The Right of Way Mining Company

And Successor Companies

COBALT, ONTARIO

RIGHT OF WAY MINE – NO. 2 SHAFT Allan Stacey ©

A BRIEF HISTORY COMPILED BY ALLAN STACEY ©

Foreword

For over a century, passengers on trains arriving and departing Cobalt have had an opportunity for a close up view of the iconic Right of Way Mining Company's No. 2 Shaft as the train necessarily slowed down or accelerated after reaching, or leaving, the station.

The Right of Way Mining Company, in the collective history of the Cobalt mining camp, was only relatively successful, given the constraints of its land package. Its history provides a fascinating observation into the maneuverings of mining, finance and the politics of the day.

A section of this monograph has been set aside to record something of the various individuals involved with this mining company and its mines. The biographies are not meant to be extensive, but to give a brief picture of that person, in the hopes others may wish to carry out their own research. It has been the author's experience that many individuals who have been instrumental in the development of the mining industry are given short shrift when their lives are reviewed on their passing. Quite often, mention is not made of their mining industry contributions.

An adapted glossary includes mining-related terms as well as explanations, in some cases, as how they pertain to the Cobalt camp.

The author has attempted to ensure that facts within this monograph are as accurate as can be established based on data available. There is an old adage: "Figures don't lie, but liars can figure!" which sums up the difficulties of researching some of the material that is now over a century old. Names of individuals often provide the most problems, as in some cases their spelling varies from company reports, newspaper reports and even from Canada census to census. Railway mileages are subject to revisions as a result of right of way realignments and improvements.

Since record keeping was lax during the heady boom days, a lot of the reported information may be assumed to lean toward being incorrect. Depths of levels, lengths of drifts, number of miners, tons raised, silver ounces, etc. often don't match from Government report to newspaper and trade journal reportage. Approach with caution!

Successor companies have not been dealt with as thoroughly as the original 1906-1920 Right of Way Mining Company/Right of Way Mines due to lack of reliable information.

Proper titles of most early mining companies included "The" in their incorporated titles, as in "The Right of Way Mining Company." By 1920 this prefix had largely been eliminated and for the sake of brevity may occasionally be eliminated in this monograph.

 This monograph has not been aided by AI (Artificial Information) thus preserving the author's quirks of grammar, spelling, punctuation, etc. Please persevere!

Allan Stacey
Chelmsford, Ontario

The author spent the better part of 1965 cutting his teeth in underground mining while working for *Agnico Mines Limited* at the company's O'Brien, Violet, 407, Cart Lake, Christopher and Cobalt Lode properties.

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About the Author

Allan Stacey - Geophysical exploration Keno Hill, Yukon, 1963

Allan Stacey was born in Toronto, Ontario to parents who both served overseas during WWII. Attended public and high schools in Peterborough and Lakefield, Ontario and the Provincial Institute of Mining at Haileybury, Ontario. Worked in geophysical exploration in the Yukon Territory, Northwest Territories, northern Quebec and southern Ontario. In 1965 worked in both mining and surveying at *Agnico Mines, Limited*, followed by thirty years in mineral processing and metallurgy for *Falconbridge Nickel Mines, Limited* in Ontario, Manitoba and the Dominican Republic as well as ore process development for *Cyprus Anvil Corporation* in the Yukon Territory. Has held an Ontario Miner's/Prospector's License since 1961.

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Miscellaneous

Discoveries at Mileage 103 on the T. & N.O. Rwy and Rules are Set

When the construction of the *Temiskaming and Northern Ontario Railway* reached what is now Cobalt, the metal of interest was at first not cobalt or silver, but nickel. One of the very first indications of the mineral wealth of the area was reported in a November 16th, 1903 edition of the Toronto *Globe* in an article entitled, "*Nickel in Temiskaming.*"

Previously, on November 11th of the same year, the Ontario Government, through an order in council, had withdrawn from sale or lease, under the Mines Act, exploration rights to a belt of land ten miles wide from the northern boundary of Widdifield Township to the town of New Liskeard, the terminus of the railway at that date. Like the construction of the *C.P.R.* transcontinental railway, this was to deter prospectors, and others, from interfering with *T&NO Rwy* construction by siphoning off workers.

Earlier, potential ores of nickel, cobalt, silver and arsenic had been found near the shore of Long Lake (Cobalt Lake). The newspaper went on to be impressed with the occurrence of niccolite, a mineral containing almost 44% nickel, as well as minerals containing both cobalt, nickel and considerable arsenic. Almost as an aside the article mentioned that "handsome specimens" of native silver had been discovered. The paper summed it up thus:

"The value of these discoveries, if they turn out to be extensive, can be realized by a comparison with the famous Sudbury deposits. In Sudbury 3 per cent of nickel in the ore is the average, and five per cent is exceedingly rich. In the new discoveries the ore carries 44 per cent of nickel. A much smaller body of nickel therefore in Temiskaming will constitute a mine than in the nickeliferous pyrrhotite region of Sudbury."

The Cobalt mining camp, as is nearly every major mineral find, is surrounded by the "myth of discovery." The number of times that blacksmith Fred La Rose is mentioned as the discoverer of the silver camp when he threw his hammer at a curious fox would fill reams of newsprint. Interestingly, when La Rose visited Cobalt in September 1908, a newspaper correspondent reported:

"During the summer of 1903, while engaged as a railway blacksmith on the construction of the T. & N.O. Railway, Mr. La Rose threw his hammer at a ***rabbit*** *which passed close to where he was working. Instead of striking the rabbit he hit a vein which was worth $6,000,000, and which he sold afterwards for less than $30,000."*

Other sources noted that La Rose had (1) stubbed his toe on a native silver vein that protruded from the country rock and (2) thrown his hammer at a "recalcitrant mule" who had kicked him while shoeing and had missed, with the result that "the hammer knocked off a piece of rock revealing silver."

Needless to say, the actual events were more mundane and were described in detail in an *Ontario Bureau of Mines* annual report. The presence of the great Provincial geologist Willet Green Miller in the earliest days of the camp lent credence to those reports.

It might also be noted, particularly in the case of *The Right of Way Mining Company*, that the outright leasing of property was no guarantee that "mineral in place" occurred on the properties in question. It has been a generalization that individuals or companies cannot claim land for exploration or eventual mining purposes without some indication of mineral values having been discovered.

An Interesting Comparison

There is an interesting comparison between the previously mentioned Sudbury nickel-copper mining district and the Cobalt silver-cobalt area. From July 11th to July 23rd of 1884, the 60 year-old curmudgeonly Dr. Alfred Richard Cecil Selwyn, of the Geological Survey of Canada, traveled by handcar up the under-construction *Canadian Pacific Railway* from Ottawa to the, then, terminus northwest of Sudbury on the main line at Pogamasing examining the rock cuttings along the way. Selwyn stated that he examined many of the cuts along the new line and that in 364 miles (586 kms.) the only metalliferous vein encountered was "in a small cutting about four miles (6.4 kms) west of Sudbury." Unfortunately, Selwyn was less than enthused over the pyritic content of the vein and reported negatively on it, not realizing the nickel content, consequently delaying its development* for a year, or so, into the great nickel-copper region. It was fortunate that the geography of the area led the CPR to build its main line and its Algoma branch line nearly through the center of the camp.

* In 1885, American John Heard, Jr., opened the first recorded mine in the Sudbury area for Dr. William Seward Webb of New York City, the objective at the time being copper

A nearly parallel situation occurred during the construction of the *Temiskaming and Northern Ontario Railway*. If one considers the total distance from Toronto to Cobalt as a similar situation, the discovery of the Cobalt silver region was, to 1903, the only significant mineral discovery in those 300 miles (483 kms.). And in a strange twist, nickel was the first metal of interest, while silver almost immediately became the main focus.

Mining for Royalty

The *Temiskaming and Northern Ontario Railway*, being an Ontario Government railway, was dissimilar from Private Act railways in that it was managed by a commission, rather than by a board of directors. The Province, representing the citizens of the Province, initially granted the Commission a right of way and town sites along the proposed route and later added mineral rights under the right of way and some of the town sites.

The *Temiskaming and Northern Ontario Railway* was desirous of operating a railway and not entering into mining, so advertised tenders for mining leases. The text of the tender, which, in this case, was advertised in the Montreal *Gazette* on April 6th, 1906, is reproduced in part:

"Sealed tenders addressed to the Temiscaming (sic) and Northern Ontario Railway Commission, 25 Toronto Street, Toronto, up to 12o'clock noon on Thursday, May 10th, 1906, for a 999 year mining lease of the portion of the right of way of the Temiskaming (sic) and Northern Ontario Railway lying north of Cobalt Lake and east of the 99 feet regular right of way, together with license as appurtenant to such leas to prospect and mine on the two following portions of the right of way:

(a) Between mileage 101 and the intersection of the right of way with the southerly shore of an arm of Cobalt Lake being 1,840 feet more or less north of mileage 102.

(b) Between the intersection of the right of way and the northerly shore of Cobalt Lake being 1,450 feet more or less northerly from mileage 103 to mileage 105.

"Terms of lease and of agreement governing appurtenant rights to be subject to the approval of the Commission for inspection, audit and security for payment and to reserve a rental of $500 per annum plus 10 per cent of the gross value at the mouth of the mine of ore mined assaying less than $400 per ton; 25 per cent of the gross value at the mouth of the mine assaying $400 per ton, but not exceeding $1,000 per ton and 50% of the gross value at the mouth of the mine of ore assaying $1,000 per ton and upwards.

"An accepted cheque on a chartered Bank of Canada payable to the order of the Chairman and Secretary-treasurer of the Commission for the amount of cash bonus (which must not be less than $50,000) tendered for such lease must accompany each tender.

The party whose tender is accepted will be required to enter promptly into a formal lease and agreement satisfactory to the Commission, failing which his deposit will be absolutely forfeited to the Commission."

Prospective mining lands, particularly in the Cobalt area, were eventually leased to the *Cobalt Townsite Mining Company*; *Limited*; *The City of Cobalt Mining Company*; *Limited; The Nancy Helen Mines, Limited* and *The Right of Way Mining Company, Limited*, the subject of this monograph.

The Silver Queen mine, adjacent to *The Right of Way Mining Company's* southern portion of its property, was a ten-acre lot which was sold to *Cobalt Silver Queen, Limited* for $810,000 outright, rather than a lease with royalties. This was a considerable up-front financial burden to be placed on a company not knowing if the ground would contain sufficient silver-bearing vein structures to return its investment and ultimately make some profit for shareholders.

In another example of *T&NO Rwy's* methods, the *Cobalt Townsite Mining Company*, also holding a ten-acre lot, adjacent to the Silver Queen and the *T&NO Rwy's.* right of way, leased its property for 999 years with a bonus payment of $50,000 cash. The cash bonus was augmented with a royalty on all ore mined.

It is interesting to note that the *T &NO Rwy* received, up to the end of October 1914 from *The Cobalt Townsite Mining Company*, royalties of $279,482 and from *The Right of Way Mining Company* and its second iteration, *The Right of Way Mines*, royalties of $272,109. The Silver Queen mine from 1904 to 1914 is listed as having shipped only 2,195 tons, so it is quite likely the nearly one million dollar outright purchase was a questionable decision.

Other mines in the Cobalt camp paid royalties directly to the Ontario Government, as they were outside the *T&NO Rwy's* catchment area and followed rules established by the Ontario mining companies incorporation act.

In on the Ground Floor by Questionable Means

On June 27th, 1906 the *Temiskaming & Northern Ontario Railway Commission* held a meeting at its Toronto office to complete negotiations for tendering mining leases on portions of the *T&NO Railway*. These leases were portions of the right of way between the 101st and 102nd mile, (1,840 feet) and between the 103rd and 105th mile (1,450 feet). *The Right of Way Mining Company's* lease did not contain the rights to that portion of the railway right of way adjacent to the west shore of Cobalt Lake, probably to retain access to water for the steam locomotives of the day. The three-acre enlargement of the property at the north end of Cobalt Lake, the site of No. 2 shaft was likely compensation for the loss of the shoreline section.

The Commission noted that it would not announce the successful tender and terms for a few days, but the *Globe and Mail* was certain that the terms, at least, would be:

- A cash bonus of $50,000
- A royalty of 10 percent for the gross value of ore mines and assaying less than $400 per ton; 25 percent for ore assaying between $400 and $1,000 per ton; and 50 percent for ore assaying over $1,000 per ton.
- A rental of $300 per year for any necessary sheds or buildings on the right of way.

At the same time an agreement was made with a syndicate for mining rights on sixty town lots in Cobalt and another syndicate with forty lots, each syndicate to pay $150 per lot as well as named royalties.

The lease arrangement diminished concern over the failure of the Ontario Government to bring down legislation addressing mining revenues, and that these leases would provide at least some income. Apparently the Government was still licking its wounds over fraudulent activities with regard to the loss of revenue from timber stumpage dues.

In July of the same year, Cecil Brunswick Smith, Chairman of the *Temiskaming and Northern Ontario Railway Commission,* confirmed to a newspaper reporter that a company had secured the mining privilege along the *T&NO Rwy* right of way between the 101st and 105th miles in the immediate area of Cobalt. The franchise was for 999 years, a standard period for that era. The company was to pay a spot bonus of $50,000. When pressed for details, Smith admitted that George Patterson Murphy, son of Denis Murphy, one of the commissioners of the *T&NO Rwy* and John Proctor Dickson, secretary of the *Canadian Railway Accident Insurance Company*, of which Denis Murphy was President, were two of the principal incorporators of the *Right of Way Company,* an Ottawa syndicate. The newspapers opined; *"Great surprise is expressed on all sides that Denis Murphy should be a party to handing out such a valuable franchise to relatives and business associates."* Great surprise, indeed. Smith, himself, thought there was nothing irregular or improper in the granting of the tender by the commission, and that the Ottawa syndicate was the only tender meeting the requirements.

Very shortly afterward it was revealed that the Commission had changed their terms for submission of tenders and didn't advertise the changed conditions, effectively tilting the table in favor of the Ottawa syndicate. Digging himself in deeper, Cecil Brunswick Smith thought that the right of way was of minor value and that the Ottawa syndicate had taken a big gamble and that it was a "doubtful venture." By the end of July the affair had become a full-blown rumble between the Liberal and Conservative newspapers. Shortly after, the acting Premier of Ontario, the Hon. James Joseph Foy, noted that the Commission did not have the absolute right to lease the railway right of way in Cobalt, and that it needed to have the approval of the Lieutenant-Governor in Council and that the lease would then come before the Executive Council for approval.

A View From South of the Border

The voice of the American mining industry, and elsewhere, the *Engineering and Mining Journal*, had its views on the affairs of the railway commission. It noted that:

"The grant of mining privileges on the right of way of the Temiskaming and Northern Ontario through the Cobalt area is strongly denounced by newspapers and public men, including many supporters of the Whitney administration, as a piece of political grafting."

"They (the Commission) duly advertised for tenders for four miles of the right of way. The terms upon which a 999-year lease would be given, as stated in the call for tenders, included the payment of a cash bonus of not less than $50,000, and the royalties on the output to be paid on a sliding scale of 10% on ores assaying up to $400 per ton; 25% on ore from $400 to $1,000 per ton and 50% on ore over $1,000 per ton."

"There were no tenders received, but shortly after the expiration of the time for receiving bids, it was announced that a lease had been granted to the Right-of-Way Mining Company, of Ottawa. The assumption was that the concession was in accordance with the terms advertised, but on investigation it turned out that an important variation had been made, a royalty at a flat rate of 25% of the value of all ore mined having been

substituted for the sliding scale. Moreover, George Patterson Murphy, one of the leading promoters of the company, is a son of Denis Murphy, a member of the Commission. The scandal created by the exposure, at a time when the people are extremely sensitive on the subject of political corruption or favoritism, will probably result in the deal being canceled by the Government, as all acts of the Commission are subject to approval."

"The Commission has been instructed to call for fresh tenders. The Company claims compensation for expenses incurred and say they will bring suit if they are not recouped."

A Company is Finally Incorporated, But a Fly Appears in the Ointment

Meanwhile, the Ontario Gazette recorded the incorporation, on July 13th, 1906, of *The Right of Way Mining Company of Ottawa* with a share capital of $500,000 in one dollar shares. The charter fell under the Ontario mining companies incorporation act, allowing the Company to mine, mill, reduce (smelt or refine) and develop their holdings. The provisional directors of the Company were listed as: George Patterson Murphy, James Barnet MacLaren, John Proctor Dickson and Edwin Septimus Leetham. Newton James Kerr, Ottawa city engineer, was mentioned elsewhere as being among the members of the syndicate.

On August 3rd 1906 the Toronto *Globe* under the title, "A Good Old Tory Scandal" produced a facsimile of a letter sent by Cecil Brunswick Smith, dated June 18th, 1906 and addressed to George Albert Loney of Sudbury. Chairman Smith of the *T&NO Rwy* commission informed Loney "the Commission is not prepared to consider any offer except one, made on the basis of the advertisement recently issued." The back story is that Loney, a Sudbury prospector and Thomas Clemow, another well known Sudbury prospector and mine developer, along with James Donald Taylor, had made an application for a five mile mining lease of the *T&NO Rwy* right of way in Cobalt in June of 1905. Loney had put in an offer of 50% royalty on the net value of the ore after the cost of mining and smelting had been deducted. The Commission replied with an emphatic "no" and shortly afterwards announced, amazingly, that no offer had been made with regard to its own advertisement specifications. The paper went on to compare the potential revenue from Loney's rejected application versus that of *The Right of Way Mining Company's* accepted application and surmised that Loney's lease would have produced more revenue for the Province. The paper concluded that acting Premier Foy would not dare sign the Murphy lease because of the appearance of political impropriety.

The very next day, August 4th, the Railway Commission, at that time comprised of Chairman Cecil Brunswick Smith of Toronto, Jacob (Jake) Lewis Englehart of Petrolia and Denis Murphy of Ottawa announced that they had declined to approve a lease to *The Right of Way Mining Company of Ottawa* under the original terms. The Commission had been advised by the Ontario Government to call for new tenders under new terms, which included the same minimum $50,000 bonus, but a new royalty of 25% on the gross value of the ore mined.

Which Shell is the Pea Under?

One would think this would level the playing field and open it to other syndicates or individuals such as Loney, Clemow *et al,* but the Commission entered into a provisional agreement with *The Right of Way Mining Company of Ottawa* on the basis of the new terms, effectively changing little. It was questioned whether the Government might ask for those on the Commission, individually or collectively, to resign. Rather, it was pointed out again that any lease would still have to have the blessing of the Lieut.-Governor in Council.

Advertisements would now be placed again, with the proviso that the bonus may be as much above the minimum $50,000 as the prospective leasers wished to gamble.

After several days of controversy and finger pointing the *Temiskaming and Northern Ontario Railway Commission* announced that a new deal had been agreed to with a new Ottawa syndicate. The new syndicate included John Proctor Dickson, Angus William Fraser, Thomas Arthur Beament, John Gillanders Turriff, M.P., Edward Seybold and George Goodwin. The terms of the new syndicate were the same as that of the provisional agreement. With the lease signed the furor died down and the leasers began to focus on mining.

Operations

The Right of Way Mining Company, Limited - (Operations 1906-1909)

With all the politics out of the way, it was time to get down to mining and recoup the $50,000 bonus paid to the Ontario Government for the mining lease. The property of the *Right of Way Mining Company* consisted of four miles along the railway from the 101st to 105th mile to a width of 99 feet, that is, 49 ½ feet on either side of the centerline of the railway. The railway station grounds were not included in the package, but three acres at the north end of Cobalt Lake were included, giving the *Right of Way* company a 43-acre package.

The earliest mining took place at the appropriately named No. 1 shaft where a shaft was sunk to explore extensions of the La Rose veins on the adjoining property to the east. The major silver vein on the La Rose property trended from northeast to southwest, ending somewhere on the *Right of Way* property a few feet north of the shore of Cobalt Lake. About half way down this vein structure another major vein structure intersected the vein, striking from the vein in a northwest to southeast direction across the La Rose J.S. 14 claim. A surface cutting 500 feet from the La Rose shaft and on the right of way produced a carload of ore sufficient to reimburse and encourage the Company, something that flew in the face of *The Mining World's* Alexander Gray. In his assessment of the *Right of Way Mining Company* he thought the shape of the lease appeared as a *"knob on the end of its crooked stick with which to belabor those who thought its promoters were clean, stark, raving crazy for having agreed to pay 25% of the gross receipts as royalty to the Temiskaming & Northern Ontario railway."*

In November of 1906, fifteen men were working at the north end of Cobalt Lake where five veins had been located, two of them located opposite the La Rose property. A 64-pound mass of silver was taken from this location, a continuation of a La Rose vein.

Another vein was located on the Company's property at the south end of Cobalt Lake adjacent to the Silver Queen operations.

Early mining consisted of a cut 50 feet long, 10 feet wide and 10 feet deep on the three acre portion of the lease, where 30 tons of high-grade ore and 25 tons of second grade ore were mined, cobbed and shipped in December. This shipment was expected to recoup the purchase price of the property. Mining was done by hand with five men drilling by hand and one man mucking (clearing the blasted rock). It was later reported that the company mined its raises just two to three feet wide, surely a claustrophobic environment!

The *Engineering and Mining Journal* reported in its December 22nd 1906 issue that seven men at the Right of Way (north mine), with shovels and drills and a wheelbarrow, took out four tons of ore running 200 to 6,000 ounces to the ton, valued at over $8,000. This minimalist operation must have been the source of the statement*: *"Cobalt miners jokingly described the Right-of-Way Mine as seven men, three planks and a wheelbarrow, to which had been added a couple of candles for the night shift."*

*This statement likely originated from an article in the Toronto *Globe* titled "Rich Ore on Right of Way." James Francis Whitson of the Provincial Surveys Department "said that on Saturday last the Right of Way Mining Company, with seven men, took 65 bags of ore, or about four tons in all, from its concession, running from 2,000 to 6,000 ounces of silver, and valued at $8,000 to $10,000. The only plant used by the seven man was one wheelbarrow and a few drills and shovels…The 65 bags mentioned were taken out at a point only forty feet away from the centre of the railway tracks, on a continuation of the Timmins (La Rose) vein."

At the end of December 1906, the management of the company ordered a 25 hp boiler, one 6x8* steam hoist, one No. 3 Canadian-Rand steam drill**, a bucket*** and an ore-car. This equipment must have been ordered for the No. 1 shaft, as the No. 2 shaft had significantly larger boilers and mine hoist.

*Diameter and stroke length of the driving steam cylinder in inches. **Steam drills exhausted hot steam at the working face, resulting in unpleasant working conditions and were soon replaced by pneumatic drills. ***Kibble to hoist ore or waste and to send materials into the mine.

The No. 1 shaft was sunk on the Right of Way property on the northeast* side of the *T&NO Rwy* tracks and by March had reached 40 feet. The objective was to seek out the extension of the La Rose (or Timmins) vein on their property. The shaft reached a depth of 75 feet and at a depth of 65 feet the Company probed the ground in a search for the La Rose vein. A small shipment of ore, 3,800 pounds, was shipped by the Company to the *Anglo-French Nickel Company*, of Swansea, Wales in March 1907. *Little has been written about the actual location of the No. 1 shaft, but its location is shown on Ontario Dept. of Mines - Provisional Map P-97A – Part of Underground Workings and Approximate Structural Contours – Coleman Tp., Concessions V & VI – Lots 1 to 6 (1961) Its eventual demise came during stoping on the Main vein group.

At the same time, the No. 2 three-compartment shaft was sunk approximately 630 feet south of No. 1 shaft and on the southeast side of the tracks in the three-acre enlargement of its right of way lease, which bordered on the north-west shore of Cobalt Lake. This shaft was sunk to 57 feet by September 1907, all by hand methods as the required machinery was late in delivery. At 100 feet the Company intended to crosscut to a vein under the railway track. The initial plan was to sink to 140 feet with levels at 86 and 140 feet. The company then drifted (tunneled) in a northerly direction to search out the La Rose vein structure. The entire infrastructure for the No. 2 shaft was located on the three-acre plot of ground on the north end of Cobalt Lake and east of the *T&NO Rwy*. The mining plant consisted of two 100-h.p. *Ames Iron Works* boilers to provide steam for a 950 cubic feet per minute, 8-drill cross compound, 2-stage Ingersoll-Sargeant air compressor. Steam produced would have also been used to power a 6 kw Bullock generator for electric lighting, a double drum 81/4 inch x 10 inch Lidgerwood hoist and a 5 x 6 vertical high speed engine. The boiler room measured 38 by 39 feet and the engine room, 32 by 40 feet.

Later, manager Joseph Chambers Houston would tout the use of air hammer drills over piston drills as he thought the increased footage out weighed the necessity of constant repairs the air hammer drills required.

Buildings on the property included superintendent's residence, headframe, ore sorting building, boiler and engine houses, blacksmith shop, warehouse, offices and bunkhouses.

About fifty men were employed in this first full year of mining; ore was raised, sorted (cobbed) initially in the headframe and 45 tons shipped without any conventional concentration methods. This shipment contained just over 86,349 ounces of silver valued at $56,000, or about $1.54 per ounce of silver. A small amount of cobalt content returned a meager $245.

Early 1907 had seen the arrival of Joseph Chambers Houston as manager of the *Right of Way Mining Company*. Houston was represented as having *"wide experience in Kansas, Missouri, Colorado, the Klondike, Lake of the Woods, Eastern Townships of Quebec and at Sudbury,"* although most of this cannot be reasonably substantiated, other than the fact that he had been an Ontario Government fire ranger in the 1899 -1900 pre-Cobalt era. Houston had previously been manager during early development of the nearby O'Brien mine and was initially an unapologetic promoter of the Right of Way mine. He said of the promise of the mine:

"That is something it is difficult, if not impossible, to estimate with any degree of accuracy satisfactory to yourself or myself. Reasoning from what we have taken out of a small portion of our ground above the first level, from what you have seen, and from what we have just struck this week in the second level, you may

guess as closely as I. The second level is as rich as anything we have on the first. Double or treble the figures to date, as you see fit-and then you may be out of it."

Apparently Houston was not completely convinced of the bounties of the mine, as by May of 1909 he was off to manage mine prospects in the Gowganda mining camp.

In 1907 the No. 2 shaft was carried down to a depth of 410 feet. Levels were established at 83, 143, 358 and 410 feet below the shaft collar. An internal shaft, or winze reached down to 538 feet below the collar. With potential ore being defined and restricted to the veins connected with the adjoining La Rose mine and on the three acre *Right of Way Mining Company* property, there wasn't much elbow room to explore and mine. Much of the mining in this period from 1907 to 1908 consisted of connecting the No. 2 shaft with the No. 1 shaft to the north on the first level at about 85 feet. Records show that the company mined three parallel veins from this connection, as well as driving a drift for 400 feet, northerly "*under the centre of the railway track"* from the second level at 143 feet. Some ore was mined in this area. Drifting from the No. 2 shaft was carried easterly into the *Chambers-Ferland Mining Company, Limited's* property for that company.

While mining in the area of the La Rose mine it was discovered that the *La Rose Mines Limited* had, by way of a drift and stope 115 feet by 20 feet, mined ore belonging to *The Right of Way Mining Company*. See: The La Rose Mining Company, Limited on p. 34 for details of the discovery.

This thorny issue was resolved by October of 1907 when the Ontario Court of Appeals ruled that the *La Rose Mining Company* had no right or title to the land leased by the *Temiskaming and Northern Ontario Railway Commission* to the *Right of Way Mining Company*. The *LaRose* company had argued that they had prior rights (paper title) to ore beneath the *Temiskaming and Northern Ontario Railway* and sought to enjoin the *Right of Way Mining Company* from mining the right of way. The courts thought otherwise, as evidenced by the rights of the railway commission to lease the right of way. The *La Rose Mines, Limited* was forced to compensate *Right of Way* to the tune of $163,000*. Easy money! *Amount varies in accounts.

Another undertaking was the sinking of the No. 3 shaft on the *Right of Way Mining Company's* property near the south end of Cobalt Lake and on the west side of the *T&NO Railway*. The objective of this shaft was to explore the continuation of a vein system on the *Cobalt Silver Queen Limited's* mine adjacent to and west of the *Right of Way* property. This shallow 75-foot shaft connected with the Silver Queen's workings and, as well, explored north and south under the railway right of way. This property was even more constricted than the original mine at the north end of Cobalt Lake, so opportunities were even more limited.

During 1908, outside companies buying silver ore became stricter in their purchase of the complex Cobalt camp's silver ore and imposed severe penalties for the content of deleterious elements such as arsenic. Arsenic only had value for companies desirous of it.

At the *Right of Way* properties, a connection was made between the No. 2 shaft and the No. 1 shaft located 600 feet to the north. Upon completion of this work, the No. 1 shaft was shut down. Some encouraging news came in August and September of 1908 by discovery of an 8-inch high grade vein on a continuation of a La Rose vein on the 2nd or 145-foot level, as well as high-grade found within a few feet of the No. 2 shaft.

At the end of the year the *Chambers-Ferland Mining Company* contracted with the *Right of Way* company to mine, from its No. 2 shaft, a theoretical continuation of the La Rose main vein.

The year also ended with Edward Blake Wyman, representing an English syndicate, making an offer for the *Right of Way Mining Company* and for the *Cobalt Station Grounds Mining Company*

A Safety Concern Addressed

One of the problems of the rapidly developing Cobalt mining camp was road access to the mines east of the *Temiskaming and Northern Ontario Railway's* right of way. Freight brought into Cobalt for the mines, as well as ore shipped out from the mines east of the railway, came across the railway by way of a road just north of the *Right of Way Mining Company's* No. 2 shaft. This dangerous crossing was addressed in 1908 by the construction of a wooden overhead bridge at Mileage 103 ¼. A contract awarded to *O'Boyle Bros. Construction Company's* resulted in a bridge 330 feet long with a clear height of 28 feet above the rails. The township of Coleman and the town of Cobalt shared costs of their respective approaches.

Right of Way Mine Spurs and Sidings

In 1908 the *Temiskaming and Northern Ontario Railway* constructed a 326-foot spur north-easterly from the main line toward the *Right of Way Mining Company's* No. 2 shaft where the *T&NO Railway* accessed the vast waste pile being built up by the company's mining operations.

In 1916 the *Nipissing Central Railway* installed a 262-foot siding to the Right of Way #2 mine. Whether this utilized the *T&NO Rwy's* existing spur is not known. The *NCR* also installed, at some point, a 208-foot siding at the No. 3 mine of the *Right of Way* company.

How Low Can You Go?

One other factor that might be mentioned at this point was the realization, about 1908, that geological factors would constrain the future of the camp. The American mining engineer and metallurgist, William Battle Phillips, in an evaluation on the Cobalt silver camp was perceptive in his comments. Some comments in part:

"What is to be the future of the district? Allowing that the present production is at the rate of $10,000,000 a year, may it reasonably be expected that the mines now in operation and others that may be added to the list will continue to turn out metal at this rate?

"I do not speak of profits based on stock movements, but of legitimate mining enterprises, designed with care and carried out upon sound business principles."

"It seems to me that continued success in the production of silver depends not so much upon the discovery and exploitation of the very rich deposits as upon the possibility of extracting from their ores all of the value. Disregarding the arsenic, cobalt, nickel, etc., there has been a great waste in silver. Even now the smelters do not care to take ore containing less than 100 oz. silver per ton."

"With these few exceptions (three concentrators) the companies are confining their attention to such ore as can be shipped direct, and to such as can be cobbed up to a high grade. The veins are thin but some of them are extremely rich, and mining in the district has almost entirely confined to the search for and the development of these thin veins of high value. The operations around Cobalt Lake, Cross Lake, Peterson Lake and Kerr Lake have been devoted almost exclusively to high-grade material without regard to milling and concentration."

Phillips goes on to say that progressive companies were beginning to realize that profit could be made from the silver found in the wall rock up to five feet from the high-grade veins, and that wall rock should be sent to a concentrator.

The constraint of depth restricting the potential of the Cobalt camp was not a new concept. Earlier, in April of 1905, the *Canadian Mining Review*, in an article titled "On the Discoveries of Cobalt-Silver Ores in Ontario," noted:

"Several geologists who have seen the district have expressed doubts as to the permanency of the silver contents, believing that these will diminish with depth."

As mines sank deeper and seasoned geologists began "reading the rocks", it became apparent that there was a contemporary limit to the depth that silver-bearing vein structures occurred. Depending on the particular area of the Cobalt camp, a very rough approximation of that horizon was around five hundred feet, a far cry from the depths being attained and mined in the Sudbury nickel-copper mines at that time. The Victoria mine of the *Mond Nickel Company* reached 2,176 feet at the end of 1914, holding the record as the deepest mine in Ontario for several years. The nascent gold mines of the Porcupine were already on their way to depth, a shaft of the *Hollinger Gold Mines, Limited* was down to 800 feet by the end of 1914.

Mining Methods at the Right of Way Mine in the Early Days

With such a limited area to mine, it became imperative that mining methods had to be done in the most economical way. Joseph Chambers Houston was a master at low cost methods. Crosscutting in search of mineable veins and drifting along those veins was carried out with 3-inch Ingersoll rock drills. Drift rounds consisted of 11 to 13 holes, five to six feet deep, which resulted in an advance of four to five feet in a drift/crosscut four feet wide by six feet, six inches high. Apparently there were two drillers on each round, a day and night shift, resulting in the ability to advance eight to ten feet each day. Early on, the company switched from Ingersoll piston drills to Cleveland, Sullivan and Murphy air hammer drills.

The Right of Way mined just wide enough to take out the ore in a vein, typically a claustrophobic two to three feet wide.

The process of following a potential ore vein followed the general practice of the Cobalt camp. Mining followed the vein as it meandered along and was, hopefully, productive enough to pursue. If the vein appeared to carry upwards in the drift, plans were made to mine this vein by stoping. A second round would be carried upwards and blasted into the drift below, which had already been mucked out. On top of this round, stulls would be wedged perpendicularly into the drift walls every six feet. On top of the stulls, lagging poles would be placed parallel to the drift walls. Over this, planking would cover only the area of the drift above the haulage track in the drift. With this infrastructure in place, the drift could be cleared and chutes and manways constructed. As the stope was mined upward on the producing vein, only enough broken rock would be removed from the stope to provide room for mining upward.

The ore was often hand cobbed in the stopes before being hoisted from the mine. It was said that as much as 95% of the ore was sorted in this fashion, with the rest hoisted and treated on picking tables on surface.

In 1908, the costs for cross-cutting/drifting were $10.40 per foot; sinking timbered winzes cost $28 per foot and sinking and timbering a 6 by 14-foot shaft was $34 per foot.

The Right of Way Mines, Limited – (Operations 1909-1920)

The Right of Way Mines, Limited was incorporated September 11th, 1909 under the Ontario Companies Act with an authorized capital of $2 million to take over the assets of *The Right of Way Mining Company* and shares of the *Cobalt Merger, Limited*,* a 92-acre prospect southeast of Cobalt. The new company acquired the mining rights from Mileage 101 to Mileage 104 with the exception of the west shore of Cobalt Lake. *See below in Miscellaneous for complete history of *Cobalt Merger, Limited.*

The officers of the new company included: George Goodwin, President; Thomas Arthur Beament, Vice-president; Ernest Arthur Larmonth, Secretary-treasurer; Angus William Fraser K.C.; John Gillanders Turriff, M.P.; Dr. John Franklin Kidd. Reginald (Rex) Fairman Taylor is mine superintendent with the departure of Joseph Chambers Houston.

Officers of the *Cobalt Merger, Limited* after takeover by *The Right of Way Mines, Limited* included George Goodwin, Thomas Arthur Beament, John Gillanders Turriff as well as Samuel Simpson Sharpe of Uxbridge, Ontario and Samuel B. Morris*, Rodney, Ontario. *Incorrectly shown as S. B. Morrison in *The Davis Handbook of The Cobalt Silver District.*

Mining under the new organization was confined mostly to exploration from the South mine, through the No. 3 and No. 4 shafts. Some exploratory work was also carried out in 1911 on the Right of Way property from the adjoining Little Nipissing property to the east of the *T&NO Rwy*. About 300 feet of drifting was carried out on the right of way from the 85-foot level of the Little Nipissing shaft on claim J.B. 2.

In 1909 the company confined their work to the No. 3 (South Mine) shaft and closed down the operations at the No. 1 and 2 shafts (North Mine) in late 1909, the known veins having been worked out. Work at the No. 3 shaft was mostly exploratory, in one case drifting over 740 feet to the north under the railway where an up-raise to surface was turned into No. 4 shaft.

Several men were put to work trenching and pitting the *Cobalt Merger* property with dismal results. History has proven this property to be generally barren of silver producing veins. (See: *Cobalt Merger* history on Page 27)

Broadening the Horizon in the Porcupine in 1911

With burgeoning interest in the Porcupine gold district, it wasn't long before individuals connected with the Right of Way mine would contract gold fever. In May of 1911, unnamed parties purchased two claims and two claim fractions in an area along the boundary between Ogden and Deloro townships. Reginald (Rex) Fairman Taylor was tasked with examining the potential of these claims. Taylor found a vein stripped for 300 feet with eighty-four showings of free gold. Final disposition of this property is not known.

Broadening the Horizon in the Thunder Bay Area in 1912

In August of 1881 the discovery of silver at Rabbit Mountain, northwest of Fort William/Port Arthur was the naissance of a mining boom in that area. Active exploration, development and mining carried on until depreciation of silver in the United States resulted in the Panic of '93. Virtually all silver mining in the area ended in 1892.

In 1912 the operators of the *Right of Way Mines, Limited*, must have seen the handwriting on the drift wall. The *Cobalt Merger, Limited* properties were not showing much promise and there weren't many places to search for new ore on their original limited land package.

The company, as a result, sent Reginald (Rex) Fairman Taylor, Right of Way mine superintendent to investigate and supervise exploration and development of properties in that former mining district. Three properties were optioned; the former Silver Glance, Silver Fox and Mink Mountain mines were examined. Development included the sinking of one shaft (Fox mine), twenty test pits, and a considerable amount of trenching and surface prospecting. Little of significance was found and the option was dropped in August of 1912. The Silver Fox and Mink Mountain mines were located in Jean Township, just north of Whitefish Lake along the abandoned *Port Arthur, Duluth & Western Railway*, about fifty miles west of (now) Thunder Bay, Ontario.

It was probably at the Silver Fox mine where a serious accident took place on April 21st 1912. Four men, while engaged at this mine accidentally drilled into a bootleg hole and were severely injured. Newspaper items reported that "one man had an arm torn from his body and ribs smashed, another severely injured about the head and is feared blinded, while the third was rendered unconscious and had several bones broken."

The Ontario Bureau of Mines in its section on mining accidents, in its 1912 annual report, notes that the four men were "hammermen," indicating they were drilling holes with hand steel rather than pneumatic drills. None of the four were listed as permanently disabled and the last individuals to be "recovered" were M. Hendrickson* and J. Hill*, on June 17th, 1912.
*Regarding the four miners, see: "The Realities of Early Mining – Accidents"

Slim Pickings

In 1913 the company went back into the No. 2 shaft at the north end of Cobalt Lake sinking 225 feet from the 150-foot level to a depth of 375 feet. Nearly 1,400 feet of drifting and cross-cutting was carried out in a search for ore. The pickings must have been slim, as ore was not treated in the rented mill of *The Colonial Mining Company, Limited* until after July 1st, 1913. Figures showed that the ore must have contained slightly more than 10 ounces per ton, a far cry from the heady days of mining and bagging ore assaying nearly 2,000 ounces/ton to be shipped out without any concentration.

Beginning in January of 1913 the *T&NO Railway Commission* reduced the rate of payments from 25% net to 15% net on the *Right of Way's* production.

Later in December 1913, the No. 3 shaft on the south end of the property was dewatered to explore for a vein system that had been discovered on the Princess property of the LaRose company on the east side of the *T&NO Rwy.*

While the *Right of Way Mines, Limited* may have been scratching the ground for ore and new areas to explore, the *T&NO Railway Commission* provided itself with more cheerful news. Up to October 31st 1914, the royalties received from the *Right of Way* company in its two iterations added up to $272,109. And not one shovel of rock moved for this! No mention is made in the annual reports of the *T&NO Railway Commission* of any payments to the *Right of Way Mines, Limited* for the waste rock removed from the No. 2 shaft waste pile, some of which was used to grade around the railway's New Liskeard station.

Looking for Low Grade Ore

The Right of Way Mines, Limited operated until September 15th, 1914 doing little work and again treating its ore at the rented 25 ton/day, 10-stamp mill of *The Colonial Silver Mines, Limited.* Beginning on July 1st 1914 the Colonial mill ran for 5 ½ months treating 5013 tons of ore, recovering 52,690 ounces of silver, about ten and a half ounces of silver per ton.

An attempt was finally made during 1914 to access a potential ore body that had appeared to enter the property of the *Right of Way Mines* No. 3 shaft property from the adjacent Princess mine. Little ore was found. On October 1st, Superintendent Reginald Fairman Taylor had advised the directors of the company that all available ore bodies had been mined out and that David Henry Angus, former manager of the Drummond mine, was to examine the workings of the property and search for low-grade ore. His compensation would arise from any ore that would be profitable to work. However shortage of air supply prevented the lower workings from being pumped out and providing access for examination.

In 1915 the Company went back to the No. 3 mine and operated from March 1915 to February 1916. In the same month the No. 2 shaft was reopened. These two campaigns appear to have been promising, as a total of 113,537 ounces of silver was 1915's production.

The board of *Right of Way Mines* added a new name, Charles Jackson Booth, son of lumber magnate, John Rudolphus Booth.

The product of mining at No. 3 shaft until March 1916 and No. 2 for the year 1916 amounted to over 156,000 ounces of silver. Although things appeared to be picking up, 1917 was not so prosperous, as only $45,506 net value of ore was produced; development on the 465-foot level at No. 2 shaft was disappointing.

Long-time director and vice-president of the Company, Angus William Fraser, passed away in August of 1917. Fraser had gotten in on the ground floor of the *Right of Way Mining Company* for $6,000 and had said on occasion that he would not have let his share go for less than $300,000 in 1908.

The *Right of Way Mines*, not having their own concentrator, were having their ore treated in 1917 at the 225 ton/day, 80 stamp mill of *Northern Customs Concentrator, Limited,* located less than a mile up the road at Mileage 104 on the *T&NO Rwy*. The officers of this company included notables; Alfred James Young, Charles Jackson Booth, railway contractor Michael John O'Brien of Renfrew and notably, Dr. Charles William Haentschel of Mattawa and later of Haileybury.

The year 1918 was much the same as 1917 with a net value of production being about $43,000, the result of considerable drifting and other exploration at the No. 2 shaft at the north end of Cobalt Lake.

In 1919 the company continued exploring and mining at its No. 2 shaft, with little production from this end of the property while the shaft was being deepened. The twelve miners employed hoisted 898 tons, which was sent to the *Northern Customs Concentrator*. An ominous sign appeared on the Company's balance sheet where numbers showed considerable liabilities, mostly as a result of depleting its finances on the shaft deepening and returning to explore in the vicinity of the No. 3 shaft, where very low-grade ore was mined.

February of 1920 saw the *Right of Way Mines, Ltd*. return to its No. 4 shaft on its property at the south end of Cobalt Lake. After some preliminary drifting, the company shipped 2,000 tons to the *Northern Customs Concentrator*, with a further 690 tons being sent to another mill, that of *Dominion Reduction Company, Limited*. Twenty men were employed up until cessation of mining on July 14th, 1920.

The Year 1916 Saw an Unusual Side Hustle

In the March 16th, 1916 issue of the weekly mining journal, *Northern Miner*, the following headline appeared, "New Method to Refine Nickel." The article noted that the *Right of Mining Company* (sic) is interested in a new process of refining nickel and two of the *Right of Way Mines*,

Limited officers, Angus William Fraser and Edward Seybold were active in the newly formed *Burrows Refining Company, Limited**

*Canada Gazette of February 26th, 1916 recorded the February 22nd, 1916 incorporation of the Burrows company with a capitalization of $1.5 million in shares of $100 each.

The Sudbury *Journal* of February 24th, 1916, contains this glowing puff piece on the Burrows Process, the brainchild of Linus Porter Burrows, geologist and chemical metallurgist:

"Another company has been formed and all the necessary capital has been provided to put the Burrow's (sic) process on the market for making nickel steel at a very low cost. The preliminary treatment is purely gaseous; the nickel ore can be taken from the mine and made into an alloy for the manufacturer of steel in less than ten hours by this process. This metal (alloy) can be reduced to metal in less than six hours, (and) then it is what becomes "Burrows metal." Moose Mountain (1) iron ore can be made directly into steel, but when alloyed with Burrows metal making steel in less than 24 hours.

The samples shown in the window of P.S. Frawley's store (Sudbury) are made from Moose Mountain iron ore and nickel ore from Levack (2) by the Burrows process. No roasting, no sulphur and strange to say there is 1,000 pounds of Burrows metal extracted from one ton of Levack nickel ore.

The preliminary plant (3) has been in operation for about three years near one of the large schools (3) in Ottawa and there has been no complaint of sulphur fumes at any time. Colonel James R. Gordon (4) claims that by this process there is a saving of 50% in production."

In May of 1916, a successor company, the *Sudbury Nickel Refineries, Limited,* was incorporated with a number of incorporators located in Ottawa, including Burrows and Edward Seybold. The Northern Miner of May 27th, 1916 had this to say:

"Some directors of the Right of Way Mining Company (sic) are involved with a new process for refining nickel. Matte can be processed into metal in 48 hours."

The Burrows process is documented in Canadian Patent #165916, titled *"Process of Desulphurizing, Reducing and Refining Nickel Ores,"* invented by Burrows and owned by him. The patent was filed September 17th, 1915 and issued November 9th, 1915. While the mechanics of the process may have been viable, the economies of scale precluded its usefulness.

Whether or not *Right of Way Mines, Limited* supplied any actual financing for either of these ventures is not known.

Sometime, around 1917, Burrows left Ottawa. At this time he had registered another patent, *"Improvements in Process for Treating Silver Ore for the Recovery of Silver,"* which may have resulted from his involvement, and possible financing, from Fraser and Seybold.

(1) *Moose Mountain Limited*, incorporated in 1902, mined and processed iron ore from its property north of Capreol, Ontario until closure in 1920.

(2) Levack mine, part of the, then, *Canadian Copper Company's* operations, located near the town of the same name.

(3) The preliminary plant of the *Burrows Refining Company* was located at 629 Wellington Street, Ottawa, while the school mentioned was a public school located at 630 Wellington Street.. The plant was later located on property of the estate of Angus William Fraser (1859-1917). Also on this location were offices (?) of the *Lake Winnipeg Paper Company, Limited*, the *Queen Bee Mining Company*, the *Finance Corp. Ltd.*, the *Yum Yum Gold Mining Company of Ottawa, Limited*, and the *Bald Indian Bay Mining Company of Ottawa, Ltd.* (see Fraser bio in "People."

(4) Mining and civil engineer (1854-1932), James Robertson Gordon was active in the early days of the Sudbury Basin in searching for and the development of nickel-copper, gold and anthraxolite, (a type of high-ash coal). Gordon lost a battle over mining rights under Cobalt Lake through the extensive litigation of the *Florence Mining*

Company by successor *Cobalt Lake Mining Company*. Gordon was a proponent of the separation of Northern Ontario from the rest of the Province, stumping for this in 1883 and 1908.

A Long and Lingering Demise

In 1919 the price of silver was $1.11 per ounce, but by 1921 it had nearly halved to 63 cents. With the decline of the silver price, the bloom was off the rose and several decades of lean times followed for the Cobalt silver camp. Gold in the Porcupine (Timmins) and Kirkland Lake, as well as many other areas, drained Cobalt of miners and investors' capital. In 1925 the number of gold and silver mining companies reporting were nearly similar in number, with a few leasers included in the silver category. By 1935 only twenty-two operations were listed as silver miners, while nearly one hundred and thirty gold mining companies were reported across Ontario.

In 1934, the Township of Coleman, where most of the Cobalt silver mines had been discovered and developed, put many of the former producers at auction in a tax sale. There were bargains galore, some properties selling for twenty-five cents per acre. Other well-known former producers sold for a pittance. Twenty-one acres of the Rochester property sold for $20 and sixty acres of the former *Penn-Canadian Mines* also sold for $20.

Leasers with a handful, or less, of miners, and including many sub-leasers, operated a large proportion of the silver operations reported in 1935. The leasers focused on areas of formerly profitable mines by slashing and handpicking ore from pillars, drift walls, stope walls and backs, as well as rock in waste piles and elsewhere. Another source was the mining of the floors of drifts and old stopes. Mining downwards (underhand stoping) was considerably more difficult and costly than mining overhead in stopes, so the early mine operators had just left this material behind in the rush to mine more easily accessible ore. Eventually, even the tailings from the early concentrators were processed, as more favourable metallurgical methods had been developed to retrieve lost values.

In September of 1921, *The Right of Way Mines*, *Limited*, with no cash on hand, faced a petition of bankruptcy with an outstanding debt of $34,000. Earlier, on July 7th, 1921, a new directorate of Ottawa men had been elected including C. Malcolm Wiggins, William Forbes, Colonel Alex P. Deroche, Dr. Matthew McKay and Arthur Rosenthal. The new directorate did not bring any new money to the table to satisfy the creditors, resulting in Receiver James P. Langley appointing Cecil G. Bateman, of Cobalt, to take charge of bankruptcy proceedings.

Successor Companies – Squeezing the Lemon

Right of Way Syndicate – (Operations 1921)

The bankruptcy proceedings in the fall of 1921resulted in the *Right of Way Mines, Limited* falling into the hands of the *Right of Way Syndicate*, an organization sponsored by Edward J. Daly. John Matheson was superintendent for any work to be done on the property, but by the end of the year the property had reverted to the *T. &N.O. Railway Commission.* The following year, 1922, would see confusion in the ownership of the property.

De la Plante & Company - (Operations 1922)

With the of the *Right of Way* properties reverting back to the *T. & N.O. Railway Commission,* an Ottawa mining concern, *De la Plante & Company,* purchased the property in January 1922 and planned to resume operations at the end of that month. The machinations of the resulting sale are best explained in a January 20th 1922 article in the Toronto *Globe*:

"Cobalt, Jan. 20. - With regard to the Right of Way Mine at Cobalt there appears to be some misunderstanding, and the following statement has been secured from one of the inspectors: E.J. Daly, a lawyer of Ottawa, purchased the assets of the Right of Way from J.P. Langley, liquidator, for $11,000. Mr. Daly is understood to have represented all of the former directors who were creditors and who include C.J. Booth, E.A. Larmonth, W.G. Bronson, F.C. De la Plante and James Cunningham, all of Ottawa, and that a syndicate was formed by these men, represented by E.J. Daly as trustee for them.

The T. & N.O. Railway Commission will permit the liquidator to transfer the lease held by the Right of Way Mines to Daly as trustee for these men. The liquidator will also transfer the Cobalt Merger property, which is owned by the Right of Way. It is planned to carry on exploration work on the Right of Way as well as mine and mill the present known ore on the property."

McKinley-Darragh-Savage Mines of Cobalt, Ltd. - (Operations 1924-26)

Although not specifically mentioned, the *Right of Way's* south mine (#3 shaft) was leased in December of 1924 as part of a package with the adjacent Princess mine. On November 1st, 1926, *McKinley-Darragh-Savage Mines, Limited* announced that the leases on the *Right of Way* and Princess mines were being dropped. The *Right of Way* mine had produced about 4,200 tons of ore.

Laurentian Mines Limited – (Operations 1932)

The *Right of Way* mine was leased to the *Laurentian Mines Limited*, an Ottawa company. This company shipped four tons of ore to the silver-cobalt refinery of the *Deloro Smelting and Refining Company* in 1932, receiving $2,035 for silver content.

Cobalt Properties, Limited – (Operations 1933-39)

This small local Cobalt company, incorporated in August 1931 with a capitalization of $25,000, owned or leased a number of properties in the Cobalt camp, all former producers, including the *Right of Way*, *Cobalt Townsite*, *Coniagas*, *Mining Corporation of Canada, Limited* and the *McKinley-Darragh-Savage.*

In its first year of operation, between July and December of 1933, twenty-seven miners produced 64 tons of ore from its Coniagas mine containing 154,553 ounces of silver, or about 2,415 ounces per ton of ore, indicating that this was likely selective mining or hand picking.

Beginning in 1934 the company did not specify which mines were operated, but figures for 1934 and 1935 show a total of 956 tons were mined by an average of sixty miners for a total of just over one-half million ounces of silver, or about 523 ounces of silver per ton of ore. Presumably some of this must have come from the Company's ownership of the *Right of Way* mine. In 1937, *Cobalt Properties, Limited* reported that a lean two tons of ore per day was mined during the last three months of the year. 1938 saw no development done by the Company, but mill feed came from salvaging pillars and ore mined from old stopes.

It is not known if this salvage work had anything to do with a collapse of old mine workings under the *T. &N.O. Railway* in the middle of April 1938. A *Cobalt Properties'* miner, Thomas Leaper, on his way into work at 6:30 AM discovered a small cave-in along the track. Not long after discovery, the cave-in had expanded to 50 feet by 60 feet and 20 feet deep, with the rails suspended over the opening. Section men from the immediate vicinity moved the rails a few feet from the opening, forming a bulge in the tracks, allowing the freight and passenger trains to creep past the opening. For his forethought, Thomas Leaper, a WWI veteran, was awarded a gold watch by the railway commission.

The year 1939 was even leaner. Only 28 tons of ore from the Buffalo mine was the product of seven miners from May 1st to October 31st. The *Right of Way* mine (North mine - #2 shaft) was also reopened and dewatered to the 358-foot level preparatory to working through a drift at that level into the workings of the *Cobalt Lake Mining Company, Limited*, which adjoined to the south. Mining was to take out the party wall between the two properties. Arthur Brocklebank, in charge of operations, noted that lowering the water in the *Right of Way* No. 2 shaft would lower the level in Cobalt Lake, allowing *Cobalt Properties, Limited* to explore the mining property of *The Buffalo Mines, Limited*, another property in the company's portfolio. Before the takeover of *Cobalt Properties, Limited*, by the *Silanco Mining and Smelting Corporation, Limited*, the company's ore had been treated in the Colonial mill.

Silanco Mining and Smelting Corporation, Ltd. (Operations 1943-1945)

This company was incorporated on August 25th, 1943 with a capitalization of $1 million to take over, on September 16th 1943, the operations of the *Cobalt Products, Limited*, another company salvaging ore from former producers and operating a custom concentrator. *Silanco* also carried on the operations of *Cobalt Properties, Limited,* mostly at the Townsite mine. Presumably the *Right of Way* mine was still in the fold of *Cobalt Properties*, but no work was reported at that mine.

Louis Cadesky, involved in the Cobalt camp for several years, was general manager while *Mining Research Corporation, Limited*, were the consulting engineers.

A representative from the *Ontario Department of Mines* lamented the fact that record keeping amongst the mines of Cobalt was somewhat lax, mostly a detriment when department geologists attempted to interpret the geology and provide aid and direction to the mining companies.

Silanco Mining and Refining Company, Ltd. (Operations 1945-1952)

On November 28th, 1945, the *Silanco Mining and Refining Company, Limited* was incorporated to succeed the *Silanco Mining and Smelting Corporation, Ltd.* with most of the same directorate and properties. Alexander Daniel Hellens was general manager and consulting engineer. The *Silanco* company held about thirty mining properties in the Cobalt camp, but only actively worked a minor number of them.

Early operations focused on the Agaunico mine in Bucke Township and on the Beaver and Temiskaming mines in Coleman Township, as well as treating mined and custom ore in the old Colonial mill.

A building to house a 15-ton smelter was erected, but no machinery was installed. This smelting project, located at Gillies, was transferred to another company, the *Cobalt Chemical and Refinery Company, Limited*. In November 1948 construction ceased.

No mention was made in the Ontario Department of Mines annual reports of any work being done at the Right of Way properties under *Silanco Mining and Refining Company, Limited* or its predecessor, the *Silanco Mining and Smelting Company, Limited*.

Hellens Mining and Reduction Company, Ltd. (Operations 1951-1953)

This company was incorporated on June 14th, 1951 with a capitalization of $500,000. Its original undertaking was the construction of a cyanide mill to treat mill tailings and reclaim silver. It was also proposed to treat the massive amount of tailings in Cobalt Lake. The mill started up in late 1951, treating tailings from *Silanco Mining and Refining Company's* Temiskaming mine. Alexander Daniel Hellens was general manager and Louis Cadesky was a director.

During 1952 the *Hellens Mining and Reduction Company* was shown controlling a number of properties in the Cobalt area, including the McKinley-Darragh, Cobalt Lake, Right of Way, Townsite and Buffalo mines. In that same year the headframe of the Right of Way No. 2 shaft on the north end of Cobalt Lake was refurbished and the workings dewatered to 185 feet and then allowed to fill again. This was done to lower the Cobalt Lake's water table and allow the Hellens mill to dredge tailings from the lakebed.

In 1952, the La Rose mine drove a crosscut northerly on the 157-foot level, across the Right of Way's north property, to access the La Rose No. 10 vein.

Cobalt Consolidated Mining Corporation, Ltd. (Operations 1953-1957)

The *Cobalt Consolidated Mining Corporation* was incorporated on January 21st, 1953 with a capitalization of $3.5 million to acquire properties formerly owned by *Silanco Mining and Refining Company, Limited*; *Cobalt Lode Silver Mines, Ltd.; Penn-Cobalt Silver Mines, Limited; Gilgreer Mines, Limited; Keylode Cobalt Silver Mines, Limited; Hellens Mining and Reduction Company, Limited* as well as other mines in the Cobalt, South Lorrain and Gowganda mining camps. The *Right of Way* mine folded into this consolidation by way of its connection with the *Hellens Mining and Reduction Company*.

In 1953 the *Right of Way* No. 2 shaft was dewatered to the 358-foot level and the vertical No. 1 winze below that level was dewatered to the 410-foot level, below surface. At this level two 5-inch diameter holes were diamond drilled 120 feet to connect with the sixth level of the adjoining mine of *Cobalt Lake Mining Company, Limited*. The first objective of this exercise was lower the water level in the interconnected McKinley-Darragh, Cobalt Lake, Townsite, City of Cobalt, Buffalo and Nancy Helen mines, all former early producers. The second objective

was to examine the various workings exposed by the drainage to assess the potential for recovery of any cobalt ore zones left behind when the focus was silver.

Twelve men worked in the *Right of Way* mine to produce about 759 tons of development ore, which was sent to the *Cobalt Consolidated Mining Corporation* mills, along with 5,418 tons of ore from the surface dump of the Cobalt Lake mine.

In 1954 the Company continued to explore in the vicinity of the No. 2 shaft of the *Right of Way* mine, establishing sublevels at 133 and 258 feet and carrying out 633 feet of drifting and 474 feet of raises. Six underground diamond drill holes totaling 587 feet explored for new ore. A total of 3,204 tons of ore, mostly cobalt-rich, was sent to the Company's mill at Mileage 104 where predominantly cobalt ore was treated.

The year 1955 saw no development work done and a meager 232 tons of cobalt ore hoisted and treated in the "104 Mill." Later in that year the No. 2 shaft was leased to the *Silver Miller Mines, Limited* to access its Chambers-Ferland property. The *Silver Miller Mines, Limited* had been incorporated in January 1946 to operate a number of former producers in much the same manner as the *Cobalt Consolidated Mining Corporation.*

Agnico Mines Limited (Operations 1957-1958)

In October 1957 the *Cobalt Consolidated Mining Corporation Limited* was reorganized and the name changed to *Agnico Mines Limited.* In mid-February 1958 the *Silver Miller Mines* completed its exploration of the Chambers-Ferland property through the *Right of Way* No. 2 shaft with disappointing results. Several diamond drill holes from underground found no new ore and as a result no ore was hoisted from this property. *Agnico Mines Limited** carried on exploration on its own property for the rest of the year and hoisted 2,540 tons, which it sent to its new Penn mill, the "104" mill having been destroyed by fire in October 1956.

* In June of 1972 *Agnico Mines Limited* amalgamated with *Eagle Gold Mines, Limited* to become *Agnico-Eagle Mines Limited* and by various other amalgamations to become *Agnico Eagle Mines Ltd*, a highly successful gold miner with properties in Quebec, Nunavut, Finland and Mexico.

The End and Nothing to be Ashamed Of

This 2,540 tons of ore hoisted from the Right of Way No. 2 shaft in 1958 appears to have been the last of the ore from this storied operation, as no more activity is reported in Agnico's annual reports. To have survived, as many years as it did with such a small footprint to work within, is a testament to the men who exhausted every avenue exploring this small property. During its early life *The Right of Way Mining Company*, and its successor, *The Right of Way Mines, Limited* was one of the most profitable operations in the Cobalt silver camp. Before consolidation with *Cobalt Merger, Limited,* in 1909, it had paid an astonishing 65% of its total capital in dividends, and in royalties, over 34%. The *T. &N.O. Rwy* must have been pleased with the nearly $173,000 in royalties it had received up until December 1, 1907, a few short months of operation since incorporation in 1906.

Miscellaneous

Historical Production

Right of Way Mining Company & *Right of Way Mines Ltd.*
North and South Mines – (These numbers are approximate for the years listed and are unreliable for production from companies after *Right of Way Mines, Ltd.*)

Year	Tons Raised	Ozs. Silver	Value $
1906	45	86,349	56,000
1907	126	216,901	123,274
1908	752	447,585	218,753
1909	3,914	773,162	370,059
1910	1,006	445,986	231,234
1911	706	289,718	151,588
1912	265	59,973	34,399
1913	1,000	99,401	57,598
1914	1,006	122,227	66,135
1915	6,040	102,274	53,304
1916	8,213	122,928	82,501
1917	23,073	110,963	86,885
1918		49,723	49,724
1919		5,819	5,906
1920		18,443	16,639

Historical Production – *Laurentian Mines, Ltd* – Lease

1932		7,327	2,035

Historical Production – *Cobalt Properties, Ltd.*

1935		526	3,213

Total silver (ounces) 2,969,205
Total value silver ($) 1,606,355
Total cobalt (pounds) 41,774
Total value cobalt ($) 3,213

Historical Silver Prices *

1906	67.9	1914	54.8
1907	65.3	1915	49.7
1908	52.9	1916	65.7
1909	51.5	1917	81.4
1910	53.5	1918	96.8
1911	53.3	1919	111.1
1912	60.8	1920	100.9
1913	59.8	1921	62.7

(* Listed in cents/ounce, average for the year)

Chronology of Operations – General Work Location by Year

Right of Way Mining Company Limited - 1906-1909
1906 – No. 1 shaft, No. 2 shaft
1907 – No. 2 shaft, No. 3 shaft

Right of Way Mines, Limited – 1909-1920
1909 – No. 3 shaft, No. 4 shaft
1913 – No. 2 shaft
1915 – No. 3 shaft
1916 – No. 2 shaft, No. 3 shaft
1917 – No. 2 shaft
1918 – No. 2 shaft
1919 – No. 2 shaft, No. 3 shaft
1920 – No. 4 shaft

De la Plante & Company – 1922
1922 – not mentioned

McKinley-Darragh-Savage Mines of Cobalt, Limited – 1924-1926
1924 – No. 3 shaft

Laurentian Mines, Limited – 1932
1932 – not mentioned (likely No. 2 shaft)

Cobalt Properties, Limited – 1933-1939
1939 – No. 2 shaft

Silanco Mining and Smelting Corporation, Limited – 1943-1945
Not mentioned

Silanco Mining and Refining Company, Limited – 1945-19??
Not mentioned

Hellens Mining and Reduction Company, Limited – 1952-53
1953 – No. 2 shaft

Cobalt Consolidated Mining Corporation, Limited – 1953-1957
1953 – No. 2 shaft
1954 – No. 2 shaft
1955 – No. 2 shaft

Agnico Mines, Limited – 1957-1958
1957 – No. 2 shaft
1958 – No. 2 shaft

Mine Management over the Years

The Right of Way Mining Company, Limited and Right of Way Mines, Limited

1906 – T.A. Beament, president; Joseph Houston, mine mgr; Richard Sandoe, mine captain
1907 – Joseph Houston, mine manager
1908 – Joseph Houston, mine manager; Richard Sandoe, mine superintendent
1909 – not listed, but R.F. Taylor is mine supt. (Reginald Fairman Taylor; aka Rex F. Taylor)
1910 – not listed, but R.F. Taylor is mine superintendent
1911 - George Goodwin, president; R.F. Taylor, mine superintendent
1912 - George Goodwin, president; R.F. Taylor, mine superintendent
1913 – not listed
1914 – E. Seybold, president; A.W. Fraser, vice-president; R.F. Taylor, manager
1915 – E. Seybold, president; A.W. Fraser, vice-president; D.H. Angus, mine superintendent
1916 - E. Seybold, president; A.W. Fraser, vice-president; D.H. Angus, mine superintendent
1917 - E. Seybold, president; D.H. Angus, mine superintendent
1918 – C. Jackson Booth, president; A.E. Larmonth, vice president; D.H. Angus, manager
1919 - C. Jackson Booth, president; A.E. Larmonth, vice president; D.H. Angus, manager
1920 - C. Jackson Booth, president; A.E. Larmonth, vice president; D.H. Angus, manager

Cobalt Merger, Limited – A Brief History

Cobalt Merger, Limited as formed, consisted of the **McCormack** and **Morrison** claims, mostly within Coleman Township.

McCormack Claims

On December 13th, 1905,*The McCormack Cobalt Silver Mining Company of Toronto, Limited* was incorporated under the Ontario Companies Act to develop 172 acres of mining property in Coleman and Bucke Townships. The two Coleman Township claims, totaling 92 acres, consisting of the NW ¼, S ½ Lot 2, Concession IV (40 acres) and E pt., S ½, Lot 3, Concession III (52 acres) were touted as the most attractive, since they were in the vicinity of producing properties. A later *Fox & Ross* broker's enthusiastic advertisement for sale of stock in *Cobalt Merger, Limited*, advertised;

"McCormack property 92 acres. Situated so that the following, being the best shippers in the camp, form almost a complete circle around it – University, Foster, Lawson, Kerr Lake, Hargreaves (sic), Badger, etc. Three thousand feet of work done. Seventeen veins uncovered – certified assays of surface work filed with Ontario Government show values running from 200 to 441 ounces (per ton) of silver, not considering other minerals."

The directors and officers in this venture included: Robert Latham McCormack, president; Archibald Campbell, M.P., 1st vice-president; Lt. Col. John Alexander McGillivray, ex M.P., 2nd vice-president; Ralph Edward Gibson, treasurer; Frank Egerton Hodgins, K.C., director; Samuel Robert Wickett, director; Horace Bascom, M.D., director; Samuel Simpson Sharpe, L.L.B., director.

The property in Bucke Township may have been that of George Goodwin, original president of *The Right of Way Mining Company* as Goodwin was the respondent, in January 1909, of a Divisional Court case involving lands in the vicinity of North Cobalt in Bucke Township. The *Western and Northern Lands Corporation* appealed to the mining commissioner that Goodwin did not have the right to a mining claim on their properties on which they were attempting to sell lots for a sub-division. The case was dismissed.

History is indebted to "The Davis Handbook of the Cobalt Silver District" for the details of the transfer of the McCormack interests into *Cobalt Merger, Limited*. From the Directory:

"The company sold out its entire interest to Mr. Fox, of Fox & Ross, for $275,000. Mr. Fox then organized the Cobalt merger, which took over the Coleman Township part of the McCormack holdings and some other property. $25,000 in cash was paid as first payment on the $275,000. Each shareholder who had paid 50 cents per share received 57 ¾ cents per share in cash, being the pro rata per share, first and final dividend of the proceeds of the sale after deducting commission and expenses. The company thus paid off all the share holders, except the original owners, they only receiving cash for their cash interest, not for their original interest in the properties. The remainder of the price was not forthcoming and McCormack (and two associates) were obliged to take the balance in shares in the Cobalt Merger."

Morrison Claims

The Morrison claims consisted of two small triangular parcels (#3825 & #3776), being parts of Lot 8, Conc. IV, Coleman Township, approximately 27 acres, abutting the Gillies Limit. Major Edward Whipple Bancroft Morrison was the purveyor of these parcels to a syndicate for $250,000* in November of 1906. The big seller of this property was its adjacency to the Ontario Government's reserve of Gillies Timber Limit from mining exploration and development, where at a later date the Provincial mine was operated. There was speculation that veins from the Provincial mine traversed into the Morrison property.

It didn't hurt that James Barber Woodworth, mining engineer and discoverer of the Nova Scotia mine considered that "the Major Morrison is the best available claim I know in the camp, and has great possibilities," having examined the property in September of 1906.
*Elsewhere for $350,000

Cobalt Merger, Limited is Born

Interestingly, in late November 1906, a Toronto newspaper reporter asked William Claude Fox, of *Fox & Ross*, stockbrokers, why the names of directors and others connected with *Cobalt Merger, Limited* were not published in the advertisements for the new company. Fox replied that stock in the company should be sold on the basis of the values of the properties and not on the notoriety of the directors. The reporter was then given a list of the directorate and was impressed with the prominent Toronto men on that list.

Less than two weeks later that same newspaper reported on the charters granted by the Ontario Government in the previous week, including one to *Cobalt Merger, Limited* on November 28th, 1906. The directors were listed as: William Ruston Percival Parker; George McPhail Clark; John Alexander McEvoy; Gordon Russell and Ethyl (sic, "Ethel") Mabel Lindsay. The capital was to be $3 million and the head office was in Toronto, Ontario. All of the directors, with the exception of Lindsay were barristers with *Parker & Clark*, solicitors and barristers of Toronto. Ethel Lindsay was the firm's bookkeeper. It is probable that this iteration of *Cobalt Merger, Limited* was an interim step in order to carry out the machinations of the merging of the Morrison and McCormack interests.

With the company incorporated, *Fox & Ross* began a lusty campaign to sell shares in the new venture. Advertisements in Toronto newspapers touted the potential of the Morrison and McCormack constituents of the company. Armand DeBruyne, Arthur E. Hague and Charles Gifford examined the properties and provided glowing praise. The New York *Sun*, on December 3rd, 1906, provided a textbook example of mine promotion with this partial account:

"The Cobalt Merger Company (sic)…declares its intention of beginning active development at once. Several mineralized veins have been uncovered on both of these properties, but comparatively little work has been done to date. So far as known the assays have shown low silver values, but the fact is becoming more evident throughout the camp that in certain localities values increase decidedly as depth is reached on the vein. Geologists

explain that in some sections a capping of the country rock from twenty to thirty feet in depth overlies the true fissure veins."

More puffing came on the same day from the Toronto *World*:

"Messrs. Fox & Ross informed the World that they had received a telegram from their representative at Cobalt, Mr. J.H. Charles, stating that DeBruyne, the foreman in charge of the Morrison Mine, had traced and uncovered the big government vein, 2 feet wide, on the Morrison claim, Government shaft had been sunk ten feet, showing rich cobalt and other minerals, 4 feet wide; also stating that Engineer Gifford had examined the McCormack claims and that No. 7 vein was over 3 feet wide, and appeared to be a continuation of Jacob's rich lead thru Hargreaves(sic) property, and that vein No. 15, was full 14 inches wide, and that a full report was being forwarded.

Instructions were given to rush operations preparatory to early shipments."

Even more puffing came a few days later from Joseph Henry Charles, secretary-treasurer of the *Musson Book Company* and later, director of *Cobalt Merger, Limited*. Charles must have found the Cobalt mining camp more exciting than the book business as he "spent considerable time there this last few months." Charles says in part:

"I have inspected the Morrison claim on numerous occasions, and was better impressed on each visit. The property is directly adjacent to the Gillies limit, and the vein recently disclosed on the government land has not only been traced on to the Morrison, but has been opened up about 30 feet from the boundary and uncovered for fully 150 feet. The vein is 2 ½ feet wide at different points and is sufficient to put the stamp of approval on the claim as one of unusual merit. As far as I know, this is the only part of the claim which has been properly prospected, so that there are great possibilities in the rest of the property for developing mines."

At about the same time, *Clarke & Co.*, stockbrokers, attempted to put a damper on *Cobalt Merger, Limited* by noting the *Merger's* attempt to "borrow a reputation from the government," in other words, just because you are located next to a promising mine it doesn't guarantee success of your venture.

There is an adage that says the best place to look for a mine is next to a mine. This is true only if the geological conditions support the assumption.

In early January of 1907, Arthur E. Hague was appointed consulting engineer and superintendent of the McCormack and Morrison properties of the *Merger Company*. At the same time William James Morrison was tasked with development of the Morrison property as it was noted at that time that the Government mine* on the adjoining property was now down 80 feet on a vein that ran into the adjoining Morrison property. (Also known as the Provincial mine)

Over on the McCormack claims, Charles Stanley Gifford noted that "17 veins have been uncovered and several thousand feet of work (trenching) done" and "that one of those veins is a continuation of the famous Kerr Lake vein."

Late March 1907 saw the outcome of twelve days of diamond core drilling on a McCormack claim produce a drill core from a depth of 150 feet "said to be so rich in native silver as not to need assaying."

A shareholders meeting was held at the head office of *Cobalt Merger, Limited* in the last week of April 1907. Directors elected included Samuel B. Morris, Rodney, Ontario; Samuel Simpson Sharpe and Horace Bascom of Uxbridge, Ontario as well as Franklin Warren Merrill, Joseph Henry Charles, David Gilbert Lorsch and William Ruston Percival Parker, all of Toronto, Ontario. At a later meeting Sharpe was elected president, Samuel B. Morris as vice-president

and Herbert Wedderlie Edgar appointed secretary-treasurer. The company's capital was reduced from three to two million dollars.

Morrison Claims Revert

Nothing much of significance appears to have taken place after the shareholders' meeting and the Ontario Bureau of Mines annual reports show no working of the property or any shipments of ore. However, in November of 1908 the Morrison claims reverted to the original owner, Major Edward Whipple Bancroft Morrison for failure by *Cobalt Merger, Limited* to keep up its payments. Buffalo, New York and Pennsylvania interests, along with Burr E. Cartwright snapped up the idle property, and incorporated *Red Jacket Silver Mines, Limited* on November 12th, 1908.

A Messy Court Case

Individuals benefiting from the Cobalt silver boom without getting their hands even slightly dirty were lawyers. The papers of the day were filled with litigation on many fronts, mainly property ownership and problems with stock market manipulations. One of the cases involving *Cobalt Merger, Limited* concerned William John White and his wife, of New York City. White and his wife were sued in Ontario Non-jury Assize court in April of 1908 by *Merger's* Samuel Simpson Sharpe, lawyer of Uxbridge, Ontario, for failure to purchase one million shares of *Cobalt Merger, Limited* for $150,000.

White claimed that a clause in the agreement noted that if presentations by *Cobalt Merger, Limited* regarding the veracity of the statements of the mining property's potential were properly represented, then White would be obligated to purchase the shares. During the trial it was noted that this clause in the agreement had been stricken out.

Expert witness, Joseph Burr Tyrell, mining engineer, swore that he had been down the property's only shaft and saw no mineralization of value, but was suspicious of decomposed rock containing silver that was found in a fissure in the shaft. William McNeill, assayer, testified he had found 350 ounces/ton in the decomposed rock, but could not detect native silver in the sample. Commenting on the whole affair, Edward Douglas Armour, K.C. said, "There are queer winds that blow in mining camps!" The Ontario Court of Appeal ultimately dismissed the case.

On September 11th, 1909,*The Right of Way Mines, Limited* was incorporated under the Ontario Companies Act to take over the assets of *The Right of Way Mining Company* as well as one million shares of *Cobalt Merger, Limited*, thus ending the *Merger* as a corporate entity.

In 1925, *Cobalt Argyros Mines, Limited*, (Incorporated November 16th, 1925) a subsidiary of the *Lucky Tiger Combination Gold Mining Company, Limited** began exploratory mining on the Hargrave and *Cobalt Merger, Limited* properties under a lease agreement. Access was made from *Kerr Lake Mines, Limited's* No. 3 shaft onto the No. 3 vein, carrying a drift 100 feet on the Hargreaves property and 700 feet further on the *Cobalt Merger* property. A 200 foot crosscut and a 90 foot upraise was the extent of the exploration, which found no mineable ore. *An American company incorporated to develop silver mines in the Sierra El Tigre district of northeastern Sonora district, Mexico. The company was initially formed to mine gold, but switched to silver because of higher grades. Lucky Tiger also explored for gold in the Province of Quebec.

Other Companies Associated with the Right of Way Operations

With regard to the operations of *The Right of Way Mining Company, Limited* and *Right of Way Mines, Limited*

Cobalt Silver Queen, Limited
Incorporated April 6th, 1906 under the Laws of Ontario

This 58-acre property was located west of, and adjacent to the property of the *Right of Way Mining Company's* No. 3 shaft. The Right of Way company's 75-foot level chased the extension of the Silver Queen's No. 1 vein.

The Little Nipissing Silver Cobalt Mining Company, Limited
Incorporated November 2nd, 1906 under the Laws of Ontario

Arthur Ferland of the *Chambers-Ferland Mining Company* was a director in this company, which was located on 40 acres, claim J.B. 2, southeast of Cobalt Lake. In 1911 an unsuccessful exploration drift was carried from the 85-foot level of the Little Nipissing mine 300 feet along the *Right of Way Mines* property. (The right of way of the *T&NO Rwy*)

The Buffalo Mines, Limited
Incorporated April 27th, 1906 under the Laws of Ontario

In 1939, successor company, *Cobalt Properties, Limited*, mined a small amount of ore from the Buffalo mine.

Chambers-Ferland Mining Company, Limited
Incorporated June 20th, 1908 under the Laws of Ontario

Principals in this company were William Clarke Chambers of Harriston, Ontario and Arthur Ferland of Haileybury, Ontario. The 124 acres of this company was located east and west of the *Temiskaming and Northern Ontario Railway's* right of way and connected with the Right of Way, La Rose, and O'Brien mines.

The Chambers-Ferland mine fell to the advances of the British capital invasion of 1912-13 when it was folded into the *Aladdin Cobalt Company, Limited.*

Aladdin Cobalt Company, Limited
Incorporated August 23rd, 1912 under the Laws of Ontario

In 1912 the *Aladdin Cobalt Company* purchased the assets of the *Chambers-Ferland Mining Company* as well as ownership of the Silver Queen mine and leased the *Nipissing Reduction Company's* concentrator.

The *Right of Way Mining Company* cooperatively mined veins that traversed their property from the main *Chambers-Ferland* property to the northwest, as well as carrying out minor exploration into the *Chambers-Ferland* property to the south-east.

Provincial Mine – Government of Ontario

1906-1909 Government of Ontario

1909-1924 October 6th, 1909 sale by Province to Frederick Martin Connell followed by transfer to *Cobalt Provincial Mining Company, Limited,* incorporated under the Laws of Ontario

The Government of Ontario, through its Department of Crown Lands, wished to protect timber in the Gillies Timber Limit, and refused to allow prospecting and claim staking in the limit. However, in the spring of 1906, prospecting under the direction of Professor Willet Green Miller was carried out resulting in the discovery of the 'Provincial' mine. By the end of 1909, the moratorium on mine development was cancelled and the limit opened up by the sale of the Provincial mine, and other nearby lots. The vein on which the Provincial mine was sunk was rich on surface, but petered out with depth. The apparent early richness and close

proximity of this vein was touted as a selling point in the promotion of the adjacent Morrison claims, which passed through *Cobalt Merger, Limited* and into the *Red Jacket Silver Mines, Limited*.

The La Rose Mining Company, Limited

Incorporated August 9th, 1905 under the Laws of Ontario

Aggressive and illegal mining by *La Rose Mines, Limited* on the *Temiskaming and Northern Ontario Railway Commission's* right of way resulted in a court case resulting in the *LaRose Mines, Limited* having to reimburse the *Right of Way Mining Company* a sum of $163,000(1). Some of Larose's major vein systems continued into the Right of Way's property.

Details of the incursion by the *LaRose Mines, Limited*, was provided by the March 27th, 1907, Toronto *World* in an article titled "Two Drifts on One Property" and is largely reproduced here:

"Cobalt, March 26 – Special A careful investigation into the correctness of the report that the LaRose Mining Company (sic) had been running their drift on the property of the Right-of-Way Mining Company, reveals the fact that, while the men were at work in the Right-of-Way shaft, at the 55-foot level, they were greatly alarmed upon hearing a very loud report directly beneath them. This shot shook the loose pieces off the walls of their shaft, which fell on all sides around the men who were working, and removed part of the bottom of the shaft upon which they were standing.

When the smoke cleared away they were able to see some 15 feet deeper than they had before, and it was evident that the LaRose drift ran directly under the Right-of-Way shaft. The drift made by the Timmins (2) *company runs fully 100 feet on the Right-of-Way property, and in addition to this, they have done about 15 feet of stoping. The vein averages between five and six inches in width, and although no assays have been made, the engineer of the Right-of-Way Mining Company declares it will easily run 10,000 ounces of silver to the ton. The Right-of-Way people are continuing to sink their shaft from the drift, which has been exposed.*

The management of the Right-of-Way Mining Company is indignant at the attitude taken by the department of mines (3) *during the past few weeks, and declares that it was the duty of the department to make investigation when its attention was called to the fact that the Right-of-Way Mining Company had every reason to believe that this drift was being extended on their property. The Province of Ontario own 25 per cent of the output, which the company's president declares has been wrongfully removed by the LaRose Company. It is said that if the courts decide that the Timmins Company were trespassing on the property it will be a very expensive move on their part.*

The action that is being brought will be what lawyers term "an action on tort," and the damages assessable in an action of this sort are estimated in an entirely different basis than where an action is brought on contract, and it is said that if the Right-of-Way Mining Company can prove that any of the ore wrongfully removes ran as high as 20,000 ounces of silver per ton, the whole amount taken will be measured up and assumed to be of that value. The fact that the Province of Ontario is interested, as before stated, makes this episode one that the attorney-general and the department of mines cannot idly stand by."

(1)Other sources say $250,000.

(2) L. Henry (vice-president) and Noah Timmins (manager), officers in *The La Rose Mining Company, Limited*

(3)Ontario Bureau of Mines at that time, later Department of Mines and several subsequent iterations.

On April 13th, 1907 the name of the *La Rose Mining Company* was changed to the corporate name of the *Alpha Mining Company, Limited* by an Order-in-Council.

On April 23rd, 1907, the Toronto *World* reported in its article "La Rose V. Right of Way" that engineers had descended from the Right of Way shaft into the La Rose workings and through measurement had found that La Rose miners had removed ore for 117 feet of drifting and stoped to a height of 12 feet. The probable value was reported as $500,000.

The messy downsides of the La Rose transgression were complicated lawsuits. In mid-December 1907, the *Temiskaming and Northern Ontario Railway Commission* and the *Right of Way Mining Company* sought to combine their claims against the, now, *Alpha Mining Company*. The combined plaintiffs claimed that, by an Order-in-Council passed on January 24th, 1906, "certain lands" containing minerals, precious or otherwise, were vested in the Province of Ontario. It was alleged in the Non-Jury Assizes that the (now named) *Alpha Mining Company* had, since September 15th, 1903 had removed ore from under the *T&NO Rwy* for their own use and profit. It might be noted that the La Rose claim was located such that the railway's right of way bisected the claim.

Three mining engineers, Arthur Augustus Cole, Reginald Walter Brock and Joseph Burr Tyrell had investigated the La Rose incursion into the railway's right of way, leased to the *Right of Way Mining Company* and decided that 132,286 tons of high grade ore and 47,659 tons of low grade ore had been taken. The mining engineers calculated that this tonnage would have contained 240,340 ounces of silver representing to the Court a penalty of $500,000 for damage and sale of the ore.

The *La Rose Consolidated Mines Company*, in 1908, took over *La Rose Mines, Limited* (100% of stock); *University Mines, Limited* (98% of stock); *Lawson Mines, Limited* (100%) and the *Violet Mining Company, Limited* (100%) as well as the Princess mine (Claim J.B. 3) A new directorate and management assumed control.

The Colonial Mining Company, Limited

Incorporated October 19th, 1906 under the Laws of Ontario

The company's 10-stamp mill was completed in 1908. *The Right of Way Mining Company* rented this mill in 1914 to treat 5,013 tons of their ore over a 5 ½ month period.

Northern Customs Concentrator, Limited

The *Northern Customs Concentrator*, *Limited,* formerly the *Muggley Concentrators, Limited* was an independent company, treating ore at a rate per ton, or for a percentage of the silver contents. *Muggley Concentrators, Limited* * was said to have been incorporated in July 1907 with a capitalization of $250,000. Henry Hubert Muggley, Toronto, president; Charles Jackson Booth, Ottawa, vice-president; Alfred James Young, North Bay, secretary and treasurer; James Brock O'Brian, Toronto, director; Herbert Ide Keen, Chicago, director and William David McPherson, Toronto, director. By July 1908 the concentrator building, located south of the Cobalt railway station, was completed and machinery was installed and operating. The *Northern Customs Concentrator, Limited** took over the Muggley concentrator in 1908 and made additions to the original flowsheet. The officials of the new company included Alfred James Young, president; Charles Jackson Booth, vice-president; Frederick Joseph Bourne, superintendent; Edward Seybold, Ottawa, general manager of the Right of Way mine; Frank Leman Culver, general manager of the Cobalt Silver Queen mine. *Neither company is recorded as being incorporated under the laws of Ontario in their respective years.

The original Muggley concentrator was taken over by English interests and folded into the *Canadian Mining Corporation*, which also controlled the Townsite, City of Cobalt and Cobalt Lake mines. On March 23rd, 1936 the Muggley concentrator and its later named iterations was completely destroyed by fire under suspicious circumstances.

The *Northern Customs Concentrator, Limited* relocated, and built in 1913, an 80-stamp, 225-ton/day concentrator at Mileage 104 north of Cobalt, at the time the largest customs concentrator in Canada. It is remarkable that groundbreaking for the mill began in the first

week in September and by mid-December, the first 40 stamps began dropping. Clearly, evidence that today's regulations and red tape were not a factor in that era.

Dominion Reduction Company, Limited

The *Dominion Reduction Company* operated the former 40-stamp mill of the Nova Scotia mine. This company was incorporated on September 15th, 1913, with a capitalization of $2 million and head office in Cobalt, Ontario. This mill treated some of the *Right of Way Mine's* ore in 1920.

What About Cobalt Metal?

Canadian Copper Company Refinery

There is a misconception by many historians that the minerals containing the metal cobalt were a detriment to early mining in its namesake mining camp. This was not so.

In the spring of 1905 the *Canadian Copper Company,* Copper Cliff, Ontario, began construction of a refinery on the site of the former *Orford* refining works. This refinery was designed to treat Cobalt's cobalt-nickel-silver-arsenic ore.

The initial basic process employed consisted of crushing, ball milling and roasting the ores in Edwards furnaces. Flues leading from the furnaces conducted the off-gases to a double set of condensing chambers. Alternately each condensing chamber was cleaned out and the residue further refined in a reverberatory furnace to produce crude arsenious oxide. Roasted ore from the Edwards furnaces was further treated in a cupola furnace. In this furnace the waste rock is slagged off, the silver falls to the bottom of the melt and can be separated from the main cobalt-nickel-silver matte. This matte (speiss) was then shipped to New Jersey for further treatment.

In 1906, changes were made to the plant to make the speiss more suitable for leaching. The speiss was reground and roasted in a revised Edwards roaster. All the machinery had been updated to electric power.

In 1910, capacity of the plant was increased to 800 tons monthly, a silver refinery and a plant for the production of cobalt-nickel hydrate was constructed. Products now included refined silver and arsenic. Unrefined cobalt-nickel hydrate was shipped to Europe.

Operation of the cobalt silver refining plant was discontinued in 1912, operating only part of the year. It was reportedly closed because of the use of cyanide in the treatment of ores in the concentrators in the Cobalt area.

It is interesting to note that the *Canadian Copper Company* had sufficient faith in the Cobalt mining camp's future to design and construct this Copper Cliff refinery, barely a year and a half after discovery.

Cobalt Coinage

As early as 1906 the *Canadian Mining Review* proposed the use of cobalt for Canadian coinage. It was noted that cobalt and cobalt compounds were being used, at that time, for glass and pottery coloring pigments. In a prescient moment, the *CMR* predicted the use of cobalt in electrical storage batteries and as an additive to iron.

It was noted that the (1906) silver five-cent piece was too small* and easily lost, so it was proposed to use cobalt to make a significantly larger cobalt five-cent coin. This proposal arose again in 1914, when it was noted that the five-cent coin was "the least desirable of our Canadian silver coins because of its size and the consequent difficulty in handling it…"

* 15.5 mm or about 5/8 inch and known as "fish scales" for their diminutive size.

A Very Brief Introduction to Geology and Mining Methods

As mining companies discovered and opened up the many mines in the Cobalt silver camp, the vein types and areas to search for them became clearer. There are three main rock types associated with the camp; Keewatin (greenstones and slates), Huronian (conglomerates and slates) and diabase (a rock type). Silver has been found in veins in all three rock types as well as in the rocks adjacent to the veins. It was learned early on that not all veins contain silver values, and many a mining operation had intersected several veins in the course of exploring its property with all of them being barren of useful minerals.

When a vein containing paying minerals, silver or cobalt, or both, it was common practice to trench along a vein and then sink a shaft on the vein, establishing levels at regular depths from surface, anywhere from 50 to 100 feet. At these levels, drifts would follow the vein so long as it was productive. Veins could be imagined as vertical irregular sheets of paper of various thickness, various heights and aligned in any degree of the compass. Within that sheet, silver, for example, might occur in paying quantities in all or a fraction of that sheet (vein).

RIGHT OF WAY

The Right of Way Mines, Limited, has a capital of $2,000,000 of which $1,685,500 has been issued. The shares have a par value of $1.00. The company has produced 2,961,353 ounces of silver and has paid $252,825 in dividends to the end of the year 1922.

The company worked the "right of way" of the Temiskaming and Northern Ontario railway at the north end of Cobalt lake, and at the south end. At the north end the extension of the main La Rose vein was mined, while at the south end veins from the Silver Queen and Townsite were operated. The property was not being worked in the year 1921.

The workings north of Cobalt lake will first be described; the plans of this part are shown on sheet No. 31a-14.

Workings North of Cobalt Lake

Most of the two important levels, the 83-ft. and the 143-ft., were dammed off by concrete dams, making them inaccessible. The writer regrets that he was not able to examine this part of the mine; it is reported that the junction of the main La Rose vein and the Cobalt lake fault was met with during mining operations in these levels. It is unfortunate that there are no published records, in so far as the writer is aware, concerning the structural relation of the main La Rose vein to the Cobalt lake fault. The writer, however, obtained the following information from D. Angus, who was at one time in charge of the Right of Way. Mr. Angus states that La Rose vein entered the Right of Way property and continued southwestward, finally running into the Cobalt lake fault; that it followed the fault for 25 or 50 feet, and that it then turned south and gradually left the fault. The part of the vein in the fault and northeast of it was productive, but the part to the south of the fault was not productive and appeared to pinch out. It may be added that La Rose vein together with its southwestward extension into the Right of Way was on the southeast side of the Cobalt lake fault. The vein has never been found on the northwest side of the fault.

Judging from the verbal descriptions which the writer has obtained regarding the structural relation between the main La Rose vein and the Cobalt lake fault, it is evident that the vein is younger than the fault.

The Right of Way shaft, No. 2, is about 280 feet northeast of the north end of Cobalt lake. There are four levels from this shaft, at 83, 143, 358, and 410 feet below the collar of the shaft. The lowest level, the 410-ft., is reached by a winze from the 358-ft. level. The winze was said by the management to extend some distance below the 410-ft. level; it was flooded at the time of our examination, but as the rock below the 410-ft. level is Keewatin it would not appear to have much economic significance.

410-ft. Level.—The level consists of a drift about 70 feet long in the Cobalt lake fault. No cobalt bloom was noted in the fault, although there are irregular stringers of calcite in it.

The bottom of the Cobalt series occurs at the winze, so that these rocks have a thickness of about 410 feet on the north side of the Cobalt lake fault.

The Chambers-Ferland made use of this level to operate their property to the north of the Right of Way. With the exception of the drift on the Cobalt lake fault, the entire level is on the Chambers-Ferland property. The level is described in that part of the report dealing with the Chambers-Ferland.

358-ft. Level.—This level was also used by the Chambers-Ferland to work their property to the north of the Right of Way. The level is described on page 165.

143-ft. Level.—Practically all of the level was dammed off by a concrete dam, so that only the crosscut for 100 feet northeast of the shaft could be examined. This part of the level is on the south side of the Cobalt lake fault. The contact between the Keewatin and Cobalt series occurs about 10 feet north of the shaft, and strikes northeastward. In the shaft the contact occurs about 4 feet above the floor of the crosscut. About 60 feet northeast of the shaft, there is a bed of slate-like greywacké one foot thick. The dip of the Cobalt series may be readily ascertained from this bed, and it is seen to be dipping about 20° to the northwestward. There is a crushed zone along this bed of slate-like greywacké, indicating some slight movement, how much was not ascertained. Above the bed of slate-like greywacké is quartzite.

83-ft. Level.—The north part of the level was dammed off by a concrete dam; the south part was accessible. The latter consists entirely of the Cobalt series except a short crosscut at the east side, in the Chambers-Ferland ground, which consists of Keewatin. The Cobalt series dips at about 10° to the northwest.

About 10 feet north of the shaft, there is a minor fault dipping 20° to the northwestward. There are no veins except a small barren calcite one at the south end of the workings. From this level the Chambers-Ferland did some work on its property to the north.

Mine Workings South of Cobalt Lake

The Right of Way mine at the south end of Cobalt lake was worked from two shafts, Nos. 3 and 4. There are two levels, the upper one of which is known as the 75-ft. level. This level consists of a crosscut more than 1,700 feet long, running parallel with the railway track. At the time of examination, early in August, 1921, the level was partly flooded, and we were only able to examine the north half of the workings for a distance of about 800 feet. The crosscut in this north part of the workings encountered five veins, four of which have been more or less stoped. The veins strike northwestward. The one which is 340 feet north of No. 3 shaft has been stoped for a width of 10 to 20 feet. There was water in this stope 30 or 40 feet below the level, at the time of examination. On this level a fault may be seen intersecting this vein. The fault strikes northward, and dips at an angle of 37° to the east. Its relation to the vein could not be worked out.

The stopes on the other three small veins are narrow, 5 or 6 feet in width. At the north end of the property there is a vertical fault, which has a fault breccia and gouge 1 to 12 inches wide. A small vein of calcite with cobalt bloom parallels the fault.

The north end of the crosscut follows a fine-grained greywacké and slate-like greywacké for about 550 feet; to the south of the slate is conglomerate as far as we could explore. Keewatin is reported at the south end of the crosscut. The upper part of No. 4 shaft is conglomerate, below which is the bed of greywacké and slate-like greywacké to the 75-ft. level, and for a few feet below.

The first level of the Right of Way is about the same elevation as the second level of the Silver Queen.

The second level of the Right of Way was not accessible.

Ontario Department of Mines Report, Vol. XXXI, Part 2, 1922, Cyril W. Knight, *The Cobalt Silver Area*

The Realities of Early Mining – Accidents

Mining has always been a dangerous profession, and mining in the early part of the 20th century was a far cry from the regulated industry that it is today. Ways to become injured, or even be fatally injured, were multitudinous.

In the earliest days of the Cobalt camp it was common to ride up and down the shaft in the sinking bucket, both while shaft sinking and during production. Most of these buckets were free hanging, so contact with shaft walls and timbers produced many injuries and deaths when the bucket hit the rock wall or timbers and miners were injured or ejected from the bucket. Also there was no protection from anything falling down the shaft.

Deaths from gassing were another potential for demise, as the only ventilation after blasting in confined area was limited to that provided by an air hose at the working area. Miners often experienced what was called a "powder headache" an excruciating pain akin to a migraine.

Probably one of the most common forms of injury and death came from drilling into unexploded drill holes. These holes, known as "bootleg" holes, often contained explosives that had not been detonated. Another dangerous activity was the thawing of dynamite. Although proper appliances existed for thawing dynamite, mining reports tell of leaning sticks of powder against stoves, thawing ice in pails containing powder at the bottom and many other methods most terrifying. Sometimes boxes of dynamite, along with prepared fuses were stored in the bunkhouse because it was often kept heated.

One of the benefits of the Cobalt camp was its relatively shallow workings and competent rocks, resulting in few rock falls and stress related fracturing (rock bursts) often associated with mines that often reach depths as much as ten to twenty times deeper than those of Cobalt. Another factor concerns the mining methods. Cobalt mines traditionally followed narrow veins, mining only sufficiently wide enough to extract the pay ore in a method known as shrinkage stoping. Base metal mines most often employ methods that result in very large extraction areas, known as stopes. Because these are so large and often deep, they must be filled with mill tailings to support the backs of these openings.

Although the Ontario Bureau of Mines, and its successor departments, recorded accidents within the mines, mills and metallurgical works there were occasions where accidents were not recorded in the annual reports of the Bureau. A sampling of misfortunes at the Right of Way mines, and at the Thunder Bay operations, included:

September 17, 1907
Ovile (aka Odilion) Lessard, miner, was killed by falling out of the bucket in the No. 2 shaft, at that time only 50 feet deep. It is supposed that the link holding the bucket upright slipped off allowing the bucket to tip over, ejecting Lessard.

February 15, 1908
Constant Constot*, machine helper, was killed by an explosion of gelignite (type of explosive) when Constot and his partner, Emil Bernier, drilled into a hole containing some gelignite, which had not exploded. Bernier was slightly injured. *See biography in **The People** for variation on this name.

April 21, 1912*

A. Hill, **M. Hendrickson**, **J.Hill** and **G. Resta**, all hammermen, were injured when they drilled into a missed hole containing explosives. *The Toronto *Globe* in an article titled "Four Men Badly Hurt," said these four men were injured at "the Right-of-Way mine, near Whitefish." "All were hurt badly…and are now patients in St. Joseph's Hospital." This accident happened at the leased properties of the *Right of Way Mines, Limited* near Whitefish Lake on the *Port Arthur, Duluth & Western Railway* in the Silver Mountain mining district, west of (today's) Thunder Bay.

January 8, 1913
J. Colterman, drill runner, 25 years old, was killed by a falling crosshead (part of the hoisting mechanism).

May 1, 1913
A. Agmoinin, drill runner, 27 years old, was injured while scaling.

May 16, 1913
J. Consol, trammer, 31 years old, was injured while loading ore car.

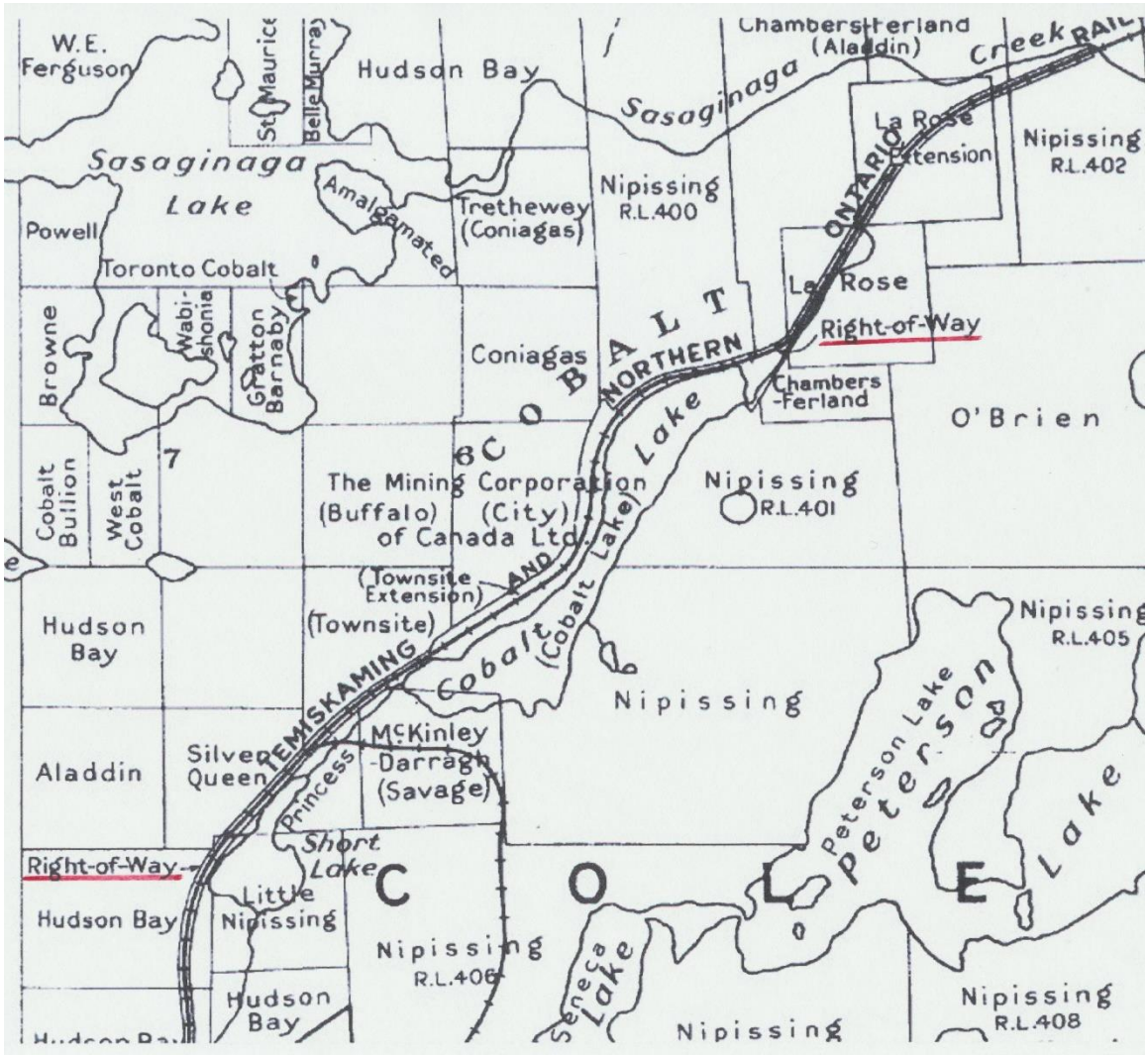
Where's the Metrics? Imperial Measure by Design

Measurements in this monograph are in Imperial measure, since that was the system employed in the time frame of this monograph. Conversion from Imperial measure of the day to contemporary Metric results in awkward fractions of kilometers, meters, tonnes, kilograms and liters. For those so inclined to convert here are some basic conversions:

One mile = 1.61 kilometers
One foot = 0.3048 meters or 30.48 centimeters
One inch = 2.54 centimeters
One ton (2,000 lbs.) = 907.2 kilograms
One pound = 0.454 kilograms or 454 grams
One avoirdupois ounce = 28.35 grams
One troy ounce = 31.10 grams (grades for gold and silver ores)
One Imperial gallon = 4.546 liters
One US gallon = 3.785 liters
One acre = 4047 sq. meters or 0.4047 hectares
One chain = 66 feet or 20.1168 meters

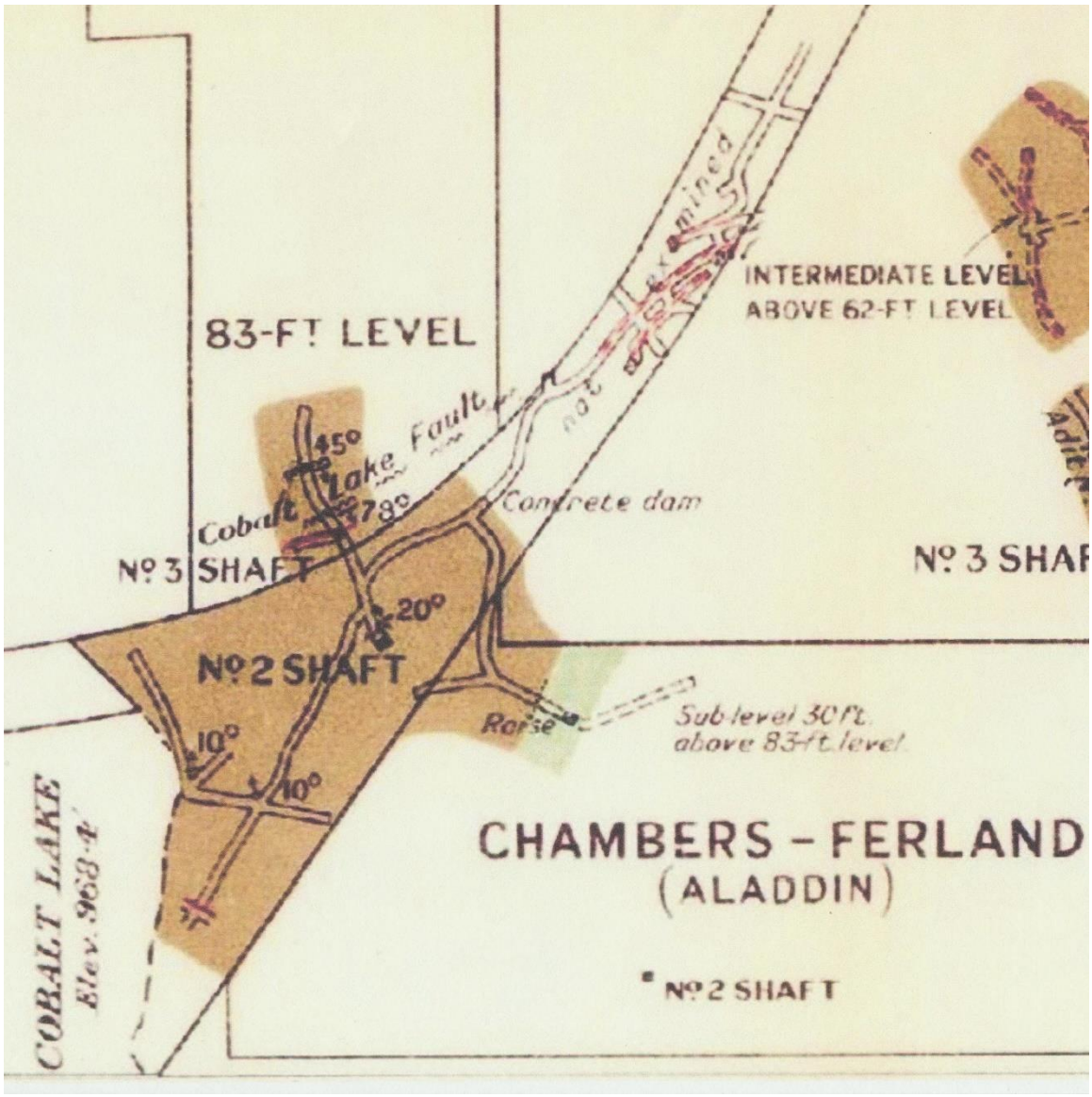
Right of Way Mines - Location Maps and Mine Workings Plans

The following map accompanies Ontario Department of Mines Report, Vol. XXXI, Part 2, 1922, by Cyril W. Knight reporting on "The Cobalt Silver Area"

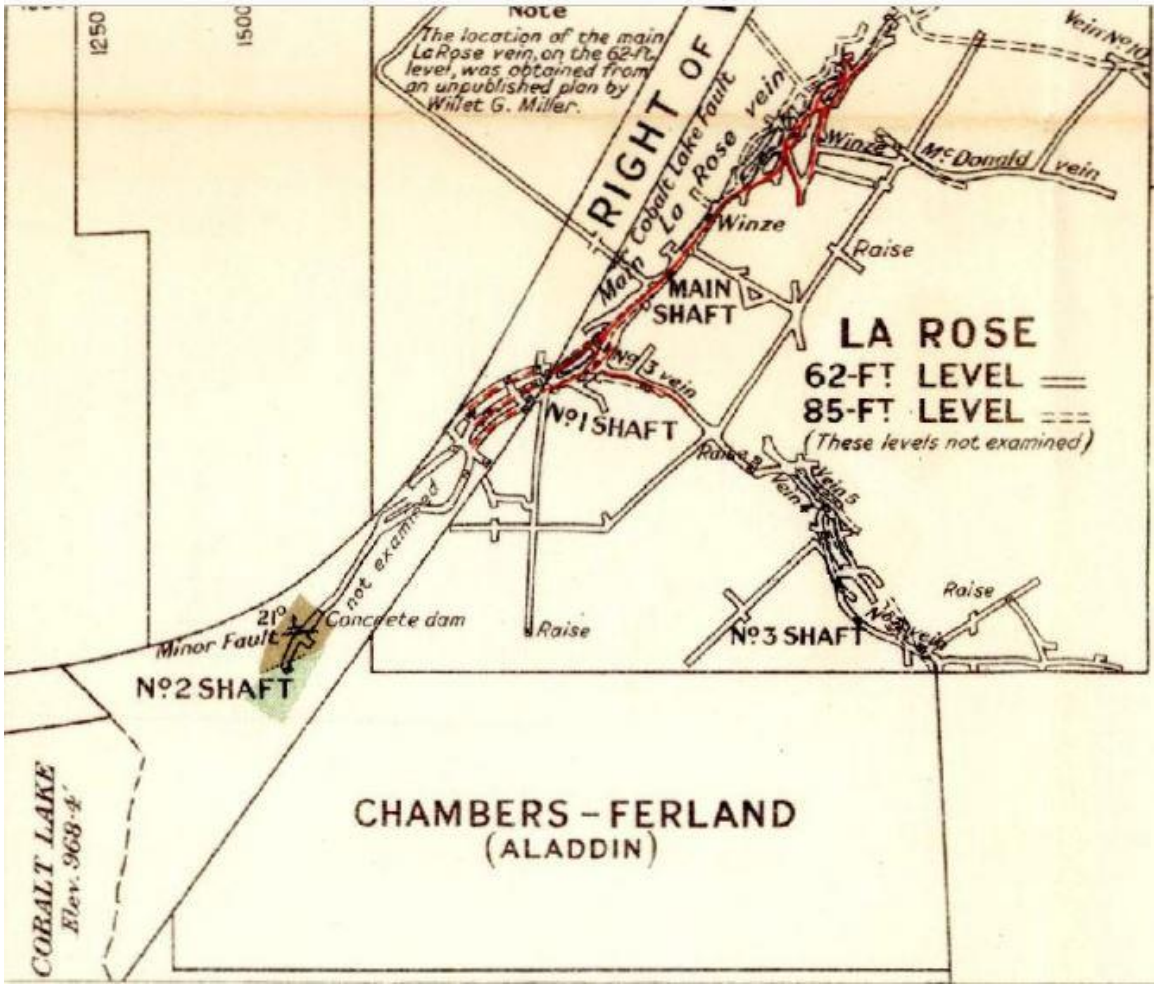


Right of Way Mining Company mining locations – No. 1 & 2 shafts top right, No. 3 & 4 at bottom left. Ontario Department of Mines – Sheet 31a-21(part of)-Map showing mining claims in Cobalt Area Proper, District of Temiskaming, Province of Ontario.

The following plans accompany *Ontario Department of Mines Report, Vol. XXXI, Part 2, 1922*, by Cyril W. Knight on *The Cobalt Silver Area* and are reproduced from Sheet 31a-14, *LaRose, Right of Way, and Chambers-Ferland (Aladdin) Mines* and detail workings on the 83, 143, 358 and 410-foot levels.

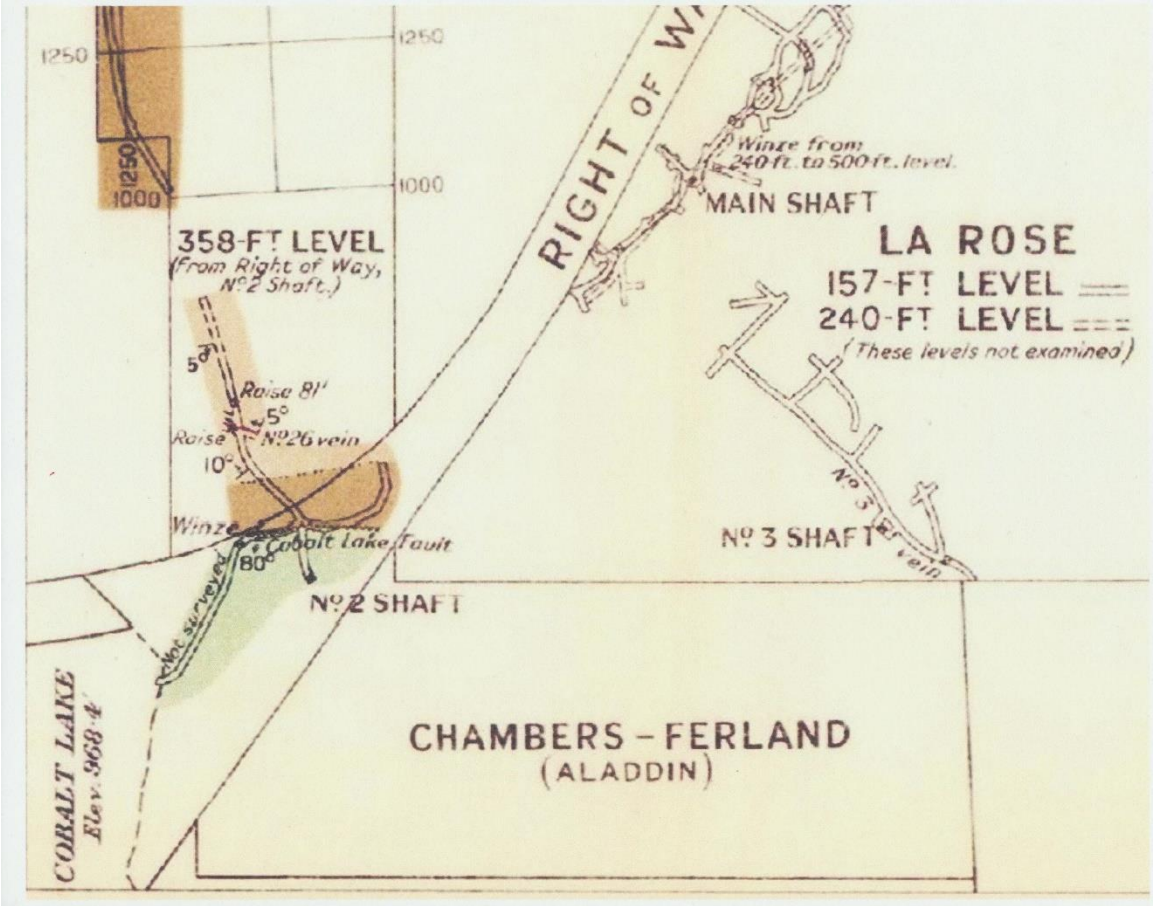


Right of Way Mining Company – No. 2 shaft workings on the 83-foot level along the *T&NO Rwy* right of way as well as northerly and southeasterly into the *Chambers-Ferland* properties. Connection with the Right of Way Mng. Co's No. 1 shaft to the north was carried out in 1908, as well as the raise to surface on the Chambers-Ferland (Aladdin) property. A raise for the Chambers-Ferland No. 3 shaft was also carried out at this time. Location of the No. 1 shaft is shown more clearly on the 143-foot level plan. Railway right of way is 99 feet wide for scale *Ontario Department of Mines*

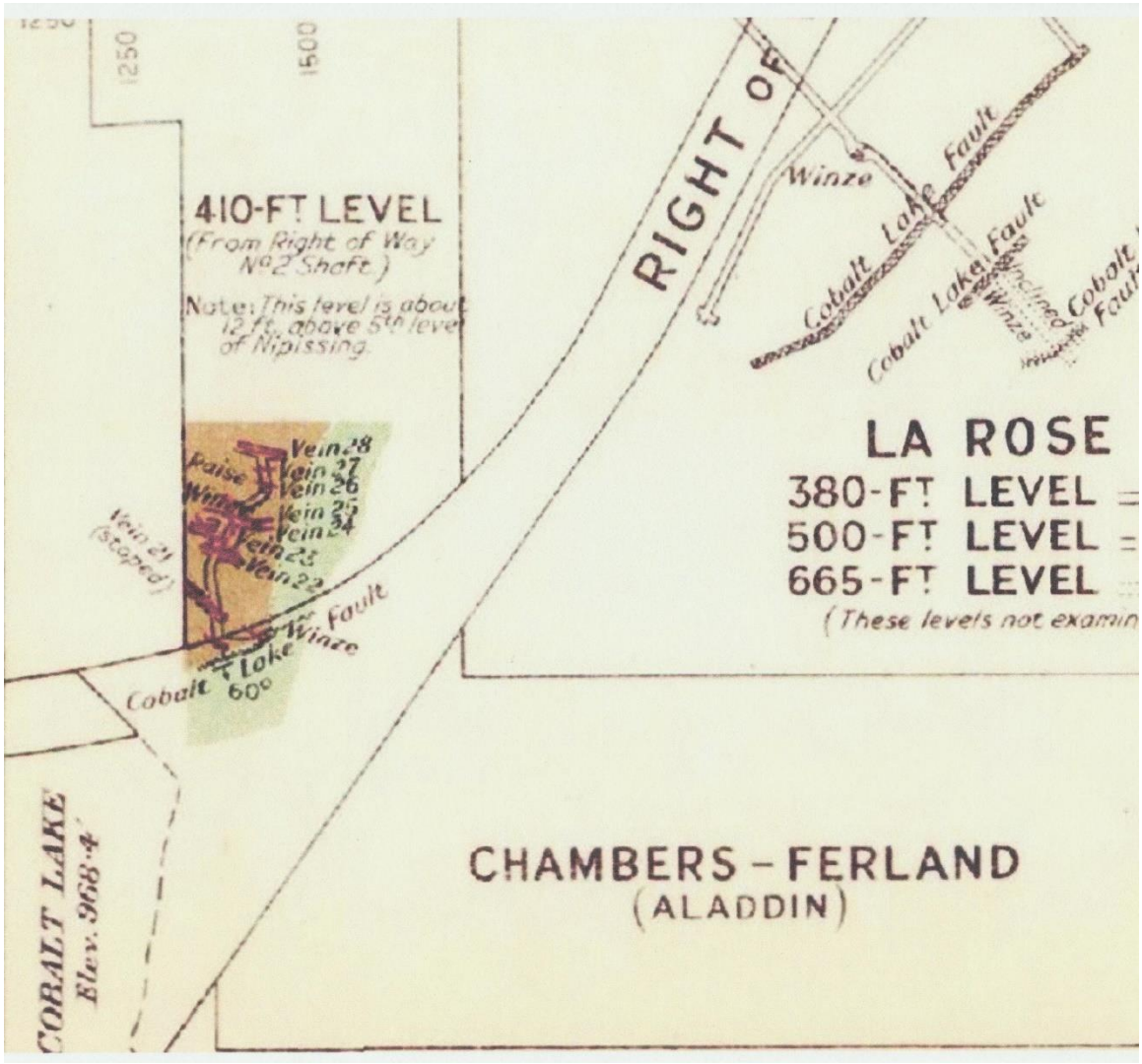


Right of Way Mines, Limited – No. 2 shaft workings on the 143-foot level along the *T&NO Rwy* right of way as well as connecting with the La Rose mine to the east. Mining on the 143-foot level was focused ca. 1912 on searching for extensions of the La Rose vein system.
The No. 1 shaft of the *Right of Way Mining Company* is located at the extreme right side of the *T&NO Rwy* right of way, northeast of the No. 2 shaft. Railway right of way is 99 feet wide for scale. *Ontario Department of Mines*

The *Right of Way Mining Company's* No. 1 shaft is also shown on Provisional Map P-97A - Part of Underground Workings and Approximate Structural Contours – Coleman Tp., Concessions V & VI – Lots 1 to 6 - 1961 *Ontario Department of Mines*

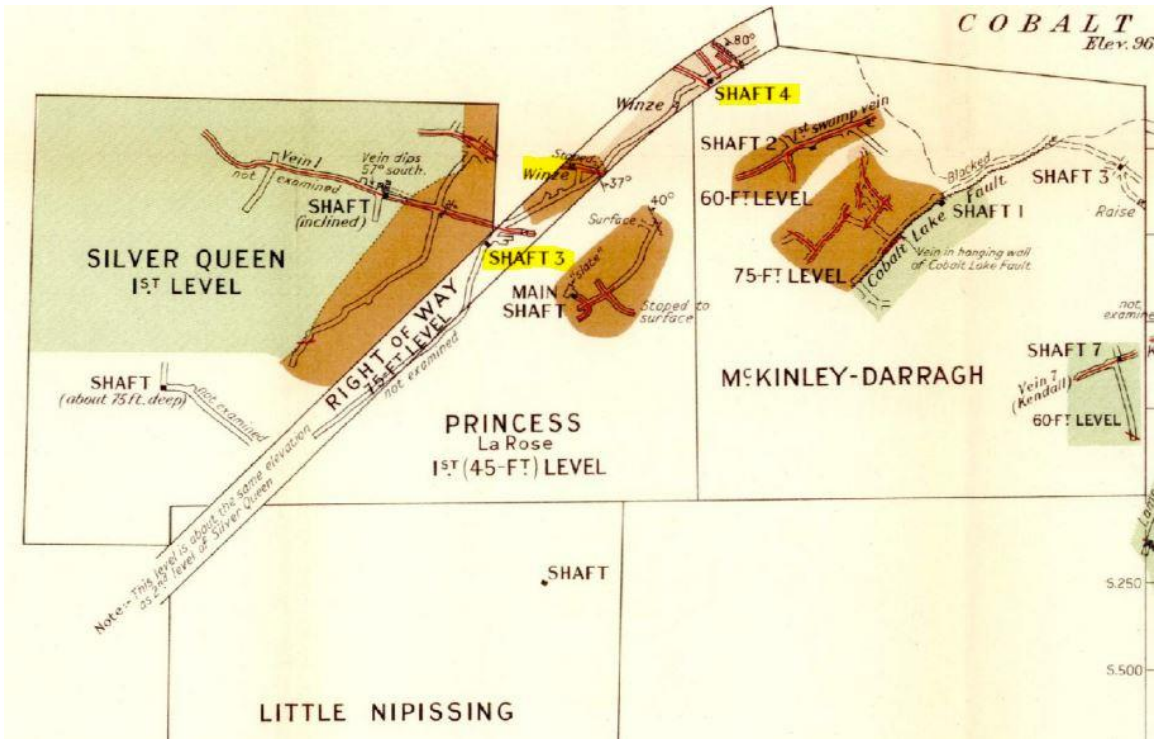


Right of Way Mines, Ltd. – Workings on the Chambers-Ferland 410-foot level were carried out from the *Right of Way Mines, Ltd.* No. 2 shaft by way of a winze from the *Right of Way's* 358-foot level In 1913 No. 2 shaft was sunk from the 143-foot level to the 375 feet, with a station cut at 365 feet. In 1918 the No. 2 shaft was sunk further to 465 feet, but little ore was found in the 550 feet of crosscutting, drifting and raising in that year. Before the end of the *Right of Way Mines, Ltd* tenure a further 1785 feet of crosscutting, drifting, raising and winzes were carried out with little success. Railway right of way is 99 feet wide for scale. *Ontario Department of Mines*



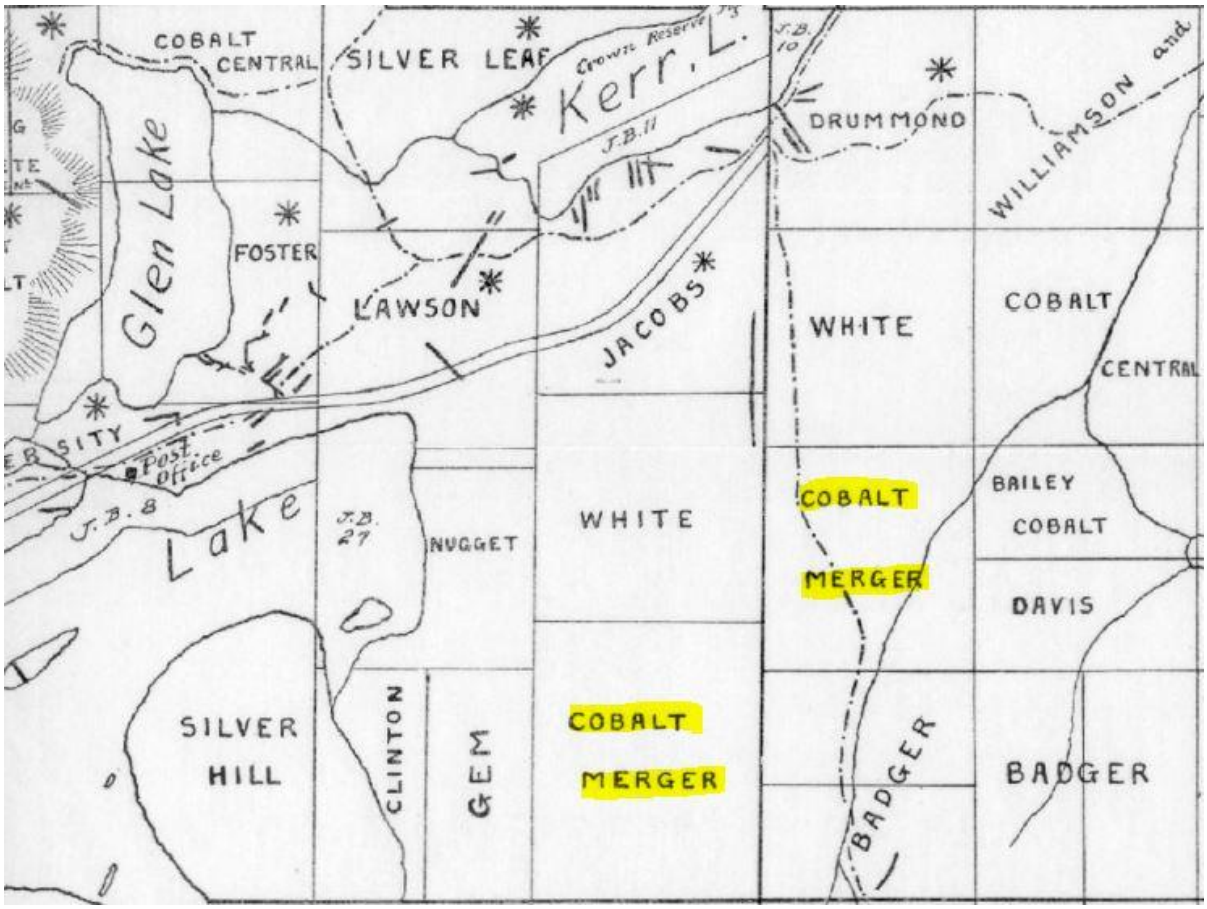
Right of Way Mining Company – Workings on the Chambers-Ferland 410-foot level were carried out from the *Right of Way Mining Company's* No. 2 shaft, which is not shown on this plan. Railway right of way is 99 feet wide for scale. *Ontario Department of Mines*

The following plan is reproduced from Sheet 31a-13, *McKinley-Darragh, Nipissing, Silver Queen, Princess, Little Nipissing and Right of Way Mines* and shows the locations of No. 3 and No. 4 shafts



Right of Way Mining Company / Right of Way Mines, Ltd. – No. 3 and 4 shaft workings on the 75-foot level along the T&NO Rwy right of way. Shaft No. 3 was begun in 1908 and connected, at the 75-foot level, with a continuation of the vein on the Silver Queen's second level. In 1909 a winze was sunk to the 120-foot level to access the continuation of the Silver Queen vein at the lower level. In the same year the crosscut continued under the right of way to access and mine several vein systems. A raise was to surface between the second and third vein was carried to surface and became shaft No. 4. Between 1910 and 1912 an unproductive crosscut was driven from the 75-foot level southerly under the right of way a distance of 350 feet. During the same time, crosscutting northerly resulted in the discovery of veins No. 5, 6 and 7. Railway right of way is 99 feet wide for scale.

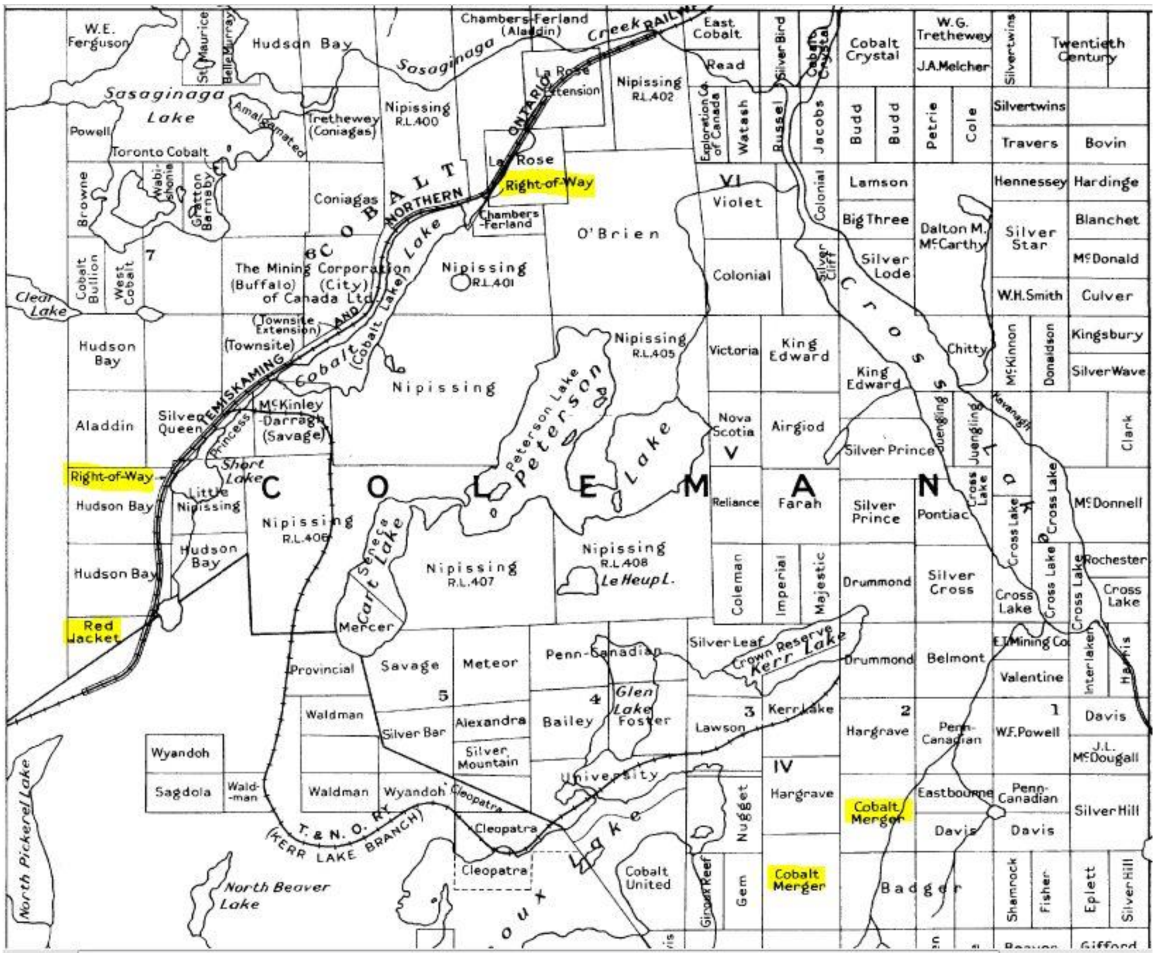
Ontario Department of Mines



Cobalt Merger, Limited claims on Lot 2, Concession IV, Coleman Township. These two claims were originally the property of Robert Latham McCormack's *The McCormack Cobalt Silver Mining Company* before being merged into *Cobalt Merger, Limited.*

The two claims marked "White" are those of *The White Silver Company, Limited,* incorporated October 13, 1905,of which William John White was involved. The White claims were purchased in 1908 by successor *Hargrave Silver Mines, Limited,* which was incorporated November 3, 1908.

Map section from: Index Map – Coleman Mining Properties - accompanying Willet Green Miller's report in the sixteenth annual report (1907) of the Ontario Bureau of Mines.



Map showing all of the properties associated with the *Right of Way Mining Company* and its successors.

Properties in the initial *Cobalt Merger, Limited* included the two similar shaped triangular claims of Major Edward Whipple Bancroft Morrison, only one of which is shown as "Red Jacket" (of the *Red Jacket Silver Mines, Limited*) as well as the claims of *The McCormack Cobalt Silver Mining Company of Toronto, Limited*, shown as "Cobalt Merger".

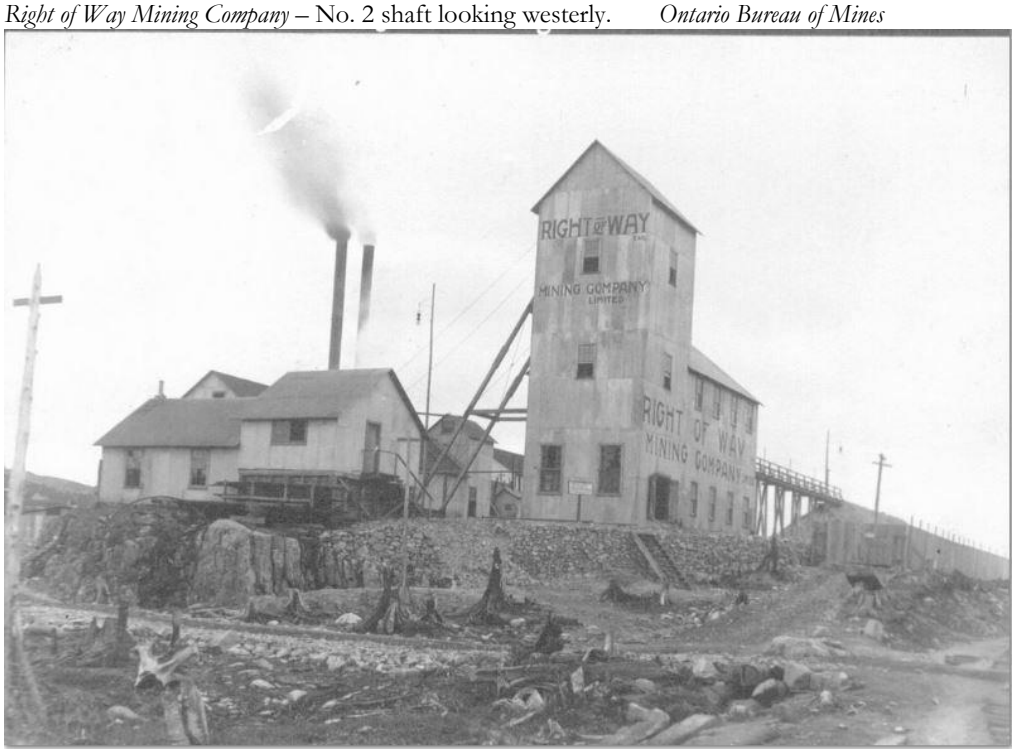
The Hargrave claims adjacent to the claims of Cobalt Merger were originally *The White Silver Company, Limited*.'s properties.

Other properties associated with the Right of Way company shown are Silver Queen, Little Nipissing, Princess, Chambers-Ferland and La Rose.

Source: Sheet 31a-21 – Mining Claims in Cobalt Area Proper – Volume XXXI, Part 2, 1922 Ontario Department of Mines

Historical Photos

Right of Way Mining Company – No. 2 shaft looking westerly. *Ontario Bureau of Mines*



Right of Way Mining Company – No. 2 shaft looking south before the bridge over the *T&NO Rwy* built in 1908. *Ontario Bureau of Mines*

Photo Credit: *Cobalt Historical Society Digital Collection*

About this photo: This photo taken from the south side of No. 2 shaft is dated around 1908. It is interesting to note the photographer wrote "Right-A-Way Mine" on the board fence. The two gentlemen in the foreground are standing in front of a cattle guard, one of several constructed by the T&NO Rwy.

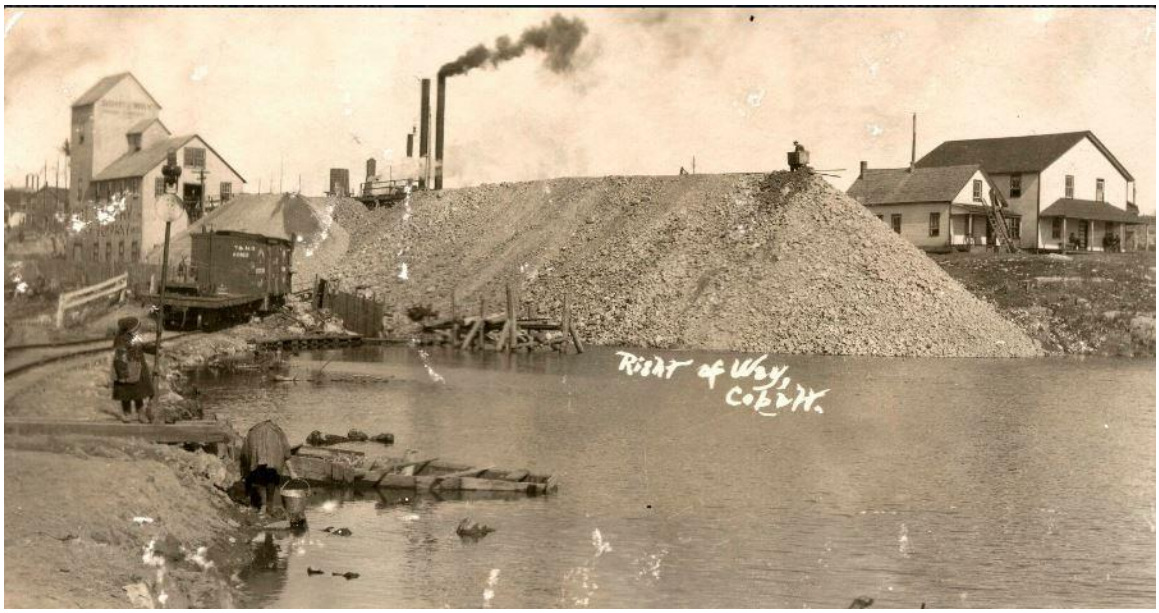
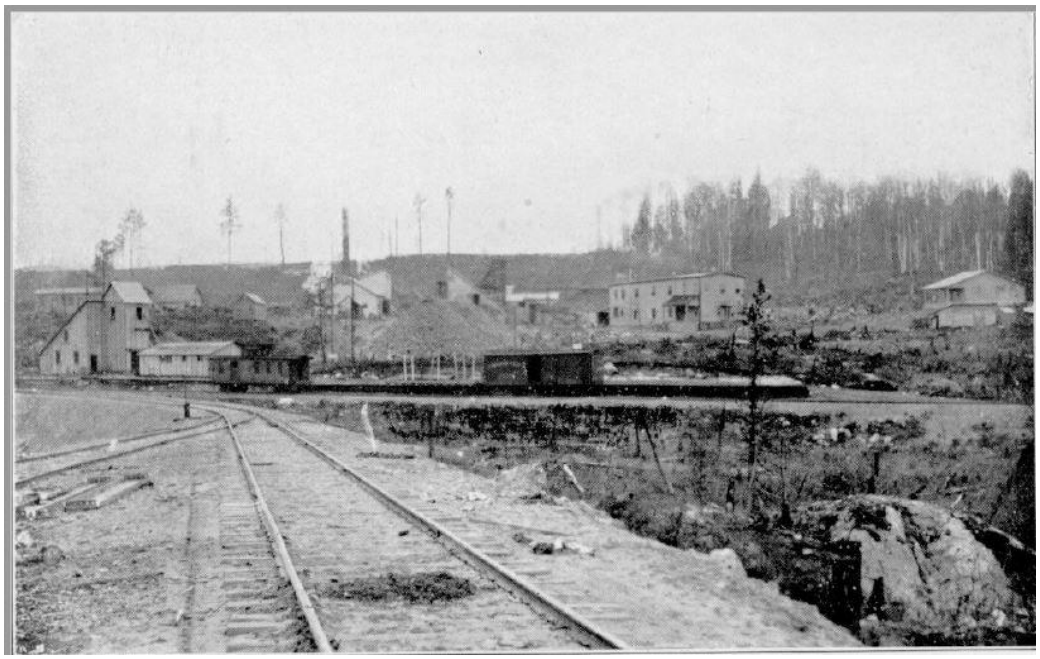


Photo Credit: *Cobalt Historical Society Digital Collection*

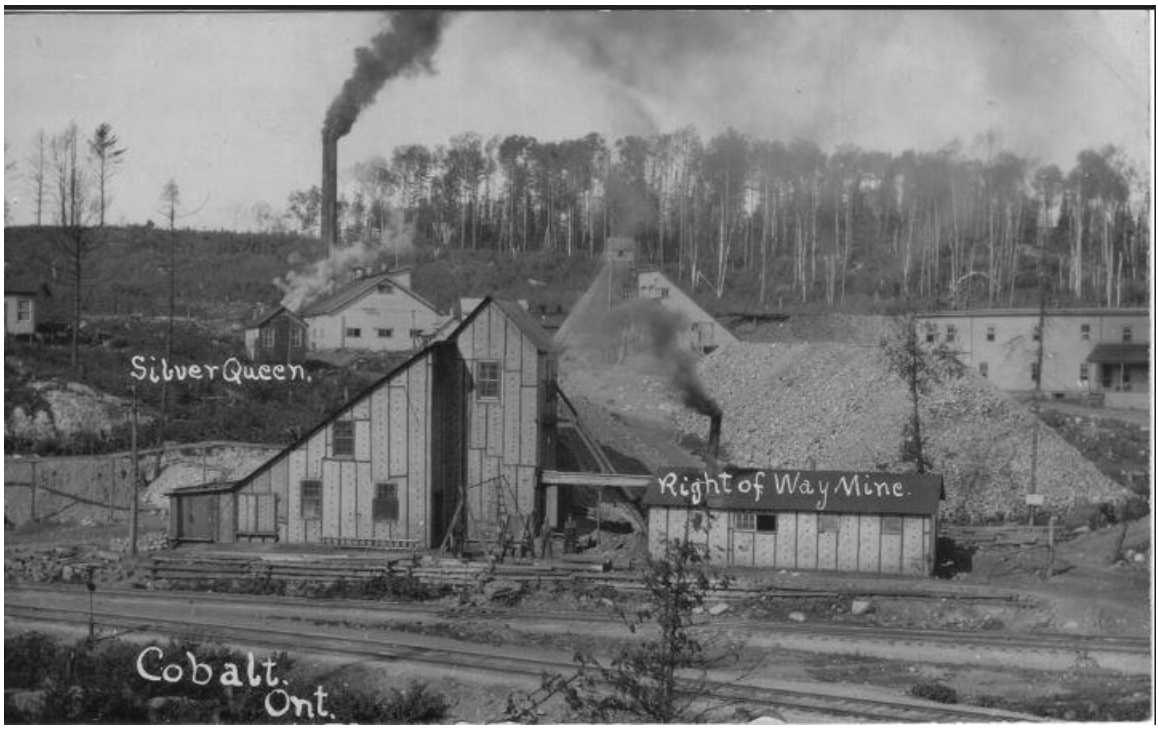
About this photo: This photo taken from the south side of No. 2 shaft is dated around 1908. The waste pile extends now into the north end of Cobalt Lake. The flatcar and boxcar are situated on the 326-foot spur built by the T&NO Rwy in 1908, mainly to access the waste pile for use along the railway. Bagged ore was shipped by boxcar, while the railway moved rock and gravel by flat cars in the early days of the railway. The lighter coloured waste nearer the headframe was likely waste from hand cobbing the ore before shipment.

Photo Credit: *Cobalt Historical Society Digital Collection*

About this photo: This photo looking north to the Right of Way #2 shaft was taken after 1908 as the 330-foot road bridge built by *O'Boyle Bros. Construction Company* in that year appears in the photo. It appears the T&NO Rwy hasn't made much of a dent in the waste pile. There is no record of the *T&NO Rwy* compensating the mining company for the waste removed.



Right of Way Mining Company – No. 3 shaft extreme left – looking southwesterly.
The Silver Queen Mine is just to the right and is the white structure. *Ontario Bureau of Mines*



Right of Way Mining Co. – No 3 shaft in foreground (looking west). *Ontario Bureau of Mines*

Contemporary Photos – Right of Way Mine – No. 2 Shaft

Right of Way mine – No. 2 shaft (looking south toward Cobalt Lake Allan Stacey©

Right of Way mine - No. 2 shaft (looking northeast) Allan Stacey©

Right of Way Mine – No. 2 shaft (exterior cladding) Allan Stacey©

Right of Way mine – Locomotive style boiler Allan Stacey©

Right of Way mine – No. 2 shaft interior timbering Allan Stacey©

Right of Way mine – No 2 shaft – Side view of Wabi one-ton ore car. Dump door is on the right hand side; pivot point is just above and behind the right hand wheel. Sloping frame at right hand side prevents car body from over-tipping. Allan Stacey ©

Right of Way mine - No. 2 shaft – End view of mine car showing latching mechanism. (Latch has been secured for display) Allan Stacey©

Right of Way mine – No. 2 shaft (cage and mine car) Allan Stacey©

Right of Way mine – No. 2 shaft – Part of turntable mechanism used to turn ore cars before being dumped if dump door is facing wrong direction. (Track to ore bin is left of ore car)
Allan Stacey©

Right of Way mine – Battery trammer & two ore cars, one in dumping position. Allan Stacey©

Right of Way mine – No. 2 shaft looking south Allan Stacey©

Right of Way Mine – No. 2 shaft looking southerly to Cobalt Lake Allan Stacey©

The People – Biographical Information

Without people, no ore would be extracted from the mines. The people in the following list were either directly connected with the Right of Way mine, or in some peripheral capacity. These are not meant to be exhaustive biographies, but provide a basis for others to more thoroughly research the individuals.

Obituaries and online biographies seldom mention contributions to the mining world by many of these individuals so it is hopeful that this list of names may, in some way, correct this where possible.

As noted elsewhere, name spellings vary from source to source and this list has been made as carefully as is reasonably possible.

Individual's involvements in various companies do not list all of the companies they were involved in, nor all the years of association, but provide an insight into their interests.

On dates before July 1st, 1867 (Confederation), Ontario was known as Canada West and the Province of Quebec was known as Canada East. Some dates in these biographies may not be designated as such.

Agmoinin, A.

On May 1st, 1913, A. Agmoinin, a 27-year-old drill runner, was injured while scaling at the Right of Way mine.

Angus, David Henry (Harry)

David Henry (Harry) Angus was a miner, mine manager, mine leaser.
David Henry Angus was born September 6th, 1877 into a farming family in Huron East, and was listed as a glove maker in Wingham, Ontario in the 1901 census; Angus was residing in Cobalt as a miner in August of 1909 when he married Ellen (Nellie) Anquetil (1881-1973) at Chatham, Ontario. Angus died February 22nd 1960 at Haileybury, Ontario.

Some of his mining involvement included:

Drummond Mines, Limited
D.H. Angus was manager (ca. 1912-1914) of this company after Robert Whish Brigstocke, former manager, left to take over management of the Long Lake, Sudbury area, gold mine of the *Canadian Exploration Company*, a Drummond venture.
Right of Way Mines, Limited
Angus was manager of this company, ca 1915-1920
Silver Queen Lease
D.H. Angus supervised ten men mining the Silver Queen lease in 1915. The prior company holding this property was *Cobalt Silver Queen, Limited*, incorporated April 6th, 1906. The Silver Queen mine bordered the *Right of Way Mines, Limited's* No. 3 & 4 shafts to the west.
Tough-Oakes Gold Mines, Limited
D.H. Angus was general manager of this company, 1917-1918.
Canadian-Kirkland Gold Mining Company, Limited
D.H. Angus and George E. Drummond took control of this company in December of 1918.
Bidgood Gold Mines, Limited
Angus was manager of this gold mine in Lebel Township, Kirkland Lake area, 1921-1922
Gold Hill Mining Company, Limited/Gold Hill Mines, Limited
This was a new gold mine in Catharine Township, Kirkland Lake area.

D.H. Angus was manager of this company, ca. 1923, and president and managing director in 1927.

Albert Johnson Prospect

Option taken on this property at Boston Creek in 1925. Angus contracted out shaft sinking.

Gaffney Prospect

D.H. Angus optioned this gold property in the Lower Manitou Lake area, Kenora district in 1933-34

Dumico Gold Corporation

D.H. Angus was a director in this company with a gold property in Duparquet Township, northwestern Quebec.

Armour, Edward Douglas K.C.

Edward Douglas Armour, barrister at law, came from a family with ties to the legal profession; his father, uncle, sons and grandsons being involved as well. Armour was called to the bar and admitted as a solicitor in 1876. His activities thereafter included lecturing at Osgoode Hall in Toronto and publishing topics on the law.

Armour was involved in the Sharpe vs. White court case involving White's reneging on purchases of *Cobalt Merger, Limited* stock.

Edward Douglas Armour was born May 26th, 1851 at Port Hope, Upper Canada, (Ontario), and died October 3rd, 1922 in Toronto.

Bascom, Charles Horace

Charles Horace Bascom was a director in *The McCormack Cobalt Silver Mining Company of Toronto, Limited*, which was folded into William Claude Fox's *Cobalt Merger, Limited.* This latter company was subsequently taken over by *The Right of Way Mines, Limited* In April of 1907 Bascom was elected as a director of *Cobalt Merger, Limited.*

Bascom graduated from the University of Toronto as a doctor of medicine in 1884, and for several years practiced in Cuba, Jamaica and England. He returned to Canada to become house doctor at Toronto General Hospital, followed by practice in Uxbridge, Ontario for twenty-four years.

In 1912, Bascom moved to Whitby to become clerk and registrar of the courts, and shortly after, examined men for their attestation papers during WW I. In 1937 Horace Bascom was appointed a Sheriff of Ontario, a position he held until his death at age 91 years. Bascom was born April 26th, 1863 at Uxbridge, Ontario and died November 4th, 1956 at Whitby, Ontario.

Bateman, Cecil G.

Bateman was manager of the *Maidens-Macdonald* gold prospect in Deloro Township, Porcupine area, under option to *LaRose Consolidated Mines Company*. General manager of the *La Rose Consolidated Mines Company*, ca. 1916-1923; born ca. 1886 at Ontario

Bailey Silver Mines, Limited

Bateman was consulting engineer of this company, of which A.J. Young was president, ca. 1921. Mine manager of Lawson mine in 1921.

Beament, Thomas Arthur

Beament was an Ottawa lawyer, president of *Beament & Armstrong*, barristers and solicitors, Ottawa. King's Counsel (1890), called to the Ontario Bar, 1891. Founding Member of the Laurentian Club in 1904. Born June 27th, 1870 at Ottawa, died 1958.

Besides the *Right of Way Mining Company* (1906), he was involved in:

The Bucke Silver and Cobalt Mining Company
Beament was solicitor for the company.
This company's patented property was north of Cobalt in Bucke Township, a township that saw considerable activity, but relatively little successful mining.
John A. MacLaren was a notable director.
Cobalt Station Grounds Mining Company
Beament was solicitor and director for the company
Ottawa people acquired a 999-year lease of the mineral rights under 19 acres of the *T&NO Rwy*, about 4,600 feet along the right of way and under the station and station grounds.
John Proctor Dickson of the *Right of Way Mining Company* was a notable director.
Railway Reserve Mines, Limited
Beament was director of the company.
Company had mining rights over 45 feet on each side of the right of way of the *T&NO Rwy* for a total of 12 miles, said to be, but not clearly defined as 45 feet either side of the right of way. Sudbury, Ontario, lumberman William Joseph Bell was a notable director.
The British-Canadian Industrial Company, Limited
Beament was an incorporator of this company in June 1910.
R. Stewart, Son & Cunningham, Limited
Beament was a corporate member of this company, incorporated January 7th, 1919.
D.D. Gordon, Limited
Beament was a corporate member of this company, incorporated November 12th, 1919.
Mahoney & Rich Quarries, Limited
Beament was a corporate member of this company, incorporated March 30th, 1930.

Bernier, Emil

On February 15th, 1908, Constant Constot*, a machine helper, was killed by an explosion of gelignite at the Right of Way mine, when he and his partner, Emil Bernier, drilled into a hole containing the unexploded explosive. Bernier was slightly injured. *See Constant Constot for variation of this name.

Booth, Charles Jackson

Charles Jackson Booth, born March 15th, 1863 at Ottawa, Ontario; died February 20th, 1947 at Ottawa, Ontario, was the eldest son of John Rudolphus Booth, probably one of Canada's most famous lumber magnates. C.J. Booth's career would fill more than this monograph in business dealings alone. He was elected last president of the *Parry Sound Colonization Railway* in June of 1893. This railway became part of his father's *Ottawa, Arnprior and Parry Sound Railway*, a bridge railway to carry grain and lumber between Lake Huron and Ottawa and on to the US. Later, this railway became the *Canada Atlantic Railway,* eventually sold to the *Grand Trunk Railway*

J.R. Booth owned the timber limit upon which early discoveries were made and it was imperative that the earliest claim stakers J.H. McKinley and Ernest F. Darragh obtain permission from Booth to pursue development. It is possible that Charles Jackson Booth's

exposure to the heady days of early discoveries aided in his interest in the area. C.J. Booth's main focus throughout his life was the lumber business and carrying on his father's business upon J.R.'s death.

Besides Charles Jackson Booth's interest in the *Right of Way Mines Ltd.* he was interested in:

Beaver Consolidated Mines, Limited
This was an active mine in Coleman Township of the Cobalt camp.
C.J. Booth was a director in this company. Frank Leman Culver, important pioneer Cobalt mine and mill developer was notable as president.
Foster Cobalt Mining Company, Limited
This was an active mine in Coleman Township of the Cobalt camp.
C.J. Booth was a director in this company, ca. 1909
The Lake Temiskaming Silver Mining Company, Limited
This was an active mine in Lorrain Township, peripheral to the Cobalt camp.
C.J. Booth was president of this company.
Northern Customs Concentrator, Limited
This was a 100-ton per day custom-concentrating mill located in Cobalt.
C.J. Booth was a vice-president of this company
A.J. Young, brother of Cyril Thompson Young was notable as president.

Bourne, Frederick Joseph

Frederick Joseph Bourne, mining engineer, was touted as "one of America's best experts in the concentrating business." Prior to his superintendency of the *Northern Customs Concentrators, Limited*, he was tasked with the construction of its former iteration, the Muggley Concentrator. By July 1908, the mill was operating and under its new name. It was said that Bourne was employed in mining camps in several other parts of the world, and was particularly knowledgeable about silver mines. From approximately 1903-1907, he was employed as erecting engineer for the *Allis-Chalmers Company* of Chicago. In 1902, Bourne was based in Butte, Montana, examining mining properties in that area and in Arizona.

Northern Customs Concentrators, Limited purchased the *Bailey Silver Mines, Limited* on April 1st, 1920, and the company merged into *Bailey Silver Mines, Limited.* F.J. Bourne remained as manager, but was not involved in 1921.

Frederick Joseph Bourne was born in Devonshire, England on July 2nd, 1865, immigrated* to Canada ca. 1881, lived in British Columbia for 35 years (ca. 1913-1948) and died at Victoria, British Columbia, on November 29th, 1948, where he resided for 30 years (ca. 1918-1948). Bourne is interred in the Royal Oak Burial Park in Victoria, British Columbia.
*1931 Canada census notes that Bourne immigrated to Canada in 1908. This was probably when he removed from the USA, where he had been engaged at the *National Lead Company* at St. Francois, Missouri. He commuted between Missouri and Cobalt, Ontario, generally.

Brock, Reginald Walter

Reginald Walter Brock was a geologist, one of three experts who evaluated the incursion of the *La Rose Mining Company* into the right of way of the *Temiskaming and Northern Ontario Railway* prior to, and during the period when the *Right of Way Mining Company* had enjoyed a lease on that right of way.

Brock's education began at the University of Toronto in 1890 and was a summer field assistant to Robert Bell, chief geologist of the Geological Survey of Canada, followed by

attendance at Queen's University beginning in 1894. Brock was also greatly influenced by Willet Green Miller, who encouraged his studies, resulting in Brock attaining an M.A. in geology. In December of 1907, Brock took over as director of the Geological Survey of Canada and on January 1st, 1914 he became deputy minister of mines for Canada. After service in WW I, Brock assumed the position of Dean of the University of British Columbia.

Reginald Walter Brock was born January 10th, 1874 in Perth, Lanark County, Ontario and died tragically, along with his wife (Mildred Gertrude Britton 1879-1935), on July 30th, 1935 in a plane crash on Alta Lake, Squamish-Lillooet District, British Columbia.

Bronson, Walter Goodman

Walter Goodman Bronson was associated with *The Bronson Company*, lumber manufacturer of Ottawa. Son of American lumberman Henry Franklin Bronson (1817-1889), Walter was born November 28th, 1856 at Ottawa, died May 12th, 1932 at Ottawa. He was connected with:

The Schyan River Improvement Company
Bronson was an incorporator of record in this company (1892) for the construction and maintenance of facilities on the Schyan and Little Schyan Rivers for the floating of timber in the county of Pontiac, Province of Quebec.

Burrows, Linus Porter

Linus Porter Burrows was a geologist, miner, metallurgist and chemist. Born September 27th, 1845 at Deposit, Delaware County, New York State. Served as private in the US Civil War in Company H, New York Veteran Cavalry and fought in several of the major battles, including Manassas and Harper's Ferry. After the war he became a metallurgical chemist operating within the US and abroad. Had several metallurgy-related patents including US patent #680,313 of August 13th, 1901, *Process of Desulpurizing (sic) Ores*; Canadian patent #165,916 of November 9th, 1915, *Process of Desulphurizing, Reducing and Refining Nickel Ores*; which was claimed by Burrows at the City of Ottawa on July 30th, 1915 and was the basis of the *Burrows Refining Company*; also US patent #1,424,711 of August 1st, 1922, *Process of Treating Nickel Ores and Product Resulting From* (posthumously). There is also an Australian patent AU1917003009 *Improvements in Process for Treating Silver Ore for the Recovery of Silver* that may have resulted from his involvement with the *Right of Way Mines Company*. Burrows died September 17th, 1920 at Alhambra, Los Angeles County, California and is interred in the Hollywood Forever Cemetery, Hollywood, Los Angeles County.

Cadesky, Louis

Louis Cadesky was born circa 1903, died July 1970. Originally from Poland, Louis Cadesky was involved for more than 40 years in financing mining ventures. He was earlier, as a teen, a fur buyer in Northern Ontario. He was also a famous breeder of purebred shorthorn cattle. His *Louada Manor Farms* in southern Ontario was a focal point for many top breeders of the world to visit. Cadesky was a promoter and had various interests in:

Cochrane Cobalt Mining Company
Cadesky was partner in this company, ca. 1943
Silanco Mining and Smelting Corporation, Limited
Cadesky was general manager of this company, ca. 1943

Buckhorn Mines
Shareholder ca. 1943 in this molybdenum prospect in southern Ontario
Cobalt Properties, Limited
Cadesky was president of this company, ca. 1945
Penn-Cobalt Silver Mines, Limited
Promoter-vendor ca. 1951
Cobalt Lode Silver Mines, Limited
Cadesky was vice-president of this company, ca. 1952
Hellens Mining and Reduction Company, Limited
Cadesky was a director of this company, ca. 1952
Whiteshell Lithium Mines, Limited
Cadesky involved with this company, ca. 1955
Lake Kississing Mines, Limited
Cadesky involved with this company, ca. 1955
Keeley-Frontier Mines, Limited
Associated with this company ca. 1963.
Louis Cadesky Associates, Limited
Associated with this company ca. 1963
Loveland Syndicate
Cadesky involved with this company, ca. 1964
North American Rare Metals, Limited
Silver property in Coleman Township, Cobalt silver camp.
Yukon Antimony Corporation, Limited
Antimony prospect in the Yukon Territory ca. 1964
Consolidated Skeena Mines, Limited
Lead-zinc prospect in the Yukon Territory ca. 1965
Silver Town Mines, Limited
Shareholder ca. 1967 in this company with Coleman Township holdings.
Canadian Industrial Gas & Oil, Limited
Cadesky involved with this company, ca. 1968
Lincoln Oils, Limited
Cadesky involved with this company, ca. 1969
Louada Holdings, Limited
Owned by the estate of Louis Cadesky, ca. 1970

Campbell, Archibald

Archibald Campbell was 1st Vice-President of *The McCormack Cobalt Silver Mining Company of Toronto, Limited*, which was folded into William Claude Fox's *Cobalt Merger, Limited.* This latter company was subsequently taken over by *The Right of Way Mines, Limited*

After a short period as a miller in Chatham, Ontario, he moved, in 1892, to West Toronto, Ontario, where he established the *Campbell Flour Mills Company, Limited*. He began his political career while in Chatham as Liberal member for Kent in the Canadian Federal House of Commons, serving that district until 1900. He later represented Centre York in the (Federal) House from 1904 until November 1907, when he was called to the Senate. Campbell promoted the *Sugar Beet Company*; was president of the *Central Railway of Canada*; director in *Canadian Millers' Mutual Fire Insurance Company*; was president of the *Gravel & Construction Company*, ca. 1899; director in *Sovereign Bank of Canada*; president of *Equity Fire*

Insurance Company. Archibald Campbell was born at Ridgetown, Kent County, Ontario on April 27th, 1845 and died January 5th, 1913 at Toronto, Ontario.

Cartwright, Burr E.

Burr E. Cartwright was born October 26th, 1850 near Buffalo, New York State and died in 1919 at Buffalo, Erie County, New York State. In 1869 he began his career in the lumber business in Buffalo prior to moving to Pennsylvania to operate sawmills, shingle and planing mill, seventeen miles of standard gauge logging railway and employed 500 men. Around 1890 Cartwright established the *Brock Coal Company* near Brockwayville, Pennsylvania. Cartwright was involved in:

The Temiscamingue (sic) Mining Company, Limited
Cartwright was a provisional director of this company, which was incorporated August 15th, 1905 (Ontario Laws)
Red Jacket Silver Mines, Limited
Cartwright was a director in this company, the former Morrison claims adjoining the Provincial mine, Cobalt Mining District, ca. 1908
Pan Silver Mining Company, Limited
Cartwright was president of this company located in Coleman Township, Cobalt Mining District, ca. 1909.
Temiskaming Mining Company, Limited
Cartwright was president of this company located in Coleman Township, Cobalt Mining District, ca. 1911- 1913
Adanac Silver Mines, Limited
Cartwright was treasurer of this company, ca. 1915.
Cartwright mine
Cartwright explored for gold by way of a 50-foot shaft on Lot 1, Conc. I, Mountjoy Township, Porcupine Mining District, ca. 1911
McAuley-Brydge Claims Option
Cartwright optioned the McAuley-Brydge claims in Bristol Township, Porcupine Mining District, but found little encouragement resulting from an 80-foot shaft and 1,200 feet of drifting. He dropped the option in late 1911.
Cartwright Gold Fields, Limited
Cartwright initiated this gold venture on the south shore of Painkiller Lake, Beatty Township in 1912. Two fires destroyed the infrastructure in 1913 and 1916.
Adanac Silver Mines, Limited
Cartwright was president of this company adjacent to *Temiskaming Mines, Limited* in Coleman Township, Cobalt Mining District, ca. 1916-1917
Wright-Hargreaves Mines, Limited
Cartwright interests held the Wright-Hargreaves claims in Teck Township, Kirkland Lake Mining District, under option until suspension of operations at the end of 1913

Chambers, William Clarke

William Clarke Chambers was a railway contractor involved in the construction of the *Temiskaming and Northern Ontario Railway*. He worked on several railway projects including the *Canadian Pacific Railway*, the *Grand Trunk Railway*, the *Canadian Northern Railway* and the *Manitoulin and North Shore Railway*. He partnered with Arthur Ferland to establish the Chambers-Ferland mine and was president, while Ferland was a director. Chambers was one

of the early part owners of the property subsequently folded into the *Nipissing Mining Company*.

Chambers, along with Arthur Ferland, were among the directors of the *Consolidated Silver Cobalt Mines, Limited*, an organization developing the *Green-Meehan Mining Company, Limited's* property in Bucke Township and that of the *Red Rock Silver Mining Company, Limited*.
He was a member of the Ontario Provincial Parliament as a Conservative, serving in office 1911-1919 and 1924-1926 in the constituency of Wellington West.

William Clarke Chambers was born December 17th, 1862 in Wroxeter, Ontario and died February 1, 1958 at Toronto, Ontario.

Charles, Joseph Henry

Joseph Henry Charles was secretary of the *Musson Book Company, Limited*, ca. 1907. In April of 1907 Charles was elected as a director of *Cobalt Merger, Limited*. Charles was a survivor of the sinking of the RMS Lusitania by a German torpedo on May 7th, 1915 during WW I. Joseph Henry Charles was born March 1871 at Ontario and died January 6th, 1930 at Toronto, Ontario.

Clark, George McPhail

George McPhail Clark was among the five individuals recorded in the December 15th, 1906 incorporation of *Cobalt Merger, Limited*. Clark, a solicitor, was a partner in the Toronto law firm of *Parker & Clark* with William Ruston Percival Parker.

Clark was second vice-president of the *Mining Corporation of Canada, Limited*, ca. 1922.

George McPhail Clark was born July 30th, 1881 and died February 24th, 1935 at Toronto, Ontario.

Clemow, Thomas

Thomas Clemow was a prospector (1911Canada census for Sudbury, Ontario) and mine developer. His first mention in the newspapers being in 1891 as a partner of Denis Callahan sinking a shaft in Graham Township, west of Sudbury. In 1895, Clemow carried out development on the Mammoth mine in the Wahnapitae area in Ontario for Berlin (Ontario) capitalists.

In 1902 he partnered with Frank Cochrane, owning and developing the Cochrane gold mine in Scadding Township, Nipissing district. Clemow was an active prospector in the Gowganda silver and Mattagami iron shows, amongst his many ventures.

Clemow was an inventor of sorts, having at least three patents recorded in the Canadian Patents database (CA 52375 - Harness trace – 1896) (CA 99016 – Toboggan – 1906) (CA 119313 – Blower – 1909)

Thomas Clemow was born May 1856 in Pembroke, Ontario and died February 26th, 1922 at Pembroke, Ontario.

Cole, Arthur Augustus

Arthur Augustus Cole was a geologist, one of three who evaluated the incursion of the *La Rose Mining Company* into the right of way of the *Temiskaming and Northern Ontario Railway* prior to, and during period when the *Right of Way Mining Company* had enjoyed a lease on that right of way.

Arthur Augustus Cole was born in Montreal, Province of Quebec, in 1871 and after public schooling in Montreal; he attended McGill University, attaining a B.A. in 1894, a BSc

in 1891 and M.A. in 1897. One of his summer assignments was the mapping of the areas drained by lakes Temiskaming and Temagami for the Geological Survey of Canada.

After a career as chief chemist, assayer and engineer at the War Eagle and Centre Star mines in the Rossland mining camp in British Columbia, he was appointed, in 1906, as mining engineer for the *Temiskaming and Northern Ontario Railway Commission*, a position he held until 1921when he was appointed manager of the Temiskaming Testing Laboratory in Cobalt, a position he held until retirement in 1950. Cole was a member of the Canadian Mining Institute from 1899 until death, and served actively as president from 1916-18 and as chairman of the Cobalt branch for several years.

Arthur Augustus Cole was born February 24th, 1871 at Montreal, Province of Quebec and died October 25th, 1959 at Ringwood, Ontario. He is interred in the New Liskeard Pioneer Cemetery.

Colterman, J.

J. Colterman, a 25 year-old drill runner, was killed on January 8th, 1913, by a falling crosshead at the Right of Way mine.

Connell, Frederick Martin

Frederick Martin Connell was a mining engineer, graduating in 1906 from Queen's University in Kingston, Ontario. In 1909, Connell profited to the tune of $5,000 from the sale of his mining rights of the Gillies Timber Limit, which he had purchased from the Ontario Government. This property went into the *Cobalt Provincial Mining Company, Limited*, and was known as the Provincial mine. After the sale, Connell went prospecting in Nevada and New Mexico, followed up by entering the Kirkland Lake gold camp with his brother, William Harold Connell (1881-1976) in 1912. Although he missed striking it rich in Kirkland Lake, he developed several mining properties including the *Central Patricia Gold Mines, Limited*. He joined the board of *Noranda Mines, Limited* and was an honorary member until his death in 1980. During WW II, Connell was deputy wartime controller of metals (1941) and controller (1944-1945)

Frederick Martin Connell was born at Spencerville, Ontario on September 9th, 1883 and died September 9th, 1980 at Toronto, Ontario.

Consol, J.

On May 16th, 1913, J. Consol, a 31-year-old trammer, was injured while loading an ore car at the Right of Way mine.

Constot, Constant*

On February 15th, 1908, Constant Constot, a machine helper, was killed by a explosion of gelignite at the Right of Way mine, when he and his partner, Emil Bernier, drilled into a hole containing the unexploded explosive. Bernier was slightly injured. *The Toronto *Globe*, in an article, "Struck an Old Charge," noted that this was "Christant Courtob, an old country Frenchman, aged about thirty years."

Culver, Frank Leman

Frank Leman Culver was general manager of the Cobalt Silver Queen mine, ca. 1908, and an officer during the *Northern Customs Concentrator's* takeover of the *Muggley Concentrators, Limited*.

Frank Leman Culver was born October 30th, 1862 at New York, USA and died November 18th, 1935 at Toronto, Ontario and is interred in the Elm Lawn Cemetery, Bay City, Michigan, USA.

Cunningham, James D.

James D. Cunningham was an accountant with *Larmonth & Welch* in Ottawa. In 1923 he was a partner in *Larmonth & Cunningham*, public accountants, auditors, liquidators and authorized trustees in bankruptcy. Cunningham was a creditor and director when the properties of the *Right of Way Syndicate* transferred to De la Plante & Company in January 1922.

James D. Cunningham was born May 4th, 1853; died June 4th, 1935

Daly, Edward John

Edward J. Daly was a barrister in Ottawa. Daly was trustee representing the former directors of *The Right of Way Mines, Limited*, after having purchased the assets of that company from the liquidator in 1922.

Daly was an Ottawa alderman and Carleton County Court judge, ca 1929.

Edward John Day was born in 1875 at Almonte, Lanark County, Ontario and died September 1st, 1944 at Ottawa, Ontario.

DeBruyne, Armand

The 1911 Canada census for Gowganda, Nipissing District, Ontario lists DeBruyn (sic) as mine manager for the *Northern Mining Company*. Edward Whipple Bancroft Morrison* was member of the syndicate (*Northern Mining Company*) owning the Morrison claim at Miller Lake in the Gowganda, Ontario mining district, ca. 1909 Born June 24th, 1873 in Belgium, immigrating to Canada in 1891 and naturalized in 1902. *See bio

De La Plante, F. Charles

Probably Charles T. Delaplante, Ottawa bank manager.

Deroche, Alex P.

Deroche was one of the new directorate elected on July 7th, 1921, to breath life into the failing *Right of Way Mines, Limited*.

Alex. P. Deroche, Lt. Colonel, was Director of Works and Buildings in the Militia Department at Ottawa, Ontario. Born October 12th, 1881.

Dickson, John Proctor

John Proctor Dickson was an Ottawa barrister/broker and original member of the syndicate that would evolve into *The Right of Way Mining Company*. Dickson was born August 14th, 1874 at Bothwell, Ontario and died January 4th, 1912 at Ottawa, Ontario. He was involved in:

Cobalt Station Grounds Mining Company

John Proctor Dickson of the *Right of Way Mining Company* was a director of this company. Ottawa people acquired a 999-year lease of the mineral rights under 19 acres of the T&NO Rwy, about 4,600 feet along the right of way and under the station and station grounds. E.A Beament was notable as solicitor and director.

In November of 1908, Edward Blake Wyman, representing an English syndicate, made an offer to John Proctor Dickson for the property of the *Cobalt Station Grounds Mining Company* and of the *Right of Way Mining Company* and proposed to merge the two companies.

Edgar, Herbert Wedderlie

Herbert Wedderlie Edgar was appointed secretary-treasurer of *Cobalt Merger, Limited* in April 1907.

Edgar was Canadian representative and designer for the *W.E. Thornton-Smith Company* of London, England, ca. 1905, and was with the *Garton Mill Company*, ca. 1906. He was the son of Sir James David Edgar, K.C.M.G, of Toronto, founder of the Ontario and Pacific Junction Railway. Herbert was a commercial agent for Canadian Agencies in Jamaica.

Herbert Wedderlie Edgar was born June 20th, 1883 in Ontario, Canada and died in St. Andrew, Jamaica on April 1st, 1920.

Ely, F.M.

F.M. Ely was a member of a group purchasing the Morrison claims in November 1908 when *Cobalt Merger, Limited*, defaulted on payment for the property. This group incorporated the *Red Jacket Silver Mines, Limited* on November 12th, 1908. Ely was from Ridgway, Pennsylvania.

Englehart, Jacob Lewis

Jacob Lewis Englehart was a businessman involved in the oil industry in southwest Ontario, beginning about 1870, when he entered the refining business in London, Ontario. In 1880 he merged with other refiners to form the *Imperial Oil Company, Limited*. As a Conservative he supported Premier Whitney and through supporting the candidacy of William John Hanna he was recommended by Hanna as member of the *Temiskaming and Northern Ontario Railway Commission* in 1905 and in 1906 appointed chairman. The town of Englehart is named in his honour.

Jacob Lewis Englehart was born November 2nd, 1847 in Cleveland, Ohio and died in Toronto on April 1st, 1921.

Nipissing Central Railway
Englehart was involved in this company, ca. 1911.

Fasken, Alexander, K.C.

Alexander Fasken was a barrister and solicitor.

Alexander Fasken was born June 27th, 1871 in Pilkington Township, Wellington County, Ontario. Fasken was killed in an automobile accident near his home in Port Credit, Ontario on September 19th, 1944. Fasken was involved with:

Margaret Mining Company, Limited
Fasken was a provisional director of this company, ca. 1905
The Annie Mining Company, Limited
Fasken was a provisional director of this company, ca. 1905
The Annabella Mining Company, Limited
Fasken was a provisional director of this company, ca. 1905
The Louise Mining Company, Limited
Fasken was a director of this company, ca. 1905

The Isa Mining Company, Limited
Fasken was a director of this company, ca. 1905
Chambers-Ferland Mining Company, Limited
Fasken was a director and secretary-treasurer of this company, ca. 1908
Temiskaming Mining Company, Limited
Fasken was secretary-treasurer of this company, ca. 1909.
Nipissing Central Railway
Fasken was involved in this company as an investor, ca. 1911.
Dome Extension Mining Company
Fasken was secretary-treasurer of this company, ca. 1912.
Aladdin Cobalt Company, Limited
Fasken was secretary of this company, ca. 1915.
Ontario Mining Association
Fasken was a director of this association, ca. 1921, and at this time promoted construction of railways to serve mining areas east and west of Swastika, Ontario.
Nipissing Mines Company, Limited
Nipissing Mining Company, Limited (operating company)
Fasken was a director and secretary of both the parent and operating company, ca. 1922. In 1940, Fasken was vice-president and secretary of the company when it decided to get involved in the Porcupine by optioning properties.
Western Hospital Board
Fasken, Chairman of the *Western Hospital Board* was elected honorary life member of the Lion's Club in December 1927.
Dome Mines, Limited
Fasken was a barrister at this company, ca. 1932, when it was engaged in prospecting and mining for gold in Namaqualand, South Africa.

Fisher, Norman Richard

Norman Richard Fisher was born ca. 1878 in New Zealand and died June 15th, 1961 at Montreal, Province of Quebec and is interred in Beechwood Cemetery, Ottawa, Ontario.

Fisher trained at the Otago School of Mines, Otago, New Zealand. Later graduated from the New Zealand University in 1902 with a B.Sc. in mining engineering. This was followed by employment in several positions in the gold and coal industries, as well as a consultant for several mining companies.

In 1906, after a short employment in the US as superintendent of construction of an underground railway in New York City, he moved to Canada the next year. In Canada he was involved in various capacities with:

Coleman Development Company, Limited (*Pan-Silver Mining Company, Limited*)
Fisher was manager of this company when it was amalgamated with the *Calumet Mining Company* to become *Pan-Silver Mining Company, Limited.*
Silver Bar Mining Company, Limited
Fisher was consulting engineer for this mine, c. 1908
Pan Silver Mining Company, Limited
Fisher was manager of this company in Coleman Township, Cobalt mining camp, ca. 1909
Haileybury Frontier Mining Company, Limited
Fisher was consultant for this mine in the South Lorrain mining camp.
Temiskaming Mining Company

Fisher was manager of this company, ca. 1910.
Red Jacket Silver Mines, Limited
Fisher directed operations of this mine while manager of the Temiskaming mine, ca. 1910.
Bellellen Silver Mines, Limited
Fisher was consultant for this mine in the South Lorrain mining camp.
Pearl Lake Gold Mining Company, Limited
Fisher was consultant for this mine in the Porcupine gold area.
Temiskaming Mining Company, Limited
Fisher was general manager and consulting engineer 1907-1914.
Wright-Hargreaves Mines, Limited
Fisher assisted the opening of this Kirkland Lake mine, ca. 1911
McIntyre Porcupine Mines, Limited, ca. 1911
Fisher assisted the opening of this Timmins area mine.
Thetford Mines
Fisher was associated with this asbestos mining area from 1921-1929.
Moss Gold Mines, Limited
Fisher was president and general manager of this property in Moss Township, Thunder Bay district, ca. 1932

Forbes, William

William Forbes was one of the new directorate elected on July 7th, 1921 to breath life into the failing *Right of Way Mines, Limited.*

Forbes was Ottawa agent/broker for various grocery products, ca. 1908.

William Forbes was born November 15th, 1869 in Ontario; died October 29th, 1935 at Ottawa, Ontario.

Ford, J.W.

J.W. Ford was a member of a group purchasing the Morrison claims in November 1908 when *Cobalt Merger, Limited*, defaulted on payment for the property. This group incorporated the *Red Jacket Silver Mines, Limited* on November 12th, 1908. Ford was from Ridgway, Pennsylvania.

Foy, James Joseph

James Joseph Foy was a Conservative Member of Provincial Parliament in the Legislative Assembly of Ontario for the ridings of South Toronto and North Toronto from March of 1898 until his death in June of 1916. He was a member of many standing committees during his tenure in Parliament.

Foy was called to the bar in 1871 and practiced law in Toronto, becoming head of *Foy and Kelly*. He was named Queen's Counsel in 1883. Foy was connected with several companies as president or director. At one time he was Commissioner of Crown Lands, and shortly after, Attorney-General of Ontario until illness forced his resignation.

Foy Township in the Sudbury District is named for him.

James Joseph Foy was born February 22nd, 1847 at Toronto, Ontario; died June 13th, 1916 at Toronto.

Fox, William Claude

William Claude Fox was a founding member of *Fox & Ross*, Toronto mining stockbrokers, along with later partner John Hugo Ross. Fox operated as a Toronto jeweller

from 1886-1888; Toronto real estate salesman from 1889-1896, with one year (1894) as manager of *Toronto Basket Factory*; 1897 as mining broker; 1898 in sales of gold mine stocks and beginning in 1899 as *Fox & Ross* with John Hugo Ross as partner. *Fox & Ross's* heyday was during the late 19th and early 20th century when stock speculation was rife in Canada, particularly gold and metals in British Columbia. W.C. Fox purchased *The McCormack Cobalt Silver Mining Company, Limited* and subsequently the *Fox & Ross* brokerage promoted *Cobalt Merger, Limited*.

William Claude Fox was born September 17th, 1858 at Toronto, Ontario and died March 31st, 1936 at Rosedale (Toronto) Ontario.

Fraser, Angus William

Angus William Fraser got in on the ground floor of the *Right of Way Mining Company* for $6,000 and said in 1908 he would not let his share go for less than $300,000. Fraser was an Ottawa barrister with *Perkins, Fraser & Gibson*. In 1894 he patented, along with peripatetic Sudbury mining engineer James Robertson Gordon, an ore crusher, (Canada Patent No. 46,520).

Fraser was a supporter, in 1916, of the *Burrows Refining Company, Limited* a company connected with the *Right of Way Mining Company, Limited*.

Angus William Fraser was born August 23rd, 1859 in Ontario and passed away in August 12th, 1917 in Ontario.

Fraser was also involved with:

The Creighton Gold Mining Company, Limited
Fraser was secretary-treasurer of this company, located near Sudbury, in 1895.
The Yum Yum Gold Mining Company of Ottawa, Limited
Incorporator of record, 1896
The Burley Gold Mining Company of Ottawa, Limited
Incorporator of record, 1897
The Bald Indian Bay Mining & Investment Company, Limited
Incorporator of record, 1897
The Nan Ki Poo Gold Mining Company of Ottawa, Limited
Incorporator of record, 1897
The Queen Bee Gold Mining Company of Ottawa, Limited
Incorporator of record, 1897
Burrows Refining Company, Limited
Incorporator of record, 1916
The Silver Cliff Mining Company, Limited
This was a mine with a concentrator in Coleman Township. The concentrator and its equipment were still extant in the 1960's.Angus William Fraser, of the *Right of Way Mining Company,* was a director in this company.

Gibson, Ralph Edward

Ralph Edward Gibson was treasurer of *The McCormack Cobalt Silver Mining Company of Toronto, Limited*, which was folded into William Claude Fox's *Cobalt Merger, Limited*. This latter company was subsequently taken over by *The Right of Way Mines, Limited*

Ralph Edward Gibson was president of the *Conger Coal Company*. Gibson was born ca. 1854 and died June 8th, 1928 at Toronto, Ontario

Gifford, Charles (Stan) Stanley

Charles Stanley Gifford, mining engineer, was responsible, in 1906, for a complimentary evaluation of the McCormack claims of Cobalt *Merger, Limited.*.

Gifford was a WWI veteran, having served from December 27th, 1915 – May 17th, 1919 in the 124th Battalion, Canadian Engineers in France and Belgium.

Charles Stanley Gifford was born in Bristol, England on June 5th, 1880 and died at Haileybury, Ontario in 1963. He was interred at Burks Falls Cemetery, Burks Falls, Parry Sound District.

Gifford was involved with:

Gifford Cobalt Mines, Limited
Gifford was president, ca. 1910, of this company. Joseph C. Houston was vice-president.
Gifford Extension Mines, Limited
Gifford was president, ca. 1910, of this company. Joseph C. Houston was vice-president.
Maple Leaf Mines, Limited
Gifford was a director of this company, ca. 1908.
The Moose Horn Mines, Limited
Gifford was a heavy investor and manager of this silver mine in James Township, Montreal River mining district, ca. 1908. Joseph Henry Charles, secretary-treasurer of the *Musson Book Company, Limited*, and director in the *Cobalt Merger, Limited* was secretary-treasurer of Moose Horn.

Goodwin, George

George Goodwin was an Ottawa building contractor, nephew of James Goodwin, contractor on portions of the *Canadian Pacific Railway*. George Goodwin oversaw construction of the Soulange Canal and in 1897 invested a quarter-million dollars in F.A. Knapp's roller boat, a colossal failure. Goodwin also built (1905-11) the Victoria Memorial Museum, an early home of the *Geological Survey of Canada* and temporary home of the Parliament of Canada after fire destroyed the Centre Block. Goodwin lost money on this contract.

Goodwin oversaw construction of a tower for a new wing of the Canada Parliament buildings in 1906. During the winter of that year, faulty construction caused the 85-foot tower section to collapse.

Goodwin's brother Ernst was engineer in charge of the location survey* (1905-1908) for the *National Transcontinental Railway* in the area north of Lake Abitibi.

*Ernst Goodwin detailed his work in the Lake Abitibi area in the Goodwin Letters and was the subject of two articles by this author published as "The Goodwin Letters – Parts I & II" in the "Handcar", bi-monthly newsletter of the Northern Ontario Railroad Museum & Heritage Centre in Capreol, Ontario.

Goodwin was part of an action in 1909 by the *Western & Northern Lands Corporation* over a mining claim in Bucke Township, which encroached on the surface rights of the corporation's property in North Cobalt, Ontario. The Mining Commissioner informed the land corporation that Goodwin had a right to the mining claim and the case was dismissed.

George Goodwin was born February 1846 in Dublin, Ireland and died in November 28th, 1915 at Gloucester, Carleton County, Ontario.

He was involved in:

Cobalt Merger, Limited
Property consists of two claims in Coleman Township, where a small amount of development work was done before the *Right of Way Mines, Limited* secured a controlling interest.
George Goodwin was president of this company.
T.A. Beament and John G. Turriff M.P., both of Ottawa and of the *Right of Way Mines, Limited* are notable as directors.

Gray, Alexander

Alexander Gray came to Canada from South Africa, enticed by the possibilities of the Cobalt silver boom. Gray, an authority on mining with experience on three continents, was concerned about the problems caused by stock speculation and over-capitalization in the Cobalt camp and wished to see producing mines paying dividends separated from speculative non-producing operations.

Gray, as a mining journalist, contributed to *The Mining World* (Chicago); *The Mining Journal* (London, England); the *Boston Commercial* as well as other journals and newspapers.

Alexander Gray was born in Ireland.

Haentschel, Charles William (Dr.)

Charles William Haentschel graduated in 1888 from McGill University, Faculty of Medicine in Montreal, Quebec. He married Emma Boyd, the widow of *Canadian Pacific Railway* contractor James Worthington's son, John C Worthington. The doctor moved to Haileybury in 1907 after serving as a doctor in Mattawa, Ontario. In 1909, he was Mayor of Haileybury, Ontario. His business interests included a partnership with Henry Timmins, Arthur Ferland, Charles McCool and others in the *Temiscaming Navigation Company*, as well as various mining property holdings in the Sudbury and Elk Lake areas. He was involved in several fraternal societies and was an avid curler.

Dr. Haentschel was born in Germany in 1860 and died in Haileybury, Ontario on December 15th, 1938 at Haileybury

Haentschel was also involved in:

Northern Customs Concentrators, Limited,
Haentschel was a director in this custom ore treatment plant located at Mileage 104 on the *Temiskaming and Northern Ontario Railway*, just north of Cobalt, Ontario.

Hague, Arthur E. (occasionally misspelled as "Hogue")

Arthur E Hague was a mining engineer responsible for a complimentary evaluation of the *Cobalt Merger, Limited* properties in the Cobalt camp, including both the Morrison and McCormack claims. Hague's early experience was engagement at the mines of Broken Hill, Australia. Hague had arrived from Coeur D'Alene, Idaho, USA and was touring the Cobalt camp when asked by *Fox and Ross*, brokers, for his evaluation of the claims. In early 1907, Hague was consulting engineer and general superintendent of the Morrison and McCormack properties of *Cobalt Merger, Limited* and reported to William C. Fox, of *Fox and Ross*, Toronto brokers.

Arthur E. Hague was born in 1849 in New Zealand, immigrated to Canada in 1891and died December 24th, 1918 at Toronto, Ontario.

Hellens, Alexander Daniel

Alexander (Danny) Hellens was born in Elk Lake in 1911 and passed away in Toronto in 1992 at the age of 81. He graduated from the, then, *Haileybury School of Mines* in 1931 and from the *Michigan College of Mining and Technology* in 1939 with a BSc. His father, who worked in the Cobalt mines, introduced him to mining. Hellens was involved with:

Hellens Management & Development Company, Limited
Hellens was a director of this company, ca. 1971.
Cobalt Chemicals, Limited
Hellens was vice-president of this smelting and refining company located southwest of Cobalt, ca. 1952.
Cobalt Lode Silver Mines, Limited
Hellens was consulting engineer of this mine in Coleman Township, ca. 1952
Hellens Mining and Reduction Company, Limited
Hellens was the driving force behind this company that milled and recovered silver and cobalt from tailings in Cobalt Lake.
Silvermaque Mining Limited
Hellens was president of this company, ca. 1964
Silverside Mines Limited
Hellens was president of this company, ca. 1964
Temco Mines Limited
Hellens was president of this company, ca. 1964
Voyager Explorations, Limited
Hellens was president of this company, ca. 1965

Hendrickson, M.

On April 21st, 1912, M. Hendrickson, hammerman, was injured at the Right of Way mine, along with A. Hill, J.Hill, and G. Resta, when they drilled into a missed hole containing explosives. This accident happened at the leased properties of the *Right of Way Mines, Limited* near Whitefish Lake on the *Port Arthur, Duluth & Western Railway* in the Silver Mountain mining district, west of (today's) Thunder Bay.

Hill, A.

On April 21st, 1912, A. Hill, hammerman, was injured at the Right of Way mine, along with J.Hill, M. Hendrickson and G. Resta, when they drilled into a missed hole containing explosives. This accident happened at the leased properties of the *Right of Way Mines, Limited* near Whitefish Lake on the *Port Arthur, Duluth & Western Railway* in the Silver Mountain mining district, west of (today's) Thunder Bay.

Hill, J.

On April 21st, 1912, J. Hill, hammerman, was injured at the Right of Way mine, along with A. Hill, M. Hendrickson and G. Resta, when they drilled into a missed hole containing explosives. This accident happened at the leased properties of the *Right of Way Mines, Limited* near Whitefish Lake on the *Port Arthur, Duluth & Western Railway* in the Silver Mountain mining district, west of (today's) Thunder Bay.

Hodgins, Frank Egerton, K.C.

Frank Egerton Hodgins was a director of *The McCormack Cobalt Silver Mining Company of Toronto, Limited*, which was folded into William Claude Fox's *Cobalt Merger, Limited.* This latter company was subsequently taken over by *The Right of Way Mines, Limited*

Hodgins was a barrister-at-law at Osgoode Hall, Toronto, and later a Justice of the Supreme Court of Ontario.

Frank Egerton Hodgins was born March 27th, 1854 and died September 18th, 1932.

Houston, Joseph Chambers

Joseph Chambers Houston was born March 3rd, 1873 at Swilly Mount, Drumboy, County Donegal, Ireland to Moses and Margaret Houston, emigrating to the US with his five sisters and three brothers. Much of his early life is a mystery, although it has been said that he was involved in mining in the US mid-west. The family re-located to Montreal, Canada in 1895. In 1899 and 1900, Joseph was employed as an Ontario Government fire ranger, based at Sharp Lake, near the future mining town of Cobalt, Ontario. After a short period working in the developing iron prospects in the Temagami area, he managed the emergent *The O'Brien Mining Company's* property in 1905. From 1906 to 1909, Houston was manager of *The Right of Way Mining Company's* property along a section of the *Temiskaming and Northern Ontario Railway Company's* right-of-way. After 1909 Houston was involved in several other mining ventures, a sample of which is listed below. In 1906, Huston married Margaret Wilkinson, a ten-year younger hospital nurse from Lee Valley (near Webbwood, Ontario).

Joseph Chambers Houston passed away in Toronto, February 23rd, 1955 in his 83rd year.

J.C. Houston was constantly on the move and was involved in:

Sifton-O'Brien and Bonsall interests
Houston was manager at these Gowganda area silver prospects, ca. 1909
Gifford Extension Mines, Limited
Houston was vice-president of this company, ca. 1909.
Gifford Cobalt mines Company, Limited
Houston was vice-president of this company, ca. 1909.
Sturgeon Lake Development Company (St. Anthony mine)
Houston was manager of this gold mine in northwestern Ontario, ca. 1911
Schumacher Gold Mines Ltd.
Houston was manager of this Porcupine gold mine, ca. 1912-1915.
Dome Mines Company, Limited
Houston was general superintendent of the Porcupine gold mine, ca. 1916
Kirkland Porphyry Gold Mines, Ltd.
Houston was manager of this Kirkland Lake gold mine, ca. 1918-1919.
Orr Gold Mines, Ltd.
Houston was manager of this Kirkland Lake gold property, part of 1920.
Cane Silver Mines, Limited
Houston was president of this silver mine in Cane Township, held under option by Houston and R.S. Potter during the latter part of 1920.
Mexico venture
Houston was commissioned to examine mining properties in Mexico, ca. 1921
Doherty-Easson Mining Syndicate
Houston was manager of the re-opened Penn-Canadian mine, Cobalt area, ca. 1924-25
Cobalt Contact Mines, Limited

Houston was hired to design and supervise the construction of a 50-ton per day concentration mill to process the ore from the Green-Meehan mining property, ca. 1925
Furness Gold Mines, Ltd.
Houston was manager of this company, ca. 1926 and consulting engineer in 1927 on this unsuccessful gold property in the township of Deloro, Cochrane district.
Duprat Mines, Limited
Houston investigated a gold prospect for this company in Duprat Township near Rouyn-Noranda, Province of Quebec in 1926.
Boischatel Mines, Limited
Houston was engineer and field manager, in 1926, in this company with gold property in Boischatel Township, a township adjacent to Duprat Township in the Province of Quebec.
Bennett Mining Company
Houston was consulting engineer with this company, which had several gold mining prospects in the Temiskaming district, ca. 1927
Shooniah Mines, Limited
Houston was director and company engineer for this company, ca. 1928
Perry-Kirkland Gold Mines
Houston spotted diamond-drilling locations for this company in 1928.
Marriot Mines, Limited
Houston examined the holdings of this company located in the Cadillac-Malartic area of the Province of Quebec, ca. September 1929
Clermont Mines, Limited
Houston was consulting engineer for this property north of the Canadian National Railway's La Sarre station, Province of Quebec, ca 1929
Oro Grande Development Company
Houston was consulting engineer for this company in the Long Lake area of Manitoba, ca. 1932
Bailor Gold Mines, Limited
Houston was consulting engineer for this company in the Rice Lake area of Manitoba, ca. 1934
Arnold Kirkland Gold Mining Syndicate
Houston was mining engineer for this company located in Arnold Township, Kirkland Lake area, c. 1939
Wampum Gold Mines, Limited
Houston was part-time manager of this property located north of Fort Frances, Ontario, ca. 1941
de Havilland Aircraft Company
Houston was listed as both draftsman (1945) and mining engineer (1954) for the *de Havilland Aircraft Company*. These positions have not been vetted. Joseph Houston's son, James Joseph Browne Houston, was an aeronautical engineer with the aircraft company.

Keen, Herbert Ide

Herbert Ide Keen of Chicago, Illinois, was a director of *Muggley Concentrators, Limited* prior to its conversion to the *Northern Customs Concentrator, Limited*. Keen was sales engineer for the *Allis-Chalmers Manufacturing Company*, of Milwaukee, Wisconsin, nominally between 1900 and 1923. In 1923, Keen was the European representative of the company. In 1880, Keen, along with Charles E. Clark, had formed a company, *Clark & Keen*, to manufacture worsted goods in Philadelphia, Pennsylvania. Senior partner Clark provided the business knowledge, while

Keen provided the capital. On October 14th, 1889, the business failed and 500 employees were laid off. The same year, Keen was listed as a director in the charter of the *West Philadelphia Trust Company*.

In 1894, Keen was an incorporator of record in the *American Fuel Economizer Company* of Pennsylvania, an apparatus employing waste heat of boilers to pre-heat boiler feed water.

Later, on January 30th, 1905, Keen applied for a patent on an improved gyratory (rock) crusher, for which a patent was issued on August 13, 1907. (United States Patent Office No. 863, 284, Gyratory Crusher, Herbert I. Keen, Chicago, Illinois, assignor to Allis-Chalmers Company, of Chicago, Illinois)

Herbert Ide Keen was born January* 1st, 1860 at Philadelphia, Pennsylvania and died on July 12th, 1931 at Pavillon de l'Ermitage, Hameau de Chavoires, Veyrier du Lac, Haute-Savoie, Rhône-Alpes, France, later being interred at Wildwood Cemetery, Williamsport, Pennsylvania. *Also shown as January 3rd elsewhere.

Kerr, Newton James

Newton James Kerr was a provisional director of *The Right of Way Mining Company* in July 1906. Kerr was City Engineer for the City of Ottawa (ca. 1900); director, *The City of Cobalt Mining Company* (ca. 1906); Vancouver town site agent (ca. 1924); president (1938) of the *Quesnelle Quartz Mining Company*, Hixon Creek, British Columbia.

Newton James Kerr was born May 6th, 1866 at Brantford, Ontario; married Gertrude Dickie on July 5th, 1897. Kerr died March 2nd, 1946 at Vancouver, British Columbia.

Kidd, John Franklin Lt. Col.

John Franklin Kidd was an officer of the newly formed *Right of Way Mines, Limited* in September 1909. Kidd was a well-respected physician in the Ottawa area and member of the Canadian Medical Association. In WWI, Kidd served in the Canadian Army Medical Corps in England and France from March 1916 to January 1919. He was, at one time, President of the Canadian Medical Association. In 1923 was practicing as a physician from his home on O'Connor Street in Ottawa.

John Franklin Kidd was born January 26th, 1864 and died ca. 1932.

Langley, James P.

In 1921, James P. Langley, as Receiver, assigned Cecil G. Bateman, of Cobalt, to take charge of the bankruptcy proceedings of *Right of Way Mines, Limited.*

In 1925 Langley was involved in *J.P. Langley & Company,* Toronto chartered accountants and trustees involved in bankruptcy and estate cases. In the 1901 Canada census Langley was listed as a broker and at time of death was a chartered accountant.

James P. Langley was born ca. 1864 in Ontario and died December 17th, 1926 at Toronto, Ontario.

Larmonth, Ernest Arthur

Ernest Arthur Larmonth was secretary-treasurer of *The Right of Way Mines, Limited*, in 1909.

Larmonth was an accountant partner in *Rogers & Larmonth*, Ottawa general insurance agents, accountants and brokers, ca. 1901; later with *Larmonth & Welch*, accountants, insurance and real estate in Ottawa. In 1923 he was a partner in *Larmonth & Cunningham*, public accountants, auditors, liquidators and authorized trustees in bankruptcy. Larmonth

was also secretary-treasurer of *Carleton Cobalt Silver Mining Company, Limited*, ca. 1909, and also vice-president of *The Dufferin Cobalt Silver Mining Company, Limited*, ca. 1909.

Ernest Arthur Larmonth was born ca. 1870 at Saint-Andrė-Est, Province of Quebec and died September 30th, 1930 at Ottawa, Carleton County, Ontario

La Rose, Alfred "Fred"

Fred La Rose was a blacksmith sharpening drill steel for the *Temiskaming and Northern Ontario Railway* construction through the, then, Long Lake Construction Camp, later to be named Cobalt. La Rose was the discoverer, in September 1903, of the second important find in the Cobalt camp, when he noticed the pink staining of cobalt "bloom," and while examining it found "a float, a piece as big as my hand, with little sharp points all over it." La Rose and his boss, Duncan McMartin, staked claims on his find on September 3rd, 1903. On his way back to his home in Hull, Quebec, La Rose stopped in Mattawa, where Noah Timmins got in touch with his brother, Henry, who was in Montreal at the time. The Timmins brothers then purchased one-half of the claim.

Alfred "Fred" La Rose was born in 1870 and died in September 1940.

Leaper, Thomas Harry

Thomas Harry Leaper's attestation papers for WW I show his trade as a miner living in West Cobalt, when he took his oath of allegiance on January 13th, 1917 at Cobalt, Ontario. Leaper served as a private in the 253rd Battalion, Canadian Expeditionary Force and the 15th Battalion. He was wounded in the leg on July 27th, 1918 while serving in France, and while being returned to England his ship was torpedoed. He returned to Canada and was demobilized April 4th, 1919. Leaper, on his way to work at *Cobalt Properties, Limited* in April 1938 discovered a cave-in on the T&NO Rwy's right of way, preventing a railway tragedy.

Thomas Harry Leaper was born April 16th, 1884 at Harrow, Middlesex, England and died in 1957. Leaper is interred in the Cobalt Veterans Cemetery at Haileybury, Ontario.

Leetham, Edwin Septimus

Edwin Septimus Leetham was a provisional director in *The Right of Way Mining Company, Limited* in 1906.

Leetham was involved in Ottawa real estate. In 1901 he was bookkeeper for the estate of James MacLaren. Leetham was incorporator of record as bookkeeper for the *MacLaren Match Company, Limited*, incorporated March 28th, 1895. Leetham was assigned one-third of Patent #532,002, Match-Racking Machine, which was filed December 15th 1893. On February 1904, Leetham was an incorporator of record in *The Co-operative Colonization Company of Western Canada, Limited*, along with four other Ottawa incorporators of record, the objective being the aiding and encouragement of immigration to the area west of Hudson Bay, the basin of the Mackenzie River, the basin of the Yukon River and areas adjacent.

Edwin Septimus Leetham was born in 1859 in Goole, Yorkshire, England; died 1931at Ottawa, Ontario.

Lessard, Ovile

On September 17th, 1907, Ovile Lessard, miner, was killed by falling out of a bucket (kibble) in the 50-foot No. 2 shaft of the Right of Way Mine. It is supposed that the latch holding the bucket upright slipped off allowing the bucket to tip over, ejecting Lessard.

Lindsay, Ethel Mabel

Ethel Mabel Lindsay was among the five individuals recorded in the December 15th, 1906 incorporation of *Cobalt Merger, Limited*. Lindsay was a bookkeeper (1907) with *Parker & Clark*, solicitors and barristers.

Ethel Mabel Lindsay was born July 9th, 1884 in Ontario; married Arthur James Morrison (March 3rd, 1882 – May 9th, 1947) an electrical contractor on May 4th, 1909 at Toronto, Ontario; Ethel Mabel (Lindsay) Morrison died May 22nd, 1960 at Toronto, Ontario.

Loney, George Albert

George Albert Loney was listed as a mining prospector on his death certificate. After his early schooling he became a lawyer and first practiced in Stratford, Ontario. In 1902 he became enamored with Northern Ontario, first coming to Sudbury and then on to join the rush in Cobalt. He was said to be one of the "old originals" in Cobalt and was one of the stakers of the *Right of Way* mine. Loney subsequently gave up lawyering and was active in the Porcupine (Timmins area) and Shining Tree gold rushes.

In December of 1906 George Albert Loney and Ontario Mining Recorder, George T. Smith, were sued by *The Western & Northern Lands Corporation* because the former two had proposed prospecting on lands of the latter, which the corporation declared was part of their property included in the North Cobalt townsite.

In 1907 he went with Rinaldo McConnell's Ottawa party to the Loon Lake area in northwestern Ontario where McConnell was attempting to develop his ill-fated iron-mining venture.

George Albert Loney was born in Galt, Ontario on August 3rd, 1858 and died March 1st, 1929 at Sudbury, Ontario

Lorsch, David Gilbert

David Gilbert Lorsch was elected director of *Cobalt Merger, Limited* during the April 1907 meeting. Lorsch was one of the founding members of the original *Standard Stock and Mining Exchange*. He was a stockbroker and member of *Fox & Ross* and later a partner with his son in *Lorsch & Company*.

David Gilbert Lorsch was born ca. February 1860 at Toronto, Ontario; married Isabella Greaves on October 25th, 1878 at Toronto, Ontario; died February 11th, 1952 at Toronto, Ontario. At marriage he listed himself as a pawnbroker.

Matheson, John

John Matheson was superintendent for the *Right of Way Syndicate* in 1921. Matheson was also involved in:

Aladdin Cobalt Company, Limited
John Matheson was mine foreman/captain/superintendent, ca. 1918-1921.
Lightning River gold area
In September 1922, John Matheson was involved in this new gold mining area in the Harker/Holloway townships east of Matheson, Ontario.

McCormack, Robert Latham (Occasionally spelled "McCormick")

Robert Latham McCormack was president of *The McCormack Cobalt Silver Mining Company of Toronto, Limited*, which was folded into William Claude Fox's *Cobalt Merger, Limited*. This latter company was subsequently taken over by *The Right of Way Mines, Limited*

McCormack was responsible for the discovery of the two claims that became the eastern portion of the *Cobalt Merger, Limited* property. Who was actually responsible for recording the claims is not known.

McCormack worked with his father, Robert, Sr. in the lumber business from 1877 to 1885, when he moved from Markham Township to West Toronto Junction to operate, from 1886-1890. a coal and lumber business. He sold this business and took a 50% interest in the *Conger Coal Company*, growing it to eleven offices in the Toronto, Ontario area. Ralph Edward Gibson (see) was a partner in this company.

McCormack was vice-president of the *Gravel & Construction Company**, ca. 1899; vice-president of the *Toronto Junction Lumber Company*, ca. 1902; and a director in the *Crown Life Insurance Company*. *Archibald Campbell was president of this company, ca. 1903(see)

Robert Latham McCormack was born in Cashel, Markham Township in 1854 and died on September 23rd, 1917 when, as an inexperienced driver, his "heavy touring car…turned turtle" pinning McCormack under it.

McEvoy, John Alexander

John Alexander McEvoy was among the five individuals recorded in the December 15th, 1906 incorporation of *Cobalt Merger, Limited*. McEvoy was a barrister and partner (ca. 1907) with *Parker & Clark*, barristers and solicitors of Toronto, Ontario.

John Alexander McEvoy was born August 17th, 1884 and died December 24th, 1937 at Toronto, Ontario.

McGillivray, John Alexander, Lt. Col.

John Alexander McGillivray was 2nd Vice-President in *The McCormack Cobalt Silver Mining Company of Toronto, Limited*, which was folded into William Claude Fox's *Cobalt Merger, Limited*. This latter company was subsequently taken over by *The Right of Way Mines, Limited*

McGillivray studied law in Whitby, Oshawa and Toronto and initially began his practice in Port Perry, Ontario, before moving to Uxbridge, Ontario. He was elected as an Uxbridge town councilor in 1872 and later mayor in 1890. He assumed a membership in the House of Commons of Canada for the riding of Ontario North in 1895 upon the death of the sitting member. His term of office ran from December 12th, 1895 to December 24th, 1896. His re-election in June 1896 was deemed void. He was also Lieutenant Colonel of the 34th Ontario Battalion of Militia from 1902-1906.

John Alexander McGillivray was born January 4th, 1853 at Pickering Township, Canada West (Ontario) and died February 14th, 1911.

McKay, Matthew, Dr.

Dr. Mathew McKay was one of the new directorate elected on July 7th, 1921 to breath life into the failing *The Right of Way Mines, Limited*.

Matthew McKay was a Liberal member of the House of Commons of Canada and served Renfrew North for two terms; 1921-1925 and 1935-1937, where he died while in office. He also served as councilor and mayor of Pembroke, Ontario. He was a dentist, dental surgeon and schoolteacher, having attended Queen's University in Kingston, Ontario, earning a Bachelor of Arts, followed by attendance at the Royal College of Dental Surgeons in Toronto, Ontario.

Matthew McKay was born October 6th, 1858 at West Gwillimbury, Ontario West (Ontario before Confederation) and died at Ottawa, Ontario on February 14th, 1937 while still serving as a Member of Parliament.

McNeil, William Kennedy

William Kennedy McNeil, a mining engineer, was responsible for various assays during the Samuel Simpson Sharpe/William John White court case in which White and his wife were sued in Ontario Non-jury Assize court in April of 1908 for failure to purchase one million shares of *Cobalt Merger, Limited* for $150,000. The Ontario Court of Appeal ultimately dismissed the case.

William Kennedy McNeill was born in Ontario on August 17th, 1877 and died on January 11th, 1938 at York, Haldimand County, Ontario.

McPherson, William David

William David McPherson (aka "MacPherson"), a lawyer, studied at Osgoode Hall in Toronto and after graduating with honors in 1885 practiced in Toronto. He was made King's Council in 1908.

In 1891, McPherson, of the law firm of *McPherson, Clark and Jarvis*, were proprietors of nickel-copper lands in the Sudbury Basin, owning between them 7,000 acres in the townships of Creighton, Dowling, Fairbank, Moncrief, Craig and Drury. McPherson was also a director of the *Creighton Gold Mining Company*, a minor gold play in Creighton Township, active for a short time, ca. 1895.

McPherson was a director in *Muggley Concentrators, Limited* in 1907.

In politics, McPherson was elected to the Provincial Legislature in 1908, serving as Provincial Secretary for Sir William Hearst during the last three years prior to his retirement in 1919.

William David McPherson was born August 22nd 1863 at Moore, Lambton County, Ontario and died May 3rd, 1929 at Toronto, Ontario.

MacLaren, James Barnet

James Barnet MacLaren, the son of James MacLaren (1818-1892)was a very successful businessman who involved himself mainly in the lumber trade, but also interested himself in iron mining in Hastings County, Ontario, salt in southwestern Ontario, and was president of the *Emery Lumber Company*, which had operations in the Sudbury district. He was also a vice-president and director of the *Ontario Central Railway,* a project to build a railway from Whitby to Collingwood. (Note that the similarly named *Central Ontario Railway* had its line in Hastings County) James Sr. also bid, in 1881, on building the Canadian transcontinental railway, which was eventually built by the *Canadian Pacific Railway*.

In 1892, James MacLaren was survived at death by five sons; Albert, Alexander, David James Barnet and John, all of whom entered the lumber business. On June 28th, 1895, David and James B., of Ottawa; John, of Brockville and Albert of Buckingham incorporated the *James MacLaren Company* (58-59 Vic. Cap. 90) with main business being lumber, but with several other powers including mines. Much of James MacLaren's focus prior to his death in 1892 was in the lumber and sawmill business in British Columbia, where sons David and James Barnet joined him. A little dabbling in gold mining also took place in the Lillooet District of British Columbia in 1896.

James Barnet MacLaren was born in Buckingham, Province of Quebec in 1866 and died October 23rd, 1910 at New York, State of New York.

The MacLaren boys involved themselves in many projects at the end of the 19th century and the directorate of the companies they were associated with includes a who's who of noteworthy individuals. Just a sampling includes:

Eastern Mining Syndicate (1897)*
David MacLaren – lumberman – Ottawa
E.B. Eddy – manufacturer – Ottawa
Hugh John Macdonald – M.P.- Winnipeg (son of Sir John A Macdonald)
* With authority for mines in Sudbury, Northwest Ontario and British Columbia
Nickel Steel Company of Canada (1898)
John B. MacLaren – manufacturer – Brockville, Ontario
David MacLaren – lumberman – Ottawa, Ontario
Alexander Fraser – lumberman – Ottawa, Ontario
Nathaniel Dyment – lumberman – Barrie, Ontario
Hoepfner Refining Company Limited (1899)*
David MacLaren – Esquire – Ottawa, Ontario
Nathaniel Dyment – lumberman – Barrie, Ontario
Carl Hoepfner – Dr. of Philosophy – Frankfort, Germany
* A failed nickel refining process
Right of Way Mining Company of Ottawa (1906)
James Barnet MacLaren
George Patterson Murphy – operator – *Ottawa Transportation Company*
John Proctor Dickson – barrister – Ottawa, Ontario
MacLaren Match Company, Limited
Incorporator of record as "esquire" in the *MacLaren Match Company, Limited* incorporated March 28th, 1895

Merrill, Franklin (Frank) Warren

Franklin Warren Merrill was elected as a director of *Cobalt Merger, Limited* in April of 1907. In the same year he was listed as manager of the *Merrill Medical Company*, manufacturing chemists, located on Church Street, Toronto.

Frank Warren Merrill, a druggist, was born at Hartford, Ontario on February 14th, 1871, married Eva Wilson on July 27th, 1892 at St. Catherines and died March 14th, 1941 at Toronto, Ontario.

Miller, Willet Green

Willet Green Miller (1866-1925) became the first full time Provincial Geologist for the *Ontario Bureau of Mines* in 1902. He was the first geologist to realize the potential of the discoveries at Cobalt.

Miller graduated from the University of Toronto with a BSc in 1890, followed by post-graduate studies at Harvard and universities in Chicago and Heidelberg. In 1893, he was Professor of Geology and Petrology at Queen's University, Kingston. Miller was widely published, held many honors and was well respected by his peers.

Willet Green Miller was born in Norfolk County, Ontario on July 19th, 1866 and died on February 4th, 1925 at Toronto, Ontario.

Morris, Samuel B.

Samuel B. Morris* was a banker at Rodney, Ontario. He was elected a director of *Cobalt Merger, Limited* in April 1907 and shortly after he was elected vice-president. He remained a director of *Cobalt Merger, Limited* after takeover by *The Right of Way Mines, Limited*., which in 1910 also included directors George Goodwin, Ottawa, Ontario; Thomas Arthur Beament,

Ottawa, Ontario; John Gillanders Turriff, M.P., Ottawa, Ontario, as well as Samuel Simpson Sharpe of Uxbridge, Ontario.

Samuel B. Morris was born December 17th, 1850 at Leeds and Grenville United Counties, Ontario and died May 15th, 1924 at Rodney, Elgin County, Ontario

*He is mistakenly shown elsewhere in the Davis Handbook as S.B. Morrison, Rodney, Ontario.

Morrison, Edward Whipple Bancroft

Edward Whipple Bancroft Morrison was a career journalist, beginning at the Hamilton *Spectator* in the late 1880's, and later joining the Ottawa *Citizen* as editor-in-chief from 1898 to 1913. In the late 1880's Morrison was a member of the Canadian militia. When the Boer War erupted he took a leave of absence from the *Citizen* in 1899 to serve in the Transvaal, Orange River Colony and the Cape Colony.

Morrison also served during WW I with the Canadian Over-Seas Expeditionary Force, seeing action in France, beginning as a lieutenant colonel followed by promotion to major-general in July 1918 and was awarded KCMG in June 1919.

In November of 1906, Morrison sold his mining claims along the *Temiskaming and Northern Ontario Railway* at Cobalt for a reported $250,000 to a Toronto syndicate. These claims initially became part of *Cobalt Merger, Limited*, until reverting back to Morrison for failure to keep up payments.

Edward Whipple Bancroft Morrison was born July 6th, 1867 in London, Ontario and died May 28th, 1925 in Ottawa, Ontario and is interred in Beechwood Cemetery, Ottawa. Morrison was involved in:

Red Jacket Silver Mines, Limited
E.W.B Morrison is shown as treasurer of the company, ca. 1908
Northern Mining Company
E.W.B. Morrison was member of this syndicate owning the Morrison claim at Miller Lake in the Gowganda, Ontario mining district, ca. 1909. Included in this syndicate were W.J. Carique, Montreal, Quebec, manager of the *Canadian Street Car Advertising Company*; Frank Ahearn, Ottawa, and B.A. McNab, editor of the Montreal *Star*. Armand DeBruyne (see) was mine manager for the Morrison mine.

Morrison, William James

William James Morrison was a mining engineer and was responsible for development, in part, of the Morrison claims, which were a component of *Cobalt Merger, Limited.*

Morrison was connected with *Frances, Cox & Company*, London brokers, in the accumulation of mineral lands in the Cobalt mining camp, including 60 acres in Coleman Township and 40 acres in Bucke Township. These were rolled into two English companies; *England's Premier Cobalt Mining Company, Limited* and the *Anglo-Canadian Cobalt Mining Company, Limited.* Of the *England's Premier* company, the Davis Handbook commented that it was "one of the most unfortunate examples of wildcatting Cobalts in England and did material harm to the market for legitimate stocks in that country." Of the *Anglo-Canadian* company the Davis Handbook noted that the company went into liquidation and was out of business by May 1908. "One of the objectionable Cobalt wild cats sold on the English market."

Morrison interrupted his education at the University of Toronto to enlist and serve in two campaigns during the Boer Wars (1899-1902) in South Africa. During WWI, Morrison enlisted (1914-1917) and served in France and Belgium in the 124th Overseas Battery (Eaton Machine Gun Battery), Canadian Engineers. Shortly after demobilization as Major he

became Governor of the Langstaff jail farm, just north of Toronto, Ontario. His career there was rocky and he retired in 1931.

William James Morrison was born August 28th, 1879 at Toronto, Ontario and passed away at Sunnybrook Hospital on November 2nd, 1949.

Muggley, Henry Hubert

Henry Hubert Muggley's name was attached to the Muggley concentrator, located on the western shore of Cobalt Lake. In 1900-1902, Muggley had been involved in promoting a gold smelting operation in Rapid City, South Dakota, which eventually failed. In early 1907, Muggley formed a company, *Dominion Smelters, Limited*, promoting a 1,000-ton/day smelter to treat nickel and cobalt ores in Parry Sound. Nothing transpired of this venture, but Muggley was approached by Herbert Ide Keen, sales engineer for the *Allis-Chalmers Company*, to partner on a silver concentrator in the Cobalt mining camp. Muggley dropped out of *Muggley Concentrators, Limited* in 1908.

Muggley's career included other mining ventures in the American west, as well as conflicts with the law in both Canada and the US for false cheques and obtaining jewelry under false pretenses. Several of these offenses resulted in prison time.

Henry Hubert Muggley was born in Eau Claire, Wisconsin on June 5th, 1866; married Capitola R. McCune (1871-1946) on December 8, 1888, whom he divorced/abandoned; married Eleanor MacLennan (1882-1945) on September 15th, 1922; died December 2nd, 1931 at San Francisco, California.

Murphy, Denis
Murphy, George Patterson

Denis Murphy, father of George Patterson Murphy, owned and operated the *Ottawa Transportation Company,* a merging in 1892 with *D. Murphy & Co.*, of the various lumber shipping companies employing the Ottawa River and its canals. The resulting company had a fleet of 250 boats and barges, carrying nearly one hundred percent lumber cargo, traveling through Lake Champlain, south, to New York City.

Murphy senior was president of the *Ottawa Board of Trade*, a major shareholder in the *Ottawa Street Railway* and director of several companies including *Bank of Ottawa, Ottawa Gas Company, Canada Cement Company, Shawinigan Water and Power Company* and others. Denis Murphy and was a Commissioner of the *T&NO Rwy Commission* from 1905 until his death in 1917. He was also an MPP for Ottawa riding from 1902 to 1904.

Denis Murphy was born ca. 1842 and died March 10th, 1917

George Patterson Murphy was born November 28th, 1873 and passed away February 22nd, 1938 in Pasadena, California.

O'Brian, James Brock, K.C.

James Brock O'Brian was an owner, along with Michael John O'Brien, of *The O'Brien Mining Company*, a closed corporation. O'Brian was a founding director of *Muggley Concentrators, Limited* in 1907. O'Brian was a Toronto barrister/solicitor, long involved in civic activities in Toronto, including chairman of the board of the Royal Ontario Museum. O'Brian was a Toronto lawyer when he brought the find of Neil King, a *T & NO Rwy* worker to the attention of Michael John O'Brien, of Renfrew, which resulted in the eventual O'Brien mine.

O'Brian graduated from Osgoode Hall and practiced law with the firm of *Ferguson, Ferguson and O'Brian* (ca 1885), *Ferguson & O'Brian* (ca. 1890) and was appointed Kings Counsel in 1908, later receiving a degree of L.L.D from the University of Toronto in 1933.

James Brock O'Brian was born at L'Orignal, Ontario in 1859 and died in Toronto, Ontario in May 1941.

O'Brien, Michael John

Michael John O'Brien (1851-1940) was a railway builder, first, on the *Kingston and Pembroke Railway* successfully, and going bankrupt on the *Canada Atlantic Railway*. During the Cobalt silver rush, he manhandled his way into property adjoining the LaRose claims and established *The O'Brien Mining Company*, a closed corporation, with fellow owner James Brock O'Brian. M.J. O'Brien was a partner in *Northern Customs Concentrator, Limited*, which was located at Mileage 104 on the *Temiskaming and Northern Ontario Railway*. He also operated the successful silver mine (Miller Lake-O'Brien) in the Gowganda silver camp and was involved in the Porcupine gold camp. He served as Senator from Ontario from 1918 to 1925.

Michael John O'Brien was born September 19th, 1851 at Lochaber, Nova Scotia and died October 26th, 1940 at Renfrew, Ontario.

Amongst the many companies M.J. O'Brien owned or operated were:

Calabogie and Renfrew Telephone Association
Calabogie Light and Power Company
Deloro Smelting and Refining Company
Golden Lake Lumber Company
Miller Lake O'Brien
O'Brien Gold Mines Limited
O'Brien Munitions Limited
Renfrew Molybdenum
Renfrew Planing Mill

Parker, William Ruston Percival, B.A., LL.B, K.C.

William Ruston Percival Parker was among the five individuals recorded in the December 15th, 1906 incorporation of *Cobalt Merger, Limited.*

Parker was one of Ontario's prominent lawyers during the early 1900's. His education began at Upper Canada College, followed by attendance at University of Toronto. He was called to the Ontario Bar in 1896 and practiced law in Toronto with *Parker & Clark* until his death. He was an author of several legal papers.

William Ruston Percival Parker was born July 5th, 1872 at Brantford, Ontario and died on April 21st, 1936 at Toronto, Ontario

In the mining industry Parker was involved with:

Cobalt Townsite Mining Company, Limited
Parker was president of this company, ca. 1908
The City of Cobalt Mining Company, Limited
Parker was president and director of this company.
Cobalt Lake Mining Company, Limited
Parker was director of this company.
The Buffalo Mines, Limited
Parker was director of this company.
Mining Corporation of Canada, Limited

Parker was involved with this company, a 1915 amalgamation of *The Buffalo Mines, Limited* and *Cobalt Townsite Mining Company, Limited*. Parker was director of *Mining Corporation* at the time of his death in April 1936.
Canadian Trans-Lux Corporation
Parker was president of this company in 1931.
Acme Gas & Oil Company
Parker was president of this company in 1931.
De Havilland Aircraft of Canada, Limited
Parker was chairman of this company from 1928 to 1934.

William Ruston Percival Parker, solicitor, was a director and shareholder in the second version of *General Motors Company of Canada, Limited*, along with solicitor George MacPhail (sic) Clark. Dominion Letters Patent were granted March 9th, 1912, but the company's file closed in 1914 with no trading having been carried out.

Phillips, William Battle

William Battle Phillips graduated from the University of North Carolina at Chapel Hill, North Carolina in 1877, and was the first individual to receive a PhD degree from this university. Professor of Agricultural Chemistry and Mining, University of North Carolina at Chapel Hill, North Carolina in 1887-1888. Professor of chemistry and metallurgy at University of Alabama, 1892-1898. Professor of Field and Economic Geology, Director of Survey in the University of Texas Mineral Survey, organized May 4th, 1901; in 1904, reported on Geology of the Shafter Silver Mine District, Presidio County, Texas; specialized in mercury for *Mining World* (1905) in "Notes from the Terlingua Quicksilver District, Brewster County, Texas;" commented on the iron ores of Alabama in 1908; translated into English "The Basic Bessemer, or Thomas Process," written by Hermann Wedding, said to be the fullest account of the basic Bessemer process. Vice-Chairman, Petroleum and Gas, American Institute of Mining Engineers ca. 1915-16. President of the Colorado School of Mines 1914-1916. Contributed over three hundred scientific articles to various publications. In 1908, Phillips commented on the depth-limiting potential of the Cobalt mining camp.

William Battle Phillips was born July 4th, 1857 at Chapel Hill, North Carolina; died June 8th, 1918 at Houston, Texas.

Pratt, George C.

Pratt was a member of a group purchasing the Morrison claims in November 1908 when *Cobalt Merger, Limited*, defaulted on payment for the property. This group incorporated the *Red Jacket Silver Mines, Limited* on November 12th, 1908. Pratt was from Buffalo, New York State.

Resta, G.

On April 21st, 1912, G. Resta, hammerman, was injured at the Right of Way mine, along with A. Hill, J. Hill, and M. Hendrickson, when they drilled into a missed hole containing explosives. This accident happened at the leased properties of the *Right of Way Mines, Limited* near Whitefish Lake on the *Port Arthur, Duluth & Western Railway* in the Silver Mountain mining district, west of (today's) Thunder Bay.

Riddell, William Renwick

William Renwick Riddell was Justice of the Supreme Court of Ontario (1906-1925) and Justice of the Court of Appeal for Ontario (1925-1945). He was called to the bar in 1883, practicing law in Cobourg, Ontario until moving to Toronto in 1899. He was president of the *Crossen Car Manufacturing Company,* which was located in Cobourg, Ontario

William Renwick Riddell was born in Hamilton Township, Ontario on April 6th, 1852 and died February 18th, 1945.

Rosenthal, Adolphe

Adolphe Rosenthal was one of the new directorate elected on July 7th, 1921 to breathe life into the failing *Right of Way Mines, Limited.* Rosenthal was district Inspector for *Dominion of Canada Guarantee and Accident Insurance Company*, Ottawa, Ontario. Listed in the 1911Canada census for Ottawa as an insurance agent.

Adolphe Rosenthal was born in 1869 at Melbourne, Australia, and lived in Canada for 45 years before dying on June 6th, 1929 at Ottawa, Carleton County, Ontario.

Ross, John Hugo

John Hugo Ross was junior partner in mining broker, *A.W. Ross & Company*, from 1893 to 1895. In 1895 he became a partner in *Fox & Ross*, Toronto stockbroker. Ross moved to Winnipeg in 1901 and in 1903 established the *Winnipeg Real Estate Board.* Ross had earlier begun the *Hugo Ross Realty Company* in 1894. *Fox & Ross* promoted many mining ventures over its lifespan, including *Cobalt Merger, Limited*

John Hugo Ross was born November 24th, 1875 in Glengarry County, Ontario and died April 15th, 1914 as a casualty of the sinking of the RMS Titanic.

Russell, Gordon

Gordon Russell was among the five individuals recorded in the December 15th, 1906 incorporation of *Cobalt Merger, Limited.* Russell was a solicitor (1907-1908) with *Parker & Clark,* barristers and solicitors, Toronto, Ontario. He later spent two years (1911-1913) in Kingston Penitentiary for forgery and after release was responsible for a damning exposure of cruel conditions in the prison. (Life data not found.)

Sandoe, Richard Henry

Richard Henry Sandoe was born in Cornwall, England ca. June 4th, 1865. A 1930 newspaper article commenting on Richard Sandoe's lease of the Temiskaming mine in the Cobalt mining camp noted that:

"Captain Dick started working when a lad of nine years old. When he first went down the ladders his little legs were too short to reach the rungs and so they used to put a belt around his waist with a rope attached to the man above and the man below so that in case the little fellow slipped he would not fall to the bottom of the shaft. Those were the days in tin mining in Cornwall when the whole family worked, frequently as tributors, the men and boys at extracting the ore and the girls and women at cobbing it. His (Dick's) first job was to crawl into narrow seams, too small for a man, and hold and turn the steel while the miners plied their hammers. And when not working at this, his little hands busied themselves rolling fuse out of gunpowder and bulrushes."

Sandoe's immigration dates range from 1882 to 1890. In the 1891 Canada census Richard Sando (sic) is a miner at the Beaver mine in the Silver Mountain mining district in northwestern Ontario. It is interesting to note that the census was taken on April 14th, 1891 and that the Beaver mine shut down shortly after July of that year.

In the 1901 Canada census, Richard Sandow (sic), immigration year 1882, is living in Port Arthur, Ontario and gives his occupation as mining foreman. His father-in-law, Archelaus Henry Bishop having passed away, his mother-in-law, now a widow, and her three children are living with Richard, his wife Julia, and their daughter Ethel.

After his employment with the *Right of Way Mining Company*, beginning as a mine captain in 1906 and graduating to mine superintendent in 1908, Sandoe returned to Thunder Bay where the 1911 Canada census lists him as a mining engineer.

From 1918-1919 Sandoe had the position of mine foreman at *Penn Canadian Mines, Limited.*

Richard Sandoe does not show up in the 1921 Canada census and it is possible that he was with Joseph Chambers Houston, a Right of Way mine alumni, examining mines in Mexico. In 1920, the two of them had also been at the mine of *Cane Silver Mines, Limited* in Cane Township where Houston and fellow operator R.S. Potter had optioned the property

This was followed by a period (1922-1923) when Sandoe was employed by *Kirk Gold Mines, Limited* as mine manager reviving the famous Ophir gold mine in Galbraith Township, north of Bruce Mines, Ontario. In 1924 Sandoe managed the Kirk gold mine of the same company in the Kirkland Lake gold camp.

In 1927 Richard Sandoe and Howard Moyle, both of Cobalt, leased the Penn Canadian mine, operating the mine from 1927 to 1929 and as well, leasing/sub-leasing the Temiskaming mine from 1928 to 1938. Howard Maurice Moyle, born September 14th, 1893 in Cornwall, England, immigrated to Canada in 1912 and died January 7th, 1938 at Cobalt, effectively ending the Sandoe/Moyle partnership, as Richard Sandoe was then in his early 70's.

In 1945, although nominally retired, Sandoe was again in the Thunder Bay area as spokesman for the *Silver Mountain Prospecting Syndicate*, a group of business and mining men planning to explore and prospect an 800-acre property.

Richard Sandoe, born June 4th, 1865, married Julia Etta Bishop (1870-1953), died December 24th, 1949 and was interred at the Riverside Cemetery and Crematorium in Thunder Bay, Ontario.

Seybold, Edward

Edward Seybold, a managing director of the *Right of Way Mining Company*. Seybold was born in Montreal and later came to Ottawa in 1874, being involved in the wholesale dry good business as senior member of *Seybold & Gibson, Eclipse Office Furniture of Ottawa*. He was incorporator of record (1895) in *The Creighton Gold Mining Company, Limited* and incorporator of record in *The Yum Yum Gold Mining Company of Ottawa, Limited.* Seybold was prominent in business and church affairs in Ottawa. He was on board the Empress of Ireland when it was sunk in the St. Lawrence River on May 29th, 1914 and lost his wife at that time. Also on board at that time was preeminent geologist Alfred Ernest Barlow, who, along with his wife, was also lost. Barlow published a significant report, in 1907, on the geology and natural resources of the Nipissing and Temiskaming area.

Seybold was an enthusiastic supporter, in 1916, of the *Burrows Refining Company, Limited* and the *Sudbury Nickel Refineries, Limited*

Edward Seybold was born February 7th, 1850, in Montreal, Quebec, and passed away on March 1st, 1919 at Ottawa, Ontario.

Sharpe, Samuel "Sam" Simpson, Lieutenant Colonel

Samuel Simpson Sharpe was a director in *The McCormack Cobalt Silver Mining Company of Toronto, Limited*, which was folded into William Claude Fox's *Cobalt Merger, Limited.* This latter company was subsequently taken over by *The Right of Way Mines, Limited.*

Sharpe was involved as a plaintiff in a court case in which he sued William John White and his wife in Ontario Non-jury Assize court in April of 1908 for failure to purchase one million shares of *Cobalt Merger, Limited* for $150,000. The Ontario Court of Appeal ultimately dismissed the case.

Sharpe practiced law in Uxbridge, was a well-known cricket player in that town. He served Ontario North in Parliament, being elected 1908, re-elected in 1911and was again re-elected while serving with the Canadian Expeditionary Force in France. He was awarded the Distinguished Service Order (DSO), British War Medal and Victory Medal.

Samuel Simpson Sharpe was born March 13th, 1873, at Scott Settlement, Hastings County, Ontario and passed away on May 25th, 1918 at Montreal, 1918 from suicide as a result of psychological harm during his service in WW I. He is interred in Uxbridge Cemetery, Uxbridge, Durham Regional Municipality, Ontario.

Smith, Cecil Brunswick

Cecil Brunswick Smith, a civil engineer, was Chairman and Consulting Engineer of the *Temiskaming and Northern Ontario Railway Commission,* also Chief Engineer of the *Ontario Hydro-Electric Commission* (ca. 1905). Graduated McGill University with a Masters in Civil Engineering. He was resident engineer (1884-1886) of the *St. Catherines & Niagara Central Railway*, and located (1888) the *Toronto, Hamilton & Buffalo Railway*. He moved to the US where he was employed by several railways in the west and south from 1889-1893. Assistant professor of civil engineering at McGill University (ca. 1893-1899) where he experimented with concrete and strength of materials. Assistant engineer (1899-1901) City of Toronto. From 1901-1906 was constructing engineer for the *Canadian Niagara Power Company*. Authored "Railway Engineering," a standard textbook on the subject in Canadian and US universities. As partner in engineering company *Smith, Kerry and Chace*, carried out many electric power developments in Canada and the US. Smith was president of the *Nipissing Power Company* and general manager/vice-president of the *Mount Hood Railway and Power Company*. He was vice-president of the Canadian Society of Civil Engineers as well as a member of various other engineering societies.

Cecil Brunswick Smith was born March 1865 at Winona, Ontario; died June 1912 at Toronto, Ontario.

Taylor, James Donald

James Donald Taylor was a Sudburian associated variously with hotel work and who listed himself as a prospector in 1902. Taylor was a partner with Thomas Clemow during the unsuccessful application for a five-mile lease of the T&NO Rwy's right-of-way in 1906.

In the 1891 Canada census he is shown as a 26 year-old hotel porter in the household of Andrew Dever, a hotelkeeper in Wahnapitae, Ontario.

James D. Taylor born November 2nd, 1864 in Ontario of Scottish parents. Taylor married the hotelkeeper Dever's 20 year-old daughter Mary Dever in 1894. Taylor died June 4th, 1949 at Toronto, Ontario.

Taylor, Reginald (Rex) Fairman

Reginald Fairman Taylor was the son of C.N. and Harriet Taylor. Taylor's father was a carriage maker in the town of Gananoque. Taylor graduated with a BSc from McGill University in 1904 and was active in clubs and in the Alpha Delta Phi fraternity. As "Rex" Taylor he was superintendent of the *Nova Scotia Mining Company* before replacing Joseph

Chambers Houston as manager of *The Right of Way Mines, Limited* in 1909, while later leaving the management to David Henry Angus.

On November 15th, 1910 Reginald Taylor took a break from his duties at the Right of Way mine to marry Ethel Love Bellingham at Toronto.

In early 1912 Taylor was manager of the Wettlaufer mine *(Wettlaufer Lorrain Silver Mines, Ltd.* (1908-1913) in the South Lorrain mining camp, followed by a position as superintendent of the *Comfort Mining & Leasing Company,* a leaser of the *Wettlaufer Lorrain Silver Mines, Ltd* property..

In 1912, The *Right of Way Mines, Limited*, sent Taylor to the Silver Mountain mining district north of Port Arthur (now part of Thunder Bay) to supervise development of options on the Silver Glance, Silver Fox and Mink Mountain properties. A shaft, twenty test pits, trenching and surface prospecting were carried out before the options were dropped.

In 1917, Taylor, along with his wife and two children immigrated to Fredericktown, Missouri where he took the job of assistant manager with the *Missouri Cobalt Company*. Shortly after he arrived, in 1918, he was registered for the American draft. He is described as medium height, medium build, blue eyes and brown hair. His date of birth is given as July 13th, 1880.

In 1934, Rex F. Taylor was consulting mining engineer at *St. Anthony Gold Mines* in the Thunder Bay area. In 1937, R.F. Taylor, as mining engineer, examined property for *Kinika Gold Mines*, *Limited*, a gold property in the Kirkland Lake mining district. Taylor's later years were spent in Toronto before passing away on January 6th, 1960.

Reginald Fairman Taylor was born at Gananoque, Leeds County, Ontario on July 13th, 1880 and died January 6th, 1960 at Toronto.

Timmins, Louis Henry

Louis Henry Timmins and his brother Noah Anthony Timmins took over their father Noah's lumbering and retail business in Mattawa, Ontario, following his death in 1887. Louis was educated at Ottawa College. During the Cobalt silver boom, Noah and Louis Timmins, along with R. A. Dunlop, John and Duncan McMartin bought out Fred La Rose's discovery and organized the *La Rose Mines, Limited.*

After the sale of the La Rose mine in 1908, Louis moved from Haileybury to Montreal and when brother Noah became involved in the Hollinger gold mine, became a partner in that operation. Among the few ventures Louis involved himself in were *The Montreal Daily Mail Publishing Company* and the *Montreal Tunnel Company, Limited.* The tunnel company proposed to construct a tunnel under the St. Lawrence River to connect Montreal with the south shore.

Louis Henry Timmins was born in 1859 in Mattawa, Ontario and died at Montreal, Quebec on June 1st, 1930. He is interred in Notre Dame des Neiges cemetery, Montreal, Quebec.

Timmins, Noah Anthony (Noč Antoine)

Noah Anthony Timmins and his brother, Louis Henry Timmins, took over their father Noah's lumbering and retail business in Mattawa, Ontario, following his death in 1887. In 1889, Noah went to British Columbia to take part in the failed Rossland gold rush. During the Cobalt silver boom, Noah and Louis Timmins, along with R. A. Dunlop, John and Duncan McMartin bought out Fred La Rose's discovery and organized the *La Rose Mines, Limited.*

Noah Timmins was instrumental in developing the town of Timmins through the development of the gold resources in the Porcupine by way of the *Canadian Mining and Finance Company* and later the *Hollinger Gold Mines, Limited.*

Timmins sat on the board and was involved in a diverse range of companies, including:

St. Lawrence Paper Mills
N.A. Timmins Corporation
International Bond and Share Corporation
Canadian Kaolin Silica Products, Limited
San Antonio Gold Mines, Limited
Aldermac Mines, Limited
Noranda Mines, Limited
W.D. Beath and Son, Limited
Canadian Vickers, Limited
The Foundation Company of Canada, Limited
Power Corporation of Canada, Limited
Canada Northern Power Corporation, Limited
Canada Wire and Cable Company, Limited
Canadian Copper Refiners, Limited
Towagamac Exploration Company

Noah Anthony Timmins was born at Mattawa, Ontario on March 31st, 1867 and died January 23rd, 1936 in Palm Beach, Florida. He is interred in Notre Dame des Neiges cemetery, Montreal, Quebec.

Turriff, John Gillanders

John Gillanders Turriff was a member of the group controlling *The Right of Way Mining Company, Limited.*

Turriff was a Member of Parliament in Assiniboia East from 1904-1907; homesteaded in Manitoba, and dealt in grain and farm implements in Saskatchewan. Over his lifetime he was involved in milling (grain), mining and finances. In Federal politics he was a supporter of Western Canada and an advocate for railways to expeditiously construct and operate branch lines for which they had obtained charters. Turriff was a supporter of Prohibition and women's suffrage.

Turriff was involved with the *Canadian Central Mines, Limited*, a company with 237 acres of property on the Montreal River, north and south of the Thomas Edison (Darby) mining property. It was reported at the time that American capitalists had obtained a charter to build a railway along the Montreal River as far as Lady Evelyn Lake, and said railway would pass through the property of the *Canadian Central Mines*, as well as through the Thomas Edison claim.

John Gillanders Turriff was born December 14th, 1855 at Petit-Metis, Quebec and died Nov. 10th, 1930.

Tyrell, Joseph Burr, Dr.

Joseph Burr Tyrell was a mining engineer and was one of three qualified individuals who evaluated the incursion of the *La Rose Mining Company* into the right of way of the *Temiskaming and Northern Ontario Railway* prior to, and during the period when the *Right of Way Mining Company* had legally worked their lease on that right of way.

Tyrell was responsible for expert opinion, in 1908, as a mining engineer during the Samuel Simpson Sharpe/William John White court case in which White and his wife were sued in Ontario Non-jury Assize court in April of 1908 for failure to purchase one million shares of *Cobalt Merger, Limited* for $150,000. The Ontario Court of Appeal ultimately dismissed the case.

Tyrell was educated at the University of Toronto as a mining engineer and joined the Geological Survey of Canada in 1881. One of his greatest successes was the discovery of coal near Calgary during an 1884 -1886 expedition. He became a mining consultant during the Yukon gold rush, where he took many historic photos during his residency there. In 1907 he began his own consultancy based in Toronto. He was president of the *Kirkland Lake Gold Mines, Limited* between 1925 and 1955.

Joseph Burr Tyrell was born November 1st, 1858 at Weston, Ontario and died August 26th, 1957 at Toronto, Ontario.

White, William John

William John White and his wife were sued in Ontario Non-jury Assize court in April of 1908 by Samuel Simpson Sharpe, lawyer of Uxbridge, Ontario for failure to purchase one million shares of *Cobalt Merger, Limited* for $150,000. The Ontario Court of Appeal ultimately dismissed the case.

William John White was a chewing gum manufacturer. In 1884 while he was operating a candy store he discovered how to make chewing gum from chicle, later establishing the *American Chicle Company* in 1890. White was mayor of West Cleveland in 1890 and in 1892 was elected to the U.S. House of Representatives. He moved to New York City (ca. 1906). In 1916 he became bankrupt due to business problems, later establishing the *Wm. J. White Chicle Company* in Niagara Falls, New York, which also failed because of litigation with the original *American Chicle Company*. Penniless he moved back to Cleveland in 1922.

William John White was born at Rice Lake, Ontario, on October 7th, 1850, later moving with his parents to Cleveland, Ohio in 1857. A fall on a Cleveland, Ohio sidewalk in January 1923 resulted in his death on February 16th, 1923.

White was also involved in other Cobalt mining ventures including:

Kerr Lake Mining Company
White was vice-president of this company, incorporated August 9th, 1905. Its property was located on the south shore of Kerr Lake, Coleman Township.
The White Silver Company, Limited
White was president of this company, which owned 145 acres in Coleman Township, known as the Hargrave mines, discovered by Edward C. Hargrave. *Hargraves Silver Mines, Limited,* purchased two forty-acre claims from *The White Silver Company, Limited* but little initial development was carried out due to litigation. The property abutted against the McCormack claims of *Cobalt Merger, Limited* to the south. *The White Silver Company, Limited* was incorporated October 13th, 1905 (Ontario Laws)

Whitney, James Pliny (Sir)

James Pliny Whitney, a lawyer, was called to the Bar in 1876; Conservative member of the Ontario Legislative Assembly from January 31, 1888 to September 25, 1914. He was the sixth premier of Ontario, from 1905 to 1914, when he died in office, the only Ontario premier to do so.

James Pliny Whitney was born October 2nd, 1843 in Williamsburg, Dundas County, Ontario; died September 25th, at Toronto, Ontario.

Whitson, James Francis O.L.S

James Francis Whitson, a surveyor in the Provincial Surveys Department was sworn in as an Ontario Land Surveyor in 1886. Whitson was also a graduate of the University of Toronto's School of Science. He served the Civil Service in Ontario for about three decades, laying out many roads in Northern Ontario, firstly as Assistant Director of Surveys and at passing was Commissioner of the Northern Development of the Ontario Department of Lands and Forests.

James Francis Whitson was born July 1869 in Grey County, Ontario, passed away at Sudbury, Ontario on June 12th, 1920 and is interred in the Mount Pleasant Cemetery at Toronto, Ontario.

Wickett, Samuel Robert

Samuel Robert Wickett, a Toronto merchant, was a director in *The McCormack Cobalt Silver Mining Company of Toronto, Limited*, which was folded into William Claude Fox's *Cobalt Merger, Limited*. This latter company was subsequently taken over by *The Right of Way Mines, Limited*.

Wickett emigrated from England in 1855, apprenticed with *J. & S. Cole* of Brooklin, Ontario as a tanner, and upon completion of his apprenticeship began his own business at Geneva, Ontario. Shortly after, Wickett bought out *Allan & Thomas*, tanners and curriers, which he operated until 1880. Thereafter he relocated to Toronto where he formed *Bickell & Wickett*, tanners, curriers and hide dealers. William Craig was later admitted to the company and in 1902 *Wickett & Craig, Limited* was incorporated to carry out tanning and leather manufacturing.

Wickett was involved, in 1898, in the Ecum Secum gold mine in Nova Scotia, an unsuccessful gold venture. Wickett was also a director in the *Trader's Fire Insurance Company* in 1900, probably beneficial when the *Wickett & Craig* tannery burnt down in June of 1913, causing a loss of $500,000.

Samuel Robert Wickett was born June 24th, 1844, at Holsworthy, Torridge District, Devon County, England and died October 29th, 1932 at Toronto, Ontario.

Wiggins, C. Malcolm

C. Malcolm Wiggins was one of the new directorate elected on July 7th, 1921 to breath life into the failing *Right of Way Mines, Limited*.

In the 1911 Canada census for the Central Ward of Ottawa, Wiggins was listed as a single lodger with occupation as real estate agent. He was later, manager of *C. Malcolm Wiggins & Company*, dealing in stocks and bonds in Ottawa. This company was in business from 1901 until it made assignment in October of 1923.

C. Malcolm Wiggins was born February 1855 in Ontario.

Woodworth, James Barber

James Barber Woodworth was a mining engineer, first visiting Cobalt in 1904 and taking up the claim responsible for the Nova Scotia mine. He gave glowing recommendations of the Morrison and McCormack properties that eventually were folded into *Cobalt Merger, Limited*. Woodworth had gold mining interests in Nova Scotia around the turn of the twentieth century.

Woodworth was involved, along with his younger brother, Kenneth Duncan Woodworth (1884-1945) in the early days of the *Miller Lake-O'Brien Mining Company's* silver mine in the Miller Lake area, Gowganda mining district. K.D. Woodworth managed the mine between approximately 1912 and 1914 until WWI began. He enlisted in the Royal Navy Volunteer Reserve becoming a lieutenant.

James Barber Woodworth was born December 17th, 1876 at Lower Horton, Kings County, Nova Scotia; married Annie Louise McCallum on March 15th, 1905 at Windsor, Hants County, Nova Scotia. J.B. Woodworth died January 17th, 1944 at Vancouver, British Columbia.

Woodworth's involvement in the Cobalt mining camp included:

The Silver Bar Mining Company, Limited
Woodworth was superintendent of this company, which was incorporated December 13th, 1905 (Ontario Laws). Sudbury prospector and mine developer, Rinaldo McConnell was president and managing director.
Star Silver Cobalt Mining Company, Limited
Woodworth was superintendent of this company, which was incorporated April 11th, 1906 (Ontario Laws). The property east of Peterson Lake, Cobalt mining camp, was known as the Nova Scotia mine and was discovered by James Barber Woodworth and Murty McLeod in 1904.
Peterson Lake Silver Cobalt Mining Company, Limited
Woodworth was superintendent and engineer in charge of this property, which was located, for the most part, under Peterson and Cart lakes. The company was incorporated April 11th, 1906 (Ontario Laws).
The Silver Cliff Mining Company, Limited
Woodworth was superintendent of this company, which was incorporated April 17th, 1906 (Ontario Laws). Sudbury prospector and mine developer, Rinaldo McConnell was president and managing director.

Woodworth was involved in an earlier gold mining venture in Nova Scotia, the *Windsor Mining and Development Company*; incorporated 1898 in Nova Scotia. The company name was changed to *Big Five Mining and Milling Company, Limited* in 1900. Woodworth was manager and a director of this Nova Scotia gold mine in 1901.

After his success in the Cobalt and Gowganda mining camps, Woodworth moved (ca. 1914-15) to British Columbia where, with partners, he located claims in the Bedwell River Section of Vancouver Island. A small mill was constructed to treat gold bearing veins, but the entire camp was destroyed by fire in the fall of 1922. Floods destroyed the bridges and roads.

In 1927 and 1928 Woodworth and associates optioned the Trixie group of gold claims located twenty miles south of Prince Rupert. Woodworth also managed, the same year, the Surf Point mine located 35 miles south of Prince Rupert. A notable partner with Woodworth in 1931 in the Prince Rupert, B.C. area was Noah A. Timmins.

Princess Royal Gold Mines
Woodworth re-organized this gold, silver and copper mining company in British Columbia, ca. 1934.
Surf Inlet Consolidated Gold Mines, Limited
Woodworth was the largest shareholder in this British Columbia mine, ca. 1938.
You Property

Woodworth acquired this property located on the Bear River, British Columbia in 1938.
Blewett gold mine
Woodworth operated this gold mine in Washington State in 1941.

Woodworth acted as consulting engineer in mining properties in Arizona and Washington states.

Wyman, Edward Blake

Edward Blake Wyman was an American businessman. In April of 1896, Wyman applied for a US passport stating that his occupation was as manufacturer and resided at businessman and Whig Party politician James Gore King's residence, Highwood, at Weehawken, New Jersey. In the English census of 1901 he was listed as a gold mine managing director, living at St. Giles in the Fields, Middlesex, England. On June 17th, 1906, Wyman arrived at Boston, Massachusetts on the Cymric, having left Liverpool on June 8th, 1906. There are suspicions that Wyman became bankrupt in England in late 1904 and fled the country.

In November of 1908, Edward Blake Wyman, representing an English syndicate, made an offer to John Proctor Dickson for the property of the *Cobalt Station Grounds Mining Company* and of the *Right of Way Mining Company* and proposed to merge the two companies.

Edward Blake Wyman was born November 15th, 1865 at Augusta, Maine, USA and died January 15th, 1917 at Niagara Falls, New York.

Young, Alfred James

Young, most often referred to as "A.J. Young," came to *Barnet & Mackie* as camp clerk in 1882 and when this company sold out to John Rudolphus Booth, he went as clerk and bookkeeper for that company in the Sturgeon Falls area. In 1903-4 he became involved in the wholesale grocery business with stores eventually in Haileybury, New Liskeard, Sudbury, Pembroke and Cochrane. The *A.J. Young Company Limited* later became *National Grocers, Limited.*

Alfred James Young was born in McNab Township, Renfrew County on November 16, 1866 and died June 8th, 1932 at Toronto, Ontario and was interred at Terrace Lawn Cemetery, North Bay. He is brother of Cyril Thompson Young (see).

Young's mining interests included:

The City of Cobalt Mining Company, Limited
A.J. Young was a director of this company, ca. 1908
Beaver Consolidated Mines, Limited
A.J. Young was a director of this company, ca. 1908
Cobalt Silver Queen, Limited
A.J. Young was a director of this company, ca. 1909
The Rothschild Cobalt Company, Limited
A.J. Young was a director of this company, ca. 1909
Young-O'Brien (mining claim with M.J. O'Brien in Gillies Limit, Cobalt area, 1909)
Northern Customs Concentrators, Limited (c/w C.J. Booth, Edward Seybold, A.T. Mackie)
Wabi Iron Works (New Liskeard foundry producing mining equipment and supplies – 1913)
Gowganda and Elk Lake Mining Association (push for railway to Gowganda ca. 1911)
Bailey Silver Mines – President – ca. 1921)
American Zinc Mining Company (owned by Young – ca. 1927)
Chelmsford Mining Company, Limited (secretary-treasurer – ca. 1928)

Young, Cyril Thompson

Cyril Thompson Young's daughter-in-law related "on his last day of school in Renfrew, he threw his books in the Bonnechere River and that was the end of his schooling!"

In 1906, Cyril Thompson Young advertised himself as a mining broker, with the advice that all the silver area had been taken up and "best bet is to stay home and buy stocks from Cyril T. Young, Box 126, Cobalt."

An article in the Cobalt *Daily Nugget* in 1909 when Young's name was being put forth for Mayor of Haileybury mentioned:

"Cyril T. Young came to the mining country four years ago (ca. 1905) and to learn the mining game he went to work with a pick and shovel in the Right of Way mine, where he learned deposit formations, ore bodies, etc. He also owned a large interest in this mine."

Over a century later, it is hard to verify this story, but there is no denying Young's level of enthusiasm and dedication to the mining industry. He served two terms on Haileybury Town Council before becoming Mayor in January of 1910. His must have been a popular choice as the Cobalt *Daily Nugget* reported that upon his election:

"Mr. Young was dragged from his home and paraded through the streets in a cutter drawn by half a hundred men."

A brief summation of Cyril Thompson Young's life would fill several pages. He is recorded as being involved in at least fourteen mining companies throughout Northern Ontario and beginning in 1914 became the superintendent of resources development and townsite planning with the *Canadian Northern Ontario Railway Company* (which eventually became the *Canadian National Railway*).

Cyril Thompson Young was born in Glasgow Station, near Renfrew, on August 5th, 1878 and passed away on February 26th, 1962. His death was most unfortunate; as it came as the result of an infection he contracted after nicking his skin while trimming his toenails. Rather than visiting a doctor, he cut the toe out of his boot to accommodate the swelling and died from the resulting blood poisoning. His is brother of Alfred James Young (see).

In the Cobalt camp, C.T. Young was also involved in the Cobalt and South Lorrain silver camps in:

Cobalt Leasers, Limited
Cyril T. Young was president of this company.
Property of this company was a lease from *Peterson Lake Cobalt Silver Mining Company*, Limited where some development work was done.
Cobalt Nugget Silver, Limited
Cyril T. Young was president of this company
This company was a prospecting and developing company, with properties peripheral to the Cobalt camp and further in other fields.
Haileybury Silver Mining Company
Cyril T. Young was president of this company with a silver mining prospect in South Lorrain ca. 1907-09.

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Glossary of Terms and Some Comments ©

Adit – An opening driven into a hill or mountain for several possible reasons. (1) Only sufficient rock may be removed to access a possible vein projected from surface (see

Crosscut). (2) May be used to draw ore and waste from internal workings when sufficient ore has been developed. (3) May be driven to a point under a known vein or mineral occurrence where an upwards tunnel, known as a "raise" or "upraise", can be driven to reach the vein. Adits are often known referred to as "tunnels" in the US southwest.

Amalgam – Gold or silver combined with mercury.

Amalgamation – Use of mercury to recover silver, or gold, from crushed ore.

Assaying – Finding or determining the proportion of metals in ores. Values of silver per ton given in newspaper articles are as valueless today as they were back in the early 20th century. A true assay must reflect the actual amount of rock, per ton, that must be mined to extract those metals. A rock showing visible silver picked up from a surface showing of a prospect might show unbelievable values when extrapolated into a ton of the same rock. See **Optimism** and **Salting** below.

Back – The "ceiling" of drifts and stopes.

Ball milling – An intermediate process in the size reduction of run of the mine ore. A cylinder containing steel balls rotates to grind ore to a size that is suitable for the next step in the process flow sheet.

Bedrock – Solid rock under any type of overburden, such as gravel, soil or weathered rock. See **Iron Hat** below.

Blasting cap – Used to detonate explosives such as dynamite. An aluminum or copper shell containing two explosive mixtures, a highly explosive base charge as well as a primary initiating charge, which could be initiated by a blasting fuse. Blasting fuse is a slow burning core of gunpowder, or black powder, encased in waterproof jute or yarn. Cut to the length that provides miners sufficient time to retreat to a safe location. Several blasting fuses are initiated by igniter cord, a relatively more rapid-burning fuse. Igniter cord is about 1/8 inch in diameter and is essentially black powder coated paper strings enclosed in a waterproof coating.

Boiler – Early mining efforts relied on steam to power hoists and drills. The boilers were usually "locomotive style", that is, a horizontal boiler, as opposed to upright boilers that were largely employed to power diamond drill equipment on exploration and development.

Booming - Overestimating the value of a mineral discovery or mine to promote the sale of shares or stock

Bootleg – Miner's slang term for remains of a drill hole that may contain unexploded powder. Drilling new holes near, or in, a bootleg hole may result in death or severe injury to the driller and nearby miner/s and can be a cause for termination.

Bucket – Early mines used free-swinging buckets to hoist ore or waste and to lower men and supplies underground. Also known as kibbles. They were egg-shaped so as not to catch

on shaft timbers. Mining inspectors were not happy with mines using buckets or kibbles in shafts over 100 feet deep. The general early rule was that buckets/kibbles were supposed to be used only for carrying miners during the process of shaft sinking, but this was very much ignored in the early years of Ontario mining. Today, miners may ride in buckets under a very strict set of rules, and usually during shaft sinking activities or emergencies. (Ontario R.R.O. 1990, Reg. 854, Mines and Mining Plants under Occupational Health and Safety Act - Sections 1-19)

Cage – A frame constructed to ride on the guides of the mineshaft. The floor will be provided with rails so that ore/waste cars can be hoisted. In smaller mines, the cage will be one level, but larger mines may have multiple levels for the transport of mining personnel. When carrying miners, and others, the cage will be so constructed to provide safety while lowering and hoisting.

Cage tender – A person whose main job is to ensure the safety of miners and others being lowered or raised in the cage. The cage tender will "ring the bells" to direct the hoistman to begin lowering or raising the cage and also to ring the proper sequence of bells so the hoistman will know which level the cage is being sent to.

Capitalist – At the turn of the 20th century a capitalist was defined in newspapers of the day as someone with capital, or money, to invest in a mining property, for example, somewhat different than today's definition.

Car hoist – Small mines may only hoist ore or waste from underground by ore car. Usually only a single car makes the trip from the active mining level to surface and back, being man handled on the deck or at the collar. (See **Deck** below)

Chairs – Not the item you sit in, but a method of securing the cage at surface or at a level. The cage is raised just above the level, chains with large loops are hung over hooks secured to the shaft timbers. The cage is then lowed until the chains take up the weight of the cage, allowing heavy machinery, such as battery trammers, to enter or exit the cage with the car tracks in the cage properly aligned with those on surface or on a lower level.

Cheddite – A class of explosives originally designed for use in quarries. Invented in 1897 and manufactured at that time in the town of Chedde, France. Principally inorganic chlorates mixed with dinitrotoluene and including paraffin as a moderating agent.

Chert – Mineral composed of mainly silica, similar to flint.

Cobalt bloom – The mineral erythrite, a hydrous cobalt arsenide. May range from pink to deep red in colour. Formed as the result of surface alteration of primary cobalt arsenides such as cobaltite. A good surface indication of the presence of cobalt. Source: A Field Guide to Rocks and Minerals; Pough, Frederick H.; published 1953 by Houghton Mifflin.

Cobalt Series – Rock types of either greywacke with quartzite, or conglomerate with greywacke and quartzite.

Collar – Ground level of a mineshaft.

Conglomerate – A type of rock containing fragments of other rock types within it. When fragments are rounded and pebble like it is often described as "pudding stone."

Compressed Air – The earliest mining in the Cobalt camp relied on wood fired boilers to provide steam to drive compressors and mine hoists. When the forests had been cleared, coal became the fuel of choice, an expensive proposition as it had to come from the United States, costing as much in freight as the coal itself.

When the *Cobalt Hydraulic Power Company* and the *Mines Power Company* began generating compressed air by their two different methods, the demand for coal dropped dramatically. The *Cobalt Hydraulic Power Company* generated compressed air by the Taylor method, dropping water from the Montreal River down a 350-foot vertical shaft where entrapped air was separated and piped throughout the Cobalt camp. The *Mines Power Company* generated hydroelectricity on the Montreal River and used this to power compressors.

Concentrates – Ore partially upgraded to remove waste, concentrating the desirable minerals or metals prior to smelting, or other processes.

Concentration - There are many processes, each designed to take advantage of the desired metals/minerals physical characteristics. The buildings where these processes take place are referred to as a "mills" or "concentrators." The technical term for the processing of ore to separate desirable minerals or metals from waste is called "beneficiation." The undesirable rock or minerals are referred to as "gangue."

The ores of the Cobalt camp are complex and as such have presented problems in the recovery of the desired metal (native silver) and the various minerals containing cobalt, nickel, copper and other elements. Many of the early mineral processing techniques relied on the specific gravity of silver and its associated minerals in jigs, vanners and shaking tables. Many of these types of gravity-based machines persisted in some measure until the later years of active mining in the camp.

Other methods employed in the Cobalt camp included mercury amalgamation, cyanidation as well as oil (froth) flotation in its developing forms.

Concentrator – Building, or buildings, in which raw ore is processed to result in a concentrate and a waste product known as tailings. Also known as mills or reduction plants.

Conglomerate – Also known as puddingstone. Rounded water worn fragments of rock or pebbles, cemented together by another mineral substance. Source: Dictionary of Geological Terms; National academy of Sciences for the American Geological Institute; pub 1957.

Costean – The practice of trenching at intervals through overburden, or rock, perpendicular to the supposed location of the suspected vein or structure of interest.

Crosscut – A tunnel, or drift, excavated across a vein to determine the characteristics of that vein. A crosscut is initially sufficiently large enough to access the vein, and may be later enlarged for the purpose of actual mining the vein. The crosscut, especially in the early days of mining prior to diamond core drilling was employed to determine the width of the vein, the way it lays (vertical or sloping) and the average metal values across the vein.

Crosshead – Safety crossheads were mandated early in the 20th century to prevent accidents when hoisting with buckets. This apparatus guided the bucket up the shaft by riding along a shaft timber on each side of the shaft so that the bucket, below the crosshead, was not free swinging. Mechanisms known as "dogs" could dig into and grip the shaft timbers if the crosshead and bucket were free falling due to failure of the hoist cable or the hoist itself.

Cupola furnace – A vertical shaft-like furnace incorporating a blast from the bottom in order to melt mattes or speiss, for example.

Cyanide – Dilute solutions of either potassium (NaCN) or sodium cyanide (KCN) are used in the mineral concentration process to dissolve (leach) gold and/or silver. Subsequent processes, such as Merrill Crowe, recover the dissolved gold and/or silver.

Deck – An upper floor in the headframe where hoisted cars of ore, or occasionally waste, were removed from the hoisting cage, wheeled and dumped in a bin. This process was known as "decking" when ore/waste cars were handled here. (See **Skip** below)

Dike – A long and relatively thin body of igneous rock, which has entered a fissure in older rocks and solidified. Source: A Glossary of the Mining and Mineral Industry; Fay, Albert H.; pub. 1920

Dip – The angle at which a vein, or other structures such as rock beds deviate from the horizontal.

Drift – A tunnel-like opening within the mine to develop the ore body. Drifts are usually part of a mining plan, designed to access the ore body and extract the ore from the workings. Drifts in Cobalt mines generally followed the veins, rather than a planned program such as employed in large base metal or gold mines, for example.

Drift Round – A pattern of holes to be filled with explosives, designed to blast and advance the drift in its desired dimension and direction. Holes in the pattern had names such as "uppers" (top of the pattern), "lifters" (bottom of pattern) and "burn hole(s)", holes at the centre of the pattern exploded first to make room for the blasted rock to expand into.

Dry – A section of a surface building where a miner could change from street clothes to work clothes and hang them to dry while he was off shift. Street clothes could be stored in personal lockers, while facilities would be available to shower after shift.

Dynamite – Explosives of which the base ingredient is nitroglycerin, which is contained in filler such as wood pulp or sawdust. Requires a blasting cap to detonate.

Electrowinning – Metals, such as silver, are dissolved in an electrolyte and by employing electricity are plated on an electrode. Electrodes are further processed to refine, or purify, the metal. The *Silanco Mining and Refining Company* was an early employer of this method in its refinery.

Engineer – Can be a civil or mining engineer, or could be a person who attends a steam boiler in a surface plant feeding steam to hoists, compressors, electric generators or rock drills. Similar in function to a steam locomotive engineer. Context will determine the activity.

Face – The working end of a drift as it advances, or of a stope as it expands.

Fault – A fracture in the rock where one side may move in any direction and in any distance from inches to miles. A fault within the Right of Way mine at the north end of Cobalt Lake caused a known vein structure to be displaced to such a degree that it could not be found by diamond drilling or by mining methods (crosscutting, drifting).

Footwall – The country rock on the underside of a sloping vein.

Gangue – Waste. Mineral or rock of no value at the time of mining.

Gelignite – Gelatin type explosives composed of oxygenated salts combined with wood and metal.

Gossan – Oxidized surface or outcrop rock. In the Cobalt camp "cobalt bloom" or "nickel bloom" are indicators of mineral.

Greywacke – (1) Metamorphosed, shaley sandstones. A tough irregularly breaking rock. (2) Variety of sandstone containing grains of biotite mica, hornblende, magnetite and other minerals. Source: A Glossary of the Mining and Mineral Industry; Fay, Albert H.; pub. 1920

Grizzly – Not the bear, but a coarse screen over an ore or waste pass to prevent oversized rock or "muck" from blocking the pass, as well as protecting miners or ore cars from falling down the pass. See **Ore pass** below.

Hand Bombing – Shoveling ore or waste by hand, not with the aid of machinery.

Hand Cobbing – Hand cobbing was the simplest method of removing desirable metals (native silver) or minerals (cobaltite) from rock. Often cobbing was the method used by mines with few resources or limited finances to generate enough early capital to continue developing their mines and ancillary infrastructure. Generally, in the Cobalt camp, laborers would separate native silver, for example, from mine rock with hammers and place it in sacks for shipping. The rejected material would often be sufficiently rich enough to be stockpiled until the mine could build its own concentrator or have enough on hand to ship to a nearby custom concentrator.

Hanging wall – The country rock on the upper side of a sloping vein.

Headframe – The superstructure above a shaft. Can be constructed of timber, steel or concrete. In Cobalt camp they were generally made of heavy timbers clad with siding. Occasionally known as "gallows" or "headworks." The uppermost part of the headframe contains the sheave over which the hoisting wire rope passes. Just below this may be the deck, where hoisted ore or waste cars are removed from the shaft and dumped. Some mines hoisted ore in containers known as skips. Skips were self-dumping into the ore bins. See **Skip** below.

Highgrading – Theft of valuable metal (gold, silver) from a mine by employees or outside actors. Companies, in times of metal price down turn, may resort to mining higher grade sections of a mine in order to remain financially viable. This is also considered a form of highgrading.

Hoist – Many of the hoists in the smaller mines of the Cobalt camp were operated by steam or compressed air. Steam or air pressure operated reciprocating cylinders, which were connected by gearing to the drum carrying the hoist cable. The designation, 6x8, for example, refers to the diameter and stroke of the cylinder in inches, the larger the numbers, the larger and more powerful the hoist. Early Cobalt mines initially employed steam to operate cylinders with cranks connected to the drum gearing much in the same fashion as steam locomotives. When compressed air and electricity became available these were employed, with many compressed air hoists being used well into the autumn of the camp. The hoist of the 407 mine of Agnico Mines used a counterweight running in a steel pipe adjacent to the hoisting compartment. As the cage was lowered or raised the counterweight could be heard approaching and passing the cage as it was raised or lowered.

Hoist Room – This building held the hoist and ancillary equipment. This would include the winding drum and some method of powering it.

Interest – Often seen in descriptions of mining properties or claims, for example, is the statement that "Mr. Smith is interested in the Wonderful mine." The usage in the period around the end of the 19th century and the beginning of the 20th century implied having a monetary interest, or share, in the mine, not just a casual curiosity about the mine. See **Capitalist** above.

Iron Hat - There is an old German miner's saying: *"No vein is so good as an iron hat"*, or another version that says: *"Gold wears an iron hat."* In the U.S., prospectors called it a "red hat." The early prospectors did not have the luxury of today's technology and access to core drilling, so earliest investigations were in the form of trenches and shallow shafts, where decomposed minerals, such as iron pyrite, were visual anomalies.

Jackleg – A pneumatic drill employed mainly to drill horizontal holes. A pneumatic leg applied pressure to the drill and drill steel. The jackleg was considerably more difficult to master than the stoper as an unskilled operator would apply too much pressure to the leg and it would jackknife. Early drills were often attached to horizontal, or vertical metal posts, which necessitated wedging the posts and continually moving them to complete the drilling pattern. Early drill steel did not have detachable bits and hollow centers to allow water to flush cuttings, while later drill steel was hollow and had detachable bits, which could be removed and brought to the blacksmith for sharpening the carbide inserts. All of the early drill steel had to be brought to surface to have a skilled blacksmith sharpen it. Also, in general, around the turn of the 20th century steam was used to power the drills. This was short lived, as the working conditions were undesirable due to the heat, humidity, danger and the difficulty of having to transmit steam any distance to the working face.

Keewatin – Rock type in the Cobalt camp. Either vertical beds of chert and greywacke, cut by lamprophyre dikes; or basalt cut by lamprophyre dikes. Mafic (dark minerals) metavolcanic (partly metamorphosed volcanic) rocks of Archean age.

Lamprophyre – Rock type found as dikes or sills, usually composed of the minerals, olivine, augite, hornblende and biotite mica.

Metal – Elemental gold and silver found in rock are metals, as opposed to them being in combination with other elements to become minerals such as tellurides, where both gold and silver can combine with the element tellurium to become a wide range of named minerals. Silver in the Cobalt mining camp occurs both as native, or elemental silver, along with combinations of sulphur and other elements as minerals. Mines where the desired metal (cobalt, iron, zinc, lead, copper) is in combination with other elements to produce an economically mineable ore are usually called "base-metal mines."

Metamorphic – Rocks that have been formed in the solid state in response to pronounced changes of temperature, pressure and chemical environment. Source: Dictionary of Geological Terms; National academy of Sciences for the American Geological Institute; pub 1957.

Mine – An excavation or series of excavations in the earth for the extraction of minerals. A mere discovery or outcrop of an economic mineral does not constitute a mine. It is the working of the deposit, not its mere existence, which does this. Although unproven, it is credited that Samuel Clemens (Mark Twain) said: *"A mine is a hole in the ground with a liar on top."*

Mining – The simplest early mining method was basically trenching along the exposed veins on surface, a method not particularly suited to the northern climate in winter. Where overburden obscured the vein, perpendicular trenches were dug at intervals to discover the possible direction of the vein, a practice known as costeaning. As the cut became sufficiently deep enough, a guy derrick, similar to those used in stone quarries, might be located on the edge of the cut to hoist ore or waste as mining continued. This was followed by an underground mining method known as "underhand shrinkage stoping", a method suited to the Cobalt silver camp and employed from discovery in 1903 until the last mine shut down. Early mines sank shafts on, or close to, the surface showing of a potentially productive vein. At regular intervals, say fifty to one-hundred feet, a horizontal "drift" would follow the vein away from the shaft, as it might have deviated left and right as mining progressed. The drift would not be made any wider (usually 5 to 6 feet wide) than was necessary to accommodate ore cars on narrow gauge tracks, or by wheelbarrow in the simplest of operations. As the drift progressed away from the shaft the rock blasted would be removed from the mine as either ore to be hand picked (cobbed), stored on surface, or if it was decided it was waste, discarded. The drift would continue until the vein pinched out or changed direction dramatically, necessitating a change in method of advancement. When the length of the drift is completed, another pass would be made along the drift and that rock (muck) also removed. At this point heavy timbers (stulls) would bridge the drift horizontally about every ten to twelve feet. Heavy planking was then laid over the stulls to provide a floor to begin the next cut on the roof (back). Ore chutes were constructed and the blasted rock from the third cut, or lift, was removed. A small scraper could draw rock along the cut to the chutes, maintaining sufficient headroom for further mining should the productive vein still remain in the back. Successive cuts would be made after sufficient muck has been pulled from the chutes to allow the miners room for the next cut. Only sufficient blasted rock is removed to allow the miners to progress upwards, using the blasted rock (muck) as a platform. When the next level is possibly reached,

or when the ore pinches out vertically, mining is stopped, all the blasted muck is removed and the working area, the stope, is abandoned. On occasion development rock (waste) is dumped into these abandoned stopes rather than the effort and expense of hoisting it to surface.
In the early days of mechanized drilling, some drills ran off the steam provided by the boiler. This phase, fortunately, did not last long as the conditions at the working face were less than ideal, the extra heat from the steam, the condensation and the dangers of scalding were ever-present. Steam for drilling was replaced by air provided by a steam-powered compressor, another piece of equipment now required. It might be noted that hand drilling, that is a miner, or pair of miners, hammering on a drill steel, was done in the early days of the Cobalt camp, usually until sufficient funds were available to mechanize with a boiler/compressor/pneumatic drills or pneumatic drills powered from the camp-wide compressed air pipe line system.

After a sufficient number of holes had been drilled in a predetermined pattern, about ten in number, rock was blasted with dynamite, gelignite (manufactured in Haileybury at the *Energite Explosives Company*) or cheddite. In the very late stages of the Cobalt camp ammonium nitrate/fuel oil (ANFO) began to be employed. Each pattern of holes in an early drift of seven by six feet would be about five feet in depth and in the early days would result in the drift advancing four feet. The broken rock, which was often blasted on to a steel sheet, known as a mucking sheet, was then shoveled into cars and removed.

It might be noted that prior to the availability of core drills, much exploration of surface prospects was carried out by the use of shallow pits, shafts and trenches, following the vein, ledge or showing to determine its extent and content. (See **Assaying** above) (See **Optimism** below)

Mining Camp – An area with a concentration of mines, usually for one metal or mineral. Cobalt camp is a silver camp; the Porcupine is a gold camp and Sudbury, a nickel-copper camp. In the United States southwest they were called "mining districts." They were organized areas with clearly defined borders and with some sort of locally designated legislative body and what could roughly be called a constitution, or body of rules. These districts were published in newspapers of the day in the state or county they occupied.

Mining Claim – At the turn of the 20th Century a mining claim was generally forty acres*, one-quarter mile by one-quarter mile. *The Mines Act, 1906* states: "No licensee shall be deemed to have acquired any right or claim under this act, or any regulations thereunder to a mining claim, unless a discovery of valuable mineral has been made thereon by or on behalf of such licensee." This was the so-called "valuable mineral in place" rule that was designed to repress "fake" mines, puffers, boomers and stockjobbers. This rule was eventually dropped in 1922. *There were 20-acre half claims as well.

Mineral – A combination of elements to produce minerals. Fool's gold, or iron pyrite, is a combination of the elements iron and sulphur. Quartz is a combination of silicon and oxygen.

Mineral Deposit – A mineral occurrence of sufficient size and grade that it might, under the most favorable of circumstances, be considered to have economic potential – (From the United States Geological Survey)

Muck – The blasted rock underground, whether it is ore or waste. Generally of a size that is complimentary to the next step of the mining process. Could be of a size for hand cobbing, or suitable for hand shoveling or movement by wheelbarrows or ore cars.

Mucker – One who either shovels rock by hand, "hand-bombing" or who uses a "mucking machine", a small pneumatically powered excavator, which operates from a narrow gauge track. Also muckers can also be known as the rubber safety boots miners wear.

Mucking machine - Traditionally used in smaller mines with confined working area, the machine operates by scooping rock with its forward mounted bucket and swinging the bucket in an arc over the machine and into an ore car. The mucking machine is capable or swinging from side to side to access all of the rock from, usually, a drift round.

Muck stick – Slang for shovel, also, "banjo" and others. Even up until the end of mining in the Cobalt camp some isolated mining areas required a blast to be made on to a steel sheet, known as a "mucking sheet." This was occasionally known as "hand-bombing."

Nipissing rocks – Precambrian age – notably diabase sill in Cobalt camp.

Ontario Bureau of Mines – The Ontario Bureau of Mines was created by an Act assented to by the Lieutenant-Governor of Ontario on the 4th of March, 1891and the first annual report by the new bureau was submitted to Arthur S. Hardy, Ontario Commissioner of Crown Lands by Archibald Blue, Director of the Bureau of Mines on March 15th, 1892. Archibald Blue had previously been deputy Minister of Agriculture and Secretary of the Bureau of Industries for Ontario, which had been responsible for reporting on the mineral industry in Ontario. The new branch of the Ontario government was the result of recommendations of the 1890 "Report of the Commission upon The Mineral Resources of Ontario and Measures for their Development," carried out 1888-1889 throughout the mining areas of the Province.
The Department of Mines Act, 1920 was formed by dividing the Department of Lands, Forests and Mines into the Department of Lands and Forests and the Department of Mines, the title of the Bureau of Mines being discontinued, but the annual reports begun in 1891 continued with successive numbering.
In 1969 the Department of Mines was renamed as the Ontario Department of Mines and Northern Affairs, the beginning of several successive naming iterations.
By comparison, the first annual report of the Minister of Mines for the province of British Columbia was released at the end of 1874.

Optimism – Optimism is not necessarily a word found in a mining glossary, but important for anyone trying to decipher mine descriptions in newspaper and journal sources. Nearly every report of early mine development begins with a small showing that, almost without fail, begins to blossom as the mine is developed. The vein nearly always widens as the trench or shaft goes deeper. Both newspaper reporters and mine promoters use this bait to keep the general public interested long enough to invest in the venture. An excellent article, *"Mining Reports and Mine Salting"* by Walter McDermott in the January 12th, 1895 issue of the *Mining and Scientific Press* contains this line: *"There is a touching confidence in the belief of many practical miners that veins get richer as they go down."*

The method of over-optimistic reportage on a mining property not yet proven was often described as "puffing" or "booming."

A very excellent primer for the neophyte mining investor, or for someone wanting to learn how to evaluate the jargon around mining prospects can be found in the *Arizona Geological Survey* website: www.azgs.az.gov/mining_scams

Another website to learn about questionable mining prospects can be found in an article by Fred B. Brost, P.E. (Registered Mining Engineer) at: www.miningengineering.com/goldminingscamadvice.html

The American author and poet, Bret Harte, who knew his way around 19th century California mining camps was quoted as writing: *"The ways of a man with a maid be strange, yet simple and tame to the ways of a man with a mine when buying or selling that same."* (Source: *Mining and Scientific Press*, December 29, 1917)

Ore – Rock that contains desired metals or minerals, gold (metal), or talc (mineral) for example, in significant content to be economically worth processing. For example, because of the cost of infrastructure and the constrained rate of extraction incurred by hoisting cars, buckets or "skips" from a traditional mine shaft, it would be necessary to mine a higher concentration of gold, for example, than for an open pit, where huge tonnages containing one gram of gold per ton can be mined in a single day. Where the gold occurs, for example, will also dictate the mining method. A large body of "ore" at surface may dictate an open pit to mine as little as one gram of gold per tonne of rock, while the same concentration a mile underground is not likely feasible, depending on the other factor, the value of the gold. The price of the commodity, whether it be gold or iron ore, less the expenses of mining and treating it to result in the final saleable product with an attendant profit will dictate whether it is mineable ore, or, for the time being just rock with gold, silver or iron content, for example.

Ore pass – An opening, such as a raise, between two levels used primarily for sending ore or waste from a working level to a lower level where a chute controls and regulates the drawing of the ore or waste into ore cars for haulage to the shaft for hoisting. May include a timbered manway for access between levels.

Overhand stoping – Mining ore from a lower level to an upper level. More desirable than underhand stoping (See **Underhand stoping** below)

Paper Cars – Old-time miners will recognize this term. Not about cars made of paper, but the reporting of extra ore/waste cars in the day's tally. Usually doesn't fool the shift boss!

Par value – Value of a single share of a company, as issued by that company. The street value of that share may be more or less than the par value, depending how attractive the stock is to the public. **No-par value** shares are issued with no value attached, the market determines the value, preventing liability to the issuing company.

Pillar – A column or block of ore left behind to support a working area, or because it contained no ore of economic value. After the early mining companies had exhausted their profitable mining areas, leasers removed these pillars as well as slashing walls and backs of drifts and stopes, wherever bypassed ore could be found.

Powder – Explosives used in mining, such as stick dynamite, or even black powder in earliest mining. A popular brand of explosive in the late 19th century was known as Giant powder, often written un-capitalized in text as "giant" powder.

Prospectors/Prospecting – In the 19th century there were few opportunities to learn about rocks and minerals and the mysteries of geology. Most prospectors developed an instinct for observing differences in the rocks that might be worth investigating. "gossans" or discoloring of minerals due to weathering and decomposition was a clue that something out of the ordinary was present. In Cobalt the ever-present pink "cobalt bloom" (erythrite, or cobalt arsenate) or the light green "nickel-bloom" (annabergite, or nickel arsenide) was a giveaway to mineral occurrences. (See **Gossan** above)
As early as 1901 the *Ontario Bureau of Mines* began conducting Summer Mining Classes for the purpose of instructing and exposing interested individuals to geology and mineral identification. W.L. Goodwin, for many years, conducted these classes throughout Ontario, initially from southeastern to northwestern Ontario and stopped at many of the current mining camps of the day. In 1904 the itinerary included Haileybury and New Liskeard and a new feature of the classes that year was the use of lantern slides, the lantern being powered by a portable acetylene generator. In 1920 the program was titled "Classes for Prospectors" and operated almost continuously until about 1960.

Puffing – Overestimating the value of a mineral discovery or mine to promote the sale of shares or stock.

Pyritic – Having resemblance to pyrite minerals. Examples are iron pyrite (a.k.a. fool's gold) or copper pyrite (chalcopyrite)

Quartzite – A granulose metamorphic rock consisting essentially of quartz. Source: Dictionary of Geological Terms; National Academy of Sciences for the American Geological Institute; pub 1957.

Raise – A vertical or steeply inclined opening similar to a drift for the passage of ore or waste to a level below where there may be a chute to control the flow of rock into ore cars. Raises may also have a separate compartment with ladders and landings to access either level and provide another method of egress for safety reasons.

Refinery – Refineries further process the products of smelting, matte or speiss, that are further refined to produce a pure metal, such as silver. Refineries generally utilize "wet" methods, employing acids for example, as well as electro winning.

Reverberatory furnace – A furnace in which ore is submitted to the action of flame without contact with the fuel. The flame enters from the side or end, passes upward over a low wall or bridge, strikes the roof (arch) of the furnace, and is reverberated downward upon the charge. Source: A Glossary of the Mining and Mineral Industry; Fay, Albert H.; pub. 1920

Rock – As opposed to minerals, rocks are combinations of minerals. Granite, for example, usually contains mainly quartz and feldspar with mica, or other minerals, in lesser proportion. Rock can contain valuable minerals or metals in such concentration as to become ore, or be valueless waste.

Safety Dogs – Not the four-legged ones, but a safety device to stop the cage from free fall in the shaft in case of a hoist cable breaking above the cage, or some other failure with the hoisting mechanism. The dogs are teeth on each side of the cage, which are normally withdrawn and held in that position by the weight of the cage, but which swing out and engage the shaft guide timbers when the cage begins to free fall. The teeth grab the guides and bring the cage to a stop.

Salting – Salting is the fraudulent, or occasionally accidental process of deliberately adding to samples from prospective mines to increase the actual content of a metal in that sample. The more valuable the commodity is, gold for example, the more likely for it to be a candidate for salting. Whole books could be written about the ingenious and devious methods of salting. Today's technology can reveal the "DNA" of gold in salted samples, for example.

Sand Blasting – Oversized muck can be broken by placing a stick, or partial stick of powder such as dynamite, on the rock and covering it with sand, clay or whatever is available. The dynamite by itself will not likely break the rock.

Scaling – Prior to further mining in shafts, drifts and stopes, loose rock is removed with a scaling bar. These bars are made using a length of drill steel sharpened to a point on one end and flattened on the other.

Shaft – A deep pit or hole to access desirable minerals. Shafts are generally rectangular in cross section and may be at any attitude from vertical to shallow angles. In early mining, shafts sunk at angles around 45 degrees were fitted with timber slides upon which buckets were hoisted. At surface, horses often powered an apparatus known as a "whim". Miners accessed underground workings by ladder, or depending on the jurisdiction, may have been lowered and hoisted in the ore buckets. The buckets were also used to dewater workings.

Sill – An intrusive layer of igneous rock of near uniform thickness.

Skip – A heavy metal container replacing kibbles and car hoisting. Designed to be filled with ore or waste at the mine levels and automatically be dumped at surface by various types of mechanisms. Skips are designed to follow the shaft guides in a fashion similar to the man cage. Not common in the Cobalt camp.

Slag – A waste product from the process of smelting, often glass-like.

Smelter – A smelter is a plant where raw ores and concentrates are smelted to produce a desired matte or speiss and slag, a waste product.

Speiss – An impure mix of arsenides of nickel, cobalt, iron and other metals resulting from the smelting of cobalt and other ores.

Sprag – A brace used in timbering.

Stamps – Early mineral processing and recovery of silver and gold was carried out by the use of stamp mills to liberate mineral and metal values. Stamp mills, also known as

"stampers" use a heavy hardened steel "shoe" which is raised and dropped on crushed ore on a "die." The die is fixed in the bottom of a "mortar". The mortar has screening to allow material crushed sufficiently fine enough to pass through, as a slurry. The slurry then carried on to any one of various separation and concentration methods, gravity in jigs or shaking tables, for example.

The process of stamp milling was an art during its heyday, and the many variables, the weight of the shoe, the height of its drop and number of times per minute it dropped was a constant topic of discussion in mining journals of the day.

The McKinley-Darragh-Savage concentrator began its early operations with five stamps, while in 1912 the *Northern Customs Concentrator,* which was said to be the largest custom concentrating mill in Canada, at the time, had one hundred and twenty stamps. The noise in this mill must have been extreme.

Stamp milling continued well into the 1950's in some mining camps, including the Cobalt camp.

Station – An enlarged area of a level, or drift, adjacent to the shaft, for the storage of materials such as timber, and ore cars prior to being hoisted. Battery trammers could be left here at shift end for recharging.

Stiff leg – Also known as back legs. These are usually two timber or steel braces, which resist the pull of the hoist cable against the structure of the headframe. Usually at a 60 degree angle when the hoist is located on the level of the collar of the shaft. Can be seen in the various photos of the Right of Way No. 2 and No. 3 shaft headframes.

Stockjobber – Individual(s) engaged in fraudulently promoting shares or stock in mining ventures that exist only on paper, or have no proven value. Stockjobbers were rampant in the early days of the Cobalt camp. Today, requirements of individuals, or companies, to properly report details of mining ventures is somewhat circumvented by the requirements of the National Instrument 43-101 (NI 43-101).

Stope – A room-like enlargement of a tunnel, drift or crosscut to extract the desirable metal or mineral as ore.

Stoper – A pneumatic drill used to drill vertical holes in a drift or stope. Uses individual drill steels that are two, four and six feet long in succession. A pneumatic cylinder propelled the drill upwards as the drilled hole advanced. The drill steel is hollow, allowing water to pass through and flush out the cuttings. Early drill steel had to be sharpened every day by a blacksmith, while later steels had detachable bits, which could be sharpened by the blacksmith.

Stull – Heavy timber used to support rock, or to provide support for planking in a shrinkage stope.

Tailings – The waste product from the concentration process. Tailings may still contain desirable values, but they may not be economically recoverable by the process employed at that time. Gold and copper mines, for example, are recovering values from very low-grade materials by a process known as "heap-leaching." Early Cobalt concentration processes left two to four ounces, per ton, of un-recovered silver in the tailings.

Timber Dog – Not the four-legged kind, but a large metal staple for connecting timber underground. Also known as log or spike dogs in forestry and sleeper staples in railway parlance.

Tramming – Removing ore or waste from working area by employing ore cars on narrow gauge tracks. In Cobalt, power could be human, "hand tramming", battery electric locomotives or pneumatic locomotives. Pneumatic locomotives employed a large tank in which compressed mine air was contained. For example, depending on the distance traveled, the tank might be filled each time the locomotive made one round trip from the shaft to the mine chute and return.

Tramway – A set of tracks used to convey ore or waste from within a mine to some destination outside of the mine. The tracks may be made of iron or wood, even rough tree trunks upon which wheeled cars or tubs can be moved or skidded. They may be horizontal or down a hillside to reach a lower point where ore may be stored in bins for later shipping. The act of moving ore or waste by this method is usually called "tramming." At some point in the life of a mine it may be economically feasible and practical to install an aerial tramway, similar to a ski lift, in which the chairs become buckets or tubs, which are dumped automatically at their destination.
In the Cobalt camp, *Nipissing Mining Company* constructed an aerial tramway to transport low-grade ore from its mines on the east side of Cobalt Lake over the lake to its low-grade mill, which was constructed in 1912.

Tugger – A small relatively portable pneumatically operated winch employed to scrape or "slush" ore or waste to an ore or waste pass.

Underhand stoping – Mining downward. Generally less desirable than overhand stoping (See) in small mines as usually a raise or winze must be available to slush, or scrape, the material to chutes on a lower level. See **Overhand Stoping** above

Vein – Usually a definable tabular section of rock containing desirable and economically recoverable metals or minerals. May be in any attitude from vertical to horizontal.

Wages – The average wages for some of the various mining classifications for a nine-hour shift in the Cobalt camp in 1912 were:
Shift Boss……..$4.00 to $5.00
Timberman……$3.25
Machine driller……...$3.25
Machine helper……..$2.75
Hand driller……...$2.75
Cage tender……$2.50
Engineer (boiler room)…….. 30 cents/hr.
Fireman (boiler room)……25 cents/hr.
Surface labourer…….$2.25
Blacksmith…….$3.25 to $4.00
Carpenter……$3.25
Deductions – Board 60 cents/day; $1.00 for health fee monthly.

Waste – Any rock that is of no economic value that must be mined to access desirable metals or minerals. Waste may become ore if the price of the desired element (gold, silver) or metal (copper, lead) increases sufficiently, or if metallurgical processes warrant profitable extraction.

Whim – A whim is a means of hoisting ore or waste from shallow shafts. The mechanism consists of a vertically placed drum around which a hoisting rope or cable is wrapped. The drum is supported in a superstructure, firmly placed near the mineshaft. On simple whims, a miner may walk around the drum pulling or pushing a long bar or lever attached to the drum, winding or lowering the bucket as required. The next level of sophistication is to have a horse or mule harnessed to the pole and walk around the drum winding the rope or cable. On the simplest of horse whims, the horse is trained to step over the rope on every circuit, while a more "advanced" whim would use pulleys to locate the rope in a covered trough in the horse's path. The sophistication of the whim would depend largely on the available materials and the expertise of the builder. In the early years of mine development or exploration, horse whims were the intermediate step between miners physically hoisting ore or waste from mine workings with windlasses and the introduction of hoists powered by the application of steam provided by a boiler, or air from a compressor.

Windlass – The most basic method of hoisting rock or waste from underground. Consists of a horizontal cylinder supported by a framework and turned by a hand crank. Weight to be raised is limited and rock is hoisted in small buckets. May be used to prospect shallow trenches and shafts.

Winze – A winze is an internal shaft, either vertical or inclined, to access a lower part of a mine. Generally located away from the main shaft and may be equipped with its own hoisting apparatus.