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REPORT  
ON THE  
YALAKOM CLAIM GROUP  
LILLOOET MINING DIVISION  
BRITISH COLUMBIA  
FOR  
SOUTHERN LIGHTS RESOURCES LTD.  
BY  
R.W. PHENDLER, P. ENG.

JANUARY 7, 1982

VANCOUVER, CANADA

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ILLUSTRATIONS

Fig. 1	Location Map	1" = 200 miles
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Fig. 4	No. 9 Adit - Yalakom Group	1" = 200'



YALSKOM  
CLAIM GROUP

LOCATION MAP	
VANCOUVER	BRITISH COLUMBIA
SOUTHERN LIGHTS RESOURCES LTD.	
SCALE 1" = 200 MILES	
NTS.	DATE: / /
FIG. No. 1	

PART "A"

SUMMARY AND CONCLUSIONS

The Yalakom property is located in the Bridge River area of British Columbia and can be considered to be a narrow vein gold prospect.

The Yalakom group consists of 8 Crown grant and one claim of 20 units and forms part of the Elizabeth gold area, which was explored by Bralorne Mines Ltd. in the late 1940's when underground development work was carried out and when the No. 9 vein was discovered on the Yalakom claims. In 1949 and 1950 807 feet of drifting was carried out on this vein, with a 165 foot length reported to average 0.94 oz. Au (cut) per ton across a width of 1.23 feet. This section averages 0.38 oz. Au across a mining width of 3.0 feet. The remainder of the No. 9 adit has apparently not been sampled but old reports indicate that gold is present over a large part. Unfortunately the adit is presently caved but selected samples of vein material collected from the dump recently confirm the presence of gold (average of five samples is 0.51 oz. Au, cut). The property warrants further exploration by rehabilitation of the No. 9 adit, sampling and diamond drilling. If results are encouraging, a low level adit on the No. 9 vein should be considered. Host rocks are diorite.

RECOMMENDATIONS

It is recommended that:

PHASE I

1. The No. 9 adit be rehabilitated.
2. The No. 9 adit be sampled at 1.5 meter intervals.
3. The No. 9 adit be geologically mapped.
4. Samples from No. 9 adit be assayed.

PHASE II

- 1) Exploration raises be driven where sampling indicates the presence of gold bearing vein material.
- 2) Diamond drilling of the No. 9 vein be carried out from surface.
- 3) A new level be driven 50 meters vertically below the No. 9 level if results of Phase I so warrant.

COST ESTIMATE

Phase I

1) Rehabilitate No. 9 adit (de-ice)	\$25,000
2) Sample No. 9 adit	2,500
3) Geologically map No. 9 adit	1,500
4) Assay chip samples	1,000
5) Establish camp	10,000
6) Engineering and geology	<u>3,500</u>
	Total - \$43,500
	15% Contingencies - <u>6,525</u>
	Total - Phase I - \$50,025

Phase II

1) Drive raises 60 meters @ \$350/mtr.	21,000
2) Diamond drilling - 300 mtrs. @ \$75/mtr.	22,500
3) 150 meters of drift @ \$700/mtr.	105,000
4) Engineering and geology	10,000
5) Travel and Accommodation	10,000

6) Assaying, sampling	5,000
7) Mobilization	<u>10,000</u>
	Total - \$183,500
	15% Contingencies - <u>27,525</u>
	Total - Phase II - \$211,025

The sum of \$50,000 should be made available at this time to carry out Phase I of the above program. Results of this phase will determine if Phase II be carried out.

Respectfully submitted,

R.W. Phendler, P. Eng.

PART "B"

INTRODUCTION

At the request of Mr. J.K. Newton, President of Southern Lights Resources Ltd., the writer examined the Yalakom property on August 13th and 14th, 1979. Prior to this it was suspected that the adit was inaccessible, so Mr. Newton had D. Taylor, P. Eng., make a preliminary examination on February 25, 1979 and the adit was found to be caved. However, Mr. Taylor took five samples of selected vein material (quartz) from the dump of the No. 9 adit on the Yalakom claims and they are presented herein.

During the writer's examination seven samples from surface and one bulk sample of vein material from the No. 9 dump for testing were taken.

LOCATION AND ACCESS

The Yalakom claim group is located at an elevation of 7200' - 8200' about 240 kilometers north of Vancouver in the Bridge River area of southwestern British Columbia. The showings are 27 kilometers northeast of Gold Bridge, sixty kilometers northwest of Lillooet and 15 kilometers north of Carpenter Lake.

Road access is via Lillooet northwest along the Gold Bridge road to Moha (22 kilometers) and thence up the Yalakom River road for fifty-eight kilometers to the Elizabeth Mine at an elevation of 7500 feet (2273 meters). The No. 9 adit is 400 meters west and upslope from the Elizabeth Mine at an elevation of 7539 feet (2284 meters).

PROPERTY AND OWNERSHIP

The property consists of the following claims:

<u>Name</u>	<u>No.</u>	<u>Acreage</u>
Yalakom #1	Lot 7408	36.84
Yalakom #2	" 7409	47.96
Yalakom #3	" 7410	42.03
Yalakom #4	" 7411	48.99
Plateau #5	" 7416	50.30
Plateau #6	" 7417	51.65
Plateau #7	" 7418	31.82
Plateau #8	" 7419	45.98
Blue (20 units)	Record No. 867	

The first 8 claims are reverted Crown grant mineral claims and were acquired by J.K. Newton of Vancouver and were recorded at Lillooet on March 1, 1978.

The Blue claim was recorded in August, 1979 and assessment work was recorded on May 13, 1980 (2 yrs). All claims are presently held by Southern Lights Resources Ltd.

HISTORY

The earliest recorded work in the vicinity of the Yalakom property is in 1946 when some open cuts and trenches existed on the nearby Elizabeth prospect. A report by J.W. McCammon in the Report of the Minister of Mines (British Columbia) for 1946 describes the four visible quartz veins (see page A98 - Blue Creek).



In 1948 a 2204 foot long westerly crosscut existed on the Elizabeth showings, which were located on a 53 claim parcel which included the Yalakom group. Bralorne Mines Ltd. operated the property and discovered some large boulders of gold-bearing quartz on the Yalakom No. 2 claim. Trenching exposed a vein striking northerly that was 2 to 3 feet wide and traceable for 200 feet. In 1949 and 1950 a total of 807 feet of drifting was carried out on this vein (No. 9). Additional trenching exposed the vein in two cuts 400 and 600 feet north of the portal. Although the vein showed encouraging amounts of gold, it did not contain the spectacular free gold found in the float (B.C. Minister of Mines report, 1949 and 1950 by J.E. Merrett and J.S. Stevenson).

In 1956 Bralorne drove a low level crosscut on the Elizabeth veins as recommended by Dr. W.H. White. Dr. R.M. Thompson, who examined the workings for Dr. White, noted that the No. 9 adit was blocked by ice but calculated a tonnage reserve of 800 tons containing 1770 oz. Au, based on an earlier undated assay plan of Bralorne Mines Ltd. (see Fig. 3 and 4).

#### GEOLOGY AND MINERALIZATION

The region in which the Yalakom property is located is underlain by two principal rock types. These are quartz diorite porphyry and serpentine and these rocks intrude folded schistose sediments and minor volcanics of Triassic to Tertiary age. All known veins in the area occur within the diorite, which is considered competent and should present no difficult mining problems.

The original discovery of the "high-grade" gold quartz was made by Dr. W.H. White (later head of the Department of Geology at the University of British Columbia and now deceased) in 1947. Dr. White states in his report on the property in 1957 that the No. 9 vein is very much narrower than the Elizabeth West vein (2 - 3 feet) but it is higher grade than the West vein and a

greater part of its developed length (807') is gold bearing. A comparison of the geological and assay plans (by Dr. White) suggests that the ore shoots occur in places of cross fracturing and small strike deflections. The Bralorne Mines Ltd. assay plan of the No. 9 adit appears to show only the significant gold assays covering only 50 meters length of the total 250 meters. Assays reported are as follows:

<u>Width (ft.)</u>	<u>oz. Au per ton</u>	<u>Width (ft.)</u>	<u>oz. Au per ton</u>
0.5	11.00	1.3	0.98
0.6	0.84	1.3	1.34
1.7	0.50	1.0	1.44
1.8	0.42	1.2	0.28
1.7	0.35	1.3	0.78
1.4	0.24	1.2	1.70
1.2	0.32	1.2	0.82
1.3	0.29	1.3	1.74
1.3	1.14	1.3	15.48
1.1	0.01	1.0	0.57
1.3	0.05	1.2	0.51
1.2	0.77	1.3	0.35
1.3	0.68	<u>1.0</u>	<u>0.72</u>
		1.23'	1.45 uncut
		undiluted 1.23'	0.94 cut to 3.0 oz.
		diluted to 3.00'	0.38 oz. Au per ton

At present prices (\$600.00 per ounce) the estimated gross metal value is \$228.00 per ton and at an 85% recovery, \$193.80 per ton.

During Mr. D. Taylor's 1979 inspection five samples of vein material were selected from the No. 9 dump. Assays are as follows:

<u>Sample No.</u>	<u>% Pb</u>	<u>% Zn</u>	<u>% As</u>	<u>% Ag</u>	<u>oz. Au</u>
20-2-1	0.01	0.01	0.55	1.84	4.676
20-2-2 less than	0.01	0.03	0.06	0.22	0.418
20-2-3 less than	0.01	0.01	0.01	0.02	0.174
20-2-4	0.03	0.02	0.48	0.20	0.484
20-2-5	0.01	0.02	0.33	0.18	<u>0.282</u>
			Average (uncut)	-	1.21
			Average (cut -		
			samples over 1.21 oz Au		
			cut to average and re-averaged)		- 0.514

Dr. R.M. Thompson in his letter report (September 23, 1957) to H. Huestis (attached) states that the value of the two high grade shoots in No. 9 are as follows:

Section 1 - 28' long, two foot width, height 100' - assays 0.51 oz. Au

Section 2 - 65' long, 2.5' wide, height 100' - assays 0.45 oz. Au

On August 13 and 14, 1979 the writer visited the Yalakom property with Mr. W. Landells, who has been rehabilitating roads, etc., on the ground for the past several days. An attempt had been made to open up the No. 9 portal but frozen ground and caved sets requires more elaborate equipment than was available at the time.

The surface area was prospected and extensions of the No. 9 vein were found and chip sampled. Results are as follows:

<u>Sample No.</u>	<u>Oz. Au</u>	<u>Oz. Ag</u>	<u>Width</u>	<u>Location</u>
1557	0.005	0.20	dump	upper dump 120' S. of portal
1558	0.003	-	0.5'	120' South of portal
1559	* 0.003	-	0.3'	120' South of portal
1560	0.005	0.18	1.0'	180' South of portal
1561	0.040	-	0.8'	400' north of portal
1562	* 0.003	-	1.0'	400' northwest of portal
1563	* 0.003	-	float	300' northwest of portal

The prefix \* indicates 'less than'.

An eighty pound sample of selected vein material was taken from the No. 9 dump and delivered to Northair Mines Ltd. at Squamish for metallurgical testing. This sample assayed 0.54 oz. Au per ton and results indicated that no problems would be encountered in the treatment of this material. Recovery was in the 85 - 90% range.

COMMENT

The Bralorne assays of the No. 9 adit cannot be accepted and must be verified by resampling. However, the map appears to be authentic and was accepted by reputable engineers in 1957 (Drs. White and Thompson). The fifty meter length of gold-bearing vein material appears to have quite good continuity and suggests that the mineralized zone could project up and down dip for a length equal to one third the strike length. Using a mining width of 3.0', the mineral zone could contain 4800 tons (above and below the No. 9 level) averaging 0.323 oz. Au per ton (85% mill recovery).

It is thought that only the better looking vein material was sampled by Bralorne and possibilities exist that additional lengths of gold-bearing vein material exists.

Respectfully submitted,

R.W. Phendler, P. Eng.

CERTIFICATION

I, Roy William Phendler, of the City of Vancouver, in the Province of British Columbia, hereby certify as follows:

- 1) THAT I am a registered member of the Association of Professional Engineers in the Province of British Columbia - No. 4421 (1963).
- 2) THAT I have received a Bachelor of Science in Geology from McGill University, Montreal.
- 3) THAT I have practiced my profession as mine, exploration and consultant geologist continuously for the past 24 years in Quebec, Ontario, Newfoundland, Nova Scotia, Saskatchewan, British Columbia, the Yukon and Northwest Territories in Canada, in the U.S.A., in Mexico, Peru, Colombia and Chile.
- 4) THAT I have not received nor do I expect to receive any interest indirectly or directly in the Yalakom property nor do I hold or expect to hold any shares in Southern Lights Resources Ltd.
- 5) THAT the information contained in this report was compiled as a result of my examination of the Yalakom property on August 13 and 14, 1979 and a study of all available information.
- 6) THAT I hereby consent to the publication of this report for purposes of a prospectus or statement of material facts.

Respectfully submitted,

R.W. Phendler, P. Eng.

ADDENDUM

- #1 - Letter report on Elizabeth & No. 9 property  
R.M. Thompson - September 23, 1957
  
- #2 - Production and exploration possibilities - No. 9 vein  
Wm. H. White - September 28, 1957
  
- #3 - Blue Creek report - B.C. Minister of Mines, 1949
  
- #4 - Blue Creek report - B.C. Minister of Mines, 1950
  
- #5 - Assay Certificate - No. 9 dump samples - March 5, 1979
  
- #6 - Notes on Blue Creek property inspection  
D. Taylor, P. Eng. - March 5, 1979

BIG DOG  
MOUNTAIN  
9391'

BLUE CLAIM  
(20 UNITS)

8000'

8500'

7417

7416

7419

7418

7409

7411

YALAKOM  
No 2

70° ←

YALAKOM  
No 1

7410

7408

No	with	03 Au	03 Ag
1561	0.8	0.040	-
1562	1.0	40.003	-
1563	-	40.003 float	-
1557	-	0.005 dump	0.20
1558	0.5	0.003	-
1555	0.3	40.003	-
1560	1.0	0.065	0.18

No 9 ADIT  
7537'

ROAD

SOUTHERN LIGHTS  
RESOURCES LTD

YALAKOM CLAIM GROUP

LILLOET MINING DIVISION,  
BRITISH COLUMBIA.

ROY FRENDEL RELEV. JUNE 1980  
500'

500' 1:2500



PORTAL 7537'

WIDTH	oz Au
1.3'	11.4
1.1'	0.01
1.3'	0.05
1.2'	0.77
1.3'	0.68
1.3'	0.98
1.3'	1.34
1.0'	1.44
1.2'	0.28
1.3'	0.78
1.2'	1.70
1.2'	0.82
1.3'	1.72
1.3'	15.48

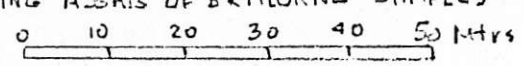
WIDTH	oz Au
0.5'	11.00
0.6'	0.84
1.7'	0.50
1.8'	0.42
1.7'	0.95
1.4'	0.24
1.2'	0.32
1.3'	0.29

WIDTH	oz Au
1.0'	0.57
1.2'	0.51
1.3'	0.35
1.0'	0.72

VEIN DIPS  
70° TO WEST

SOUTHERN LIGHTS RESOURCES LTD

No 9 ADIT, YALAKOM CLAIM GROUP,  
LILLOET MINING DIVISION BRITISH COLUMBIA  
SHOWING ASSAYS OF BRALORNE SAMPLES



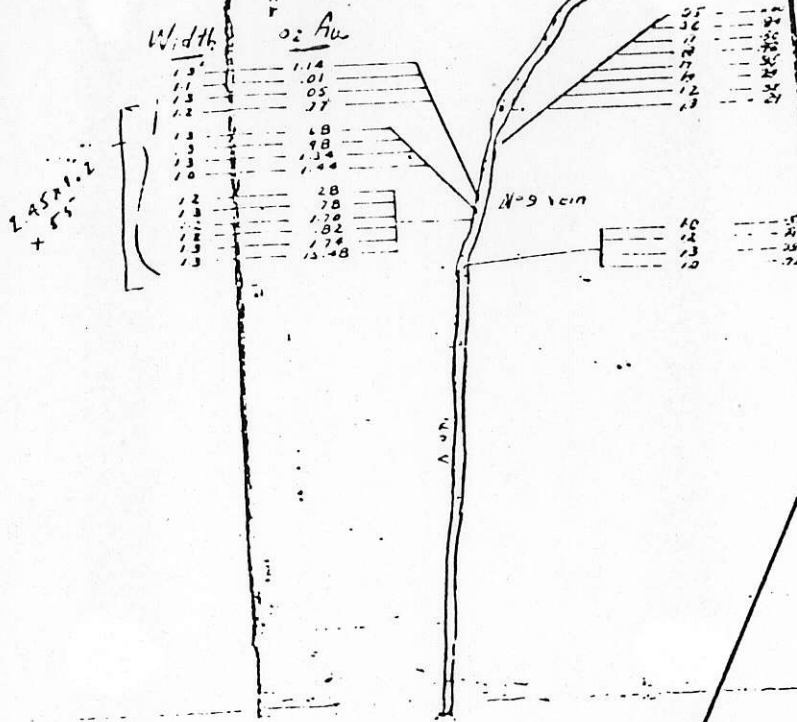
R.W. PHENDLER P. ENG SCALE 1:10000

JUNE, 1980

Fig



YALAKOM N°2



ELIZABETH N° 4

ELIZABETH N° 3

YALAKOM N°1

BRALORNE MINES LTD. (IN P.L.)  
SPALDING & CO

Scale of \_\_\_\_\_

Contract \_\_\_\_\_ DATE \_\_\_\_\_

SCALE 1:200

## BLUE CREEK (51° 122° S.E.).\*

**Gold.**

Bralorne Yalakom  
Operation (Elizabeth,  
Yalakom  
No. 1).

This property, comprising fifty-three claims, owned by Bralorne Mines, Limited, is on Blue Creek, a tributary of Yalakom River. It is reached by 48 miles of road from Lillooet by way of Moha. The principal working on this property is a crosscut driven westerly for 2,204 feet. From this crosscut, drifts were driven in 1948 on "B" vein, intersected at 1,611 feet, and on "C" vein, intersected at 2,103 feet from the portal. During 1949 the company drove a raise from a point in the "B" vein drift about 60 feet south of the main crosscut. The raise was driven to a point 271 feet above the level; it did not follow the vein throughout its length, but near the top cut the vein. At that point the vein is 4 feet wide and consists of quartz but contains insufficient gold to encourage driving the raise farther.

The company also drove a raise up 76 feet from a point in the drift on "C" vein about 100 feet north of the main crosscut, but without encouraging results.

In 1948 a mass of quartz, 5 feet thick and several feet long, was uncovered about 500 feet southwest of the camp. Two adits were driven in the overburden to explore this quartz, but failure to discover bedrock around the quartz led the management to conclude that it may be a glacial erratic, and work on it was discontinued in the fall.

In the middle of the summer, some large boulders of gold-bearing quartz were found on the Yalakom No. 2 claim. The boulders were in a talus slide over a stock of diorite porphyry, about 800 feet in diameter. In search of the source of this float, a cross-stripping was bulldozed in the slide and two cuts were dug. These workings exposed a vein, strike northerly, dip 70 degrees westward, that is 2 to 3 feet wide and traceable for 200 feet. This vein has been named No. 9. Although No. 9 vein in the cuts contained encouraging amounts of gold, it did not contain the spectacular free gold found in the float, and there is some doubt about its being the source of that float.

An average of eighteen men was employed under the supervision of James Mollard. When operations were suspended in September because of snow, a watchman was left on the property.

[References: *Minister of Mines, B.C.*, Ann. Rept., 1947, p. 132; 1948, p. 95.]

## BRIDGE RIVER (50° 122° N.W.).†

**Gold.**

Bralorne Mines,  
Limited.

Company office, 555 Burrard Street, Vancouver; mine office, Bralorne P.O. A. C. Taylor, president; M. M. O'Brien, vice-president and managing director; D. N. Matheson, general manager; C. M. Manning, mine superintendent; D. Cameron, assistant mine superintendent; A. Almstrom, mill superintendent. Capital: 1,250,000 shares, no par value.

Bralorne mine is on Cadwallader Creek and is 53 miles by road from Shalalth Station on the Pacific Great Eastern Railway.

In 1949 development work comprised 6,995 feet of drifting and crosscutting, 1,476 feet of raising, 4,246 feet of diamond drilling, and 877 feet of shaft sinking.

No spectacular occurrences of gold were found during the year, although some high assays were obtained from the 53 E block on 2000 level, which is a favourable indication that the grade of the ore on 1600 level will continue.

Broken reserves totalled 40,726 tons at January 1st, 1949, and 39,563 tons at November 30th. Grade at both times averaged more than half an ounce of gold per ton.

Sinking in the Empire shaft was resumed on February 3rd. At the end of the year the shaft had been deepened from 2000 level to 2600 level and stations had been

\* By J. E. Merrett and J. S. Stevenson.

† By J. E. Merrett, except as noted.

A new camp comprising six buildings was established above the present drift workings. These buildings and the 550-cubic-foot-per-minute diesel-driven compressor were moved down from the old camp-site on this property. The average number of men employed was seven.

YANKS PEAK (52° 121° N.E.)

Gold

Jim.—F. H. M. Codville, of Duncan, employing two men, did 218 feet of exploratory drifting on the Jim group near Yanks Peak, about 11 miles by road from Keithley Creek Post Office.

Amparo.—E. Taylor commenced two drifts on two galena-bearing quartz veins on this property above the Snarlberg camp on the Yanks Peak road, about 9 miles from Keithley Creek Post Office.

BLUE CREEK\*

Gold

(51° 122° S.E.) This property, comprising fifty-three claims Elizabeth, Yalakom owned by Bralorne Mines Limited, is on Blue Creek, a tributary of Yalakom River. It is reached by 48 miles of road from Lillooet by way of Moha. No. 9 vein drift was extended 450 feet to a total length of 807 feet. Occasional high assays were obtained, but vein widths were too narrow to constitute ore. Surface trenching exposed this vein in two cuts 400 to 600 feet north of and below the portal. Under present conditions the grades and widths of the vein in these two exposures did not represent ore.

The "B" south drift, off the main crosscut, was extended 86 feet to a total length of 180 feet. This work disclosed a quartz vein of good width but low gold content.

Diamond-drill hole No. 9, near the west end of the main crosscut, was extended 271 feet to a depth of 594 feet.

A crew of eleven men was employed from July to October.

BRIDGE RIVER\*

Gold

(50° 122° N.W.) Company office, 555 Burrard Street, Vancouver; mine office, Bralorne. A. C. Taylor, president; M. M. O'Brien, vice-president and managing director; D. N. Matheson, general manager; C. M. Manning, mine superintendent; C. D. Musser, mill superintendent. Capital: 1,250,000 shares, no par value. Bralorne mine is on Cadwallader Creek, a tributary of Bridge River, and is 51 miles by road from Shalalth on the Pacific Great Eastern Railway.

Development work comprised 11,770 feet of drifts and crosscuts, 2,273 feet of raising, and 3,160 feet of diamond drilling. The major portion of this development work was done between 2100 and 2600 levels and was directed chiefly to the development of the 77 vein, to which crosscuts were completed on all levels except that on 2600, which was completed in 1951.

On 2100 level a total of 955 feet of drifting, of which 670 feet was in ore, was completed east and west of the 77 vein crosscut.

On 2200 level, 347.5 feet of drifting, of which 260 feet was in ore, was completed on the 77 vein, westward from the crosscut.

On 2300 level, 294.5 feet of drifting westward from the crosscut disclosed 213 feet of ore on the 77 vein.

On 2400 level the 77 vein was followed 1,518 feet westward to the vicinity of the Empire Fault, and 107 feet eastward from the crosscut. Of this length, a total of 550

\* By J. E. Merrett.

September 23, 1957.

ADDENDUM #1

Mr. H.H. Harshbarger,  
Bathurst Copper Corp. Ltd.,  
635 - 152 West Pender Street,  
Vancouver, B.C.

Dear Mr. Harshbarger;      Re: Helenboth (No. 9), Yukon River

The following are my comments on the above property as a result of sampling and surface mapping during the period from Sept. 2 - 6th, 1957. A surface map (incorporating the earlier map prepared by Dr. H.H. Harshbarger), underground assay plans, and the geology of the 7230 crosscut and drift are attached. I am pleased to acknowledge the valuable assistance of Messrs. P. Bend, A. Macdonald, L. Trissell, and T.M. Allidge.

The proposed development work as outlined by Dr. H.H. Harshbarger in 1956 has been completed. The object was to cut the main vein and west vein by means of a crosscut at an elevation of 7230 feet and these were intercepted at distances of 110' and 150' from the portal, but encouraging assays were not obtained. The west vein was drifted upon for 25' in 1956 and in 1957 the drift was extended to 305' from the crosscut.

General samples of the vein were taken by the writer at five foot intervals from 25' to the face of the drift. The section from 135' - 215' is the interesting one. Analyses obtained good assays from a 35' section on the surface approximately above this section in the drift. In considering the value of this section the following assumptions were made: (1) the surface assays were not considered as there is a suggestion of surface enrichment, (2) the one assay of 10.10 oz. at 220' was not considered. It is felt that the policy of experienced operators like Bradburn in cutting all such assays to 3 ounces should be followed. (3) A stopping height of 265'. (4) An average vein width of 21'. (5) A recovery of 85% of the gold, with gold at \$34.00 an ounce. This gives 35 feet at 0.97 ounces per ton. The indicated tonnage is 1050 with a gross value of \$34,650. This material could not be shipped direct to the miller but would require milling. Mr. L.W. Wright estimates the cost of a 15 ton mill with jaw crusher, ball mill, jig, tables and blunders to be \$35,000. (not equipment). This figure would be considerably reduced if used equipment was available. However, the tonnage presently indicated is insufficient to warrant a mill.

If the Bradburn No. 9 ground is considered in conjunction with the Helenboth ground a small scale operation may be justified providing further exploration is successful. An examination of the No. 9 drift could not be made as the portal was completely filled up. Bradburn's underground assay plan shows two sections of high grade ore over narrow widths. The tonnage here is also small but the values are enticing. It is difficult to assess the high grade sections without having seen the assays vary from over 10 ounces to less than 1 ounce in a distance of five feet along the vein. As nothing definite is known about the attitude of the two sheets one has to assume that values will change rapidly also in the vertical direction. In my opinion, the great majority of "jewelry shop" gold quartz sheets are rare

an inches or a small number of the feet but not in tons of feet. The control on high grade sheets both in the No. 9 and in the Elizabeth may be related to the presence of small amounts of arsenopyrite and zones of close cross fracturing and faulting.

The value of the two high grade sheets in the No. 9 was determined as follows: Section 1. Length 26 feet, width expanded to 2 feet, back 100 feet, assay 0.51 ounces (65% recovery). This gives 333 tons with a gross value of about \$4000. Section 2. Length 65 feet, width expanded to 2.5 feet, back 100 feet, assay 0.15 ounces (65% recovery). This gives 132 tons with a gross value of about \$21,000.

It is not known if the veins encountered in the pits below the No. 9 include the No. 9 vein. According to Mr. F.H. Hledge no values were found in these veins. The No. 9 vein material is characterized by the presence of thin streaks of fine grained arsenopyrite but no such material could be found in the lower cuts.

There is a good possibility that increased tonnage could be obtained from the Elizabeth and the No. 9 by further exploration but the cost would not be small so it is simply a question of how much of a gamble one is prepared to take. Even with further successful exploration it appears that the best that could be expected is a small producer. Whether this would return a reasonable profit to a company or whether it would be a leasing proposition is a matter of conjecture at present.

Respectfully submitted,

*R. M. Thompson*

R. M. Thompson

VIII. PRODUCTION & EXPLORATION POSSIBILITIES - No.9 VEIN

The No.9 Vein, explored by an 800-foot drift at elevation 7537 feet, is some 2000 feet west of the Elizabeth veins. The ground is owned by Bralorne Mines Limited (NPL). The original discovery of high-grade gold quartz in this vein (made, incidently, by the writer in 1947) was on a steep slope mantled by unstable slide-rock at an elevation some 300 feet above the present adit. The portal is now blocked by ice; hence, little is known of the vein in the adit beyond what can be gleaned from mine maps and from discussions with persons who worked in the adit.

The vein has about the same attitude as the Elizabeth West Vein. Although No.9 Vein is very much narrower, it is higher grade than the West Vein and a greater part of its developed length is gold-bearing. Miners who worked in the adit believe that parts of the No.9 Vein are extremely high-grade. Comparison of the geological and assay plans suggest that the ore shoots, like that of the West Vein, occur in places of cross-fracturing and small strike deflections.

Dr. Thompson has offered some estimates of the possible tonnage and grade of two ore shoots in the No.9 Vein. If these figures are modified on the basis of selective mining and total gold content, and if a somewhat more optimistic view is taken that the ore extends 200 feet above the adit instead of 100, the result is a tonnage of 800 having a total content of 1770 oz. Using these figures the economics of production from the No.9 adit would be roughly as follows:

Capital Costs:

Ice removal.....	? possibly	\$ 1,000
Track; air, water, vent pipe; labour and stope preparation.....		5,000
Compressor .....		5,000
Drills, etc. ....		2,000
		13,000

Unit Production Costs:

Direct mining .....	\$ 20.00
Others same as Elizabeth ..	30.00
	50.00

<u>Total Production Cost:</u> 800 tons @ \$50.00.....	40,000
<u>Net Smelter Value of Gold</u> @ \$32/oz .....	57,640 <sup>12/100</sup>
<u>Indicated Profit:</u> .....	\$17,640

The tonnage and gold content of the No.9 Vein are even less certain than the figures for the West Vein, and before establishing a mining operation here it would be highly desirable to check the figures and also to increase the ore reserves.

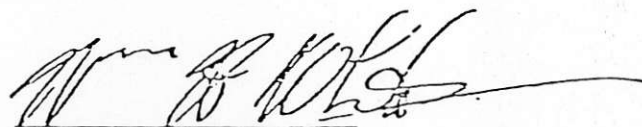
The topography at the No.9 offers an excellent opportunity for exploration by drifting one the vein at an elevation about 230 feet below the present adit. Such a drift starting directly on the outcrop would develop backs rapidly and give the necessary information on the continuity and grade.

This work would require a mining plant similar to that at the Elizabeth, but some equipment not needed at the latter, i.e. mucking machine, jack-leg drills, could be used at the No.9. If both operations were carried on at the same time, savings would be effected in camp, transport, and supervisory costs.

This program is recommended as a venture with a fairly high risk. Probably it should not be undertaken until the economics of mining the Elizabeth West Vein have been determined. If it is undertaken, funds should be provided for not less than 800 feet of drifting - about \$50,000.

Respectfully submitted,

September 28th, 1957.

  
Wm. H. White