INTERIM REPORT ON FLORENCE MINE

862050

1. LOCATION

The property is situated in the Ainsworth Mining Division, West Kootenay District, B.C., on the west shore of Kootenay Lake, 2 miles north of the town of Ainsworth, and 12 miles south of the town of Kaslo.

2. TRANSPORTATION

Daily C.P.R. Boat freight and passenger service to mine wharf. Roads connecting with Kaslo and Ainsworth. Government road from Ainsworth to Nelson now building. Roads or trails on property to all important workings.

3. ELEVATION AND CLIMATE

The elevations on the property range from 1780 ft. at Kootenay Lake, to 3260 ft. at highest workings.

The lake never freezes and the mild winter permits work during the entire year.

The snowfall varies from 18 inches at the lake to four feet at the highest workings.

4. TOPOGRAPHY

The ground on the property rises from the lake in a series of benches, having steep eastern slope and gentle western slope, conforming closely to the geology.

5. NEIGHBOURING PROPERTIES

The "Bluebell", 2 miles directly across the lake, has a long record of production of silver-lead and more recently of zinc, and is at present working. Its lowest workings are 600 ft. below the lake level, in limestone.

The "Highland", on the west shore, three-quarters of a mile south of the Florence, has recently beenre-opened by the owners, the Consolidated Mining and Smelting Co. of Canada, and is now shipping ore to Trail. Its ore horizon appears to be the same as the westerly or quartzite ore horizon of the Florence.

The "United" and other silver properties in the hills 2 or 3 miles to the southwest are now working on a small scale.

6. CLAIMS

The property consists of the following claims:

Hope Fraction	James R. Frac.	Skylark
Twin	Mountain Cougar	Laura M.
Fergus (ex.lateral rights)	Florence Silver	U.T.K. Fraction

Total Area: 328 acres.

The Illinois claim, 650 ft. wide, forms a wedge into the property, separating the Skylark & Florence Silver, claims from the claims to the west. No ore has ever been found on the Illinois claim and it is not regarded as am important ore area.

The portal and mine buildings of No.5 tunnel, Florence, are on the Illinois claim, on which surface rights in perpetuity have been secured.

7. OWNERSHIP AND FINANCIAL

The claims are all Crown-granted, and the title is vested in the Florence Silver-Lead Mining Company (F.R. Wolfle, Manager), Hutton Building, Spokane, Washington.

The original owners, (the Florence Silver Mining Company) recently underwent a receivership.

There is now a mortgage of $125,000 against the property, supposed to held by former optionees. Some minor claims may exist against the property, the present status of which will have to be determined.

8. TERMS

The terms on which the property is offered to your company are stated in option agreement dated October 19,1925.

The following are the principal clauses:

(a) Total Purchase Price, $800,000.
(b) $50,000 Cash on taking up of option.
(c) Balance of $750,000 payable from 40% of the Net Smelter Returns, as received.

9. HISTORY AND PRODUCTION

The property made a small production of ore in 1912 and 1913.

The main production period was from 1916 to 1920, inclusive.

Since 1920, production has been intermittent and rather small.

Government reports show that the property had no continuous operation, due to labour and power shortage, and closing of the Trail smelter due to strike (Nov.1917- April, 1918)

The shut-down in 1920 was due to low metal markets.

For a short time during 1923 the property was under option to a Detroit syndicate.

Main production 1921 to 1924 came from leasing operations.

A table of production, compiled from Smelter Returns, is given on Page 3.

TABLE OF PRODUCTION

	ORE			CONCENTRATES			TOTAL	
YEAR	TONS	$ GROSS	$ NET	TONS	$ GROSS	$ NET	$ GROSS	$ NET
1912	39.86	1898.55	1359.27	None			1898.55	1359.27
1913	38.17	711.92	330.60	None			711.92	330.60
1916	523.87	29343.74	21674.09	283.73	12015.51	8470.94	41359.25	30,145.03
1917	848.87	80852.08	65578.31	None	71,562.91		80852.08	65578.31
1918	1217.91	112030.57	70673.18	784.04	71,562.91	61,044.60	183593.48	131,717.78
1919	52.63	2897.56	1795.65	1934.55	134,376.00	92,728.73	136273.56	94,524.38
1920	162.61	11954.94	9076.04	1074.74	97,953.78	76,066.58	109908.72	85,142.62
1921	108.09	4588.68	2393.91	87.31	4,254.03	2,681.05	8842.71	5,074.96
1922	205.76	11569.64	8131.71	181.55	6,241.33	4,633.98	17810.97	12,765.69
1923	137.16	7171.93	4201.77	532.37	40,654.01	30,290.39	47825.94	34,492.16
1924	3.981	264.65	209.97	53.84	3,371.71	2,608.24	3636.36	2,818.21
1925	None			50.34	3,918.53	3165.92	3918.53	3,165.92
TOTALS:	3338.91	263284.26	185424.50	4982.47	374,347.81	281,690.43	637631.07	467114.93

NOTE: $ NET means Net Value after Smelter Charges and Freight are deducted.

AVERAGE VALUES
Per Ton

	ORE	CONCENTRATES
Gross	$78.82	$75.14
Net	$55.53	$56.54

10. GEOLOGY

Country rock of the claims: Series of metamorphosed sediments, now consisting of mica schist, hornblende schist, crystalline limestone, and quartzite.

Two and one-half miles to the west of the lake shore these sediments are intruded by the Nelson granite batholith.

The age of the sediments, according to Schofield, is Upper Paleozoic.

Strike: North and South.
Dip: 40 deg.W.

Going west towards the granite batholith, the silver values tend to increase and the lead values to diminish.

During the present examination, an intrusive sill or sheet of porphyritic granite was found in No.2 tunnel, South vein, on the Florence.

11. ORE OCCURRENCES

The ore-bearing series on the Florence is the Josephine formation, consisting of limestones, quartzites, mica schists, and hornblende schists.

These rocks are cut by a series of fissures striking east and west, approx., and dipping from 45 deg. to 65 deg. south.

The dip of the fissures seems to be steeper in the upper part of the series and flatter in the lower part.

There is no perceptible displacement of the beds by the fissures.

Of these fissures the two main ore-carriers are known as the North and South Fissures, and are about 850 feet apart.

They carry ore at two horizons:

(a) Where they intersect two limestone bands close together,

(b) At and beyond their intersection with the quartzite band 1000 ft. to the west.

This latter ore horizon corresponds to that on the Highland Mine, 3/4 mile to the south.

Up to the present, the eastern or limestone horizon has been the more important one on the Florence.

MAIN, OR NORTH, FISSURE LIMESTONE

This is the ore zone from which practically all the production has so far been obtained.

The ore-shoot occurs at the intersection with two limestone bands from 6 to 8 feet wide and 45 feet apart, and extends from the eastern boundary of the east band for a distance of several hundred feet to the west. 400'

The ore-shoot has been opened up by two levels (Nos. 5 & 2) approx. 320 ft. apart on the dip.

On the upper level (No.2) the ore shows a length of ft., and on the lower level (No.5) a length of ft. Thw width is unknown, but is said to average 8 feet.

The orebodies are said to have a rake of 45 deg. to the west with the formation, but there is little evidence of this in the stope plans.

LIMESTONE REPLACEMENT ORE

In addition to the above there are two replacement bodies which occur along the strike of the limestones, both north and south of their intersection with the main fissure.

At the only place where workings on this ore could be entered, which was on the south replacement body, east limestone band, No.4 sub-level, the ore showed a width of 10'to 12; and appeared to have been stoped for a distance of 40 or 50 feet.

According to Schofield (1920), this replacement ore is continuous from surface to No.5, or approx. 500 ft. on the dip.

BLIND FISSURE, LIMESTONE

This is a parallel fissure to the main fissure, and lies about 75 feet to the south.

The limestone shoot is said to have a length of 300 feet, but it is only partially developed, and could only be seen for a length of 40 feet. Plans on this fissure show a stope above No.5, 84 feet high and 72 feet long. This orebody is probably 5 or 6 feet wide, as observed in the drift.

A crosscut south from No.2 tunnel (320 above on dip) showed this fissure to be barren at that point.

Strictly speaking, this so-called blind fissure is not blind, as it shows on the surface with a little mineral, but has not been worked.

MAIN FISSURE, QUARTZITE HORIZON

At the extreme western end of No. 2 tunnel, main fissure, approx. 1000 ft. west of the limestone shoot, some ore is said to have been encountered in the last few rounds. Some of this material was seen on the dump and is of good quality.

However, a heavy flow of water came into the workings at this point in 1923, causing the abandonment and subsequent caving of the heading, which is now inaccessible.

A new heading has been run to the north for approx. 75 ft., but is not yet back on the main fissure.

SURFACE SHOWINGS; MAIN FISSURE, QUARTZITE HORIZON

At one of the highest points on the property, elevation 3260 ft., and 1200 ft. west of the surface workings on

the limestone shoot, is a strong surface break in the schists to the west of the quartzite. At this point there appear to be four small parallel fissures carrying lenses of ore, within a width of 140 feet.

The best showing is in the farthest north of these fissures, where for a length of 43 feet incomplete assay returns show 14.0 % lead and 5.7 oz. silver, over width 9".

Three samples on the second fissure from the north show as follows: 15.1% Pb, 12.4 oz. Ag, 7.9% Zn: Width 11".
(2) 2.5% Pb, 58.1 oz. Ag, 1.8% Zn: Width 22".
(3) 49.8% Pb, 56.8 oz. Ag, 7.2% Zn: Width 4".

A tunnel on the next fissure south, from incomplete returns shows the following values over a sampling length of 46 feet and width of 7":

Pb, 19.9%, Ag, 15.5 oz., Zn, ?

Three assays on the most southerly fissure show as follows over a width of 13": and length of 15 ft.

Pb, 12.6%, Ag, 6.8 oz. Zn, 17.0%.

It should be noted that the a small tonnage of the best ore on the third fissure above has been mined by leasers.

This ore zone is the one that would be driven for in No. 2 main tunnel.

UPPER SHOWINGS, MAIN FISSURE, LIMESTONE HORIZON

An old tunnel on the west side of the limestone belt, main fissure, shows ore for about fifty feet. This tunnel enters the hill just south of the old caved stope at the surface of the limestone shoot. The fissured area here is stated to be about 20 feet wide, mainly making ore on the footwall and sometimes on the Hanging. The ore in the old stope was on the footwall, whereas that in this tunnel is on the hanging wall.

This ore has been sampled, but the grade is not yet known. It is stated to run between 5 and 8 per cent lead. The samples taken had an average width of 38", including in several places a 9-inch streak of apparent shipping grade.

This fifty feet of ore, together with a good ore showing seen at the top of a raise from No.2, 100 ft. to the west, roughly indicates a block of virgin ground 150 ft. by 150 ft. above this tunnel. This ore could be made available by connecting with the raise above mentioned (which is in good condition) by way of the old stope, and drawn through this raise to No.2; thence to No.5.

FISSURE 80 FEET NORTH OF MAIN LIMESTONE SHOOT

A short distance up the hill from the west end of the old caved stope, No.1 tunnel is driven into the hill for 650 ft. It shows two lenses respectively of 32 ft. long and 20 inches wide, and 42 ft. long and 28 inches wide, of an apparent fair grade of ore. No stoping has been done.

SOUTH FISSURE,LIMESTONE

The surface indications of this fissure are less prominent than those of the north. A small production of shipping ore has been made from shallow workings a short distance to the west of the prominent depression which probably marks the limestone band, but the major part of this area is entirely virgin. A few inches of fair grade galena is seen in place about 275 feet west of the bottom of this depression. The strike of the depression which probably marks the fissure itself is N.72 W., and the dip 45 deg.S. The showing is in the schist to the west of the limestone.

SOUTH FISSURE, QUARTZITE HORIZON

An open cut was run on the surface showing of this horizon at an elevation of 3300 ft. Here it showed an iron cap. One hundred feet below this No.1 tunnel was driven in 256 feet. It shows two small lenses of good grade ore, 23 ft. long and 2 1/2 ft. wide, and 10 ft. long and 15" wide, respectively.

212 ft. below this, No.2 tunnel was driven in 503 ft., in barren ground. Near the face, a raise connects with No.1, above. Ore comes into this raise from 36 ft. to about 88 ft. above the back of the drift. This ore appears to be of good grade, with shipping streaks 4" to 5" wide. The width of the whole is 2.4 ft.

Above 88 ft. there are only occasional patches of ore.

Since the orebodies on the Florence are said to rake to the west, this ore is expected to come into No.2 tunnel 35 feet from the foot of the raise.

In addition to the above there is a good north and south surface showing near No.2, having a width of 3.4 ft., and a grade of 12.6% Pb, 11.1 oz.Ag, 8.4% Zn. Length unknown. It was observed here that vein matter showing very little galena ran 9.6% Pb, indicating probable carbonate ore.

A wide oxidized zone in No.2 tunnel, near the portal and near the contact of a small intrusive body of porphyritic granite, probably corresponds to the above. It is said to show low lead values.

FERGUS FISSURE

This is apparently a small fissure, lying about 650 feet to the north of the main fissure. It shows on the surface in two places:

(a) At an elevation of approx.2850 ft., probably on the east side of the quartzite.

(b) About 250 ft. to the south of the limestone depression.

At the former place there is a tunnel 33 ft.long. It shows oxidized vein matter 2 ft. wide. A general sample ran Pb 1.1%, Ag 0.5 oz., Zn 1.3%.

At the latter place it shows 4 or 5" inches of mixed pyrite and galena in schist.

12. DEVELOPMENT AND CONDITION OF WORKINGS

Development totals about 12,000 feet.
The main development has been on the north fissure.
No. 2 tunnel, at elevation 2499', is about 2100' long.
No. 5 tunnel, at elevation 2270', is 2190' long.
These two levels are connected by two raises, one on either side of the limestone oreshoot.
Intermediate levels Nos. 3 and 4 are driven between the two levels.
Above No. 2 the ore in the limestone shoot and the limestone replacement bodies has been practically all stoped out to the surface, with the one exception of the block mentioned under "Upper Showings", page 6.
On No.5 level stopes are said to have been carried up from 40 to 60 feet in the limestone, main fissure, and some stoping has been done from intermediate levels Nos. 3 and 4.
Also on the "Blind Fissure" a stope has been carried up from No.5, 84 ft. high, and 72 ft. long.
All the stoped and partly stoped areas are badly caved and quite inaccessible to examination.
x The ground in the limestone shoots is heavy and will always require support.
The ground in the schists and quartzites, on the other hand, stands up well.

13. GRADE OF ORE

On account of the condition of the mine, it was impossible to determine the grade of the main ore-shoot.
The records and all information available, however, indicate a probable value of Pb, 8%, Ag, 2.5 oz., Zn, 7%.
Our sampling on the quartzite horizon shows a higher silver ratio, ranging between 0.5 and 1.0 oz. silver per unit of lead.

14. POSSIBLE TONNAGE

The property appears to promise a daily mill tonnage not in excess of 150 tons, of which the major portion will most probably come from the limestone shoots.
There is also a possibility of a limited tonnage of shipping ore, the ratio of concentrates to shipping ore in the past being as 3 to 2. This past ratio of concentrates to shipping ore would not prevail under regular milling operations, but would be considerably ~~dim~~ increased.

15. DUMPS

At No.1 tunnel, south vein, there is a dump of 1000 tons of material assaying Pb, Ag, Zn,
400 tons of the higher grade portion of this dump

assay Pb, Ag, Zn,

MILL TAILINGS DUMP

This dump is on the beach below the mill. It contains all the tailings from milling operations on the Florence. Since the total tonnage of ore mined is said to have been 80,000 tons, the tonnage of tailings on the dump should be, from page 3, about 70,000 tons. While there has been some sorting and transporting action by the lake waters, the major portion of this tonnage should be recoverable. Measurements taken above the present lake level show an estimated tonnage of 15000 tons.

This dump has been carefully sampled to an average depth of 4 1/2 feet by means of pits and by driving pipe. Assay results show: Pb Ag Zn

Since the object in previous milling has been to make a zinc-free concentrate, this dump should run somewhat higher in zinc than the original ore.

There may be some advantage in screening this material plus and minus one-half inch, as the coarser sizes may be of little value. Tests are now being made to establish this point.

There is a small higher grade section at either end of the dump, containing considerable concentrates, which have been sampled separately.

There are also about 360 tons, dry weight, of slimes in the mill basement, which material is said to contain 20% lead, with corresponding silver and zinc.
Assays: Pb Ag Zn

The mill rests on concrete piers on solid rock; therefore the removal of this material would not endanger the mill.

These tailings and slimes are readily available and with the present zinc and lead markets they are an asset of very considerable importance. It is probable that they would stand shipping as they are to the mill and smelter at Trail. Other properties are now doing this.

The milling charge at Trail is $3.00 per ton.
Freight charges: $1.40 on $10.00 material, $1.50 on $15.00, $1.60 on $20.00, $1.70 on $25.00, and $2.10 on $30.00.

Extraction in the mill at Trail: No guarantee.
Present results: Pb, and Ag, 85% to 90%, Zn, 75% to 80%.

16. DISPOSAL OF ORE AND CONCENTRATES

The Trail Smelter is prepared to treat all available ore and concentrates.

17. EQUIPMENT

The equipment is substantially as shown in the report of D.W. Shanks, with the following modifications:

MINE

Before resumption of work on any considerable scale, entire equipment would have to be overhauled by an expert mechanic. Repairs to drills would be necessary, and possibly some new drills.

A hoist, cable, and bucket are available for any contemplated sinking, also two sinking pumps of fair capacity.

MILL

The mill was designed for recovery of silver and lead only. In the past it has handled from 75 to 100 tons of ore per day.

To permit the recovery of zinc, which is highly desirable under present conditions, and to raise the capacity to 150 tons per day, additional equipment would be necessary, which might be a sfollows:

One 6 X 6 Ball Mill
One more Dorr Thickener
An additional flotation unit
Dorr classifier
Filter

Also motors to operate these.

The filter and thickener to be used for de-watering concentrates.

The practice at Trail and Kimberley is to grind 70 per cent minus 200 mesh, and separate by flotation only. It might be desirable to bring the Florence mill more into line with this practice.

The present crushing and bin capacity is sufficient for all purposes.

The mill building appears to be in good condition. Some small additions to it might be necessary.

POWER PLANT

Both intercooler heads on the large compressor are cracked. These may be welded for temporary use, but eventually would have to be replaced. The compressor is of an old type, and parts for it are not readily obtainable.

The 6-inch pipe line to the head of the shaft on the limestone shoot needs only minor repairs. From this point a 2-1/2 inch pipe line has now been laid over the surface to the portal of No.2; thence along No.2 tunnel. This replaces the old line going down the caved shaft.

A 2-inch pipe in fair condition is already laid to No.2 tunnel, on the south fissure.

The compressor flume needs some overhauling, while a small expenditure ~~at the~~ for damming at the head of this flume would save a large proportion of the water now going to waste.

A suggestion for future use in case the Nelson power scheme is proceeded with, is to re-wind the generator in the power-house as a motor, for emergency use in running the compressor when water supply fails.

AERIAL TRAM

The aerial tram from No.5 to the mill is of heavy construction, but probably needs some overhauling.

ASSAY PLANT

This plant consists of a 9" X 16" gasoline muffle furnace, with spare muffle, and supply of crucibles and scorifying dishes, also chemical laboratory. The chemicals should be largely replaced.

There are two Ainsworth balances, a button and a chemical.

CAMP AND SURFACE

The main bunkhouse at No.5 will accommodate 56 men. This and other buildings on the property will accommodate all the men required for the present.

18. POWER

Water power on Woodbury Creek is unreliable and is not recommended for future operation. The power contract with the City of Nelson appears to be a most advantageous one with regard to power rates ($22.00 per H.P.).

As there is $15,000 now on deposit with the City of Nelson as advance charges for power, there would be no payments for power, aside from building the line, until such time as this sum was expended.

The cost of building the power line is estimated at $25,000. The City Engineer of Nelson, who built the present line from Nelson to Balfour, is said to have made a tender to the Florence Company of $26,000 for completing the line, that being before the clearing of the present right of way for the Government road from Balfour to Ainsworth.

Also, the United Mining Company, now operating on the hill, about 3 miles south-west of the Florence, is said to have offered to build this line to the Florence, if given the rights to half the power. Their present power (steam) is said to be costing $230.00 per horse-power.

The present contract calls for 600 H.P. immediately and 600 more after reasonable notice. The present surplus of Nelson is said to be 800 H.P.

It is pointed out that any surplus of power at the mine could be readily disposed of locally at $50 per horsepower, and that the cost of the power line could thus be quickly amortized.

In view of the above we would advise very careful consideration of our future power needs before alienating any of the power rights.

A perusal of the Government reports shows that lack of power has hampered this mine in every year of its operation.

19. ESTIMATED PROFITS ON ORE

19. ESTIMATED PROFITS ON ORE

The following table shows estimated value of ore and estimated profits on same.

All calculations are based on the following assumed factors:

GRADE OF MILLHEADS: Pb 8%, Zn 7%, Ag 2.5 oz.
RECOVERY OF LEAD, 85%, OF ZINC, 70%, OF SILVER, 85%.
MARKET PRICE: Lead, 9 cents, Zn, 8c. Ag, 65 cents.
SMELTER CHARGES AND DEDUCTIONS: As per present Schedules.
Note: The higher rate for treatment of zinc concentrates has been allowed, although there is a rate reduction of $1.00 per ton for zinc flotation concentrates.
FREIGHT RATES: Lead Concentrates, $3.60 per ton.
Zinc " " $3.40 per ton.
RATIO OF CONCENTRATION: One ton lead concentrates and one ton zinc concentrates from ten tons of ore.

RECOVERY PER TON OF ORE

Lead	$12.24
Zinc	7.84
Silver	1.37
TOTAL	$21.45

FROM 10 TONS OF ORE

Lead	1360 lb.
Zinc	980 lb.
Silver	21.3 oz.

CHARGES AND DEDUCTIONS

(Based on 2 tons of concentrates from 10 tons of ore)

161 lb. lead at 9 cents	14.49 deduction
	14.98 refining, lead.
	8.00 base rate, lead
	.60 Zn penalty, 3 units
	2.00 Sulphur (maximum)
	.70 Silver (5%)
	3.60 Freight (max.)
	44.37
	6.50 Zinc Base Rate
	12.54 Zinc Deduction
	3.40 Zinc Freight
Total on 10 tons ore	$66.81

or $6.68 per ton ore.

NOTE: In this calculation no allowance has been made for bounties on silica and lime; although silica and lime in the concentrates would be from 5 to 10 %, at 7 cents per unit.

$21.45
6.68

$14.77 equals Net Smelter Returns Per Ton of Ore.

Net Smelter Returns Per Ton of Ore	$14.77
Less 40% Royalties	5.91
	8.86
Less Mining and Milling, per ton	4.86
Net Profit Per Ton of Ore	$4.00

At 150 tons per day for 350 days per year equals $210,000 Net Profit Per Year.

The mining taxes in B.C. are two per cent of the Net Smelter Returns, or ten per cent of the Net Profits, whichever is the greater.

20. NECESSARY EXPENDITURES

Under the proposed scheme the following expenditures would be necessary:

1. Cash Payment	$50,000
2. Mill Enlargement	25,000
3. Power Line	25,000
4. Initial Development Program	25,000
	$125,000

The main items in the Initial Development Program mentioned above would be as follows:

100 ft. shaft (below No.5)	$4,000
130 ft. crosscutting at $15	1,950
200 ft. drifting at $12 (100 ft. on main ore zone) (100 ft. on blind fissure)	2,400
3 drills at $400	1,200
Hose, 3 machines	200
2500 ft. 4" pipe at 95c	2,400
450 ft. 2" pipe at 30c	135
Labour, pipe	300
Steel	150
Rails	100
Repairs to 3 old drills	200
TOTAL	$13035.00

This proposed program concentrates all initial development on the main ore zone. The program is elastic and could be modified or extended as events warranted.

Minimum Time required for above program: 3 Months.

21. SUMMARY AND CONCLUSIONS

1. The location, and climatic and transportation conditions are favourable, particularly the latter, since the property occupies a shipping point on Kootenay Lake.

2. The topography is advantageous, as it allows development at present and for some considerable time in the future by tunneling.

3. The acreage of the property appears to be adequate to protect its showings.

4. Although the production has not been great in the past, the records show that the property has been hampered by labour and power shortage.

5. The geological conditions are favourable.

6. With regard to estimates of ore, owing to the caved condition of stopes and drifts in the developed area, no estimate of positive or probable ore could be made.

In spite of this fact, however, the property has numerous ore occurrences, on at least two of which the possibilities are exceedingly good.

There are two main veins on the property, known as the North, and South, Fissures, approximately 850 feet apart.

Each of these veins cuts two ore horizons, known as the "limestone" and "quartzite" horizons, which are approximately 1,000 feet apart.

Of the two ore horizons the limestone one appears to be the better, and of the two veins the north one appears to be the stronger. On this vein the limestone shoot has been developed from the surface to a depth of about 500 feet on the dip. Ore can be seen in isolated places in No.5, the lowest working, and there is little doubt that it goes deeper.

In this zone there are also supplementary ore occurrences, such as the replacement bodies and the "Blind Fissure", which should also carry ore below the present lowest workings.

Apart from some shallow workings, which have produced a small tonnage of shipping ore, the limestone shoot on the south fissure has not been developed. We consider this area very promising for future exploration.

The quartzite orebodies on both fissures have been only slightly developed. While they carry a higher ratio of silver to lead than the limestone shoots (0.5 to 1.0 oz. to the unit of lead, against 0.3 oz. in the limestone), they are also narrower and more lenticular than the limestone

shoots, and from present indications they appear of less economic importance.

In addition to the above there are three other known veins which show indications of ore:

1. Fissure 80 feet north of main limestone shoot.
2. Fergus fissure, 650 ft. north, which is known to cross both the limestone and quartzite.
3. North and south contact vein, just south of south quartzite zone.

There is undoubtedly some tonnage of ore remaining in the limestone shoot between No.5 and No.2, which may be in part recoverable in future operations.

There is probably some ore remaining in the Blind Fissure above No. 5, which cannot now be seen, but which could be made available.

Other places where ore could probably be made available are:

(a) No. 2 tunnel, south vein, quartzite horizon.
(b) No. 2 " North " " "
(c) Block of possible ore remaining in the schist at the west end of main limestone shoot, near the surface. This block has been sampled over alength of 50 feet and a width of 3.2 ft. The probable dimensions of the block are 150 ft. X 150 ft.

7. From our examination, the property appears to be a milling proposition, with an indicated average grade of ore of Pb 8%, Zn 7%, Ag 2.5 oz., and a possible small production of shipping ore.

8. The mill tailings dump shows, from rough measurements, a positive tonnage of 15,000 tons dump material, which could probably be handled at a good profit. This tonnage is above the present lake level and would very likely be augmented by material not now in sight.

9. Exploration by diamond drilling on the limestone zone, south fissure and Fergus fissure, would be desirable in the future.

10. From the above facts, the property would appear to justify a daily mill tonnage of 150 tons. Its successful operation depends upon the continuance of favourable market conditions.

With this view we desire to recommend the property as one that with adequate development would make a profitable mine.

11. However, as the property has now no available ore, it would seem to us eminently desirable that sufficient time be obtained before making a cash payment, say three months, to prove the downward continuation of the main limestone ore shoot.

22. RECOMMENDATIONS

We recommend that the Initial Development Program as outlined under paraagraph 20 (Nesessary Expenditures) be carried out, at a cost of approximately Fifteen Thousand Dollars, and that a Working Option of Three Months be obtained for that purpose before making the first Cash Payment.

However, should at any time during this three months period sufficient evidence be obtained to prove the downward continuation of the main ore shoot, we would recommend the immediate taking up of the option on its original terms, in order to proceed with the construction of the power line, the re-organization of the mill, and other steps toward production.

J. A. Reid

V. A. James

Princess Creek, B.C.,
November 19, 1925.

1918. 10,000' of underground workings.
2,000 plus tons of concentrate shipped to Trail.
1½ cent dividend.
2,500,000 lbs. of leadl
Shipments, 2,402 tons, equal. $232,456.07
Conc. equals 2,118
Shipping ore equals 284 tons.
Tonnage mined, 24,775, largely development
orebodies larger at end of year than at beginning.

1919. Output 2,000,000 lbs. lead.
Heavy wet ground and much timber,
For 5 months, 100 tons a day to mule.

1920. Output 1,500,000 lbs. lead - 45 men.
16,900 tons - conc. 1,173 - dry ore 132.5 tons.
= 18,695 oz. Ag. - & 1,518,083 lb. lead, = $95,000.00

1921. Large bodies developed, but low in silver,
small tonnage of high grade shipped by lessors
to Trail.

1922. Output 420,000 lbs.
Wide showings of milling ore #4 and 5 levels.

1923. Supposed to be under option to Detroit people
not completed. Nelson built power line to Balfour.

R. W. Lloyd & leasors working No. 5 level.
150' high - 40' long, vein 3 to 14' wide.

1924. Minor leasing operations only,
655 tons mined.