines and mining rights, and for opening or working the same in the county of Pictou, or elsewhere in the Province of Nova Scotia, and to get therefrom coal, iron, and other ores, and all or any of the mineral or metallic products there found and not in the Crown grants, etc.

NOVA SCOTIA MIDLAND RAILWAY AND IRON CO., Ltd.

Incorporated by Act of the Nova Scotia Legislature 16th April, 1888; amended by Act dated 17th April, 1889. Authorized Capital, \$1,000,000, with power to increase to \$10,000,000, divided into shares of a value of \$100 each.

Directors :

Herbert Richmond, 52 Broadway, New York, <i>President</i> ,	
Hon. S. H. Holmes, Halifax,	Hon. W. Ross, Halifax,
Wm. M. Walton, New York,	B. W. Chipman, Halifax,
E. P. Kennard, New York,	H. W. Leslie, New Glasgow.

NOVA SCOTIA MIDLAND RAILWAY AND IRON CO.—Continued.

American Office :

E. P. Kennard, *Secretary*, 52 Broadway, New York.

CANADIAN OFFICE :

H. W. Leslie, *General Manager*, New Glasgow, N.S.

This company controls some thirtysquare miles of iron, coal and other mineral lands in the Province of Nova Scotia, and is at present constructing a line of railway from New Glasgow to Sunny Brae, a distance of 18½ miles, to be extended to the Atlantic coast in Guysboro' county, a total distance of about sixty miles. When this line is completed, the development of the company's mines will be proceeded with. Up to 1st September, these lands had only been prospected.

NOVA SCOTIA SYNDICATE, Ltd.

Registered 25th March, 1890. Authorized Capital, £13,500 stg., in 2,700 shares of £5 each, of which 2,100 shares have been issued and fully paid, including 2,000 (vendor's) credited as fully paid.

Directors :

Charles E. Palgrave,
John E. DeWolff, | E. James Payne.
J. H. Ouchterlony.

Head Office : Lionel L. Woodhouse, 155 Fenchurch Street, London, E.C.

Formed to acquire and work the Waverley gold mine at Waverley, in Halifax county, Province of Nova Scotia, upon terms of an agreement made with Charles E. Palgrave, London. In 1891, employed on average about fifteen men. Official returns of gold yield : 1890, 355 tons rock crushed, yielding 82 ounces 10 dwt.; 1891, 190 tons of rock crushed, yielding 190 ounces 19 dwt. gold. In December, 1891, was reported sold to a new English corporation in consolidation with the the Annand gold mine.

Mine Superintendent : E. Macduff, Waverley, Halifax Co., N.S.

OGEMA MINING AND SMELTING CO. OF THE DISTRICT OF THUNDER BAY, Ltd.

Incorporated 1891. Authorized Capital, \$150,000 in shares of \$50.

Directors :

J. H. Sixsmith, Camden, N.J.,
C. Allen, Camden, N.J., | C. B. Crosby, Philadelphia, Pa.,
H. W. Cranmer, Camden, N.J., | J. Main, " "
J. M. Scott, Philadelphia, Pa.

Head Office : Port Arthur, Ont.

Formed to carry on an exploring, mining, smelting and refining business in silver, copper, lead, nickel, etc. No information.

OLDHAM GOLD CO.**Owners :**

John E. Hardman, Oldham, N.S., | Frederick Taylor, Lowell, Mass.

Head Office : John E. Hardman, M.E., S.B., Manager, Oldham, N.S.

This company controls a property containing some 53 gold areas, situate in the district of Oldham, in the county of Halifax, in the Province of Nova Scotia. Mines about three miles from Enfield station on the main line of the I.C. railway. The mines, which have been operated since 1884, have been thoroughly and systematically developed, and at date consist of the following workings :—

No. 5 shaft, 420 feet deep ; No. 3 shaft, 383 feet ; has three sets of levels aggregating 1,000 feet ; total length of openings 2,000 feet. Average men employed 20. Engine and machinery equipment comprises : double hoisting and pumping gear operated by 60 h.p. compound condensing engine ; new ten-stamp mill, operated by a Pelton water wheel working under a 72 feet head ; stamps weigh 860 pounds and drop 90 to the minute, crushing two and one half tons quartz to the stamp in 24 hours ; Forster rock breaker ; Roll feeders ; also Golden Gate concentrator. Concentrates assay \$75.00 to the ton. Official returns kindly furnished by the Mines Department report the yield from this property as follows :—

1885..	925 tons,	6 cwt. rock	crushed	yielding	1,700 ounces,	6 dwt.	17 grs.
1886..	928 "	8 "	" "	" "	2,164 "	17 "	3 "
1887..	2,359 "	16 "	" "	" "	2,560 "	8 "	11 "
1888..	2,107 "	6 "	" "	" "	1,699 "	9 "	15 "
1889..	1,393 "	2 "	" "	" "	2,705 "	4 "	18 "
1890..	1,126 "	14 "	" "	" "	2,775 "	0 "	20 "
1891..	902 "	10 "	" "	" "	1,422 "	11 "	0 "

ONEIDA QUARRY CO., Ltd.

Incorporated 1892. Authorized Capital, \$50,000, in 500 shares of a value of \$100 each.

Directors :

C. Sydney Hotchkiss, Brantford, Ont.
 Cortland De Cew, Aylmer, Ont., | Dr. W. E. Winskee, Brantford Ont.,
 Geo. H. Wilkes, Brantford, Ont., | Frank Wilson, Brantford, Ont.,
 H. Stenebaugh, Brantford, Ont.

Head Office : Brantford, Ont.

Formed to quarry, manufacture, and sell stone, marble, etc. Property in township of Oneida, Haldimand county, Province of Ontario. No particulars.

ONTARIO GAS AND OIL CO., Ltd.

Incorporated 23rd April, 1891. Authorized Capital, \$1,000,000.

Directors ;

James Trow, *President*, Stratford, Ont.,
 James P. Mabee, Stratford, Ont., | James J. Stock, Stratford Ont.,
 Jas. Sutherland, M.P. Woodstock, Ont., | James Barker, Stratford, Ont.
 Jas. Dow, Stratford, Ont., | William Mowat, Stratford, Ont.,
 Joshua H. Mook, Springville, N.Y., | George Towne, Listowel, Ont.

Head Office : Alex. Dow, Secretary, Stratford, Ont.

ONTARIO GAS AND OIL CO.—Continued.

Formed to construct, develop, operate and buy and sell gas, oil and water wells; and for the purposes aforesaid to lease, purchase and sell lands, and to lay, operate, purchase, sell and lease pipe lines for the conveyance of gas, oil and water from the said wells. Company holds under lease between five and six thousand acres of land at or near the town of Stratford, Province of Ontario.

William Mowat, *Manager.*

ONTARIO MINING CO., Ltd.

Incorporated 2nd August, 1889. Capital Stock, \$20,000, in 2,000 shares of \$10 each, fully subscribed and paid up.

Directors :

John S. Ewart, Winnipeg, <i>President,</i>	J. G. Bennett, St. Paul, Minn.,
H. G. McMicken, Winnipeg,	M. M. Wheeler, St. Paul, Minn.
H. J. Belch, Winnipeg,	

Head Office : J. K. Strachan, *Secretary,* 376 Main Street, Winnipeg.

The property owned by this company contains 400 acres, and is situate on Sultana Island, in the Lake of the Woods mining district, Province of Ontario. Thirteen men employed. Mine operated in 1890-1, under agreement by the Canadian Pacific and Prospecting Co. (See notice elsewhere.)

ONTARIO NATURAL GAS AND FUEL CO.

Incorporated 1889. Capital \$12,500.

Directors :

N. A. Coste, <i>President,</i> Amherstburg, Ont.,	Col. Atkinson, Detroit,
D. Coventry, Windsor,	Hiram Walker, Detroit,
M. A. MacHugh, Windsor,	

Head Office : Windsor, Ont.

This company has acquired some 30,000 acres under lease in the county of Essex, Ontario. Three wells have been bored to a depth of over 1,000 feet, at a point thirty miles from the town of Windsor, yielding an estimated flow of 10,000 cubic feet.

ONTARIO NICKEL CO.

Incorporated 1891. Authorized Capital, \$50,000, in 1,000 shares of \$50 each.

Directors :

J. Wright,	
G. S. Crawford,	A. B. Cameron.

Head Office : Toronto, Ont.

Formed to mine, smelt and refine nickel and other ores in the district of Algoma, Province of Ontario.

ONTARIO NICKEL MOUNTAIN MINING CO.

Incorporated 1891. Authorized Capital, \$500,000, in shares of \$100.

Directors :

G. S. Macdonald, Toronto, Ont.,
W. B. Poulton, Toronto, Ont., | J. K. Leslie, Toronto, Ont.,

Head Office : Toronto, Ont.

Formed for the purpose of carrying on a general mining business in the district of Nipissing, Province of Ontario. No information.

ORMSTOWN BRICK AND TERRA COTTA CO., Ltd.

Incorporated 25th August, 1888. Authorized Capital, \$50,000, divided into 500 shares of a value of \$100 each, the whole of which has been subscribed and fully paid.

Directors :

George McCullough, *President* : Ottawa, Ont.,
J. H. Shaw, Shawville, Que., | J. Geo. Butterworth, Ottawa, Ont.,
G. W. Cameron, Montreal, Que., | R. N. Walsh, Ormstown, Que.

Head Office : W. D. Ross, Secretary, 86 Sparks St., Ottawa, Ont.

This company's property contains 28 acres of land at Ormstown. During the year 1890 from 75 to 80 men were employed, and the production of brick, terra cotta, tile and other materials amounted in the aggregate to 4,500,000.

Superintendent : George Vaughan, Ormstown, Que.

OXFORD GOLD MINING CO.

Incorporated under the laws of the State of New York 1882. Authorized Capital, \$125,000.

Directors :

E. Coleman,
F. F. Randolph, | John J. Gould,
J. C. Coleman, | Edwin Morris.

Head Office : F. F. Randolph, Sec.-Treas., 45 Broadway, New York.

This company controls some 63 gold areas situate in the Lake Catcha district, near Musquodoboit Harbor, in the Province of Nova Scotia. Engine and machinery equipment comprises :—One 5 drill duplex Rand compressor ; four pumps ; two 40 h.p. and one 20 h.p. boiler ; four hoists ; one Blake crusher, and one steam ten stamp mill, etc., the whole being of an estimated value of \$10,000. Thirty men employed. Owing to differences among stockholders the mines were closed down, it is thought temporarily, in the latter end of 1891. Official returns of the gold yield from this property are :—

Year.	Rock Crushed.	Gold Yield.
1882.....	615 tons giving	1,017 ounces, 2 dwt. 3 grs.
1883..	1,472 " "	2,575 " 15 " 19 "
1884.....	2,287 " "	2,019 " 19 " — "
1885.....	1,670 " "	1,004 " 14 " — "
1886.....	492 " "	1,683 " 18 " 15 "
1887.....	886 " "	3,050 " 2 " — "
1888.....	642 " "	663 " 13 " — "
1889.....	548 " "	467 " 2 " — "
1890.....	939 " "	779 " 5 " — "
1891.....	2,177 " "	580 " 8 " — "

Mine Superintendent : J. M. Reid, Musquodoboit Harbor, N.S.

PACIFIC BULLION MINING CO., Ltd.

Incorporated 13th March, 1889. Authorized Capital, \$1,000,000, divided into one million shares of the par value of one dollar each, and said stock unassessable.

Directors :

L. C. Dillman, *President*.
 John H. Stone, | W. B. Cowgill,
 Frank T. McCallough.

Head Office : Frank T. McCallough, Secretary, Spokane, Wash., U.S.A.

Formed for the purpose of mining, milling, smelting and working ores and minerals contained in the mines known as the Spokane and Trinket, situate at Ainsworth, in West Kootenay mining district, in the Province of British Columbia. Spokane shaft, 91 feet deep; 45 feet from surface, levels have been driven 60 feet north and 50 feet south. A tunnel has been run in on the Spokane vein for a distance of 200 feet, and will develop the Spokane vein to a depth of 200 feet below the outcrop of ore. There are also several minor workings on the property. Was not in operation in 1890, pending negotiations for a transfer of stock, which was not successful. Mining was resumed in the spring of 1891.

General Manager: John F. Wolgamot.

PALGRAVE GOLD MINING CO.

Incorporated 30th January, 1889, under the laws of the State of Maine. Capital Stock, \$100,000, in shares of \$1 each, of which to date \$85,000 has been subscribed and paid up.

Directors :

H. K. Fisher, Isaac's Harbor, N.S.,
 T. R. Gue, Halifax, N.S., | W. H. Harrington, Halifax, N.S.

Head Office : Portland, Maine.

This mine, owing to litigation, has been idle during the whole of 1891. Official returns of yield for 1889 and 1890 are : 1889, 30 tons rock crushed, yielding 30 oz. 1 dwt. 2 grs.; 1890, 110 tons rock crushed, yielding 34 oz. 7 dwt.

Mine Superintendent : Jas. McLellan, Isaac's Harbor, Guysboro' Co., N.S.

PARKER-DOUGLAS CO.

Organized 1886, under the laws of the State of Maine. Capital, \$150,000, in shares of \$10 each, fully subscribed and paid up.

Directors :

Gilbert Parker, *President*, Philadelphia, Pa.
 R. D. Evans, Boston, Mass., | Max Bamburger, Philadelphia, Pa.,
 Calvin G. Turner, Wilmington, Del., | J. R. Judson, E. Arlington, Vt.,
 Simon Gfaelzer, Philadelphia, Pa., | Thos. Devlin, Philadelphia, Pa.

The company holds 52 gold areas under lease from the Government of Nova Scotia. Mines well equipped with a first-class plant, including 20-stamp mill, Rand compressor, hoisting and pumping gear, etc.

Managing Director : Gilbert Parker, Malaga, Queen's Co., Nova Scotia.

PENINSULA GOLD MINING CO., Ltd.

Incorporated 17th April, 1889. Capital Stock, \$50,000, divided into 1,000 shares of \$50 each.

Directors :

Robert P. Fraser,
John Vorston,

H. G. Ives,
G. J. Mackenzie.

Head Office : New Glasgow, N.S.

Formed to acquire, hold, lease, sell and convey any mines or natural deposits of gold or gold-bearing rock, ore or earth in any gold district in Nova Scotia, and any gold mining rights or licenses, prospecting or otherwise, in, upon or over any portion of said Province. The owners control some 40 areas on the western side of Cochran Hill; have repaired a 5-stamp mill and steam hoist, and after some twelve months' idleness are again at work in a small way.

Superintendent : R. P. Fraser, Melrose, Guysboro' Co., N.S.

PETERBOROUGH AND FRONTENAC MINING CO.

Incorporated 1892. Authorized Capital, \$10,000,000, in 500,000 shares of a value of \$20.

Directors :

J. W. Taylor,
T. Brooks,
G. Stevenson,

W. H. Manning,
A. E. Dixon,
F. J. Bell,

C. A. Weller,
A. P. Poussette,
G. W. Hatton,

A. V. R. Young,
T. E. Bradburn,
A. Elliot.

Head Office : Peterborough, Ont.

Formed to acquire and deal in mining claims and lands in the Province of Ontario. Not fully organized at date of going to press.

PETIT ROCHER SILVER MINING CO., Ltd.

Incorporated under the laws of New Brunswick, 1892. Authorized Capital, \$25,000, in shares of a value of \$5 each.

Directors :

Jerome Boudreau, Petit Rocher, N.B.,	
John Morrison, Petit Rocher, N.B.,	Jerome H. Comeau, Petit Rocher, N.B.
J. F. Comeau, Petit Rocher, N.B.,	J. A. Langis,
Fredk. Comeau, Petit Rocher, N.B.	

Head Office : Petit Rocher, Gloucester Co., N.B.

Formed for searching for minerals in the county of Gloucester, etc.

PETROLIA CRUDE OIL AND TANKING CO.

Incorporated 1874. Capital Stock, \$50,000, divided into 1,000 shares of \$50 each, of which to date, \$49,376.36 has been subscribed and paid up.

Directors :

Charles Jenkins, <i>President</i> ,	
J. D. Noble,	J. H. Fairbank,
R. D. Noble,	C. O. Fairbank,
R. Morris,	John Fraser,

PETROLIA CRUDE OIL AND TANKING CO.—Continued.

Head Office: Chas. Jenkins, President, Petrolia, Ont.

This company owns and operates sixteen wells, situate on Lot 12, in the 12th and Lot 12 in the 11th concession of Enniskillen and Petrolia, Ont.; average depth, 470 feet; average daily capacity of each, one-half to three-fourths of a barrel. The company has 50 tanks with a storing capacity of about 300,000 barrels. Receiving stations at Oil Springs, Marthaville and three at Petrolia.

The following statistics have been kindly furnished by the secretary:—

Year.	Bbls. Received.	Bbls. Shipped.
1884.....	255,768	184,214
1885.....	299,407	312,554
1886.....	255,022	240,134
1887.....	244,979	360,309
1888.....	285,013	240,950
1889.....	298,806	341,346
1890.....	288,330	333,052

Estimated value of machinery plant, etc., \$100,000. Seventeen men and boys employed.

PETROLIA OIL CO.

Incorporated 31st January, 1881. Authorized Capital, \$40,000, divided into 1,000 shares of a value of \$40 each, of which \$20,040 has been subscribed and paid up.

Directors:

Robert D. Noble,
John D. Noble, | Charles Jenkins,

Head Office: Robert D. Noble, President, Petrolia, Ont.

This company owns ten acres of land situate in the township of Enniskillen, in the county of Lambton, in the Province of Ontario. It also operates nine wells, each of an average depth of 460 feet, and yielding in the aggregate five barrels of crude oil per diem. The total production from these wells for the year ended 30th June, 1890, amounted to 1,360 barrels. Thirteen men employed. Estimated value of machinery, plant, buildings, etc., \$7,000.

Superintendent: Andrew Duncan, Petrolia, Ont.

PHILADELPHIA GOLD MINING CO.

This company held 450 gold areas under lease from the Provincial Government, in the district of Brookfield, Queen's County, Nova Scotia; mining operations were mainly confined to Dunbrack and Nelson leads; during the year ended 31st December, 1889, the official returns reported a yield of 1796 oz. 17 dwt. of gold from 1,472 tons of quartz crushed. In 1890, 1966 tons of rock were crushed, yielding 1,189 ounces, 2 dwt. gold. In 1891 the mine was sold at public sale in order to wind up the company. It was bought in by a small syndicate who commenced to re-open the mine in Nov., 1891. George Kenty is resident agent. The machinery plant comprises 20 stamp-mill, with the necessary equipment of engines and boilers, pumps, winding engines, etc. 40 men employed.

PHENIX COAL CO., Ltd.

Incorporated 15th December, 1887, under Letters Patent from the Government of New Brunswick. Capital, \$50,000, in 5,000 shares of \$10 each, fully subscribed and paid up.

Directors :

James Kennedy, *President*,
 John E. Irvine, | John Boyd,
 Robert Cruikshank, | Fred R. Butcher.

Head Office : Henry Duffell, Jr., Sec.-Treasurer, St. John, N.B.

The company owns the Joggins colliery, at Joggins mines, Cumberland county, Nova Scotia, at present operated under agreement by the Canada Coal Co. See Canada Coal Co.

PHOSPHATE OF LIME CO., Ltd.

Registered 7th October, 1881. Capital, £50,000 stg., in 5,000 shares of £10 each. Of this amount £35,000 has been subscribed.

Directors :

Chairman : Augustus Abraham,
 Thomas Fuller, | Admiral B. C. Mayne, C.B., M.P.,
 Sir J. H. Johnson, | Charles Schiff.

Head Office :

Fleetwood Richards, Secretary, Winchester House, Old Broad St., London.

CANADIAN AGENTS :

Wilson Green, 30 St. Francois Xavier Street, Montreal.

The company owns and operates the High Rock phosphate mines in the township of Portland West, Ottawa county, Province of Quebec. The property, which covers some 600 acres, is situate on lots 1 and 2 in the 8th range, and lots 5, 6 and 7 in 7th range, in the township of Portland West, and has been extensively developed. The mines are well equipped with commodious buildings for the miners, offices, stores, etc. An excellent plant, consisting of Rand and Ingersoll compressors, steam hoisting and pumping gear, etc., is used. About 200 men and boys are employed at the mines and works. The following returns of the exports from the High Rock mine are official:—

1883.....	4,500 tons.
1884.....	5,000 "
1885.....	5,732 "
1886.....	6,360 "
1887.....	5,686 "
1888.....	6,249 "
1889.....	6,054 "
1890.....	5,497 "
1891.....	3,933 "

Superintendent : Ashley P. Twidall, High Rock Mines, High Rock, via Buckingham, Que.

PICTOU CHARCOAL IRON CO., Ltd.

Incorporated under the laws of Nova Scotia, in November, 1891. Authorized Capital, \$200,000, divided into 1,000 Ordinary shares of \$100 each, and 1,000 Preference of \$100.

Directors:

Wm. B. Moore, *President*, New Glasgow, N.S.,
Alfred Markham, St. John, N.B., | D. R. Grant, New Glasgow, N.S.,
J. N. W. Winslow, Woodstock, N.B., | E. A. Sjustedt, New Glasgow, N.S.

Head Office: D. R. Grant, *Secretary*, New Glasgow, N.S.

Formed to manufacture charcoal pig iron on the East River of Pictou, Pictou county, Nova Scotia, and to transact any other business in connection therewith, etc. The company controls what is reported to be a valuable deposit of brown hematite on the Grant farm at Bridgeville, upon which some buildings were erected and mining begun in November, 1891. The company owns over 3,500 acres of heavy old-growth hardwood timber land, situate within fifteen miles of furnace site, some 7,000 cords of which was to be taken out during the winter of 1892 for the manufacture of charcoal.

Ernest A. Sjustedt, *General Manager*.

POPE MANGANESE CO.

Incorporated 1889. Subscribed Capital, \$75,000.

Directors:

Chas. H. Converse, Newton, Mass.,
Alex. Pope, Boston, Mass., | W. C. Pope, Boston, Mass.

Canadian Office: M. Garvey, *Superintendent*, Markhamville, N.B.

Formed to buy, lease, sell, own, manage mines and mining lands, property and machinery, and to mine and sell manganese and other ores, minerals and metals, and to do whatever may be necessary therefor or incidental thereto. It controls 1,000 acres of land, situate in the parishes of Sussex and Hammond, in King's county, Province of New Brunswick. The output for 1890 was estimated at 1,800 tons. All high class ores are shipped to company's headquarters at Boston, Mass., for distribution to Canadian and United States points. Furnace-ore shipped to Jersey City, for use of Pennsylvania steel-makers. Fifty-four men and boys employed in 1890. Force reduced in 1891. Operations confined largely to prospecting with the Diamond drill and exploratory work.

PREMIER OIL CO.

Incorporated 1890. Capital Stock, \$150,000, divided into 1,500 shares of \$100 each, of which, to 1st September, 1890, \$135,000 had been subscribed and paid up.

Directors:

F. W. Mitchell, Franklin, Pa., *President*,
J. M. Bingham, Toledo, Ohio. | George T. Carter, Pittsburgh, Pa.,
Seymour Cunningham, Washington, D.C. | Robert Reid, Montreal, Que.,
R. K. Thomas, Montreal, Que., | Duncan Robertson, Montreal, Que.

Head Office: Thomas Kelly, *Secretary*, Petrolia, Ont.

PREMIER OIL CO.—Continued.

Formed to manufacture, buy, sell and deal in oil producers and oil refiners supplies; to sink for natural gas, and to lay down and maintain pipe lines for the transportation of such gas; to put down and work pipe lines for carrying petroleum, etc., etc. The company purchased in June, 1890, the property and plant formerly owned and operated by the Producer's Oil Company, of Petrolia. Estimated value of machinery plant, \$90,000. Twenty-five persons employed.

General Manager: R. E. Menzie, Petrolia, Ont,

PRODUCER'S TANKING CO.

Incorporated 1884. Capital Stock, \$50,000, divided into 500 shares of of \$100 each, of which, to date, \$25,328.63, has been subscribed and paid up.

Directors:

W. H. Hammond, <i>President</i> ,	
John Kerr,	D. Trotter,
J. H. Fairbank,	Robt. Morris,
Jas. McCort,	A. T. Gurd,
William Lindsay.	

Head Office: W. H. Hammond, *Secretary*, Petrolia, Ont.

This company owns and operates some nineteen oil wells at Petrolia, in the Province of Ontario; average depth of each 470 feet; capacity from 9 to 10 bbls. per day; average yearly production about 2,000 bbls. The company also carries on the business of storers for the other producers; capacity of tanks about 82,000 bbls. It also owns a pipe line extending for a distance of seven miles around the corporation. Machinery plant includes Northey, McKee and Marwick pumps, engine and boiler, etc. Six men and boys employed.

PROVINCIAL NATURAL GAS AND FUEL CO. OF ONTARIO, Ltd.

Incorporated 1890, under letters patent from the Federal Government of Canada. Authorized Capital, \$500,000, in shares of \$100 each, of which to 1st May 1891, \$300,000 had been subscribed and paid. It is proposed to increase the amount to \$1,000,000.

Directors:

Peter McLaren, Perth, Ont., <i>President</i> ,	
N. A. Coste, Amherstburg,	John F. Wood, M.P., Brockville,
E. Coste, Buffalo, N.Y.,	Loftus Cuddy, Amherstburg,
D. McGillivray, Port Colborne,	Joseph Kavanagh, Ottawa.

Head Office: Union Loan Buildings, Toronto St., Toronto; E. M. Coste, M.E., *Managing Director*.

The company holds some 50,000 acres under lease in the county of Welland, Ont. To May, 1891, 14 wells had been drilled capable of producing at the mouth of the wells 30 million cubic feet of gas per day. At that date the company had built an 8" pipe line to Buffalo, N.Y., and was delivering gas into a large plant in that city.

QUESNELLE QUARTZ MINING CO., Ltd.

Incorporated 20th August, 1878. Authorized Capital, \$600,000, divided into 600,000 shares of a value of \$1 each.

Directors :

Hon. James Reid,
Jas. Mason, | D. W. McDonald,
W. A. Johnston, | Robt. McLeese,

Head Office : W. A. Johnston, Secretary, Quesnelle, B.C.

This company owns 103 acres of mineral land, situate on Hixon Creek, in the Cariboo district, in the Province of British Columbia. A good deal of preliminary work has been done on the claim, but further operations were suspended during 1890, and have not yet been resumed. Estimated value of plant, \$17,485.

RAND DRILL CO., Ltd.

Incorporated 26th October, 1888. Authorized Capital, \$12,000, divided into 600 shares of a value of \$20 each.

Directors :

Edward Rand,
Charles R. Rand, | Edward D. Rand,

Head Office : Vancouver, B.C.

Formed for boring or drilling for water, coal, salt, petroleum, natural gas, or for testing mineral veins or lands, and business associated and incidental and conducive to such purposes.

RAWDON ANTIMONY MINING CO., Ltd.

Incorporated 1890. Capital Stock, \$50,000, in 5,000 shares of a value of \$10 each.

Directors :

Robert McNaughton, Truro, N.S.,
B. F. Pearson, Halifax, N.S., | Charles Annand, Halifax, N.S.

Head Office : B. F. Pearson, Secretary, Halifax, N.S.

Formed for the purpose of acquiring, holding, working, leasing, selling and conveying, any mines in the Province of Nova Scotia, and any mining rights or licenses, prospecting or otherwise, in, upon, or over any portion of said Province. The property is situate at South Rawdon, in Hants county, Province of Nova Scotia, and contains about thirty acres. Four shafts have been sunk, the deepest being thirty feet. After taking out a fair quantity of ore of good grade, the mine was shut down in the summer of 1891 pending negotiations for its transfer to a New York syndicate.

Mine Superintendent : Robert McNaughton, Truro, N.S.

RED DEER VALLEY RAILWAY AND COAL CO.

Incorporated 20th March, 1889. Authorized Capital, \$1,000,000.

Directors :

	Joseph Ick Evans, Toronto, Ont.	
Daniel Macfarlane, Toronto,		Henry P. Withers, Toronto,
Joshua T. Johnston, Toronto,		John Blain, Toronto.

Head Office : Toronto, Ont.

Formed to lay out, construct and operate a railway of the gauge of 4 ft. 8½ in., from a point near the town of Calgary, in the district of Alberta, in the North-West Territories, running generally in a north-easterly direction, to a point on the Red Deer River, in township 32, range 21, west of the 4th principal meridian, and passing through townships 24 in the 29th range, 25 in the 28th range, 25 in the 27th range, 26 in the 26th and 35th ranges, 27 and 28 in the 24th range, 29 and 30 in the 23rd range, 30, 31 and 32 in the 22nd range, west of the 4th principal meridian; and also from, at, or near Cheadle station, on the C.P.R., in a northerly direction, to a point of junction with the line from Calgary, in or near township 26, range 25, west of the 4th principal meridian; and also a branch or spur from a point on the main line in township 24, range 29 west of the 4th principal meridian, to a point between Sheppard and Calgary stations on the C.P.R.; and also a branch from a point on the main line in township 30, range 23 west of the 4th principal meridian, running in an easterly direction to the Red Deer River; with liberty to the company to vary its line a distance of five miles on either side of the course above indicated; also to lease, buy, sell and mortgage, coal and other minerals, etc.

REED ASBESTOS MINE.**Sole Owner :**

Dr. James Reed, Reedsdale, Que.

The properties owned cover three hundred acres, and are known as lots 27, 28 and 29, range A, Coleraine, Que. Fifteen men were employed during five months in 1891. The output during that period was as follows: No. 1 grade, 10 tons; No. 2, 60 tons; No. 3, 70 tons. The engine and machinery equipment at date includes: two 60-h.p. boilers; one 16 x 24 Ingersoll air compressor; seven 3¼ in. Ingersoll rock drills; one double-drum Ingersoll hoisting engine; and the necessary pumps, air receivers and attachments to make the plant complete, the whole being of a value of \$12,000.

REVELSTOKE MINING CO., Ltd.

Incorporated 27th November, 1889. Authorized Capital, £40,000, divided into 4,000 shares of a value of £10 each. Number of shareholders at last return, seven.

Directors :

Lionel R. M. Doyle,		H. Cecil Pelly.
---------------------	--	-----------------

Head Office :

Wm. Baily, *Secretary*, 80 Lombard Street, London, E.C.

CANADIAN OFFICE :

F. Storer Brown, Secretary, 11 Notre Dame Street, Winnipeg.

The company owns and operates the "United" and No. 1 silver lead mines, two miles from Hot Springs, or Ainsworth, in the Kootenay district, British Columbia. Twenty men employed.

Superintendent : J. Campbell, Revelstoke, B.C.

RICHMOND SLATE QUARRYING AND MANUFACTURING AND ASBESTOS CO., Ltd.

Incorporated 1890. Authorized Capital, \$150,000, divided into 3,000 shares of a value of \$50 each.

Directors :

Joseph Bedard, <i>President</i> ,	
John C. Bedard,	George Bedard,
Thomas Logan,	W. E. Jones,
John W. Jones,	L. Jutras.
J. U. Messier.	

Head Office : E. J. Bedard, Secretary, Richmond, Que.

Formed to acquire, work and further develop the Richmond Slate Quarry and other property, situate on lots 5 and 6, in the 11th and 15th ranges of the township of Cleveland, in the county of Richmond, Province of Quebec, containing in all five hundred and eighty acres. The property is located at a point three miles from the town of Richmond, and is situated directly on the main line of the Grand Trunk Railway, which has a side track for loading and unloading within a quarter mile from the quarry. Several good buildings have been erected, together with machinery for quarrying the slate, including 30 h.p. engine and boiler for hoisting and pumping purposes. Twenty men employed. Writing under date of July, 1891, Mr. Bedard says: "The leading feature of this company's business will be the manufacture of building brick and other products from slate material. In Pennsylvania and New Jersey the brick manufactured from slate refuse has been approved as the best, smoothest and most perfect brick in the market. Drain tiles, and fire brick from the same material will be manufactured, for which new and unique machinery is being constructed."

ROCKLAND GOLD MINING AND MILLING CO.

Sole Owner :

H. K. Fisher, Isaacs Harbor, N.S.

The property acquired by Mr. Fisher was formerly owned and operated by the Gallahar Gold Mining and Milling Co., and is situated in the Stormont district, Queen's county, in the Province of Nova Scotia. Only prospecting work done lately. The stamp mill, however, does a good deal of crushing for adjacent mines.

ROYAL GOLD MINING CO.

Incorporated January, 1891. Authorized Capital Stock, \$50,000, in 500 shares of \$100 each.

Directors :

Charles Brown, Boston,	
A. Curtis, Boston,	G. W. Johnston, Yarmouth,
J. E. Cushing, Caledonia,	Thos. Parker, Caledonia.

CANADIAN OFFICE : Whiteburn, Queen's County, N.S.

American Office :

Chas. Brown, 839 Albany Street, Boston, Mass.

Formed to mine and smelt gold ores, etc., in the Province of Nova Scotia. Mines at Whiteburn, Queen's Co., N.S. Doing nothing in 1891.

SAANICH LIME CO., Ltd.

Incorporated April, 1890. Capital, \$50,000, in shares of \$100 each.

Trustees :

Joseph Wriglesworth, | Wm. Fernie, | Peter C. Fernie.

Head Office : Victoria, B.C.

Formed to acquire by purchase, operate and carry on, and extend the lime-kilns situate on Tod Creek and Highland district, now being carried on at the above-named places, and the purchase of other lands on Vancouver Island, or in the Province of British Columbia.

SALT SPRING ISLAND MINING CO., Ltd.

Incorporated 6th May, 1889. Authorized Capital, \$40,000, divided into 8,000 shares of a value of \$5 each.

Directors :

John Braden, | Henry Brethour,
J. Brethour, | L. Dickinson,
J. L. Stamford, | Julius Brethour,

Head Office : L. Dickinson, Secretary, 113 Douglas Street, Victoria, B.C.

Formed to work and develop mines, and acquire lands, water rights, etc., on Salt Spring Island and to do all acts and things requisite or convenient for effecting the purposes aforesaid. The time of the existence of this company is fixed at forty-nine years. The property owned by the company consists of some twenty-one acres of mineral land, situate on Salt Spring Island, Province of British Columbia. During 1890 and 1891 a small force (6 men) was at work doing preliminary work. Machinery will be put in in the spring of 1892 when more extended operations will be commenced.

Superintendent : H. Eden.

SAULT STE. MARIE NICKEL MINING AND CONTRACT CO.

Incorporated 1891, under the laws of the Province of Ontario. Authorized Capital, \$45,000, in 9,000 shares of \$5 each.

Directors :

John McKay, Sault Ste. Marie, Ont., *President*,
J. Dawson, | E. S. B. Sutton,
D. M. Brodie, | L. F. Bedford,

Head Office : D. M. Brodie, Secretary, Sault Ste. Marie, Ont.

Formed to explore, develop and treat nickel and other minerals, and to establish agencies in the United States and Great Britain for the sale of mineral, timber, agricultural and other lands, etc. Holds the north east quarter of lot 6, concession 8, in the township of Drury under option until November 1892. Expect to do some mining work in the spring of 1892.

SCOTTISH CANADIAN ASBESTOS CO.

Liquidators :

Hanson Bros., Standard Building, Montreal.

Property now operated by a new company (see Glasgow and Montreal Asbestos Company).

SEBASTOPOL PHOSPHATE SYNDICATE, Ltd.

Registered 1st September, 1890. Authorized Capital, £5,000, in shares of £1 each. The first subscribers are: G. J. Wells, of Chester; G. C. Lomer, 4 Fenchurch Avenue, London, E.C., and five others each taking one share.

Canadian Office : Messrs. Lomer, Rohr & Co., Custom House Square, Montreal.

Not known to be in operation during 1891.

SELKIRK MINING AND SMELTING CO., Ltd.

Incorporated 4th May, 1887. Authorized Capital, \$250,000, divided into 2,500 shares of \$100 each.

Directors :

Thos. Earle, M.P.,
W. J. Goepel,

E. Marvin.

F. S. Barnard,
Rev. A. Beaulands,

Head Office : G. A. Sargison, Secretary, 48 Langley St., Victoria, B.C.

This company owns and operates six mining locations, each 600 x 1,500 ft., at Illecillewaet, in the Kootenay district, Province of British Columbia. The principal of these, the Lanark, has a shaft sunk to a depth of 200 ft., and two tunnels run in for a distance of 224 ft. and 545 ft., respectively. Good shipments of ore were made three years ago, with a stated profit of \$65 per ton. The total quantity of ore raised during the year 1889, as per returns received from the secretary of the company, was 1,130 tons. The net value per returns and estimated value of ore on dump at 1st October, 1890, was \$30,371. In 1891 the property was taken over by the Lanark Consolidated Mining and Smelting Co. (See notice elsewhere).

SHEBANDOWAN MINING CO.

Incorporated under the Ontario Joint Stock Companies Letters Patent Act, 25th March, 1875. Capital, \$1,000,000, in 100,000 shares of \$10 each, fully paid up.

Directors :

J. J. Vickers, *President*, Toronto,
Walter McDermott, New York, M. L. Sibley, Detroit,
Nicol Kingsmill, *Sec.-Treasurer*, Toronto.

Head Office : Toronto, Ont.

The property owned by this company consists of mineral locations : A1, containing 228 acres ; A2, 320 acres ; A3, 302 acres ; A4 and A5, 462 acres ; A6, 379

SHEBANDOWAN MINING CO.—Continued.

acres; A7, 300 acres; 26 B, 180 acres; 27 B, 323 acres; 28 and 25 B, 404 acres; 29 B, 321 acres; 30 B, 320 acres; 31 B, 320 acres; 32 B, 320 acres; 33 B, 160 acres; 34 B, 160 acres; 4 H, 160 acres; 5 H, 320 acres; 6 H, 160 acres; 7 H, 320 acres; 8 H, 320 acres; 9 H, 80 acres; containing in all 5,859 acres, situate near Jack Fish Lake, in the township of Moss, in the district of Thunder Bay, Ont. Not in active operation 1891.

SHERBROOKE MARBLE CO.

Incorporated 5th January, 1886. Authorized Capital, \$100,000, divided into 2,000 shares of \$50 each.

Directors :

	Thomas J. Tuck, <i>President</i> ,	
G. B. Loomis,	|	Joseph Ashton,
William White,	|	Mr. Justice Hall.

Head Office : Sherbrooke, Que.

Formed to open and work quarries of marble, slate and other economic minerals and mineral substances, and to manufacture, sell and export the same. Not in operation 1892.

SHUNIAH WEACHU MINE, Ltd.

Registered 17th November, 1886. Authorized Capital, £100,000, in shares of £1 each, of which £99,888 has been issued and fully paid; 25,000 fully paid shares were allotted to the vendor in part payment for the property; 9,000 fully paid shares were allotted to the directors in lieu of remuneration for two years, and to other parties for services rendered in connection with the formation of the company; and the remaining 66,000 shares were offered for subscription in November, 1886. The consideration for the property was £55,000, payable £30,000 in cash and £25,000 in fully paid shares. Accounts made up annually to 30th November.

Directors :

Sir Alexander Galt,	|	Frank Tobin,
John W. Maclure, M.P.,	|	Robert Ashburn Edgar.

Head Office : V. Kamball Fry, *Secretary*, 5 C., Queen Insurance Buildings, Liverpool, W.

Formed to acquire and work about 240 acres of mineral land containing two mining locations on the Silver Mountain, on the line of the P. A., D. & W. Ry., near Port Arthur, in the Thunder Bay district, Province of Ontario. Value of ore shipped to date of last report (28th May, 1891), \$31,250; about 2,600 tons of ore were on the dumps the value of which could not be accurately determined.

Extracts from Annual Report of 24th Jan., 1891.

“The estimates of ore in sight, given twelve months ago by the late manager, have proved to be greatly exaggerated, and although a large amount of development work has been done, and silver ore has been found at many points, and in several new veins, the quantity and quality of such ore has not been sufficient to pay expenses. The directors have received several reports from the new manager, which have been submitted to Mr. McDermott (of Messrs. Fraser and Chalmers), and these reports are open to the inspection of shareholders at the office of the company.

“The present manager, Mr. S. R. Thompson, writes in continued and confident

SHUNIAH WEACHU MINE.—Continued.

terms as to the ultimate success of the mine, being particularly hopeful of the prospects of several points, notably the new No. 4 vein, but the directors feel that as such hopeful anticipations have proved illusory in the past, it is time to take the opinion of the shareholders as to what should be the policy of the company under the present circumstances."

BALANCE SHEET TO 29TH NOVEMBER, 1890.

Liabilities.

CAPITAL ACCOUNT—		£	s.	d.
Authorized—100,000 shares of £1 each—				
Issued, 99,888 shares fully paid up.		99,888	0	0
(of these shares 12,870 are now held by the company),				
Reserve Fund—Amount at Credit per last Balance Sheet.....		14,863	10	9
Sundry creditors.....		719	10	4
		<u>£115,471 1 1</u>		

Assets.

	Cr.	£	s.	d.	£	s.	d.
Mining property as per Balance Sheet, 30th November, 1889.....		87,056	16	9			

EXPENDITURE DURING THE YEAR—

Machinery.....	£356	2	0				
Sinking shafts, driving levels and opening up the mine generally....	£8,113	19	10				
Less proceeds of ore sold and on hand....	925	4	7				
		<u>7,188 15 3</u>					
				7,544	17	3	
Preliminary expenses				94,601	14	0	
Stores on hand.....				593	4	3	
Investments at cost.....				220	0	0	
Sundry debtors				12,355	19	2	
Cash on hand and in bank.....				319	16	4	
Interest accrued, but not received.....				405	17	8	
Revenue Account—Amount at debit				142	1	8	
Shipment of ore unsold.....				6,632	8	0	
				200	0	0	
				<u>£115,471 1 1</u>			

REVENUE ACCOUNT.

	Dr.	£	s.	d.
1889.				
Nov. 30. To Balance per account published this date.....		6,700	10	2
1890.				
Nov. 29. To Charges at Port Arthur during the year		242	9	0
" Charges at Liverpool—				
" Salaries, office rent, rates and taxes, printing, stationery, cables, postages and law costs.....		389	18	5
" Helena mine—legal expenses.....		19	5	4
" Donation to Capt. Trethewey and Mr. Blyth		41	13	4
		<u>£7,393 16 3</u>		
1890.				
Nov. 29. To Balance.....		£6,632	8	0

SHUNIAH WEACHU MINE.—Continued.

REVENUE ACCOUNT—Continued.

Cr.

Nov. 29. By interest and exchange account, including dividends on investments	£ 494 12 2
“ Profit on sale of stores at the mine	246 13 7
“ Transfer fees.....	20 2 6
“ Balance.....	6,632 8 0
	<u>£7,393 16 3</u>

In 1891, the force was reduced to 18 men. No. 3 shaft, 800 ft.; No. 4 shaft, 190 ft.; No. 5 shaft, 42 ft.

Mine Manager: A. L. McEwan, Port Arthur, Ont.

SILVER CENTRE MINING CO. OF ONTARIO, Ltd.

Incorporated 20th June, 1890. Nominal Capital Stock, \$300,000, in shares of \$10 each. Of the \$300,000 Capital Stock, \$200,000 have been allotted to the owners of the location R 64 in consideration of conveyance of same to the company.

Directors:

John Flett, <i>President</i> ,	
Lt.-Col. G. A. Shaw, Henry Lowndes, S. C. Duncan Clark, Robert McClain,	S. J. Dawson, O. A. Howland, R. Caddick, George Dunstan,
Thomas Claxton.	

Head Office: W. H. Hunter, *Secretary*, 37 Richmond St., Toronto, Ont.

Formed to acquire, work, and further develop mineral lands in the Province of Ontario, more particularly mining location R 64, in the township of Lybster, in the district of Thunder Bay. The property contains 160 acres freehold, situated in the Silver Mountain region of Thunder Bay district, and is within 40 miles of Port Arthur, the head of navigation on Lake Superior. It is about a mile from the Port Arthur, Duluth & Western Railway, which is in course of construction from Port Arthur westward, and will soon be completed as far as Silver Mountain; it is well watered and contains an abundance of timber suitable for mining operations. The government waggon road passes through the location. Not worked in 1891.

SILVER QUEEN MINING CO., Ltd.

Incorporated 1892. Authorized Capital, \$1,000,000.

Directors:

William Dalby,	
Fred J. Claxton,	Dr. J. M. Lefevre.

Head Office: William Dalby, *Victoria, B.C.*

Formed to take over all the benefits, and to perform the covenants contained in an agreement dated at Montreal 17th December, 1891, made between J. E. Boss, of Spokane, Wash., on the one part and G. W. Stephens, John Popham and E. L. Bond, all of Montreal, referring to the purchase of the "Silver Queen Mining Claim" located on Toad Mountain, in the Kootenay district, Province of British Columbia; to carry on the business of mining in all that pertains thereto, etc. Company just formed.

SILVER WOLVERINE CO., Ltd.

W. E. Pearce, Secretary, 145 Cannon Street, London, E. C.

Under a winding up order made against this company on June 6th, 1891, the secretary submitted a statement which showed, as regards contributions, a deficiency of £68,156, and as regards creditors, an estimated surplus of £208, subject to cost of liquidation. The official receiver, Mr. C. J. Stewart, states that the company was registered on October 19th, 1888, and was formed for the purpose of acquiring and developing the Wolverine silver mine, situate in the Province of Ontario. By an agreement dated January 21st, 1889, the company acquired the property from Mr. H. E. Winter (one of the promoters of the company), the purchase price being fixed at £60,000, payable as to £1,230 in cash, and as to the balance in fully paid-up shares. The property was reported upon by mining experts and others, whose reports and assays were referred to in the prospectus issued by the company. The company commenced operations at the mines in January, 1889. Trial shafts were sunk, and the development of the property proceeded with until May, 1890, when the company appears to have fallen short of working capital, owing, it is alleged, to the non-payment of calls in arrear to a heavy amount, and instructions were sent to Canada to shut down the mine by the end of that month. The mine superintendent, it is stated, did not quit the property until August, 1890; but prior to that date judgment creditors in Canada (who are, for want of any information on the subject, returned in the statement amongst the unsecured creditors) seized and disposed of all the plant and machinery at the mines. The insolvency of the company is attributed by the secretary to insufficiency of working capital, and to operations at the mines, so far as continued, proving unremunerative.

SLOUGH CREEK MINING CO.

Incorporated under the laws of the State of Washington, in January, 1892. Authorized Capital, \$500,000, divided into 500,000 shares of a value of \$1 each.

Directors :

W. H. Fife, <i>President</i> ,	
W. J. Magee, Hon. Henry Drum, Hon. John Grant,	J. D. Caughran, E. N. Ouimette, Charles Ramos.

Head Office : Hon. Henry Drum, Secretary, Fife Block, cor. 9th Street and Pacific Ave., Tacoma, Wash., U.S.A.

Formed for the purpose of acquiring and developing mines, principally the auriferous alluvial deposits in the Cariboo district, Province of British Columbia. The company controls a fifteen-years' lease of a grant from the local Government, embracing an area three miles in length, by one-half mile in width, of the bed or valley of Slough Creek. The company proposes to work the claim extensively, by the hydraulic jetting process, in 1892.

Superintendent : Charles Ramos.

SOUTH FORK OF QUESNELLE HYDRAULIC MINING CO.

A private company, consisting of the following :

Shareholders.

Wm. Stephenson,	
J. K. Barker, G. A. Veith,	Thomas Barton, W. Polleys,
A. Burrell.	

SOUTH FORK OF QUESNELLE HYDRAULIC MINING CO.—Continued.

Head Office : J. K. Barker, Superintendent, Forks Quesnelle, Cariboo, B.C.

This company holds under lease from the Crown for a period of ten years a hill claim, in extent $\frac{1}{2}$ mile x 1,000 feet, and situate on the South Fork Quesnelle, in the district of Cariboo, Province of British Columbia. Six men employed.

SOUTH UNIACKE GOLD MINING CO.

Organized, 1892. A private company as follows :

Owners :

George E. Forsyth, Halifax, N.S.,
A. A. Hayward, Waverley, N.S., | J. H. Austen, Halifax, N.S.

Head Office : 124 Hollis St., Halifax, N.S.

This company controls some 60 gold areas at South Uniacke, in the county of Hants, Province of Nova Scotia. Mine situate about 1 mile from South Uniacke siding on the line of the Windsor and Annapolis railway. Adjoins the Thompson and Quirk property, returns from which are published elsewhere in this issue. Work to be begun in spring of 1892.

SPOKANE AND GREAT NORTHERN MINING CO.

Incorporated under the laws of the State of Washington, 1892. Authorized Capital, \$2,000,000.

Directors :

H. C. Walters, *President*,
A. B. Keeler, | H. M. Hoyt,
Chester F. Lee.

Head Office : H. M. Hoyt, Secretary, (P. O. Box, 1318), Spokane, Wash.

Manager : Chester F. Lee.

Formed to operate in the Pacific North-West. The company owns three gold claims known as the "Ready Bullion," "Mountain Chief" and "Non Such;" four silver claims known as "No. 8," "Stanton," "Ellensburgh," and "Ophir," the whole situate on Boundary Creek, in the Osoyos division, Yale district, Province of British Columbia. It also controls a half interest in the "Valley View," at Fairview camp, as well as 160 acres of placer ground in same district. These properties being only acquired in the end of 1891, no active work has yet been done by the company, but it is its intention to start in the spring operations on the "Non Such," and "Ready Bullion," and to develop the placer ground with a bed rock flume. A 5 stamp-mill will be erected on Boundary Creek.

STADACONA SILVER-COPPER MINING CO.

Incorporated 1891. Authorized Capital, \$100,000.

Directors :

Wm. Wilson, *President*,
John Grant, | F. J. Claxton,
P. C. Dunlevy, | W. H. Ellis,

STADACONA SILVER-COPPER MINING CO.—Continued.

Head Office : F. J. Claxton, Secretary, Victoria, B.C.

Manager : J. E. Boss, Nelson, B.C. (resides Spokane, Washington, U.S.A.)

This company owns and operates the "Grizzly Bear" mining claim, located on Toad Mountain in the Kootenay district, Province of British Columbia. Writing under date of 17th November, 1891, Mr. Boss says : "We have a force of men now at work developing the property by running a tunnel on the vein, which is now in about 170 ft., and will be run about 430 ft. further in order to reach our west end line. When this tunnel is completed it will give us a depth of 250 ft. and 200 ft. of stoping ground under the old workings, which are located about 100 ft. on the vein from the west end of the claim. We have taken out considerable ore in sinking a shaft which is 60 ft. deep and which we are now cross-cutting on the vein at the bottom. The ore is the same in character and value as that of the "Silver King." The first-class ore will run about 200 oz. in silver, and from 18% to 20% in copper, and the second-class, 80 oz. in silver and from 10% to 15% in copper. The ore bodies average from 4 to 5 ft. of this character of ore. When we complete our tunnel and make the uprise we will have one of the largest producing properties of silver-copper ore in the Kootenay country." Ten men employed in winter of 1891-2.

Mine Superintendent : John Robertson, Nelson, B.C.

STANDARD ASBESTOS CO., Ltd.

Incorporated October, 1890. Authorized Capital, \$100,000, divided into 100 shares of \$100 each.

Directors :

Hon. J. E. Campbell, Hamilton, Ohio,	|	D. Ufford Jennings, New York,
F. J. Falding, Sherbrooke, Que.,	|	R. H. Martin, Brooklyn, N.Y.

Head Office : D. U. Jennings, Secretary, 29 Broadway, New York.

Formed to acquire by purchase, lease, location or otherwise, and hold asbestos and other mineral lands, locations, mining rights, limits or any interest therein ; or lands supposed to contain minerals or any interest therein ; to sell, lease or otherwise dispose of the same ; to explore, mine, work or otherwise develop the resources of such lands, or other lands, whether belonging to the company or not ; to crush, smelt and reduce and amalgamate the minerals, and otherwise render marketable the product, and sell and transport the same ; to construct, purchase, lease, or otherwise acquire and hold and operate all buildings, machinery, plant, barges, vessels, boats, tramways, roads, docks and other buildings and works which the company may deem suitable or necessary for such operations. The property acquired contains 200 acres, and is situate in the township of Elzevir, in the county of Hastings, in the Province of Ontario. Operations had not been begun at 1st November, 1891.

STANDARD GOLD CO.

(See also Oldham Gold Company).

Organized 1891. A private company consisting of the following :

Owners :

John E. Hardman, M.E., Oldham, N.S.,	|	Frederick Taylor, Lowell, Mass.
--------------------------------------	--	---------------------------------

Head Office : John E. Hardman, M.E., Oldham, Nova Scotia.

This company holds a property containing 384 gold areas, situate in the district of Oldham, Halifax county, Province of Nova Scotia. Mines situate about three miles

STANDARD GOLD CO.—Continued.

from Enfield station on the main line of the I.C. Railway. Property operated since 1884. East shaft (Dunbrack lode), 407 feet; main shaft, 480 feet, connected with East shaft by 450' and 350' levels. Levels have been driven for over 2,300' on the vein. Aggregate openings 4,000 feet. Average persons employed 25. Plant comprises: steam winding engine, 15 h.p., cylinder 9 x 8, drum 36 x 30; Rand compressor operating two drills; one pumping engine operating 5" Cornish pump. Quartz is crushed by contract with the Oldham Gold Co. at its mill.

STANDARD OIL AND GAS CO. OF ONTARIO.

Incorporated 1890. Authorized Capital Stock, \$1,000,000, divided into 10,000 shares of \$100 each.

Directors:

James Barker,

Elijah K. Barnsdale,
Wm. Smith Dingman,
James Hodd,
James Pitt Mabee,
James John Stock,
Andrew Waddell,

Andrew Jackson Clarke,
James Dow,
Edward J. Kneith,
William Mowat,
John Trow,
Benjamin Franklin Youngs.

Head Office: Alex. Dow, Secretary, 19 Wellington Street, Stratford, Ont.

Formed to acquire the right to bore or dig for natural gas, petroleum, or other mineral substances, etc. The company at 15th December, 1890, held under lease between five and six thousand acres of land at, or near, the town of Stratford, in the Province of Ontario. Not fully organized December, 1890. No report received for 1891.

STANLEY COAL CO.

A private company, consisting of the following:—

Owners:

J. A. Dickey, C.E.,
James S. Hickman, Amherst, N.S., | E. N. Sharp, Amherst, N.S.

Head Office: E. N. Sharp, Amherst, N.S.

This company holds some fifteen square miles of coal areas under license at Stanley, Cumberland county, in the Province of Nova Scotia. The seams are (ir. descending order), 9 feet, 6 feet, 3 feet 6 inches, 5 feet 4 inches, and 2 feet 8 inches thick. Since publication of last issue, the secretary reports the discovery of the outcrops of three other seams, the thickness of which had not been determined at date of writing.

STANLEY GOLD MINING CO., Ltd.

Incorporated 23rd August, 1890. Capital Stock, \$40,000, in 400 shares of \$100 each, of which, to 1st September, 1890, 200 shares of a value of \$20,000 had been subscribed and paid up as follows:—

John Bryson, of Fort Coulonge.	70 shares.
John McDougald, of Westville, N.S.	80 "
Duncan McGregor, of Westville, N.S.	15 "
James W. Bryson, of Fort Coulonge.	20 "
Robert Maxwell, of Westville, N.S.	5 "
Duncan McCuaig, of Fifteen Mile Stream.	10 "

STANLEY GOLD MINING CO.—Continued.

Directors :

John Bryson, M.P., Fort Coulonge, Que.,
John McDougald, M.P., Westville, N.S. | Duncan McGregor, Westville, N.S.

Head Office : Westville, Pictou County, N.S.

Objects : (a). Acquiring, holding, working, mining, leasing, selling and conveying any mines or natural deposits of gold, or gold-bearing rock, ore or earth at Fifteen Mile Stream gold district, in the county of Halifax, and elsewhere in Nova Scotia, and any gold mining rights or licenses prospecting or otherwise, in, upon, or over, any portion of said Province. Official returns are as follows : 1890, 549 tons rock crushed, yielding 121 ounces 13 dwt. 8 grs. gold; 1891, 572 tons rock crushed, yielding 98 dwt. 3 grs. 25 men employed in 1890, but force reduced and little or nothing done in 1891. Equipped with 10-stamp mill (water power); steam hoisting and pumping gear and other plant.

Mine Superintendent : Geo. Herschfield, Fifteen-Mile Stream, Halifax Co., N.S.

STEADMAN QUARTZ MINING CO., Ltd.

Incorporated 16th December, 1886. Authorized Capital, \$200,000, divided into 200,000 shares of a value of \$1 each.

Directors :

Hon. James Reid,
J. H. St. Laurent, | Joseph Mason,
W. A. Johnston, | P. C. Dunlevy.

Head Office : W. A. Johnston, Secretary, Quesnelle, B.C.

Formed to acquire and work lodes or veins of gold and other minerals in the Province of British Columbia. Company owns a mineral claim 1,500 by 600 feet in extent. No work done in 1890, pending negotiations with an English syndicate to whom it has been bonded. Writing under date of 30th May, 1891, the secretary says: "Our geographical position is very much against the development of the mines (which are believed to be paying ones), owing to the distance from railway facilities and consequent cost of machinery required to prove their worth."

STEVESTON NATURAL GAS & DEVELOPMENT CO.

Incorporated 1891. Authorized Capital, \$50,000 in 500 shares of a value of \$100 each.

Directors :

W. H. Steves,
A. M. Beattie, | H. F. Keefer,
J. W. Vaughan, | D. McGillivray,

Head Office : J. W. Vaughan, C.E., Vancouver, B.C.

Formed with power to dig, bore and mine in and about the townsite of Steveston at the mouth of the Fraser River and elsewhere in the Province of British Columbia. A number of test holes to a depth of 50 feet have been put down, but no systematic drilling for gas has been done yet pending reports upon the venture.

STRAIGHT LAKE MINING CO.

Incorporated 11th November, 1891. Authorized Capital, \$300,000, in shares of \$5.

Directors :

W. B. McMurrich, Q.C., <i>President</i> ,	
James Todhunter,	Dr. A. R. Gordon,
W. D. Wilson,	Dr. T. H. Graham,
John Bruce,	W. S. Tennant.

Head Office : Harry Vigeon, Sec.-Treas., 15 King Street West, Toronto.

*Formed for the purpose of carrying on mining operations in the district of Algoma in the vicinity of Straight Lake and elsewhere, in the Province of Ontario. The property owned is known as lot IX in the 6th concession, township of Moncrieff, 155½ acres in extent. Operations to be commenced in spring of 1892.

STYLES MINING CO., Ltd.

Incorporated 1874. Capital Stock, \$500,000, divided into shares of \$50 each, of which to date \$300,000 has been subscribed and paid up.

Directors :

Lt.-Col. Chas. J. Stewart, <i>President</i> , Halifax, N.S.,	
Hon. Judge Townshend, Halifax, N.S.,	J. S. Hickman, Amherst, N.S.,
J. Robson Lamy, Amherst, N.S.	

Head Office : J. N. Sharp (Interim Sec.), Amherst, N.S.

This company holds under lease some five square miles of coal areas at Stanley, Cumberland county, Province of Nova Scotia. Mr. John Rutherford, formerly Inspector of Mines for the Province, reports on the property as follows:—

“With respect to the seams of coal on the Styles property, as I have personally examined those that have been opened, I can speak with confidence as regards their general character. I have subjected the coal from two of the seams to practical test, and I find the quality of the coal excellent. It possesses great heating properties, is fairly free from sulphur, leaves a reddish ash of moderate proportion, and can be worked of merchantable size. Another feature of importance in view of the prospective development of the iron industry in Nova Scotia, is its adaptation to the production of coke. I submitted some of the coal to experimental trial in a coke oven, and I was pleased to have, as a result, a clean, compact and strong-looking coke.” Present depth of shafts: Robinson, 70 ft. vertical; Robinson Slope, 137 ft.; West Slope, 140 ft.; Levels, 350 ft. in aggregate. About 400 tons raised to date. Colliery not in operation in 1890.

SUDBURY CUSTOMS SMELTING CO., Ltd.

Incorporated 1892, under the laws of the Province of Ontario. Authorized Capital, \$75,000, in 7,500 shares of a value of \$10 each.

Directors :

James Conmee, M.P.P., <i>President</i> ,	
A. J. Macdonnell,	A. Merry,
James Stobie,	W. J. Skynner.

Head Office : W. J. Skynner, Secretary, Sudbury, Ont.

Formed to erect and operate a customs smelter or smelters at or near Sudbury, Ont.; to mine and smelt nickel and copper ores, etc. Just organized.

SUDBURY MINING CO., Ltd.

Incorporated 28th December, 1888. Capital Stock, \$100,000, in 10,000 shares of \$10 each, payable 25% on allotment, 25% in thirty days, and balance on call of not less than thirty days.

Directors:

Joseph Couzens, Sault St. Marie, Ont.,	
Robert McClain, Toronto,	Alexander Mackie, Toronto,
George Dunstan, Toronto,	Lt.-Col. G. A. Shaw, Toronto.

Head Office: Geo. Dunstan, Sec.-Treasurer, 104 Bay St., Toronto, Ont.

Formed to acquire and work the north half of lot 6, 3rd concession, township of Denison, in the Province of Ontario, consisting of 160 acres. Some prospecting was done in 1889, but no active mining operations were in force in 1890 or 1891.

SUDBURY NICKEL CO.

Incorporated 1891. Authorized Capital, \$50,000, in shares of \$50.

Directors:

J. Wright, Toronto, Ont.	
G. S. Crawford,	W. M. Richards,
W. M. Richards,	A. B. Cameron,
W. S. McK. Lindsey.	

Head Office: A. B. Cameron, Secretary, Toronto, Ont.

Formed to explore and work nickel and other minerals in the Province of Ontario. Not in operation 1891.

SYDENHAM MICA AND MINING CO.

Incorporated 10th May, 1889. Capital Stock, \$250,000.

Directors:

Isaiah Smith, Sydenham, Ont., <i>President</i> ,	
J. P. Lacey, Sydenham, Ont.,	J. L. Armitage, Newark, N.J.,
Dr. R. L. Burrage, Newark, N.J.,	H. S. Dunn, Newark, N.J.

Head Office: Jonathan P. Lacey, Sec.-Treas., Sydenham, Ont.

This company acquired the mineral properties formerly owned and operated by Messrs. Isaiah Smith & Co., of Sydenham, and now carry on the business of miners, shippers and dealers in mica, phosphate and other minerals. The company operates the Eel Lake and other mines in the township of Loughboro, Ont. Men employed at mines and works, from 20 to 30.

SYDNEY AND LOUISBURG COAL AND RY. CO. Ltd.

Registered 13th April, 1880. The Capital consists of £50,000, in 10 per cent. cumulative first preference shares of £10, with £30,000, or £6 per share called up; £14,560 in fully paid 6 per cent. non-cumulative second preference shares of £10; and £250,000 in fully paid ordinary shares of £10. After the full preferential dividends have been paid, two thirds of the balance of net profits are to go to the ordinary shareholders, and one third to the first preference shareholders. Out of the accumulated net earnings to 31st December, 1883, the arrear dividend on the

SYDNEY AND LOUISBURG COAL AND RY. CO.—Continued.

first preference shares to 31st December, 1882, was paid; out of the net profits of 1884, one half year's dividend on the first preference capital was paid; for the next four years there was no dividend; in respect of 1889, 15 per cent. was paid on the first preference shares, and for 1890, ten per cent.

Directors :

G. W. Medley, *Chairman*,
J. G. Mills, | C. J. Russell.

Head Office :

W. Roland Hart, Secretary, 43 Lothbury, London, E.C.

CANADIAN OFFICE :

D. J. Kennelly, General Manager, Sydney, C.B., N.S.

Formed to take over the property of the Cape Breton Company, Limited, (registered 20th November, 1873), and to carry on the business of mine and coal owners, etc. At date the company holds under lease, and otherwise, an area containing sixteen square miles of coal lands, near Sydney, in the county of Cape Breton, Province of Nova Scotia, upon which are situated the "Schooner Pond," "Lorway," and "Emery" collieries.

Reserve Colliery—Situated at Bridgeport Basin, two and one half miles from Glace Bay; average yearly output, 131,000 tons; 153 persons employed. Thomas Fletcher, *Underground Manager*.

Phalen seam, averages 8ft. 8in.; dip, 1 in 13; worked by two slopes, of which the "Main" is 1,782 ft., and the "French," 3,498 ft. long; vertical depth about 257 ft.

System of working—Pillar and room.

Ventilation—By furnace.

Lamps in use—Beckett.

Hoisting engines—Two winding engines 22in. cyl., 3½ft. stroke; geared 2:1; drum, 4ft. dia.

Pumps—One pumping engine, 15in. cyl., 8in. water cyl., 24in. stroke; one Cameron pump, 14in. steam cyl., 8in. water cylinder, 18in. stroke.

Boilers—Nine boilers 3ft. dia., 30ft. long, flash flues.

Screens—Three in use, 20ft. long.

Compressors—One 20 x 30 piston inlet Ingersoll compressor, with a capacity for twelve Sergeant coal cutters; eight Sergeant coal mining machines; two Sergeant coal drills, complete with augers and attachments, and a complete plant in the shape of boilers, air receivers, piping, etc.

Emery Colliery—Situate between the Lorway and Reserve mines; output for seven months working in 1891, amounted to 47,414 tons; 81 men and 17 boys employed. Samuel Lee, *Underground Manager*.

Ross seam worked, averages 5ft.; dip, 1 in 12; shaft, 80ft. deep.

System of working—Pillar and room.

Ventilation—Natural.

Lamps in use—Beckett.

Winding engine—One engine, 2 levelling cyls., 15in. stroke, 3:1 running.

Pumps—One No. 6 Cameron, long stroke; one No. 5, long stroke; one No. 4.

Boilers—Three, 3ft. dia., 32ft. long.

Screens—Two, each 20ft. long, by 6ft. wide.

SYDNEY AND LOUISBURG COAL AND RY. CO.—Continued.

Coal Sales 1889.

	<i>All Grades.</i>
To Nova Scotia.....	17,630 tons.
“ New Brunswick.....	1,982 “
“ Prince Edward Island.....	2,885 “
“ Quebec.....	60,570 “
“ Newfoundland.....	6,539 “
“ United States.....	6,072 “
“ Other ports.....	12,978 “
“ Colliery employees and engines.....	12,710 “

Total sales 1889..... 121,966 tons.

Coal Sales 1890.

	Round.	Slack.
	Tons.	Tons.
To New Brunswick.....	4,466	100
“ Newfoundland.....	4,893	7
“ Nova Scotia and Cape Breton.....	16,300	3,146
“ Prince Edward Island.....	4	172
“ Quebec.....	73,483	14,113
“ Other countries.....	3,942	.....
“ Bunker steamers.....	19,151	.....
“ Colliery employees.....	60	3,271

Total sales 1890..... 122,299 20,809

Coal Sales 1891.

	Round.	Slack.
	Tons.	Tons.
To New Brunswick.....	7,565	.....
“ Newfoundland.....	3,249	8
“ Nova Scotia.....	16,702	3,368
“ Prince Edward Island.....	324	40
“ Quebec.....	92,285	16,934
“ St. Pierre Miquelon.....	94	.....
“ United States.....	1,776	.....
“ Bunker steamers.....	12,311	.....
“ Colliery employees.....	75	4,054
“ Colliery consumption.....	3,602	7,245

137,983 31,649

Excerpts from Directors' Report 1891.

“The increase in the company's business necessitated considerable outlays. The Emery mine has been opened up; mining rights over a large additional area have been acquired; a house at Sydney for the agent and manager, and several miners' houses, have been erected; one new locomotive and fifty new coal cars have been bought, while the railway, the pier at Sydney, and the general plant have been put into good working order.

“The directors are glad to be able to report that the year's working shows a substantial increase over that of 1889. Owing, however, to the above disbursements (a large portion of which has been debited to revenue) only £1,715 9s. 6d. is carried to profit and loss account, instead of £3,618 18s. 2d. in 1889.”

BALANCE SHEET ON 31ST DECEMBER, 1890.

	Dr.	£	s.	d.	£	s.	d.
To CAPITAL—							
5,000 first preference shares of £10 each.....		50,000	0	0			
Less £4 per share not called.....		20,000	0	0			
		—————			30,000	0	0

SYDNEY AND LOUISBURG COAL AND RY. CO.—Continued.

Brought forward	£30,000	0			
NOTE—Interest on these shares to 31st of Dec.,					
1885, amounts to.....	£3,000				
Ditto ditto to 31st Dec., 1886.....	3,000				
Ditto ditto to 31st Dec., 1887.....	3,000				
Ditto ditto to 31st Dec., 1888.....	3,000				
Ditto ditto to 31st Dec., 1889.....	3,000				
Ditto ditto to 31st Dec., 1890.....	3,000				
1,477 second preference shares of £10 each	14,770	0	0		
21 not issued	210	0	0		
				14,560 0 0	
<u>1,456</u>					
25,000 ordinary shares of £10 each, fully paid. .				250,000 0 0	
				£294,560 0 0	
Sundry creditors				1,790 0 2	
Dividend warrants unclaimed.....				21 13 7	
Profit and Loss Account—					
Balance at 31st Dec., 1889.....	4,839	5	2		
Less dividend paid.....	3,000	0	0		
	£1,839	5	2		
Balance from Revenue Account.....	1,715	9	6		
				3,554 14 8	
				<u>£299,926 8 5</u>	
	Cr.	£	s. d.	£	s. d.
By Property Account.....		290,875	15 3		
Less depreciation.....		1,762	3 5		
				289,113	11 10
“ Expenses of opening up Emery new mine.....		2,535	11 8		
Less one-third written off.....		845	4 0		
				1,690	7 8
“ Stores in the warehouse unused.....				1,812	4 2
“ Oats and hay on hand				317	0 1
“ Lumber on hand.....				367	1 5
“ Coal on hand.....				302	5 0
“ Sundry debtors.....				658	8 0
“ Fire insurance unexpired.....				100	0 0
“ Office furniture, London.....				30	0 0
“ Cash at bank and in hand.....				2,410	10 3
“ Bills receivable at Sydney.....				3,125	0 0
				<u>£299,926 8 5</u>	
REVENUE ACCOUNT, 1ST JANUARY TO 31ST DECEMBER, 1890.					
	Dr.			£	s. d.
To Coal on hand at 1st January, 1890.....				319	14 6
“ Colliery and railway expenses and royalty.....				37,435	17 4
“ General expenses, Cape Breton.....				2,946	8 1
“ General expenses, London, viz.:—					
Directors' fees		£600	0 0		
Salaries.....		175	0 0		
Rent of offices		24	0 0		
Audit fee.....		21	0 0		
Telegrams and petties....		36	10 8		
Carried forward		£856	10	8£40,701	19 11

SYDNEY AND LOUISBURG COAL AND RY. CO.—Continued,

<i>Brought forward</i>		£856	10	8	£40,701	19	11
To General Expenses, London—Continued.							
Printing and stationery.....		29	2	6			
Law costs.....		26	13	2			
Income tax.....		0	6	6			
				912 12 10			
“ Depreciation on office furniture, London.....			10	0	0		
“ Depreciation on property.....			1,762	3	5		
“ Balance to Balance Sheet.....			1,715	9	6		

£45,102 5 8

Cr.

By Coal account.....		£	s.	d.
“ Goods traffic receipts.....	43,476	18	2	
“ Passenger traffic receipts.....	99	15	4	
“ Rents.....	298	2	0	
“ Pier and shipping charges.....	396	6	1	
“ Transfer fees.....	104	0	6	
“ Interest.....	3	0	0	
“ Balance of amount recovered on claim against an official of the company.....	98	18	3	
“ Coal on hand at 31st December, 1890.....	323	0	4	
	302	5	0	

£45,102 5 8

TEMPLETON ASBESTOS MINING CO., Ltd.

Registered 1891. Authorized Capital, £25,390 stg., in 2,500 ordinary shares of £10, and 390 founders' shares of £1.

First Subscribers:

R. Wissmann, Dulwich, England,	
J. Werner, Richmond, England,	C. Koenig, London, England,
C. R. Hammer, London, England.	H. Meyer, London, England.
E. Schwaste, London, England,	M. J. Rikoff, London, England.

Canadian Office: C. Circkel, Resident Engineer and Manager, East Templeton, Que. (Perkins Village P.O.)

Formed to acquire asbestos mines, mining rights and land containing, or likely to contain, asbestos, in the township of Templeton, county of Ottawa, Province of Quebec; and with a view thereto to carry into effect an agreement made between Carl Koenig and the company. An average force of 25 men employed in 1891. At the first ordinary general meeting of the company, held in 1891, the chairman, Mr. R. Wissmann, said that their policy was to spend as little money as possible before a mature plan of working could be formed, and only machinery absolutely necessary had been ordered. All their expenses in Canada, including machinery, rails, trucks and two large boilers, amounted up to date to about £1,200, while the London expenses were practically nil. The asbestos raised had been described as magnificent, and the serpentine on the property was of a specially pure character, and it was estimated that there would be a profit of £3 per ton on this after paying for grinding, packing and freight to London. Mr. Circkel, their engineer, said in his report that he would not commit himself to the statement that asbestos existed in paying quantities, but they had received a cable from him which was of a satisfactory nature. They now awaited his detailed report before sanctioning the further expenditure of £2,000 on machinery. Replying to shareholders, the chairman said they had a good deal more than sufficient money to buy the machinery. All the purchase money had been paid, and they had money safe in the bank in Montreal.

TEMPLETON AND NORTH OTTAWA MINING CO., Ltd.

Registered 14th June, 1888. Authorized Capital, £50,000, in shares of £10 each.

Directors :

J. Blackwood Greenshields, George Moffatt, J. J. Greenshields, A. T. Paterson,	|	Wm. Smith, James A. Gillespie, E. S. Clouston.
---	--	--

Head Office :

Messrs. Wm. Smith & Co., 10 Corn St., Bristol, England.

CANADIAN OFFICE :

A. T. Paterson, St. Francois Xavier St., Montreal, Que.

Formed for the purpose of adopting an agreement between Wm. Smith & Co., of the first part, the Bank of Montreal of the third part, and the Templeton and North Ottawa Mining Co. of the fourth part; for the purpose of acquiring phosphate lands in the Templeton district, Ottawa county, in the Province of Quebec, in all 3,748 acres in extent. The consideration for the property was £25,000, in fully paid shares. In 1886 steam machinery was introduced at the "Sheppard Pit," lot 8, in 10th range, and mining carried on for about 16 months. During that period 574 tons of phosphate were raised, a large proportion of which showed high test, but the want of more efficient management being felt, and the proprietors being engaged in other lines of business, which prevented their personal attention to the work, it was deemed advisable to suspend operations.

TENNYCAPE MANGANESE CO.

Incorporated by an Act of the Legislature of Nova Scotia passed 15th April, 1890.
Authorized Capital, \$200,000, in 200,000 shares of \$1 each.

Head Office : Tennycape, Hants County, N.S.

Formed to prospect and work manganese at Tennycape, in the county of Hants and elsewhere in the Province of Nova Scotia. No particulars obtainable.

TEXADA GOLD AND SILVER MINING CO.

Directors :

Joseph W. Stirton, <i>President</i> , Nanaimo, B.C., Alfred Raper, Nanaimo, B.C.,	|	E. A. Praeger, M.D., Nanaimo, B.C., Elijah Priest, C.E., Nanaimo, B.C.,
--	--	--

Head Office : Alfred Raper, Secretary, Box 21, Nanaimo, B.C.

This company's property consists of 800 acres of land, on Texada Island, B.C. The property adjoins the well known Puget Sound iron mine, and contains veins of silver, copper, gold and other ores. Limestone and black marble of a superior quality is also found thereon. A small force being employed.

Mine Superintendent : Elijah Priest, C.E., Texada Island, B.C.

TEXADA LIME CO.

Incorporated 9th July, 1889. Authorized Capital, \$20,000, divided into 400 shares of a value of \$50 each.

Directors :

Thomas H. Lee,
Donald Menzies, | Robt. Mathison, jr.

Head Office : Thos. H. Lee, Vancouver, B.C.

Formed to erect and maintain kilns, wharves and store-houses on Texada Island ; and to quarry lime, stone, and the making, composing, preparing, selling and disposing of lime and cement, etc. Property situate on the N.W. end of Texada Island in the Province of British Columbia. The output in 1890 was 6,000 bbls. of lime ; an average force of twelve men employed.

THETFORD ASBESTOS MINING CO.

Incorporated March, 1889, under Letters Patent from the Government of the Province of Quebec. Capital Stock, \$200,000, in shares of \$100 each, fully subscribed and paid up.

Directors :

A. H. Murphy, Montreal, Que.,
W. S. Patterson, Montreal, | George Irvine, Quebec,
J. T. Wilson, Montreal, | J. C. Eno, Quebec.

Head Office : Thetford, Que.

The company owns lots 30 and 31 in range A, lot 32 in range B, and lot 28 in the 6th range, all in the township of Coleraine, Province of Quebec, in all about 500 acres of mineral bearing lands.

THOMPSON AND QUIRK GOLD CO.

A private company, organized to work certain gold areas at South Uniacke, in the county of Hants, Province of Nova Scotia. Official returns of the gold yield from October, 1889, to 31st December, 1891, report 3,201 ounces 15 dwt. gold from 298 tons rock crushed. A small force employed.

THUNDER BAY LAND AND MINING CO.

Incorporated under Letters Patent from the Ontario Government 11th December, 1883. Capital Stock, \$40,000 in shares of \$1 each, of which \$37,512 has been subscribed and paid up.

Directors :

Hon. Geo. A. Drummond, Montreal, *President*,
Francis Stephen, | Lord Mount Stephen,
Sir Donald A. Smith, | John Turnbull,

Head Office : Ottawa, Ont.; Robt. Turnbull, Secretary, P. O. Drawer 2,132, Montreal.

This company owns some 1,700 acres of mineral lands in the Thunder Bay district in the Province of Ontario, formerly the property of the Thunder Bay Silver Mining

THUNDER BAY LAND AND MINING CO.—Continued.

Company, and worked by them for several years. A considerable amount of capital was spent on plant and buildings during a period when no railway communication existed, but the promoters evidently became discouraged, for they abandoned operations before the property was to any extent developed. The present owners, who were also in the first company, are now seeking a purchaser for the property, and no mining operations are at present going on.

TILT COVE COPPER CO., Ltd.

Registered 4th April, 1888. Authorized Capital, £200,000, in shares of £2, £160,000 being ordinary, and the balance 10 per cent. preference. All the ordinary and £13,478 preference, have been issued and paid. There are also 5½ per cent. debentures for £80,000, redeemable only at the option of the company. In 1888-9 there was a deficit, after providing for debenture interest of £15,575, and in 1889-90, this debit was increased to £25,991. In June, 1890, the properties were leased for 99 years to the Cape Copper Company, Limited, at a rental of £4,400 per annum—sufficient to cover the debenture charges—the Cape Copper Co. having power to determine the lease at any time on giving twelve months' notice. The Cape Copper Co. were to advance £15,000 by way of loan to the Tilt Cove company at 5 per cent. interest, and the whole of this amount has been paid; the loan is to be repaid out of profits, surplus profits thereafter to be divided equally between the two companies.

Directors :

Thomas Cory,
J. R. Francis,

J. C. Leaver,
John Reeves,

John Taylor,
Col. J. W. Young.

Head Office :

E. C. Leaver, Secretary, 9 Queen Street Place, Upper Thames Street, London, E.C.

NEWFOUNDLAND OFFICE :

W. R. Toms, Tilt Cove, Newfoundland.

Formed to acquire certain copper and other mineral properties at Tilt Cove, Newfoundland. The following is excerpted from the annual report presented to the shareholders 29th April, 1891 :—

“Immediately upon the Cape Copper Company taking over the work, vigorous efforts were made to complete the erection of the smelting works which had already been started by this company, and to considerably extend them. The former work was so far effected as to permit of three furnaces getting to work late in the year, but the winter put a stop to further extension. Its completion will be, however, vigorously started directly the season re-opens.

“The result of the actual smelting operations has been delayed by the unusually severe winter which is now passing. The agent reports that at times the whole of the piles of ore in the calcining stalls and the coke piles were covered with fourteen feet of snow. The weather has lately improved, and the later telegrams received show at last a gratifying improvement in the operations. During the coming summer means will be adopted to obviate, by additional roofing and other appliances, the effects of the next winter weather.

“The general effect of the operations of the past year has been to prove the absolute necessity of good smelting, and at the same time to show that it is merely a question of time and the expenditure of sufficient capital to ensure successful results.

“It will be observed that Captain Toms considers the piles of dump ores as a valuable asset. These ores were accumulated by the old proprietors, and were chiefly from the pickings from the rich ores obtained from the old West Mine, the place then being quite unprovided with dressing machinery or smelting works to deal with such ores.

TILT COVE COPPER CO.—Continued.

“When making the arrangement with the Cape Copper Company these dump ores were reserved to this (the Tilt Cove Copper) Company. It is now found that they form a very desirable flux in treating the East Mine ores, but to what extent is not yet quite decided. Care will be taken that a fair price is obtained for these ores, as they are used from time to time; but inasmuch as this company is so largely interested in the Cape Copper Company bringing the smelting work to a successful issue, and in view of the difficulties which that company has to overcome in that department, your committee consider that it will be wise to treat the question of the charge for these ores in a generous spirit. At present their assay is not sufficiently proved to permit of the price being fixed.

“*East Mine.*—No particular change has taken place in the mining operations so far as the East Mine is concerned. The extent of the deposit can only be practically proved when the deep level (Bodens), now being driven 350 ft. below the present upper working, has reached a point to which a shaft should be sunk. The driving of this level has progressed with good speed, and will probably reach that point by the end of the present year.

“*West Mine.*—Work has been recommenced on this mine, but it is too early to form any opinion as to the probable results. Its upper workings, which were carried on by the old proprietors, were so valuable that it may be fairly hoped that the present operations will, within a reasonable time, develop further deposits of rich ore, and in the meantime there is little doubt that large supplies of ore of lower grade, but suitable for smelting, will be obtained in the workings carried on in searching for the richer parts of the mine.”

The following is from the report to the shareholders by W. R. Toms, chief mine agent, at Tilt Cove, under date of 10th November, 1890, being for the year's operations ended 31st March, 1890: “As you are aware, nearly all points of development were suspended at the end of March, 1889; our operations after that date being principally confined to stoping, which gave the following results:—

	Tons.	Cwt.	Tons.	Cwt.
1889. April 1st, Balance.....			19,808	10
April 30th, Output.....	3,854	0		
May “.....	2,925	0		
June “.....	2,903	0		
July “.....	3,063	0		
August “.....	2,642	0		
September “.....	2,782	0		
October “.....	2,586	0		
November “.....	2,210	0		
December “.....	2,431	0		
1890. January “.....	2,487	0		
February “.....	2,142	0		
March “.....	2,048	0		
			<u>32,073</u>	0
			<u>51,881</u>	10

Deliveries of Ore.

	Tons.	Cwt.
Ore delivered to Newfoundland Consol. Co. on account Tilt Cove Syndicate's contract.....	183	9
Deliveries to Calcination Ground.....	3,353	0
“ “ Newfoundland Consol. Co. on No. 1 contract, shipments to L. Bay.....	3,847	19
“ “ Newfoundland Consol. Co. on No. 2 contract at Tilt Cove.....	14,902	8
Amount picked out for waste.....	1,118	0
	<u>23,404</u>	16
Stock in hand 31st March, 1890.....	<u>28,476</u>	14

TILT COVE COPPER CO.—Continued.*Smelting.*

Ore smelted	2,992	10
Regulus produced	<u>1,143</u>	<u>5</u>

Shipments of Regulus.

1889.		
June 17.	Per "Carrie Harvey"	181 14
July 17.	" "Hetty"	174 12
" 30.	" "Hondekliip"	400 2
Oct. 16.	" "Cimbri"	225 14
" 17.	" "Richard Grieves"	188 13
Nov. 30.	" "Hondekliip"	391 0
		<u>1,561 15</u>

TORBROOK IRON CO., Ltd.

Incorporated by Act of the Legislature of Nova Scotia, assented to 19th May, 1891.
Authorized Capital, \$100,000, in 10,000 shares of \$10 each, with power to increase the same to \$250,000.

Directors:

Hon. Alexander Macfarlane, Wallace, N.S.,		
J. Medley Townshend, Amherst, N.S.	|	Charles Annand, Halifax,
Charles E. Stayner, Halifax,	|	Robert G. Leckie, Londonderry, N.S.

Head Office: Halifax, N.S.

TORONTO GRANITE CO.

Incorporated Sept., 1891. Authorized Capital, \$45,000, in 900 shares of \$50 each, of which, at date of last return, \$13,000 had been subscribed and \$10,000 paid.

Directors:

N. F. Anderson,	|	A. W. Anderson,	|	E. Van Zant,
A. Anderson,	|	H. Anderson.		

Head Office: N. F. Anderson, Secretary, 204 Jarvis Street, Toronto, Ont.

Formed to quarry, manufacture and deal in granite, etc. The property owned by the company consists of two lots (No. 4 and 5), at Oshawa, and one at the village of Flesherton, in the township of East Whitby, Province of Ontario. Small working force employed in 1891. Estimated value of machinery, buildings, etc., at last report \$3,000.

TORONTO MINING CO. OF SUGAR CREEK.

Head Office: Dr. Hugh Watt, Secretary, Barkerville, B.C.

Formed to acquire and work alluvial ground formerly owned and operated by the Sugar Creek Hydraulic Mining Company, and situate of Sugar Creek, in the district of Cariboo, in the Province of British Columbia. A small force employed.

Superintendent: Robert Wyllie, Sugar Creek, Cariboo, B.C.

TORONTO MINING ASSOCIATION, Ltd.

Incorporated 21st January, 1891. Authorized Capital, \$3,000 in 300 shares of a value of \$10 each.

Directors :

J. S. Lockie,	W. H. Lockhart Gordon,	C. S. Morris,	C. G. Richardson,
C. S. Gzowski, jr	T. D. Ledyard,	J. J. Gartshore,	A. S. Thompson.

Head Office : J. S. Lockie, Secretary, 59 Yonge Street, Toronto.

Formed to establish in the city of Toronto a centre of information on all matters pertaining to mining, from prospecting onwards, and a place where specimens may be received and examined, and such work done in connection therewith as may be required by prospectors, etc., etc.

TRURO MANGANESE CO.

Formerly known as the Montreal Manganese Mining Company ; reorganized and incorporated under the laws of New Brunswick in 1891. Authorized Capital, \$100,000.

Directors :

John H. Harding, St. John, N.B., <i>President</i> ,	
Hon. David McLellan, St. John,	H. T. Harding, Truro, N.S.,
William L. Busby, St. John,	Donald Archibald, Halifax.

Head Office : Charles McDonald, Sec.-Treas., St. John, N.B.

Owns a property containing a high grade of pyrolusite, and situate at East Mountain, Onslow, in Colchester county, Province of Nova Scotia. Had not undertaken active work at 31st January 1892.

TUMBO ISLAND COAL MINING CO.

A private company consisting of the following :

Owners :

W. P. Sayward,	F. W. Foster,
T. B. Hall,	Chas. Gabriel.

Head Office : Chas Gabriel, Secretary, Tumbo Island, via Plumper Pass, Mayne Island, B.C.

This company has been formed to prospect and work for coal on Tumbo Island, lying at the southeast entrance of the Straits of Georgia. Operations were commenced in 1889, during which period a shaft to a depth of 600 feet was sunk ; but too much water was encountered and the working at this point was abandoned. During 1891, boring was being continued on other portions of the property. Twenty men employed. The mine is equipped with steam engine, pit-head gear and other appliances.

UNITED ASBESTOS CO., Ltd.

Registered 1st Nov., 1880. The Capital is £9,970, in fully paid 10 per cent. non-cumulative preference shares of £10, £49,875 in fully paid ordinary (A) shares of £5, and £50,000 in fully paid deferred (B) shares of £3. All the shares were originally of £10, but at the end of 1883 it was decided to write off £5 per share from the ordinary and deferred capital (the preference not having then been issued) After payment of the preference dividend the ordinary shares rank first for a cumulative dividend of 14 per cent. per annum. The deferred shares then take 14 per cent., surplus profits to be divided equally between the ordinary and deferred. There are also loans on mortgages, etc., to the amount of £55,280. In 1888 there was a profit, after providing for interest, of £1,222, and a debit to profit and loss brought forward was thereby reduced to £2,272, while in 1889, there was a profit of £2,501, a credit balance of £229 being thus carried forward. In 1890 this balance was increased to £3,879, out of which a dividend of 10 per cent. was paid on the preference shares, and £2,882 was carried forward. In 1890, a dividend of 10 per cent. was paid on the preference, but the balance carried forward had not been reported at date of going to press.

Directors :Sir J. J. Allport, *Chairman*,

H. A. Allport, | E. Elias, | D. S. Cargill, | E. Gellatly, | J. P. Hurst.

Head Office :

J. A. Fisher, General Manager, Dock House, Billiter Street, London, E.C.

CANADIAN OFFICE :**John J. Penhale, Superintendent, Black Lake, Que.**

Formed to take over the business of the Italo-English Pure Asbestos Company, Limited, Messrs. Furse Bros. & Co., of Rome, the Patent Asbestos Manufacturing Company, and to acquire and work asbestos estates in Canada and elsewhere. In 1889 it purchased the property formerly worked by the Frechette Mining Company, containing some 75 acres of asbestos lands situate in Block A, township of Coleraine, Province of Quebec, the purchase consideration being \$75,000. Mine located about one quarter of a mile from Black Lake Station, on the line of the Quebec Central railway. An average force of 150 men and boys employed. Engine and machinery equipment comprises: Two 70 h. p. boilers; one 16 x 24 straight line Rand compressor with the necessary equipment; 28 x 10 duplex double drum Copeland & Bacon hoisting engine; Blake pumps; derricks, etc.

UNION COLLIERY CO. OF BRITISH COLUMBIA, Ltd.

Incorporated 25th July, 1888. Authorized Capital, \$1,000,000, divided into 10,000 shares of a value of \$100 each.

Directors :James Dunsmuir, *President*.

Robert Dunsmuir, | James Bryden.

Head Office : Francis D. Little, General Manager, Comox, B.C.

This company owns and operates the Union colliery, near Comox, on Vancouver Island, British Columbia. The total output of coal from the pits of the company for

UNION COLLIERY CO. OF BRITISH COLUMBIA.—Continued.

the year ending 31st December, 1889, amounted to 31,204 tons; of this quantity 23,790 tons were exported, and 100 tons were sold for home consumption; 314 men were employed during the same period. The output for the twelve months ended 31st December, 1890, was 69,537 tons; 1,481 tons sold for home consumption; 74,048 tons, 2 cwt. sold for exportation; 350 persons employed.

Name of seam :—Union.

Value of plant :—\$25,000; includes twelve miles of railway, 4ft. 8½in. gauge; two locomotives; fifty coal waggons; one diamond drill; four stationary engines; four steam pumps; one steam saw mill; two wharves, etc.

VANCOUVER BRICK AND TILE CO.

Incorporated 15th April, 1887. Authorized Capital, \$25,000, divided into 250 shares of a value of \$100 each.

Directors :

	David Oppenheimer,	
Isaac Oppenheimer,		Samuel Brighthouse,
George Black,		W. H. Armstrong.

Head Office : M. B. Wilkinson, Secretary, Vancouver, B.C.

Formed for the purpose of manufacturing bricks, tiles, vetrified pipes, sewer pipes, drain pipes, lime, cement, etc. Property consists of 20 acres. 750,000 bricks were made in 1889, but nothing was done in 1890 or 1891.

VANCOUVER ENTERPRISE MINING CO., Ltd.

Incorporated 8th March, 1889. Authorized Capital, \$25,000, divided into 250 shares of \$100 each.

Directors :

	Malcolm McLeod,	
John M. Stewart,		R. A. Anderson,
A. H. Cameron		J. W. Robinson,
Wm. Cargill,		R. E. Palmer,
	William Sloan.	

Head Office : J. W. Robinson, Secretary, Vancouver, B.C.

Formed to acquire and work lodes and veins of gold and silver bearing quartz, and alluvial deposits of gold and other minerals, except coal, on Cayoosh Creek, in the Province of British Columbia. No report.

VANCOUVER SAN JUAN LIME CO., Ltd.

Incorporated 24th January, 1887. Authorized Capital, \$30,000, divided into 600 shares of a value of \$50 each.

Directors :

John M. Spinks,		Robert W. Gordon,		Francis L. Carter Cotton.
-----------------	--	-------------------	--	---------------------------

Head Office : Vancouver, B.C.

Formed to erect and maintain kilns, wharves and storehouses on the shore of False Creek and Burrard Islet, and for the purpose of manufacturing lime in the city of Vancouver, Province of British Columbia.

VANCOUVER SMELTING AND MINING CO., Ltd.

Incorporated November, 1890. Authorized Capital Stock, \$250,000, divided into 10,000 shares of \$25 each.

Directors :

	David Oppenheimer,	
Henry T. Ceperley,	|	Thomas Dunn,
Henry McKee,	|	George de Wolff.

Head Office : H. T. Ceperley, Sec.-Treasurer, Vancouver, B.C.

Formed to carry on the business of smelters, refiners, founders, assayers, dealers in bullion, metals and products of smelting of every nature and description ; to carry on the business of miners, and to obtain by purchase or otherwise, mine and work ores, minerals and metallic substances and compounds of all kinds. Owns the Monarch, Cornucopia, Mogul and Alpha mines, situate at Field, B.C. A small force is employed. Has a 60-ton smelter at Vancouver ; not in operation.

VANCOUVER STONE QUARRYING, MINING AND TRANSPORTATION CO.

Incorporated 1891. Authorized Capital. \$25,000, in 2,500 shares of \$10 each.

Directors :

	J. W. Vaughan,	
J. Wulffson,	|	J. T. Carrol, | J. A. Green.

Head Office : J. W. Vaughan, Managing Director, Cordova St., Vancouver, B.C.

Formed with the object of searching for and mining stone, coal and other minerals, etc. The freestone quarries owned and operated by the company are situate at the terminus of the Canadian Pacific railway, on English Bay, Burrard Island, at a point about two miles distant from the city of Vancouver. Small force employed.

VERMILLION MINING CO.

Incorporated 21st Feb., 1888. Authorized Capital, \$240,000.

Directors :

	Stevenson Burke, <i>President,</i>	
C. W. Bingham,	|	George G. Allen,
Henry B. Payne,	|	T. W. Cornell,
H. P. McIntosh,	|	John D. Evans.

Head Office : H. P. McIntosh, Sec-Treas., Rooms 201 and 202 Perry Payne Building, 103-9 Superior Street, Cleveland, Ohio.

Owns certain mineral lands, covering 2,880 acres in the township of Dennison, in the Province of Ontario; not at present worked. Some development work was done in 1887 and 1888.

VICTORIA GYPSUM MINING AND MANUFACTURING CO., Ltd.

Incorporated by an Act of the Nova Scotia Legislature, assented to 15th April, 1890, and amended by an Act dated 19th May, 1891. Authorized Capital, \$100,000, divided into 2,000 shares of a value of \$50 each.

Directors :

D. C. Fraser, M.P., New Glasgow, <i>President</i> ,	
H. P. Blanchard, Baddeck, C.B.,	Hon. Gardiner G. Hubbard, Washington.
W. F. McCurdy, Baddeck, C.B.,	Hon. David McCurdy, Baddeck, C.B.
Kenneth J. McKay, Baddeck, C.B.,	H. H. McCurdy, Antigonish, N.S.

Head Office : H. Percy Blanchard, Secretary, Baddeck, C.B., N.S.

Formed to mine and quarry gypsum on the Island of Cape Breton and elsewhere in the Province of Nova Scotia. The properties, a portion of which is held under lease, are all situate in Victoria county, N.S., and comprise the following parcels of land :—

730	acres at North Gut, St. Ann's.
725	" " South Gut and Munroe's Point.
1,300	" " Gorse Cove.
1,400	" " Port Bevis.
400	" " Red Head.
400	" " Gillies Point.
800	" " Grand Narrows.
808	" " Jamesville.
419	" " Little Narrows.
400	" " McAskill's Rear.
200	" " Washabuck River.

In the fall of 1891, the company opened an extensive deposit of gypsum on its Port Bevis property, at a point about eight miles east of the town of Baddeck, and by the end of the year about three thousand tons of the mineral were shipped. There has been built a line of railway one and one-half miles from quarries to wharf, equipped with locomotives, cars, etc., the whole estimated to have cost in the vicinity of \$20,000. The wharf at Port Bevis can accommodate vessels drawing 23 feet of water. It is expected to ship during the summer of 1892, between 40,000 and 60,000 tons of the mineral.

Managing Director : W. F. McCurdy, Baddeck, Cape Breton, N.S.

VICTORIA HYDRAULIC MINING CO.

Incorporated October, 1890. Authorized Capital, \$100,000, divided into 100,000 shares of \$1 each.

Directors :

William Wilson,		T. J. Jones,
D. E. Campbell,		W. P. Sayward.

Head Office : W. D. McGregor, Sec.-Treas., 30 Broad St., Victoria, B.C.

Formed to acquire and work for gold and other minerals, two parcels of land containing 320 acres, situate on the South Fork of the Quesnelle river, in the district of Cariboo, Province of British Columbia. At last returns had some fifteen miles of ditch under contract, and expected to be in good working order by spring of 1892. Twelve men employed.

WAHNAPITÆ NICKEL CO.

Incorporated 1891. Authorized Capital, \$150,000, divided into 6,000 shares of \$25 each.

Directors :

O. J. Wells, | T. W. H. Leavitt, | G. B. Foster.

Head Office : Toronto, Ont.

Formed to acquire and deal in mines and mining claims in the district of Algoma, Province of Ontario. No report.

WAVERLEY HYDRAULIC MINING CO., Ltd.

Incorporated 14th July, 1879. Authorized Capital, \$100,000, divided into 1,000 shares of a value of \$100 each.

Directors :

J. B. Nason,
Wm. Forrest, | W. A. Jones,
Jno. Bibby, | Andrew Kelly,

Head Office : James Stone, Secretary, Barkerville, B.C.

This company owns 110 acres in fee simple, and operates an alluvial claim at Grouse Creek, in the Barkerville division of the Cariboo mining district, in the Province of British Columbia. About \$50,000 have been expended in preliminary workings ; it is hoped that "bed-rock" will be struck before the end of the present season (1891), when it is expected good pay-ground will be reached. Twelve men employed. Gold dust to the value of \$800 was taken out in 1890.

Superintendent : John Pomeroy, Grouse Creek, Barkerville, B.C.

WELLINGTON COLLIERY CO.**Owners :**

Robert Dunsmuir & Sons, Wellington, B.C.,
General Manager : John Bryden, | *General Overman :* Alexander Sharp.

Head Office : Wellington Colliery, Wellington, B.C.

This company owns and operates the Wellington colliery, situate at Wellington, Vancouver Island, British Columbia. During the year ended 31st December, 1889, the total output of coal amounted to 273,383 tons, 14 cwt. Of this quantity, there were exported 197,510 tons ; sold for home consumption, 76,524 tons ; and there were unsold, including coal in stock at 1st January, 1890, 3,050 tons, 1 cwt. Total men employed, 862, including 750 whites, 12 boys, and 100 Chinese. Returns for 1890 :—Output of coal for twelve months ended 31st December, 1890, 174,496 tons ; sold for home consumption 68,769 tons, 15 cwt. ; sold for exportation 106,281 tons, 1 cwt. ; on hand 1st January, 1890, 3,050 tons, 1 cwt. ; 2,495 tons, 5 cwt. unsold and in stock 1st January, 1891. 646 persons employed.

Name of seam :—Wellington.

Value of plant :—\$150,000.

Workings :—Operated by four shafts with necessary slopes, airways and levels ; three air shafts.

Tramway plant and rolling stock :—Five miles of railway, with sidings and branches ; six locomotives ; 250 coal cars ; 13 stationary engines ; 9 steam pumps ; 4 wharves for loading vessels, etc.

WENTWORTH GYPSUM CO.

Incorporated by Act of the Nova Scotia Legislature, passed 19th May, 1891.
Authorized Capital, \$200,000, divided into 2,000 shares of \$100 each.

Directors :

Edward W. Dimock, *President*, Windsor, N.S.,
Clarence H. Dimock, Windsor, N.S., | E. Norman Dimock, Windsor, N.S.

Head Office : Clarence Dimock, Secretary, Windsor, N.S.

Formed to search and prospect for, to quarry, mine, work, win, manufacture and prepare for use and sale by any process, and carry, move, sell, ship and deal in gypsum, plaster of Paris, lime, limestone, building stone, etc., in the Province of Nova Scotia and Island of Cape Breton. Owns a property containing about 1,000 acres at Wentworth, in the township of Windsor, Hants county, Province of Nova Scotia. Quarries situate one and a half miles from Windsor station, on the Windsor and Annapolis railway. 250 persons employed. The output of gypsum for 1891, amounted to 120,000 tons.

WESTERN CONSOLIDATED MINING CO.

Incorporated under the laws of the State of Washington, U.S.A., February, 1891.
Authorized Capital, \$1,000,000, in shares of \$1.

Directors :

C. M. Parker,
J. B. Sargent, | N. A. Parent,
W. H. Lynch, | A. J. Lynch.

Head Office : A. J. Lynch, Secretary, Spokane, Wash.

Formed to acquire and work certain mineral lands and mines, and particularly the "Club," "Monday," "Della" mining claims, situate at Hot Springs, West Kootenay district, Province of British Columbia. It also controls a one-half interest in the "Kate," and a $\frac{7}{8}$ interest in the "B. B. B." claims at Hot Springs; also a one-half of the "Yakima" on Toad Mountain, near the town of Nelson, B.C. Only development done to date.

WEST END MINING CO. OF ONTARIO, Ltd.

Incorporated 28th June, 1889. Authorized Capital, \$2,000,000, divided into 200,000 shares of a value of \$100 each, the whole of which has been subscribed and fully paid.

Directors :

Herbert N. Nichols, *President*,
S. B. McConnell, | C. E. Dickerman,
F. S. Wiley.

Head Office : S. B. McConnell, Secretary, Port Arthur, Ont.

This company owns some 240 acres of mineral land situated on the line of the P. A., D. & W. railway, at a point 38 miles distant from the town of Port Arthur. Present workings: shaft 260 ft. (sinking); levels, drifts and cross-cuts, 1750 ft. Machinery plant includes steam hoisting and pumping gear. Ore of an estimated value of \$32,000 raised to date.

WEST KOOTENAY MINING CO.

Incorporated under the laws of the State of Washington, U.S.A., December, 1890.
Authorized Capital, \$1,000,000, in 100,000 shares of \$10.

Directors :

	J. B. Sargeant, <i>President</i> ,	
W. H. Lynch,		W. H. Lancaster,
J. H. Spalding,		C. M. Parker.

Head Office : W. H. Lancaster, *Secretary*, Spokane, Wash.

Formed to acquire and work mineral lands and particularly the argentiferous galena mining claims known as the "Thor," "Top" and "Lookout," situate at Warm Springs, in the West Kootenay district, Province of British Columbia. Only development work done to date.

WESTMINSTER SLATE CO.

Incorporated 18th March, 1891. Authorized Capital, \$100,000, in shares of \$100 each. By its charter the company has power to increase the amount to \$250,000.

Directors :

	H. S. Edwards, <i>President</i> ,	
A. G. Gamble,		H. Fiennes Clinton.

Head Office : A. G. Gamble, *Secretary*, New Westminster, B. C.

Formed for the purpose of purchasing and carrying on the Jervis Inlet Slate mine and the acquiring and working other mineral claims, mines and stone quarries. Owns 160 acres and has a forty years' lease of a property containing 304 acres, situate at Jervis Inlet, at a point about 90 miles from the city of Vancouver in the Province of British Columbia. Twenty-five men employed. Machinery and plant at date of last return, valued at \$7,500. Average turnout about 150 squares per week, to be increased as development proceeds.

Manager : John J. Jones.

WEST WAVERLEY GOLD CO., Ltd.

Incorporated 1891. Authorized Capital, \$60,000, divided into 6,000 shares of a value of \$10 each.

Directors :

	Jas. C. Aer, <i>President</i> , New York,	
John E. Hardman, Oldham, N.S.,		E. L. Newcombe, Halifax, N.S.

Head Office : John E. Hardman, M.E., *Managing Director*, Waverley, N.S.

This company controls under lease from the local government, a property containing 43 gold areas, situate in the Waverley district, Halifax county, Province of Nova Scotia. Mine ten miles from the city of Halifax. 35 men employed. 20 stamp mill, driven by compound condensing steam engine; one compound condensing duplex 10 drill Rand compressor; one double cylindered, double drum winding engine built by Jenckes Machine Co., (cyl. 8in. x 12in., drum 42in. x 36in.); one 12in. x 24in. Foster ore breaker, with a capacity of 120 tons in 10 hours; two 50 h. p. horizontal tubular boilers, and one upright 25 h.p. boiler; stamp-mill equipped with Golden Gate Concentrator; plant lighted by electricity, etc. Mill in construction at 1st March, 1892, and no returns of yield therefore reported.

WHITEBURN MINING CO.

Directors :

E. Coleman, New York,
 R. P. Lincoln, | J. E. Graves, Boston,
 M. F. Dickinson, Jr., Boston.

Canadian Office : G. J. Partington, Superintendent, Whiteburn, Queen's County, N.S.

This is a private company organized to mine, smelt and otherwise work gold ores in the Whiteburn district, Queen's county, Nova Scotia. Holds under lease from the local Government 103 gold areas. Official returns of gold yield reported by the Mines Department, are as follows :—

	Rock Crushed.	Gold Yield.
1888.....	929 tons,	yielding 1,539 oz. 6 dwt. 23 grs.
1889.....	1,318 " "	1,412 oz. 8 dwt. 13 grs.
1890.....	663 " "	605 oz. 8 dwt. 21 grs.

Mines shut down from 1st July, 1890, to 1st April, 1891, when work was resumed, an average force of 30 men being employed. Plant consists of 10-stamp mill, hoisting and pumping gear, etc.

WHITEWATER MINING CO.

W. J. Goepel, Managing Director, Victoria, B.C.

This company owns and operates the Whitewater mine, situated at the head waters of Rover Creek, in the West Kootenay district, Province of British Columbia. Mine seven miles from Wardville and twenty-one miles from Nelson. The returns of the yield in 1891, give £1,540 in free gold, and \$1,625 sulphurets (estimated). Machinery plant valued at \$5,000. 16 men employed during four months of 1891.

Mine Superintendent : M. S. Davys, Nelson, B.C.

WINDSOR GOLD CO., Ltd.

Incorporated October, 1890. Authorized Capital, \$100,000, divided into 40,000 shares of a value of \$2.50 per share.

Directors :

H. T. Harding, Truro, N.S.,
 J. H. Harding, St. John, N.B., | W. R. Stockbridge, Boston, Mass.
 D. W. Clarke, St. John, N.B., | Gideon Havenor, St. John, N.B.,
 Henry G. Hardy, Boston.

Head Office : St. John, N.B.

Formed to purchase, work and develop gold mines and other mining properties ; to prospect, negotiate for, take up, license or lease, acquire, buy and sell the same, and do a general mining business. Holds under lease 36 gold areas at Ardoise, in Hants county, Province of Nova Scotia. Not worked in 1891.

Y-ONE MINING CO.

Incorporated under the laws of the State of Illinois 18th April, 1872. Authorized Capital, \$5,000,000, in shares of a value of \$10 each.

Directors :

Col. J. S. Morgan, <i>President</i> ,	
P. N. Taylor,	L. M. Secord,
J. T. Huntingdon,	H. S. Sprague.

**Head Office: H. S. Sprague, Secretary, Room 28, Benedict Block,
29 Euclid Ave., Cleveland, Ohio.**

Formed to acquire and work mineral lands and particularly a property containing 135 acres, known as the Y-One and Silver Creek mines, and situate in the township of O'Connor, Province of Ontario. Property adjoins the well known Beaver and Badger silver mines, and is distant from the town of Port Arthur about 26 miles. Not in operation in 1891.

ABSTRACT
OF
THE STATUTORY PROVISIONS
IN FORCE IN
THE DOMINION OF CANADA AND THE SEVERAL
PROVINCES RESPECTING THE
FORMATION AND ORGANIZATION
OF
JOINT STOCK COMPANIES

PREPARED BY
J. A. GEMMILL, BARRISTER-AT-LAW, OTTAWA.

DOMINION OF CANADA.

Under the provisions of "The Companies Act,"* Revised Statutes of Canada, 1886, chapter 119, incorporation may be thus obtained :

Purposes.—Sec. 3.—The Governor-in-Council may, by letters patent under the Great Seal, grant a charter to any number of persons, not less than five, who petition therefor, constituting such persons, and others who thereafter become shareholders in the company thereby created, a body corporate and politic, for any of the purposes or objects to which the Legislative authority of the Parliament of Canada extends, except the construction and working of railways, or the business of banking and the issue of paper money, or the business of insurance.

Notice to be given.—Sec. 4.—One calendar month's notice must be given in the CANADA GAZETTE of intention to apply, stating therein :

- (a) The proposed corporate name of the company ;
- (b) The purposes for which its incorporation is sought ;
- (c) The chief place of business within Canada ;
- (d) The proposed amount of capital stock ;
- (e) The number of shares and the amount of each share ;
- (f) Names in full and the address and calling of each applicant, with special mention of not less than three and not more than fifteen of their number who are to be the first or provisional directors of the company, and the majority of whom must be residents of Canada.

Petition.—Sec. 5.—Within a month after last publication of such notice, applicants may petition the Governor-in-Council for the issue of such letters patent :

- (a) The petition must state the facts set forth in the notice, the amount of stock taken by each applicant, the amount paid in upon the stock of each applicant, and the manner in which it is held for the company ;
- (b) At least one half of the total amount of the proposed capital stock of the company must be subscribed ;
- (c) At least ten per cent. of the stock so taken must be paid up thereon ;
- (d) The amount thus paid up must be paid in to the credit of the company or of trustees therefor, and stand at such credit in some chartered bank in Canada, unless the object of the company is one requiring that it should own real estate, in which case any portion, not exceeding one half of the amount to be paid up may be taken as paid in, if *bona fide* invested in real estate suitable to such object, duly held by trustees for the company, and being of the required value over and above all incumbrances thereon.

Powers of the Company.—Sec. 24.—Every company incorporated under this Act may acquire, hold, sell and convey any real estate requisite for the carrying on of the undertaking of such company, and shall forthwith become and be vested with all property and rights, real and personal, theretofore held by or for it under any trust created with a view to its incorporation, and with all the powers, privileges and immunities requisite or incidental to the carrying on of its undertaking, as if it was incorporated by a special Act of Parliament, embodying the provisions of this Act and of the Letters Patent.

Shares to be Paid in Cash.—Sec. 27.—Every share in the company shall, subject to the provisions of sub-section *d* of section 5 of this Act, be deemed to have been issued and to be held subject to the payment of the whole amount thereof in cash, unless the same has been otherwise agreed upon or determined by a contract duly made in writing and filed with the Secretary of State at or before the issue of such shares.

*The advantage of obtaining a charter from the Dominion Government under this Act is that the company may carry on business in any part of Canada. The powers conferred by a provincial charter are limited to the province in which the charter may be granted.

Directors.—Sec. 28.—Board of Directors shall not be more than fifteen and not less than three.

Directors' Qualification—Sec. 30.—A director must be a shareholder, owning stock absolutely in his own right, and to the amount required by the by-laws of the company, and not in arrear in respect of any call thereon. The majority of directors must be residents in Canada.

Increase or Decrease of Number.—Sec. 31.—The number of directors may be increased or decreased by by-law.

Powers of Directors.—Sec. 35.—The Directors of the company may administer the affairs of the company in all things and make or cause to be made for the company any description of contract which the company may by law enter into; and may, from time to time, make by-laws, not contrary to law or to the letters patent of the company, or to this Act, for the following purposes:—

(a) The regulating of the allotment of stock, the making of calls thereon, the payment thereof, the issue and registration of certificates of stock, the forfeiture of stock for non-payment, the disposal of forfeited stock and of the proceeds thereof, and the transfer of stock;

(b) The declaration and payment of dividends;

(c) The number of directors, their term of service, the amount of their stock qualification, and their remuneration, if any;

(d) The appointment, functions, duties and removal of all agents, officers and servants of the company, the security to be given by them to the company, and their remuneration;

(e) The time and place for the holding of the annual meeting of the company, the calling of meetings, regular and special, of the board of directors and of the company, the quorum, the requirements as to proxies, and the procedure in all things at such meetings;

(f) The imposition and recovery of all penalties and forfeitures which admit of regulation by by-law;

(g) The conduct in all other particulars of the affairs of the company;

And the directors may, from time to time, repeal, amend or re-enact the same; but every such by-law and every repeal, amendment or re-enactment thereof, unless in the meantime confirmed at a general meeting of the company, duly called for that purpose, shall only have force until the next annual meeting of the company, and in default of confirmation thereat, shall, at and from that time only, cease to have force;

2. No by-law for the issue, allotment or sale of any portion of the unissued stock at any greater discount, or at any less premium than that which has been previously authorized at a general meeting, and no by-law for the remuneration of the president or any director, shall be valid or acted upon until the same has been confirmed at a general meeting.

Issue of Bonds—Sec. 37.—The directors may, when authorized by a by-law for that purpose, passed and approved of by the votes of shareholders representing at least two-thirds in value of the subscribed stock of the company represented at a special general meeting, duly called for considering the by-law:—

(a) Borrow money upon the credit of the company, and issue bonds, debentures, or other securities for any sums borrowed, at such prices as are deemed necessary or expedient; but no such debenture shall be for a less sum than one hundred dollars;

(b) Hypothecate or pledge the real or personal property of the company to secure any sums borrowed by the company;

But the amount borrowed shall not, at any time, be greater than seventy-five per cent of the actual paid up stock of the company; but the limitation made by this section shall not apply to commercial paper discounted by the company.

Calls.—Sec. 38.—The directors may, from time to time, make such calls upon the shareholders in respect of all moneys unpaid upon their respective shares as they think fit, at such times and at such places and in such payments or instalments as the letters patent, or this Act, or the by-laws of the company, require or allow.

TARIFF OF FEES.

The following is the schedule of the fees payable :—

1. When the proposed capital stock of the company is \$500,000 and upwards.....	\$200 00
2. When the proposed capital stock of the company is \$200,000 and upwards, and less than \$500,000 ..	150 00
3. When the proposed capital stock is \$100,000 or upwards, and less than \$200,000.....	100 00
4. When the proposed capital stock is less than \$100,000.....	50 00
5. When the proposed capital stock is \$40,000 or less than \$40,000.....	30 00

FORMS.

[The following forms have been extracted from Mr. W. E. Hodgins' work on the Incorporation of Joint Stock Companies, Canada, 1888.]

I. Notice of Intention to Apply for Letters Patent of Incorporation, to be Inserted in the "Canada Gazette."

Notice is hereby given that within one month after the last publication of this notice in the *Canada Gazette*, application will be made to his Excellency the Governor-General in Council for a charter of incorporation by letters patent, under the provisions of the "Companies' Act," Revised Statutes of Canada, chapter 119, incorporating the applicants, and such other persons as may become shareholders in the proposed company, a body corporate and politic, under the name and for the purpose hereinafter mentioned :—

- (1) The proposed corporate name of the company is "The Company," (Limited.)
- (2) The purposes within the purview of the Act, for which incorporation is sought, are
- (3) The chief place of business of the said company is to be the _____ of _____ in the Province of _____
- (4) The intended amount of the capital stock is _____ dollars.
- (5) The number of shares is to be _____, and the amount of each share is to be of the value of _____ dollars.
- (6) The names in full, and the address and calling of each of the applicants, are as follows :—
 said _____ of whom the
 first or provisional directors of the said company. _____ are to be the

Dated at _____, this _____ day of _____, A.D. 18 _____

Solicitors for the Applicants.

2. Declaration Verifying Insertion in the "Canada Gazette" of Notice of Intention to Apply for Letters Patent of Incorporation.

CANADA. }
 Province of } In the matter of the application of
 County of } , and others, for letters patent of
 To wit : } incorporation as "The
 } Company" (Limited).

I, _____ of the _____ of _____ in the _____, do solemnly declare.

1. That I have searched the files of the *Canada Gazette* and find that notice of the intention of the petitioners therein mentioned to make application for letters patent of incorporation, as "The _____ Company" (Limited), a copy of which is hereto annexed, marked "A," was duly inserted in the issues of the *Canada Gazette* of the dates following, that is to say, 18 _____

And I make this solemn declaration conscientiously believing the same to be true, and by virtue of the "Act Respecting Extra Judicial Oaths."

Declared before me at the _____ of _____ in the _____
 this _____ day of _____ A. D., 18 _____

3. Petition for Incorporation.

To His Excellency
 The Governor-General-in-Council :
 The petition of _____

humbly sheweth :

(1) That your petitioners are desirous of obtaining a charter of incorporation by letters patent under the provisions of "The Companies Act," Revised Statutes of Canada, chapter 119, incorporating your petitioners and such others as may become shareholders in the company thereby created a body corporate and politic, under the name of "The _____ Company" (Limited), which is not the name of any other known company, incorporated or unincorporated, or liable to be confounded therewith, or otherwise on public grounds objectionable.

(a) Here insert names in full, address, and calling or occupation of each of the applicants.

(2) That your petitioners have given one month's previous notice of their intention to apply for the said letters patent by inserting the same in the issues of the *Canada Gazette* of the following dates, 18 _____, viz :—

(3) That the purposes or objects of the said company within the purview of the Act for which incorporation is desired, are _____

(4) That the operations of the said company are to be carried on at _____, and elsewhere throughout the Dominion of Canada.

(5) That the chief place of business of the said company is to be at _____, of _____, in the Province of _____, in the Dominion of Canada aforesaid.

(6) That the amount of the capital stock of the said company is to be _____ dollars.

(7) That the said stock is to be divided into _____ shares of the value _____ of _____ dollars each.

(8) That the said _____ are to be the first or provisional directors of the said company.

(9) That your petitioners have taken the amount of stock, and paid in thereon the several amounts thereon set opposite to their respective names, as follows:—

Petitioners' Names in Full.	Number of Shares Taken.	Amount of Stock Subscribed for.	Amount Paid in on Stock Subscribed.	How Paid.
Total.				

(10) The aggregate of stock so taken amounts to _____ dollars, being _____ one half of the total amount of the stock of the company, and the aggregate paid in on the stock so taken amounts to _____ dollars, being _____ per cent. thereof; such aggregate has been paid to the credit of (*) _____, and is now standing at such credit in the _____ Bank, in the _____ of _____, as appears by the certificate of _____, manager of the said bank at _____ aforesaid, which is hereto annexed.

There has been invested in real estate, suitable to the objects of the company, the sum of _____ dollars.

The said real estate consists of _____ and is of value of at least _____ dollars over and above all incumbrances thereon, being sufficient, with the sum so paid in as aforesaid, to make _____ per cent. of the aggregate of the stock so taken, and is duly held by _____ and _____ as trustees for the said company. †

Your petitioners therefore pray,

That your Excellency will be pleased to grant a charter of incorporation, by letters patent under the Great Seal, to your petitioners, and such others as may become shareholders in the company thereby created a body corporate and politic, for the purposes and objects aforesaid, under the name of "The _____ Company" (Limited).

* Here state if paid in to the credit of the company, or of trustees for the company, giving the names of such trustees.

† This clause is only to be inserted when necessary.

And your petitioners, as in duty bound, will ever pray.

Dated at the _____ of _____ in the _____ of _____ this day of _____ A.D., 18 _____

Signed and executed }
in the presence of }

4. Declaration Verifying Signatures to Petition Praying for Letters Patent of Incorporation.

CANADA. }
Province of } In the matter of application
County of } of _____ and others for letters patent
To wit : } of incorporation as "The
Company" (Limited).

I, _____ of the _____ of _____ in the County of _____ and Province of _____ do solemnly declare :

1. That I was personally present and did see sign their respective names to the petition (hereunto annexed) praying for letters patent of incorporation as "The _____ Company" (Limited).

2. That I know the said

3. That the signatures _____ are of the proper handwriting of the said parties respectively.

And I make this solemn declaration conscientiously believing the same to be true, and by virtue of the "Act Respecting Extra Judicial Oaths."

Declared before me }
at the _____ of _____ }
in the _____ of _____ }
this _____ day of _____ }
, A.D. 18 _____ }

5. Declaration Verifying Truth of Petition as to Proposed Corporate Name.

CANADA. }
Province of } In the matter of the application of
County of } and others for letters patent of incorporation as "The
To wit : } Company" (limited).

I, _____ of the _____ of _____ in the _____ do solemnly declare :

(1) That the several allegations and statements made and contained in the petition for incorporation of "The _____ Company" (Limited), hereunto annexed, are, to the best of my knowledge and belief, true and correct.

(2) The proposed corporate name, "The _____ Company" (Limited), is not, as I verily believe, the name of any other known company, incorporated or unincorporated, or liable to be confounded therewith, or otherwise on public grounds objectionable.

And I make this solemn declaration conscientiously believing the same to be true, and by virtue of the "Act Respecting Extra Judicial Oaths."

Declared before me at
 the of
 in the of
 this of
 A.D., 18

6. Bank Manager's Certificate.

In the matter of the application of _____ and others, for letters patent of incorporation as "The _____ Company" (Limited).

I, _____ of the _____ of _____ at the _____ do hereby certify :
 of _____ and Province of _____

That there is deposited in this bank at the credit of*
 "The _____ Company" (Limited), the sum of _____ dollars,
 and the said sum is now remaining at such credit.

Dated at _____ aforesaid, this _____ day of _____ A.D., 18
 Witness. } _____ Manager (or agent).

7. Declaration Verifying Signature of Bank Manager to Certificate of Deposit.

CANADA. }
 Province of } In the matter of the application of
 County of } and others for letters patent of incorporation as "The
 To wit: } (Limited), _____ Company"

I, _____ of the _____ of _____ in the
 County of _____ and Province of _____ do
 solemnly declare:

(1) That I was personally present and did see the annexed certificate of deposit
 duly signed by _____ of the _____ who is the manager (agent or cashier)
 of _____ Bank of _____ at the
 _____ aforesaid.

(2) That I know the said

(3) That I am the subscribing witness to the said document.

And I make this solemn declaration conscientiously believing the same to be true, and by virtue of the "Act Respecting Extra Judicial Oaths."

Declared before me at the _____
 of _____ in the _____
 of _____ this _____ day of _____
 A.D., 18

*Here state if the amount be deposited to the credit of the company or of trustees thereof.

3. Form of Letters Patent.

CANADA.

VICTORIA, by the Grace of God, of the United Kingdom of Great Britain and Ireland, Queen, Defender of the Faith, etc., etc.

To all to whom these presents shall come, or whom the same may in any wise concern :

GREETING :--

WHEREAS, in and by "The Revised Statutes of Canada," chapter 119, known as "The Companies' Act," it is amongst other things in effect enacted that the Governor-in-Council may, by letters patent under the Great Seal, grant a charter to any number of persons not less than five who petition therefor, constituting such persons, and others who thereafter become shareholders in the company thereby created, a body corporate and politic for any of the purposes or objects to which the legislative authority of the Parliament of Canada extends, except the construction and working of railways, or the business of banking and issuing of paper money, or the business of insurance, upon the applicants therefor establishing to the satisfaction of the Secretary of State, or of such other officer as may be charged by the Governor-in-Council to report thereon, due compliance with the several conditions and terms in and by the said Act set forth and thereby made conditions precedent to the granting of such charter.

And whereas _____ have petitioned for a charter under the Act, constituting them, and such others as may become shareholders in the company thereby created, a body corporate and politic, under the name of _____, for the purposes hereinafter mentioned, and have established to the satisfaction of the Secretary of State for Canada (no other officer having been charged by the Governor-General-in-Council to report thereon), due compliance with the several conditions and terms above referred to.

And whereas, among other things, it is in the notice of this application and in the said petition averred, and it has been established that the amount of the capital stock of the intended company is _____ dollars, divided into _____ shares of _____ dollars each.

That the said _____ has taken _____ shares of said stock, and has paid in thereon the sum of _____ dollars.

That the said _____ has taken _____ shares of _____ said stock, and has paid in thereon the sum of _____ dollars.

That the said _____ has taken _____ shares of the said stock, and has paid in thereon the sum of _____ dollars.

That the aggregate of the capital stock taken is _____ dollars, and the aggregate paid in thereon is _____ dollars; such aggregate has been paid into the credit of _____ the said _____ company in the _____ bank in Canada, and is now standing at such credit. _____ being a chartered

Now Know Ye, that, by and with the advice of our Privy Council for Canada, and under the authority of the hereinbefore in part recited Act, and of any other power and authority whatsoever in us vested in this behalf, we do, by these our letters patent, constitute the said _____, and all others who may become shareholders in the said company, a body corporate and politic, by the name of _____ with all the rights and powers given by the said Act and for the purposes of _____

That the place within the Dominion of Canada which is to be the chief place of business of the said company is _____

The capital stock of the said company shall be _____ dollars, divided into _____ shares of _____ dollars each, subject to the increase of such capital stock under the provisions of the said Act.

That the said _____ are to be the first or provisional directors of the company.

Provided always that nothing in these presents, expressed or contained, shall be taken to authorize the construction or working of railways, the business of banking, or the issue of paper money, or of insurance, by the said company.

In testimony whereof, etc.,

(Great Seal.)

PROVINCE OF ONTARIO.

Under the provisions of "The Ontario Joint Stock Companies Letters Patent Act," Revised Statutes of Ontario, 1886, chapter 157,

Certain Powers May be Granted by Letters Patent to Companies Incorporated in Britain.—Sec. 3.—Any corporation now or hereafter incorporated under Imperial Statutes may be authorized by the Lieutenant-Governor-in-Council, by letters patent under the Great Seal of the Province, to carry on any of its business in the Province of Ontario. A verified copy of the Act of Parliament, charter or other instrument incorporating such company must first be deposited with the Provincial Secretary.

Charters for Other Purposes.—Sec. 4.—A charter of incorporation may be granted to any number of persons, not less than five, for any purposes or objects to which the legislative authority of the Legislature extends, except the construction and working of railways, and the business of insurance.

Notice to be Given.—Sec. 6.—Four consecutive weeks' notice of intention to apply must be given in the *Ontario Gazette*. The notice should give information similar to that required under Sec. 4 of the Dominion Act. See page 240.

Petition.—Sec. 7.—Within a month after the last publication of the notice the applicants may petition the Lieutenant-Governor, through the Provincial Secretary, for the issue of the letters patent ;

(2) The petition should in every respect correspond with the notice in the *Gazette*, and in addition state the amount of stock taken by each applicant, and also the amount, if any, paid in upon the stock of each applicant ;* (3) Also whether the amount is paid in cash or by transfer of property, or how otherwise.

(4) The petition should be signed by each of the applicants personally, but in any case it is signed by attorney the power of attorney should accompany it.

General Powers.—Sec. 16.—Are similar to those under Sec. 24 of the Dominion Act. See page 240.

Directors.—Sec. 29.—The affairs of the company shall be managed by a board of not less than three directors.

Qualification.—Sec. 31.—A director must be a shareholder owning stock absolutely in his own right and not in arrear in respect of any call thereon.

Calls.—Sec. 45.—Not less than ten per cent. upon the allotted stock of the company shall, by means of one or more calls, be called for and made payable within one year from the incorporation of the company ; the residue when and as the by-laws of the company direct.

*The subscriptions for stock are proved by producing the company's stock book with the signatures of each subscriber duly verified.

Power to Issue Bonds, Etc.—Sec. 38.—(1) In case a by-law authorizing the same is sanctioned by a vote of not less than two-thirds in value of the shareholders then present in person or by proxy at a general meeting duly called for considering the by-law, the directors may borrow money upon the credit of the company, and issue the bonds, debentures or other securities of the company, and may sell the said bonds, debentures, or other securities at such prices as may be deemed expedient or be necessary; but no such debentures shall be for a less sum than \$100.

(2) The directors may, under the like sanction, hypothecate, mortgage or pledge the real or personal property of the company to secure any sum or sums borrowed for the purposes thereof.

Preferential Stock.—Sec. 25.—(1) The directors may make a by-law for creating and issuing any part of the capital stock as preference stock, giving the same such preference and priority as respects dividends and otherwise over ordinary stock as may be declared by the by-law.

(2) The by-law may provide that the holders of such preference shares shall have the right to select a certain stated proportion of the board of directors, or may give them such other control over the affairs of the company as may be considered expedient.

(3) No such by-law shall have any force or effect whatever until after it has been unanimously sanctioned by the vote of the shareholders, present in person or by proxy, at a general meeting of the company, duly called for considering the same, or unanimously sanctioned in writing by the shareholders of the company.

(4) Holders of such preference stock shall be shareholders within the meaning of this Act, and shall in all respects possess the rights and be subject to the liabilities of shareholders within the meaning of this Act, provided however, that in respect of dividends and otherwise they shall, as against the original or ordinary shareholders, be entitled to the preference given by any by-law as aforesaid.

(5) Nothing in this section shall affect or impair the rights or creditors of any company.

Tariff of Fees.

For a charter when the proposed capital of the company is \$200,000 or upwards.....	\$60.00
When it is \$100,000, but is less than \$200,000.....	50.00
When it is \$50,000, but is less than \$100,000.....	40.00
When it is less than \$50,000, but more than \$3,000.....	30.00
When it is \$3,000 or less.....	10.00

PROVINCE OF QUEBEC.

Under the provisions of the Revised Statutes of Quebec, 1888.

Purposes.—Article 4694.—A charter of incorporation may be granted to any number of persons, not less than five, for any of the purposes within the jurisdiction of the Legislature of the Province except for the construction and working of railways and the business of insurance.

Notice.—Article 4697.—Four weeks' notice of application to be given in the *Quebec Gazette*. Number of directors to be not less than three and not more than nine, of whom the major part shall be resident in Canada and British subjects. See *Form of Notice below, page 251.*

Petition.—Article 4698.—Within a month of last publication of notice, petition may be sent in to the Lieutenant-Governor for issue of letters patent.

(2) The petition must recite the facts set forth in the notice and the amount of stock taken by each applicant and by all other persons therein named and the amount paid in upon the stock of each applicant and the manner in which the same has been paid in and is held for the company.

(3) Aggregate of stock taken must be at least one half of the total amount of the stock of the company.

(4) The aggregate paid in thereon must be at least ten per cent. thereof, or five per cent. of the total capital, unless such exceed \$500,000, in which case the aggregate paid in upon such excess must be at least two per cent. thereof.

(5) Such aggregate must have been paid in to the credit of the company or of trustees therefor, and must be standing at such credit in some chartered bank within the Province unless the object of the company is one requiring that it should own real estate, in which case not more than one half thereof may be so taken as invested in real estate suitable to such object, duly held by trustees therefor, and being fully of the full value over and above all incumbrances thereon.

Capital Stock.—Article 4722.—(1) The capital stock must consist of that portion of the amount authorized by the charter which shall have been *bona fide* subscribed for and allotted, and must be paid in cash.

(2) The property accounts of a company must represent only the amount of the actual *bona fide* outlay necessary for the undertaking. No stock shall be issued to represent the increased value of any property, and any such issue shall be null and void.

(3) Watering of stock is prohibited, and all stock so issued shall be null and void.

(4) The capitalization of surplus earnings and the issue of stock to represent such capitalized surplus are also void, and all stock so issued shall be null and void, and the directors consenting to such issue of stock shall be jointly and severally liable to the holders thereof for the reimbursement of the amount paid for such stock.

(5) Every form and manner of fictitious capitalization of stock, or the issuing of stock which is not represented by a legitimate and necessary expenditure in the interest of the company, and not represented by an amount in cash paid into the treasury of the company which has been expended for the promotion of the objects of the company, is prohibited, and such stock is null and void.

Corporations Under Imperial Statutes.—Article 4764.—In case a corporation incorporated under Imperial statutes carries on or desires to carry on any of its business within the Province, letters patent may be granted to such company, and the company may thenceforth exercise within the Province any powers, privileges and rights set forth in the letters patent. Article 4765.—A certified true copy of the Act of Parliament, charter or other instrument incorporating the company must be deposited with the Provincial Secretary before the letters patent will issue.

Tariff of Fees.

1. When the capital shall not exceed \$10,000 a fee of.....	\$25.00
2. From \$10,000 to \$50,000.....	30.00
3. From \$50,000 to \$100,000.....	40.00
4. From \$100,000 to \$200,000.....	50.00
5. From \$200,000 and over.....	60.00

Form of Notice of Application, Quebec

Notice is hereby given that _____ contractor,
 _____ manufacturer _____ contractor,
 grocer, _____ contractor _____ contractor
 machinist, _____ contractor _____ merchant
 _____ merchant, all of the _____ of the
 in the Province of Quebec, intend to apply for letters patent in
 virtue of section 4,696 and following of the Revised Statutes of the said Province, to
 constitute them, and other persons who may become shareholders, a
 body politic and corporate in virtue of the said Statutes, under the name of "The
 Company."

The object of the said company will be the _____
 in _____
 The chief office and place of business of the said company will be in the _____
 of _____ in the Province of Quebec.

The amount of capital stock of the said company will be _____
 thousand dollars, divided into _____ shares of _____ dollars cash.
 The above named persons, all subjects of Her Majesty, and residing in Canada, are
 to be provisional directors of the said company.

Date _____

Attorney for Petitioners.

NOVA SCOTIA.

Under the provisions of the "Nova Scotia Joint Stock Companies' Act," Revised
 Statutes of Nova Scotia, 1884, cap. 79, incorporation is granted for the same purposes
 and subject to the same conditions of procedure and form as prevail under the
 "Dominion of Canada Joint Stock Companies' Act," *ante page 240.*

Tariff of Fees.

When the capital stock is \$10,000 and under	\$20.00
When the capital stock is up to \$50,000.....	30.00
When the capital stock is up to \$100,000.....	40.00
When the capital stock is up to \$250,000.....	50.00
When the capital stock is up to \$500,000.....	60.00
When the capital stock is over \$500,000.....	70.00

NEW BRUNSWICK.

Under the provisions of the "New Brunswick Joint Stock Companies' Letters
 Patent Act," 48 Vic. (1885) cap. 9.

Purposes.—Sec. 3.—The Lieutenant-Governor-in-Council may grant a charter to
 any number of persons, not less than five, who shall petition therefor, constituting
 such persons, and others who may become shareholders in the company thereby
 created, a body corporate and politic for any purposes or objects to which the
 legislative authority of the Legislature of New Brunswick extends, except the con-
 struction and working of railways and the business of insurance, or the management

of trades unions, friendly societies, building societies or other associations of like character.

Notice to be Given.—Sec. 4.—Two weeks' previous notice must be given in the *Royal Gazette* of intention to apply, and the notice must state :

- (a) Proposed corporate name of the company ;
- (b) The object for which its incorporation is sought ;
- (c) The town in New Brunswick in which the chief place of business is to be ;
- (d) The amount of capital stock, which shall not be less than \$2,000 actually subscribed ;
- (e) The number of shares and amount of each share ;
- (f) The names, address and calling of each of the applicants, with special mention of not less than three of their number who are to be the first or provisional directors of the company.

Petition.—Sec. 5.—Within a month applicants may petition the Lieutenant-Governor, through the Provincial Secretary, for issue of such letters patent.

(a) Such petition must recite the facts set forth in the notice, and must further state the amount of stock taken by each applicant and the amount, if any, paid in upon the stock of each applicant ;

(b) The aggregate of the stock so taken must be at least one-half of the total stock of the company ;

(c) The petition must also state whether such amount is paid in cash or by transfer of property, or how otherwise.

(d) In case the petition is not signed by all the shareholders whose names are proposed to be inserted in letters patent, it shall be accompanied by a memorandum of association, signed by all the persons whose names are to be so inserted, or by their attorneys, duly authorized in writing, and such memorandum shall contain the particulars required by the next preceding section and may be in the form A in the schedule of this Act. *See page 253.*

(e) Any payments which shall have been made in cash on account of the stock must have been paid in to the credit of the company or of trustees therefor, and must be standing at such credit in some chartered bank in the Province.

When Publication not Necessary.—Sec. 7.—Publication of notice is not necessary when capital stock does not exceed \$5,000.

Directors.—Sec. 19.—The affairs of every company shall be managed by a board of not less than three directors.

Directors' Qualification.—Sec. 21.—A director must be a shareholder owning stock in his own right to the amount required by the by-laws of the company, and not in arrear in respect of calls.

First Call.—Sec. 43.—Not less than ten per cent. upon the allotted stock of the company shall by means of one or more calls be made payable and called in within one year from the incorporation of the company.

Restriction.—Sec. 69.—No company shall issue stock to represent the increased value of any property of the company, nor shall the watering of stock be allowed. The issue of stock prohibited is null and void.

Issue of Shares.—Sec. 83.—Every share in the company shall be deemed and taken to have been issued, and to be held subject to the payment of the whole amount thereof in cash, unless the same shall have been otherwise determined by a contract duly made in writing and filed with the Provincial Secretary at or before the issue of the shares.

What Prospectus Must Contain.—Sec. 84.—Every prospectus of the company and every notice inviting persons to subscribe for shares in the company shall specify the date and names of the parties to any contract entered into by the company or the promoters, directors or trustees thereof, whether subject to adoption by the directors of the company or otherwise; and any prospectus or notice specifying the same shall be deemed fraudulent on the part of the promoters, directors and officers of the company knowingly issuing the same as regards any person taking shares in the company on the faith of such prospectus unless he shall have had notice of such contract.

Borrowing Powers.—Sec. 85.—In case a by-law authorizing the same is sanctioned by a vote of not less than two-thirds in value of the shareholders then present in person or represented by proxy at a special general meeting duly called for considering the by-law, the directors may borrow money upon the credit of the company and issue the bonds, debentures or other securities for any sums borrowed at such prices as may be deemed expedient or necessary, but no such debentures or bonds shall be for a less sum than one hundred dollars, and the directors may, under the like sanction, hypothecate or pledge the real or personal property of the company to secure any sums borrowed for the company, provided that the amount borrowed shall not at any time be greater than seventy-five per cent. of the actual paid up stock of the company. This limitation does not apply to the commercial paper discounted by the company.

Tariff of Fees.

1. When the proposed capital stock of the company is \$10,000 or less the fee to be	\$ 20.00
2. When the proposed capital stock of the company is \$10,000 and less than \$25,000 the fee to be	25.00
3. When the proposed capital stock of the company is \$25,000 and less than \$50,000 the fee to be	30.00
4. When the proposed capital stock of the company is \$50,000 and less than \$100,000 the fee to be	40.00
5. When the proposed capital stock of the company is \$100,000 and less than \$200,000 the fee to be	60.00
6. When the proposed capital stock of the company is \$200,000 and less than \$300,000 the fee to be	80.00
7. When the proposed capital stock of the company is to be \$300,000 and less than \$500,000, the fee to be	100.00
8. When the proposed capital stock of the company is \$500,000 and less than \$1,000,000 the fee to be	125.00
9. For every \$500,000 in excess of \$1,000,000 an additional fee of	25.00

SCHEDULE.—FORM A.

Section 5, Sub-Section 4.

Memorandum of Association of the _____ Company, a company for which incorporation by letters patent is sought under the provisions of the New Brunswick Joint Stock Companies Letters Patent Act and a petition for which incorporation accompanies the memorandum agreeably to the Act.

- 1st. The proposed corporate name of the company is "The _____ Company."
- 2nd. The object for which the incorporation of the company is sought is (here state the object of the company) with such other things as are incident thereto.

3rd. The office or principal place of business is to be at
in the County of

4th. The nominal capital of the company is (here state the total capital) to be divided into (here state the number of shares) shares of (here state the amount of each share) dollars each.

5th. The names of the provisional directors of the company are :

of	in the County of	Farmer,
of	in the County of	Merchant,
of	in the County of	Banker.

We, the several persons whose names are subscribed, are desirous of being formed into a company in pursuance of this memorandum of association, and the petition herewith presented, under the New Brunswick Joint Stock Companies Letters Patent Act, and we hereby respectively agree to take the number of shares in the capital of the company set forth opposite our names :

NAME.	ADDRESS.	OCCUPATION.	NO. OF SHARES

Dated the _____ day of _____ A.D.

MANITOBA.

Under the provisions of the Consolidated Statutes of Manitoba (1880-1), p. 218.

Purposes.—Sec. 226.—The Lieutenant-Governor may grant a charter to any number of persons, not less than five, who shall petition therefor and same may be created a body corporate and politic for any of the purposes or objects to which the legislative authority of the Legislature of Manitoba extends, except the construction and working of railways and the business of insurance and the buying and selling of land. The capital stock of a company incorporated under the act can not at any time exceed \$500,000.

Notice.—Sec. 226.—A month's notice of intention to apply, to be given in *Manitoba Gazette*. The notice should give information similar to that required under Sec. 4, of the Dominion Act, *see page 240*.

Petition.—Sec. 226.—Within a month after the last publication the applicants may petition for the issue of Letters Patent :

(1) Such petition must state the facts required to be set forth in the notice, and must further state the amount of stock taken by such applicant, and also the amount, if any, paid in upon the stock of each applicant ;

(2) The petition shall also state whether the amount is paid in cash or transfer of property or how otherwise ;

(3) In case the petition is not signed by all the shareholders whose names are proposed to be inserted in the letters patent it shall be accompanied by a memorandum of association, signed by all the parties whose names are to be inserted, or by their attorneys duly authorized in writing, and such memorandum shall contain the particulars required by the next preceding sub-section.

There is no requirement as to subscription of stock or the payment of a percentage of the stock at the time of the application for incorporation.

Directors.—Sec. 243.—The board of directors shall not be less than three nor more than nine directors.

Borrowing Powers.—Sec. 250.—Similar to Ontario Joint Stock Company, pages 248-9.

Calls.—Sec. 255.—Not less than ten per cent. upon the allotted stock of the company shall, by means of one or more calls, be called in and made payable within one year from the incorporation of the company ; the residue when and as the by-laws of the company shall direct.

Tariff of Fees.

\$500,000 and upwards.....	\$150.00
\$200,000 and less than \$500,000.....	100.00
\$100,000 and less than \$200,000.....	75.00
\$50,000 and less than \$100,000.....	50.00
Less than \$50,000.....	30.00

NORTHWEST TERRITORIES.

UNDER THE PROVISIONS OF "THE COMPANIES' ORDINANCE," REVISED ORDINANCES OF THE N.W.T., 1888, CHAPTER 30.

Purposes.—Sec. 3.—A charter of incorporation may be granted by the Lieutenant-Governor to any number of persons, not less than three, for any of the purposes or objects to which the legislative authority of the Legislative Assembly of the Territories extends.

Notice to be Given.—Sec. 4.—The applicants must advertise by notice published at least once in the *Official Gazette* of the Territories, and in three consecutive weekly issues of any newspaper published at or nearest the place which is to be the chief place of business of the company, their intention to apply for the same :—

- (1) Proposed corporate name of the company.
- (2) The object of the incorporation.
- (3) Place which is to be its chief place of business.
- (4) Proposed amount of its Capital Stock.

(5) The number of shares and amount of each share.

(6) Names in full and address and calling of each applicant with special mention of the names of not less than three nor more than nine of their number who are to be the first directors of the company, the majority of whom shall be resident of Canada.

Petition.—Sec. 5.—Within two months after the last publication of such notice the applicants may petition the Lieutenant-Governor for the issue of such Letters Patent.

Contents of Petition.—Sec 6.—The petition shall set forth :—

(1) The facts contained in the notice.

(2) The amount of stock taken by each applicant and the amount paid in upon the stock of each applicant, as also the manner in which the same has been paid in, and is held for the company.

Sec. 7.—The aggregate of the stock so taken shall be at least the one-half of the total amount of the proposed Capital stock of the company.

Sec. 8.—The aggregate paid in on the aggregate stock so taken shall be at least ten per cent. and shall be paid in to the credit of the company or trustees thereof, and shall be standing at such credit in Canada, unless the object of the company is one requiring that it should own real estate, in which case such aggregate may be taken as paid in if it is *bona fide* invested in real estate suitable to such object which is held by trustees for the company and is of the required value, over and above all incumbrances thereon.

General Powers of Company.—Sec. 30.—Are similar to those under Sec. 24 of the Dominion Act. See page 240.

Number of Directors.—Sec. 34.—Not more than nine and not less than three.

Qualification.—Sec. 36.—Same as in the Dominion Act. See page 241.

Borrowing, &c.—Sec. 44.—Same as in the Dominion Act. See page 241.

Calls.—Sec. 45.—May be made as the directors think fit.

Tariff of Fees.

Sec. 113.—

(1) When the Capital Stock of the company is \$400,000 and upwards the fee to be.....	\$200.00
(2) When the Capital Stock of the company is \$200,000 or upwards, and under \$400,000.....	150.00
(3) When the Capital Stock of the company is \$100,000 and upwards, and under \$200,000.....	100.00
(4) When the Capital Stock of the company is \$50,000 and upwards, and under \$100,000.....	50.00
(5) When the Capital Stock of the company is \$40,000 and upwards, and under \$50,000.....	40.00
(6) When the Capital Stock of the company is over \$10,000, and under \$40,000.....	30.00
(7) When the Capital Stock of the company is \$10,000 or under.....	20.00

BRITISH COLUMBIA.

Prior to 26th April, 1890, the incorporation of joint stock companies was regulated by chapter 21 of the Consolidated Acts (1888), of British Columbia, but by the "Companies Act, 1890," 53 Vic., chap. 6, the stockholders of corporations formed under the provisions of the latter Act are to be subject to the conditions and liabilities of the Act of 1890 only. The Act of 1888 has not been repealed, and as incorporation under the Act of 1890 does not appear to be obligatory, it is apprehended a charter may still be obtained under the provisions of the Act of 1888. There is no doubt, at all events, that the provisions of the Act in respect to foreign corporations being admitted to do business in the Province are still in force.

Under the provisions of the "Companies' Act, 1890," 53 Vic., cap. 6 :—

Purposes.—Sec. 2.—Corporations for any lawful purpose may be formed according to the provisions of the Act, if the purpose comes within any of the classes of subjects in respect of which the Legislature of the Province has the power of legislation; and any such corporation, the members and stockholders thereof, shall be subject to the conditions and liabilities in the Act imposed, and to none others, anything contained in any law to the contrary notwithstanding.

Mode of Incorporation.—Sec. 3.—Any three or more persons who may desire to form a company under the Act may make, sign and acknowledge before some person competent to take the acknowledgment of deeds, a memorandum of association in duplicate, in which shall be stated the corporate name of the company, with the addition of the words "limited liability," the object for which the company shall be formed, the amount of its capital stock, and into how many shares (which must each be for the same amount) divided, the time of its existence (not to exceed fifty years), the number of shares of which the stock shall consist, the number of trustees, and their names, who shall manage the concerns of the company for the first three months, and the name of the city, town or electoral district in which the principal place of business of the company is to be located.

Powers of Corporations.—Sec. 5.—When the memorandum of association referred to in section 3 shall have been filed with the Registrar of Joint Stock Companies, the same shall be the constitution of and binding upon the company, and the Registrar of Joint Stock Companies shall issue, under his hand and seal, a certificate of incorporation, stating that the company so applying for incorporation is incorporated as a company under this Act, and thereupon the persons who have signed and acknowledged the memorandum of association, and their successors, shall be, for the term mentioned in the memorandum of association, a body politic and corporate, in fact and in name, by the name stated in the memorandum of association, of which the trustees mentioned in the memorandum of association, who are to manage the concerns of the company for the first three months, are to be trustees for the first three months, and shall, by their corporate name, have succession for the period limited, and shall have power :—

(a) To issue shares, limited to the number stated in their memorandum of association.

(b) To sue and be sued in any court.

(c) To make and use a common seal, and alter the same at pleasure.

(d) To purchase, hold, sell and convey such real and personal estate as the purposes of the corporation shall require.

(e) To appoint such officers, agents and servants as the business of the corporation shall require; to define the powers, prescribe the duties, and fix the compensation (if any) of such officers, agents and servants from time to time, as occasion may justify.

(f) To require of such officers, agents and servants such security as may be thought proper for the fulfilment of their duties, and to remove them at will, except that no trustee shall be removed from office unless by a vote of two-thirds of the

whole number of trustees, upon a written request signed by holders of two-thirds of the capital stock of the company actually subscribed.

(g) To make by-laws, not inconsistent with this Act, for the organization of the company, the management of its property, the regulation of its affairs, the transfer of its stock, and for carrying on all kinds of business within the objects and purposes of the company.

Liability of Shareholders.—Sec. 6.—No shareholder in any such company shall be individually liable for the debts or liabilities of the company; but the liability of each shareholder shall be limited to the calls and assessments to be legally levied upon the shares held by him.

Additional Powers.—Sec. 8.—All companies incorporated or registered under this Act shall have, in addition to the powers conferred on them by section 5, the following powers, namely:—

(a) The power, subject to the provisions of this Act, to borrow money for the purpose of carrying out the objects of their respective incorporations, but the total amount of money so borrowed, together with all other debts of the corporation, shall not at any time exceed the amount of its capital stock.

(b) The power, subject to the provisions of this Act, to execute mortgages of their real and personal property, to issue debentures secured by mortgages or otherwise; to sign bills, notes, contracts and other evidences of, or securities for, money borrowed, or to be borrowed, by them for the purpose aforesaid, and to pledge debentures as security for temporary loans.

These powers shall not be exercised except with the consent of the shareholders representing two-thirds in value of capital stock of the company actually paid in.

Corporation not to issue Bills, Notes, &c., for circulation as Money.—Sec. 9.—No corporation incorporated or registered under this Act shall, by any implication or construction, be deemed to possess the power of issuing bills, notes or other evidences of debt, for circulation as money, or to enable a corporation by any device, to carry on the business of banking or insurance; but nothing in this section shall be construed into preventing a corporation from issuing bills, notes or other evidences of debt for its obligation.

Corporation may make certain stipulations.—Sec. 10.—It shall be lawful for a company incorporated or registered under this Act to stipulate in any or all of its contracts, mortgages, bills, notes or other evidences of debt, that the property of the company only shall be responsible for the obligation, and that the uncalled up stock or assessments shall not be applied thereto to any extent, and in any such case the creditor or other person entitled to the benefit of any such contract or obligation, shall be deemed to have waived the liability of the individual stockholders to assessment.

Number of Trustees.—Sec. 11.—The corporate powers of the corporation shall be exercised by a board of not less than three trustees, who shall be stockholders in the company and residents of the Province.

Assessments.—Sec. 29.—The trustees of any corporation incorporated under this Act shall have power to levy and collect, for the purpose of paying the proper and legal expenses of such corporation and the obligations thereof, assessments upon the capital stock thereof (the aggregate amount of which, however, is not to exceed the amount of the capital stock), in the manner and form and to the extent hereinafter provided.

Total Amount of Assessment.—Sec. 30.—The total amount of assessment levied upon each share shall not exceed in the aggregate the value at which it was issued.

Limit of Assessment.—Sec. 31.—No one assessment, except as hereinafter provided, shall exceed ten per cent. of the amount of the capital stock of the company named in the memorandum of association actually subscribed, and no assess-

ment shall be levied while any portion exceeding twenty-five per cent. of any previous assessment shall remain unpaid or uncollected, except in cases (a) where all the powers vested in the company by this Act for the purpose of collecting such previous assessments shall have been exhausted; or (b) where the collection of a previous assessment upon one or more stockholders shall have been restrained by injunction or otherwise.

(1) The trustees of any company incorporated or registered under this Act may, with the consent of its shareholders representing at least two-thirds in value of the capital stock of the company actually paid in, levy an assessment not exceeding twenty-five per cent. of the amount of capital stock of the company actually subscribed but not previously called up at the time of such consent being given, and any assessment so levied shall be subject, except as to amount, to all the provisions of this Act relating to the levying and collecting of assessments.

Concurrence of Board to Levy.—Sec. 32.—No assessment shall be levied except by order of the board of trustees, concurred in by a majority of said board, and entered upon the records of the corporation, and notice thereof may be, in a manner, prescribed by the by-laws of the company.

Sec. 46.—Companies organized under the Companies' Act, as incorporated in 1888, may become incorporated under this Act.

Sec. 47.—Companies incorporated under any Act of the Province or late Colonies may receive from Registrar a certificate of registration under this Act.

Schedule of Fees, under this Act.

Filing certificate	\$20.00
Publication in B. C. Gazette	5.00
Every search.....	.50

As already stated (page 257) the Companies' Act of 1878, in the Consolidated Acts of 1888, chapter 21, appears to be still in force, and, for the purpose of reference, a brief abstract is given:—

Sec. 2.—**The Imperial Act.** "The Companies' Act, 1862," has, as far as practicable, and save as altered and modified by Provincial Statutes, the force of law in the Province.

Purposes.—Sec. 12.—Corporations for any lawful purposes may be formed if the purpose comes within the class of subjects in respect of which the Legislature of the Province has the power of legislation.

Mode of Incorporation.—Sec. 13.—Similar to Sec. 3 of the "Companies' Act of 1890." (See page 257.)

Powers of Corporations.—Sec. 16.—Similar to Sec. 5 of the "Companies' Act of 1890." (See page 257.)

Borrowing Powers.—Sec. 17.—Similar to Sec. 8 of the "Companies' Act of 1890." (See page 258.)

Number of Trustees.—Sec. 21.—Similar to Sec. 11 of the "Companies' Act of 1890." (See page 258.)

Debts not to Exceed Assets.—Sec. 26.—If the debts of the corporation exceed the amount of the capital stock paid in, the trustees shall, in their individual and private capacity, be liable, jointly and severally, for the same to the corporation.

Assessments.—Sec. 37.—The trustees have power to levy and collect, for the purpose of paying the proper and legal expenses of the corporation, assessments upon the capital stock thereof.

Total Assessments.—Sec. 38.—The total amount of assessments levied upon each share shall not exceed in the aggregate the par or face value of each share issued.

Limit of Assessments.—Sec. 39.—No one assessment shall exceed 5 per cent. of the stated amount of the capital stock of the corporation named in the articles of incorporation.

Table of Fees Payable under the Foregoing Sections.

Filing certificate	\$20.00
Publication in the B. C. <i>Gazette</i>	5.00
Every search.....	.50

FOREIGN COMPANIES.

SEC. 65.—Any company having seven or more members incorporated in any foreign state may register itself and the members thereof in British Columbia as a company formed on the principle of having no limit placed on the liability of its members, subject to the proviso: That no company shall be so registered unless an assent to its being so registered has been given by three-fourths in number and value of its shareholders at some general meeting summoned for that purpose, nor until a copy of the resolution giving the assent, together with the memorandum of association and a copy of the Act or charter of incorporation, or of the articles of association or deed of settlement, shall have been deposited with the Registrar of Joint Stock Companies of B. C.

SEC. 66.—The memorandum of association shall have the corporate seal of the company affixed thereto, and shall contain the following things:—

- (1) The name of the company, with the addition of the word "foreign" at the end thereof, which word shall thenceforth form part of such name.
- (2) The name of the foreign state in which the company was incorporated, and the place in such foreign state in which the head office is situated.
- (3) The objects for which the company has been established.
- (4) The amount of the capital of the company, and the number of shares into which it is divided and the amount of each share.
- (5) The name, address and addition of each shareholder, and the number of shares held by him.

SEC. 72.—Any company or association which has been, or shall hereafter be, incorporated in any foreign state or country for the purpose of carrying on any business that has for its object the acquisition of gain, and permitted by its charter and Act of incorporation and articles of association to operate in B. C., may register itself and the members thereof under this Act by depositing for registration with the Registrar of Joint Stock Companies of this Province a copy of its Act, certificate and charter of incorporation and articles of association, certified as being a true copy of the same, under the hand of the officer of such foreign country with whom the same is registered and deposited, and having his official seal (if any) attached thereto, and also the written petition of the president and secretary of the said company, signed by them as such, and having attached thereto the corporate seal of the said company,

and acknowledged by such president and secretary before a notary public of such foreign country, praying for registration of the said company under this Act; and thereupon the said Registrar shall issue his certificate of registration, and thenceforth the said foreign company shall be known in this Province by its corporate name, with the addition thereto of the word "foreign."

SEC. 74. Any such foreign company may sue and be sued in its corporate name, and, if authorized so to do by its Act, charter, certificate of incorporation, or memorandum of association, may acquire and hold lands in British Columbia by gift, purchase, or as mortgagees or otherwise, as fully and freely as private individuals, and may sell, lease, mortgage or otherwise alienate the same, and may locate, procure, hold, buy, sell, and operate mineral claims pursuant to the provisions of the "Mineral Act" or any amendments thereto that may hereafter be made, and may carry on the business of milling, smelting, reducing and working its ores, or of obtaining from ores all that they may contain by means of any process, and of purchasing ores for that purpose, and generally have all the rights, powers and privileges of a company incorporated under the laws of the Province of British Columbia, not inconsistent with its Act, charter, certificate of incorporation, or memorandum of association.

SEC. 79. Every foreign mining company thus registered shall take out annually a miner's license in the following form; but a company thus registered, its members or shareholders, shall not be entitled to take out a free miner's certificate, as provided by the "Mineral Act," for the purposes of the company:—

MINER'S LICENSE.

Not Transferable.

This is to certify that the _____ company has paid me the sum of \$5, as a foreign mining company registered under Part IV. of the "Companies Act," 1888, chap. 12, sec. 8.

SEC. 80. The fees payable under this part of this Act to the Consolidated Revenue Fund of the Province shall be as follows:—

For registering copy of Act, certificate or charter of incorporation, and articles of association, and issuing certificate. . . .	\$50
For registering company's office and name, and address of its agent or manager.	10
For every miner's license.	5

THE MINERAL ACT (Consol. Stat., 1888, Cap. 82.)

SEC. 111 makes provision for the formation of mining partnerships where no articles of co-partnership exist, but such mining partnerships, unless otherwise agreed upon, are deemed to be yearly partnerships.

SEC. 121. Any mining company, composed of two or more free miners, may limit the liability of its members upon complying with the requirements following, that is to say:—

Upon filing with the Gold Commissioner or Mining Recorder of the district a declaratory statement, containing the name of the company, the location and size of the claim, and the particular interest of each member of the company; and also placing upon a conspicuous part of the claim, in large letters, the name of the company, followed by the word "registered." After such conditions shall have been complied with, no member of such company shall be liable for any indebtedness accruing there-after beyond an amount proportioned to his interest in the company.



MINING REGULATIONS

TO GOVERN THE DISPOSAL OF

Dominion Lands Containing Minerals Other than Coal.

1890.

THESSE REGULATIONS shall be applicable to all Dominion Lands in Manitoba and the North-West Territories, containing gold, silver, cinnabar, lead, tin, copper, petroleum, iron or other mineral deposits of economic value, with the exception of coal.

Any person may explore vacant Dominion Lands not appropriated or reserved by Government for other purposes, and may search therein either by surface or subterranean prospecting for mineral deposits, with a view to obtaining under the Regulations a mining location for the same, but no mining location or mining claim shall be granted until the discovery of the vein, lode, or deposit of mineral or metal within the limits of the location or claim.

QUARTZ MINING.

A location for mining, except for iron or petroleum, on veins, lodes, or ledges of quartz or other rock in place shall not exceed 1500 feet in length and 600 feet in breadth. Its surface boundary shall be four straight lines, the opposite sides of which shall be parallel, except where prior locations may prevent, in which case it may be of such a shape as may be approved of by the Superintendent of Mines.

Any person having discovered a mineral deposit may obtain a mining location therefor, in the manner set forth in the Regulations which provide for the character of the staking out and the marks necessary to designate the location on the ground.

When the location has been marked conformably to the requirements of the Regulations the claimant shall within sixty days thereafter, file with the local agent in the Dominion Land office for the district in which the location is situated, a declaration or oath setting forth the circumstances of his discovery, and describing, as nearly as may be, the locality and dimensions of the claim marked out by him as aforesaid; and shall, along with such declaration, pay to the said agent an entry fee of FIVE DOLLARS. The agent's receipt for such fee will be the claimant's authority to enter into possession of the location applied for.

At any time before the expiration of FIVE years from the date of his obtaining the agent's receipt it shall be open to the claimant to purchase the location on filing with the local agent proof that he has expended not less than FIVE HUNDRED DOLLARS in actual mining operations on the same; but the claimant is required, before the expiration of each of the five years, to prove that he has performed not less than ONE HUNDRED DOLLARS' worth of labor during the year in the actual development of his claim, and at the same time obtain a renewal of his location receipt, for which he is required to pay a fee of FIVE DOLLARS.

The price to be paid for a mining location shall be at the rate of FIVE DOLLARS PER ACRE, cash, and the sum of FIFTY DOLLARS extra for the survey of the same.

No more than one mining location shall be granted to any individual claimant upon the same lode or vein.

IRON AND PETROLEUM.

The Minister of the Interior may grant a location for the mining of iron or petroleum, not exceeding 160 acres in area, which shall be bounded by north and south and east and west lines astronomically, and its breadth shall equal its length. Provided that should any person making an application purporting to be for the purpose of mining iron or petroleum thus obtain, whether in good faith or fraudulently, possession of a valuable mineral deposit other than iron or petroleum, his right in such deposit shall be restricted to the area prescribed by the Regulations for other minerals, and the rest of the location shall revert to the Crown for such disposition as the Minister may direct. The Regulations also provide for the manner in which stone quarries may be acquired.

PLACER MINING.

The Regulations laid down in respect to quartz mining shall be applicable to placer mining as far as they relate to entries, entry fees, assignments, marking of localities, agents' receipts, and generally where they can be applied.

The nature and size of placer mining claims are provided for in the Regulations, including bar, dry, bench, creek or hill diggings, and the RIGHTS AND DUTIES OF MINERS are fully set forth.

The Regulations apply also to

BED-ROCK FLUMES, DRAINAGE OF MINES AND DITCHES.

The GENERAL PROVISIONS of the Regulations include the interpretation of expressions used therein; how disputes shall be heard and adjudicated upon; under what circumstances miners shall be entitled to absent themselves from their locations or diggings, etc., etc.

THE SCHEDULE OF MINING REGULATIONS

Contains the *forms* to be observed in the drawing up of all documents such as:—
“Application and affidavit of discoverer of quartz mine.” “Receipt for fee paid by applicant for mining location.” “Receipt for fee on extension of time for purchase of a mining location.” “Patent of a mining location.” “Certificate for the assignment of a mining location.” “Application for grant for placer mining and affidavit of applicant.” “Grant for placer mining.” “Certificate of the assignment of a placer mining claim.” “Grant to a bed-rock flume company.” “Grant for drainage.” “Grant of right to divert water and construct ditches.”

Since the publication, in 1884, of the Mining Regulations to govern the disposal of Dominion Mineral Lands, the same have been carefully and thoroughly revised with a view to ensure ample protection to the public interests, and at the same time to encourage the prospector and miner in order that the mineral resources may be made valuable by development.

COPIES OF THE REGULATIONS MAY BE OBTAINED UPON APPLICATION TO THE DEPARTMENT OF THE INTERIOR.

A. M. BURGESS,

Deputy Minister of the Interior.



PROVINCE OF NOVA SCOTIA.

—LEASES FOR MINES OF—

GOLD, SILVER, COAL, IRON, COPPER, LEAD, TIN

—AND—

PRECIOUS STONES.

TITLES GIVEN DIRECT FROM THE CROWN.

ROYALTIES AND RENTALS MODERATE.

GOLD AND SILVER.

Under the provisions of chap. 7, Revised Statutes of Mines and Minerals, Licenses are issued for prospecting Gold and Silver for a term of six months, which can be extended by renewal for another six months. Mines of Gold and Silver are laid off in areas of 150 by 250 feet, any number of which up to one hundred can be included in one License, provided that the length of the block does not exceed twice its width. Up to ten areas the cost is 50 cents per area, for every area in addition in same application 25 cents. Cost of renewal one-half the original fees. Leases of any number of areas are granted for a term of 21 years at \$2.00 per area. These leases are forfeitable if not worked, but advantage can be taken of a recent Act by which on payment of 50 cents annually for each area contained in the lease it becomes non-forfeitable if the labor be not performed.

Licenses are issued to owners of quartz crushing mills who are required to pay Royalty on all the Gold they extract at the rate of two per cent. on smelted Gold valued at \$19 an ounce, and in smelted Gold valued at \$18 an ounce.

Applications for Licenses or Leases are receivable at the office of the Commissioner of Public Works and Mines each week day from 10 a.m. to 4 p.m., except

Saturday, when the hours are from 10 to 1. Licenses are issued in the order of application according to priority. If a person discovers Gold in any part of the Province, he may stake out the boundaries of the areas he desires to obtain, and this gives him one week and twenty-four hours for every 15 miles from Halifax in which to make application at the Department for his ground.

MINES OTHER THAN GOLD AND SILVER.

Licenses to search for twelve months are issued, at a cost of twenty dollars, for minerals other than Gold and Silver, out of which one square mile can be selected for mining under lease. These leases are for four renewable terms of twenty years each. The cost for the first year is fifty dollars, and an annual rental of thirty dollars secures each lease from liability to forfeiture for non-working.

All rentals are refunded if afterwards the areas are worked and pay royalties. All titles, transfers, etc., of minerals are registered by the Mines Department free of charge, and provision is made for lessees and licensees, whereby they can acquire promptly either by arrangement with the owner or by arbitration all land required for their mining works.

The Government as a security for the payment of royalties, makes the royalties first lien on the plant and fixtures of the mine.

The unusually generous conditions under which the Government of Nova Scotia grants its minerals have introduced many outside capitalists, who have always stated that the Mining Laws of the Province were the best they had had experience of.

The royalties on the remaining minerals are: Copper, four cents on every unit; Lead, two cents upon every unit; Iron, five cents on every ton; Tin and Precious Stones, five per cent.; Coal, 7½ cents on every ton sold.

The Gold district of the Province extends along its entire Atlantic coast, and varies in width from 10 to 40 miles, and embraces an area of over three thousand miles, and is traversed by good roads and accessible at all points by water. Coal is known in the Counties of Cumberland, Colchester, Pictou and Antigonish, and at numerous points in the Island of Cape Breton. The ores of Iron, Copper, etc., are met at numerous points, and are being rapidly secured by miners and investors.

Copies of the Mining Law and any Information can be had on Application to

The HON. C. E. CHURCH,

Commissioner of Public Works and Mines,

HALIFAX, NOVA SCOTIA.



Province of New Brunswick,

—%—

Synopsis of "The General Mining Act," Chapter 16, 54th Victoria.

—%—

LEASES FOR MINES OF

Gold, Silver, Coal, Iron, Copper, Lead, Tin,

—AND—

PRECIOUS STONES.

—%—

GOLD AND SILVER.

PROSPECTING LICENSES up to 100 areas, (each 150 feet by 250 feet), issued at 50 cents an area up to 10 areas, and 25 cents afterwards per area, good for one year. These Licenses can be renewed for second year, by payment of one half above amount.

LEASES for 20 years to work and mine, on payment of \$2 an area of 150 feet by 250 feet. Renewable annually at 50 cents an area in advance.

Royalty on Gold and Silver, $2\frac{1}{2}$ per cent.

MINES OTHER THAN GOLD AND SILVER.

LICENSES TO SEARCH, good for one year, \$20 for 5 square miles. Lands applied for must not be more than $2\frac{1}{2}$ miles long, and the tract so selected may be surveyed on the Surveyor General's order at expense of Licensee, if exact bounds cannot be established on maps in Crown Lands Office. Renewals for second year may be made by consent of Surveyor General, on payment of \$20.

Second Rights to Search can be given over same ground, subject to party holding first Rights, on payment of \$20.

LEASES.—On payment of \$50 for one square mile, good for two years, and extended to three years by further payment of \$25. The lands selected must be surveyed and returned to Crown Land Office. Leases are given for 20 years, and renewable to 80 years. The Surveyor General, if special circumstances warrant, may grant a Lease larger than one square mile, but not larger than two square miles.

ROYALTIES.

Coal, 10 cents per ton of 2,240 lbs.; Copper, 4 cents on every 1 per cent. in a ton of 2,352 lbs.; Lead, 2 cents on every 1 per cent. in a ton of 2,240 lbs.; Iron, 5 cents per ton of 2,240 lbs.; Tin and Precious Stones, 5 per cent. of value.

APPLICATIONS can be filed at the Crown Land Office each day from 9.30 a.m. to 4.30 p.m., except Saturday, when Office closes at 1 p.m.

L. J. TWEEDIE,

Surveyor General.

H. S. HOWLAND, SCNS & CO.,

WHOLESALE HARDWARE,

37 FRONT STREET WEST, TORONTO, CAN.

Rope, Chains, Tools, Blasting Powder, Fuse, Etc., Etc.

J. T. DONALD, M.A.,

Analytical Chemist and Assayer.

124 ST. JAMES STREET, MONTREAL.

Analyses and Assays of every description. Manufacturing processes practically tested. Laboratory instruction in Chemistry, Assaying and Mineralogy. Terms on application.

IRWIN, HOPPER & CO.,

Miners and Shippers of Minerals.

30 ST. FRANCOIS XAVIER STREET,

Montreal, Canada.

Asbestos, Crude and Manufactured. Phosphate, Mica, Plumbago, Soapstone, &c.

T. D. LEDYARD,

DEALER IN

MINES AND MINERAL LANDS.

57 COLBORNE ST., TORONTO, CANADA.

SPECIALTIES :

*Phosphates, Asbestos, Mica,
Bessemer Iron Ores, Nickel.*

CORRESPONDENCE SOLICITED.

John E. Hardman, S.B.

MINING ENGINEER,

Oldham, Nova Scotia,

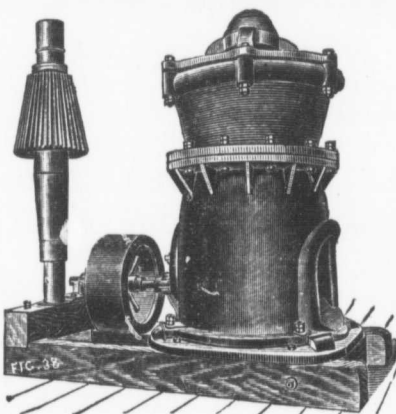
Can be consulted on all matters pertaining to the profession. The development and management of Gold Properties a specialty.

Our FRICTION GRIP PULLEYS

ARE THE ONLY SPLIT GRIP PULLEYS & CUT OFF COUPLINGS MADE. GIVE EVERY SATISFACTION AS DRIVERS OR DRIVEN PULLEYS. FULLY GUARANTEED.

WATEROUS ENGINE WORKS Co.
BRANTFORD, CANADA.

GATES ROCK AND ORE BREAKER.



Capacity in Tons of 2,000 Pounds.

Size 0— 2 to 4 tons per hour.

" 1—	4 to 8	"	"
" 2—	6 to 12	"	"
" 3—	10 to 20	"	"
" 4—	15 to 30	"	"
" 5—	25 to 40	"	"
" 6—	30 to 60	"	"
" 7—	40 to 75	"	"
" 8—	100 to 150	"	"

Passing $2\frac{1}{2}$ in. ring, according to character and hardness of material.

Great Saving in Power. Adjustable to any degree of fineness.

The principle involved in this Breaker is acknowledged to be the greatest success ever introduced into Stone Breaking Machinery. The Gates Breaker has made more railroad ballast and road metal than all other kinds of Breakers combined.

Universally adopted by Mining companies. Many hundreds used by Railway companies.

Will furnish 1,000 references from Contractors, Street Superintendents, Miners, Cement Manfrs, &c.
Address for Catalogue, ALSO MANUFACTURED BY

WATEROUS ENGINE WORKS CO., LTD.

Brantford, Ont., Canada,

Or **GATES IRON WORKS**, 50 South Clinton St., Chicago, U.S.A.

Branch Offices—44 Dey St., New York City; 73a Queen Victoria St., London, Eng.

RICHARDS & CO., LIMITED,

IMPORTERS AND MANUFACTURERS OF

Chemicals, Assayers' and Chemists' Supplies.

NEW YORK :
41 BARCLAY ST.

NEWARK, N. J. :
863 & 865 BROAD ST.

CHICAGO :
112 & 114 LAKE ST.

EBEN E. OLCOTT,

CONSULTING AND MINING ENGINEER.

18 BROADWAY, NEW YORK.

Cable Address : Kramolena.

**Examinations made and Reports rendered on Mines
and Mineral Properties.**

METALLURGICAL WORKS AND PROCESSES.

Will act as permanent or special advising engineer of mining companies.
Represents Mr. M. P. Boss, of San Francisco, and his system of continuous
milling for the amalgamation of gold and silver ores.

STAMPS !

PRITCHARD & ANDREWS,

173 and 175 SPARKS STREET.

OTTAWA, ONT.,

**General Engravers, Rubber Stamp Manufacturers,
Scale Makers and Brass Workers.**

**Brands, Steel Stamps, Time Checks and Tags.
Stencils and Ink, Scales and Weights.**

JOHN A. CROSS,

Consulting, Electrical and Mechanical
Engineer and Expert.

136 LIBERTY ST., NEW YORK.

Electrical Exchange Building, - Room 216.

Lighting or Power Plants Designed
and Constructed.

JOHN STEWART,

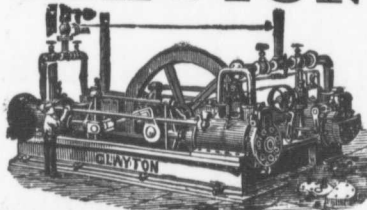
MINING ENGINEER,

181 Bay Street, Ottawa, Ont.

Reports Made on Mineral Properties.

Mines and Mineral Lands Bought
and Sold.

CLAYTON



Air Compressors
FOR ALL PURPOSES AND PRESSURES.
Send for Catalogue No. 6.
CLAYTON AIR COMPRESSOR WORKS.
43 Dey Street, New York.

C. V. M. TEMPLE,

(Late President Megantic Min. Co., Que.)
MINES AND MINING LOCATIONS FOR SALE.
CORRESPONDENCE SOLICITED.

Office and Residence

47 ST. GEORGE ST., TORONTO, ONT.

AGENTS:

Henry De Q. Sewell, Dominion and Provincial
Land Surveyor, Mining Engineer, etc., Port
Arthur, Ont.
Thos. T. McVittie, Provincial Land Surveyor,
Kootenay, B.C.
Lane, Faggie & Andrews, Solicitors, Arundel St.
Strand, London.



JOHN J. GARTSHORE,
Railway and Tramway Equipment.

NEW AND SECOND HAND RAILS, CARS, ETC.

49 FRONT ST., WEST,
TORONTO.

ORFORD COPPER CO.

ROBERT M. THOMPSON, President,
37 WALL STREET, NEW YORK.

COPPER SMELTERS.

WORKS AT CONSTABLE'S HOOK, N. J.

(OPPOSITE NEW BRIGHTON, STATEN ISLAND.)

Copper Ore, Mattes or Bullion Purchased. Advances made on
Consignments for Refining and Sale.

Specialty Made of Silver-Bearing Ores and Mattes.

COPPER INGOTS, WIRE BARS AND CAKES.

FERRO-NICKEL AND FERRO-NICKEL OXIDES,

FOR USE IN PREPARING NICKEL STEEL FOR

ARMOR PLATES.

NICKEL AND NICKEL OXIDES.

ROBIN & SADLER
MANUFACTURERS OF
Leather Belting
SPECIALTIES
DYNAMO BELTS
WATERPROOF BELTING
MONTREAL TORONTO
2518 & 2520 NOTRE DAME ST. 129 BAY ST.

ROBB ENGINEERING CO'Y, LIMITED.

SUCCESSORS TO A. ROBB & SONS.

AMHERST, N.S., CANADA.

The Monarch Economic Boiler. Patented Canada, May 6, 1886; Feb. 10, 1887;
Dec. 27, 1887. Patented U.S.A. May 6, 1886;
Feb. 10, 1887; Dec. 27, 1887.

It is the strongest and most portable boiler in use, and its high economy in fuel makes it especially valuable. Tested evaporation, 10.25 lbs. of water per lb. of combustible from ordinary Nova Scotia coal.

MANUFACTURERS OF

THE ROBB-ARMSTRONG AUTOMATIC ENGINE,

Built on the American Interchangeable System.

For Electric Power, and other work requiring close economy and the best workmanship.

THE
Canadian . Mining . Review.

ESTABLISHED 1882.

The Official Organ of the Gold Miners' Association of the Province of Nova Scotia and the representative exponent of the Coal, Iron, Phosphate, Asbestos, Silver, and other mineral industries of Canada.

Subscription per Annum, - - - \$2.00.
Subscription in Great Britain and Europe, 2.50.

ADVERTISING RATES ON APPLICATION.

ADDRESS AT OFFICES:

VICTORIA CHAMBERS, OTTAWA, ONT.

CARRIER, LAINÉ & CO.,
Founders, Machinists, and Boiler Makers.

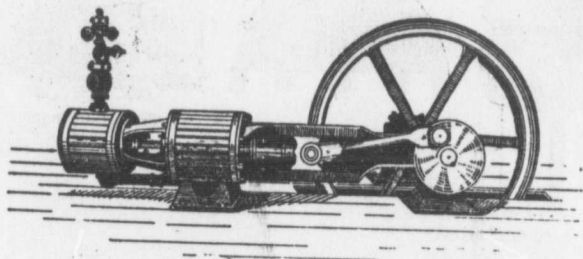
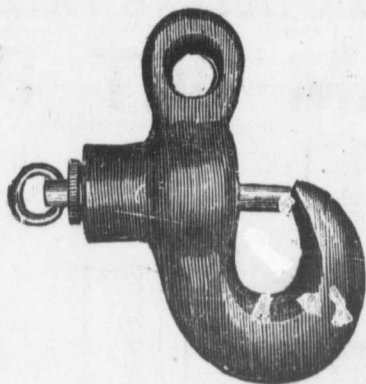
LEVIS, QUE.

Engines, Boilers, Steam Pumps, Hoisting Gear, and all Machinery for Miners, Contractors, and Quarrymen. Also Builders' Castings, Stove Fittings, Hollowware, Flour and Saw Mill Machinery, Marine Engines and Boilers, &c.

Write for Our Prices.

W. W. HOWELL & CO.

HALIFAX, N.S.



MANUFACTURE

HOISTING ENGINES

AND

ENGINES OF ALL KINDS,

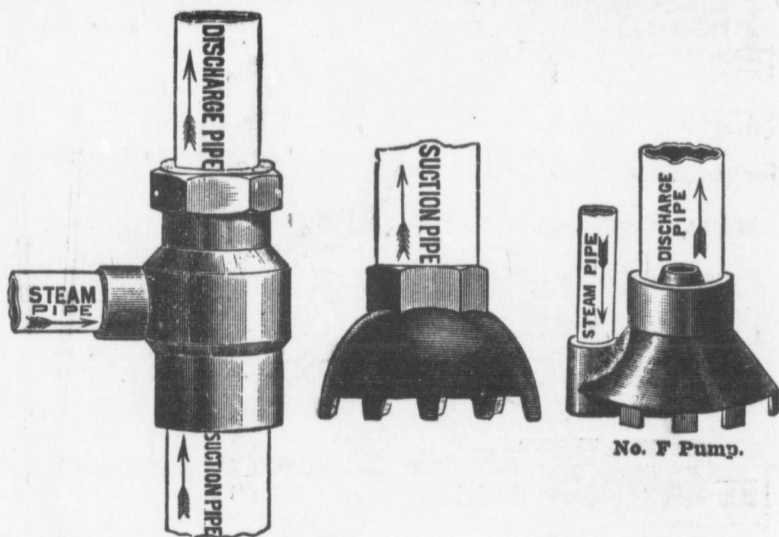
SUITABLE FOR

The Gold Miner, the Colliery, the Contractor
and the Quarryman.

Give us a call, or write to us before placing your order elsewhere.

Dominion : Metal : Works.

VAN DUZEN'S PATENT STEAM JET PUMP.



No. L Pump and Strainer.

This Pump can pump Hot or Cold, Sandy or Impure Water or Liquids.

CLASSIFIED USES FOR

Railroads, Mines, Quarries, Gas Works, Tanneries, Paper Mills, Chemical Works, Woolen and Cotton Mills, Soap, Oil and Candle Works, Brick and Tile Works, Breweries, Distilleries, etc., Sugar Works, Refineries, etc., Creameries and Cheese Factories, on Steamboats, Irrigating and Draining, Road Engines and Threshing Machines, Public and Private Institutions.

SEND FOR ILLUSTRATED CATALOGUES.

Garth & Co., 536 to 542 Craig St., Montreal.

AGENTS AND MANAGERS FOR THE DOMINION.