

NAME ..... RUTH VERMONT Rpt 1925

SUBJECT .....

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RUTH VERMONT

82KME009-01  
PROPERTY FILE

003704

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15W

RUTH VERMONT.

82K/NE-9

GOLDEN. B.C.

THE GALENA SYNDICATE LTD

LONDON.

18<sup>th</sup> December, 1925.

To -

THE GALENA SYNDICATE,

80, Bishopsgate, E.C.2.

Gentlemen,

As the result of my recent visit last August to the McMurdo District in British Columbia, I am enabled to submit the following descriptive report on the Ruth Group of mining claims mentioned herein with particulars and suggestions for the exploitation of the mineral veins occurring thereon.

CLAIMS:

These claims consist of three crown granted mineral claims known as the RUTH, CHARLOTTE and MINNIE also of three additional Mineral Locations, located on behalf of the Galena Syndicate and recorded as the SHEBA, CLEOPATRA and VERMONT which adjoin the two first mentioned Crown granted claims on the south west boundary lines.

TITLES:

The following was copied from the original Crown granted titles:- RUTH Mineral Claim Crown Grant No. 3422 31st October 1904, L. 418. CHARLOTTE Mineral Claim Crown Grant No. 3421, October 31st 1904, L. 405 and MINNIE Mineral Claim Crown Grant No. 3423, October 31st 1904, L. 419. These three Crown granted claims are registered in the name of Wm. G. Carlin of Fort Steele, British Columbia.

The three Mineral locations known as the VERMONT, SHEBA and CLEOPATRA Mineral Claims were recorded

at Golden, B.C., the 31st day of August 1925, Nos. of Certificates respectively being - 748550, 74856-C and 74857-C. All the aforementioned six claims having been located as full-sized mineral claims of 1500 feet by 1500 feet, each claim in area being 51.65 acres, six full-sized claims thus covering an area of 309.9 acres.

LOCATION:

These claims are situated on the south side of what is known as Vermont Creek, a tributary of the south Fork of the Spillimachene River, which flows into the Columbia river about thirty miles south of Golden, East Kootenay, British Columbia.

This district is known as the McMURDO district situated in the Purcell Range, which is the Eastern range of the Selkirk mountains. The property is about 5,000 feet above sea level and about 51 degs. North Latitude and 117 degs. West Longitude.

HISTORICAL:

These claim areas were first located by two men named Wells and Pollock in 1889, who made several shipments of ore. The first shipment of 35 tons was packed out on horses in 1889 via Columbia river by steamboat to Golden and sent to Revelstoke, realising under all these difficulties, a handsome profit to the owners.

The second shipment consisted of 100 tons of ore which was sleighed down to the Columbia River, a distance of 25 miles, then freighted by boat down the Columbia river about 35 miles to the main C.P.R. line at Golden, conveyed by rail to Vancouver, a distance of 470 miles, and shipped from this port to the smelter at Everett,

Washington, U.S.A. The average value of this shipment was 100 ounces silver and 48% lead. Two years later another shipment was made to the U.S.A. of a reported quantity of 200 tons, this was also high grade ore. About 20 years ago another shipment was made of 200 tons. (I learnt this from the man who was in charge of the work, but was unable to find out the actual values of this shipment from him as he was not informed by his employer, whose death occurred shortly afterwards.)

These previous shipments were made by various owners under great difficulties, the nearest railway point being Golden. The majority of the operators in the district were men like Wells and Pollock with very limited means; their remuneration depended solely on the high price of silver, the price of lead being so low as to be practically negligible to the miner. Furthermore, there was no smelter in the country. I was informed that at the time Wells and Pollock made their first shipment to the U.S.A. that miners' wages employed on the claim, transportation to Columbia river and freighting to Golden, including stores and mining material used were not paid until after the smelter returns were received by Wells. The fall in the price of silver, also the import duty on lead into the U.S.A., practically closed down the whole district, which, with the exception of one or two minor and isolated cases has been inactive for the past 25 years. Each year the majority of trails and waggon roads have become overgrown and in some cases obliterated by timber falls, rock slides and other climatic conditions prevailing in a mountainous country which has not tended to make ingress easy for the individual prospector.

DESCRIPTIVE GEOLOGY OF PURCELL RANGE:

The Purcell series consist of fine grained quartzites, argillaceous quartzites, argillites, crystalline schists, lime stones and slates of pre-Cambrian and Cambrian age.

It extends across the International Boundary line into Idaho and Montana, and forms the Eastern Range of the Selkirks, separated from the Rocky Mountains on the East by the wide Kootenay Columbia Valley, called the Rocky Mountain Trench. (The rocks which form the greater part of the Purcell range are probably pre-Cambrian in age and their structure is of an entirely different character from the Rockies.)

The Purcell series have been subjected to considerable faulting, the sedimentary beds being highly contorted, foliated and considerably metamorphosed, especially in the vicinity of the igneous intrusions and sills. The intrusive sills which were injected between the horizontal strata of the Purcell series were later tilted into their present positions. They vary in thickness from a few feet to hundreds of feet and being more resistant to weathering agencies than the stratified rocks which enclose them, usually form steep cliffs which are conspicuous features in the topography of the country. The general trend of the fault system appears to be north-westerly and south-easterly. The strike of the principal vein system appears to be the same and large mineralised quartz outcrops which form a conspicuous feature can be readily observed extending across the mountain and the intervening steep valleys of the Spillimachene river and its various tributaries.

CORRELATION:

(A few remarks on the correlation of the Coeur d'Alene series in Idaho, which has been the source of enormous mineral production for many years past, will probably not be out of place at this juncture.)

The correlation of the Coeur d'Alene, Idaho, U.S.A. with the Purcell series in East Kootenay by such well-known authorities as Walcott and Calkins in 1906 and later confirmed by Schofield in 1911 (see Geol. Survey, 1915) was not only of academic interest but one of commercial economy to British Columbia. Renewed activity resulted on the British Columbian side of the International boundary in East Kootenay, greater faith in practical operations was exhibited and fully realised by the Canadian Mining and Smelting Company at Kimberley and vicinity including the now famous Sullivan mine (the present largest producing lead zinc mine in the world) and other well-known properties in their group. Smaller and more embryonic operations now extend further northwards in the same geological horizon towards the district under review. Although the actual ore occurrences vary in the different mineralised areas, the silver lead deposits in which zinc is usually present in greater or lesser quantities, at present are by far the most economic deposits in the Purcell series. These operations have clearly demonstrated what serious mining operations can produce in this particular geological horizon given favourable mineral indications at the outset.

ACCESSIBILITY:

The RUTE group situated on south side of Vermont creek is at present reached from two points on the Columbia

River, viz: Carbonate Landing & Parson. The point on Columbia River at Carbonate Landing is nearly two miles south of Molurdo Railway Station, the Kootenay Central Railway and 20 miles south of Golden on main C.P.R. line. Parson is another station on the Kootenay Central, 5 miles further south from Carbonate Landing. The distance from Carbonate Landing to the claims on Vermont creek is about 23 miles. The distance from Parson to the same claims is about 29 miles. The Parson route is the old sleigh route by which ore was shipped over in the past from these claims. These two routes converge at an old camp known as Whisky Creek about three-quarters of a mile before the route crosses the North Fork bridge. This intersection of routes is about 5 miles from Carbonate Landing, the distance from Parson being about 11 miles.

The Carbonate Landing route is a fair pack trail although a considerable up grade exists the first three miles and a sharp fall takes place down to Whisky creek. From this point the route is the old sleigh road from Parson. After crossing the government bridge over North Fork the route rises somewhat rapidly again for three or four miles until Summit Lake is skirted when considerable grade is again lost until the bridge is crossed over Middle Fork after which the trail ascends more consistently with the South Fork until the claims are reached at an elevation on the Vermont creek of about 5,500 ft. above sea-level. The trail from a uniform grade point of view leaves quite a little to be desired, otherwise it may be considered quite a good trail when put into fair travelling condition. The existence of an old lumber company's waggon road from Spillimachene built right up to the South Fork opens up the possibility of a much better route for hauling out ore



either by sleigh in winter and possibly motor or waggon in summer even if an additional few miles were added. The writer was unable to inspect this route in detail beyond a bird's-eye view from the side of Jubilee Mountain near Spillimachene, but it is a matter well worth investigating in the future, before a permanent haulage route is finally decided upon.

VEIN SYSTEM ON "RUTH" CLAIM:

The galena veins occur in a precipitous bluff or cliff of lime slates facing westerly towards Vermont creek. The exposed base of the bluff ranges from 350 to 400 ft. vertical above the creek. The slope from base of bluff to creek consists of talus or rock slide due to erosion from the bluff itself, slope being about 45 degs. from the horizontal. The talus of slate and limestone, also, is intermixed with considerable galena, which may be worthy of future investigation. The precipitous bluff itself averages about 300 to 350 feet in vertical height and extends from 500 to 600 feet in length. Beyond the top of the bluff there is a glacial bench, about 500 ft. wide at this point, running diagonally across the general strike of formation, the latter being covered by heavy slide rock. The glacier tongue having retreated about a mile to the south-east and near to the summit of the range. This glacier is the source of the stream which flows under this slide and emerges over the northern end of the "RUTH bluff" and flows steeply down the mountainside between the RUTH and CHARLOTTE workings. (This is the gorge referred to in Attwood's report in which the Creek view is exposed.)

Following the direction of the strike of veins

across this rock slide, the mountain side rises steeply again and in some places is almost perpendicular. The vein system is easily discernible intersecting the rugged and in some places inaccessible face of the mountain range up to the summit of the range. This is reached at a vertical height of at least 2500 feet above the creek, some of the higher peaks being over 3000 feet above Vermont creek. This data proves that at least 2500 ft. depth of backs can be mined from the creek level and a minimum of 2000 ft. from base of bluff.

OCCURRENCE OF VEINS:

At least six occur in a section of about 300 ft. of the face of bluff. the central section of the face being conspicuously coloured white-yellow due to the weathering of galena and zinc forming cerussite and calamine. This is not confined only to the veins themselves, the intervening country rock shows similar features, an important factor proving that mineralisation is not only confined to the actual veins themselves. Only six veins are mentioned now from actual observation, but in earlier reports, written by Messrs. Attwood, Perry Leake and Government reports (1890) at a time when operations were in progress, 10 and 12 veins are mentioned. There were at least 3 more veins which the writer was unable to inspect on the face of bluff, owing to the old miners' trail having been eroded.

George Attwood states:-

"The principal silver lead veins which have so far been discovered are about 12 in number and they vary from three to sixteen inches in thickness etc."

Perry Leake states:-

"In addition to the veins mentioned by Attwood whose strike are cutting the formation, there has been recently discovered a much larger vein which is parallel to the stratification of the system. The vein so far as it has been drifted shows a width of 7 ft. The galena is associated with zinc and iron pyrites with a small amount of grey copper. A general sample of the large ledge gave gold \$3.00, silver 22 oz., lead 5%. This ore can be easily concentrated and would yield rich concentrates and the large vein recently discovered would supply an almost unlimited quantity of concentrating ore at small cost."

Vermont Creek Extract from Dominion Mining Report, 1890:-

"As stated in last year's report, this property contains a number of silver-bearing galena and grey copper ore on the surface, ten of which varying from 6 inches to 20 inches in width are confined to a comparatively small area on the Vermont claim (now RUTH). A tunnel is being driven to cut these veins in the mountain at a depth of about 200 ft. from the surface to test their permanence and ascertain to what degree they run together to form larger veins at that depth. &c. &c."

The veins are striking diagonally through the bluff, their average strike being N.60 degs. E., and S. 60 degs. W. (mag.) with a southerly dip S. 30 degs. E. (mag.) ranging from 50 degs. to 80 degs. from the horizontal. It would appear in some instances that these veins are intersecting the lime slate formation, probably due to the direction of cleavage not being that of the original strata, the stratification having more or less disappeared owing to regional metamorphism by heat and pressure. This is more noticeable at the portal of the tunnel where the slate formation has merged into limestone; the two veins intersected in the tunnel at a depth of about 250 feet are undoubtedly parallel to the slate formation.

DEVELOPMENT:

The only permanent mining work which has been done in the past consists of a 400 feet cross-cut adit.

The other operations consist of short drives and gougings in the face of the bluff on various veins, from which over 500 tons of high grade galena was shipped.

The 400 feet cross-cut adit was probably carried out in the winter time when climatic conditions rendered work in the shallow workings on the bluff impracticable. The portal of this cross-cut tunnel is sited about 400 feet above the creek and at the northerly end of the bluff about 250 feet below the top of same. The first 180 feet of driving is in limestone (mag. bearing 110 degs.) and not at right angles to the vein system; the course was then turned southward (190 degs. mag.). (Probably advised at time of Attwood's visit.) At a distance of 200 ft. from portal several small calcite stringers were intersected in slate formation. At a distance of 320 feet a vein ranging from 14 inches to 2 ft. not exposed on face of bluff, was intersected and driven north-easterly on for a distance of 20 feet. This vein is white quartz carrying considerable clean zinc ore; a general sample gave the following result:-

Sample No. R-8. width 14" - 29.1% zinc.

The cross-cut was continued a further 80 feet now practically intersecting the slates at right angles and at this distance 400 ft. from entrance a well-defined mineralised vein 8 inches in width was intersected. This has been driven on a distance of 30 ft. N. easterly. This vein has a well-defined indurated slate foot and hanging wall, the 30 ft. drive was in the hanging wall slates, which are highly mineralised with bands of pyrites.

Two general samples taken from this vein gave the following result:-

No. Sample, R-1.

.005 oz. gold; 46.3 oz. silver; 12.15% lead; 18.3% zinc.

Value per ton:

\$0.10	\$32.41	\$20.00	\$31.11
		<u>total - \$83.62.</u>	

No. Sample, R-9.

27 ounces silver; 16.9% lead; 15.5% zinc.

This footage of 400 ft. has really only accomplished about 100 feet of actual cross-cutting, owing to the manner in which the course of the tunnel was driven. These 2 veins intersected at a depth of about 250 ft. in the bluff appear to have a more easterly and westerly strike than those out-cropping on surface of bluff.

No. Sample, R-2.

This sample was taken from a 6 inch vein of clean ore out-cropping on bluff about 150 ft. above tunnel entrance, no work appears to have been done on this vein.

Assay result:

.005 oz. gold; 24.207 silver; 12.4% lead; 50.2% zinc.

Values per ton:

\$0.10	\$16.94	\$19.84	\$85.34
		<u>total value - \$122.22.</u>	

No. Sample, R-3.

This sample was taken from the central section of vein system carrying cross veins of clean galena occurring over a width of 6 feet below where the oxidisation of lead and zinc was most conspicuous on the face of bluff.

0.02 oz. gold; 69.6 oz. silver; 61.1% lead.

Value per ton:

\$ .40	\$48.72	\$97.76
		<u>total value - \$146.88.</u>

The only appearance of any work having been done at this point, was a few feet of blasting for the commencement of a tunnel.

No. Sample, R-4.

This sample was taken from a vein of clean galena 4 inches wide on face of bluff south of previous sample, no work appears on this vein.

Assay value: 67.7 oz. silver. 57.5% lead.

Samples Nos. R-5, R-6 and R-7.

R-5 was taken from a vein outcrop 4" in width of clean galena about 50 feet higher up face of bluff. By a very difficult climb an old drive was reached, about 40 feet in length, driven apparently on the same vein which had widened considerably. Some stoping had been done and there were remains of an old wire cable for lowering ore down face of bluff. The stope was partially filled in from surface rubble but in the face there was a nice showing of clean ore averaging a foot in width. The hanging wall section consisting of 6 inches of clean galena and the footwall section of six inches being clean zinc blend.

The following assay results were obtained:-

R-5, taken from face of bluff, width 4 inches, assayed 67.7 ounces silver, 57.5% lead.

R-6, sample taken at face of stope 6 inches footwall section of zinc ore assayed 57.5% zinc.

R-7, sample from face of stope 6 inches hanging wall of clean galena assayed 102.1 oz. silver; 69.5% lead and .4% zinc. There is considerable ore available at this point now. The present workings cleaned out would enable the drive to be pushed ahead on the vein and stoping continued. This working is about 200 ft. below the crest

of the bluff.

There are at least two more face workings on two more veins higher up the bluff and parallel to this one but it was impossible to climb up to them. One of the Swedes, in this expedition, worked in these about 30 years ago when some of the high-grade shipments were made. These workings were viewed through field glasses from the opposite side of the creek at about the same elevation.

The aforementioned veins consist of at least 6 in number and occur in about the central section of the bluff embracing a width of 250 to 300 feet, and appear to form the main mineralised section of the series. (The occurrence of numerous cross-veins of quartz in this particular section, the highly stained appearance of the cliff, undoubtedly the product of weathering of lead and zinc blend, renders this particular zone or section very conspicuous, and shows indication of widespread mineralisation in the enclosing country rock apart from the actual mineralised veins themselves.

The apparent massive erosion which has occurred in the past obviously has not arisen as a result of the narrow veins intersecting the bluff but indicates the existence of far wider fissures or ore channels.

CHARLOTTE & MINNIE CLAIM:

The CHARLOTTE claim adjoins the Ruth claim north-easterly. The MINNIE is situated high up in the mountain range to the south-east of the RUTH and CHARLOTTE. The remains of the Government Surveyor's trail into this latter claim was discovered, but no indications of any work were located. There is very little work visible on the CHARLOTTE. Evidently work was concentrated on the

RUTH property which enabled the early owners to apply for Crown grant on the three properties.

The CHARLOTTE Claim:

There is a short 20 feet tunnel driven in the face of the cliff north-easterly of the gorge which intersects the two claims already referred to. This tunnel was at first located by field glasses from Vermont creek and appeared to be more or less a continuation of the bluff on the RUTH property, but the conditions prevailing are different. The country here is highly contorted and foliated, the formation consists of slates, quartzites and gneissoid schists. The 20 ft. tunnel has been driven with negative results in a ferruginous section of a small belt of slates which have been squeezed into the quartzites forming what may be termed drag folds. The tunnel is located about 750 ft. above Vermont creek. The intervening ground sloping steeply between the foot of this cliff and Vermont creek consists mainly of erosive matter from this cliff covered with undergrowth and scrub, the lower portion occupied with spruce timber. A little to the south of the tunnel and on the face of the cliff at contact of the slates and quartzites there are favourable indications of mineralisation, worthy of future attention. A sample taken from this contact gave the following assay result:-

Gold .26 oz. Silver 3.8 oz. Lead .2%.

This section of the country is undoubtedly favourable for mineralisation due to the evidence of considerable igneous intrusion and the highly metamorphosed condition of the sedimentary formation. The general strike of this section is more easterly and westerly (mag.) than the strike of the RUTH veins. It is associated with the prominent quartz vein fissurings which can be easily traced from the mountain



range between Copper creek and Vermont creek, boldly outcropping on Syenite Bluff continuing over the summit of this range between Vermont and Crystal creeks in the direction of the Excelsior property on the Crystal creek slope of mountain. It would appear from present available data that some of the numerous veins on the RUTH claim will obliquely intersect this main fissuring strike.

FUTURE POLICY:

The most expedient policy to pursue for at least the first year of operations would be one of selective mining only. Advantage should be taken of the richest veins which have been exposed by previous workings and clean ore won during the summer months, shipped to the smelter. This ore would consist of two classes, high grade silver lead ore and low in zinc and high grade zinc ore and low in lead, in order to comply with the smelter schedules. Any lower grade or milling ore would accumulate or be left standing in the workings until the erection of a reduction plant. A certain amount of prospecting for other veins or new bodies of ore, on the property, would be advisable.

A main tunnel should be started as early as possible which would serve to develop all the veins in the bluff as expeditiously as possible, and connection made with existing workings in order to concentrate the haulage of all ores won to one point. This would enable mining operations to be carried on throughout the winter without interruption.

SALIENT POINTS:

Veins. The veins as exposed are numerous and in many cases rich. For the most part and especially at the surface they are small, but there are indications of increased width and richness in several cases where driving has been done. Even if these veins were only confined to the bluff itself the mine would be of considerable magnitude. It can be reasonably assumed that several thousand tons of high grade ore can easily be extracted, which in themselves would yield a very handsome profit. It is not a case of tonnage of ore in sight, the exposure of the veins lend themselves to a productive basis as development proceeds and ore is blocked out for stoping.

Permanency. The permanency of these veins apart from their actual occurrence in the bluff is obvious from visible indications higher up the mountain, also from the intersection of 2 veins at a depth in the old tunnel. The varying dip of the veins tends to convergence in some cases, involving increased widths. Furthermore, the indications prevailing towards the CHARLOTTE section are such that one is led to assume reasonably that these bluff veins are only a minor part of the main mineralization zone of this particular locality and that there are further potential possibilities.

Mining Facilities. The natural facilities afforded for driving adits, cross-cuts, tunnels, etc., obtaining great depth obviate the erection of pumping and hauling plants, etc. and tend to low mining costs.

Timber. Whilst there is not much timber actually on the claims, there is a plentiful supply on the opposite slope across the Vermont creek for some years to come and

there is an abundance of timber further down the creek easily obtainable for mining and general purposes.

Water Power. There is ample water power in Vermont creek for any future power plant required. The gorge, with 300 ft. head between RUTH and CHARLOTTE could be utilised easily for a Pelton wheel if desired. It would be necessary to note flow during winter months to ensure running the whole year round.

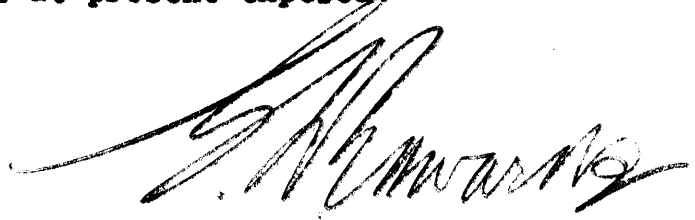
Transportation. The present routes to Railroad are good, requiring a little repair. The Government are always ready to assist operators in construction of trails, roads, bridges as soon as they realise that such operations are serious.

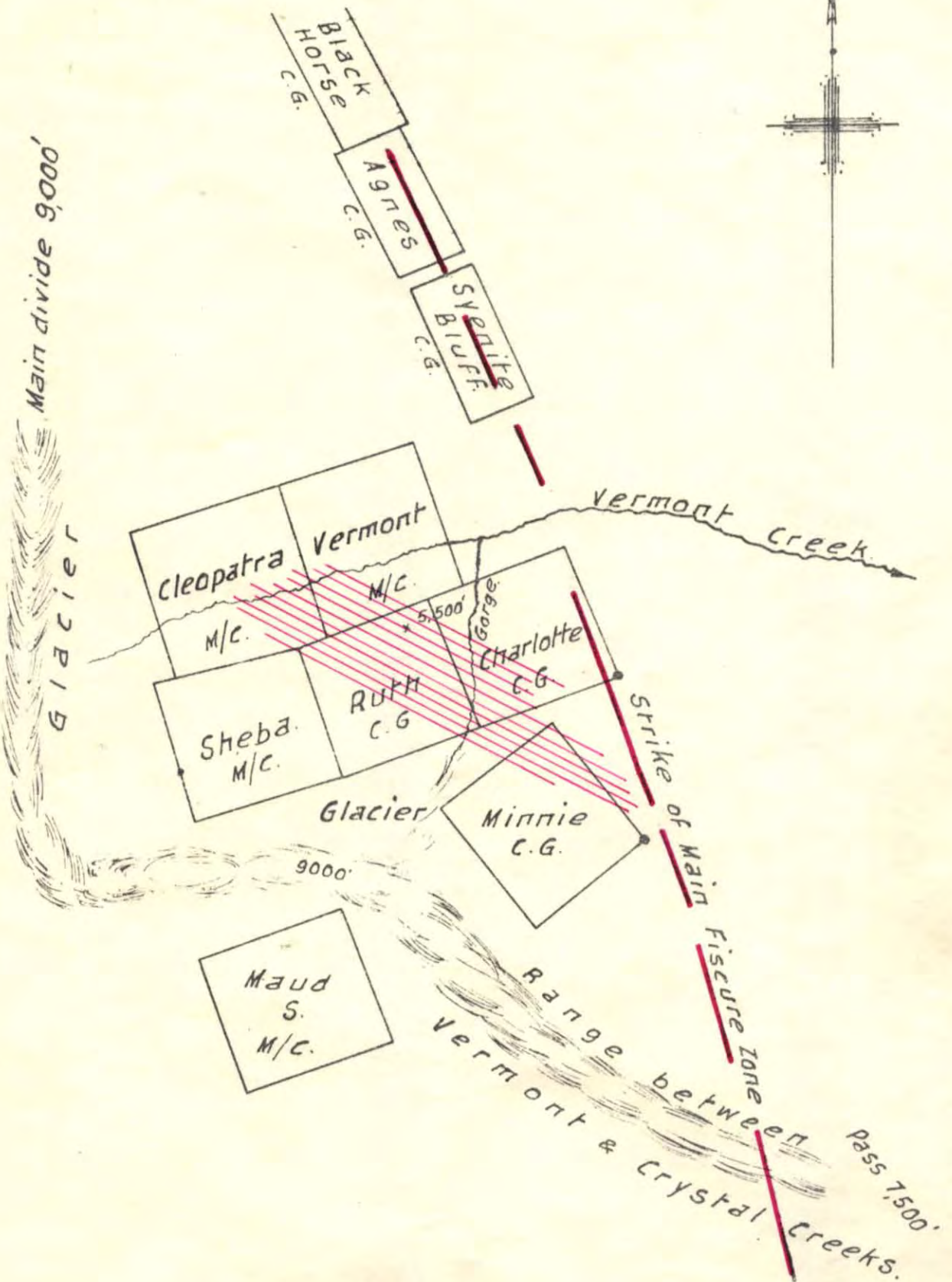
Railroad & Smelting facilities are excellent where none existed in the past. (See attached Schedule "G" lead ores, and Schedule "B" zinc ores from the trail British Columbia smelter.) (See also attached list C.P.R. freight rates on ore shipments to smelter.)

CONCLUDING REMARKS:

It is obvious from the foregoing information that this is a property of considerable value even at this stage. When the policy of selective mining is in full operation the total costs, including mining, transportation, railroad freightage and smelting charges should not exceed £6. or \$30.00 per ton, so that values disclosed in assay shew a very handsome margin of profit. The general indications of this area are such as to lead

one to reasonably suppose that future development will tend to the opening up of larger ore occurrences than those galena veins at present exposed.

A handwritten signature in cursive script, appearing to read "S. H. ...". The signature is written in dark ink and is positioned to the right of the typed text.

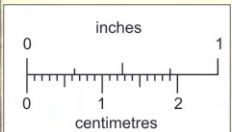


Rough sketch of  
Claims of  
**GALENA SYNDICATE**

C.G. = Crown Granted  
 M/C. = Mineral claim  
Shewing Ruth Group.

— Scale. 1 inch = 1500'-0" —

*[Handwritten signature]*



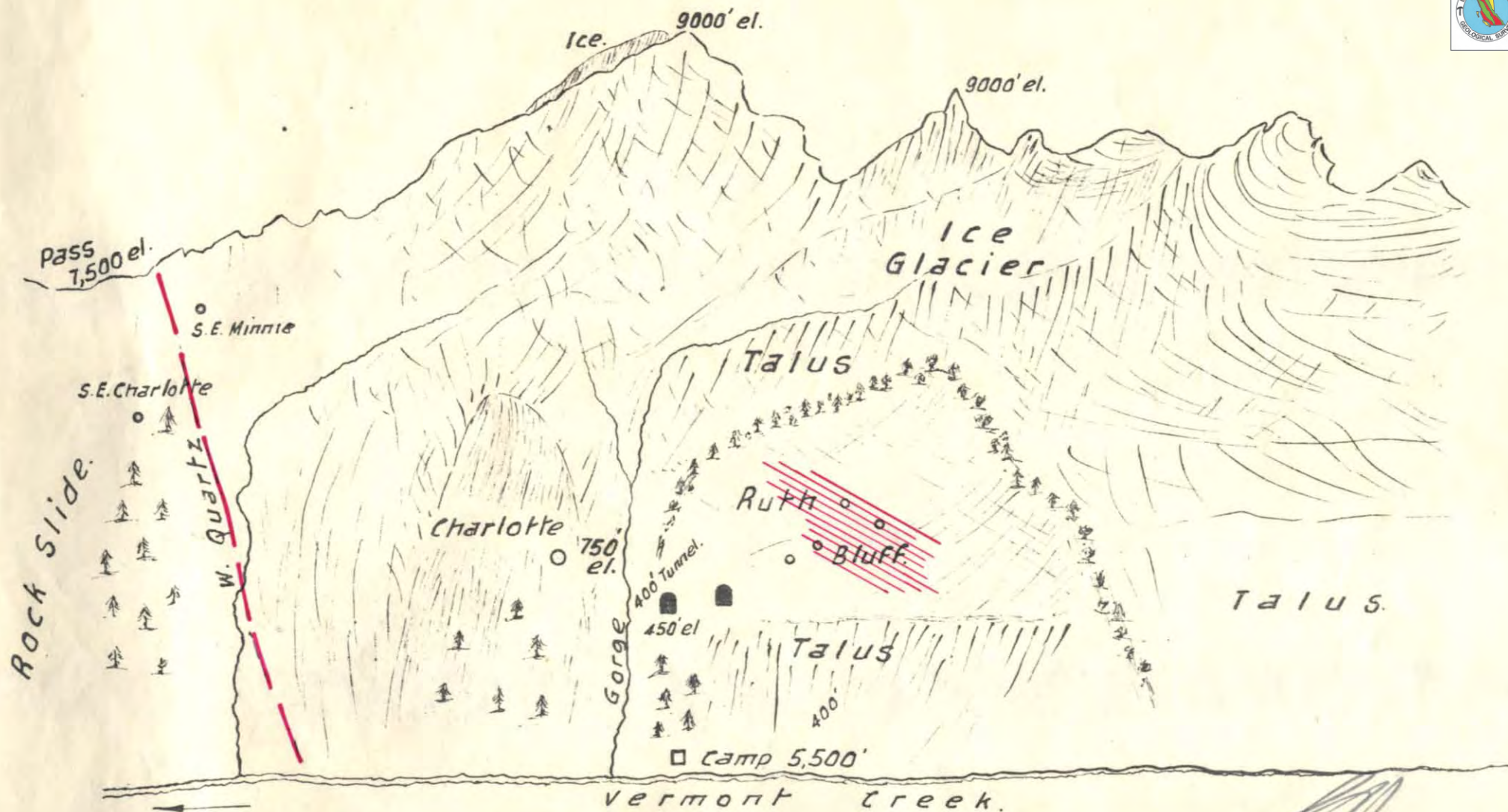
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Rough sketch of Ruth Group as viewed from Syenite Bluff.



BRITISH COLUMBIA GEOLOGICAL SERVICE  
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EXTRACTS FROM LETTER FROM CAPT. G. W. EDWARDS, DATED 22ND  
OCTOBER, 1927, WHICH BRINGS THE INFORMATION ON THE NELSON  
ORE BODY TO THAT DATE.

The Upper Nelson Tunnel has been driven a total distance of 80 feet, the whole distance has been in solid ore of excellent milling grade, the present face is looking as favourable as ever, progress is rather slow owing to hardness and to the fact that such ground is hard on the steel.

The Upper Nelson Tunnel is now in 80 feet in ore the whole way, the first twenty-five feet of the tunnel is about twenty feet in height, this was because the bottom of tunnel was taken up as ore was still showing, later the winze was sunk down to tunnel below a distance of fifty feet down to the Lower Nelson tunnel, and although the 50 foot raise or winze does not carry solid ore, this section of fifty feet is mineralised throughout and may be classed as milling ore of good grade.

The Lower Nelson Tunnel was in 78 feet when I left a few days ago, in the face of the tunnel there is about two feet of quartz vein carrying a little galena, the overlying three feet consists of good grade milling ore, after continuing driving a little further a cross- will be run into the hanging wall in order to see if the ore continues as at the portal of tunnel. During the development of this Nelson section up to date, which after all is really a very small footage, such development footage has produced and mined considerably over a thousand tons of good grade milling ore. My average samples of this ore has been: .02 gold ounces-- 23.7 ounces silver 20.3 per cent lead and 29.3 per cent zinc, with silver at 57 cents, lead 6.5 cents and zinc 6 cents this gives a value of \$75.49. The whole of this ore mined is on the dump on the talus below tunnel portals, and is available for treatment when such time arrives. It is rather superfluous to estimate ore in sight at present, but it can readily be seen that ten thousand tons are available even now in this small sector, so it

EXTRACTS FROM CAPT. EDWARDS' LETTER OF 22ND OCT. 1927. CONTD.

would be an easy matter to keep a hundred ton plant running even at this stage quite apart from the tonnage which could be obtained from other sources, which would not only increase the tonnage but would enhance the values.

CAPTAIN EDWARDS' letter also says:-

"Recent Minnie Discovery". As far as I was able to see this vein lies about 75 ft. higher up from the old Minnie tunnel and it appears to be about a foot wide of solid ore. Assay:- 72 ozs Silver, 55% Lead, trace Zinc per ton. The above values are fairly good, but I was not satisfied with these results. I feel it should go much higher in silver, unless the presence of antimony makes itself felt. At any rate, in about half an hour about half a ton of ore was taken out with just a prospecting pick, and further samples are being sent to Vancouver for assay.

Subsequent Cable - 30th October.

"Latest Minnie assays 177 ozs Silver, 67% Lead, trace Zinc"



THE GALENA SYNDICATE, LIMITED.

NAMES OF CLAIMS and AREA OF GROUP:

The property consists of the following named Lode Claims, viz., RUTH, CHARLOTTE, MINNIE, VERMONT, SHEBA, CLEOPATRA, aggregating an area of about 310 acres.

TITLE:

The RUTH, CHARLOTTE and MINNIE Claims are Crown Granted, while title to the remaining three (3) Claims is held by location, possession and compliance with the laws of British Columbia.

GEOGRAPHY:

The Group of Claims mentioned above is situated on Vermont Creek, a tributary of the South Fork of the Spillimachene River, in the Golden Mining Division, East Kootenay District, Province of British Columbia.

ACCESSIBILITY:

A pack trail 22½ miles in length connects the property with McMurdo (Carbonate), a Station on the Kootenay Central Branch of the Canadian Pacific Railway. A wagon road, 33 miles in length, has been built by the Syndicate, from Spillimachene, a Station 24 miles South of McMurdo, on the same railway. The distance from Golden to McMurdo is 17 miles; Golden to Spillimachene, 41 miles.

The elevation of the Mine is 3400 feet higher than the railway station, and 6000 feet above sea level.

The RUTH, CHARLOTTE and MINNIE Claims were located in 1889, and the former owners shipped about 500 tons of ore to smelters, which is reported to have averaged about 50% lead and 100 oz. of silver to the ton. Owing to lack of transportation and smelting facilities and low value of lead, further operations were suspended and the claims remained idle until acquired by Galena Syndicate in 1926.

The SHEBA, CLEOPATRA and VERMONT Claims were located on behalf of The Galena Syndicate, and recorded at Golden, B. C., on 31st August, 1926.

GEOLOGY:

The mineral deposits comprising the RUTH-VERMONT Mine occupy

a fractured zone in the sedimentary formation of the Pre-Cambrian age. The country rock in the immediate vicinity is Slate with some Limestone and shows evidence of being widely sheered. The existence of irregular Chert bands in the Slate points to alteration by thermal waters.

The Pre-Cambrian sediments of the Purcell Range are renowned from the fact that the SULLIVAN, ST. PUGENT, NORTH STAR and STRAWWINDER Mines all occur in that formation, and the series has been correlated with the sediments containing the famous COBUR & ALBANY deposits of Silver-Lead-Zinc Ore, in Idaho.

#### ORE DEPOSITS.

A number of small fissure veins varying in width from 2 inches to 2 feet, strike approximately N 50° W. dip from 50° to 80° South West, cut through the formation of Slate and Limestone, and may be seen outcropping on the side of the steep bluff over a considerable distance.

Considerable work was done on some of these veins and the shipments referred to were made from them. Assays show values of \$20 to \$30 per ton in lead and silver, and these veins should yield further ore for shipment when additional development has been done on them.

Last year, Capt. G. W. Edwards, the Engineer of the Galena Syndicate, discovered two additional veins in this series of parallel veins and did considerable work on them over a vertical distance of 500 ft. while surface exposures indicate their continuance for at least 2,000 ft. vertically above their lowest outcrop. A large tonnage of valuable ore should be available from these veins for shipment when opened up.

The work done on them is as follows:-

(1) The Blacksmith Vein is being developed by three (3) tunnels, viz:-

Upper Tunnel, length 75 feet, contains a 9 inch vein of mixed Lead, Zinc, and Iron. The vein at this point is practically vertical.

Intermediate Tunnel. This gallery was commenced on a vein

of mixed mineral 2 feet in width, but after driving a distance of 30 feet the vein has pinched to 4 inches.

Lower Tunnel. The portal of this tunnel was opened out on a good showing of Galena and Zinc 2 feet in width. After driving a short distance a cross vein, 1 foot in width, was intersected. At the intersection the vein widens out to 4 feet of good Galena with Zinc blende. Unfortunately, however, as driving was continued, harder country was encountered and at 130 feet from the portal, the vein has pinched to 3 inches of mixed ore.

Five hundred (500) Sacks of Sorted Galena, ready for shipment, are stored in this gallery.

Higher up the bluff and to the South some work has been done on a lode, called The Mountain Vein, which shows 2 feet of mixed Galena, Zinc and Iron in a quartz gangue. About 100 feet vertically above this showing, on the strike of the Vein, a white discoloration would appear to indicate the presence of either Lead, or Zinc. The Mountain Vein is supposed to be a higher exposure of the Blacksmith Vein, as is also the Vein outcropping in the gorge on the way down.

(2) The Pine Tree Vein.

The Upper Tunnel has been driven for a distance of 25 feet on a vein of mixed mineral 9 inches in width.

The Lower Tunnel, length 20 feet, contains a 15 inch vein of mixed mineral in which Zinc predominates.

STRATIFIED DEPOSIT OF CONCENTRATING ORE:

What may be considered as the most important development, so far in the RUTH-VERMONT property, is the orebody which is being exposed in the Nelson Tunnels. This orebody conforms to the strike and dip of the surrounding formation and is undoubtedly a replacement deposit.

The Upper Tunnel has been driven a distance of 45 feet on the strike of the ore bearing strata. Near the face of the drift, a winze is in progress of being sunk through the bed and in the direction of the lower gallery. The winze has

reached a depth of 12 feet and has proved a thickness of 18 feet of concentrating Ore at that point, with the bottom of the winze still in mineral.

The Lower Tunnel has been commenced on a parallel bed of mineralised material some 50 feet vertically below the Upper Tunnel. The drift has advanced 50 feet in concentrating Ore, and has been proved to be 5 feet in thickness. A raise has been commenced to connect with the winze mentioned above. The raise is cutting through mineralised ground, but somewhat poorer than the strata exposed by the tunnel. A quartz contact, 15 inches in width, appears to form the floor of the orebody, but this will be verified later, as development progresses.

The Ore is a finely crystallized mixture of Lead, Zinc and Iron sulphides, and samples taken gave the following results:-

<u>Upper Nelson Tunnel</u>	<u>Silver:</u> ozs per ton.	<u>Lead:</u> per ton.	<u>Zinc:</u> per ton.
No. 1. Mixed Sample	10.2	10.9%	16.3%
No. 3. Cleaner "	26.4	31.2%	22.7%
No. 2. Mixed Sample	14.6	14.8%	26.8%

From these assays it would appear that the Lead Concentrates which would result from the milling of this Orebody would assay approximately 1 oz. Silver to the unit of Lead

#### Surface Arrangements:

The Mine Camp consists of:

Combined Cook and Bunk House 50 ft. x 18 ft.

Supplemented by tents, accomodates 18 to 20 workmen.

Stable 16 ft. x 20 ft.

There is ample water power available in close proximity to the property and also good supply of timber for mining and fuel purposes.

5.

A test shipment of about 3 tons was made to the Consolidated Mining & Smelting Co., in March, 1927:-

Value of same was	.15 oz	Gold
	65.00 ozs	Silver
	47.6%	Lead
	6.7%	Zinc

At same time a shipment of about 1½ tons of lower grade ore was also sent to the Smelter:-

Value of same was	.10 oz	Gold
	43.00 ozs	Silver
	20.2%	Lead
	3.6%	Zinc.

September, 1927.

- (a) 0.046 grams per normal cubic metre from operations involving blast furnaces, cupolas or reverberatory furnaces, or
- (b) 0.023 grams per normal cubic metre from operations involving holding furnaces, kettle furnaces or lead oxide production units or involving scrap and material handling, crushing, furnace tapping, slagging, cleaning or casting.

Lead particulate matter must not exceed 63 per cent by weight the particulate matter emission levels in (a) and (b).

The Canadian and U.S. prices remained unchanged during the month, at 24.25 cents a pound and 24.5 to 25.0 cents a pound respectively. The LME price declined 0.3 cents to 21.5 cents a pound (Cdn.) during the month. Stocks of refined lead in LME warehouses declined 6,975 tonnes during the month to 75,000 tons on August 27.

### Nickel

Falconbridge Nickel Mines Limited announced that it would resume work on two major capital spending programs that were halted last November when Falconbridge cut back production by 30 per cent and announced a reduction of \$40-\$50 million in capital spending. The company will resume construction of a \$95 million smelter environmental improvement program at Sudbury on which about \$30 million had been spent. It will also resume the sinking of the Fraser shaft on the north rim of the Sudbury basin which was 84 per cent complete when work was halted. The company also stated that it hopes to announce a step up in production in the near future if the U.S., European and Japanese economic recoveries continue.

### RUTH-VERMONT

### Silver

About mid-June 1976, operations were resumed at the Ruth-Vermont silver-lead-zinc mine of Consolidated Columbia River Mines Ltd. near Golden, British Columbia. The mine had been closed down since January 1974. The 500-ton-a-day concentrator began operating at a rate of 150 short tons of ore a day and is currently up to a rate of 300 tons a day. Proven ore reserves are reported to be 242,500 tons averaging 4.66 troy ounces of silver a ton, 3.76 per cent lead and 5.52 per cent zinc. Probable ore reserves are reported to be 350,000 tons grading 3.73 ounces of silver a ton, 2.70 per cent lead and 3.26 per cent zinc. In addition, there are 450,000 tons of possible ore. The company plans to continue operations at least to the end of this year. Production would be discontinued during the winter months and resumed when weather permits in the spring of 1977.

82K/15W  
82K/NE-9

3" thin of vein Swall 50/85N, below this by later movement 2, 42NE & 70NE

up to 8" bedded of vein + pyrit in FW is Uuggy lens? up to 1' thick of pyrit + sphal 111/50S

2-1" veins 105/55S 114/50S

Replacement zone with rocks has been first fractured on 110/60 70S & sulphides have replaced along these fractures - subsequent cleavage.

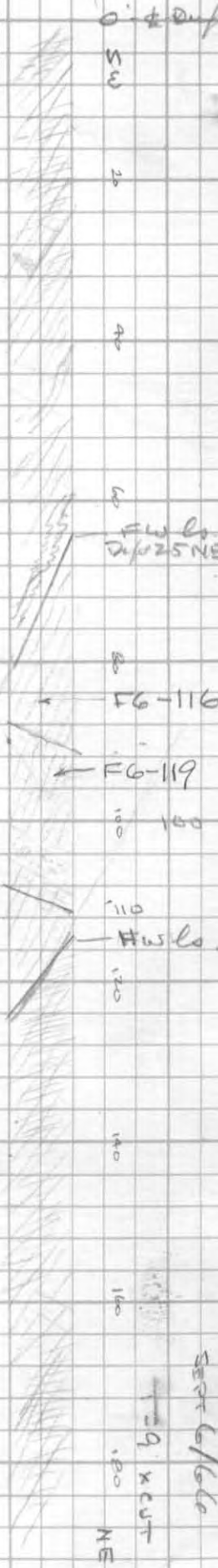
100/55 Very abrupt beginning of replacement  
fine grained pyrit coarser sphal + galena  
1st cut out by sphal + galena in fractures later also  
on beds outlin folds Day on SE wall, plunges 10° SE

24' of massive coarse sulphide minor quartz  
not deformed. Margin is boundary 115/105S.  
fairly sharp margin to replacement zone 170/70S.  
Sp. FG-119 from S wall showing folded + mineralized ls near by grade section

105/60S several small myel fractures

110/60S 2-3" myel fracture

XC 200' to Core SE at 220' from 0 is  
+ 10' of syndine in strike to SE is, 130/60SW  
+ also drift a small vertical airtight outcrop



110' Ag PL 2m  
7.4, 4.74 6.16 in this Dec



At any stony change in trough heavy faulting  
 B. 135/2 in drift leads roll in steep SW dip  
 5th st. 35 pe from face in 2nd st. back from face showing  
 small? A/E? - gently NE dipping leads 35/10 SE 145/50 NE



Insect st. 3rd from face N, 30/8 SE.  
 4th st. at drift N, 125/65 SW. and from here back  
 to E dips are steep SW and drift comes with  
 leads

Old part of adit trough of syncline is 25-30' SW of  
 first curve in from portal. in mineralized limestone.  
 High grade x c 5 E wall 8-10' up dip of leads  
 of C. collect sp FG-118 showing pyrite on fracture  
 crossing led

FG-119 of "unmineralized" ls from N wall @ 90-95' from  
 drift  
 FG-120 from same area showing folds.

Sept 6/66

at main cliff (W of vein 40/75 NE)  
Pyritic also sphal or galena

100/585

115/705 up to 2" fracture good sulphide  
110/625 fewer vein than to E

110/600W } up to 3' of + sulphide fractures  
115/650W }

125/685W Orz veins + sulphide but some  
120/605-115/40 lo dipping ones just coarse sulphide  
in slab

30' up of vein in bedding scattered & platent up to 6" thick  
115/5-5) Orz pyritic sphal gal veins in slate  
105/475 } up to 3" thick

Bedding slate authically pyrit

Slip plane part of a sulphide 11th vein  
up to 3" Very good vein lenses and  
down dip. myd vein of platent and platent 3, F6-115  
None of filled 2" fractures in lo than in  
FW slate

direction of galena & sphal up to 6" out from  
1/2" veins to into 2" white line layers my. Ve. to 120/705  
white line layers rather folio B, 130/2

130/6750 2" of mentit pyritic schwee  
Small folds both walls XC B, 130/5 AH, 130/80NE

120/6550 125/6050 1/2" lenticular of mentit + sphal + gal.

HW lo. 48' prof

d. dip 370° NE

d. 140/50 NE R, 135/90

210' Dyft to Face XC

Sept 16/60

Face

Rail

Rock

NE

T-C X-CUT

