NAME .... SILVER GIANT

SUBJECT .... REPORTS

82K/16W
82K/NE-18

NOTES ON THE GIANT VEIN DEVELOPMENTS. // Tunnel, with Assays.

These notes are more particularly, in connection with the physical

conditions on the #6 Tunnel, which is vertically below the level of

#5 Tunnel 108' at their respective entrances.

The vein is contained between two slate belts, and its strike on the

Hanging wall is N 45.43'W, and its dip on the average 53 degrees

to the S.W. Attention however is called to the reverse dip, on the

East side of the tunnel, and at the contact with the slates, at which

point the latter dip 88 degrees to the N.E, meeting the dip of the

vein, at a point 3 feet vertically above the floor, and apparently

at this place, proving to be the master dip. I will take up this

matter later on. The slates are blocky and different to those on the

Footwall, the latter being the dog-tooth black slates, and between these

and the main ore-body, there is 12 feet of the same blocky slate,

and I am inclined to believe that the Fissure - the nearest one shown

on the map is probably the real Footwall.. The strike of the slates

on the Hanging wall is N 79.17E, and their dip 72 degrees SE. The vein

then cuts the slates at an obtuse angle of 55 degrees horizontally,

and 19 degrees vertically. Whether it cuts through the enclosing slates

below the present level, has yet to be proved. I am inclined to

believe that the reverse dip has been caused by a local thrust of the

Fault C D shown on the plan attached to these notes.

This Fault is a very large one and is responsible for lots of trouble

but has a great deal to do with the large amount of fissuring,

which I will call attention to later. Just where this fault is seen

in the tunnel, the gouge and crushed material is 30" thick, but

this has increased to 4', at a point 14' N.W., showing it to be a very

large fault.

The course of the slates on the F.W. is different to that of those on

the H.W. being N 76.30W, whi st that of the Fissure mentioned as

being the likely F.W. is N60.43W, which latter is more like that of the

H.W.

VEIN. The general structure appears to be that of a fissured mineral

zone, as along its width we find several well defined Fissures, one

of which appears to have the merit of having more to do with the

mineral occurrences than any of the others. I will first mention
the positions of these fissures, so as to have some record of them,
for future use probably.

The first one is that which forms the Hanging wall. This is a distinct
fissure, cutting the slates as it does.

The second fissure, is the water fissure, 30 feet in, from the
H.W. When struck a flood of water broke loose, and has been running ever
since. It also dislocated the source of supply for the Power house,
since this had been taken from the #5 tunnel level, but which now
vanished, showing some underground connection between the two tunnels,
in the vein system, and along which the water had been running.
Work had to be stopped and a new source of water found, owing to
this occurrence.

The third Fissure is a flattish one, which starts just where the
East Drift is, and on the right side going in. It dips 46 degrees
to the S.W, but joins the 4th Fissure in the roof, at the point
in the F.W. of the East Drift, so that this latter is driven along
a double line of fissuring.

Fourth Fissure. This strikes a general course of SE and dips 75
degrees to the S.W. Its course is rather winding however, but
nevertheless it is a very strong one. Between the two fissures
is crushed slate, gouge and some ore, and we get some good
Bornite ore, in stringers, with no commercial ore in quantity.
The width between these two fissures is only 7 feet measured along
the foot of the crosscut, but as mentioned, they unite in the roof.
The fifth Fissure is the one I think may be the F.W, as next to
it, the blocky slates are in strong evidence. for 12 feet, and as on the
H.W. we have the same character of blocky slate, I think that perhaps
I may be justified in calling this fissure the Footwall.

I do not often quote matter from test books, but happening to have one
with me, I find such a good description of such a vein as is here, that
I venture to quote same. The book is called "Pocket Manual of Mining"
by Messrs. Chewett and Canniff, see page 4 under Geology. 1897 Issue.

> "Many deposits show evidence of being a series of parallel
> "fissures close together, produced by compression. (crushed
> "zones). The metalliferous fluids are supposed to have flowed
> "along these fissures, attacking the country rock on each side,

"dissolving the rock and replacing it gradually with the metal
"sulphides (this has been termed metasomatic replacement)
"The gold bearing iron and copper sulphides of the Trail Creek
"district give strong indications that they are of this
"character. This will explain the irregular width of many of the
veins, and gradual fading away of the mineral into the country
rock. Veins are often faulted by another fissure cutting across
it and breaking its continuity. In four cases out of five the
"continuation will be found by assuming the narrow based
body has slipped down the faulting plane."

The gangue appears to be Barytes, mostly white as to color, and very
heavy. It is Barium Sulphate and generally speaking the ore occurrences
are associated with this mineral. I note also limestone and quartz
in the vein. The latter is very hard and appears to be an innovation,
as I have not noticed its appearance in such quantity in the Upper
levels. Slate also is associated in the gangue and the principal fissure
mentioned is in this material, which is crushed and has considerable
gouge.

I may also call attention to a feature noticed when sampling viz the
vein structure has ribs of gangue laid in a Northerly direction -
Magnetic North- I have shown this at point C in the tunnel, dipping
65 degrees N.W. The strike of the lenses is similar, also to the strike
of Fault A, which latter has been cut by the workings from the West
Drift. The same ribbed structure is seen in the ore in the West Drift,
and also in the East Drift.

The width of the vein is a variable one depending just where to figure
the Footwall to be. One reason for taking the width as being that
contained between the two slate belts, is that ore has been found in the
right hand corner of the main tunnel at the face, same being contained
between the god-tooth slates and the blocky slates. My opinion is that
ore may be found anywhere, since the low grade mineral zone may
extend further N.E. But for the present vein system, I think the real
Footwall is the line of Fissuring which I have marked as being the
possible footwall, and the ore found beyond is a chance lens.

If we take the two slates belts as being on either wall, the width
between them at the narrowest part is 79 feet, but it will be noticed
that the width increases very fast, the further East one goes.
This width is 82'6 if the fissure mentioned is taken as the footwall,
and it lines up better with the strike of the H.W. than the strike of
the slates do.

I may mention another occurrence, which may have some bearing on
the genesis or birth of the vein viz on the inner side of the H.W is 4 ft.
of whitish rock, which is called a dike locally, then 4 ft of blocky
slate, then 1 ft. similar rock, then 13 ft blocky slate, then Barytes.
The rock however appears to be a siliceous limestone however and may
have no bearing or significance on the vein at all, but it is next the
H.W and I mention same. Another feature is the reverse dip of the
slates on the H.W in one corner, where it is 88 degrees to the N.E.
The vein dips in its correct position to a point about 3 ft vertically
above the floor of the tunnel, when it meets this reverse dip mentioned,
I think however, as noted already, that this results from a local
thrust and that Fault C D is responsible for this, as well as the
fissuring in the vein, and Fault A for the later fissuring forming the
strike of the lenses, and the mineral solutions found entrance by the
fissures, and entered the cracks and breaks formed by the movement of
Fault A.

ORE. This is Galena, Chalcopyrite, Bornite and Iron Pyrite contained
in lenses as shown on the tracing plan, and the length of these lenses
apparently is contained and prescribed as being that between the Water
Fissure and the F.W. Fissure. The importance then of these fissures
being located properly, and being understood, is then evident, and it
is only by observance of such phenomena as these that success in mining
a proposition, such as this, may be achieved, provided the mineral
is of proper grade and value.

There is hardly any ore seen up to a point 51 feet in from the H.W and
although the gangue is favorable to ore, it is not until this point is
reached that ore showed up. Occasionally in this 51 ft distance a little
ore might be seen, but no body.

From the 51' point ore was found in the tunnel, with one break on the right
side, and with two breaks or blanks on the left, as far as the F.W.

DEVELOPMENT. Number 6 Tunnel was driven, until the vein was struck at
942.75 ft, and extended until it reached the black dog tooth slates
at 1048.75 feet. At a point 60 feet from the H.W a drift both East and
West was started and the latter having reached the objective was stopped.
It was driven 40 feet and a crosscut to the N.W driven for 19 feet, when
the downward continuation of the fault found on #5 level, was encountered.

As I had previously surveyed the position of this fault, and calculated
its probable position on #6 level, and got it almost exactly where
figured, it appears as if this fault, is a factor to be reckoned with.
It is unfortunate that it has come just where it is, for it makes the
mine lop-sided, since at present it has only one side, viz the East to
develop. Another bad feature is that it is an expensive business to
undertake to find the vein, to the West of this fault, since it is quite
a gamble. My opinion is that it may be found to the North, and on the
West of the fault, and a diamond drill hope will be the cheapest way to
locate the vein. When found its length on the strike, before it is again
cut off by fault C D, will be only about 75 feet, so that when found
and this short distance developed, diamond drilling will again have to
be done to find it the second time. This is therefore why it is an
expensive business when faults intervene.

On the East side of the tunnel, the vein is followed along the Fissure
and the ore continues for 17' when it cuts out on the right side going
in. The main body of ore stops at 8' however. A fault then appears
cutting out the vein and limestone fills the drift with Barytes on the
left side. The contact between the barytes and the limestone is being
followed at present.

I should state that the ore on the west side cuts out in 7 feet.

SAMPLING AND ASSAYS. The vein was sampled very thoroughly in the follow-
ing manner. Channels 4 inches wide were cut horizontally across the
vein every five feet at two places viz each about 1 to 1.5 ft from the
roof and floor and each sample is from a width of 5 feet, except in two
instances mentioned on the map. Wherever the vein was apparently barren
of values, as in the blocky slates, it was not sampled, but every foot
on each side of the main tunnel, in the vein was sampled. When the samples
were brought to day-light and examined carefully, and little or no ore
seen, they were thrown out. Samples from 50 lbs up were taken by hammer
and moil and brought down by successive quarterings, and then the resultant
sample put through the rock crusher and again brought down until from
1 to 2 lbs were left, and these sent for assay.

The vein up to 51 feet was found to be almost destitute of ore although
isolated appearances of ore, were occasionally seen and their positions

noted, but there was no ore found, up to the point named, that
was worth sampling and assaying, although as stated every foot was
sampled.

East side of main tunnel. From 51' to 76' horizontally or which distance
amounts to 17' at right angles to the dip of the vein, ore was found.
Then a barren distance of 20'6 taken up by Barytes and Blocky Slates.
At 96'6 to 104'6 galena ore was found on the floor of the tunnel,
or in its right hand corner, and to extend up from the floor about 18"
high. This ore is of better grade than the bulk of the samples taken,
but it does not extend to the West side of the tunnel, and if we take the
strike of this lens as being that of the others, then it appears to
have a very short life. Its width appears to be 5 ft at right angles to
the strike of the lens.

West side of main tunnel. Ore was found from 51' to 56', then a space of
10' was found to be almost barren of ore, then ore from 66' to 88'6 making
27'6 in all.

AVERAGE VALUES OF ORE.

In the following calculations I have not figured in the values of
the lens found in the right hand corner of the main crosscut, for it
does not extend to the East Drift, and is certainly bound to be cut off
by the black slates. I have however placed the assays and width of
all samples in the map.

The average width of ore sampled is 26 feet and although this width
is greater than the combined width of the lenses, I have to take it
in order to figure the average values.

This 26 feet represents only 24.4% of the vein taking 79' as its width.
The list of assays seen on the plan, and figured out into their foot
units gives the following averages.

	Ozs silver	% lead	% copper
East side Tunnel. 25'	1.3	5.38	.84
West side tunnel 27.5	0.94	3.08	.54

The two sides then average for a width of 26.25 feet the following

	Ozd silver	% lead	% copper
	1.11	4.17	.68

In these calculations I have not taken into account the three roof
samples, which are lower than the majority of the samples, except

perhaps in copper, but in order to find the copper content over its
apparent width of 6 ft at right angles to the strike of the lenses,
I have used them along with the three samples on each side, and get
the following for the copper and other values.

Ozs silver	% lead	% copper
1.32	1.87	1.

In the width of the larger lens and which is 10 feet only, there
is 6 feet of it assaying these figures.

ESTIMATED TONNAGE.

In order to give an idea of the tonnage probably in sight between the
two tunnels viz #5 and 6, I have figured the following dimensions for
the two lenses taken.

West Lens. Length 20' x 2 ft in width. 100 backs   4000 dubic feet
Central Lens. Length 40' x 10'   do   40000   do

                    Total cubic feet   44000

Since the percentage of galena or rather lead is so small, 10 cubic
feet will be about right to take for a ton of ore and this then results
in there being possible to be mined from these lenses 4,400 tons of
ore.

I have taken 100 feet as the depth for easy figuring, but 94.5 ft
is the correct depth immediately over the present workings, owing
to the sharper grade of #6 tunnel over that of #5. On the other hand
the lenses have a dip which will make the difference about right.

CONCLUSIONS

The grade of the ore is very low as a general thing and much too low
for even successful milling, and unless better grade ore can be found
in quantity by development work, I would be afraid to recommend you
to consider a mill for the present.

The figures of tonnage submitted for the ore found to date, are not
very re-assuring either, and hopes for the future have to be based
on the work being pushed on the East side, where already we have been
in waste for more than 20 feet.

Usually when one drives on ore in a vein, he expects it to continue for
some reasonable distance. Here on the other hand it cuts out almost as
soon as found.

I trust that the findings here will not cause you to discontinue work,
for there is still a chance. Diamond drilling might be of use, but the

holes will have to be intelligently placed in a lens formation of this sort.

The only chance is the mining gamble of finding better grade ore Easterly

Yours faithfully,

"J.L.PARKER"

Mining Engineer.

The Giant Mine,
      Spillimachene B.C.
          November 11 1929.

Report by J.L. Parker
Nov. 11/1929
on Golden Giant Mine

ALEXIS MARTIN
Barrister & Solicitor
227-8 Pemberton Bldg.
Victoria, B.C.

The Giant Mine
Galena Post Office.
September 5th. 1930.

A.B.Trites, Esq.
President Pacific Mines, Ltd.
Vancouver, B.C.

Dear Sir:-   Diamond Drill Hole #22

        In case anyone should be going down in time to catch
the train going in to Golden, I am getting this ready.

        The enclosed sketch shows the position of the Lens at
Drill Hole 14, and its continuance if it kept its route.

        At a point, however, viz. at 271 ft. we got the change
from the slates and at 275 ft. the regular "shut out quartz" and this
AM am down to the 300 ft. point in Drill Hole, ie, drill hole is down
300 ft.

        I think that there is no earthly chance of finding any
ore in this formation but will drill to around 350 ft. so as to give
every chance and may drill deeper, but am afraid the engine will not
stand for it. Anyway the situation is hopeless.

        The line of shut out takes us to where we get it in
D.D. Hole No. 16 and it apexes here - then decends to where we got
it in Hole 17.

                Sectional Elevation
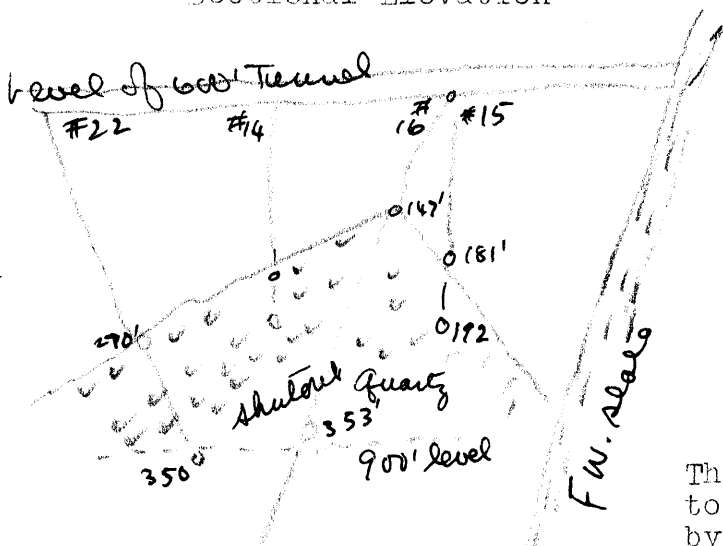
This quartz then apexes as shown
and decends on two sides and shuts
out the ore.
We have tried it so often but only
Holes 14 and 16 penetrated to any
depth.
These are the points in Drill-Holes
where we got the quartz and asthey
were all at steep angles, this will
give you some idea of the relative
depths.

                "J.L.Parker"
_____

The above is a copy of a letter sent
to Mr. Trites just as was written
by me and shows very clearly how
the quartz - the barren quartz-
shuts out the ore formation.
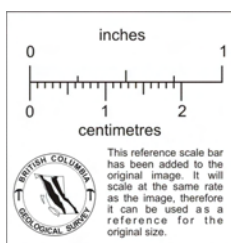
REPORT ON MINING OPERATIONS-GIANT MINE B.C.

Following up my report of November 11th, 1929, the following work has been done since that date.

600 ft Level

Drift East   -   driven 55 feet,
North East Crosscut driven 85 feet.

This gives 35 feet of low grade ore at right angles to the strike.

The following drill stations were made:

Drill Station	#1	16' x 3' x 20' height
"	#2	15' x 15' x 8'
"	#3	10' x 6'
"	#4	10' x 10' x 16' height
"	#5	8' x 8' x 16' "

Diamond Drilling 4101 feet

RESULTS

The ore on the East drift cut out at 8 ft. on the left side going in and 17 ft. on the right hand side, when a fault occurred and the altered limestone came in and continued for the length of the drift. The N.E. crosscut was then started and driven for 85 ft. to the F.W. At 16 ft, the barytes came in and from here to the face we had ore more or less all the way until the turn to the left was made, as shown on the tracing. This length of 45 ft., however, is longer than the true width of the ore, owing to its slanting angle & 35 ft. is its true width. The ore assayed a little less than 4% Lead for this width.

DIAMOND DRILL

Starting in this year a Contract was let to Boyle Brothers to do 1,000 ft. of drilling as a minimum, with a slightly reduced rate if 2000 ft. were done and at a further slight reduction if 3000 ft. were done and it was never contemplated that the 3000 ft. would be exceeded, but owing to getting such unfavourable results, work was carried over the 4000 ft. point in the hope that better results might be obtained. These hopes, were however, disappointing as the following synopsis will show:

Since 10 Diamond Drill holes had been drilled at a previous period, the first hole of 1930 is called No. 11 on 600 ft. level, Drill Station No. 1.

No. 11 Diamond Drill Hole

Vertical angle - 26 degrees 55' N 72.53 E Distance drilled 285 ft.
#503 Sample of Core 202' - 205' - 3 ft.   2.98 oz. silver 11.8% Lead
#504 Sample of Sludge 200 - 205'   1.82 "   "   5.1% "

No. 12 Diamond Drill Hole

- 23 degrees - 15' N 68 48 E from D. Station No. 2 - 600' level.
Distance drilled 142 ft.
Sample #508 Core 48'6 - 51' - 2' -6'"   .86 oz. silver   3.7% Lead.
   "   #509 "   80'9 - 84' - 3' -3"   1.40 "   "   3.3% "

No. 13 Diamond Drill Hole

From Drill Station No. 2

				Oz.Silver	% Lead
Sample #510	23.6	to 25'	- 1.6"	.76	16.8%
" # 511	29	to 34	- 5.0	.80	12.2%
" 512	35	to 37.3	- 2.3	.88	8.7
" 513	39.9	to 40.6	- .9	1.02	12.2
" 514	51.3	to 51.9	- .6	1.04	12.6
" 515	57.0	6o 60	- 3.0	52	10.4

From 23'6 - 60' - ore zone width 36' - 6".
   As there is ore to the width of 13 ft. in 6 widths of ore and the
intervening spaces not ore bearing, it will be necessary to work the
whole width and the value works out to :-

.27 oz. silver
4.13% Lead for a width of 36' - 6"

No. 14 Diamond Drill Hole

From Drill Sation No. 1

N. 45   31E   -   44 degrees 27'
West of Main Tunnel on 600 ft. level Drilled to the 700 ft. level.

				Length 158 ft.	Oz. Silver	% Lead
Sample	516	125' - 6	126' - 6"	- 1.0	1.28	7.7
	517	137'	+ 139	- 2.0	2.48	2.8) Average for
	518	139'	- 144	- 5.0	3.66	8.6) 12 ft.)
	519	144'	- 148	- 4.0	1.04	6.3)2.33 oz.sil.
	520	148'	- 149	- 1.0	.6	3.3)6.42% Lead

No. 15 Diamond Drill Hole

From Drill Station, No. 1

N. 75   56E   -   39 degrees 07'

Sample	522	108.6 - 110	- 1.6	.8	15.8%
	523	141 143.6	- 2.6	.5	1.1%
	524	Composite sample 45-50) Gold			
		50-55) Trace .		.05	
		55-60)			

This hole proved disappointing. Length 257'0"

No. 16 Diamond Drill Hole (Original 5A)

N. 66   23 E - 57 degrees 33' Reached 200' deeper than the 600 ft. level and up against the "Nose".

						Oz. Silver	% Lead
Sample #525	115	- 120	- 5.0	(	"	.52	5.7
526	120	- 125	- 5.0	)		0.4	8.2
527	125	- 127	- 2.0			.24	2.9
528	155	- 156	- not sent			-	-
529	159	- 160	- 1.0			1.6	6.4
530	162	- 165	- 3.0			3.7	12.0
531	173'9"	- 175'3"	- 1.6			1.3	21.1
536	179	- 183	- 4.0			3.6	17.2
539	184	- 187	- 3.0			3.0	11.4
540	187	- 188.6	- 1.6			1.4	9.8
525	115	- 120	- 5.0			0.2	3.7 Sludge
526	120	- 125	- 5.0			0.32	7.2 Sludge
527	125	- 127	- 2.0			.24	2.9

Figuring the above we get:-

					Oz. Silver	% Lead
115	-	127	- 12 ft. average		.42	6.27
159	-	165	- 6 ft.	"	2.10	7.06
173'9	-	188'6	- 14.9	"	1.61	9.00

Practical working width   159' to 188'6 - 29'6" - 1.23 oz. silver 5.93% lead
                     and   12.0   .42   "   6.27%   "

There is no Diamond Drill Hole No. 17

No. 18 Diamond Drill Hole

N. 74   10 E   -   10 degrees 58'

Started from N.E. Crosscut 600 ft. level at Bend   Length 140 ft. Reached F.W. at 130 ft.

					oz. silver	% Lead
541	37'3	- 39.0	-1.9	Galena & Barytes	4.22	8.2
542	41.6	- 42.6	-1.0	" "	2.46	4.5
543	55.9	- 61.9	-6.0	" "	1.18	15.9
544	63	- 64.9	-1.9	" "	9.96	26.6
545	110	- 116	-6.0	Qtz.Barytes & Galena	1.2	3.8
546	76	- 79	-3	Galena Qtz. etc.	1.2	2.9
547	81	- 81'6	- .6	" & Barytes	2.66	6.3
548	83	- 85	-2.	" "	0.10	2.5
549	105'6	- 108	-2.6	" " Qtz.	0.30	1.8
550	117	- 119'6	-2.6	" Barytes & Qtz.	1.00	8.00

The above widths of ore with their intervening barren widths, work out as follows:-

37.3 to 64.9 - 27.6 working width   1.25   5.23

The rest of the widths with assays mentioned are a negligible factor.

No. 19 Diamond Drill Hole

From corner N.E. Crosscut 600' level.

Course S.80 degrees 54 E. - 10 degrees 30'
Length 192 ft.

This is in quartz all the distance and has been a severe disappointment. We first drilled 101 ft. and later resumed drilling in hopes of finding the quartz cut out but this did not occur.

No. 20 Diamond Drill Hole

From Station Number 3

Course S. 7 - 51 E - 21 degrees Length 115 ft.

This is in quartz all the distance and has been a very severe disappointment.

No. 21 Diamond Drill Hole

There is no hole No. 21 as this was not drilled although conjectured to be drilled, but owing to Diamond Drill 19 & 20 being so disappointing it would have been a waste of money.

No. 22 Diamond Drill Hole

Course N. 56 degrees 42' E. - 79 degrees 47'

From Drill station No. 1. Length of hole - 329 ft.

This proved to be the best hole in the lot but the ore has very little length in the strike. It is up against the "Nose"

No.	From		To		Width	Description					oz. silver	% Lead
551	129'6	-	131'6	-	2.0	Galena Qtz & Barytes					1.84	21.8
552	133 ,	-	138	-	5.0	"	"	"			0;7	11.9
553	138	-	141	-	3.0	"	"	"			0.7	5.9
554	141	-	143	-	2.0	"	"	"			1.8	7.1
555	143	-	144	-	1.0	"	& Barytes				7.36	23.0
556	146	-	151	-	5.0	"	"				5.4	25.9
557	157'8	-	160'4	-	2.8	"	"				2.96	14.5
558	160'4	-	162'6	-	2.2	"	"				1.68	12.2
559	165	-	167	-	2.0	Qtz. and Galena					1.62	2.8
560	167	-	168'8	-	1.8	"	"				1.24	7.7
561	180'5	-	187'9	-	7.4	Galena & Barytes					1.2	0.9
562	205	-	208	-	3.0	"	"				1.12	2.9
563	208	-	213	-	5.0	"	"				2.16	4.6
564	213	-	216	-	3.0	"	"				0.92	2.5
565	216	-	219'6	-	3.6	"	"				0.5	0.7
569	219'6	-	224'	-	4.6	"	"				1.4	4.0 Est.
571	226	-	228	-	2.0	"	"	& Qtz.		not assayed		3%
572	228	-	231	-	3.0	"	"	"	"	"	"	1%
573	232'6	-	236	-	3.6	"	"	"	"	"	"	1%
566	316'0	-	316'6)	Sample of the ore only							2.6	40.2
	317'6	-	318'0)	or the two 6" streaks								
567	322'6	-	325'0	-	2.6						6.1	19.4
568	325	-	327'0		2.0						1.4	4.8

SLUDGE SAMPLES

						Oz.Silver	%Lead
628	315	-	320	-	5.0	2.0	34%
629	320	-	325	-0	5.0	5.0	24.5
630	325	-	329	-	4.0	2.69	9.6

Later figures a width of 10 ft.   3.25 oz. silver
23.6% Lead.

A summary of the practical working figures for the width of ore passed through is for H.W. ore.

129'6 to 168'8 - 39.2 on line of hole
                 - 32'0 at right angles to the dip of the lens.
Assaying 1.15 oz silver - 8.1% Lead.

F.W. Ore

10 ft. sludge samples   3.24   - 23.6%
       core   "   3.75   - 17.8%

These two ore bodies are separated by 145 ft. on line of hole and 130 ft. at right angles.

No. 24 Diamond Drill Hole
(There was no 23 hole drilled)
Drill Station No. 1.

Depth of Hole 240' 0".

Hole No. 24 is a vertical hole from 600 ft. level downwards.
We got 11'6" of very low grade ore here - 157' to 168'6"

We got through slate at 135 ft. and got Barytes. We should not have had the latter until 187 ft. but a fault has occurred which figures to be the "Nose Fault"

From 135 to 170.6 proved to be ore formation and S #574 - 166 to 168 - 2' - 4.9% Lead. Quartz came in at 173 and at 175, the silicified Limestone. The hole was continued to 240' in the same formation. This hole was a disappointment.

No. 25 Diamond Drill Hole

This hole along with No. 26 was drilled and D.D. Station No. 4 in the hopes of proving the ore to widen out on the strike line but proved disappointing in this respect.

Course   S.29 - 43W - 66°   58'

Sample	575	12.0	-	14.6	-	2.6	Galena & Barytes			20.4
	576	17.0	-	18.6	-	1.6	"	"		8.6
	577	50.5	-	55.0	-	4.5	"	"		12.6
	578	63.5	-	65.0	-	1.5	"	"		14.4)
	579	65	-	67.5	-	2.5	"	"		33.6)
	580	69	-	73.0	-	4.0	"	"		12.5)
	581	78	-	83.0	-	5.0	"	"		19.1)
	582	83	-	86.6	-	3.6	"	"		5.6)
	583	86.6	-	90.0	-	3.6	Galena & Quartz			11.8)53'6
	584	90	-	94.6	-	4.6	"	Barytes		11.9)almost
	585	94.6	-	99	-	4.6	"	"		24.2)on lin
	586	99	-	104	-	5.0	"	"	Qtz.	27.3)dip
	587	105	-	105'6	-	0.6	"	"		6.9)37.0
	588	120'8	-	122	-	1.4	"	"		38.6)waste
	589	122	-	125	-	3.0	"	"		22.4) 90'6"
	590	126'6	-	128	-	1.6	"	"		11.7)from
	591	135	-	138	-	3.0	"	" little slate		7.5)63'6"-
	592	138	-	139'8	-	1.8	"	Quartz		4.2)154'
	593	144'3	-	145'9	-	1.6	"	"		5.4)is 90'
	594	147	-	150	-	3.0	"	"		10,4)6" of
	595	150	-	154	-	4.0	"	"		5.8)which

53'6" is ore & 37' waste. Ore only was assays. This
53'6 - 18' at right angles to dip of Lens.

   At 181 ft. we reached the silicified lime and finished the
hole at 192 ft. A practical summary of the working widths and values
from the above.
On slope of hole 63'6 to 154.0 - 90' 6 - 9.96% lead.
This 90'6 is equivalent to 30 ft. at right angles to dip of lens.
This ore cutting out as it does at 154' and the ore formation being
replaced at 181 ft. by the silicified lime, presents no encouraging
features for future prospects.

No. 26 Diamond Drill Hole

S. 29 degrees 43 W - 57 degrees 14'

Started from Drill Station No. 4.
That ore was drilled here gave out at 147 ft. the quartz or silicified
lime taking the place of the ore formation.

596	38'	to	43'6"	5'6"	3.2	Galena Qtz & Barytes	
597	53'9		60	1.3	6.3	'	& Barytes
598	60		67'6	7.6	14.6%	"	"
599	137'6		140	2.6	1.4	"	"
600	140		145	5.0	4.9	"	"
601	145		147	2.0	7.5	"	"

This hole was drilled to 353 ft. in hopes that we might get through
the barren quartz zone but we did not succeed and quit.
The ore assayed is the same ore shoot as the former hole drilled in and
is really skimming along the top of the Lens. For the true width at
right angles to the dip it is necessary to divide the widths assayed
by three.

No. 27 Diamond Drill Hole

From Station No. 4.

- 46 degrees 30'

Direction of hole Southerly towards the vertical hole No. 24.

This hole is on the top of the same Lens of ore as D.D. Hole No. 26 was on. The object was to locate the same ore as was found by No. 24 and then to follow this down as far as possible.
We reached the low grade ore at 206 ft. and went through it at 216'6" and got some Galena and quartz at the points mentioned.

Depth of Hole   247'6"
We reached the barren quartz at 239 ft. and quit it at 247'6".
No assays were made from the sampling since no object was to be gained by further assaying the top part of the Lens.

No. 28 Diamond Drill Hole

This is a horizontal hole from Drill Station No. 2 Westerly. This was drilled to prove the ground West of the Nose or Fault.
Length 165 feet.
This proved that there was no ore here but I believe we passed across the width of ground that tallies with the position the ore body should have been, had the ore solution worked westerly.

No. 29 Diamond Drill Hole

This is a second Horizontal Hole Westerly from Drill Station No. 1 - 235 ft. long. At 147 ft. to 152 ft. got some white quartz with a little Galena and a very little Chalcopyrite.
We reached the F.W. slate at 232 ft. and stopped hole at 235. ft.

No. 30 Diamond Drill Hole

Started this from N.E. Crosscut 600 ft. level N. 31 06 E - 11^0 25'
Length of Hole 157 feet.
This hole practically proves the same ground as D.D. Hole 18 but reaches a little further Easterly so that assaying was not done except for the new ground.

							% Lead
724	105'9"	109'6"	-	3'9"	Galena & Barytes		4.4
727	109.6	112.4	-	2.10	"	Quartz	9.1
728	113.4	119.8	-	6.4	"	Barytes	5.0
729	121.0	125	-	4.0	"	"	4.0
730	125	130	-	5.0	"	Quartz	11.1
731	142'6	144	-	1.6	"	Slate,Iron Sulphide	13.2
732	144'0	145'6	-	1.6	"	"	12.2

Practically 24'3 - assaying 6% Lead (105'9 to 130')

No. 31 Diamond Drill Hole

From N.E. Crosscut - N. 86 degrees 15 E   - 11 degrees 25'

This hole was drilled so as to reach still further Easterly than the previous Hole. It passed through the same ore zone as the other two holes.

738 133'6   133'6   -   5'   Galena not assayed about 3% Lead.
739 182'9   183'3   -   6"   "   & Slate
Got the slate at 196'6 and stopped at 197'

No. 32 Diamond Drill Hole

Drilled N. 44^0 .06 ft E, at a vertical angle of 68^0 22'

From Main Tunnel made No. 5 Drill Station. This is at a point 250 ft. S.W. from D.D. Hole No. 1.
Drilled 350 ft. Got no satisfaction at all except to find that there was no Lens of ore or ore formation between the two walls of slate. We passed through Slate and Limestone Shale and quartz and reached the Footwall and quit.

ORE ZONE

The ore zone has proved to be a very narrow one following the Footwall and paralleling this from 35' to 40' southerly is the "Hanging Wall of the channel" and which is a quartz or silicified lime, and which is a barren formation. Between the F.W. slate and this quartz is the ore channel containing Lenses of Galena in a gangue of Barytes, and also in some few instances the gangue is quartz.

The course of this ore zone is easterly and dips southerly at an angle of 73 degrees from the horizontal. The length is 130 ft. and as the Lenses strike a course of S.E. the length of the Lenses averages 45 ft. as a maximum. On the west end of this ore zone is what has been aptly termed a "Nose" and which I have classified as a Fault. No ore outside of this narrow channel has been found.

The property therefore cannot be classed as being a big mine.

RESULT

The final results are disappointing since the ore is too low grade for profitable extraction. According to my analysis of the ore from top to bottom of the property the following figures appear to be the value 1.62 oz. silver, 7.825% Lead - and which are higher than the ore proved by the Diamond Drill. These latter values are 1.22 oz. Silver, 7.51% Lead. Neither figures are profitable as the following figures would indicate London price of Lead £15.15s per ton of 2240 lbs.
                 Silver .53¢ per ounce.
This equals $3.42 per 100 lbs. of lead. The Consolidated Mining & Smelting Co. deducts from this price $1.25 per 100 lbs. for marketing and refining, leaving $2.17 per 100 lbs. of lead. Basing our calculations on as near a 60% Lead concentrate as possible, we have to concentrate 8 tons of crude ore into one ton of concentrates, and I have figures on two different sized concentrators. The smaller concentrator would seem to be more in keeping with the size of the ore body.

Taking the higher value of the ore viz. 1.62 ounces silver -
7.825% Lead we get 7.825% less loss 5% - 7.434 x 8 - 59.472%
Lead Concentrate
59.472 less 1.25% Smelter deduction - 58.22% - 1164.4 lbs. Lead
less 20 lbs - 1144.4 @ 2.17 - $24.83
1.627 ounces silver less 5% loss - 1.546 oz. x 8 -
12.368 ounces and 95% paid for - 11.751 ounces   3.87
        Value of 1 ton concentrates $28.70

500 tons Concentrator		150 ton Concentrator	
Less Cost			
Mining 8 tons @ 2.50 per ton.......$20.00		Mining 8 tons 3.50.........$28.00	
Concentrating 8 tons 1.50........ 12.00		Concentrating 8 tons @ 1.50.. 12.00	
Freighting to Spillimachene 1 ton.. 1.00		Freighting to Spillimachene.. 1.00	
Railway transportation to Trail 1 T 3.00		Railway Transportation to Tr. 3.00	
Smelting base rate 8.00 allowance 4.00		Smelting base rate 8.00 with	
		payments for ingredients.... 4.00	
$40.00		$48.00	

LOSS per ton of concentrates 11.30 $19.30

The proposition is therefore a losing venture.

AMOUNT EXPENDED

The expenditure this year has been $15,000 - which is 50% greater
than was promised the Vendors last year. Altogether $100,000 has
been spent on the property since the bond was taken.

I wish to go on record as stating that Mr.A.B.Trites has acceded to
my requests at all times for further drill holes to be drilled and
when I had drilled as far and as often as seemed essential, I called
him in to decide whether to drill more holes or not, and more holes
were drilled, until it was evident that we could expect no further
results than continued disappointment.

Had we stopped drilling when Hole No. 22 was drilled and not drilled
holes from No. 24 on, it might have been possible to have got a mining
company to do what has since been done, but having now exhausted all
apparent chances, there is little hope of being able to lease or bond
the property.

When Mr. Trites asked my opinion last Winter as to whether he should
or should not carry on, I advised him as a Mining Engineer that the
Giant property was not a payable property at the prices then prevail-
ing. Prices have since this time declined sharply and $15,000 more
money has been expended.

The Giant, therefore, as a mining venture of promise is far worse to-
day than at that time.

There is only the possibility of metal prices advancing sufficiently
high to allow a profit, but even if these advance, consideration has
to be given to the large and necessary expenditure before concentration
of the minerals can be made, as this means a sum of $350,000 for
Concentrator, Plant, Equipment, road and water power, buildings for
work people and the various necessary utilities.

There is nothing today to encourage anyone but a born gambler to take the chance, and everything to discourage anyone to do this. Will metal prices rise soon?

In 1902-1904 when General Manager of the North Star Mine at Kimberley, lead prices were between £10 and £11 per ton in London but Silver was much higher.

We had, however, a Bounty granted us by the Dominion Government equivalent to 1½¢ per lb. I believe, so that we managed to get along but I am drawing attention to the low price of lead then, to show that there is nothing to assist one in arriving at the conclusion about future prices.

My experience in metal mining shows me very clearly that these prices are very changeable and often very sudden.

Further contrasts of Lead and Silver are as under:-

Silver 1902	.49¢ per oz.
Silver 1904	.53 " "
Lead 1904	.3.88¢ per lb New York
Lead 1902	£10 to £11 per ton London.

I consider that the whole proposition is a very precarious undertaking.

"J.L.Parker"

Mining Engineer.

607-8 Pacific Building, Vancouver,
B.C.

P.S.
Enclosed find copy of letter under date of Sept. 5th, 1940 to Mr. Trites with sectional elevation showing how the Drill Holes kept running up against the barren quartz and silicified lime formation.

April 30, 194?.

E.J. Scovil, Esq.,
GOLDEN, B.C.

Dear Sir:

Thank you for your letter of the 27th. The
tracings and prints which you kindly lent me are
being mailed to you today.
    (2B) Blue Print, Brunton Survey, 1923, R.J. White.
    (3B) Blue Print, Golden Giant Sections, R.J. White 12/23.
    (7B) Blue Print, Sept. 10/30, J.L. Parker,"Plan of
             Giant Workings showing D.D. Holes."
    (6B) Tracing, J.L. Parker, showing Drill Holes.
    (#5) Tracing, J.L. Parker, Plan showing Ore shoots.
    White Print, Giant Group.

Engineering and Mining Journal under date "April 1, 1942"
gives under "Metallic Ores,"
    "Manganese Ore, (foreign) c.i.f. U.S.Parks, long ton
                                unit of Mn

50 per cent	66¢
48 per cent	65¢
46 per cent	64¢

    "Manganese Ore, domestic,
        48 per cent, f.o.b. mines   75¢."
These quotations work out to about 3 cents U.S. per pound
of contained manganese in foreign ores.

Manganese ores for smelting usually contain manganese
as oxide. The furnace slags contain a good deal of
manganese and as the quantity of slag formed is greater
with low grade than with high grade ore, furnace recovery
of manganese from low grade ore is poor. You will note
that the lowest grade ore quoted is 46 per cent.

Some manganese is being recovered electrolytically
in the United States. Rhodochrosite, the manganese carbonate,
is acceptable for the electrolytic process. Recent information
indicates that carbonate ore acceptable in the electrolytic
plants may contain less manganese than is required in ore
which is to be smelted.

The analysis which you quote is below the grade which
is apt to be saleable, but if the manganese mineral is the
carbonate, and if higher grade sections could be found, it
might be of some interest, providing mining costs and
transportation charges are low.

Yours very truly,

H. Sargent,
Mining Engineer.

HS/LEC

Golden, B.C., April 27th.1942.

Mr. H.Sargent.

Resident Mining Engineer.

304.   Federal Bldg. Vancouver'B.C.,

Dear Sir.   Golden Giant Mines Ltd.,
                    and "Giant" etc.

        Thanks for your reg'd letter of the 26th.inst. with
enclrs as stated,

        Note the Drawings and prints will be mailed
as soon as possible.

                    Yours truly,

                    E. J. Scovil.

Note the hunt for Manganese---

Here is an analysis---
Insoluble mineral matter...(silica)....$1.50 per cent

Oxide of Iron,equivalent to
        metallic iron   24.10 per cent

Oxid of Manganese,equivalent to
        Metallic Manganese   13.62 per cent

Phosphorus   .032 per cent

Sulphur   .090 per cent.
                    of   ---------------------------
Is this/any interest ?

DEPARTMENT OF MINES

THE GOVERNMENT OF
THE PROVINCE OF BRITISH COLUMBIA

OFFICE OF THE MINING ENGINEER
304 FEDERAL BUILDING
325 GRANVILLE STREET
VANCOUVER

20/42

Golden BC
Apr 16 '42

The Secretary,
Office of the mining Engineer
304 Federal Bldg.,
Vancouver.

Dear Sir or Mlle : —

    Herewith are some typewritten reports which
I have on loan and which are to be returned
to the owners as soon as possible. They are
confidential and must be made available to no
one but myself. Please arrange to copy them
in the following order,

marked 7(A), (1) Report by J L Parker Nov 11, 1929 on Golden Giant Mine

" 8(A) (2) Report on Mining operations Giant Mine B.C

(4) A (3) Golden Giant Mines Ltd,
    Report by Rush & White etc.

Omitted → (4) Western Exploration Co. Ltd, march 1942)
    Summary Mr Costo, Etc.

    Thanking You
    H. Sargent
    Mining Engineer.

P.S. I expect to be back in Vancouver about
Wednesday Apr 22nd.

Material Obtained from E J Scovil Apr 17 42

4 (A) Golden Giant Mines Ltd.
        Report by Rush J. White - 1923

7 (A) Report by J L Parker, Nov. 11/1929
        on Golden Giant Mine

8 (A) Report by J L Parker re Giant Mines
        November 1930
        & copy of Letter J L P t. A B Trites
        Sept 5/30

(2 B) Blue Print, Brinton Surrey 1923 R J White.
3 B   "   " Golden Giant Sections R J White 12/23
#7 B   "   " Sept 10 '30 J L Parker.
        Plan of Giant Wkg. showing D D Holes
6 B Tracing R J Parker showing Drill Holes
5   "   R J Parker Plan showing Ore Shoots
White Print Giant Groups

April 25, 1942.

E.J. Scovil, Esq.,
GOLDEN, B.C.

Dear Sir:

　　Herewith are reports which you kindly
lent me:-

Marked 4A　Golden Giant Mines Ltd.,
　　　　　　　by Rush J. White.
　　　7A　Report by J.L. Parker, Nov. 11, 1929,
　　　　　　on Golden Giant Mine.
　　　8A　Report of J.L. Parker re "Giant Mines,"
　　　　　　November 1930, and copy of
　　　　　　letter J.L.Parker to A.B.
　　　　　　Trites, September 5, 1930.

　　The drawings and prints will be mailed to you
as soon as possible. Thanking you,

　　　　　　　　　Yours very truly,

　　　　　　　　H.Sargent,
　　　　　　　　Mining Engineer.

HS/LEC
Encls.

Golden B.C.,
May 1st. 1942.

H.Sargent.Esq.,

Mining Engineer.

Dept. of Mines of B.C.,

304 Federal Bldg.

Vancouver,B.C.,

Dear Sir.   Giant.Reports andPlans-returned

Thanks for your letter of the 30th.ult., and for the
information therein re Manganese and that if the Manganese
mineral is a carbonate,and if a higher grade   sections could be
found,it might be of interest providing mining costs and charges
low. I think it is a carbonate.

and under separate cover the maps,etc. as detailed in
your letter.

Yours truly,

E. J. Scovil.

Grant   Golden M.D.

The Claims, - Midget. L 6659;   Dwarf - L 6658; Adm - L 6660;
            Grant - L 1103; Grant Fr. - L 6657; Rothschild - L136,
            Grant No 2 Fr. - L 6661; Hidden Treasure - L 1108
            Toronto Fraction L 1111; Simcoe - L 1110.
All of which have been crown - granted, are understood
to be owned by several estates represented by E J
Scovil of Golden.

____

Reserves Above #5 level per Hurcell
                        43 30ʼ tns @   Ag   Pb   Zn
                                      1.7ᵤ 0ʼ75% 0.4?
        between #5 & #6 per J L Parker
                    440 tns   1.4 oz 4.1%
From drill holes below #6 level Parker found lenses
a few feet wide assaying up to 26% lead, and
averaging such lenses with intervening waste figures
lenses 12 to 25 wide running 1.2 oz Ag, 7.5% pb.

The location of the property is generally favorable,
and the width of ore is generally good, but
it appears that the lead bearing mineralization
is confined to lenses within the wide barite
zone. The estimate of reserves above No 5 level
may be high if it should turn out that the
mineralization here to consists of several, rather
                                        smaller
than a single large lens.
The volume of barite with little or no lead mineralization
seems to be much greater than the
lead bearing lenses. The investment required
to bring this small tonnage of probable &
possible lead ore into production, is not
warranted by the amount of ore. If barite
from the deposit could be marketed in quantity
and at a price which would cover the expenses,
bye product lead could probably be produced.
At any rate mining and milling the lead ore
would not be undertaken unless the substantial
quantity of barite which will have to be mined.

ore deald with, at the margins of and
between lead bearing lenses, and as
the major constituent of the actual lead-
bearing lenses, can be marketed at a price
which will yield some re turn over the cost of
preparing same for and shipping to the market

Grant - Golden M.D.   Pri G.M.Co.
Report by H.A. Kursell of Wallace Idaho
  submitted to Fred. Burbidge, Genl Mgr
      Federal Mining & Smelting Co. Wallace Idaho -
    September 1927.
N.B. Copy of report . maps omitted.
          Summary.
Mine situated 7 3/4 mi by road from Spillimachene.
Ore deposit is an irregular lode or chimney in a wedge
    of limestone between slates.
Development 6 tunnels a raise, 10 dd holes.
      which indicate orebody 140' long. Av. 11.25 wide
Probable reserves est.
      43,300 tons. Av. tr. Ag 1.7 oz Pb 10.75% Zn 0.4%
Fully developed the orebody might contain 100,000 tons small
Gangue is barite limestone & Qtz
Good recoveries are indicated by flt. So thin tests.
With London lead at £22, the ore would yield $4.34/ton.
Costs are estimated @ $4⁵⁰ & 5⁰⁰ per tn.
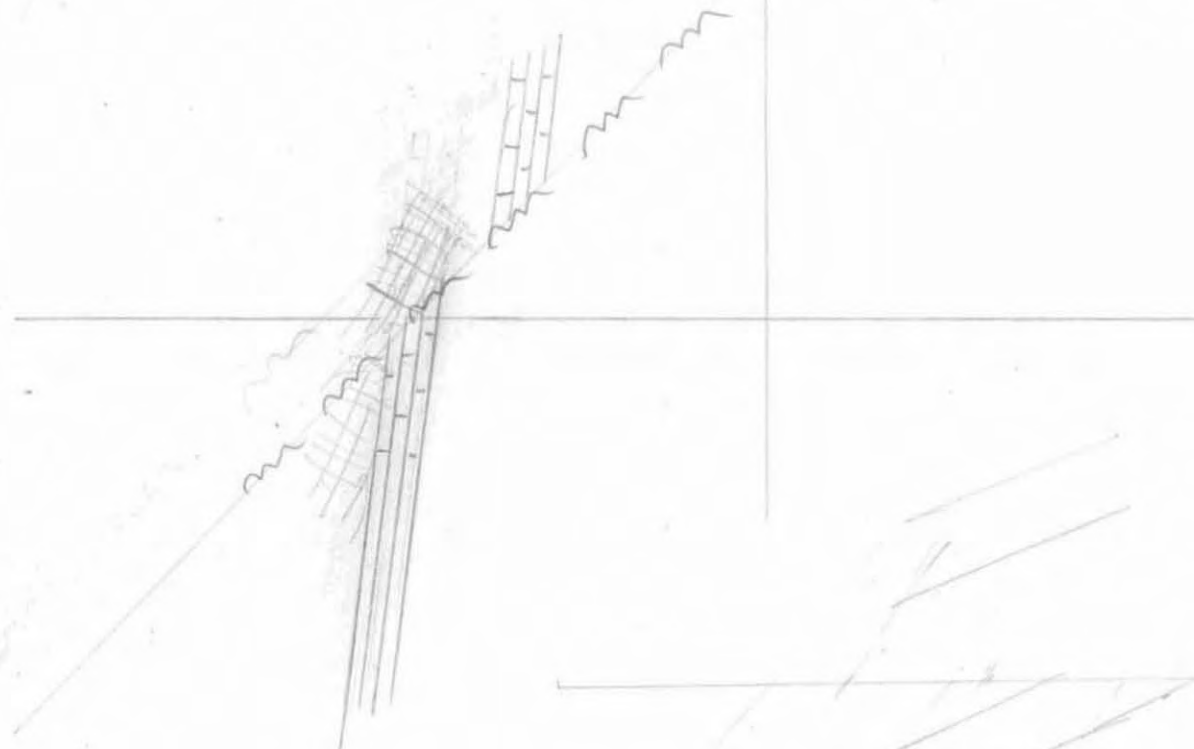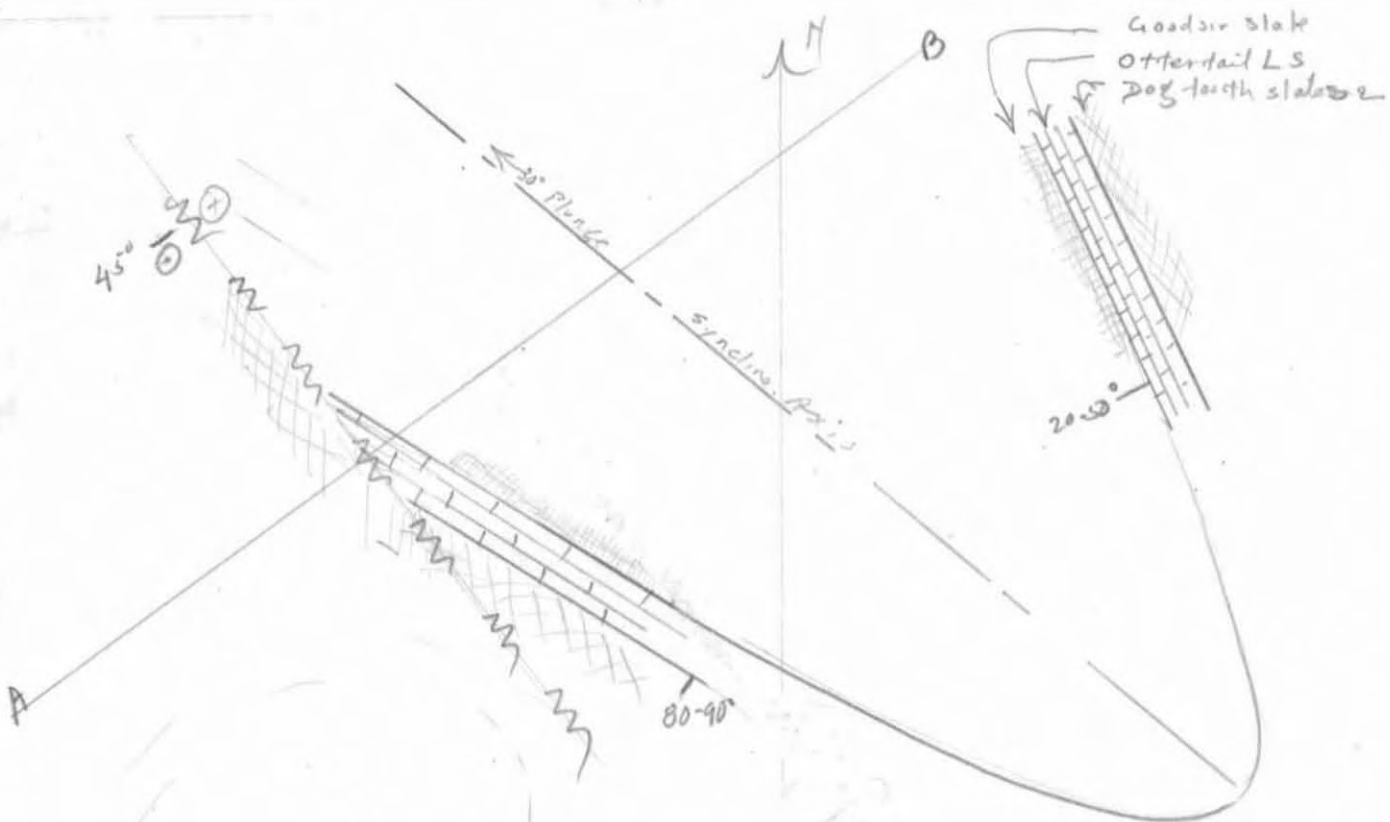Price asked for property $160,000. Its equipment would cost $100,000 & $150,000
Purchase   not recommended.
                _____

All showings are on the Grant & Rothchild claims.
The country below the mine slopes 300' in 400' horiz toward
Spillimachene River, offering no lower site for an adit.
Structure
Deposit occurs in siliceous dolomitic limestone (Offer bed
for m lower Upper Cambrian). This Lime is overlain by
Goodsir slates & limestone (lower Ordovician) underlain
by lower Cambrian & Beltian Dog Tooth series
consisting of sericitic slates interbedded with narrow
members of impure limestone & sandstone
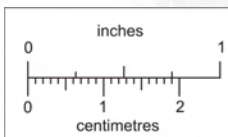
Goodsir Slate
Ottertail L.S
Dog tooth slates 2

N

B

30° Plunge

Syncline Axis

45°

20-30°

80-90°

A

April 1st, 1942.

R. J. Maconachie, Esq.,
Associate Mining Engineer,
Parliament Buildings,
Victoria, B. C.

Dear Roy:

Herewith is material from your Nelson
files, re Giant Property, Golden M. D., which
you handed me some time ago.
Congratulations and best regards to
you and Margaret.

Yours very truly,

Mining Engineer.

PROPERTY FILE

HS/CHG

See also plan M.M. 1927, Page 26 ∨
"   "   report re drilling M.M. 1930, Page 232

Excerpt from a letter addressed to B. T. O'Grady, January
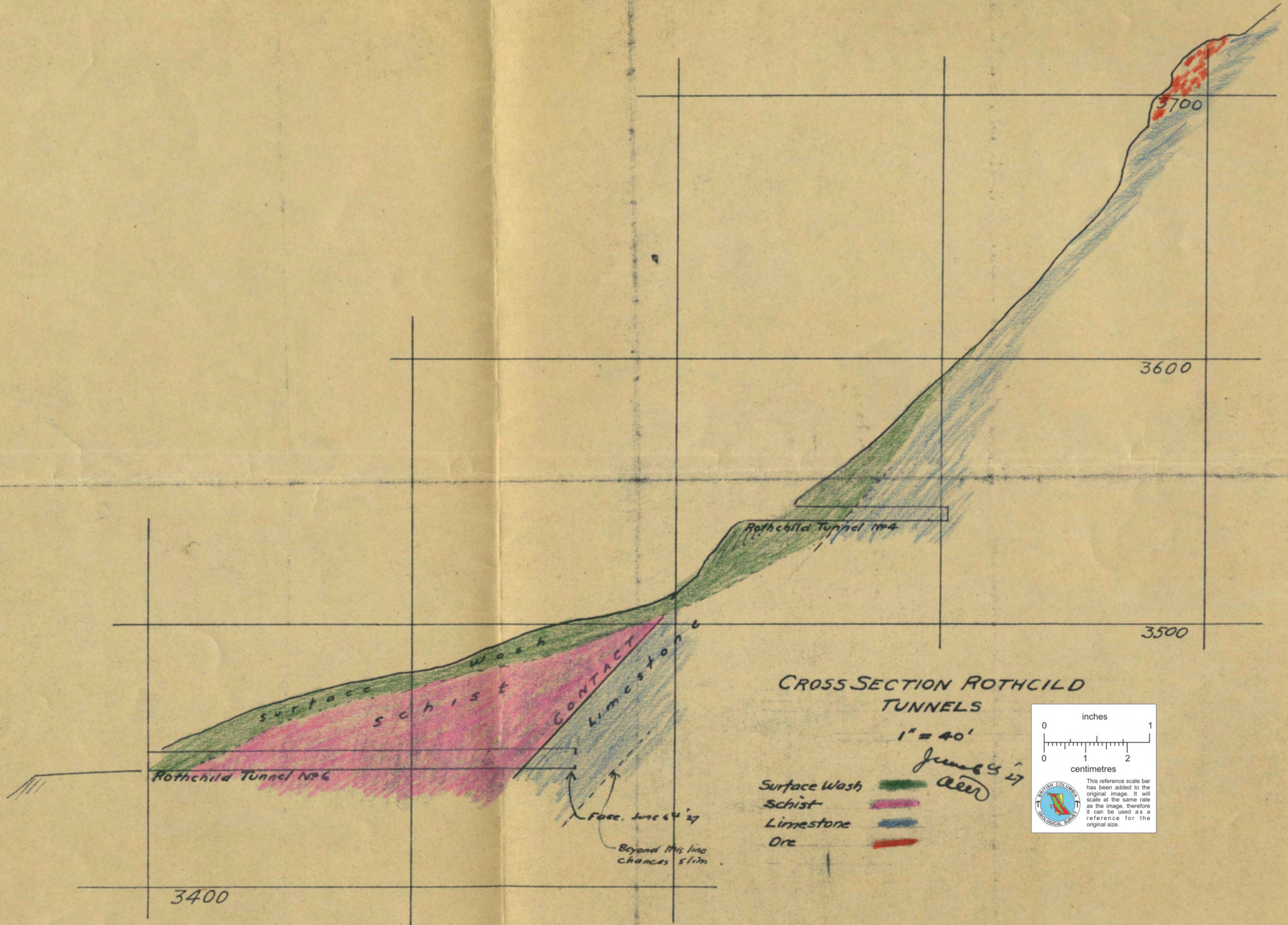17th, 1931 from A. B. Trites per J. L. Parker,
Mining Engineer.

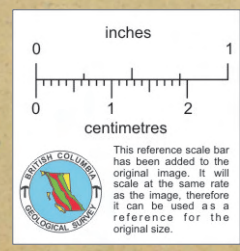| No.	11	285'	-26.55	N 72.53 E
	12	142'	-23.15	N 68.48 E
	13	81'	-31.00	N 45.37 E
	14	158'	-44.27	N 45.31 E
	15	257'	-39.07	N 76.56 E
	16	248'	-57.33	N 66.23 E
	17	Not drilled		----------
	18	140'	-10.58	N 74.10 E
	19	192'	-10.30	S 80.54 E
	20	115'	-21.0	S 7.51 E
	21	Not drilled		----------
	22	347'	-79.47	N 56.42 E
	23	Not drilled		----------
	24	240'	Vertical	
	25	192'	-66.58	S 29.43 W
	26	353'	-57.14	S 29.43 W
	27	247'6	-46.30 Southerly	
	28	156'	Horizontal Westerly	
	29	235'	"	"
	30	157'	-11.25	N 81.06 E
	31	197'	-11.25	N 86.15 E
	32	350'	-68.22	N 44.06 E
		4101.6		

Re Giant See MM. 1923
27
28
29
30

Plan. 1927 P 262
Note re drilling 1930 p 232

Excerpt from a letter addressed to B. T. O'Grady, January
17th, 1931 from A. B. Trites per J. L. Parker,
Mining Engineer.

No.					
11	285'	-26.55	N 72.53	E
12	142'	-23.15	N 68.48	E
13	81'	-31.00	N 45.37	E
14	158'	-44.27	N 45.31	E
15	257'	-39.07	N 76.56	E
16	248'	-57.33	N 66.23	E
17	Not drilled	--------		
18	140'	-10.58	N 74.10	E
19	192'	-10.30	S 80.54	E
20	115'	-21.0	S 7.51	E
21	Not drilled	--------		
22	347'	-79.47	N 56.42	E
23	Not drilled	--------		
24	240'	Vertical		
25	192'	-66.58	S 29.43	W
26	353'	-57.14	S 29.43	W
27	247'6	-46.30	Southerly	
28	156'	Horizontal Westerly		
29	235'	"	"	
30	157'	-11.25	N 81.06	E
31	197'	-11.25	N 86.15	E
32	350'	-68.22	N 44.06	E
	4101.6			

CROSS SECTION ROTHCILD
TUNNELS

1" = 40'

June 6th '27

Surface Wash
Schist
Limestone
Ore

Surface Wash
Schist
Contact
Limestone

Rothchild Tunnel No. 6

Rothchild Tunnel No. 4

Face, June 6th '27

Beyond this line
chances slim.

3700
3600
3500
3400

inches
0   1
0   1   2
centimetres
This reference scale bar
has been added to the
original image. It will
scale at the same rate
as the image, therefore
it can be used as a
reference for the
original size.

GOLDEN GIANT MINES LTD.

Spillimacheen, East Kootenay, B.C.

Report by
Rush J. White,
Mining Engineer,
Wallace, Idaho.

COPY

RUSH J. WHITE
Mining Engineer
WALLACE, IDAHO.

March 6, 1924.

Mr. James P. Farnham,
57 West 47th Street,
New York City, New York.

Dear Sir:-

Herewith is my report on the Giant property, consisting
of mining claims owned by you, and under option to you from
the Golden Giant Mines, Ltd.

A brief summary of the report follows. There are four
maps with it which should be consulted for a full understand-
ing of the situation.

The property was examined late in the fall of 1923.
It consists of some two hundred acres of mineral land and
about sixty-five acres of non-mineral land on the Spilli-
macheen River in the East Kootenay District of British Col-
umbia. It is seven miles from the Kootenay Central Branch
of the Canadian Pacific at Spillimacheen Station, and can be
reached from that point by automobile.

The valuable minerals are galena, with a little silver,
in a barite gangue. It is thought if the tonnage of lead
ore develops as hoped that ground barytes can be made as a by-
product of lead concentration, at a cost that will compete
in the Canadian market.

The vein outcrops as a massive barite and lime cliff
for some 400 feet along the top of a low ridge. It is at
least 15 feet thick for this distance, and in two places
where it is opened is 25 and 35 feet thick. Small outcrops
occur at irregular intervals for a mile to the Southeast.
Samples along the ore body in the main outcrops over an aver-
age width of 11.5 feet carried from 6.4% to 15.4% lead and
averages 9.4% lead and 1.3 oz. silver. An individual sam-
ple from a small outcrop several hundred feet away carried
22.5% lead and 3 oz. silver over 7 feet wide. Seventeen
feet of ore in a tunnel crosscutting the vein under the main
outcrop carried 14.5% lead with 1.6 oz. of silver, and the
lowest tunnel, under the westerly extremity of the showing,
has 2'9" of ore in the face, which carries 16.1% lead, 7.5
ozs. silver and 10.5% zinc. This tunnel and another one at
the west end of the ore are the only places where zinc is

found. Two samples of barite of about 100 pounds each, one from the surface, one from underground, carried respectively 95.5% and 92.2% $BaSO_4$. Two other samples taken at random from among the lead samples carried 38.1% and 27.0% $BaSO_4$. These probably represent an approximate average of the barite content of the lead bearing part of the vein. The whole deposit will run higher.

It will cost $12,000 to $14,000 to diamond drill the deposit to determine if it is of sufficient size and quality to warrant further exploration. The present development gives some idea of conditions, and offers much encouragement, but it is not conclusive.

Assuming the results of such work are satisfactory, it is estimated that $400,000 will buy the property, equip it with a 150-ton concentrating mill, 750 KW generating plant on the Spillimacheen River, and the necessary mine plant to produce on a basis of 150 tons in 24 hours. This would not provide a barytes plant. The cost of such a plant would depend on the characteristics of the ore as determined in a preliminary test run, and its feasibility would depend on the quality of material that can be produced, as indicated by such a run, and on the market that develops. The cost should not be very heavy, as much of the material will be partly ground for the concentration process.

Lead ore shipments will be to the Trail plant of the Consolidated Mining & Smelting Co. of Canada, Ltd.

It is estimated that 10% lead ore at present prices will pay 7% interest on $400,000 capital, 10% amortization on $290,000 cost of plant, plus a 20% profit. If the lead values should prove to be as good as in the main tunnel crosscut, it will pay more than 50% profit per annum. At the average of 1923 prices 10% ore will about pay interest and amortization, but no profit, while 14% ore will pay 20% profit. These figures do not include any return from barytes.

The price of the property is $63,000, plus a small interest in any company or syndicate that may be formed. The $63,000 is the exact price of the Golden Giant option. The interest retained is the price of the Farnham holdings.

Payments are to be made as follows:

April 15, 1925	$5,000
April 15, 1926	13,000
15, 1927	15,000
15, 1928	30,000
	$63,000

Fifteen per cent royalty will be deducted from the net return on all ore and mineral sold, the proceeds to apply on purchase payments. Work is to be started not later than June 15, 1924, and is to average not less than $300 per month. Any equipment placed on the property may be removed if the option is dropped.

It should be noted that the only expense necessary before a knowledge of the possibilities is available is the cost of drilling and experimental work, estimated at $12,000 for drilling, and probably not over $5,000 for experimental work.

In calling this property to the attention of any prospective buyer, you should not fail to mention that the writer of this report is interested in the option with you.

Yours very truly,

Rush J. White.

RJW:M

THE GOLDEN GIANT MINES, LTD
EAST KOOTENAY DISTRICT
BRITISH COLUMBIA

REPORT BY RUSH J. WHITE, MINING ENGINEER
Wallace, Idaho

Location

This mining property is on the east side of the Spill-
imacheen River Valley about one-half mile from the water.
The claims occupy the point of a side ridge where it flat-
tens out into the valley floor. They are seven miles
northwesterly from Spillimacheen Station on the Kootenay
Central branch of the Canadian Pacific Railway, and are
reached by a fairly good road from that station.

The Kootenay Central leaves the main line at Golden,
B.C., which is at the western foot of the Canadian Rockies,
at the eastern foot of the Selkirks and at the first or east
crossing of the Columbia River. The branch runs southerly
up the Columbia, past its source, and down the Kootenai
River to a junction with the Crowsnest branch of the C.P.R.
(See general map).

Spillimacheen Station is on the east bank of the Colum-
bia opposite the mouth of the river of the same name and
some forty miles above Golden. It may be reached from Spo-
kane over the Spokane International Railway, via Cranbrook
and Fort Steele, or from the East or West over the C.P.R.
main line. There are two trains a week each way on the
Kootenay Central, leaving Cranbrook Mondays and Thursdays,
and leaving Golden Tuesdays and Fridays. A stop is made
overnight at Ivermere on Lake Windermere, on both the up
and down trips.

PROPERTY

The GIANT crown granted mining claim and a tract of
non-mineral land nearby are under option to Mr. Farnham
from the GOLDEN GIANT MINES, LTD. The Rothschild crown
granted claim, and the Midget, Dwarf, Giant No. 2 and Giant
Fraction Locations are owned by him (See claim map).

The total area of mineral land owned and under option
is about 207 acres, and of non-mineral land about 65 acres.

The Rothschild is one of the old 600x1500 foot
claims that carry extralateral rights. All the others,
except the Giant Fraction, are 1500 feet square, and carry
the mineral within their boundaries only.

Negotiations are under way with the various owners
of the Toronto and Simcoe, the Hidden Treasure, and the
Mountain locations looking to the acquirement of these
claims. The first two are old 600x1500 foot claims.
The others are 1500 feet square. They cover the mineral-
ized ground for 3000 feet southeast of the Giant claim.

BUILDINGS AND EQUIPMENT

Buildings on the property at this time are a small
mill building of rather light construction, about 1000
feet south of the principal outcrop, a log bunk and cook
house, 15x40 feet, and a log assay office, 15x20 feet.
Another log cabin 15x20 feet is just off the property, but
near the assay office and cook house. It probably belongs
to other parties. There are rough housing accommodations
for 15 to 20 men on the ground at this time. There is a
6 hole range, somewhat in need of repair, and a few cooking
utensils. New springs, mattresses and bedding are required.

In the assay office is an old style Becker Bros. gold
balance, an Ainsworth analytical balance, and a 700# plat-
form scal. The balances are in bad shape, from standing
a long time without attention, and from probable handling
by rough hands. They can be repaired; perhaps a careful
man could put them in shape on the ground. All the weights
have disappeared. There is a small gasoline assay furnace
taking a 2½x4½x9 inch muffle, with pressure tank and burner.
There is a little glassware, and a few other odds and ends.

In the mill are a 7x10 Blake and a 7x10 Dodge
Crushers; a 36" sorting belt 15 feet long, belt bad, equipment
O.K.; a pair of 10x16 inch rolls; a 4x6 foot ball mill with
screen discharge (new); an 8 foot Callow cone (new); 2 dry con-
centrating tables; a little boiler and a blacksmith shop on
the bottom floor, and a hand laboratory crusher and bucking
board on one of the upper floors. There are five floors in
the mill. The two upper floors with the crushing and sort-
ing plant are 16 feet wide. The rest of the mill is 25 feet
wide.

A surface tramway about 1000 feet long runs from a log
bin below the No. 1 open cut to the mill. The track can be
put in good shape with a little work. The trestle to the
mill at the lower end must be replaced. There are two cars

in good condition on it. The 5/8 cable is nearly new, but
will have to be replaced on account of rust.

There are some 2000 ro 2500 feet of two inch black
pipe in good condition scattered over the ground.

WAGON ROAD

The road from Spillimacheen is across the more or less
swampy bottom land of the Columbia for two miles. Just
before it starts up the hill on the west side of the valley
it crosses the Spillimacheen river where it emerges onto the
flat from between the walls of a box canyon. The next mile
or so is pretty steep, and is not adapted to heavy hauling,
but the rest of the road to the mine is nearly level, with
local ups and downs, but witha good foundations. This
stretch runs along the gravel, and slide rock close to the foot
of the mountain.

If any work is done at the property the Government will
cooperate to help rebuild the road on a good grade, and to
eliminate the local irregularities. The cost to the proper-
ty of its share of such work is included in the $400,000
estimate. It should not amount to more than $10,000.

POWER PLANT

It is proposed to build a hydro-electric power plant
of 750 KW capacity. The location that suggests itself after
a hurried reconnaissance is at the mouth of the box canyon
of the Spillimacheen, just above the wagon road crossing.
See photograph. At water level it is 75 to 80 feet between
the canyon walls. The location is admirable for a dam and a
large plant, but for the present it is thought a wood or
steel pipe line through the canyon for about a mile will be
cheaper and will answer the purpose. This opinion may be
changed after a survey and careful estimate. The cost of
plant and transmission line is estimated at $80,000.

TITLE

The option guarantees to transfer the property of the
Golden Giant Mines, Ltd. free and clear of all incumbrance
except taxes, rates, and assessments charged against the
property after June 15, 1924. The Land Registry Office at
Nelson, B.C. furnishes the information that the only incum-
berance now against the property is a mortgage held by Alexis
Martin. Mr. Martin is Secretary of The Golden Giant Mines,
Ltd. and as such signed the option, so that as far as Mr.
Farnham is concerned the property is clear.

Certificate of Incumbrance No. 7908, dated January 4, 1924, from the Land Registry Office shows the title of the Rothschild Mineral Claim to rest in Mr. Farnham without incumbrance. Locations of the other claims were property made, recorded, and transferred to Mr. Farnham late in 1923.

PRICE AND TERMS

The option price to Mr. Farnham of the Golden Giant property is $63,000, to be paid as follows:

	Mining claim	Land
July 15, 1925	$5,000	
" 15, 1926	10,000	$3,000
" 15, 1927	15,000	
" 15, 1928	30,000	
Total	$60,000	$3,000

Work on the property must begin on or before June 15, 1924. Expenditures must be at the average rate of at least $300 per month. If more than $1,800 is spent in any six months period the excess may be carried forward to apply on required expenditures in the next period.

A royalty of 15% of the net return from all shipments of ore to the smelter, or barytes or other material to market is to be paid and will apply on the installment of the purchase price due next after any such royalty is paid.

If the option is not exercised all the plant and machinery installed by the optionee may be removed. The optionee is to pay all taxes and assessments charged against the property after June 15, 1924.

It is proposed to consolidate the Giant and Farnham properties into one group, and to reoption the whole at the price of the Giant option, retaining an interest in any Company or association that may be formed to work the property. Dates of payment will be three months ahead of those specified as above in the original Giant option to allow Mr. Farnham to refinance in the event of failure of the new optionee to meet its terms. Thus the new optionee will come into control of all the property at the cost only of meeting the obligations of the Giant option, while Mr. Farnham will receive an interest as the price of his property and pay for his efforts.

If the effort to get title to the Hidden Treasure, the Toronto and Simcoe, and the Mountain location is successful, either before or after a new option is given, these claims will be added to the group without extra cost.

THE DEPOSIT

The ore deposit is a vein of barite with lime inclusions, carrying galena and silver. It strikes N. 60° W. and dips 70° to the Southwest. The outcrop forms the top and point of a low ridge running Northwesterly from the main divide. The hanging wall is exposed from the apex down the side of the hill for 50 to 200 feet. The apex is exposed for 400 feet along the ridge. The minimum width of the vein appears to be about 15 feet. In two large cuts it is exposed to widths of 25 to 35 feet. The galena is not regularly distributed but is found in bands and ribbons parallel with the strike and dip, sometimes with nearly pure barite, sometimes with lime between.

Along the hill to the Southeast a good many small barite exposures are found for a mile or more. Some of them carry lead, some do not. It is difficult to determine whether they are remnants of the vein, or whether they are detached occurrences. They indicate, at any rate, that mineral is not entirely confined to the area carrying the large exposure. There is a good chance that ore may be continuous over a larger area than that covered by the main outcrop.

It should be noted that the only occurrence of zinc in all the workings and exposures in the two tunnels, Nos. 2 and 3. The assay sheets show appreciable quantities here.

The barite, except where it is impregnated with lead, or contaminated with lime inclusions, is quite pure, as indicated by samples No.s 25 and 29, which carry 92.2% and 95.5% $BaSO_4$ respectively. It occurs in seams of this purity one to two feet wide. In other seams and bands it carries disseminated lead in the pure barite, while in others it surrounds inclusions of lime rock, and both barite and lime may or may not be impregnated with galena. The larger part of the lead content is in the barite, rather than in the lime.

EXPLORATION

Development to date consists of a number of shallow open cuts across the apex of the vein; a large open cut, No. 1, on the outcrop a short distance above the Northwest end of the vein and a smaller cut, No. 2, 60 or 70 feet Southeast of No. 1.

Tunnel No. 1 is a crosscut driven Northeasterly. It encounters the vein 70 feet from the portal, but is contin-

ued into the footwall to a total length of 260 feet. (See
Plan and Sec. "A-A") No. 2 tunnel is at the same elevation
as No. 1. The portal is 240 feet northwest of the portal of
No. 1. It is 90 feet long and shows the vein at the face
at what appears to be its northwest extremity. It pene-
trates the barite for 9 feet, but does not go through it.
No. 3 tunnel is driven under No. 2 68 feet below it, from a
point 230 feet southwest of the portal of No. 2. This tun-
nel shows what seems to be the northwest extremity of the
vein at a point 80 feet northwest of the exposure in No. 2.
The vein in No. 3 is 12½ feet thick and carries good values.

A tunnel, No. 4 on the map, was started some 500 feet
southeast of the portal of No. 1 to crosscut under a large
detached outcrop. It was not driven far enough to cut the
vein, but is beginning to show a little mineralization at
the face. (See Section "B-B").

Some tunnels and open cuts have been made on the Hidden
Treasure Claim and on the Mountain Claim. The tunnels on
the Hidden Treasure show quite a bit of copper with the bary-
tes. The tunnel and cuts on the Mountain Claim show barytes
with a little lead.

SAMPLING

A list of the samples taken, with their assay value,
follows. (Page 10). These are shown on the plan map, which
should be referred to in this conneçtion. Where numbers
were omitted the sample was laid out but not taken for one
reason or another.

This sampling was made, not to determine the tonnage
and average value of the ore exposed, because the conditions
do not allow of such a sampling, but to learn if ore of com-
mercial grade occurs at all and if its distribution seems to
warrant further development. It will be noted that in a
general way the values underground are richer in lead than
those on the surface. This seems to be apparént both in
the tunnels and in the larger open cuts.

The sampling indicates a possibility of developing ore
of 10% grade or better. It is believed that further explor-
ation is warranted, particularly in view of the liberal terms
of the option and the present price of lead.

ASSAY VALUES

Sample Number	Width feet	Silver oz.	lead %			
2	12.0	0.6	2.1		)	
4#	5.0	1.8	15.4		) No. 1 open cut	
5	5.0	0.2	0.5		)	
6		0.4	5.8		Waste from No. 2 open cut	
				BaSO$_4$		
8#	5.5	1.5	9.3	38.1	)	
9#	7.0	1.4	7.0	27.0	) No. 2 open cut	
10	6.0	1.2	2.7		)	
11	12.0	0.6	7.3		)	
12	24.0	0.6	3.1		) Surface along outcrop	
13#	5.5	0.9	6.4		) Average 15.6 feet wide	
14#	5.0	2.7	7.6		) 0.95 oz silver, 6.98% lead.	
15#	12.0	1.2	10.2		)	
16#	15.0	0.9	6.8		)	
17#	14.0	1.0	12.6		)	
				% zinc		
18	6.0	1.2	12.8	none	) West side No. 1 tunnel 17 ft.	
19	11.0	1.8	15.4	none	) Wide avg. 1.59 silver 14.48 lead	
20	2.0	3.2	13.4		Partial width east side No. 1	
21	5.5	0.8	4.0		)Open cut at Sta.30 above No.	
22	3.0	1.5	10.1		)4 tunnel	
23	7.0	3.0	22.5		2nd outcrop above No. 4 tunnel	
24	6.3	0.3	0.6	5.2	No. 2 tunnel next footwall only	
				BaSO$_4$		
25				92.2	No. 2 tunnel hanging side of 24.	
				% zinc		
26	2.8	7.5	16.5	10.5	) No. 3 tunnel.	
27	3.4	1.9	7.8	17.6	)	
28	9.0	0.8	1.6	6.8	)	
				BaSO$_4$		
29				95.5	Barite sample sorted from face No. 1 open cut.	

By referring to the plan map it will be seen that samples 4,
8-9, 13-14, 15, 16, and 17 represent the richer part of the
vein along the hanging side on the surface. These samples
average 11.5 feet wide, 1.27 oz. silver and 9.44% lead.

PROPOSED DEVELOPMENT

About 80,000 tons of ore can be measured up now. This is insufficient to warrant building a mill and plant, but it is sufficient to justify an exploration campaign to be undertaken with the hope of finding enough more ore to justify such construction.

Exploration can be carried on best by diamond drilling. The plan would be to put down a few holes first to determine the extension and probable grade of the vein below the present exposure, and to the southeast. If this proves satisfactory it will be in order to do some systematic drilling to determine the grade with some exactness. The preliminary drilling campaign should cost not to exceed $12,000.00. If it is unsuccessful that will be the extent ot the investment. If it is successful the cost of further work will depend entirely on the side of ore body found.

PLANT

Assuming the development, as sketched above, has shown a tonnage of commercial ore, it will be in order to build a plant for its treatment. This should be preceded by careful experimental work which will show just what machinery will give the best results on this particular ore. The size of the mill and plant will depend on the tonnage available. If we are very fortunate, a plant of some size may be advisable, because, of course, the larger the plant the less the cost per ton. It is thought that a capacity of 150 tons is the smallest that will be economical, so the following figures have been made for a plant of that size.

The following will be necessary: a hydro-electric power plant on the Spillimacheen River, at the foot of a box canyon about five miles from the property, to generate 750 K.W; a mill of 150 tons capacity in 24 hours; a compressor plant blacksmith and machine shop and boarding and dwelling houses, office, assay office, etc.

The cost of such a plant is estimated at $290,000, as follows:

Hydro-electric plant, with transmission line, transformers, etc.	$ 80,000
150 ton mill	150,000
Compressor and mine plant	60,000
Total	$290,000

This estimate was made by using the conventional figures.

of $100 per KW for power plant capacity, and $1000 per ton for mill capacity. It was checked over in some detail to see if the resulting figures would fit local conditions. These check figures gave similar results, so it is believed they are as close as can be reached without making surveys and detailed estimates.

CAPITAL COSTS AND CHARGES

These are estimated as follows:

Preliminary Exploration	$12,000
" Development and testing	28,000
Plant, as above	290,000
Property, as per option	63,000
	$393,000

say $400,000

Fixed annual charges would be:

Interest on $400,000 @ 7%	$28,000
Amortization 290,000 @ 10%	29,000
Total fixed charge per year	$57,000

OPERATING COSTS

These have been figured on the basis of labor to be employed, and assuming that the labor charge would be 40% of the milling cost, and 65% of the mining cost. Mining includes development. It is thought that a shrinkage system, or rill stoping with back filling will be the most efficient and cheapest way to take the ore out, and costs are made on the assumption that one or the other of these schemes will be used, and that the cost for either one will be about the same.

	per ton
Mining, including development, mechanical, etc.,	$1.805
Milling	.97
Superintendence, engineering and overhead	.40
Total	$3.175

For details of these costs see page at back of report.

Hauling concentrates to the railroad will cost $4.00 per ton of material handled.

MILLING

It is believed that ordinary gravity concentration, with regrinding and flotation of fine middlings and tails, will give a good extraction. Recoveries are figured at 85% for lead, and 75% for silver. It is assumed that a 50% concentrate will be made carrying 5.04 oz. silver. With these assumptions, ratios of concentration will be as follows for different grades of mine run ore.

10.0% ratio of concentration	5.86	
14.0% " " "	4.2	

No attempt has been made to make any figures for the value of the barite in the ore. It is thought from an inspection that a clean barytes product can be cut from the table tails, òr possibly even made on the jigs. If this proves to be true, the addition of fine grinding equipment will be all that is necessary to size the material to marketable condition.

Some experimental work was done on Giant ore at McGill University in 1907. The results show that a saving of better than 75% in a 58% concentrate can be made by gravity. Since then there have been many improvements in gravity concentration, and flotation has been developed, so that estimate of 85% recovery for lead is not unreasonable.

SMELTING

The Trail plant of the Consolidated Mining & Smelting Co. of Canada, Ltd. is the logical place to treat the ore. It might be possible to ship to the Bunker Hill, or even to East Helena, but our information now is that freight rates make it prohibitive.

Ore will be handled under their schedule "F", which provides, in brief, as follows:

SILVER: 95% will be paid for at the New York quotation for foreign silver converted into Canadian funds, at par, but with allowance for U.S. exchange. Minimum deduction 0.5 oz.

LEAD: The contents will be determined by wet assay, and $1\frac{1}{4}$ units will be deducted to arrive at dry lead assay. 90% of the lead, as determined by the dry assay will be paid for, provided that the minimum deduction from the dry assay shall not be less than 1 unit, or 20 pounds per dry ton of ore. The price shall be London spot quotation converted into Canadian funds at Bank of Montreal's price for sterling exchange, less $1\frac{1}{4}$ cents per pound for refining and marketing, or it may be paid for under a pooling arrangement the smelter has worked out.

SMELTING charge is $8.00 per dry ton.

ZINC penalty, 25¢ per unit for all zinc contained.

SILICA AND LIME premium, 7¢ per unit, provided that the smelting charge shall not be reduced more than $4.00 per ton by the above additions and deductions.

SULPHUR penalty, over 2% 30¢ per unit per dry ton.

The freight from Spillimacheen to the smelter is $3.00 per ton. With 5% moisture it will be $3.16 per ton of dry ore. This figure has been used in the calculations, as covering about an average moisture content.

METAL PRICES

It is believed that average metal prices over a period of prewar years mean little as establishing a probable future price for lead. It is believed rather that the increased consumption of lead, without a corresponding increase in the supply in reserve must hold the price at a relatively high level. No one seems to be in position to determine what this price will be, but it seems reasonable to think that the average will not be lower than the average of the 1923 price, and may eith equal reason hold at an even higher figure.

The price of silver requires no comment.

In order that an estimate of the possibilities may be intelligently made, two sets of figures are presented on page 15, the first showing the values of two grades of ore at the average of 1923 metal prices, the second showing values for the same grades of ore as of Feb. 19, 1924.

The Bank of Montreal's quotations for sterling exchange are not available so New York quotations have been used, but with no allowance for Canadian exchange, for either lead or silver. It is believed this method given an approximate value for the ore within smaller limits of error than that which applies to the mill recovery, the grade of ore, or other assumed factors.

Prices given for lead are the London quotation for lead in pounds sterling per ton of 2240 pounds. Silver prices are New York quotations in cents per ounce.

	Lead	Silver
Average price for 1923	27.147	64.87
Feb. 19, 1924	35.00	64.25

CALCULATION OF PROFITS AT DIFFERENT METAL PRICES AND FOR DIFFERENT GRADES OF ORE

Grade of ore		net value per ton at mill bin	cost per ton	operating profit per ton	operating profit per year 52,500 tons.	fixed charges	net profit per year	% profit on $400,000 investment
silver oz	lead %							
AVERAGE OF 1923 metal prices								
1.2	10.0	$4.198	$3.20	$1.00	$52,500	$57,000		
1.6	14.0	5.878	3.20	2.68	140,700	57,000	$83,700	20.925
Feb. 19, 1924 metal prices								
1.2	10.0	$5.929	$3.20	$2.73	$143,325	$57,000	$86,325	21.58
1.6	14.0	8.30	3.20	5.10	267,750	57,000	220,750	55.19

No details are given of the computations to arrive at net smelter returns or the value per ton mined at the mill bins. If one is curious they can easily be worked out from the data given above.

Details for calculating operating cost will be found on a separate sheet at the back of this report.

CONCLUSION

From the above it will be realized that there is a nice chance to make a profitable mine; providing development works out satisfactorily and lead prices stay about as at present. It is not a sure thing, but is a much better speculation than the ordinary prospect; in most cases the chances of success are perhaps 1 in 100, while in this case they are 1 in 3 or 5. Under the remarkably easy terms of the option, where one can prove or disprove a mine for $12,000, it is really very attractive.

The writer of this report is interested with Mr. Farnham in the option.

RUSH J. WHITE,

Mining Engineer.

	Number of men 1 shift	2 shifts	total men	Wages shift	Wages total	total labor cost	labor cost per ton	labor % total cost	total cost per day	cost per ton
MINE										
breaking ore	3		3	$5.00	$15.00					
" filling	2		2	5.00	10.00					
timbering rills	4		4	5.25	21.00					
rill raises	4		4	5.00	21.00					
development	4		4	5.00	20.00					
tramming	2		2	5.00	10.00					
raise hoists	2		2	5.50	11.00					
pipe & track	1		1	5.00	5.00					
foreman	1		1	10.00	10.00					
			23		123.50					
MECHANICAL										
blacksmith	1		1	6.00	6.00					
helper	1		1	5.00	5.00					
steel sharpener	1		1	6.00	6.00					
machinist	2		2	6.00	12.00					
		1	2	5.50	11.00					
	1		1	8.00	8.00					
			8	4.50	48.00					
TRAMWAY	1		1	4.50	4.50	$176.00	$1,173	65	$270.77	$1.805
	1	3								
MILL	shift	shifts								
crusher	1		1	4.50	4.50					
rolls,tube,mills		1	3	4.50	13.50					
jigs,tables,etc.		1	3	4.50	13.50					
flotation		1	3	4.50	13.50					
repair	1		1	5.00	5.00					
foreman	1		1	8.00	8.00	58.00	0.386	40	145.00	0.97
OVERHEAD										
Mgr. & Supt.	1		1	20.00	20.00					
Assayer	1		1	7.00	7.00					
Engineer	1		1	8.00	8.00					
helper	1		1	5.50	5.50					
office	2		2 avg	7.00	14.00	54.60	0.363	90	60.55	0.40
Total			50			$288.50	1.922		$476.32	$3.175

C 150 Tons/day

GOLDEN GIANT MINES
LIMITED

REPORT
by
RUSH J. WHITE

Alexis Martin,
Barrister & Solicitor
205-6 Pemberton Bldg.
VICTORIA, B.C.

R E P O R T

on the

G I A N T   M I N E

Golden Mining Division, B.C.

September, 1927

PROPERTY FILE

Submitted to
    Mr.Frederick Burbidge, General Manager
    Federal Mining and Smelting Company
    Wallace, Idaho

BY
    H.A.Kursell
    Wallace, Idaho.

I N D E X

LIST OF MAPS

SUMMARY

The Giant Mine is situated $7\frac{3}{4}$ miles northwest of Spillimachene station on a branch line of the Canadian Pacific Railroad, in the Golden Mining Division of British Columbia.

The ore deposit is an irregular lode or chimney occurring in a wedge of limestone between slates.

Development consists of 6 tunnels, a raise, and 10 diamond drill holes, which indicate an orebody 140 feet long and 11.25 feet wide.

Probable ore reserves, on the strength of present development, are estimated at 43,300 tons, assaying on an average:

Tr. Au, 1.7 ozs. Ag, 10.75% Pb, 0.4% Zn.

Fully developed the Giant orebody might show a total of 100,000 tons or thereabout.

The gangue is barite, limestone, and quartz. The ore is well amenable to flotation and good recoveries are indicated by tests.

With London lead at £22 this ore would net $4.34 per ton smelter returns.

Working costs, with reference to the small size of the deposit, are estimated at $4.50 to $5.00 per ton. Hence the Giant ore shows no profit.

The price of the property is $160,000 in deferred payments. Its equipment would call for $100,000 to $150,000.

The Giant is not considered an attractive mining proposition and its purchase is not recommended.

LOCATION AND ACCESSIBILITY

The Giant Mine lies on the left bank of the Spillimachene River, approximately 5 miles from the Spillimachene station on a branch line of the Canadian Pacific Railroad. The elevation is 3500 feet.

The property is to be reached from Spillimachene (Elev.2610) by automobile following a narrow road of 7¾ miles. The present road is on the left bank of the river and has several excessively steep grades, but by building a bridge across the narrow Spillimachene canyon, about 1½ miles below the camp, and leading the road along the right bank of the river, it could be shortened to about 6 miles and all undue grades avoided. Mr. A.W. Davis estimates the construction of such a road to cost about $30,000, to which the Government of British Columbia might contribute $15,000.

The road is open for automobile traffic from about April 15th to November 15th, horse-drawn sleighs being used the rest of the year. Freight from railroad to mine costs $2.50 per ton by truck, $8.00 or more per ton by sleigh. The snowfall in this part of British Columbia is slight, seldom exceeding 3-4 feet. during the season. No difficulties are anticipated after building a new road to keep it open for automobile traffic all the year round.

PROPERTY, TITLES and OPTIONS

The property is covered by the Crown granted Giant and Rothschild claims which cover all the showings on the ground. In addition, the Simcoe and Toronto claims to the Southeast have been optioned by the Pacific Mines Ltd., and a number of claims (9?) have been staked by them to the west and south, forming a well rounded holding which covers the possible extensions of the ore deposit. A map showing the relative position of the claims will be submitted supplementary to this report.

. A strip of land half a mile wide and extending southward to the Spillimachene river is homesteaded as farm and belongs to the Giant claims.

The Giant option to Mr. A.B.Trites (Pacific Mines Ltd.) of Vancouver, B.C., calls for the following payments:-

November	16, 1927	$ 5,000	(paid)	
"	16, 1928	20,000		
"	16, 1930	50,000		$75,000

The option on the Farnham-Rothschild claim:-

July 1927	1,000	
" 1928	4,000	
" 1929	6,000	
" 1930	9,000	20,000

The Simcoe and Toronto claims:-	800	(paid)	
Balance due	6,200		7,000

No money is asked for the claims staked by the Pacific Mines Ltd.

Summarizing the above, we find:-

Payments made on the options		$6,800		
" due in the second half of 1928		25,000		
" due July 1929	7,000 to	8,000		
" " " 1930		62,200		102,000

Mr. Trites has spent on the development of the property up to August 1, 1927, $58,000, which brings the total price of the property to $160,000.

TERMS

Mr. Trites proposes that the Federal Mining & Smelting Co. refund the money spent by him on the property to date; take an assignment on the options; and, after return of all the money invested by it plus 6% interest, divide further profits with him at the rate of 75% to the Federal Mining & Smelting Co., and 25% to Mr. Trites.

CLIMATE

The Giant Mine lies in what is known as the Columbia Valley dry belt, with an annual average precipitation of only 12 inches. The climate is pleasant, though cold in winter.

TOPOGRAPHY

The camp and the workings lie on the southwest slope of an isolated mountain range between the Columbia and Spillimachene rivers. The country below the mine slopes gently towards the Spillimachene river (300 ft. drop in 4000 ft.), offering no favorable tunnel sites. Above the Giant workings, the mountain slopes are precipitous.

GEOLOGY (See sketches 1 and 2)

The deposit occurs in a bed of silicious dolomitic limestone classed by the G.S. of Canada as Ottertail, i.e. lower Upper Cambrian. This lime is overlain by Goodsir slates and limestone - Lower Ordovician, underlain by Lower Cambrian and the Beltian Dogtooth series consisting of serecitic slates interbedded with narrow members of impure limestone and sandstone.

Structurally the mountain range between the Columbia and Spillimachene rivers, known as Spillimachene and Jubilee mountains, forms a syncline the axis of which strikes N50°W. The northeastern wing of this syncline dips gently (20° to 50°) towards the SW; the southwestern wing in the area of the Giant has a reversed dip, pitching steeply (85° to 90°) towards the SW. The axis of the syncline is gently inclined (30°?) towards NW. Sketch No. 1 illustrates the conditions.

An overthrust fault striking N35°-40°W and dipping on an average 45°SW cuts the southwestern wing of the syncline with an upthrow on the south side. As a result of this fault, members of the Dogtooth formation cut off and overlie the Ottertail limestone in the horizon of the workings. They are found farther west in contact with the Ordovician Goodsir slates.

The folded Ottertail lime and the above described overthrust fault intersect at an angle of about 15°, with a line of intersection raking steeply northwest. The Giant orebody lies in the wedge formed by this intersection the best mineralization occuring nearest to that point. The wedge

widens

out towards the SE, and mineralization diminshes a becomes more irregular in this direction. It follows on the whole the fault contact.

A proper understanding of the structural geology of this area is of paramount importance in order to venture an opinion on the prospects of the Giant Mine. Should the Ottertail limestone beds in the area of the deposit assume a dip to the northeast a short distance below the present workings, they would be pitching away from the fault and the chances for further ore at depth as far as a suitable horizon for ore deposition is concerned, would be fair. Should, on the other hand, the Ottertail limestone continue in depth with a southwesterly dip, as exposed at surface, it would be cut off entirely to the northwest by the fault, as this is noticeable now on No. 3 Tunnel level. In the latter case the chances for an orebody of any size would be small.

The distance between the outcrops of the Ottertail limestone on the two wings of the syncline in the area of the workings is 6000 feet. Available observations are too few to establish with certainty the strike and dip of the axis of the syncline, which would make the construction of a reliable profile through the structure possible. Hence the problem as to what happens to the Ottertail limestone at depth below the workings remains obscure.

ORE OCCURRENCE and NATURE OF ORE

Lodes of more or less impure barite occur in the Ottertail limestone mainly near its contact with the overlying Goodsir slates. On the northwestern wing of the syncline such barite lodes can be traced intermittently for a distance of 12 miles, according to Dr.C.S.Evans of the G.S. of Canada.

At the Giant a large body of impure barite occurs as replacement in the dolomitic Ottertail limestone. Its outcrop is shown on map No. 2. This barite is partly mineralized carrying argentiferous galena, pyrite, and small quantities of sphalerite which are believed to have been deposited after the

barite. The ore has no distinct walls, occurring irregularly disseminated though following on the whole certain indistinct zones of shattering.

The Giant orebody may best be described as a lode or chimney, striking N45°W, dipping 45°SW, and pitching about 60°NW.

The ore consists of dense to medium crystalline argentiferous galena (1 oz. Ag; 6.3% Pb), with a little sphalerite and some iron pyrites. Gold is present only in traces. The gangue minerals are baryte, silicious dolomitic limestone, calcite, and quartz.

ORE SHOWINGS

The development workings comprise 6 tunnels and 10 diamond drill holes, shown on Map No. 3.

Tunnel No. 5 is the main tunnel. 85 feet of drifting on the ore has been done from it and a raise, 210 feet long, in ore connects it with Tunnel #3.

The crop of the deposit is exposed for a distance of 320 ft. in the open cut or glory hole shown on map No. 3. Attention is called to the fact that such mining operations as existed here in former years centered on its extreme west end.

(east?)
Farther west of the main crop several islands of more or less mineralized barite have withstood erosion on the steep hill slope, as shown on Map No.2. Under one of them, Tunnels No. 4 and No. 6 were driven on the Rothchild claim.

Tunnel No. 6 disclosed near its face only a few bunches of barite carrying specks of galena. It was stopped ih Ottertail limestone formation without reaching the Goodsir slates.

The mineralization follows only in a very general way the fault contact deliminating the Ottertail limestone to the southwest. Particularly to the southeast mineralization is found in many places 50 to 100 ft. away from the contact in the limestone. This makes it difficult to state positively whether

or not

-5-

Tunnel No. 6 has penetrated far enough into the Ottertail limestone to disprove the continuation of the ore in this direction. It is likely, considering the evidence furnished by Tunnel No. 1 and Diamond Drill Holes 1,2,3,6, and 10.

Tunnel No. 4 but 6.1 ft. of low grade ore near its face, two channel samples of which assay over -

5.0 ft. - Tr. Au,   0.55 ozs. Ag,   2.9% Pb   Tr. Zn.

Tunnel No. 1 penetrated the entire Ottertail series exposing some ore near the fault contact. This ore shows exceedingly irregular and bunchy occurrence. In the lower part of the west wall of the Tunnel, a sample of good ore might be obtained over a width of 15 ft. Near the back only 2.8 ft. could be sampled, assaying:

Tr, Au.,   0.9 ozs. Ag,   4.95% Pb,   Tr. Zn.

In the east wall of this Tunnel there are several bunches of ore and a lead which might be considered the continuation of the ore in the west wall. It assays over a width of -

3.5 ft.   Tr. Au,   0.8 ozs. Ag,   6.10% Pb   Tr. Zn.

The good samples obtained by several engineers in Tunnel No. 1 were taken near the floor on the west side. They are in no way representative of the ore occurrence here.

Diamond Drill Holes Nos. 1,2, and 10 found no ore, establishing only the continuation of the ore bearing formation and showing at best slightly mineralized barite.

Diamond Drill Holes No. 3 and 6 found low grade ore of narrow width.

The cumulative evidence of all the development workings described so far discounts in my opinion the continuation of ore to the southeast quite thoroughly.

Ore at the Giant is confined to a small shoot or chimney developed by Tunnels No. 5,3 and 2, by the Glory Hole, and by D.D.Holes Nos. 4,5,8 &9.

Diamond Drill Hole No. 7 cut the tail end of the Ottertail lime, 3 ft. wide, between Dogtooth and Goodsir slates. It found no ore and disproves a continuation of ore on No. 5 Tunnel level to the northwest.

The ore exposed on No. 5 Tunnel level is shown on the annexed assay map No. 4. It is 26.9 ft. wide where pierced by the Tunnel. 65 ft. to the east it is 10.5 ft. wide.

Good ore is exposed in the face northwest of the tunnel, and 10 ft. of it were cut in Diamond Drill Hole No. 8 , 25 ft. NW of Tunnel No. 5.

Allowing for a continuation of the orebody for 15 ft. to the NW of Diamond Drill Hole No. 8, and 30 ft. to the SE of the East Crosscut,- a length of ore shoot of 140 ft. is obtained, with an estimated average width of 13.1 ft. arrived at as follows:

```
Average width of ore in D.D. Hole No. 8        10.0 ft.
   "      "    "    "       Tunnel No. 5        26.9
   "      "    "    "       East  Crosscut      10.5
   "      "    "    " 30 ft. SE of East Crosscut  5.0
                                                52.4 ft. =
                                                13.1 ft.
```

The average metal content of the ore on No. 5 Tunnel level is, according to my sampling:

<p align="center">1.4 ozs. Ag.   12.0% Pb.   0.3 Zn</p>

On the Intermediate Level the orebody is 16.5 ft. wide and assays:

<p align="center">1.8 ozs. Ag.   9.35% Pb   0.1% Zn</p>

The raise exposes only a part of the orebody. For the first 180 ft. it assays over a width of 4.9 ft.

<p align="center">3.3 ozs Ag.   12.0% Pb   --Zn</p>

The upper part of the Raise gets out of the ore on the rake of the shoot, there being only a narrow seam of limestone left here between the hanging and footwall slates.

Tunnel No. 3 was driven because of the misconception that the orebody followed the contact of the Goodsir slates and Ottertail limestone, instead of the fault contact of the latter with the Dogtooth slates. It shows ore only

near its face abutt_ on the footwall Goodsir _ates and does not penetrate
the total width of the ore.   This ore assays over-

      7.0 ft.   Tr. Au   2.9 ozs. Ag   8.10% Pb   4.6% Zn

Diamond Drill Hole No. 4 which cuts under this showing at a depth of
65 ft. on the dip found mineralized rock assaying 1.75 ozs. Ag. and 1.9%
Pb between 141 and 169 ft., according to the records of Mr.A.W.Davis.   An
examination of the drill core shows, however, that between 140 and 142 ft.
2 ft. of good ore was cut estimated to assay 10% Pb or better.

Diamond Drill Hole No. 5 struck 8 ft. of good ore between 153 and 161
ft. assaying: 18.5 ozs. Ag.   34.9% Pb   0.1% Zn
and between 174 and 178 ft., 4 ft. of ore assaying:

      4.7 ozs Ag   33.4% Pb   0.1% Zn

From 161 to 174 and from 178 to 256 ft. it shows low grade mineralized
lode material.

Tunnel No. 2 was driven 67 ft. above Tunnel No. 3 along the contact of
the Goodsir slate and Ottertail limestone.   It cut, like Tunnel No. 3, the
tail end of the ore shoot abutting on the footwall slate.   On the contact,
ore rich in sphalerite was found.   A 20-foot winze was put down here, which
is now inaccessible, and a carload lot of 35% zinc ore is said to have
been shipped from this place.

The old open cut stope lies above Tunnel No. 2.   Higher up the hill,
the outcrop is found in the cliff where it has been sampled for 320 ft. on
the pitch of the deposit, assaying over an indicated average width of 10.3 ft.

      1.3 ozs Ag.   10.0% Pb   0.3% Zn

This sampling does not mean a great deal as the ore deposit in the western
part under the crop has been eroded.

ORE RESERVES

Taking into account the lack of definite walls, the irregular character
of the occurrence, and the maladroit development in the upper tunnels, it is
difficult to estimate ore reserves in this deposit with any degree of accur-
acy.

Probable Ore

By properly weighing the results obtained in the workings from
Tunnels No. 5, No. 3, and No. 2, in the Open Cut and crop, and in Diamond
Drill Holes 4,5,8, and 9, - I estimate a length of ore shoot of 140 ft.,
an average width of 11.25 feet, and a height of ore shoot above Tunnel No. 5
level of 240 feet to Tunnel No. 3 and of 380 feet to the open cut.

Classing the ore for 180 ft. above and 40 ft. below the No. 5 Tunnel
level as probable Ore, and allowing 8 cub. ft. of ore in place to the ton,
(50%-60% $BaSO_4$) - I obtain -

$$\frac{140 \ x \ 11.25 \ x \ 220}{8} = 43,300 \text{ tons of Probable Ore}$$

assaying on an average: 1.7 ozs. Ag.   10.75% Pb   0.4% Zn.

Prospective Ore

1 ft. of lode on the dip, according to the above calculation, should
contain - $\frac{140 \ x \ 11.25 \ x \ 1}{8}$ --- 200 tons of ore.
An extension of the orebody upwards to the open cut for 200 feet, and for
some distance below the limits of Probable Ore may be considered Prospective.

One may therefore expect that if completely developed the Giant ore-
body may contain 100,000 tons of ore or thereabout.

The average assay value of my sampling, which by necessity was less
thorough than that of Mr. A.W. Davis as shown on his assay plan, checks fairly
well with his results: 10.75% Pb as against his 11% Pb. We disagree on
tonnage, mainly because he allows 6 cub. ft. of ore in place to the ton as
compared with my 8 cub. ft., secondly, because he bases his estimate of width
on that shown in Tunnel No. 5, the East Crosscut, and in the Intermediate
Level, measured horizontally and not at right angles to the dip, and dis-
regarding all other evidence; finally, because he classes as "probable" a
large part of the ore which I consider "prospective."

METALLURGY

No metallurgical tests on the Giant ore have been made at the Wallace Testing Plant because results obtained by the Consolidated Mining & Smelting Co. and by the Department of Mines in Ottawa show that this ore responds easily to flotation.

Tests made by the Consolidated Mining & Smelting Co. in October 1926 on heads assaying -

Tr.Au. 2.2 ozs. Ag. 10.8% Pb 1.9% Zn 1.3% Fe 4.1% S 59.1% SiO_2 1.1% CaO gives 21.8% Pb concentrates by weight, assaying -

9.4 ozs Ag 46.3% Pb 7.6% Zn 7.6% Fe 12.2% S 4.8% SiO_2 - CaO

No mention is made of $BaSO_4$ which evidently forms the balance. The extraction is calculated at 86.8% of the silver, 94.2% lead and 84.3% zinc.

The amount of zinc in the sample tested is considerably above the average indicated by my sampling.

Flotation tests made in the laboratories of the Department of Mines in Ottawa show similar good extraction. The grade of the concentrates, however, is at best 55 percent lead.

FINANCIAL RETURNS

Assuming that a 60 percent concentrate can be made maintaining the same high grade of extraction and using as heads the average grade of the ore as ascertained by my sampling, the Giant ore would yield:

Assay of Heads	1.7 ozs Ag	10.75% Pb	0.4% Zn
In 100 tons	170 ozs Ag	1075 Pb	40 Zn
Recoveries	86.8%	94.2%	84.3%
	148	1015	33.7

Pb. Concts. $\dfrac{1015}{60}$ ➤ 16.9 tons conct. 50% Pb ⁓12.2 ozs Ag 1.6% Zn

Value of Pb. Conct.   Lead @ £22 London, shipped to Trail Smelter

60 - 1.25 = 58.75   1175 lbs $\dfrac{217}{4774}$
                      88 "   1250
                    ‾‾‾‾‾‾‾‾
                    1087 " @3.524 = $38.31
  Ag. 12.2 ozs. @ 54¢ x 95   6.25
                                                         ‾‾‾‾‾‾‾
                                                          44.57
  Treatment   10.78
      Base $8.00   ‾‾‾‾‾‾‾
                                                          33.79
      Zn 1.6% @ 20¢   .32 Freight 2.50 ✚ 5.60 -   8.10
      S. max.   2.00 Net per ton   ‾‾‾‾‾‾‾
      Moisture 8% @ 10¢   .80   25.69
                       ‾‾‾‾‾‾
                        11.12
  CaO ✚ SiO₂ 4.8% @ 7¢   .34
                       ‾‾‾‾‾‾
                        10.78

    Realizable value per 100 tons - 16.9 tons @ $25.69 = $434.16

                   or per ton - $4.34

The Giant would justify work on a small scale only, at best 100 tons
per day or thereabout, and there are no indications that sufficient ore
could be developed to justify large scale operations. Total production
costs of mine and mill are estimated at $4.50 to $5.00 per ton.

CONCLUSIONS

    With London lead at £ 22, the Giant ore would net no profit, and lead
is lower still today.

    The price of the property is $160,000 and its equipment would require
at least $100,000, possibly $150,000.

    Freight rates quoted from Spillimachene to East Helena are $10.80½
as compared with $5.60 to Trail. Hence the financial outcome would hardly
be improved by importing the concentrates into the United States.

    At present low metal prices the Giant is not an attractive mining
proposition and the purchase of this property is not recommended.

    In view of the above it has not been considered necessary to enlarge
here upon the details of local costs, economic and mining conditions, which
would have been pertinent to this report had the outcome been more favorable.

Wallace, Idaho   Respectfully submitted
October 7, 1927.   (Signed) H.A.Kursell.